FINAL

ENVIRONMENTAL ASSESSMENT

PROPOSED JTF-6 MISSION JT513/515/425-98 LAREDO, TEXAS

Prepared for:
JOINT TASK FORCE SIX

Prepared by:

U.S. ARMY CORPS OF ENGINEERS
FORT WORTH DISTRICT
Fort Worth, Texas

January 1998

FINDING OF NO SIGNIFICANT IMPACT

LAREDO AND CARRIZO SPRINGS AREA ROAD IMPROVEMENT
WEBB, MAVERICK, AND DIMMIT COUNTIES, TEXAS

The primary purpose of the proposed project is to improve approximately 239.8 miles of existing road and ranch road rights-of-way in Webb, Maverick, and Dimmit counties, Texas. The proposed action would facilitate the U.S. Border Patrol's (USBP) mission to reduce drug activity along the border by increasing its ability to efficiently patrol the Laredo and Carrizo Springs border areas.

Proposed road improvements include grading and filling within the existing roadbeds. Clean, suitable fill material would be obtained from existing borrow pits on Galvan or Swartz ranches. New roads would be constructed and extensions of existing roads would have drainage ditches installed. Any additional alteration to the existing road would be undertaken only after coordination with construction and archeological monitoring personnel.

The proposed road improvements would encompass 28.5 miles of main roads and 67.0 miles of fenceline roads on Galvan Ranch, 16.0 miles along Farm-to-Market (FM) road 3338, 5.5 miles on Laredo River Road, and 3.3 miles on Rio Bravo Road in Webb County; 18.0 miles on Swartz Ranch, 3.5 miles on Stone Ranch, and 10.0 miles along FM 2644 in Maverick County; and 18.5 miles along U.S. Highway 277 in Dimmit County. New road construction would involve 56.0 miles along U.S. Highway 83 and 0.5 miles of the Laredo River Road in Webb County and 11.0 miles along FM 2644, 0.5 miles on Swartz Ranch, and 1.5 miles on Stone Ranch in Maverick County.

Road improvements would begin on January 15, 1998 and are scheduled to continue through March 15, 1998 in the Laredo area. In the Carrizo Springs area, activities would begin on January 15, 1998 and are scheduled to continue through April 15, 1998. This action could be extended beyond the scheduled time frame due to inclement weather*. No improvement activities are expected to occur during rainy periods, thereby reducing the potential for erosion and road degradation. Military personnel involved in this project include the 864th Engineer Battalion from Fort Lewis, Washington and the 68th Engineer Company from Fort Hood, Texas; personnel would stay at the Galvan and Swartz ranches, respectively.

Alternatives considered include no action and the proposed action described above. The no action alternative would not facilitate the USBP mission to reduce illegal activities along the border. Of the alternatives considered, the proposed action is more compatible with the USBP mission and does not significantly affect the resources contained within the Laredo or Carrizo Springs areas.

A Programmatic Environmental Impact Statement (PEIS) was prepared in 1994 for the Immigration and Naturalization Service (INS) and Joint Task Force-Six (JTF-6) proposed projects that facilitate Law Enforcement Agency (LEA) missions to reduce illegal drug activity along the southwestern border of the United States. The PEIS addresses the cumulative effects of

* If the entire project is not completed during this time frame, additional units may be deployed at a later date to complete the project.

past and future projects undertaken by JTF-6 for numerous LEAs within the four southwestern states (Texas, New Mexico, Arizona, and California).

This Environmental Assessment tiers from the PEIS and has been prepared by the U.S. Army Corps of Engineers, Fort Worth District, to assess the impacts of the proposed action and the no action alternative. Based on environmental design measures, including biological and cultural resources surveys conducted in October and November 1997 to verify the existence of threatened and endangered species, wetland habitats, and historic properties, and on the adoption of one or more of several possible preservation/avoidance measures on historic properties, no significant adverse effects to the natural environment, including the National Register property or any of the potentially eligible historic properties, are expected when implementing the proposed action.

Based on the results of the Environmental Assessment and the environmental design measures incorporated as part of the proposed action, it has been concluded that the proposed action would not have a significant adverse impact on the environment.

JAMES J. LOVELACE, JR.
Brigadier General, U.S. Army
Commanding

5 JAN 1998
DATE

EXECUTIVE SUMMARY

This Environmental Assessment (EA) assesses the potential for adverse or beneficial environmental impacts in accordance with provisions of the National Environmental Policy Act (NEPA) of 1969 and Army Regulation (AR) 200-2. The scope of this EA addresses the potential impacts of proposed improvements on approximately 239.8 miles of existing road and ranch road rights-of-way in the U.S. Border Patrol (USBP) Laredo area in Webb County and Carrizo Springs area in Maverick and Dimmit counties, Texas, and the potential cumulative impacts associated with a Joint Task Force Six (JTF-6) action in the Laredo area.

The Immigration and Naturalization Service (INS) has requested JTF-6 engineering support (military personnel and equipment) to improve 170.3 miles of existing, deteriorated roads and to construct 69.5 miles of new roads in Webb, Maverick, and Dimmit counties, Texas. The proposed road improvements would encompass 28.5 miles of main roads and 67.0 miles of fenceline roads on Galvan Ranch, 16.0 miles along Farm-to-Market (FM) road 3338, 5.5 miles on Laredo River Road, and 3.3 miles on Rio Bravo Road in Webb County; 18.0 miles on Swartz Ranch, 3.5 miles on Stone Ranch, and 10.0 miles along FM 2644 in Maverick County; and 18.5 miles along U.S. Highway 277 in Dimmit County. New road construction would involve 56.0 miles of U.S. Highway 83 and 0.5 miles of the Laredo River Road in Webb County and 11.0 miles along FM 2644, 0.5 miles on Swartz Ranch, and 1.5 miles on Stone Ranch in Maverick County.

JTF-6 has requested that the U.S. Army Corps of Engineers (USACE), Fort Worth District, assess impacts of the proposed road improvements. Road improvements would include grading within the existing roadbed and filling with compactible, clean fill material collected from existing borrow pits on Galvan or Swartz ranches. New roads would be built and extensions of existing roads would have drainage ditches installed where feasible. Any additional alteration to the existing road would be undertaken only after coordination with construction and archeological monitoring personnel. The proposed action would facilitate the USBP's mission to reduce illegal activities along the border by increasing its ability to efficiently patrol the Laredo and Carrizo Springs areas. The number of patrols along the proposed road segments is not expected to increase. However, the road improvements would allow the USBP to respond more quickly and safely to sensors and sightings, more effectiively transport unlawful human presence out of the country, and further decrease the amount of illegal drugs reaching U.S. markets.

Proposed road improvements would be undertaken by the 864th Engineer Battalion from Fort Lewis, Washington. Personnel would improve existing roads, construct new roads and install drainage ditches on existing roads, and construct various support structures within the Laredo area. In the Carrizo Springs area, the 68th Engineer Company from Fort Hood, Texas, would perform similar functions.

Road improvements would begin on January 15, 1998 and are scheduled to continue through March 15, 1998 in the Laredo area. In the Carrizo Springs area, activities would begin on January 15, 1998 and are scheduled to continue through April 15, 1998. This action could be extended beyond the scheduled time frame due to inclement weather. To reduce the potential for

erosion and road degradation, no improvement or construction activities would be conducted during rainy periods. If the entire project is not completed during this time frame, additional units may be deployed at a later date to complete the project.

Alternatives considered include no action and the proposed action described above. The no action alternative would not facilitate the USBP mission to reduce illegal activities along the border. Of the alternatives considered, the proposed action is more compatible with the USBP mission and does not significantly affect the resources contained within the Laredo or Carrizo Springs areas.

There would be no significant adverse effects to the natural environment associated with the proposed project. The proposed action would not significantly affect the air quality, noise, or socioeconomics and would not pose significant hazardous material concerns in the project area. The proposed action would not affect any species listed or proposed for listing as threatened or endangered in accordance with the Endangered Species Act. With environmental design measures specified as part of the proposed action, there would be negligible impacts to area land use, wetlands, soil, surface water or groundwater resources, biological resources, and historic properties.

The combined total acreage of 0.299 acres of jurisdictional non-wetland waters of the United States (51 drainages - 0.192 acres) crossing the proposed project areas on Galvan Ranch, U.S. Highway 83, Swartz and Stone ranches, and U.S. Highway 277 and the 10 jurisdictional wetland waters of the United States (two wetland-impacted sites [Numbers 4 and 9 - 0.107 acres]) on Galvan Ranch meet the conditions of Nationwide Permit (NWP) 14. As long as no more than 0.299 acres of fill would be placed in waters of the United States and only 180 linear feet of fill would be placed in special aquatic sites such as wetlands, the NWP 14 would be assumed for the proposed impacts on the jurisdictional waters of the United States. Proposed construction design included the placement of both low-water stream crossings and various drainage structures (e.g., culverts, concrete fords) at the road crossings to reduce scour and erosion.

Potential soil erosion and related surface water runoff impacts are possible during construction of the proposed action. Procedures and methods that would be implemented to mitigate impacts to soils and surface water resources have been developed in the National Pollutant Discharge Elimination System (NPDES) Storm Water Pollution Prevention Plan (PPP) for the proposed action. Recommendations outlined in the PPP would reduce surface water runoff from the project site to receiving drainages.

The existing highways and FM roads, potential staging areas, and turnarounds are currently used and consist of introduced grasslands; the ranch roads contain disturbed, mixed grass/forbs and native brush communities. All potential turnaround and staging areas would be limited to disturbed sites and flagged to prevent potential effects from construction. Approximately 230 acres of mixed grass/forbs (with few scattered shrubs) and native brush communities adjacent to 117 miles of existing ranch roads and 199 acres of introduced grasslands adjacent to 112 miles of to existing paved roads would be impacted. Impacts are expected to be limited to the area ranging from 18 to 34 feet from the edge of the road. The proposed project encompasses

approximately 239.8 miles, including private and public land, with the area of impact being relatively small (467 acres). No single vegetation association (mixed grass/forbs and native brush communities) or populations would be significantly affected by the proposed action. In addition, no threatened or endangered plant species would be impacted. Positive impacts on vegetation, (e.g., increased evapotranspiration and photosynthesis), adjacent to roads and staging areas would be expected from reduced fugitive dust emissions.

Minor direct and potential impacts to wildlife would occur from the proposed action. Direct impacts (i.e., injuries from construction equipment) would be minimal due to the high mobility of most wildlife and the existing disturbed conditions of the proposed project areas. Potential impacts from habitat loss would be minimal since most of the proposed construction areas have poor quality habitat and/or abundant habitat of identical or better quality nearby.

Approximately 239.8 miles of existing and proposed new road rights-of-way were surveyed for cultural resources. One previously documented site (Star Fort) was identified on the Laredo River Road segment. If road improvement activities are restricted to the existing roadbed, Star Fort will not be impacted as a result of the proposed action. In addition, a total of 96 archeological sites and 349 non-site localities was identified in the project area. None of the non-site localities are considered eligible for inclusion in the National Register of Historic Places (NRHP). Of the newly recorded sites, 71 are considered ineligible for inclusion in the NRHP. The remaining 25 sites are considered potentially eligible for inclusion in the NRHP based on their potential to contribute significant information about the prehistoric past. Generally, the preferred treatment for all significant cultural properties is preservation and protection. Several options are available that would ensure historic properties would not be impacted by the proposed action. Historic properties could be avoided by prohibiting additional grading, reworking, or ground disturbance of existing roadbeds within the limits of the sites, or rerouting of new road construction around the sites. It is feasible that potential impacts to sites along existing roads could be avoided by laying down a layer of caliche fill on top of the existing road surfaces. This layer of hardpack would preserve the integrity of underlying deposits and would facilitate subsequent vehicular movement, but this would only be a viable option if devegetation would not first be necessary to clear the right-of-way.

A Programmatic Environmental Impact Statement (PEIS) was prepared in 1994 for the INS and JTF-6 proposed projects that facilitate Law Enforcement Agency (LEAs) missions to reduce illegal drug activity along the southwestern border of the United States. The PEIS addresses the cumulative effects of past and future projects undertaken by JTF-6 for numerous LEAs within the four southwestern states (Texas, New Mexico, Arizona, and California).

This EA tiers from the PEIS and has been prepared by the USACE, Fort Worth District, to assess the impacts of the proposed action and the no action alternative. Based on environmental design measures, including biological and cultural surveys conducted in October and November 1997 to verify the existence of threatened and endangered species, wetland habitats, and historic properties, and on the adoption of one or more of several possible preservation/avoidance measures on historic properties, no significant adverse effects to the natural environment,

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1.0 INTRODUCTION

1.1 Background

The United States is experiencing high levels of drug use and increasing amounts of drug-related crime. Negative impacts of widespread drug use on society continue to affect the work force, educational system, and general law and order. Rising rates of violent crime, serious damage to the Nation's health and economy, and strains on vital relationships with international allies led the U.S. Congress to develop the National Drug Control Strategy (NDCS). The NDCS included Department of Defense (DOD) involvement, and in 1989, the Secretary of Defense defined a significant role in the counterdrug effort for Joint Task Force Six (JTF-6). The JTF-6 is a Joint Service DOD agency assigned to assist law enforcement agencies that have drug interdiction responsibilities in the continental United States. Assistance includes operational and training efforts, design and construction efforts, or logistical actions, provided (1) there is a link to drug interdiction and (2) the assistance would provide all or part of the mission essential training elements of the military unit involved in the assistance.

A Programmatic Environmental Impact Statement (PEIS) was prepared for Immigration and Naturalization Service (INS) and JTF-6 proposed projects that facilitate Law Enforcement Agency (LEA) missions to reduce or eliminate illegal drug activity along the southwestern border of the United States (INS/JTF-6 1994). The PEIS addresses the cumulative effects of past and future projects undertaken by JTF-6 for numerous law enforcement agencies within the following four southwestern states: Texas, New Mexico, Arizona, and California. The PEIS describes the general types of projects expected and addresses the types of impacts that would be expected to result from the continuation of the JTF-6 program.

This environmental assessment (EA) tiers from the PEIS and addresses the potential impacts associated with proposed construction and road improvement activities to be completed by JTF-6 near the United States-Mexico International land border in U.S. Border Patrol (USBP) Laredo and Carrizo Springs, Texas, areas. The lead agency for this project is the JTF-6 with the DOD as the cooperating agency.

This EA was prepared by Geo-Marine, Inc., for the U.S. Army Corps of Engineers (USACE), Fort Worth District, and was conducted with and in partial fulfillment of the JTF-6 obligations under the National Historic Preservation Act (NHPA) of 1966, as amended (Public Law [P.L.] 96-515); Archeological and Historic Preservation Act (AHPA) of 1974, as amended (P.L. 93-291); National Environmental Policy Act (NEPA) of 1969 (P.L. 90-190); Executive Order 11593 (*Protection and Enhancement of the Cultural Environment*); Army Regulation (AR) 200-2 (Environmental Effects of Army Regulations); and Endangered Species Act (ESA) of 1973, as amended (P.L. 100-578).

1.2 Project Location

The proposed action would occur in (1) USBP Laredo area: on Laredo River and Rio Bravo roads in vicinity of the City of Laredo, Farm-to-Market (FM) Road 3338, U.S. Highway 83, and

Galvan Ranch in Webb County; and (2) USBP Carrizo Springs area: east of El Indio on FM 2644 and west of FM 1021 on the Swartz and Stone ranches in Maverick County, and northwest/west of Carrizo Springs on U.S. Highway 277 in Dimmit County. The project involves the construction of various facilities (i.e., K-Span buildings, helicopter pads, etc.) and road improvement and construction activities (e.g., grading, improving drainage).

1.3 Purpose and Need

The purpose of the proposed action is to facilitate the USBP mission to reduce illegal drug activity along the Texas/Mexico International land border. From October 1996 to September 1997, 78,374 pounds (lbs) of marijuana and 5,490 lbs of cocaine, both valued at $239,120,492, have been seized in the project area in the Laredo area. Over 141,887 apprehensions have occurred in the area. From October 1996 to September 1997, 5,727 lbs of marijuana, 55.4 grams of amphetamines, and $22,800 in cash have been seized in the project area in the Carrizo Springs area. Over 10,597 apprehensions have occurred in the area.

The USBP Laredo and Carrizo Springs area roads currently support only single-lane traffic and are in poor condition due to traffic and erosion. In several locations, the roads are impassable for two-wheel drive vehicles. Current use of access roads and the Laredo and Carrizo Springs area roads is estimated at two to three trips by USBP personnel, respectively, during a 24-hour period. Due to the poor condition of these roads, daily patrols currently result in approximately $10,000 per month in vehicle repairs. Road improvements and repairs are needed to facilitate USBP operations along the border. Additional construction projects would support Army units working on road improvements and repairs and would provide training facilities for the USBP and Army. These projects are needed to develop both USBP and Army skills and experience.

1.4 Applicable Environmental Statutes and Regulations

Table 1-1 lists pertinent environmental regulations that guided the development of this EA.

Table 1-1

Applicable Environmental Statutes and Regulations

Environmental Regulation
Federal Statutes
Archeological and Historic Preservation Act
Clean Air Act, as amended
Clean Water Act, as amended
Comprehensive Environmental Response, Compensation, and Liability Act
Endangered Species Act, as amended
Fish and Wildlife Coordination Act
Hazardous and Solid Waste Amendment
Migratory Bird Treaty Act
National Historic Preservation Act, as amended
National Environmental Policy Act, as amended
Native American Graves Protection and Repatriation Act
Noise Control Act
Resource Conservation and Recovery Act
Superfund Amendments and Reauthorization Act
Executive Orders, Memorandums, Army Regulations.
Flood Plain Management (Executive Order 11988)
Protection of Wetlands (Executive Order 11990)
Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (Executive Order 12898)
Army Regulation 200-1
Army Regulation 200-2
Army Regulation 420-74
Army Regulation 420-40 (under revision--Army Regulation 200-4)
Statutes, Regulations, or Applicable Permits
Antiquities Code of Texas
Texas Oil Spill Prevention and Response Act/Texas Natural Resource Code
Texas Parks and Wildlife Code
Texas Water Quality Standards/Texas Consolidated Permit Rules

2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

2.1 Proposed Action

The proposed action, JTF-6 Mission JT513/515/425-98, involves several types of proposed construction and road improvement activities in the USBP Laredo and Carrizo Springs areas (Figure 2-1). Construction activities on Galvan, Swartz, and Stone ranches include:

- building two K-Span buildings on the Galvan Ranch;
- constructing 12 helicopter landing pads, 10 at Galvan Ranch airfield and one each at Swartz and Stone ranches for two UH-60 Blackhawk and one CH-47 Chinook helicopters;
- establishing a forward aerial refueling point (FARP) by the Galvan Ranch base camp;
- constructing five low-water crossings, two each at Galvan and Swartz ranches and one at Stone Ranch;
- expanding the crossover on an irrigation canal on Stone Ranch;
- constructing a borrow pit on Galvan Ranch;
- constructing equipment storage yards at Swartz and Stone ranches;
- constructing numerous culverts on Galvan, Swartz, and Stone ranches, FM 2644, and Laredo River Road;
- building a bridge over Cuervo Creek on Swartz Ranch;
- constructing rubber-lined treatment ponds on Galvan and Swartz ranches;
- erecting tent cities on Galvan and Swartz ranches; and
- installing mercury thallium vapor lights on existing light poles along Santa Isabelle Avenue in Laredo.

Proposed road improvement activities include: (1) construction of new roads and maintenance and repair of existing roads at Swartz and Stone ranches, FM 2644, and Laredo River Road; (2) maintenance and repair of existing roads on Galvan Ranch, U.S. Highway 277, FM 3338, and Rio Bravo Road; and (3) construction of a new road on U.S. Highway 83.

The two K-Span buildings would be galvanized aluminum with each one approximately 60 feet (ft) x 50 ft x 24 ft. The 12 helicopter landing pads would be 35 ft x 35 ft, with 10 located on Galvan Ranch near the airfield and one each on Swartz and Stone ranches. Approximately two helicopters would land at the landing pads daily at Galvan Ranch during the construction period. A FARP, consisting of one 40-ft x 40-ft rubber-lined bag farm 2 ft in depth to hold two 20,000-gallon fuel bags, would be built next to the Galvan base camp. Five low-water crossing would be constructed on the ranches using concrete fords (68 ft x 76 ft) consisting of gravel or reno mattresses. These low-water crossings would be constructed at Galvan Ranch (over two intermittent tributaries of Pinto Creek), Swartz Ranch (over Cuervo Creek and an intermittent tributary of the Rio Grande), and Stone Ranch (over a tributary to the Rio Grande). The area over the irrigation canal or lateral water canal on Stone Ranch would be expanded from 2 ft wide to 12 ft wide using a concrete cap. A borrow pit measuring 16.52 acres (ac) would be dug on Galvan Ranch approximately three miles east of the ranch headquarters. Two equipment storage

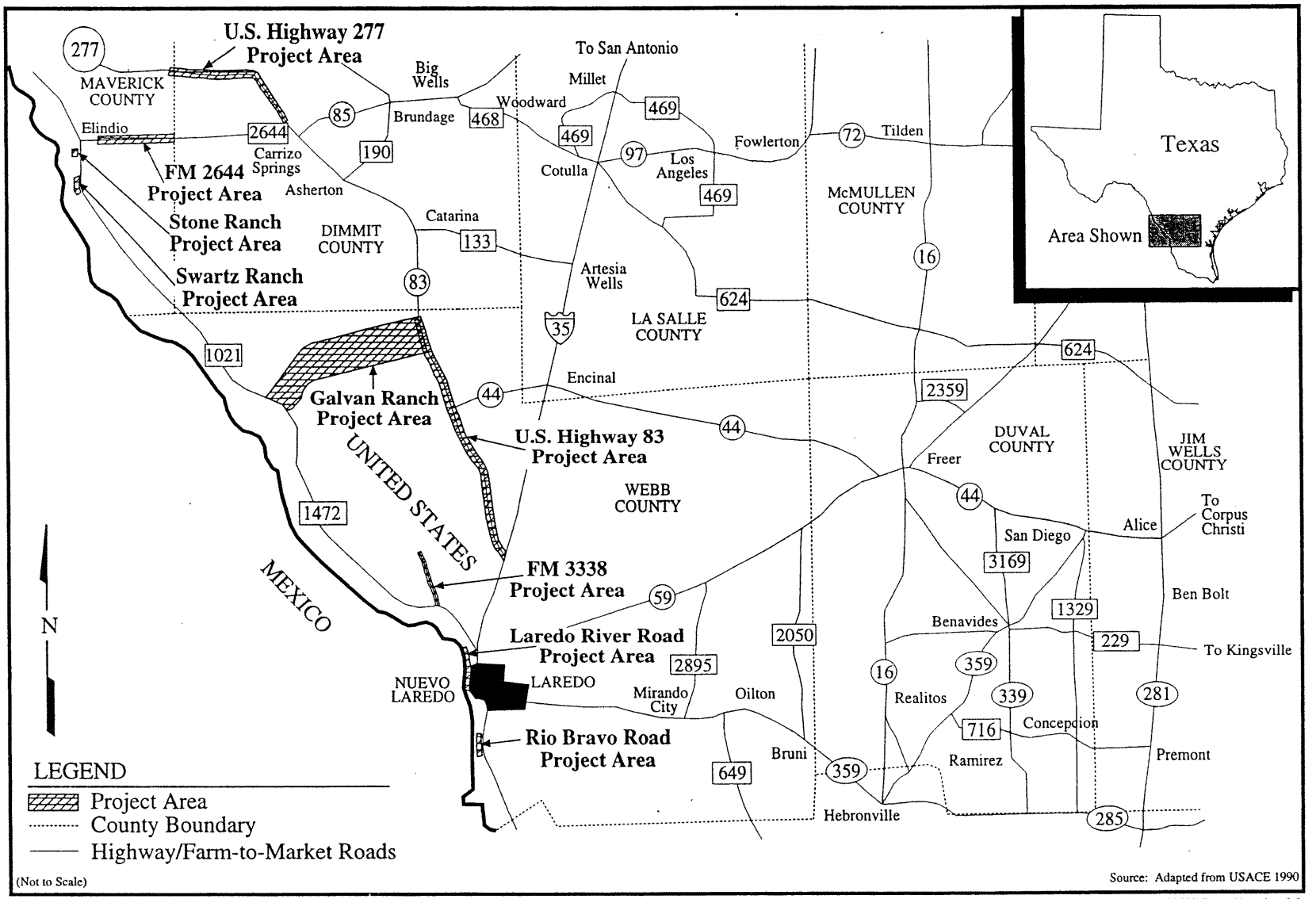

Figure 2-1. Location of the Project Area.

yards (250 ft x 150 ft) would be constructed, one on Galvan Ranch and one on Swartz Ranch. Numerous 30-inch (in) diameter concrete culverts measuring 50.6 ft x 24 ft would be built on Galvan, Swartz, and Stone ranches, FM 2644, and Laredo River Road. A 60-ft x 15-ft x 3.3-ft bridge consisting of a steel frame, concrete foundation, and wooden roadbed would be built over a tributary of Cuervo Creek on Swartz Ranch. Five 50-ft x 50-ft rubber-lined treatment ponds would be constructed, three on Galvan Ranch and two on Swartz Ranch. Two tent cities would be erected, one on Galvan Ranch and one on Swartz Ranch. Three ac of land on Galvan Ranch would be used for a tent city consisting of a Tactical Operational Center (TOC) and laundry/bath point with generators. Existing structures on Galvan Ranch would be used for the maintenance shed, field and kitchen, and communication tower. The tent city on Swartz Ranch would encompass 1.5 to 2 ac and consist of TOC/officers billeting and generators. Fifty mercury thallium vapor lights would be installed on existing light poles pointed toward Santa Isabelle Avenue adjacent to Laredo River Road.

Road improvement activities would be conducted in the following areas:

- Galvan Ranch: 95.5 miles (mi) of maintenance and repair (67 mi with 28-ft wide drag road and 28.5 mi of 28-ft wide without a drag road);
- Swartz Ranch: 18.5 mi of 28-ft wide without drag road (0.5 mi of new construction and 18 mi of maintenance and repair);
- Stone Ranch: 5 mi of 28-ft wide without drag road (1.5 mi of new construction and 3.5 mi of maintenance and repair);
- FM 2644: 21 mi of a 34-ft wide drag road (10.5 mi since both north and south sides of roads would involve improvements), including 11 mi of new construction and 10 mi of maintenance and repair;
- U.S. Highway 277: 18.5 mi of 34-ft wide drag road (maintenance and repair on the south side);
- U.S. Highway 83: 56 mi of 34-ft wide drag road (new construction on the east and west side of the road);
- FM 3338: 16 mi of 34-ft wide drag road (extension of existing road on the east and west side of the road);
- Laredo River Road: 6 mi of 20-ft wide without drag road (5.5 mi. of maintenance and repair and 0.5 of new construction); and
- Rio Bravo: 3.3 mi of 20-ft wide improvements (maintenance and repair).

These proposed projects would be completed by the 864th Engineer Battalion from Fort Lewis, Washington, and the 68th Engineer Company from Fort Hood, Texas. Galvan Ranch, U.S. Highway 83, FM 3338, and Laredo River and Rio Bravo roads in Webb County (Laredo area) would be handled by the 864th Engineer Battalion. The 68th Engineer Company would conduct the projects in Maverick and Dimmit counties (Carrizo Springs area): Swartz and Stone ranches, U.S. Highway 277, and FM 2644.

If this proposed action is implemented on the basis of this EA and a finding of no significant impact, Mission JT513/515/425-098 would begin in the Laredo area on January 15, 1998, and be

scheduled to continue through March 15, 1998 in the Laredo area. In the Carrizo Springs area, activities would begin on January 15, 1998 and are scheduled to continue through April 15, 1998. This action could be extended beyond scheduled timeframe due to inclement weather. If the entire project is not completed during this time frame, additional units may be deployed at a later date to complete the project. Road improvement activities would not be conducted on rainy days in order to reduce the potential for erosion and road degradation. Fugitive dust would be minimized by applying surface dust suppressants or water to the roads being improved and at building construction sites. Water would be gray (soapy) water from the laundry and bath point at Galvan and Swartz ranches. Additional water in the Galvan and Swartz Ranch areas would be drawn from private wells on each ranch. Water for the Laredo area would be drawn from the U.S. Army Reserve Center in Laredo. Calbinder Ammonium Lignin Sulfonate (Calbinder) would be used at Galvan, Swartz, and Stone ranches and Laredo River and Rio Bravo roads. Calbinder contains no salts or oils, dissolves in water, and is sprayed onto the road during and after fill material compaction. Public access to roads would remain open during the mission.

The K-Span buildings at Galvan Ranch would be used as military bivouac sites. The proposed action would require 380 military personnel from the 864th Engineer Battalion and 150 soldiers from the 68th Engineer Company. Equipment would be stored at the bivouac sites. Vehicle maintenance would be performed primarily at the bivouac site. All pollution prevention measures would follow the National Pollutant Discharge Elimination System (NPDES) Pollution Prevention Plan (PPP) developed specifically for this project (Appendix A).

2.2 No Action

If the no action alternative is selected, additional USBP facilities proposed for the Laredo and Carrizo Springs areas would not be built. In addition, no improvements would be made to the Laredo or Carrizo Springs area roads. USBP activity along the border would continue; however, any response to the increase in illegal drug activities would continue to be limited by poor access and road conditions. This action would not enhance drug enforcement activities and would not lower vehicle repair costs expended by the USBP because the existing roads are in poor condition and continue to degrade.

3.0 EXISTING ENVIRONMENT

The proposed projects are scattered throughout the USBP Laredo and Carrizo Springs areas. These projects would involve road improvement activities in Webb, Maverick, and Dimmit counties. Additional construction efforts would include the development of base camps on the Galvan, Swartz, and Stone ranches in Webb and Maverick counties.

3.1 Land Use

Rangeland is the primary land use in the rural areas of Webb, Maverick, and Dimmit counties. Approximately 95 percent of the rangeland is utilized for beef production. Urban and agricultural lands in Webb County occupy less than one percent of the total land area. The lands are open and rural with the exception of the City of Laredo, a regional center of transportation for goods exported to and imported from Mexico. In Maverick County, six percent of the land is agricultural and less than one percent is devoted to urban land use. Both counties are tourist gateways to Mexico. About three percent of the land in Dimmit County is used for agriculture with portions of the land used for oil and gas production (JTF-6 1994). Land uses within the specific project areas are as follows:

- Galvan, Swartz, and Stone ranches - cattle production and hunting;
- U.S Highways 83 and 277 and FM 3338 and 2644 - open (agricultural/rangeland) and rural areas; and
- Rio Bravo and Laredo River roads - semi-urban to urban communities.

3.2 Soils

Twenty-six soil associations occur in Webb, Maverick, and Dimmit counties (Figure 3-1). Of this total, 11 of these soil associations are found within the proposed project areas. In Webb County, the Duval-Webb-Brystal and Catarina-Maverick-Palafox soil associations occur on Galvan Ranch. Catarina-Maverick-Moglia, Copita-Verick-Tela, and Duval-Webb-Brystal soil associations are present along U.S. Highway 83. The Copita-Verick-Tela soil association is found along FM 3338. Both the Laredo River and Rio Bravo road segments are in the Rio Grande soil associations.

In Maverick County, Copita-Pryor-Catarina and Rio Grande soil associations occur on Swartz Ranch. The Jimenz-Quemado-Olmos soil association is found on Stone Ranch. U.S Highway 277 and FM 2644 are within the Copita-Pryor-Catarina and Brundage-Cochina-Imogene soil associations.

In Dimmit County, northwest of FM 2644 by Carrizo Springs, U.S. Highway 277 crosses five soil associations: Brundage-Cochina-Imogene, Tonio-Pryor-Brystal, Duval-Webb-Brystal, Antosa-Bobillo-Brystal, and Verick-Dilley-Randado. The physicochemical characteristics and potential for selected uses for each of these soil types can be found in the soil surveys for Webb

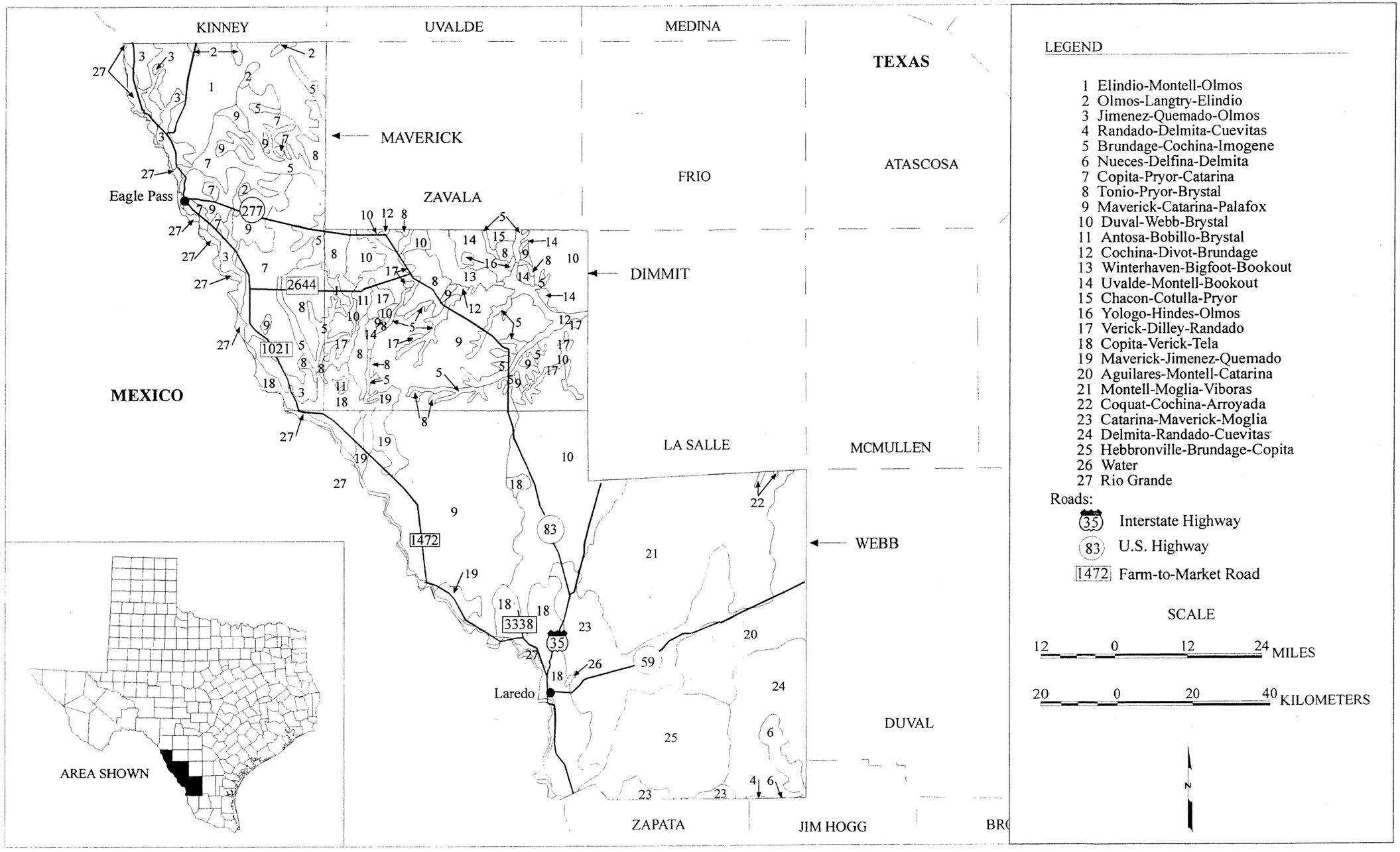

Figure 3-1. Soil Associations for Webb, Maverick, and Dimmit Counties.

County (Sanders and Gabriel 1985), Maverick County (Stevens and Arriaga 1977), and Dimmit/Zavala counties (Stevens and Arriaga 1985).

3.3 Water Resources

3.3.1 Surface Water

Surface water in the project areas consists of several ephemeral and intermittent creeks located in two hydrological regions (drainage basins) (JTF-6 1994). The Texas Gulf Region contains the Nueces River and its tributaries flowing eastward from Dimmit and Webb counties. The Rio Grande Region contains the Rio Grande Basin and International Falcon Reservoir located just downstream from Laredo in Zapata County (Figure 3-2).

Water quality assessments for the Texas Gulf Region, segment 2105 (above Holland Dam) and segment 2104 (above Frio River) of the Nueces River, indicate that the major causes of stream/riverine nonattainment are water quality standards violations (elevated orthophosphorus and total phosphorus levels and low levels of dissolved oxygen) and effluent limitations (elevated fecal coliform levels), respectively (Texas Natural Resource Conservation Commission [TNRCC] 1996).

Major causes of stream/riverine nonattainment for the Rio Grande Region, segment 2304 (below Amistad Reservoir) of the Rio Grande Basin, include water quality standards violations (elevated orthophosphorus/total phosphorus levels) and nonsupport of contact recreation use (elevated fecal coliform levels). Major sources of fecal coliform are the cities of Del Rio/Ciudad Acuna, Eagle Pass/Piedras Negras, and Laredo/Nuevo Laredo. In April 1996, the United States and Mexico completed a wastewater collection system and treatment facility in Nuevo Laredo to help reduce levels of fecal coliforms in this segment of the Rio Grande (TNRCC 1996).

Due to the semi-arid climate of this area, the majority of the surface drainages crossing the proposed road improvements and ranches are dry most of the year. These surface drainages follow both named creeks and unnamed tributaries: Pena, Rocky, Cayetano, Pendencia, and Salt (U.S. Highway 277) in Dimmit County; Comanche (U.S. Highway 277), San Ambrosia (FM 2644), Cuervo and Tovar (Swartz Ranch) in Maverick County; and Las Raices, Cuchura, Cochio, and Taboncillo and Palito Blanco Arroyo (U.S. Highway 83), Tordillo and Santa Isabel (FM 3338), and Las Raices, Cuchura, Santa Isabel, Pinto, and Chalker (Galvan Ranch) in Webb County (see Figure 3-2). No water data are available for these named creeks and unnamed tributaries from the U.S. Geological Survey (USGS) or TNRCC. Most of the land in the project areas is undeveloped, and there are few sources of contaminants in the area which could be introduced into these streams. Erosion caused by flash flooding of these streams could increase turbidity.

3.3.2 Groundwater

The Wilcox Group and the overlying Carrizo Formation of the Claiborne Group form a hydrologically connected system known as the Carrizo-Wilcox aquifer (Figure 3-3). This aquifer

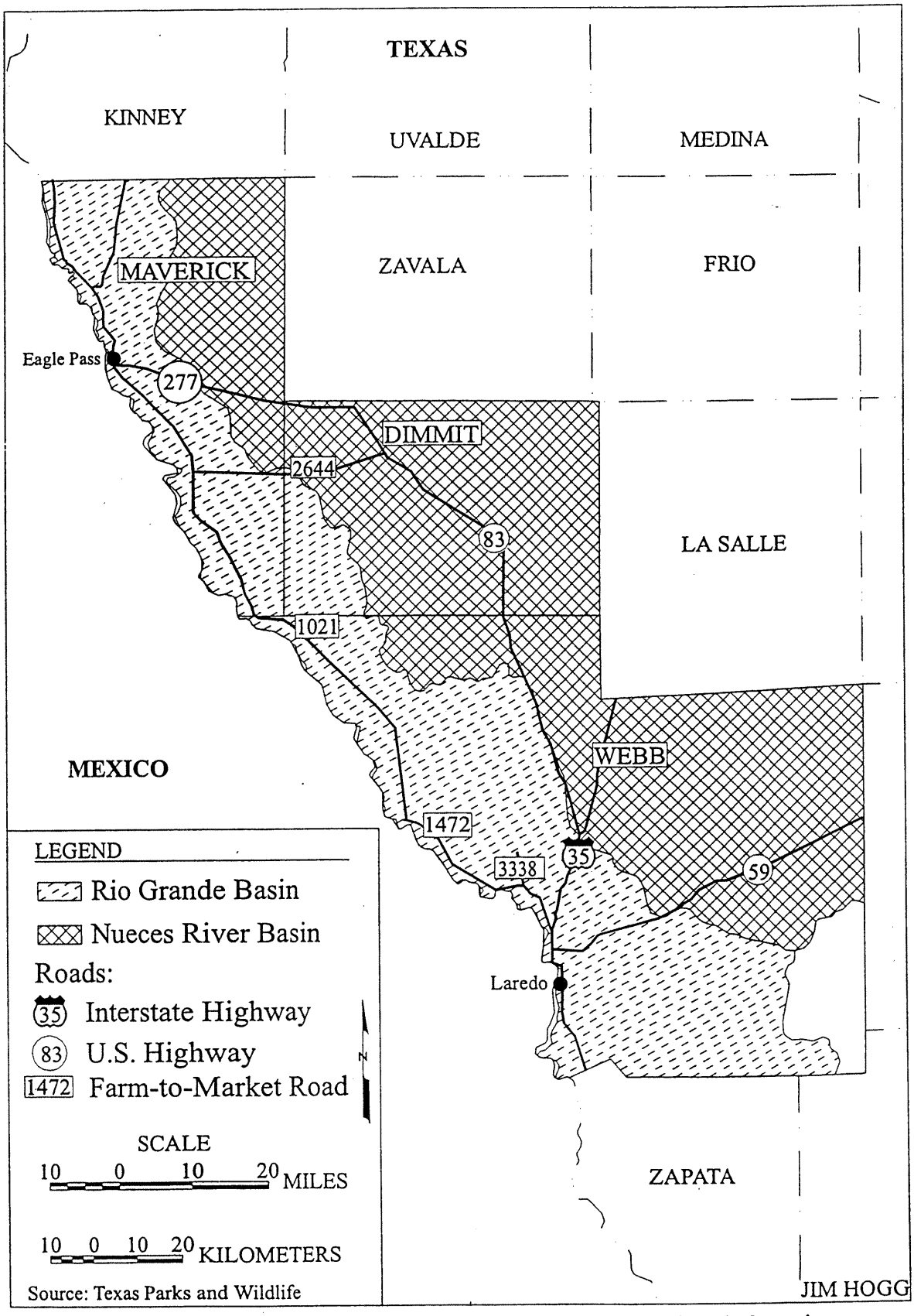

Figure 3-2. Major Surface Water Basins in Webb, Maverick, and Dimmit Counties.

is one of the most extensive aquifers in Texas and supplies water to all or parts of 60 counties from the Rio Grande in South Texas northeastward into Arkansas and Louisiana. It is predominately composed of sand locally interbedded with gravel, silt, clay, and lignite. The water is mostly confined, with large-capacity flowing wells ranging in depth from 200 to 1,000 ft but may extend to depths of more than 5,500 ft. Yields of large-capacity wells are 500 gallons per minute (gal/min) with maximum yields exceeding 3,000 gal/min where the aquifer is under artesian conditions (JTF-6 1994; Ashworth and Hopkins 1995).

Groundwater assessments for the Carrizo-Wilcox aquifer indicate several sources for potential contamination. The most common sources of contamination in the Carrizo-Wilcox aquifer include: (1) small areas of increased chloride/sulfate concentrations exceeding secondary drinking water standards; (2) high levels of total dissolved solids with levels exceeding 3,000 milligrams per liter (mg/l) (e.g., Webb County); (3) high iron content ranging from 0.31 to 5.0 mg/l; and (4) natural/man-made low levels of nitrate (0-20 percent) and fluoride (0-3 percent) that continually exceed the federal drinking water standards (JTF-6 1994; TNRCC 1996). In July 1986, the Texas Water Commission (TWC) designated Dimmit County as one of 17 critical groundwater areas in the State of Texas according to Chapter 52 of the Texas Water Code. Significant water-level declines have developed in the semi-arid Winter Garden Region of the aquifer; the region is heavily dependent on groundwater for irrigation (TWC 1989; Ashworth and Hopkins 1995).

The Rio Grande Alluvium and Laredo Formation are undifferentiated/local aquifers within the proposed project areas (Figure 3-4). The Rio Grande Alluvium is generally floodplain deposits, including low terrace deposits, and consists of gravel, sand, clay, silt, and organic material. The alluvium includes sediments from a wide variety of igneous and sedimentary rocks from Trans-Pecos Texas, New Mexico, and Mexico. The river deposits contiguous to the river alluvium are composed of similar materials (TNRCC 1996).

The Tertiary (Eocene) Laredo Formation outcrops in a north-south belt across the central part of Webb County. The Rio Grande cuts across the Laredo Formation from approximately 5 mi upstream of Laredo in Webb County to Falcon Reservoir. The Laredo Formation consists primarily of sandstone and clay and can obtain a maximum thickness of 620 ft. Thick, fine-grained, crossbedded sandstone members are present in the upper and lower part of the formation. The middle part of the formation is primarily clay with limestone concretions, and marine megafossils are common. Groundwater occurs locally in the sand members of the formation (TNRCC 1996).

The Rio Grande Alluvium in Maverick and Webb counties and the Laredo Formation in Webb and Zapata counties supply sufficient quantities of groundwater for livestock, irrigation, and domestic supply purpose. The Laredo Formation outcrops in Dimmit, Frio, La Salle, Webb, Zapata, and Zavala counties. The City of Laredo is located partially on the Quaternary terrace deposits and partially on the Tertiary Laredo Formation. A total of 41 documented groundwater contamination cases were listed for the City of Laredo in 1994. The location data available do not allow an easy method in which to identify these sites as being located either on the terrace deposits or on the Laredo Formation. Three of the sites in the City of Laredo are industrial in

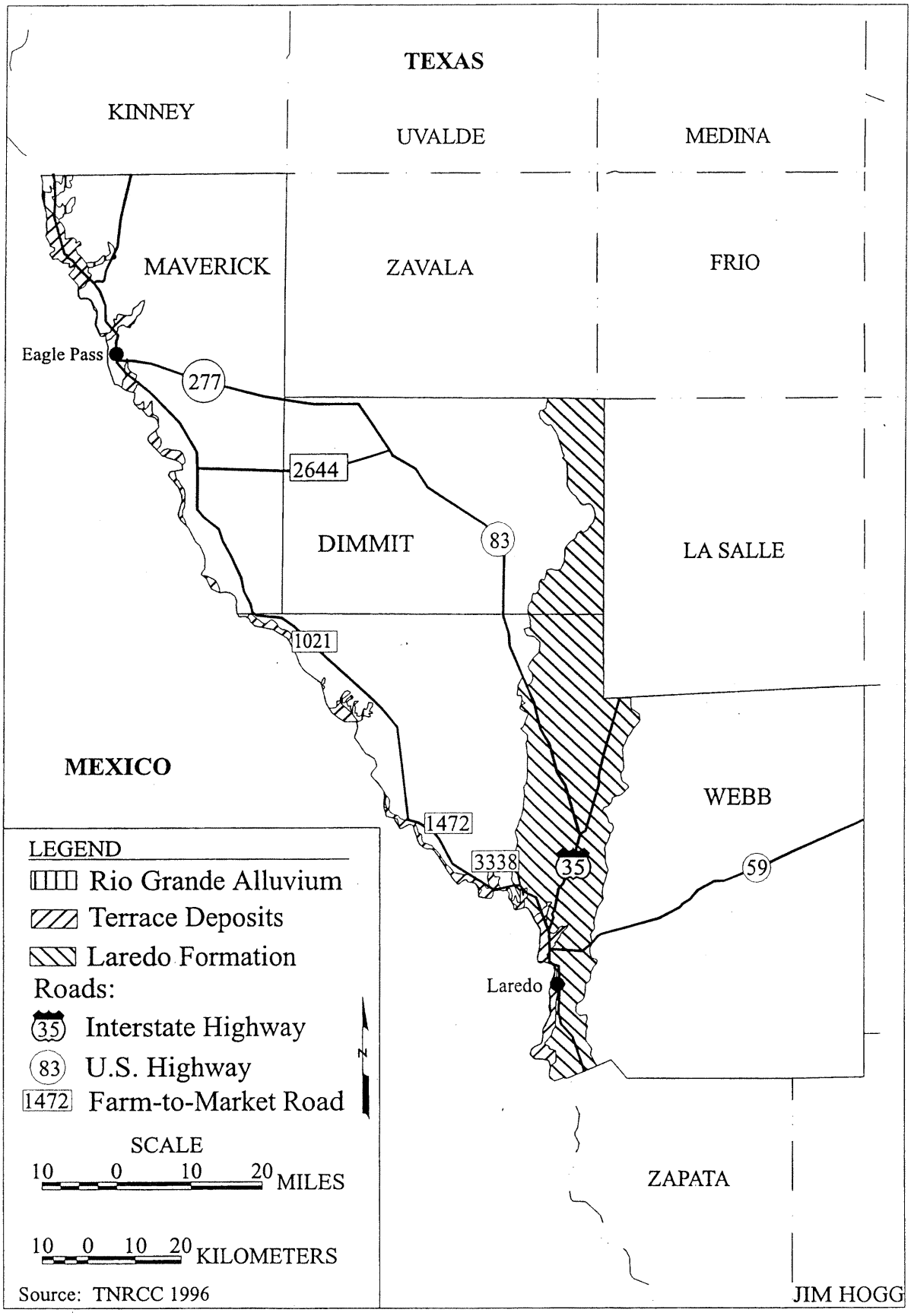

Figure 3-4. Rio Grande Alluvium and Laredo Formation Undifferentiated Local Aquifers in Webb, Maverick, and Dimmit Counties.

nature and have antimony, volatile organic compounds, and petroleum hydrocarbons (HCs) as the documented contaminants. The remaining 38 cases are from leaking petroleum storage tanks. Gasoline, diesel, jet fuel, and waste oil from these sources have affected groundwater locally (TNRCC 1996).

In 1994, the Texas Water Development Board sampled 14 wells in Maverick and Webb counties in the Rio Grande Alluvium and terrace deposits and 12 wells in Webb and Zapata counties in the Laredo Formation. Four of the sampled wells appear to be in or near the Laredo River and Rio Bravo roads. Nitrate (as nitrogen) was detected above the primary maximum contamination limits (MCLs) in 38.5 percent of the wells sampled in the Rio Grande Alluvium and terrace deposits. Inorganic chemicals that were detected above the secondary MCLs, including the percentage above the MCLs, include chloride and sulfate (46.2 percent each) and dissolved solids (23 percent). No primary constituents were detected above the primary MCLs for the Laredo Formation. Inorganic chemicals that were detected above secondary MCLs, including the percentage above the MCLs, were chloride (100 percent), iron (8.3 percent), sulfate (33.3 percent), and dissolved solids (100 percent) (TNRCC 1996).

3.3.3 Wetlands

Section 404 of the Clean Water Act (CWA) of 1977 (P.L. 95-217) authorizes the Secretary of the Army, acting through the Chief of Engineers, to issue permits for the discharge of dredged or fill material into waters of the United States, including wetlands. Wetlands are those areas inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and, under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (USACE 1987).

Waters of the United States (Section 328.3[2] of the CWA) are those waters used in interstate or foreign commerce, subject to ebb and flow of tide, and all interstate waters including interstate wetlands. Waters of the United States are further defined as all other water such as intrastate lakes, rivers, streams, mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, natural ponds, impoundments of waters, tributaries of waters, and territorial seas.

A site-specific biological survey to identify wetlands and/or waters of the United States within the project survey area consisted of a team of biologists walking the entire length of the study area. The survey was conducted over an 11-day period (October 20-30, 1997). Five biologists walked an average of 20 mi a day, surveying a 10-meter (m) corridor if the proposed linear project was adjacent to a fence line and a 20-m corridor in other proposed linear project areas.

3.3.3.1 Jurisdictional Non-Wetland Waters of United States

Fifty-one jurisdictional non-wetland waters of the United States (i.e., drainages) were observed crossing the proposed project areas on Galvan Ranch, U.S. Highway 83, Swartz and Stone ranches, and U.S. Highway 277. No potential drainages were observed on the Rio Bravo or Laredo River roads or the FM 3338 or FM 2644 proposed project areas. These drainages were all ephemeral, with the exception of four flowing drainages. Three of these flowing drainages were on Galvan

Ranch: a 2-ft drainage crossing the main Galvan Road immediately downstream from Chapote Tank; a 12-ft drainage on the north fence line near FM 2160 (old Mines Road), and a 3-ft drainage on the main Galvan Road west of the windmill. On Swartz Ranch, an 8-10 ft flowing drainage crossed the proposed project area twice. However, the drainage on Swartz Ranch is shown on the USGS topographic map as coming from an irrigation ditch approximately 0.3 mi north of the Swartz Ranch and therefore may actually be ephemeral.

3.3.3.2 Jurisdictional Wetland Waters of United States

Ten jurisdictional wetland waters of the United States (i.e., wetlands) were observed on the Galvan Ranch proposed project area. These wetlands all appear to be the result of existing ranch roads impounding/impeding drainage and are all confined to the upslope side of ranch roads. No wetlands were observed on any other proposed project areas.

3.3.4 Floodplains

Some of the proposed project areas may occur near the 100-year floodplain. A 100-year flood (intermediate regional flood) is defined as a flood level that occurs with an average frequency of once in 100 years at a designated location, although it may occur any year, even two years in a row. The Federal Emergency Management Agency (FEMA) is responsible for implementation and management of the National Flood Insurance Program under 44 Code of Federal Regulations (CFRs); however, local governments (e.g., City of Laredo) are responsible for administration of the floodplain within their respective municipal borders. FEMA regulates the impact of development on the floodplain water surface elevation and flood limits. Additionally, FEMA requires prior approval for all flood protection measures and has established a standard height for all protective levees of 3 ft above the 100-year floodplain elevation.

The floodplain delineations according to FEMA for the proposed project areas include the following designations: Zone A (Special Flood Hazard Area), areas of 100-year flood with no determination of base flood elevations and flood hazard factors; Zone B, areas between limits of the 100-year flood and 500-year flood or certain areas subject to 100-year flooding with average depths less than one foot or where the contributing drainage is less than one square mile or areas protected by levees from the base flood; and Zone C, areas of minimal flooding. According to the Webb County (unincorporated areas) FEMA maps (481059 0100B, 0200B, 0075B, 0175B [Galvan Ranch]; 481059 0100B, 0525B, 0375B, 0225B, 0200B [U.S. Highway 83]; 481059 0500B [FM 3338], and 481059 0850B [Rio Bravo]), effective May 17, 1982, the unnamed and named creeks and/or tributaries occur in Zone A, and the rest of the areas fall in Zone C. The Laredo River Road, according to the FEMA maps (480651 0005B, 0010B), effective May 17, 1982, may occur within Zones A, B, and C. FEMA maps (unincorporated areas) for Maverick (480470 0013A, 480470 0014A, 480470 0015A, and 480470 0016A) and Dimmit (480789 0002A) counties effective December 20, 1977 and January 24, 1978, respectively, fall into Zone A, the unnamed/named creeks and/or tributaries in the project area.

3.4 Air Quality

The air quality baseline consists of identifying applicable state and federal ambient air quality standards (AAQS) and the current attainment status of the area of the proposed action.

3.4.1 Federal and State Standards

Under the authority of the Clean Air Act (CAA) of 1977 (P.L. 95-95), the U.S. Environmental Protection Agency (EPA) has established nationwide air quality standards to protect public health and welfare, with an adequate margin of safety. These standards, known as the National Ambient Air Quality Standards (NAAQS), were developed for "six" criteria pollutants: ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), particulate matter less than 10 microns in diameter (PM_{10}), sulfur dioxide (SO_2), and lead (Pb). The standards were presented in terms of concentration (parts per billion [ppb], parts per million [ppm], or micrograms per cubic meter [$\mu g/m^3$]) determined over various periods of time (averaging time). Short-term standards (one-hour, eight-hour, or 24-hour periods) were established for pollutants with acute health effects; long-term standards (annual average) were established for pollutants with chronic health effects.

Under the CAA, state and local agencies may establish air quality standards and regulations of their own, provided these are at least as stringent as the federal requirements. The State of Texas has adopted the federal NAAQS (40 CFR Part 50) as the state's air quality criteria (Table 3-1) (TNRCC 1997a).

3.4.2 Air Quality Control Regions

Air Quality Control Regions (AQCR) were established by the EPA for air quality planning purposes (40 CFR Part 81). The three counties in the proposed project area fall within AQCR 213 (Webb County) and AQCR 217 (Maverick and Dimmit counties). The county region assignments and their respective TNRCC designations are as follows: Webb County - 15 AQCR and Maverick and Dimmit counties - 13 AQCR (TNRCC 1997a).

3.4.3 Potential Sources of Air Pollution

The proposed project airshed encompasses largely rural and undeveloped areas; thus, air quality is generally good, except for occasional windblown dust. Although Laredo, Texas, and Nuevo Laredo, Mexico, are communities of intermediate size, major urban areas are not present in the project area. Thus, no substantial urban/industrial air pollution would be expected as in the larger border "sister cities" such as El Paso/Ciudad Juarez.

A number of anthropogenic (man-made) sources of air contaminants may affect the air quality of the proposed project areas. These include industrial emissions, mobile (vehicular) emissions, area source emissions (e.g., emissions from numerous residences and small commercial establishments in an urban setting), dust resulting from wind erosion of agricultural lands, and

Table 3-1

State of Texas and the National Ambient Air Quality Standards (NAAQS)

Pollutant	Averaging Period	National Primary[a]	National Secondary[a]
Ozone (O_3)	1-Hour[b]	125 ppb	125 ppb
Carbon Monoxide (CO)	1-Hour[c]	35.5 ppm	35.5 ppm
	8-Hour[c]	9.5 ppm	9.5 ppm
Sulfur Dioxide (SO_2)	3-Hour Average[c]	No Standard	550 ppb
	24-Hour Average[c]	145 ppb	No Standard
	Annual Arithmetic Average[d]	35 ppb	No Standard
Nitrogen Dioxide (NO_2)	Annual[d]	54 ppb	54 ppb
Particulates (PM_{10})	24-Hour Average[b]	155 $\mu g/m^3$	155 $\mu g/m^3$
	Annual Arithmetic Mean[d]	51 $\mu g/m^3$	51 $\mu g/m^3$
Lead (Pb)	Quarterly[d]	1.55 $\mu g/m^3$	1.55 $\mu g/m^3$

[a] Parenthetical value is an approximately equivalent condition.
[b] Not to be exceeded on more than three days over three years.
[c] Not to be exceeded more than once per calendar year.
[d] Not to be exceeded.
ppm = parts per million
$\mu g/m^3$ = micrograms per cubic meter
ppb = parts per billion

Source: 40 CFR Part 50; TNRCC 1997a

pollutants transported into the proposed project areas on winds blowing from urban/industrial areas outside the region (JTF-6 1994).

3.4.4 Status of Air Quality

The areas for proposed road improvements are scattered throughout three counties. The responsibility to monitor the attainment of AAQS and the authority to regulate air emission sources is performed by the TNRCC. The TNRCC is responsible for monitoring ambient air quality in these counties and comparing monitoring data with applicable state AAQS and federal NAAQS. The TNRCC has one ambient air station for the three-county project area located in Laredo. A summary of the criteria pollutants monitoring data for PM_{10} (1989-1996) and O_3 (1996) are presented in Table 3-2. No monitoring data are available for SO_2, NO_2, CO, or Pb (TNRCC 1997b).

Table 3-2

Maximum Concentration of PM_{10} and O_3 for the City of Laredo

	PM_{10} ($\mu g/m^3$)		O_3 (ppb)
Years	24-Hour	Annual	1-Hour
1989	71	44.6	ND
1990	67	32.4	ND
1991	75	34.8	ND
1992	123	32.5	ND
1993	60	29.9	ND
1994	88	32.5	ND
1995	64	31.3	ND
1996	150	42.1	73

PM_{10} = Particulate matter less than 10 microns in diameter ND = No data
O_3 = Ozone
$\mu g/m^3$ = micrograms per cubic meter
ppb = parts per billion

3.4.5 Current Emissions within the Project Area

Two major factors control the dispersion of pollutants, topography and climate. The topography in the project areas is relatively level to gently undulating terrain with little or no obstructions to wind movement. Generally, the terrain will not trap pollutants and will allow for speedy dispersion of pollutants. The project areas is predominantly rangeland with minimal commercial and residential development (e.g., City of Laredo).

Climate in the project areas is classified as subtropical with hot summers and mild winters; the mean January temperature is 41 degrees (^{o}) Fahrenheit (F) and the mean July temperature is 99^{o}F. Skies are generally clear throughout most of the year. Average annual rainfall is 21.5 in. Average noon relative humidity for the project area is 60 percent. The prevailing wind speed is

12.1 miles per hour (mph) from the southeast and helps to disperse pollutants in the project area (Ramos 1997).

Review of the O_3 and PM_{10} summaries in the TNRCC 1997 Air Monitoring Report of 1995 and the 1996 indicates that all three of the proposed project counties are designated as either in attainment or unclassified for the criteria pollutants. Therefore, it can be concluded that concentrations of the criteria pollutants within the project area fall below the applicable NAAQS limits established for the protection of public health.

3.5 Biological Resources

3.5.1 Vegetation Communities

The vegetation communities of Texas can be defined on the basis of the interaction of geology, soils, physiography, and climate. These vegetation areas set the stage for a wide array of land uses that vary from intensive cropland agriculture and extensive ranching (e.g., Galvan, Swartz, and Stone ranches) to urban development (e.g., City of Laredo). The major native vegetation communities encompassing the project area within the Southern Gulf Coastal Plains are the South Texas (Rio Grande) Plains community. Vegetation in the proposed project areas include the following associations: Mesquite (*Prosopis glandulosa*)-Blackbrush Bush (*Acacia rigidula*) and Mesquite-Granjeno Parks (*Celtis pallida*) in the rural areas and Cenzia (*Leucophyllum frutescens*)-Blackbrush Bush-Creosote Brush (*Larrea tridentata*) in the Rio Grande floodplain, in addition to crops and other native and/or introduced grasses (Figure 3-5). Common plants in these vegetation communities are listed in Table 3-3 and the common/scientific names of the species are listed in Appendix B.

Based on field surveys conducted in each of the proposed project areas, the vegetation type and amount of cover is provided in the following paragraphs.

In Webb County, the proposed project segment on Galvan Ranch consists primarily of mesquite-blackbrush bush vegetation community (averages 70 percent cover) with a mix of existing road widths and disturbed road shoulders. The main roads are approximately 18 ft wide with a 20-ft mowed grass shoulder. The fenceline roads average about 9 ft in width with 2-4 ft of cleared shoulders. The proposed project segments on U.S. Highway 83 and FM 3338 are vegetated with cultivated grasslands which are subject to regular mowing. U.S. Highway 83 does not have an existing drag road and has about 80 percent vegetation cover. FM 3338 has an existing, although overgrown, 8-ft drag road (with about 50 percent cover in the drag road and 85 percent adjacent to the drag road). The proposed project segment on Laredo River Road has an existing 8-ft road for the majority of its length. The vegetation cover adjacent to the existing road is mixed with about two-thirds being giant reed and one-third being hackberry woods (100 percent cover adjacent to the existing road). The Rio Bravo proposed project segment contains an existing 8-ft dirt road through two distinct vegetation communities. The northern half of the segment is within cultivated pasture, and the southern half contains giant reed and hackberry woods (with an average of 90 percent vegetation cover adjacent to the existing road).

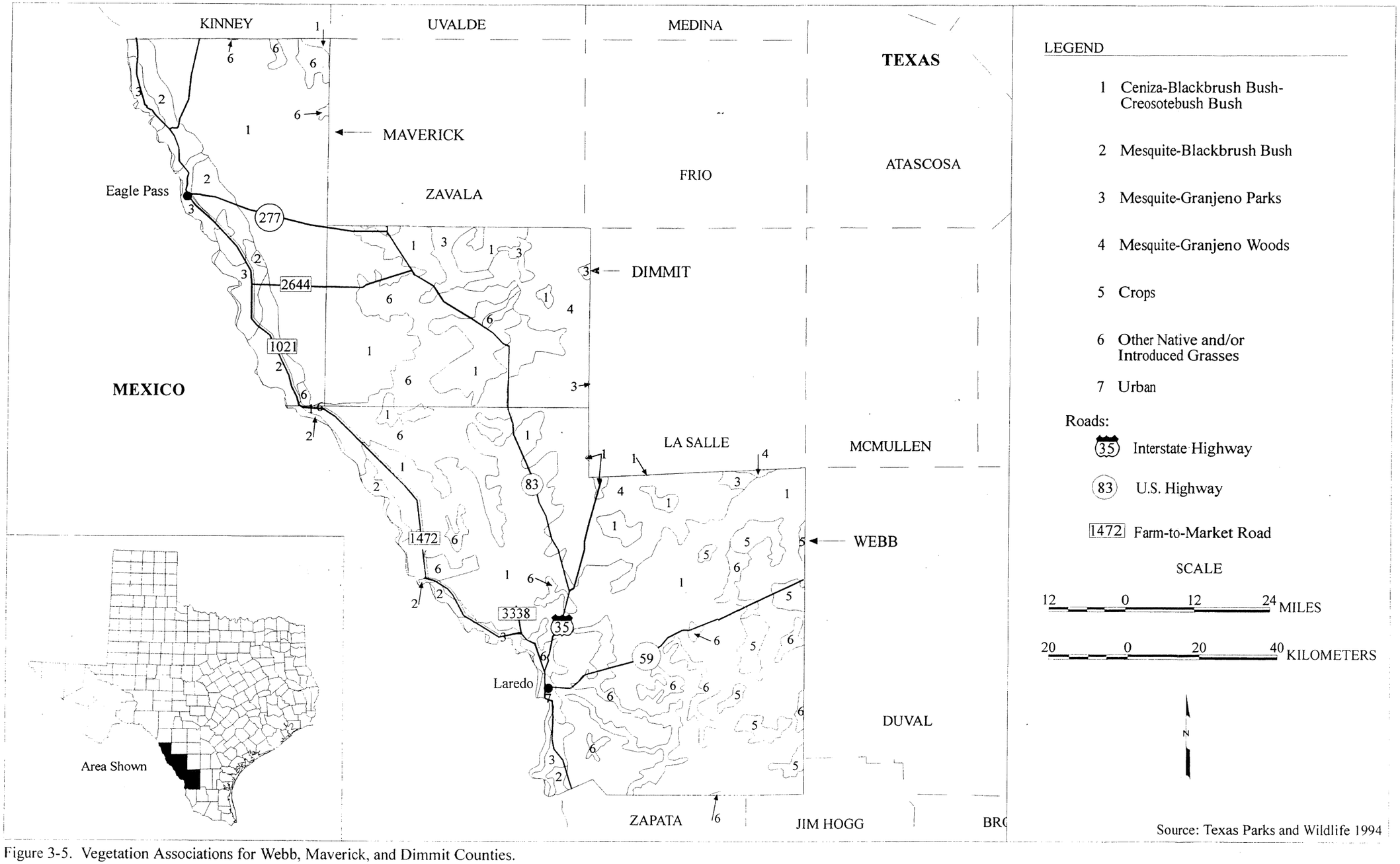

Figure 3-5. Vegetation Associations for Webb, Maverick, and Dimmit Counties.

Table 3-3

Major Vegetational Types and Commonly Associated Plants in
Webb, Maverick, and Dimmit Counties

SOUTH TEXAS PLAINS

Cenzia - Blackbrush Bush - Creosotebush Brush (1)

Commonly associated plants include guajillo, lotebush, mesquite, guayacan, Texas pricklypear, paloverde, goatbush, yucca, sotol, desert yaupon, catclaw, kidneywood, allthorn, curly mesquite, Texas grama, hairy tridens, slim tridens, pink pappusgrass , and two-leaved senna.

Mesquite - Blackbrush Bush (2)

Commonly associated plants include lotebush, cenzia, guajillo, desert olive, allthorn, whitebrush, bluewood, granjeno, guayacan, leatherstem, Texas pricklypear, tasajillo, kidneywood, yucca, desert yaupon, goatbush, purple three-awn, pink pappusgrass, hairy tridens, slim tridens, hairy grama, mat euphorbia, coldenia, dogweed, knotweed leafflower, and two-leaved senna.

Mesquite - Granjeno Parks (3)

Commonly associated plants include bluewood, lotebush, coyotillo, guayacan, Texas colubrina, tasajillo, Texas pricklypear, Pan American balsamscale, single-spike paspalum, hooded windmillgrass, tanglehead, Roemer three-awn, purple three-awn, tumble lovegrass, Lindheimer tephrosia, bull nettle, croton, slender evolvulus, Texas lantana, silverleaf nightshade, and firewheel.

Mesquite - Granjeno Woods (4)

Commonly associated plants include whitebrush, virgin's bower, desert olive, Texas pricklypear, bluewood, lotebush, desert yaupon, tasajillo, guayacan, woollybucket bumelia, Berlandier wolfberry, catclaw, Halls panicum, pink pappusgrass, purple three-awn, woodsorrel, and field ragweed.

Crops (5)

Commonly associated plants include cultivated cover crops or row crops providing food and/or fiber for either man or domestic animals. This type may also portray grassland associated with crop rotations.

Other Native and/or Introduced Grasses (6)

Mixed native or introduced grasses and forbs occurring on grassland or mixed herbaceous communities that have been cleared of woody vegetation or brush.

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* See Appendix B for list of common/scientific plant names.

Source: McMahan et al. 1984

In Maverick County, the proposed project segments on Swartz and Stone ranches are primarily cenzia-creosote vegetation community with an average of 60 percent cover. The existing roads at Swartz Ranch have an average width of 24 ft throughout most of project area with little or no disturbed road shoulder. The existing road at Stone Ranch averages 9 ft in width with little or no road shoulder. The proposed project segments of FM 2644 are vegetated with cultivated grasslands which are subject to regular mowing. FM 2644 has an existing 18-ft drag road on the south side which is cleared of vegetation (0 percent cover) and an overgrown 8-ft drag road on the north side (80-90 percent).

In Dimmit County, the proposed project segments of U.S. Highway 277 are vegetated with cultivated grasslands which are subject to regular mowing. U.S. Highway 277 has an existing 18-ft drag road that is cleared of vegetation on the south side (0 percent cover adjacent to the drag road for the westernmost 2.5 mi and 90 percent cover adjacent to the drag road for the remainder of the corridor).

3.5.2 Wildlife Communities

Texas contains an enormous diversity of environment for wildlife. The distribution of these environments is controlled generally by climatic conditions and locally by topographic factors. Physiographic features such as scarps, plateaus, plains, mountains, drainage systems, and soil systems also influence wildlife distribution.

3.5.2.1 Aquatic

Distribution patterns of freshwater fish in Texas closely resemble those of terrestrial organisms, with the controlling factors being climate and geology. Collections of fish from the Lower Rio Grande during the past 138 years suggest two indigenous faunal assemblages; one is upstream of Falcon International Reservoir and composed of freshwater species, mainly minnows (Cyprinidae) and sunfishes (Centrarchidae), and the other is downstream of Falcon International Reservoir and composed of a mixture of the abundant upstream species and estuarine/marine species. Despite its proximity to the Rio Grande Basin, the Nueces drainage of the Western Gulf Slope faunal province, which flows through the upper northeastern portion of the project area, consists of a freshwater fauna (50 species) dominated by minnows and sunfishes (JTF-6 1994).

3.5.2.2 Terrestrial

The Tamaulipan Biotic Province of the Southern Gulf Coastal Plains has a greater diversity of faunal elements than any other biotic province in Texas. It lies on an important dispersal route for the invasion of an intermixture of neotropical, austroriparian, and southwestern desert species. A regional overview of terrestrial wildlife communities occurring in Webb, Maverick, and Dimmit counties is presented in the following paragraphs.

The native faunal components of the Southern Gulf Coastal Plains in Webb, Maverick, and Dimmit counties support 348 species of birds which are dominated by wood warblers (Parulinae-39 species); swans, geese, and ducks (Anseriformes-27 species), sandpipers and phalaropes

(Scolopacidae-23 species); sparrows and towhees (Emberizinae-21 species); kites, eagles, and hawks (Accipitrinae-21 species); tyrant flycatchers (Tyranninae-20 species), and gulls, terns, and skimmers (Laridae-14 species). The majority of these species occur in spring and fall when neotropical migrants (e.g., flycatchers, warblers) pass through on their way to either summer breeding or wintering grounds and during the winter when summer resident birds (e.g., robins [*Turdus*], kinglets [*Regulus*], and sparrows) from the northern United States and Canada arrive to spend winter (JTF-6 1994).

The majority of the 60 mammalian species found in the project areas are insectivorous bats (Chiroptera) and rodents (Rodentia; e.g., rats and mice [Muridae]). Other common mammals include opossum (*Didelphis virginiana*), raccoon (*Procyon lotor*), skunks (Mustelidae), armadillo (*Dasypus novemcinctus*), coyote (*Canis latrans*), rabbits (Leporidae), javelina (*Tayassu tajacu*), and white-tailed deer (*Odocoileus virginianus*). Only 23 species of amphibians are found within the project areas; treefrogs (*Hyla*) and toads (*Bufo*) are the most abundant and common amphibian groups, comprising 43 percent of the population. The reptilian community, consisting of 23 species, is dominated by the commonly found colubrid snakes (38 percent: small burrowing; large brown-blotted terrestrial [*Heterodon/Elaphe*, etc.]; racers, indigo, and whipsnakes [*Masticophis*]; garter and ribbon [*Thamnophis*]; aquatic [*Nerodia*]; and venomous snakes [*Crotalus*]) and various species of commonly occurring iguanid lizards (Iguanidae), skinks (Scincidae), and whiptails (Teiidae).

Lists of common birds, mammals, amphibians, and reptiles by habitat type for Webb, Maverick, and Dimmit counties are listed in the Environmental Baseline Texas Land Border Volume 2 document (JTF-6 1994).

3.5.3 Threatened and Endangered Species

3.5.3.1 Federal

The ESA of 1973 (P.L. 93-205) and the amendments of 1988 (P.L. 100-578) were enacted to provide a program of preservation for endangered and threatened species and to provide protection for ecosystems upon which these species depend for their survival. The ESA requires all federal agencies to implement protection programs for designated species and to use their authorities to further the purposes of the Act. Responsibility for the identification of an endangered or threatened species and for the development of recovery plans lies with the Secretary of Interior and Secretary of Commerce. The U.S. Fish and Wildlife Service (USFWS) is responsible for implementing the ESA within the continental United States.

An endangered (E) species is a species which is in danger of extinction throughout all or a significant portion of its range. A threatened (T) species is a species likely to become endangered within the foreseeable future throughout all or a significant portion of its range. Proposed species are those which have been formally submitted to Congress for official listing as endangered or threatened.

In addition, the USFWS has identified species which are candidates for possible addition to the list of Endangered and Threatened Wildlife and Plants (50 CFR Parts 17.11 and 17.12) under the ESA of 1973, as amended. Candidate Category 1 species are now listed as "candidates." Candidate (C) species are defined as those species for which the USFWS has on file sufficient information on their biological status and threat(s) to propose them as endangered or threatened, but for which issuance of the proposed rule is precluded by work on higher priority species. The USFWS maintains a candidate list to: (1) provide advance knowledge of potential listings that could affect land planning decisions, (2) solicit input to identify candidates not requiring protection or additional species that may require protection under the ESA, and (3) solicit information needed to prioritize the order in which species will be proposed for listing. Candidate Category 2 species are listed as "Species of Concern" (SC) and include those species for which further biological research and field study are needed to resolve their conservation status. Candidate species and species of concern have no legal protection under the ESA (USFWS 1996).

A total of seven federally listed endangered, candidate, or proposed candidate (PC) species occur or potentially occur within Webb, Maverick, and/or Dimmit counties. Five species are listed as endangered, one is listed as candidate, one is listed as proposed candidate, and the remainder are listed as species of concern. Information pertaining to the distribution, habitat requirements, and reason for decline of the threatened, endangered, candidate, and proposed candidate species is listed in Table 3-4. Federally listed species of concern are presented in Appendix C (USFWS 1993, 1997).

3.5.3.2 Critical Habitat

Critical habitat is defined in Section 3 of the ESA as: (1) the specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the Act, on which are found those physical or biological features (i) essential to the conservation of the species and (ii) that may require special management considerations or protection; and (2) specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species. "Conservation" means the use of all methods and procedures needed to bring the species to the point at which listing under the Act is no longer necessary. Section 4(a)(3) of the Act, as amended, and implementing regulations (50 CFR Part 424.12) require that, to the maximum extent prudent and determinable, the Secretary will designate critical habitat at the time a species is determined to be endangered or threatened. Critical habitats are not present in the project areas.

3.5.3.3 State

The Texas Parks and Wildlife Department (TPWD), Natural Heritage Program, maintains computerized records of state-listed threatened and endangered species by county. The State of Texas does not list threatened and endangered (T & E) species the same as the federal government. When the USFWS lists a plant species, the State of Texas then lists that plant. Thus, the list of T & E plants in Texas is the same as the federal list. The state has separate laws governing the listing of animal species as endangered or threatened. T & E species in Texas are

Table 3-4

Distribution, Habitat Requirements, and Reasons for Decline of Federal/State Endangered, Threatened, Candidate, and Proposed Candidate Species Potentially Occurring in Webb, Maverick, and Dimmit Counties

Common/Scientific Name	Status Fed.	Status St.	Occurrence by Counties	Habitat Requirements/Reasons for Decline
PLANTS				
Johnston's frankenia *Frankenia johnstonii*	E	E	Webb	Tamaulipan scrub vegetation on rocky gypseous hillsides or saline flats/poor reproduction, limited distribution
Ashy dogwood *Thymophylla tephroleuca*	E	E	Webb	Open scrub and brush community in sandy loam/poor reproduction, restricted range
Leoncita false foxglove *Agalinis calycina*	PC		Maverick	Dry loam in oak woods/unknown
MacCart's whitlow wort[1] *Paronychia maccarti*		E	Webb	Openings in shrublands on hard-packed red sand/unknown
Marbled-seeded few-spined prickly pear[1] *Opuntia engelmannii* var. *flexosina*		T	Webb	Shrublands on dry hills near Rio Grande/unknown
FISH				
Phantom shiner *Notropis orca*		E	Webb, Maverick	Rio Grande and its tributaries/dewatering, pollution
Blue sucker *Cycleptus elongatus*		T	Webb, Maverick	Rio Grande and its tributaries/reservoir construction
Rio Grande darter *Etheostoma grahami*		T	Maverick	Rio Grande and its tributaries/impoundment, declining stream flow
AMPHIBIANS				
Rio Grande lesser siren[1] *Siren intermedia texana*		E	*	Muddy ponds, ditches, lakes, and swamps/draining, clearing, pollution

Table 3-4 (Cont'd)

Distribution, Habitat Requirements, and Reasons for Decline of Federal/State Endangered, Threatened, Candidate, and Proposed Candidate Species Potentially Occurring in Webb, Maverick, and Dimmit Counties

Common/Scientific Name	Status Fed.	Status St.	Occurrence by Counties	Habitat Requirements/Reasons for Decline
AMPHIBIANS (Cont'd)				
Black-spotted newt *Notophthalmus meridionalis*		E	Webb	Quiet streams, ditches, and ponds with much vegetation/draining, pollution
Sheep frog *Hypopachuss variolosus*		T	Webb	Sand plains, soils/land clearing, pesticides
Mexican burrowing toad *Rhinophrynus dorsalis*		T	Webb	Low areas with soft soil, cultivated fields and gardens/restricted range, clearing, draining
REPTILES				
Texas tortoise *Gopherus berlandieri*		T	*	Brushlands, native rangelands/habitat destruction, commercial exploitation
Texas scarlet snake *Cemophora coccinea lineri*		T	Webb	Sandy thickets/habitat loss
Texas indigo snake *Drymarchon corais erebennus*		T	*	Brushlands, native rangelands/habitat destruction, commercial exploitation
Texas horned lizard[1] *Phrynosoma cornutum*		T	*	Arid/semiarid land with sparse vegetation/pesticides, commercial exploitation
Reticulate collared lizard[1] *Crotaphytus reticulatus*		T	*	Rock piles of riparian brush lands/habitat destruction, collecting
BIRDS				
Bald eagle *Haliaeetus leucocephalus*		T	*	Large trees or cliff ledges by rivers, reservoirs, and lakes/pesticides, unlawful killing, habitat loss

Table 3-4 (Cont'd)

Distribution, Habitat Requirements, and Reasons for Decline of Federal/State Endangered, Threatened, Candidate, and Proposed Candidate Species Potentially Occurring in Webb, Maverick, and Dimmit Counties

Common/Scientific Name	Status Fed.	Status St.	Occurrence by Counties	Habitat Requirements/Reasons for Decline
BIRDS (Cont'd)				
Aplomado falcon *Falco femoralis*		E	Webb	Grassy plains/pesticides, habitat loss
Black-capped vireo *Vireo atricapillus*		E	Maverick	Broad-leaved shrublands/habitat destruction and modification, cowbird nest parasitism
Interior least tern *Sterna antiserum thalamus*	E	E	*	Inland river sandbars for nesting and shallow water for foraging/declining population, riverine alterations
Northern gray hawk[1] *Buteo nitidus maximus*		T	*	Subtropical woodlands, riparian woodlands/habitat loss, clearing
Zone-tailed hawk *Buteo albonotatus*		T	*	Steep canyons, river woodlands/habitat loss and modification
Common black-hawk *Buteogallus anthracinus*		T	*	Riparian woodlands/habitat loss and modification
Wood stork *Mycteria americana*		T	*	Lakes, ponds, and rivers/habitat loss, altered hydrology
Arctic peregrine falcon *Falco peregrinus tundrius*		T	*	Rio Grande floodplain and terrace/pesticides, collecting by falconers
White-faced ibis[1] *Plegadis chihi*		T	*	Marshy areas and lakes/pesticides
Mountain plover *Charadrius montanus*	C		*	Arid short-grass prairie/habitat loss

Table 3-4 (Cont'd)

Distribution, Habitat Requirements, and Reasons for Decline of Federal/State Endangered, Threatened, Candidate, and Proposed Candidate Species Potentially Occurring in Webb, Maverick, and Dimmit Counties

Common/Scientific Name	Status Fed.	Status St.	Occurrence by Counties	Habitat Requirements/Reasons for Decline
BIRDS (Cont'd)				
Golden-cheeked warbler *Dendroica chrysoparia*		T	*	Deciduous hardwood woodlands with old juniper/restricted distribution, habitat loss
MAMMALS				
Ocelot *Felis paradis*	E	E	*	Subtropical brushlands, woodlands/habitat destruction, predator control
Coati *Nasua nasua*		E	*	Woodlands, rocky canyons, riparian areas/erratic distribution, habitat destruction
Jaguarundi *Felis yagouaroundi cacomitli*	E	E	*	Dense, thorny thickets/habitat destruction, predator control, hunting
Black bear *Ursus americanus*		E	*	Riparian thickets, brushlands/habitat destruction, predator control, subsistence hunting

[1] Also listed as federal Species of Concern
* Includes all counties in proposed project area

E = Endangered
T = Threatened
C = Candidate
PC = Proposed Candidate

Fed = Federal
St.. = State

Source: Correl and Johnston 1979; Campbell 1995; TOES 1993, 1995; TPWD 1993, 1995; USFWS 1993, 1997

those species so designated as either threatened or endangered according to Chapters 67 and 68 of the Texas Parks and Wildlife Code and Section 65.171 - 65.184 of Title 31 of the Texas Administrative Code. Animals that are not currently listed by the federal government may be listed as threatened or endangered. The state does not have the authority at this time to list invertebrates. The state lists 13 endangered species and 18 threatened species as occurring or potentially occurring in Webb, Maverick, and/or Dimmit counties (see Table 3-4) (TPWD 1993, 1995).

3.5.3.4 Survey Results

On October 20, 1997, five biologists visited known populations of ashy dogweed (*Dyssodia tephroleuca = Thymophylla tephroleuca*) and Johnston's frankenia (*Frankenia johnstonii*) in order to become familiar with the seasonal vegetative condition of these two species. From October 20-30, 1997, the biologists surveyed each of the proposed project areas for federally listed endangered and threatened species. Survey methodology involved a single biologist (or pair of biologists) walking the proposed project area while looking for listed species. A 10-m corridor was surveyed if the proposed linear project area was adjacent to a fence line, and a 20-m corridor was surveyed in other proposed linear project areas. In proposed non-linear project areas (e.g., bivouac, equipment storage, helicopter landing pads), the survey methodology involved biologists walking parallel transects at a spacing suitable to observe the listed species.

No federally listed endangered or threatened species were observed in any of the proposed project areas. A state-listed threatened species, the Texas tortoise (*Gopherus berlandieri*), was observed at four separate locations on the Galvan Ranch proposed project area. One tortoise was located along the southwest/northeast fence line at the northeast end of the ranch in the area of current game-fence construction. A second tortoise was observed near the west end of the Galvan airfield, and a third tortoise was observed on the main Galvan Road east of Antonio Tank. The fourth Texas tortoise was observed near the southwest boundary fence. All Texas tortoise were observed in areas of loamy soils in the mesquite-blackbrush brush vegetation type.

3.6 Noise

Noise is defined as "unwanted sound" and in the context of protecting public health and welfare implies potential effects on people and, in general, on the environment. Under certain conditions, noise may cause hearing loss, interfere with human activities at home and work, and in various ways may affect people's health and well-being. Noise may also annoy, anger, awaken, and frustrate people. Therefore, noise may combine to detract from the quality of life and/or have other effects on the environment (EPA 1978).

3.6.1 Noise Classification and Measurement

Noise is one of the major concerns associated with construction-related activities. There are three common classifications of noise: (1) general audible noise that is heard by humans; (2) special noise, such as sonic booms and artillery blasts, that can have a sound pressure or shock

component; and (3) noise-induced vibration involving noise levels that can cause physical movement (e.g., vibration).

These types of noise are typically measured by three different methodologies. Audible noise is typically measured in A-weighted sound levels expressed in decibels (dBA). Special noise is usually measured in C-weighted levels expressed in decibels (dBC). Noise-induced vibration is measured in peak acceleration or root-mean-square acceleration of the structure which vibrates (National Research Council 1977).

The A-weighted sound level metric is the instantaneous measure of a single sound. The A-scale de-emphasizes the low- and high-frequency portions of the sound spectrum and provides a good approximation of the response of the average human ear. On the A-scale, 0 dBA represents the average least perceptible sound (e.g., gentle breathing), and 140 dBA represents the intensity at which the eardrum may rupture (e.g., jet engine at open throttle). Typical sound levels and the relative loudness of typical instantaneous noise sources in various environments are listed in Table 3-5. Typical single noise levels in residential and municipal areas in and around the urban community of Laredo could range above 90 decibels (dB) due to vehicular traffic, commercial airlines, and major construction activities.

The day-night sound level (L_{dn}) utilizes measurements taken from the A-scale to characterize average sound levels throughout the day and night. The metric cumulative energy average, expressed in L_{dn}, has been found to correlate well statistically with aggregate community annoyance response. The L_{dn} is widely accepted by federal and local agencies as the primary measure for describing noise effect on communities. The L_{dn} has been shown to be an effective tool for noise impact analysis for over 15 years and is the noise assessment metric endorsed by the Federal Interagency Committee on Urban Noise (comprised of representatives from the EPA, DOD, Department of Housing and Urban Development, Department of Transportation, and Veterans Administration), the National Academy of Sciences, the American National Standards Institute, the Federal Aviation Administration, the Acoustical Society of America, and the federal government. The L_{dn} is a 24-hour average sound level measurement. Nighttime emissions are weighted with a 10 dB penalty to account for increased community annoyance between the hours of 2200 and 0700. Rural areas associated with the Galvan, Swartz, and Stone ranches are currently anticipated to have L_{dn} noise levels ranging from 39 to 44 dB (Figure 3-6). Sound levels on U.S. Highway 83/227 and FM 3338/2644 would range from 35 to 70 dB at night (see Figure 3-6).

3.6.2 Environmental Compliance

The Noise Control Act of 1972 (P.L. 92-574) directed the EPA to publish scientific information about the kind and extent of all identifiable effects of different qualities and quantities of noise. Congress also directed the EPA to define acceptable noise levels under various conditions which would protect public health and welfare with an adequate margin of safety. Federal agencies and members of the scientific community collaborated to publish a document (i.e., Levels Document) which completed this legal requirement (EPA 1978). Yearly L_{dn} values to protect public health and welfare are listed in Table 3-6.

Table 3-5

Sound Levels (dB) and Relative Loudness of Typical Noise Sources in Indoor and Outdoor Environments

dB(A)	Overall Level	Community Noise Levels (Outdoor)	Home and Industry Noise Levels (Indoor)	Subjective Loudness (Relative to 70 dB)
120	Uncomfortably loud	Military jet aircraft takeoff with afterburner from aircraft carrier at 50 ft (130)	Oxygen torch (121)	32 times as loud
110		Turbo-fan aircraft at takeoff power at 200 ft (118)	Riveting machine (110) Rock band (108-114)	16 times as loud
100	Very loud	Boeing 707 DC-8 at 6080 ft before landing (106) Jet flyover at 1000 ft (103) Bell J-2A helicopter at 100 ft (100)		8 times as loud
90		Boeing 737 DC-9 at 6080 ft before landing (97) Power mower (96) Motorcycle at 25 ft (90)	Newspaper press (97)	4 times as loud
80		Car wash at 20 ft (89) Prop plane flyover at 1000 ft (88) Diesel truck 40 mph at 50 ft (85) Diesel train 45 mph at 100 ft (83)	Food blender (88) Milling machine (85) Garbage disposal (80)	2 times as loud
70	Moderately loud	High urban ambient sound (80) Passenger car 65 mph at 25 ft (77) Freeway at 50 ft from pavement edge at 10 a.m. (76)	Living room music (76) TV-audio, vacuum cleaner (70)	70 dB(A)
60		Air conditioning unit at 100 ft (60)	Cash register at 10 ft (65-70) Electric typewriter at 10 ft (64) Dishwasher (rinse) at 10 ft (60) Conversation (60)	1/2 as loud
50	Quiet	Large transformers at 100 ft (50)		1/4 as loud
40		Bird calls (44) Lowest limit urban ambient sound (40)		
		dB Scale Interrupted		
10	Just audible			
0	Threshold of hearing			

dB = decibels
dB(A) = decibels on the A-weighted scale
a.m. = ante meridian (before noon)
ft = feet
mph = miles per hour

Source: Wyle Research Corporation 1992

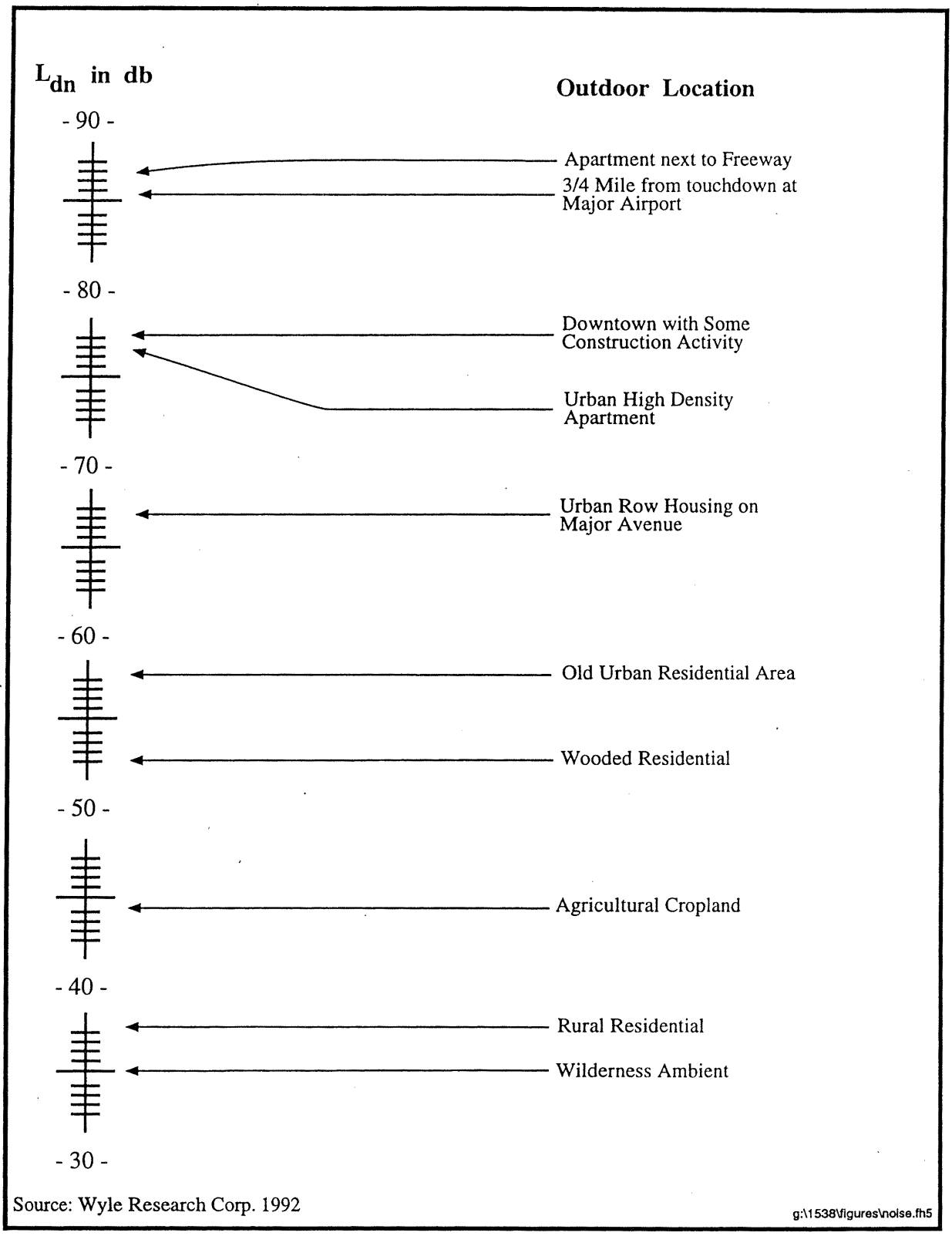

Figure 3-6. Typical Average Day-Night Noise Levels for Various Outdoor Environments.

Table 3-6

Yearly L_{dn} Values that Protect Public Health and Welfare with a Margin of Safety

Effect	Level	Area
Hearing	L_{eq} (24) ≤ 70 dB	All areas (at the ear).
Outdoor Activity interference and annoyance	L_{dn} ≤ 55 dB	Outdoors in residential area/L_{eq} farms and other outdoor areas where people spend widely varying amounts of time and other places in which quiet is a basis of use.
	L_{eq} (24) ≤ 55 dB	Outdoor areas where people spend limited amounts of time, such as school yards, playgrounds, etc.
Indoor Activity interference and annoyance	L_{dn} ≤ 45 dB	Indoor residential area.
	L_{eq} (24) ≤ 45 dB	Other indoor areas with human activities such as schools, etc.

L_{dn} = Day-night average noise level
L_{eq} = Equivalent sound level
dB = decibels
Source: EPA 1978

3.7 Socioeconomics

The region of influence (ROI) for the proposed construction and road improvement activities includes three counties in south Texas: Webb, Maverick, and Dimmit.

3.7.1 Population

Total population of the ROI in 1996 was 216,861, which represents an annual growth rate of 3.1 percent over the 1990 population of 180,050. Webb County has the largest population of the ROI counties with 164,336 persons, followed by Maverick County with 41,551 persons and Dimmit County with 10,974 persons (Table 3-7). The ROI population is distributed 94 percent Hispanic and five percent white; the remaining one percent are of different ethnic backgrounds. The largest city in the ROI is Laredo with an estimated population of 149,914 in 1994. Other cities in the ROI include Eagle Pass in Maverick County and Carrizo Springs in Dimmit County.

Table 3-7

ROI County Demographic Information (1996)

County	Population	Land Area (mi^2)	Density (per mi^2)	Ethnic Distribution			
				White	Black	Hispanic	Other
Dimmit	10,974	1,331	8	1,605	50	9,283	36
Maverick	41,551	1,280	32	1,574	13	39,005	959
Webb	164,336	3,357	49	7,091	68	156,385	792
Total	216,861	5,968	36	10,270	131	204,673	1,787

mi^2 = square mile
Source: U.S. Department of Commerce 1994; Texas State Data Center 1996

The ROI, with a population density of 36 persons per square mile, is considered relatively rural. Webb County has the highest density, 49 persons per square mile; this is due to the fact that the City of Laredo, the largest city in the ROI, is located in Webb County. Overall, the ROI population is scattered in rural areas with higher concentrations of persons in the urban areas.

3.7.2 Employment and Income

Total employment for the ROI in 1994 was 85,547, which represents an annual growth rate of 5.6 percent over total employment in 1990 (Table 3-8). Employment in the ROI is concentrated in the retail trade, service, and government sectors, representing 62.7 percent of total employment in 1994. The largest employment sector is the retail trade which accounts for 23.5 percent of the total. Compared to national figures, the government sector in the ROI is larger than the national share of 15.0 percent, while the percentage of persons in the manufacturing industry in the ROI is significantly less than the national average.

The ROI unemployment rate in 1995 was 18.2 percent which was significantly higher than the State of Texas rate of 6.0 percent and the national average of 5.6 percent (Table 3-9). Maverick County had the highest rate in the ROI (29.7 percent) and is ranked third highest in the State of Texas.

Total personal income for the ROI in 1994 was $2.3 billion. The leading sectors for income are the same as those of employment. Government, services, and retail trade produce 60.5 percent of the income in the region. The government sector is the largest income sector, accounting for 24.8 percent of income. The transportation industry is the fastest growing income and employment sector, with annual growth rates of 10.4 percent for income and 9.9 percent for employment from 1990 to 1994. In addition, the federal and civilian sectors of government are expanding rapidly in the ROI. Per capita personal income was $10,600 in 1994 which was significantly lower than the national average of $21,696 (U.S. Department of Commerce 1996a).

Table 3-8

Full-and Part-Time Employment by Industry in the ROI (1994)*

Industry	1990	1994	% Total 1994	% Change 1990-1994
Farm employment	**1,815**	**1,827**	**2.1**	**0.2**
Nonfarm employment	**66,990**	**83,720**	**97.9**	**5.7**
Private employment	**53,617**	**67,070**	**78.4**	**5.8**
Agricultural service, forestry, fisheries, & other	862	959	1.1	2.7
Mining	2,519	3,413	4.0	7.9
Construction	2,373	3,395	4.0	9.4
Manufacturing	3,182	3,213	3.8	0.2
Transportation and public utilities	7,639	11,135	13.0	9.9
Wholesale trade	3,231	3,637	4.3	3.0
Retail trade	16,456	20,120	23.	5.2
Finance, insurance, and real estate	3,516	4,325	5.1	5.3
Services	13,839	16,873	19.7	5.1
Government	**13,373**	**16,650**	**19.5**	**5.6**
Federal, civilian	912	1,519	1.8	13.6
Military	663	675	0.8	0.4
State and local	11,798	14,456	16.9	5.2
Total	68,805	85,547	100.0	5.6

*Subtotals denoted in **bold** print.

Source: U.S. Department of Commerce 1994, 1996b

Table 3-9

Employment and Unemployment in the ROI (1995)

County	Employed	Unemployed	Unemployment Rate (%)
Dimmit	3,161	626	16.5
Maverick	12,934	5,457	29.7
Webb	59,914	10,861	15.3
Total	76,009	16,944	18.2

Source: Texas Workforce Commission 1997

3.7.3 Housing

The total number of housing units in the ROI in 1992 was 55,406. Of this total, 50,341 were occupied and 5,065 were vacant (a vacancy rate of 9.1 percent). The median value of a housing unit in the ROI was $48,274; the median rent was $383 (Federal Register 1992). These median values are significantly lower than the figures for the United States and the State of Texas.

3.7.4 Environmental Justice

Executive Order 12898 of 11 February 1994, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,* provides that each federal agency shall identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low income populations in the United States. Within the ROI counties are certain areas with high concentrations of minority populations and below average income levels. However, the project sites are located in sparsely populated areas with varying degrees of demographic and economic characteristics.

3.8 Transportation

The highway system within the project areas is not extensively developed but adequate for the area (see Figure 2-1). The region is served by Interstate Highway 35/81 which runs from Laredo to San Antonio. This interstate is a vital link to areas north of the region. Other major highways in the project area are U.S. Highways 59, 83, and 277. These highways cross the project areas and provide access to the legal ports of entry at Laredo-Nuevo Laredo I (Laredo [Delores-Columbia), Laredo-Nuevo Laredo II (Lincoln Juarez), and Eagle Pass-Piedras Negras I. Numerous FM roads (e.g., 3338, 1472, 2644, and 1021) and unpaved county roads cross the region. In addition, a large system of dirt roads and jeep trails in various conditions occur along the border (JTF-6 1994).

Two railroads operate within the study area, the Missouri-Pacific (San Antonio to Laredo) and the Texas Mexican (Corpus Christi to Laredo). Passenger service is not available in the study area. Railway legal port of entry in the area is Laredo-Nuevo Laredo. The Laredo International Airport, located east of Laredo, has regularly scheduled commercial and commuter flights. Military airfields are not present in the project area (JTF-6 1994).

3.9 Hazardous Waste

3.9.1 Federal

Regulatory database searches at the federal level were supplied by Environmental Risk Information & Imaging Services (ERIIS) (Appendix D). Database selection followed the standard suite developed by the American Society for Testing and Materials (ASTM) in Document E 1527-97, *Phase I Environmental Site Assessment Process*; distances of possible adverse influence also

followed the ASTM guidelines listed below. The following databases and minimum search distances were researched:

Federal Database	Distance (mi)
National Priority List (NPL)	1.0
Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS)	0.5
Resource Conservation and Recovery Act (RCRA) Treatment, Storage, and Disposal (TSD) facilities	1.0
RCRA generators	site & adjacent
Emergency Response Notification System (ERNS)	site only

There were no facilities or events identified on the NPL, CERCLIS, RCRA TSD facilities, or ERNS databases for the Galvan, Swartz, or Stone ranches and the Rio Bravo Road or within the specified search distances. There was one RCRA generator listed on an adjacent property, the Robert Shaw Controls Company, Inc. Located on the east side of the Laredo River Road near the northern end, the company is within 0.25 mi of the proposed corridor. The company is listed as a small quantity generator (SQG) which means it reportedly uses or generates between 100 to 500 kilograms (kg) of non-acutely hazardous materials per month; there is no record of violations, and it is not recorded in RCRA Administrative Action Tracking System (RAATS). Database information on this site is highlighted in Appendix D.

3.9.2 State

Regulatory database searches at the state level were also supplied by ERIIS with database selection and distance also following the standard suite developed by the ASTM E 1527-97; distances of possible adverse influence also followed the ASTM guidelines. The following databases and minimum search distances were researched:

State Database	Distance (mi)
Texas Superfund List	1.0
Texas Solid Waste Disposal Facilities	0.5
Texas Registered Petroleum Storage Tank (RST)	site & adjacent
Texas Leaking Petroleum Storage Tank (LRST)	0.5

There are no facilities listed on the Texas Superfund list within 1.0 mi of the three ranch sites and the proposed Laredo River or Rio Bravo roads. No facilities were listed on the Texas Solid Waste Disposal Facilities database within 0.5 mi of the ranches and the proposed Laredo River or Rio Bravo road corridors. However, there are four reported LRST releases within 0.25 to 0.5 mi of the proposed Laredo River Road: Gilbert International, approximately 0.25 mi east of the corridor near the north end; Hansen Chevron facility, approximately 0.5 mi east of the north end of the corridor; and two LRSTs at Laredo Junior College, approximately 0.375 mi east of the corridor near the

southern end. Each LRST is assigned a priority based on the impact and a status which indicates how far the investigation and remediation have progressed.

Gilbert International has a priority indicating impact to Group 1 groundwater with off-site migration unlikely. The Phase 2 report is currently awaiting review by the TNRCC at which time additional work may be specified. According to the RST listing, both Gilbert International underground storage tanks have been removed. Both the Hansen Chevron facility and Laredo Junior College site had minor soil contamination which did not require remedial action. Both sites are considered closed, and no additional work is required. Laredo Junior College Maintenance Facility has soil contamination which requires a full site assessment and remedial action plan (RAP), although groundwater was not impacted. The Phase 2 report is also pending review by the regulatory agency. These three sites were not on the RST list, although they may appear on the list of incomplete or ambiguous addresses.

In addition to Gilbert International, there were two other sites with registered storage tanks located within 0.25 mi east of the corridor near the northern end. Roadway Express, Inc. has had three diesel and one gasoline underground steel tanks removed from the premises. The Laredo Coca Cola Bottling Company release has one underground storage tank about which little is known. Database information on these sites is highlighted in Appendix D.

3.10 Cultural Resources

Between October 20 and November 10, 1997, a cultural resources inventory survey was conducted along approximately 239.8 mi of existing roads and proposed new road rights-of-way for the proposed JTF-6 action in Webb, Maverick, and Dimmit counties, Texas. The cultural resources investigation was undertaken in order to locate any cultural properties that would potentially be impacted by the proposed road construction, upgrading, and maintenance activities. A total of 96 archeological sites and 349 localities was identified as a result of the survey. Twenty-five of these archeological sites are considered potentially eligible for inclusion in the National Register of Historic Places (NRHP).

3.10.1 Cultural Overview

The prehistory of South Texas can essentially be divided into three major periods: (1) Paleo-Indian (9200 B.C.); (2) Archaic, which has been subdivided into the Early Archaic (ca. 6000-2500), Middle Archaic (ca. 2500-400 B.C.), and Late Archaic (ca. 400 B.C. - A.D. 800); and (3) Late Prehistoric (A.D. 800-1600). These prehistoric periods are principally defined by the presence of particular diagnostic projectile points, but are intended to designate general cultural patterns based on ecology, technology, and subsistence strategies.

Evidence of Paleo-Indian occupations in South Texas usually consists of surface finds found most frequently in the Nueces-Guadalupe and Rio Grande plains. Only two stratified Paleo-Indian sites have been excavated in the region: Buckner Ranch (Sellards 1940) and Berger Bluff (Brown 1987). Both sites were deeply buried in alluvial terraces. Diagnostic projectile point styles of the Paleo-Indian period include Clovis (Meltzer 1986), Folsom (Largent et al. 1991),

Golondrina, Scottsbluff, and Angostura (Black 1989:48-49). Finely flaked end scrapers fashioned on blades and bifacially worked Clear Fork tools are also diagnostic of the Paleo-Indian period. Paleo-Indian peoples have traditionally been characterized as terminal Pleistocene big game hunters, but these highly mobile hunter-gatherers probably exploited a rich diversity of wild plant and animal foods.

The major distinction of the Early Archaic period is the replacement of earlier lanceolate-shaped projectile points by stemmed and corner-notched types. These styles include Bell, Andice, Early Triangular, and Early Expanding Stemmed points, such as Bandy, Martindale, Uvalde, and related forms (Turner and Hester 1985). Other diagnostic artifacts include Clear Fork tools and large, thin, triangular bifaces with concave bases. The Early Archaic period marks the onset of the modern Holocene era, during which the peri-glacial climate of the late Pleistocene began to grow warmer. Available evidence from the Gulf Coastal Plain suggests that population densities remained low through the beginning of the Archaic period, reflecting a continuation of the highly mobile adaptations of the Paleo-Indian period.

The Middle Archaic period in South Texas is defined by the presence of Pedernales, Langtry, Kinney, Bulverde, and Tortugas projectile point styles (Bell 1958; Turner and Hester 1985). Distally beveled tools are also common during this period, and ground stone tools, such as tubular grinding stones and manos, appear for the first time (Black 1989:49). Site densities in South Texas increase markedly during the Middle Archaic, possibly reflecting a decrease in group mobility and/or an increase in territoriality among groups (Black 1989:51). A heavier reliance on vegetal foods may be indicated by the introduction of ground stone technology and the appearance of large burned rock middens throughout Central Texas.

Late Archaic occupations in South Texas are defined by small corner- and side-notched dart points, including Ensor, Frio, Marcos, Fairland, and Ellis types (Bell 1958, 1960; Turner and Hester 1985). Site densities continue to increase throughout the Late Archaic period, possibly indicating that population densities continued to rise. Cultural deposits on Late Archaic sites also tend to be deeper than during preceding periods, suggesting that occupations were either more extended in duration or that reoccupation of the same locations was more frequent (Black 1989:51). Cemeteries also appear during this period, possibly indicating higher levels of social organization and increasing territoriality (Black 1989:51). During the Late Archaic, the exploitation of different ecological niches continued to intensify. This kind of adaptation is best illustrated by the frequent occurrence of shell middens along the coast and burned rock middens farther inland.

The Late Prehistoric period is defined by the appearance of pottery and the bow and arrow. The small dart points of the Late Archaic period were largely replaced by arrow points (Black 1989:52). The Late Prehistoric period in South Texas has been divided into two distinct time horizons, the Austin (A.D. 800-1350) and Toyah (A.D. 1350-1600) phases (Black 1986). The Austin phase is characterized by the presence of Scallorn arrow points, while the Toyah phase is defined by the presence of Perdiz arrow points. Late Prehistoric sites are fairly common throughout South Texas, which may reflect continuing population increases. Faunal resources became increasingly important during this period, especially large mammals such as bison and

deer. Lithic tool kits seem to have been manufactured for the processing of large mammals (Black 1989:51-57).

The historic era of South Texas began with the arrival of Europeans in the region and can be subsumed within the overall history of Texas. In South Texas, the historic era has been divided into three time periods: (1) Spanish Exploration and Colonial (ca. A.D. 1520-1821), (2) Mexican (1821-1836), and (3) Texas-American (ca. 1836-present). The Protohistoric era in this region can generally be incorporated within the early part of the Spanish Exploration and Colonial period.

Based on fragmentary ethnohistorical records from the initial Spanish expeditions, it appears that the indigenous Coahuiltecan-affiliated groups in the Rio Grande floodplain-part of an extinct cultural group that occupied lands stretching from South Texas deep into Mexico-were highly nomadic hunter-gatherers who moved in a seasonal pattern within distinctive territories (Hester 1989a). Two causes can be cited for the early destruction of the Coahuiltecan groups on the Rio Grande plain. First, the introduction of the horse by the Spanish led to a period of great unrest among Native American populations. Groups who adopted the horse, such as the Apache and Comanche, began raiding neighboring groups. The Coahuiltecans were particularly vulnerable to such predation for they could neither consolidate for protection nor occupy defensible positions without risking starvation. Second, the Coahuiltecans asked for missions to be established in their territories in order to protect them from raiders. Following the introduction of missions in South Texas during the first half of the eighteenth century, the remnants of the indigenous Native American groups rapidly became acculturated into the mission system or were decimated by depredation and disease (John 1975).

The first European incursion into Texas was by Alvarez de Piñeda. In 1528, Cabeza de Vaca crossed South Texas after being shipwrecked along the Texas Coast near Galveston Bay (Fox et al. 1989:85). Between 1688 and 1717, Spanish explorers such as Mazanet and Espinosa passed through the Rio Grande plain from Mexico on their way to the Caddoan settlements in northeast Texas (Hester 1989b:80-81). These early Spanish explorers recorded observations about the aboriginal groups in the region, but they were primarily engaged in consolidating territory for the Spanish Crown.

Following the founding of San Antonio in 1718, the town of Laredo was established along the Rio Grande in 1755 when rancher Tomas Sanchez de la Berrera y Gallardo was granted permission by the great Spanish colonizer, Jose de Escandon, to form a new settlement. Located in the province of Nuevo Santander, which included most of northeastern Mexico and parts of present-day Texas, Laredo was one of a series of settlements that Escandon established or authorized as part of Spain's effort to colonize the area south of the Nueces River (Clark and Juarez 1986:85; Folan et al. 1986:6).

Laredo was founded near a ford on the Rio Grande on a grant consisting of 15 *sitios de ganado mayor*, or 66,000 ac. In 1767, Spanish authorities visited the community and laid out San Agustin Plaza. They also granted porciones (parcels of land fronting on the river) to the settlers. The community grew steadily after its designation as a villa or town, and by 1789 the population

consisted of approximately 700 individuals. The town included a stone church and a priest's house, military barracks to house the soldiers who guarded the community against frequent Indian attacks, and approximately 85 civilian dwellings. The economy was based on ranching and salt mining at Sal del Rey in modern Hidalgo County (Anonymous n.d.; Clark and Juarez 1986:87-88; Folan et al. 1986:6).

Throughout the late eighteenth century and first half of the nineteenth century, the citizens of Laredo considered themselves to be politically separate from the Anglo-American settlements developing in other parts of Texas. Nevertheless, their key location on the corridor between Mexico and the United States embroiled them in Mexico's war for independence against Spain prior to 1821, in the Texas revolution during the 1830s, and in the Mexican-American War of 1846-1848. Insurgents, troops, and supplies passed through the town regularly, keeping the community in a constant state of flux for 50 years. Population turnover was continuous, although the number of residents changed little (Clark and Juarez 1986:89-95; Folan et al. 1986:6-7).

The organization of Webb County in 1848 and the increasing numbers of Anglo-American merchants afterwards contributed to a period of prosperity for Laredo. The town's economy was further stimulated during the Civil War, when it became a center for the Confederate cotton trade. Twenty years later, the arrival of the Texas-Mexican Railway and the International-Great Northern Railroad in 1881 caused Laredo's population to soar, and within a decade the number of residents had increased from 3,521 to 11,319 (Anonymous n.d.; Folan et al. 1986:8). A major influx of Anglo-American entrepreneurs resulted in the construction of an electric railway system, the opening of new suburban developments, and the construction of numerous residential and commercial buildings. The establishment of coal mines northwest of Laredo contributed to the general prosperity of the region (Anonymous n.d.), as did a period of agricultural development after 1900. Further significant population growth occurred during the second decade of the twentieth century as large numbers of Mexican nationals crossed the border to escape the ravages of civil war. The population swelled by 50 percent between 1910 and 1920 (Anonymous n.d.), and new immigrants created a demand for housing throughout the city while contributing to the local infrastructure as teachers, businessmen, and laborers.

Discovery of oil in Webb County in 1921 assisted Laredo in sustaining a period of growth during the 1920s and 1930s, after which the city suffered the effects of the Great Depression. Establishment of the Laredo Army Air Field in 1942 aided in a general economic recovery that continued after World War II as the community became the location of numerous service industries. Increasing trade between the United States and Mexico further stimulated the local economy, which has remained strong throughout the last few decades.

3.10.2 Previous Cultural Resources Investigations

The project area forms a part of the South Texas archeological region (Hester et al. 1989). This region extends from the Edwards Plateau to the Gulf of Mexico and southward into northern Mexico. The majority of the project segments are situated within the Rio Grande plain subdivision, while the remaining areas lie within the Nueces-Guadalupe Plain subdivision (Hester et al. 1989:11). Professional interest in the archeology of South Texas began in 1935, when E. B. Sayles produced an archeological synthesis that included South Texas. Typological studies of artifacts in this region began at roughly the same time (Jackson 1940; Patterson 1936; Poteet 1938), and a number of significant sites were excavated, including the Buckner Ranch (Sellards 1940), Johnson (Campbell 1947), Kent-Crane (Campbell 1952), Live Oak Point (Campbell 1958), and Ayala sites (Campbell and Frizzell 1949). The pace of archeological research in South Texas increased through the 1950s and 1960s as a result of reservoir projects that were to impact many of the larger drainage basins in the region (Cason 1952; Hartle and Stephenson 1951; Jelks 1952, 1953; Kreiger n.d.; Kreiger and Hughes 1950). Since the 1970s, most of the archeological projects in South Texas have been connected with Cultural Resources Management (CRM) programs, including investigations at Choke Canyon (Hall et al. 1982; Highley 1986; Lynn et al. 1977; Wakefield 1968), Cuero I (Fox 1974), and Coleto Creek (Brown 1983; Fox 1979; Fox and Hester 1976; Fox et al. 1979).

Prior to archeological fieldwork, a records search was conducted at the Texas Archeological Research Laboratory (TARL) for known cultural properties in the vicinity of the proposed project segments. The results of this records search are discussed separately for each segment of the project area below.

3.10.2.1 Rio Bravo Segment

No previous cultural resources investigations have been conducted in the immediate vicinity of the Rio Bravo segment, but TARL archives contain records of several archeological sites along the Rio Grande river frontage between Rio Bravo and Laredo, Texas. These sites are located along the terrace edge and consist primarily of low-density scatters of prehistoric debris, including flakes, cores, ground stone implements, and mussel shell. Historic material was observed on several of these sites, and three prehistoric burials were documented at one site (Fox 1982).

3.10.2.2 Laredo River Road Segment

The northern segment of the Laredo River Road project area (north of Jefferson Street) was initially surveyed for cultural resources by Fox and Vecker (1977), and the remaining portions of this proposed route (south of the gravel pit at Island Street) were later inspected for archeological sites by the USACE (1990). More recently, a cultural resources survey of the river frontage area was conducted and road improvement activities associated with a JTF-6 action were monitored by personnel from Geo-Marine, Inc. (Austin et al. 1994). No new archeological sites were located during any of these previous investigations.

One documented cultural property, Star Fort, is situated within the proposed Laredo River Road segment. Star Fort was constructed in 1854 and has been included with Fort McIntosh on the NRHP (Austin et al. 1994). The remains of this "early" or "Field Fort McIntosh," which appear today as a series of low mounds or embankments without associated cultural debris, have been reported by several researchers (Briggs 1982; Warren 1987, 1988, 1989a, 1989b, 1991).

3.10.2.3 Galvan Ranch Segment

No previous cultural resources investigations have been conducted within the Galvan Ranch project area, and no archeological sites have been documented along any of the proposed new or existing road segments. However, the area lying immediately west of Old Mines Road, an improved gravel road that forms the western boundary of the Galvan Ranch project area, was surveyed in connection with an application for a mining permit in the early 1990s (TARL site files). Numerous archeological sites were documented as a result of this survey. Most of these sites consist of low- to moderate-density lithic scatters, many of which are associated with hearth features, that have been identified as open campsites, intermediate campsites, base camps, and lithic quarries. Cultural material from a wide variety of time periods is represented at these sites, including projectile points diagnostic of the Middle Archaic (Tortugas), Late Archaic (Ensor, Cat<n, Matamoros, Desmuke), and Late Prehistoric (Fresno, Cat<n, Matamoros) periods (Turner and Hester 1985). The density of archeological sites in the mining permit area is quite high in some areas, averaging approximately 6 sites per square kilometer.

3.10.2.4 Stone Ranch (M40) Segment

No previous archeological work has been conducted in the vicinity of the Stone Ranch project area, and no cultural properties are depicted on TARL maps for this area.

3.10.2.5 Swartz Ranch (M41) Segment

No previous cultural resources investigations have been conducted in the vicinity of the Swartz Ranch project area, and no archeological sites are represented on TARL maps for this area.

3.10.2.6 U.S. Highway 277 and FM 2644 Segments

No previous archeological work has been performed along FM 2644 between the Dimmit/Maverick county line and El Indio, Texas, and no cultural properties have been identified in this area. One archeological site depicted on TARL site file maps, 41DM59, encroaches upon the northeast side of Highway 277, 4 mi west of Carrizo Springs. This site consists of a scatter of artifacts, including dart and arrow points, knives, and scrapers, in a highly disturbed context. No previous cultural resources investigations have been undertaken along U.S. Highway 277 between the Dimmit/Maverick county line and the Carrizo Springs city limits, and no archeological sites were depicted on TARL maps for this area.

3.10.2.7 U.S. Highway 83 and FM 3338 Segments

Previous cultural resources investigations resulted in the documentation of one archeological site along the U.S. Highway 83 segment and three sites along the FM 3338 segment. TARL site files describe all four sites (41WB214, 41WB295, 41WB456, and 41WB457) as open campsites and raw material quarries consisting of low-density lithic scatters without associated cultural features. Both the U.S. Highway 83 and FM 3338 segments of the project area were recently surveyed for cultural resources (USACE 1990) in connection with an earlier JTF-6 road improvement action. No new cultural properties were identified as a result of this survey.

3.10.3 Field Methods

3.10.3.1 General Methodology

The cultural resources survey was conducted along approximately 239.8 mi of existing and proposed new road rights-of-way in Webb, Maverick, and Dimmit counties, Texas. A 20-m-wide survey corridor was examined on either side of existing roadcuts. When limiting physical barriers such as fence lines were encountered, the survey corridor was narrowed. A 40-m-wide corridor was examined along proposed new road rights-of-way. In addition, proposed construction locations for two borrow pits, two helipads, an equipment storage area, an airfield, and two base camp or bivouac areas were examined for cultural resources. Site locations and non-site localities were plotted on USGS 7.5' quadrangle maps, *State of Texas Archeological Site Data Forms* were filled out and site maps were drawn for each site, and Universal Transverse Mecator (UTM) coordinates were determined for each site using a Global Positioning System (GPS) device or by extrapolating from existing topography on USGS maps. The presence, depth, and integrity of subsurface cultural deposits on each site were determined by excavating one or more 30-by-30 centimeter (cm) shovel tests. Site boundaries within the survey corridor were flagged with red surveyor's tape, and overview photographs were taken of each site. Site datums stamped with temporary site numbers were installed at each site. Diagnostic artifacts were sketched or photographed in the field. No artifacts were collected.

In distinguishing between archeological sites and non-site localities, three criteria were used as standard measures for evaluating the significance of cultural manifestations in the project area: surficial artifact density, contextual integrity, and depth of cultural deposits. Artifact density represented the primary criterion for determining the status of scatters of cultural material. In general, any artifact scatter that exhibited an average density of less than 6 artifacts per 25 square meter (m^2).was considered to be a non-site locality regardless of the overall size of the distribution. Many of these occurrences were shovel tested in order to determine whether the cultural deposits retained any depth, but most of the tested localities proved to be surficial. Low-density artifact scatters that appeared to possess some depth and/or to have retained some contextual integrity were documented as sites.

The high density of archeological sites on the Swartz and Galvan ranch segments of the project area and the strict time constraints on completion of the archeological fieldwork for this action often made it difficult to determine all of the boundaries for each site. Many of the sites located

in these areas are quite large and measure hundreds or thousands of meters across. Whenever unusually large sites were encountered, the boundaries of the site within the survey corridor were determined and an attempt was made to establish the entire boundary of the site. If the artifact scatter associated with a site continued beyond an arbitrarily determined distance of 100 m from existing roads, however, the search for that site boundary was abandoned and the known extent of the scatter was mapped. All of the boundaries for sites encountered along proposed new construction rights-of-way were determined regardless of site size. In many cases, limiting physical barriers such as fences also prohibited the full documentation of site boundaries.

3.10.3.2 Rio Bravo Segment

The Rio Bravo segment consists of approximately 1.65 mi of existing river frontage road and 1.65 mi of existing road providing access to the riverfront from the neighboring uplands. The upland half of this survey segment had recently been grubbed and replanted in grass. A 20-m-wide survey corridor on either side of the existing roadbed was thoroughly examined for cultural resources on this portion of the segment. Vegetation was very thick along the existing floodplain road outside of the roadbed. A 20-m-wide corridor was surveyed on either side of the existing river frontage road. In order to compensate for the limited surface visibility, bare patches of ground and eroding cut banks located within or slightly beyond the survey corridor were searched out and thoroughly examined for cultural resources.

3.10.3.3 Laredo River Road Segment

The Laredo River Road segment consists of approximately 5.5 mi of existing river frontage road in Webb County extending from an international railroad bridge on the south to a gravel pit near Island Street on the north. An additional 0.5 mi of proposed new road right-of-way extends from the Island Street gravel pit northward to an unnamed tributary of the Rio Grande that enters the floodplain just north of an existing power plant. The 5.5-mi segment of existing road had been previously surveyed for cultural resources (USACE 1990) and was not resurveyed in connection with this action. The 0.5-mi segment of proposed new road right-of-way was thoroughly examined for cultural resources within a 40-m-wide survey corridor. Vegetation was fairly thick in some parts of the Laredo River Road survey area, but ground visibility was generally good.

3.10.3.4 Galvan Ranch Segment

The Galvan Ranch segment consists of approximately 95.5 mi of proposed road rights-of-way in Webb County. The existing road portions of the Galvan Ranch segment include graded gravel roads as well as improved and unimproved two-tracks paralleling existing fence lines. A 20-m-wide survey corridor on both sides of the main road was thoroughly examined for cultural resources. Along the proposed rights-of-way segments that parallel fence lines, a 20-m-wide corridor on one or both sides of the existing fence was examined for cultural resources as per USACE instructions. In addition, proposed locations for a bivouac or base camp area (97,500 m^2), an airfield (495,000 m^2), and a caliche borrow pit (137,500 m^2) were surveyed for cultural resources in systematic 20-m-wide transect intervals. Ground visibility was good throughout most of the Galvan Ranch survey area.

3.10.3.5 Stone Ranch (M40) Segment

Approximately 3.5 mi of existing gravel roads and 1.5 mi of proposed new road rights-of-way were inspected for cultural resources on the Stone Ranch segment. A 20-m-wide corridor on either side of existing roads was examined, and a 40-m-wide corridor was surveyed along proposed new road segments. In addition, the proposed locations for an equipment storage area, measuring approximately 2.02 hectares (ha) (5.0 ac), and a helipad, measuring roughly 900 m^2, were surveyed in systematic 20-m-wide transect intervals. Ground visibility was good throughout the Stone Ranch survey area.

3.10.3.6 Swartz Ranch (M41) Segment

The Swartz Ranch survey area consists of approximately 18.0 mi of existing roads and 0.5 mi of proposed new road rights-of-way. A 20-m-wide corridor was surveyed on both sides of existing roads, and a 20-m-wide corridor was surveyed on one side of existing roads where fences restricted access to the other side of the road. A 40-m-wide corridor was surveyed for the proposed new road right-of-way. Proposed locations for a helipad (900 m^2), borrow pit (3,200 m^2), base camp or bivouac area (2.02 ha), and equipment storage area (3,000 m^2) were also surveyed. Ground visibility was good throughout the Swartz Ranch survey area.

3.10.3.7 U.S. Highway 277 and FM 2644 Segments

The U.S. Highway 277 segment consists of an existing drag road extending along the south side of the pavement approximately 18.5 mi between Carrizo Springs and a point just west of the Maverick/Dimmit county line. The U.S. Highway 277 drag road runs along a fence line that made it impossible to extend the survey corridor south of the drag road. A 20-m-wide corridor between the fence and the existing pavement was thoroughly examined for cultural resources. The FM 2644 segment consists of an existing drag road on the south side of the pavement extending roughly 10.0 mi in each direction westward from the Maverick/Dimmit county line. The FM 2644 segment also includes 11.0 mi of proposed new drag road construction. A 20-m-wide survey corridor was examined for cultural resources along the north and south drag roads of FM 2644. Fence lines restricted access beyond the existing right-of-way, and survey corridors consequently covered the drag roads proper and the area between the drag road and the pavement. Ground visibility was good in the drag road rights-of-way for both survey segments, but vegetation obscured ground visibility along some portions of the area between the drag road and existing pavement.

3.10.3.8 U.S. Highway 83 and FM 3338 Segments

The U.S. Highway 83 segment starts at the intersection of Highway 83 and Interstate 35 (I-35) and continues northwest along both sides of the existing pavement for 28.0 mi in each direction. The FM 3338 segment begins at the intersection of FM 3338 and FM 1472 in Webb County and continues along both sides of FM 3338 for approximately 8.0 mi in each direction to the end of the pavement. Both of these segments had been previously surveyed for cultural resources and were consequently not resurveyed in connection with this JTF-6 action. Three known

archeological sites located near the southern end of the FM 3338 segment and one site on the U.S. Highway 83 segment were revisited and *State of Texas Additional Archeological Site Investigation Forms* were filled out for each.

3.10.4 Survey Results

3.10.4.1 Summary of Results of Investigations

A total of 96 archeological sites and 349 localities was documented as a result of the cultural resources surveys for the various segments of this action. All but one of these sites exhibit components attributable solely to prehistoric occupations. One site contains both prehistoric and historic components.

In addition to the newly documented archeological sites, 349 non-site localities were identified as a result of the survey. Two types of localities were encountered during the survey. The first type consists of isolated artifact occurrences or concentrations of less than 6 artifacts. The second type consists of extensive, very low-density lithic scatters characterized by an average artifact density of less than 6 artifacts per 25 m^2. Shovel tests were excavated on approximately 25 percent of the localities described by the latter category in order to determine if surface scatters were associated with subsurface cultural deposits. All of the tested localities failed to exhibit any indication of subsurface context that might have warranted designation as an archeological site. None of the localities are considered to be eligible for inclusion in the NRHP.

3.10.4.2 Rio Bravo Segment

No cultural resources were identified as a result of the cultural resources survey of the Rio Bravo project area. Despite the limited surface visibility, this segment of the project area is considered a low-probability area for containing cultural resources. The upland portion of the segment has been heavily impacted by the construction of a large cement culvert and by devegetating activities, while the lowland portion represents an unlikely locus for prehistoric settlement. No further work is recommended for this segment of this action.

3.10.4.3 Laredo River Road Segment

No cultural resources were identified as a result of the cultural resources survey of the Laredo River Road project area. One known cultural property, Star Fort, is situated within the proposed Laredo River Road segment. Star Fort has been included with Fort McIntosh on the NRHP (Austin et al. 1994). The road improvement proposal for the river frontage road is limited to regrading the length of the existing road. Provided that grading equipment and other construction-related activities and traffic are restricted to the existing roadbed, this road improvement plan will not result in any additional impacts to Star Fort. No further work is recommended on the Laredo River Road segment of this action.

3.10.4.4 Galvan Ranch Segment

A total of 65 archeological sites and 250 localities was identified as a result of the cultural resources survey of the Galvan Ranch project area. Average site density for the Galvan Ranch survey area is approximately 0.67 site per mile. This figure is somewhat deceiving, however, as many of the sites documented at Galvan Ranch measure hundreds or even thousands of meters in length. Fifteen of the archeological sites at Galvan Ranch are considered to be potentially eligible for inclusion in the NRHP.

Of the 250 localities identified at Galvan Ranch, 204 consist exclusively of very low-density lithic scatters that failed to meet the criteria for site designation. These sparse lithic scatters are composed primarily of tested cobbles and cortical flakes indicative of low-intensity quarrying activities, and are virtually continuous across vast expanses of the terrain at Galvan Ranch. Occasionally, artifact densities achieved a sufficiently high level within a particular portion of an extensive, sparse lithic scatter to warrant site designation. These concentrations were documented as archeological sites, but the surrounding "background noise" retained the status of a locality. A total of 46 of the localities at Galvan Ranch consist of isolated artifact occurrences, isolated concentrations of less than 6 artifacts within a 25 m^2 area, or low-density scatters such as those described above that also contain flake tools or diagnostic artifacts.

3.10.4.5 Stone Ranch (M40) Segment

A total of five archeological sites and 21 localities was identified during the cultural resources survey of the Stone Ranch project area. Three of the archeological sites documented in the Stone Ranch segment are potentially eligible for inclusion in the NRHP.

A total of 21 localities was recorded on the Stone Ranch segment. As with Galvan Ranch, the majority of these localities consist of sparse lithic scatters that fail to meet the density and subsurface context criteria used in designating archeological sites. Three of the localities are isolated artifact occurrences.

3.10.4.6 Swartz Ranch (M41) Segment

A total of 26 archeological sites and 78 localities was identified as a result of the cultural resources survey of the Swartz Ranch project area. Seven of the cultural properties recorded in the Swartz Ranch segment are considered potentially eligible for inclusion in the NRHP.

Of the 78 localities recorded in the Swartz Ranch segment, 49 consist of very low-density lithic scatters that lack diagnostic artifacts, subsurface context, and artifact densities sufficient to warrant designation as a site. The remaining 29 localities are composed of isolated finds of single or small numbers of artifacts or sparse lithic scatters that contain artifacts other than flakes.

3.10.4.7 U.S. Highway 277 and FM 2644 Segments

No cultural resources were located on either the U.S. Highway 277 or FM 2644 segments as a result of the cultural resources survey. No further work is recommended for this segment of the proposed action.

3.10.4.8 U.S. Highway 83 and FM 3338 Segments

No cultural resources were identified as a result of the cultural resources survey of the U.S. Highway 83 and FM 3338 segments. No further work is recommended for this segment in connection with the proposed action.

4.0 ENVIRONMENTAL CONSEQUENCES

This chapter describes the potential impacts to the project areas from the proposed action and the no action alternative. The information used to analyze impacts included site surveys, literature review, and previous environmental documents.

4.1 Proposed Action

4.1.1 Land Use

The proposed project would have no impact on land use. Highway and railroad right-of-way use would not change. The project area roads traverse areas currently used as pasture, agriculture, or open land and would not be affected by the proposed improvement activities for maintenance and repair or new construction.

4.1.2 Soils

Construction of permanent facilities would result in the direct disturbance of approximately 31.5 ac of soil. Removal of vegetation and exposure of subsurface soils during construction and road improvement activities would decrease soil stability and increase the potential for soil erosion and siltation in creeks. In order to prevent erosion at the proposed permanent facilities during and after construction, the areas within and adjacent to the boundary construction sites would be restored to their present condition after completion of construction. Topsoil would be removed from the borrow area and used for restoration. Erosion and sediment control measures (e.g., silt fences, drainage swales, check dams, pipe slope drains, etc.) would be implemented at all construction sites and borrow areas.

Current road conditions in the project areas are highly susceptible to erosion. Since any fill material used to improve the road would be packed using a roller, the erosion potential would decrease. Natural surface runoff or potential flash-flooding is not expected to be a problem, although onsite drainage during improvement activities could affect the proposed project areas and surrounding drainage patterns negatively. The magnitude of impact would depend on a number of factors, including type of soil, type and percent coverage of vegetation, current and subsequent climatic conditions, and construction techniques.

Since the new disturbance of soils would be spread over a relatively large, linear area, the existing, disturbed conditions of soils, low annual rainfall (21.5 in), and relatively level to gently undulating terrain would combine to produce only a slight to moderate negative effect on soils. In addition, a pollution prevention plan (PPP) would be prepared and implemented for construction sites greater than 5 ac in size (Section 402 of the CWA). The PPP contained in Appendix A presents specific construction and mitigation measures to reduce or eliminate runoff impacts during proposed road improvement activities and to reduce the potential for soil erosion during construction.

4.1.3 Water Resources

4.1.3.1 Surface/Groundwater

Indirect impacts during the proposed new construction and maintenance/repair of the roads and culverts would potentially result in increased erosion with subsequent sedimentation of intermittent drainages in the project area. However, as previously discussed, a PPP has been prepared and would be subsequently implemented for all construction areas larger than 5 ac to prevent erosion and subsequent siltation of intermittent drainages. For construction sites less than 5 ac in size, the contractor would submit a plan for controlling erosion and disposal of waste. Construction techniques would be implemented to prevent water from crossing disturbed sites and to remove sediment from runoff before it leaves the sites. Wash waters and waste from construction activities would be processed, filtered, ponded, or similarly treated prior to their release. These construction and mitigation measures would prevent and/or alleviate any potential negative effects from erosion and subsequent sedimentation in the project area.

Intermittent creeks crossing the various road sections in the project areas have been formed by previous rain events. In order to help prevent long-term erosion and sedimentation from vehicles crossing these creeks, various culverts would be upgraded or installed. Since less than one-third of an acre of fill would be required at these crossings, the proposed action complies with the terms of the Nationwide Permit (NWP) 14, for fills placed in roads crossing wetlands and waters of the United States. With incorporation of the PPP into the proposed action, impacts to surface water resources would be minimized.

Although unlikely, direct and/or indirect effects upon surface or groundwater resources in the project areas would potentially result from spillage and/or infiltration of hazardous materials (i.e., fuel spill). The contractor would implement protection techniques to prevent chemicals, fuels, oils, greases, bituminous materials, waste washings, herbicides, insecticides, and cement from entering the water supply. Any major spill would be contained by immediately constructing an earthen dike and applying an absorbent (i.e., granular, pillow, sock, etc.) to absorb and contain the spill. In addition, any major spill would be reported immediately to appropriate local, state, and federal agencies. If necessary, a hazardous materials site assessment would be conducted in order to identify potential problems, additional cleanup procedures, and mitigative measures. This would include disposal of the absorbent in accordance with all local, state, and federal regulations. Since infiltration to groundwater supplies is greater along creeks, all vehicles would be fueled in non-wash areas in order to reduce the potential for groundwater pollution problems. All applicable local, state, and federal laws would be followed in event of a spill. Based on these contingency plans, it is unlikely that a major spill would result in significant adverse effects to groundwater aquifers in the project area.

4.1.3.2 Wetlands

4.1.3.2.1 Jurisdictional Non-Wetland Waters of the United States

Fifty-one jurisdictional non-wetland waters of the United States (i.e., channels) were observed crossing the proposed project corridors. At least 46 of these channels are ephemeral. The ephemeral/perennial nature of the remaining channels is questionable. Three channel crossings on Galvan Ranch were flowing during the survey period (possibly from recent rainfall). A single channel on Swartz Ranch crossed the proposed project area twice and was flowing heavily (probably runoff from an irrigation canal north of Swartz Ranch).

The majority of channel crossings on Galvan Ranch and Swartz Ranch have an existing low-water ford, culvert, or bridge. However, since the ranch roads would be upgraded to 34 ft in width, the area to be filled/impacted on all ranch roads is calculated as 34 ft x channel width (ft) = square feet (ft^2). The existing drag roads adjacent to paved roads are approximately 18 ft wide, therefore, the area of impact for proposed drag road improvements adjacent to paved roads is expected to be 18 ft x channel width (ft) = ft^2.

Approximately 1,798 linear ft / 8357 ft^2 (0.192 ac) of jurisdictional non-wetland waters of the United States may be impacted by proposed project construction. However, these impacts would include repair of existing culverts and installation of new culverts or concrete fords. These repairs and installations would be designed to allow for the normal flow of water and movement of aquatic organisms. This would result in a positive impact by eliminating stream sedimentation from the constant regrading of, and vehicles driving through, washed out culverts and dirt fords.

4.1.3.2.2 Jurisdictional Wetland Waters of the United States

The 10 jurisdictional wetland waters of the United States (i.e., wetlands) located in the proposed project corridors occurred on the Galvan Ranch. Each wetland was confined to one side of the existing road and would be avoided by the proposed construction, with the exception of wetlands numbers 4 and 9. At the location of these two wetlands, the existing road is located between the fence line and the wetland. Proposed road upgrades in either of these two locations would require the placement of fill material in the wetland. However, only 130 linear ft and 50 linear ft (for a total of 180 linear ft) of fill material would be placed in wetlands numbers 4 and 9, respectively. Additionally, each location has an approximately 8-ft wide existing road corridor that would be upgraded an additional 26 ft in width (for a total of 34 ft wide). This would require 0.107 ac of fill (180 ft x 26 ft). Combined with the 0.192 ac of fill required for channel crossings described above, a total of 0.299 ac of fill would be required below the plane of ordinary high water in the proposed project's waters of the United States.

4.1.3.2.3 Section 404 Permitting

Activities that result in the dredging and/or filling of jurisdictional waters of the United States are regulated under Section 404 of the CWA. The USACE has established NWPs to efficiently authorize common activities which do not significantly impact waters of the United States. The

NWPs were modified and reissued by the USACE in the Federal Register (Volume 61, Number 241) on 13 December 1996, with an effective date of 11 February 1997. The USACE has the responsibility to authorize permitting under a NWP, or to require an Individual Permit.

The proposed construction is authorized by NWP 14, *Road Crossings*. NWP 14 authorizes the discharge of fill material for roads crossing waters of the United States (including wetlands and other special aquatic sites) if the activity meets certain criteria. The fill placed in waters of the United States is limited to a filled area of no more than 1/3 ac. Furthermore, no more than a total of 200 linear feet of fill for the roadway can occur in special aquatic sites, including wetlands. For fills in wetlands, the permittee must notify the District Engineer in accordance with the "Notification" general condition. The notification must include a delineation of the wetlands. This NWP may not be combined with NWP 26 for the purpose of increasing the footprint of the road crossing.

The proposed construction could also be authorized by NWP 26, *Headwaters and Isolated Waters Discharges,* which authorizes the discharge of dredged or fill material into headwaters and isolated waters. However, under NWP 26 the discharge may not cause the loss of more than 3 ac of waters of the United States nor cause the loss of waters of the United States for a distance greater than 500 linear ft of the stream bed. For the purposes of this NWP, the acreage loss of waters of the United States includes the area filled plus the area of waters of the United States that are adversely affected by flooding, excavation, or drainage as a result of the project. The 3-ac and 1/3-ac limits of NWP 26 are absolute and cannot be increased by any mitigation plan offered by the applicant or required by the District Engineer. However, the USACE has shown flexibility with the 500 linear-ft limit. Use of NWP 26 would require compliance with the General Conditions and Section 404 (Only Conditions of the Nationwide Permit Conditions).

The proposed project activities meet the conditions of NWP 14. No more than 0.299 ac of fill would be placed in waters of the United States. Only 180 linear ft of fill would be placed in special aquatic sites such as wetlands. Therefore, a NWP 14 would be assumed for the proposed impacts on the jurisdictional waters of the United States.

A pre-construction notice (PCN) complying with General Condition 13 should be delivered to the District Engineer at least 30 days prior to the start of construction. However, a 90- to 180-day PCN is normally recommended to help prevent any delays as a result of review by other regulatory agencies, or in order to apply for an Individual Permit (if the USACE requires).

4.1.3.3 Floodplains

Construction activities near and in any of the creeks which occur in floodplain Zone A (areas of 100-year floods) would be postponed during rainstorms in order to minimize construction-related erosion and subsequent sedimentation. Construction would resume only after the intermittent creek dries. As a result of the contingency plans which would be implemented during the construction, no adverse impacts to the floodplain resources would occur as a result of the proposed action. Valley storage would not be affected since no vertical construction activities would occur in these creeks.

4.1.4 Air Quality

Air quality impacts from construction activities (i.e., repair and upgrade of the unpaved roads) would occur from (1) emissions due to fuel combustion from heavy equipment, labor transport vehicles, and helicopters; and (2) fugitive dust due to vehicle traffic on existing unpaved roads and ground-disturbing activities for road maintenance/repair and new construction.

4.1.4.1 Emissions from Fuel Combustion

Emissions from fuel combustion sources would be generated as a result of heavy equipment operation, labor transport vehicles, and helicopters. The equipment/vehicles would produce various amounts of CO, HCs, nitrous oxides, unburned particulates (e.g., smoke and soot), and fugitive dust. However, these emissions would be insignificant due to the small number of equipment needed during the construction period in the Laredo area and the construction period in the Carrizo Springs area.

4.1.4.2 Emissions of Fugitive Dust

The proposed action would generate fugitive dust emissions from grading operations and vehicle traffic on unpaved roads.

Fugitive dust emissions are considered insignificant or negligible. In addition, since the emission sources would be temporary (during the construction period), these emissions would not cause an exceedance of the NAAQS.

4.1.4.3 Emissions from Border Operations

4.1.4.3.1 Annual Emissions from Fuel Combustion

No new vehicles are being added to the USBP fleet as part of the proposed action, and only 69.5 mi of new segments of unpaved roads are to be added which would increase travel distances. Thus, annual emissions from fuel combustion in USBP vehicles are not expected to change from existing baseline conditions as a result of the proposed action.

4.1.4.3.2 Annual Emissions from Fugitive Dust

Annual fugitive dust emissions based on annual vehicle miles traveled on unpaved roads is not expected to change from existing baseline conditions as a result of the proposed action. Emission reductions may be realized from the proposed action if the compactible fill dirt is lower in silt content than the existing unpaved road surface. Fugitive dust may be further minimized by applying surface dust suppressants such as water and/or Calbinder and by compaction of the road surface fill dirt. Existing roadside vegetation, currently coated by fugitive dust which causes decreased evapotranspiration and reduced ability to photosynthesize, would be positively affected by the reduced emissions.

4.1.4.3.3 General Conformity Rule Analysis

The area of the proposed action in Webb, Maverick, and Dimmit counties is in attainment of the NAAQS for PM_{10}, thus the provisions of EPA's General Conformity Rule would not apply. Provisions of the General Conformity Rule state that "activities must not (1) cause or contribute to any new violation, (2) increase the frequency or severity of any existing violation, and (3) delay timely attainment of any standard, do not apply to the project."

Since the construction activities would be temporary (during the construction period in the Laredo and Carrizo Springs areas), it is not expected that emissions due to construction activities would cause an exceedance of the NAAQS or impede reasonable progress toward attainment of other regulated pollutants. Moreover, because the number of USBP vehicles is not changing from existing baseline conditions, there would be no annual emission increases due to the proposed project, and road improvement may result in annual emission reductions of PM_{10}.

4.1.5 Biological Resources

4.1.5.1 Vegetation Communities

The primary direct effect of the proposed road construction and repair projects is the potential loss of vegetation and wildlife habitat. Since the majority of proposed project segments have an existing roadbed of varying width, the potential impact of the proposed project to vegetation and wildlife habitat was calculated by subtracting the currently disturbed area from the proposed disturbed area. As shown in Table 4-1, approximately 467 ac of vegetation would be removed. However, the majority of this proposed disturbance would be located along almost 170.3 mi of existing road.

A disturbed, mixed grass/forb community of varying width is typically located between the existing roadways and the native brush communities. Almost 230 ac of mixed grass/forbs and native brush communities would be cleared over 117 mi of existing ranch roads. The percent cover varies from 25-95 percent, but averages approximately 60 percent. The proposed project areas located on U.S. Highways and FM rights-of-way contain only introduced grassland communities, and cover averages approximately 80 percent. Approximately 199 ac of introduced grassland communities would be cleared adjacent to 112 mi of existing paved roads. The acres of vegetation that would be removed by segment are included in Table 4-1.

The narrow road corridor and previous disturbances in the project area, in addition to the abundance of adjacent identical habitat, reduce the significance of impacts to vegetation communities present in the project area. The roadside wildlife habitat which would be impacted is predominantly mixed grasses and forbs with few scattered shrubs. A large portion of this habitat is regularly mowed. Right-of-way areas serve as foraging, nesting, and burrow habitat for some wildlife; however, studies have shown that mowed areas are less attractive for general wildlife usage than unmowed areas (Joselyn and Tate 1972; Schmidly and Wilkens 1977).

Table 4-1

Acres of Vegetation to be Removed

Proposed Project Segment	Proposed Length (mi)	Proposed Width (ft)	Proposed Cleared Area (ac)	Existing Length (mi)	Existing Width (ft)	Existing Cleared Area (ac)	Additional Acres to be Cleared
Rio Bravo Road	3.3	28	**11.2**	3.3	8	**3.2**	**8.00**
Laredo River Road	6.0	20	**14.06**	5.5	8	**5.33**	**8.73**
FM 3338	8 x 2	18	**34.91**	8 x 2	6	**1.94**	**32.97**
U.S. Highway 83	28 x 2	18	**122.18**	0	0	**0**	**122.18**
Galvan Ranch							
Main Roads	28.5	34	**96.74**	28.5	18	**62.18**	**34.56**
Fence Roads	67.0	28	**227.39**	67	9	**73.09**	**154.3**
Bivouac Area	500 ft	500 ft					**5.74**
Borrow Pit	1600 ft	700 ft	**5.739 / 25.71**	0	0	**0**	**25.71**
FM 2644	10.5 x 2	18	**45.82**	10 x 1	10	**12.12**	**33.70**
U.S. Highway 277	18.5	18	**40.36**	18.5	18	**40.36**	**0**
Swartz Ranch Road	18.5	34	**76.243**	18	24	**52.36**	**23.88**
Swartz Ranch Bivouac	300 ft	200 ft	**1.38**	300 ft	200 ft	**1.38**	**0**
Stone Ranch	5.0	34	**20.602**	3.5	9	**3.81**	**16.79**
Total	239.8		**722.33**	170.3		**255.77**	**466.56**

4.1.5.2 Terrestrial Communities

The greatest impact to the terrestrial communities would be the temporary impacts created during road construction. Small mammals generally migrate when a disturbance such as mowing or grading occurs. These impacts should be minor and of short duration. Some mobile animals would relocate to nearby areas of similar habitat; other slow and sedentary animals which utilize burrows (amphibians, lizards, and some small mammals) could be lost during construction. Those species which are less tolerant to disturbances are more likely to be lost. Although some individuals may be lost or displaced, this displacement and/or reduction in the number of animals are not expected to severely impact animal communities or the viability of any particular species due to the presence of similar habitats adjacent to the construction corridor.

4.1.5.3 Threatened and Endangered Species

Federally listed endangered or threatened species were not observed during the October 1997 surveys of the proposed project areas. Prior to the surveys, Gena Janssen (1997) with the TPWD, Endangered Resources Branch, was contacted requesting known locality information for Johnston's frankenia and ashy dogweed. Ms. Janssen advised that no known populations of ashy dogweed occur north of Laredo and that one known population of Johnston's frankenia occurs on the Galvan Ranch about 1.5 mi from the proposed project area. Suitable soils and vegetation communities associated with Johnston's frankenia were observed on the western portions of Galvan Ranch; however, no individuals were located in this area.

Ocelots, a federally listed endangered species, may occur in the vicinity of the proposed project area. Ocelots occur in dense areas of semi-arid thorn scrub. Ocelots may also persist in partially cleared forest, second growth woodland, and abandoned cultivation that has gone back to brush. This habitat type occurs sporadically within the proposed project area, primarily on the Galvan Ranch segment. Due to the widely scattered suitable habitat and the linear nature of proposed vegetation clearing, the proposed project would not be expected to affect this species. However, informal consultation with USFWS will be undertaken in an effort to minimize any loss of potentially important habitat.

4.1.6 Noise

Federal guidelines for noise assessments suggest the following three types of noise effects be evaluated: (1) short-term temporary noise level changes - defined as a change in the acoustical or vibrational environment which exists for six months, (2) long-term temporary noise level changes - defined as a change in the acoustical or vibrational environment which exists for longer than six months but less than 10 years, and (3) permanent noise level changes - defined as a change in the acoustical or vibrational environment which exists for longer than 10 years. The guidelines also recommend that the impacts be assessed for effects on speech and communications and on community annoyance (National Research Council 1977).

Noise levels within and adjacent to the project areas would increase during the proposed construction and road improvement activities. Construction and road improvement activities (e.g., vehicular movements of construction equipment [dump trucks, grader, roller, dozer]; the use of hand construction equipment [hammers, saws, etc.]; and utilization of equipment [generators], vehicles [hummers], and helicopters) would potentially result in short-term temporary noise impacts during the construction period in the Laredo and Carrizo Springs areas.

Construction-related and road improvement activities would involve short-term temporary noise level changes. The baseline noise level in most of the project areas is expected to be approximately 35-45 dBA (i.e., wilderness to rural ambient classification). Noise levels during construction and road improvement activities are expected to range from approximately 65 to 90 dBA due to equipment motor noise, back-up safety bells, and occasional helicopter flights. This is a significant increase in the noise levels over most of the project area. However, since most of the proposed project area is uninhabited or only temporarily occupied by passing vehicular

traffic, humans in rural areas would not be significantly affected by the increase in noise levels throughout most of the project area.

The only inhabited areas along or near the proposed project are along the Rio Grande in Laredo and Rio Bravo. Normal baseline noise levels along the Rio Grande are expected to range from approximately 68 to 79 dBA. Most construction or road improvement activities along the Rio Grande would not be adjacent to any residential or industrial areas. Given the existing high ambient noise levels, distance to populated areas, topography, and vegetation, the proposed project would not significantly increase noise levels.

A small number of people, however, could be affected by construction/helicopter noise resulting from the proposed action. Persons subjected to construction/helicopter noise would find outdoor communication difficult at 2 ft (the normal distance two people stand when communicating) when the noise level was at or above 88 dB. For noise levels between 70 and 88 dB, people would have to communicate using a very loud to shouting voice. People in these areas would only experience construction/helicopter-related noise for a very limited amount of time.

Overall, noise effects in the project areas from the proposed action would not significantly affect humans over the long-term due to the discontinuous and temporary nature of the noise associated with the construction and road improvement activities and the very low population density in the project areas. Military construction personnel would be exposed to noise levels of 90 dBA during the work day and would be required to wear ear protection in order to prevent hearing loss. Hearing loss can be either temporary threshold shift (TTS) or permanent threshold shift (PTS), both indicated by a shifting to a higher sound level of the ear's acuity to perceive sound. The EPA has set a noise level of 75 dBA for an 8-hour exposure and 70 dBA for a 24-hour exposure as the average noise level standard requisite to protect 96 percent of the population from greater than 5 dBA PTS.

4.1.7 Socioeconomics

The proposed road improvement and construction activities would provide direct economic benefits to the companies and employees involved in construction and, through economic multiplier effects, benefits to the broader economy. The impacts on socioeconomic resources in the ROI will be discussed in the following sections.

4.1.7.1 Construction and Road Improvement Impacts

Activities associated with the proposed road improvements and construction would have insignificant impacts on population. The construction in Webb County would be performed by 380 military personnel from the 864th Engineer Battalion at Fort Lewis, Washington, until completion of the project which is expected to last two months. The construction in Maverick and Dimmit counties would be performed by 150 military personnel from the 68th Engineer Company at Fort Hood, Texas, and is expected to last three months. Any additional hiring at either site would most likely occur within the local area. Thus, the road improvements and

construction would not induce permanent in- or out-migration to the ROI, and as a result, population would not be impacted.

Direct expenditures of the road improvements and construction activities would have direct impacts on employment, income, and sales within the ROI. The construction would involve the following upgrading and/or new construction: (1) upgrading 120.3 mi of existing dirt roads and constructing 56.5 mi of new dirt roads in Webb County; (2) upgrading 31.5 mi of existing dirt roads and constructing 13.0 mi of new roads in Maverick County; and (3) upgrading 18.5 mi of existing dirt roads in Dimmit County. Most labor and heavy equipment would be brought into the local area; all other material expenditures are expected to occur within the ROI. The expenditures which do occur within the ROI are subject to economic multipliers.

The direct impacts from locally hired labor and locally purchased materials would have indirect and induced multiplier impacts that can be estimated using economic multiplier models such as the Economic Impact Forecast System (EIFS) developed by researchers at the U.S. Army Corps of Engineers, Construction Engineering Research Laboratory (CERL). The EIFS provides a methodologically sound analytical method for assessing the magnitude and significance of potential socioeconomic impacts of proposed activities on economic areas as small as the county level. The model generates regional multipliers used for estimating total (direct, indirect, and induced) impacts on regional economic output, employment, and earnings based on total construction costs.

The overall consequences of the proposed action is expected to be positive but have insignificant impacts on socioeconomic resources. The Webb County economy is relatively large, and as a result, this type of construction activity would provide a positive but insignificant economic stimulus. The Dimmit and Maverick county economies are significantly smaller than the Webb County economy. The amount of construction in these counties would be significantly less than in Webb County. It is expected that the impacts from this construction would easily be absorbed into the broader economy.

4.1.7.2 Environmental Justice

The proposed road repairs and construction project areas are located in rural areas with varying levels of economic characteristics. There would, therefore, be no expected disproportionately high and adverse impacts on minority and low income populations. Thus, under Executive Order 12898, there would be no adverse environmental justice impacts.

4.1.8 Transportation

The placement of clean compactible fill material would generate numerous truck visits to the staging areas throughout the project areas during the construction period at the Laredo and Carrizo Springs areas. Other construction traffic would include graders, rollers, dozers, etc. Public access to project roads would not be temporarily restricted during construction period. In coordination with Webb, Maverick, and Dimmit counties, any access road damaged during the proposed action would be repaired, as appropriate. USBP vehicle trips are not expected to

significantly increase above their present rate. Impact to traffic, such as slight volume increase on roads in both areas, would be temporary and would not be considered significant.

4.1.9 Hazardous Waste

Based on the information available (see Appendix D), it is unlikely that any of the database sites located near the Laredo River Road would impact the proposed action.

4.1.10 Cultural Resources

A cultural resources inventory survey of approximately 239.8 mi of existing and proposed new road rights-of-way in Webb, Maverick, and Dimmit counties, Texas, was performed in order to assess the potential impact of proposed road construction and improvement activities on any cultural properties in the proposed impact area. A records search conducted prior to archeological fieldwork at TARL identified one previously documented site, Star Fort, on the Laredo River Road segment of this proposed action. This segment of the project area consists of an existing gravel road that JTF-6 proposes to regrade. Provided that road improvement activities would be restricted to the existing roadbed, Star Fort would not be impacted as a result of the proposed action. No additional archeological work is recommended for this segment. No other known cultural properties were present on any of the remaining segments of the project area.

A total of 96 archeological sites and 349 non-site localities was identified as a result of the cultural resources survey. The potential eligibility of each site for inclusion in the NRHP was assessed by determining whether the site appeared to possess sufficient contextual integrity to contribute significant information about the prehistoric past. In order to meet this criterion, a historic property generally needed to contain cultural features (such as hearths), discrete activity areas (such as flintknapping loci), or subsurface depth. Most of the subsurface deposits identified on these sites were fairly surficial (5 to 10 cm deep), and did not appear to retain much stratigraphic integrity given the high-energy erosional environments that characterize most of the site locations. Assessments of the potential eligibility of sites containing subsurface deposits measuring more than 10 to 15 cm in depth were made based on the degree of disturbance from erosion, fence and road construction, and other natural impacts evident at the site. None of the non-site localities are considered eligible for inclusion in the NRHP.

Of the newly recorded sites, 71 are considered ineligible for inclusion in the NRHP. These sites generally consist of surficial, very low-density lithic artifact scatters that appear to possess little potential to contribute significant information about the past. Deflation and other erosional processes have generally brought all cultural materials on these sites to rest atop a common surface, and it would be extremely difficult, if not impossible, to isolate any temporal components or distinct activity areas from these surficial deposits. Furthermore, many of these sites have experienced heavy impacts from erosion and previous road and fenceline construction and appear to retain relatively little contextual integrity. No significant impacts would occur to these sites as a result of the proposed road construction and improvement activities.

The remaining 25 sites are considered to be potentially eligible for inclusion in the NRHP based on their potential to contribute significant information about the prehistoric past. These historic properties have been considered potentially eligible because there appears to be some depth to the cultural deposits, and insufficient information is available about them to assess their research potential based exclusively on the results of the survey and limited shovel testing. Generally, preservation and protection are the preferred treatments for all historic properties. Several alternatives are available that would result in no impacts to potentially eligible archeological sites. Cultural properties could be avoided by prohibiting additional grading, reworking, or ground disturbance of existing roadbeds within the limits of the sites. Avoidance of cultural properties that would potentially be impacted by new road construction could be accomplished by rerouting the proposed right-of-way. Devegetation in the form of grubbing would also impact the integrity of any extant cultural deposits at these historic properties. It is feasible that potential impacts to historic properties would be avoided by laying down a layer of caliche fill on top of the existing road surfaces. This layer of hardpack would probably preserve the integrity of underlying deposits and would facilitate subsequent vehicular movement, but this would only represent a viable option if devegetation would not first be necessary to clear the right-of-way.

4.2 No Action Alternative

The no action alternative would essentially result in continuing the status quo for the USBP. The no action alternative would reduce the USBP's ability to interdict unlawful border access. Consequently, an increase of trails and litter from illegal traffic would be expected, which in turn would further degrade the wilderness and rural areas. The no action alternative would result in significant impacts to soils, surface water resources, cultural resources, and land use if degradation of wilderness and rural areas continues.

Existing impacts would continue under the no action alternative. Additionally, benefits expected from the proposed road improvements (i.e., reduction of erosion and habitat degradation) would not occur as a result of the no action alternative.

The no action alternative would not include any changes in employment or construction and would therefore have no effect on socioeconomic parameters. The no action alternative would have no effect on population, employment, income, or business activity. However, the no action alternative would have limited potential socioeconomic impacts. The continuation of poor road access would continue to hamper the ability of the USBP to patrol the border and restrict illegal activities. The negative socioeconomic impacts of the illegal activities would continue (INS/JTF-6 1994). Poor road conditions would also continue to limit access to the area by recreational and other users.

4.3 Cumulative Impacts

Other JTF-6 and related projects in the region include firing ranges and firebreak upgrade and repair, fitness/obstacle course construction, and road improvements associated with the increase of illegal drug trafficking (INS/JTF-6 1994). Impacts from this project are described in the following paragraph.

The JTF-6 project involved the construction of a fitness/obstacle course which impacted 11.9 ac, upgrade of a firing range which impacted 1.4 ac, and road improvements which impacted 176.5 ac (JTF-6 1993). The majority of direct short-term impacts from this project to vegetation (119.2 ac) and soils (176.5 ac) were located within the initial construction right-of-way of the existing roads which were previously disturbed or altered. Impacts such as removal of vegetation were not significant due to the previously disturbed nature of the areas, extensive area the project encompassed, and the quantity of vegetation habitats in the area. Additionally, protected species and cultural resources surveys were conducted prior to the construction project and resulted in expansion of the database concerning the distribution of protected species and historic sites in the area. Any federally protected species or habitats and cultural resource sites which may have been disturbed were mitigated through the ESA Section 7 and NHPA Section 106 process. Proper coordination with federal and state agencies included avoidance, monitoring, and avoidance of construction for protected species and cultural resource properties.

Cumulative impacts are impacts on the environment resulting from incremental impacts of the proposed action added to other past, present, and reasonably foreseeable future actions. Cumulative impacts associated with the proposed action are discussed in the following paragraphs.

Cumulative short- and long-term impacts to local flora are primarily limited to removal of vegetation from previous project areas and areas slated for new construction. The impacts to flora generally occurred over an extended period and area, and the net loss of vegetation can have some adverse impact on fauna in the immediate area through the loss of habitat used for foraging, roosting, and breeding. As discussed previously, impacts to vegetation were typically limited to previously disturbed or altered right-of-way of existing roads and construction of new roads. Therefore, the disturbed nature of the areas and quantity of surrounding similar habitats would result in insignificant impacts to vegetation.

Unlike impacts to flora, short- and long-term impacts to regional wildlife are not restricted to the right-of-way of existing roads and new roads and may be direct or indirect. Direct effects occur from the loss of individual animals that come in contact with construction equipment (e.g., bulldozers, trucks). Though most wildlife species would be temporarily displaced from the proposed project area, loss of individual animals during construction activities is inevitable and would generally be limited to small numbers of slow and sedentary insects, reptiles, amphibians, and small mammals (particularly those which utilize burrows). Mobile animals relocate to nearby areas of similar habitat. Impacts to slow and sedentary animals would be minor due to the previously disturbed nature of the right-of-way areas.

Indirect effects to animals result from habitat loss (which is limited due to the nature of the right-of-way areas), disruption of travel routes, and increased human presence in the area. Improvement to existing roads and construction of new roads have the potential to limit or inhibit wildlife movement through the immediate project area; however, birds, small and large mammals, reptiles, and amphibians are not typically affected since they would avoid the disrupted areas by traveling around them. The increased human presence in the area can affect wildlife indirectly by increasing the amount of road traffic which, in turn, can lead to increased loss of individual animals through contact with vehicles.

Conversely, road improvements would have a positive impact on wildlife by allowing the USBP to more effectively and efficiently perform their duties which would reduce unlawful human presence in the area.

Potential impacts to historic properties would be avoided by rerouting, cessation of construction activities within the boundaries of the historic properties, or the placement of caliche hardpack within the road right-of-way. The cumulative impact to historic properties along existing roads would be negligible, for road construction and maintenance have already impacted the site context. Cumulative impacts to historic properties within or adjacent to new road construction may result from increased traffic or maintenance activities that would contribute to erosional processes.

Temporary deleterious effects on air quality, ambient noise, and water quality can occur during road improvement and construction activities. These are all localized and of short duration; therefore, no significant long-term or cumulative adverse impacts to these resources are expected.

There would be cumulative positive impacts on socioeconomic resources within the border area and the nation through reductions in illegal drug smuggling activities. In addition, by strengthening the ability of agents to perform their law enforcement duties, these actions can have cumulative positive socioeconomic impacts through reductions in illegal immigration, though the levels of these benefits are, at this point, unquantifiable.

Short- and long-term impacts from illegal traffic including a decrease in visual aesthetics from increased litter and wind/water erosion from exposed soils could be reduced due to USBP efficiency as a result of proposed road improvements and construction activities. The PEIS (INS/JTF-6 1994) describes proposed JTF-6 actions within the border region that would help alleviate impacts from illegal activities. All measures to ensure compliance with natural resource laws and regulations were also described in the PEIS. The PEIS complies with federal law, pursuant to NEPA, the NDCS, AR 200-2 (Environmental Effects of Army Regulations), and the National Defense Authorization Act that satisfies the President, Congress, and Secretary of Defense efforts in the "War on Drugs."

Increased USBP efficiency along the entire United States - Mexico International land border would most likely decrease adverse impacts to the entire border region. Short-term impacts may occur during proposed improvement activities, but positive impacts would remain long-term.

5.0 PUBLIC INVOLVEMENT

5.1 Agency Coordination

This chapter discusses consultation and coordination that occurred during preparation of this document. This includes contacts made during development of the proposed action, elimination of alternatives, and writing of the EA. Copies of agency coordination letters are presented in Appendix E. Formal and informal coordination has been conducted with the following agencies:

- U.S. Army Corps of Engineers (Fort Worth District),
- Joint Task Force Six (JTF-6),
- Immigration and Naturalization Service (INS; U.S. Border Patrol [USBP]),
- State Historic Preservation Office (SHPO),
- U.S. Fish and Wildlife Service (USFWS),
- Texas Parks and Wildlife Department (TPWD),
- International Boundary and Water Commission (IBWC),
- Webb County Planning Office, and
- Dimmit County Planning Office.

5.2 Public Information and Review

The draft version of this document is available for public review. In accordance with NEPA and AR 200-2 (Environmental Effects of Army Regulations), a 15-day review period of the draft EA is provided. Public comments and responses to comments are presented in Appendix F of the Final EA.

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8.0 LIST OF ACRONYMS AND ABBREVIATIONS

A.D.	=	Anno Domini (in the year of the Lord)
AAQS	=	Ambient Air Quality Standards
ac	=	acres
AHPA	=	Archeological and Historic Preservation Act
a.m.	=	ante meridiem (before noon)
AQCR	=	Air Quality Control Regions
AR	=	Army
ASTM	=	American Society for Testing and Materials
B.C.	=	Before Christ
BMP	=	Best Management Practices
C	=	Candidate
ca	=	circa (about)
CAA	=	Clean Air Act
CERCLA	=	Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS	=	CERCLA Information System
CERL	=	Construction Engineering Research Laboratory
CFR	=	Code of Federal Regulations
cm	=	centimeter
CO	=	carbon monoxide
CRM	=	Cultural Resource Management
CWA	=	Clean Water Act
dB	=	decibels
dBA	=	decibels on the A-weighted scale
dBC	=	decibels on the C-weighted scale
DOD	=	Department of Defense
E	=	Endangered
EA	=	Environmental Assessment
e.g.	=	exempli gratia (for example)
EIFS	=	Economic Impact Forecast System
EPA	=	Environmental Protection Agency
ERIIS	=	Environmental Risk Information & Imaging Services
ERNS	=	Emergency Response Notification System
ESA	=	Endangered Species Act
et al.	=	et alii (and others)
etc.	=	et cetera (an others)
F	=	Fahrenheit
FARP	=	Forward Aerial Refueling Point
Fed.	=	Federal
FEMA	=	Federal Emergency Management Agency
FM	=	Farm to Market (road)
ft	=	feet
ft^2	=	square feet
gal/min	=	gallons per minute

GPS	=	Global Positioning System
ha	=	hectares
i.e.	=	id est (that is)
IBWC	=	International Boundary and Water Commission
in	=	inches
INS	=	Immigration and Naturalization Service
JTF-6	=	Joint Task Force Six
kg	=	kilogram
L_{dn}	=	Day-night average noise level
L_{eq}	=	Equivalent sound level
lbs.	=	pounds
LEA	=	Law Enforcement Agency
LRST	=	Leaking Petroleum Storage Tank
m	=	meters
m^2	=	square meters
mg/l	=	milligrams per liter
MCL	=	Maximum Contamination Limit
mi	=	mile
mi^2	=	square mile
mph	=	miles per hour
n.d.	=	no date
NAAQS	=	National Ambient Air Quality Standards
ND	=	No Data
NDCS	=	National Drug Control Strategy
NEPA	=	National Environmental Policy Act
NHPA	=	National Historic Preservation Act
No.	=	Number
NO_2	=	nitrogen dioxide
NOI	=	Notice of Intent
NOT	=	Notice of Termination
NPDES	=	National Pollutant Discharge Elimination System
NPL	=	National Priorities List (or Superfund sites)
NRC	=	National Response Center
NRHP	=	National Register of Historic Places
NWP	=	Nationwide Permits
O_3	=	ozone
P.L.	=	Public Law
Pb	=	lead
PC	=	Proposed Candidate
PCN	=	Pre-Construction Notice
PEIS	=	Programmatic Environmental Impact Statement
PM_{10}	=	Particulate matter less than 10 microns in diameter
p(p)	=	page(s)
ppb	=	parts per billion
ppm	=	parts per million

PPP	=	Pollution Prevention Plan
PTS	=	Permanent Threshold Shift
RAATS	=	RCRA Administrative Action Tracking System
RAP	=	Remedial Action Plan
RCRA	=	Resource Conservation and Recovery Act
ROI	=	Region of Influence
RST	=	Registered Petroleum Storage Tanks
SC	=	Species of Concern
SCS	=	Soil Conservation Service
SHPO	=	State Historic Preservation Officer
SO_2	=	sulfur dioxide
spp.	=	species
SQG	=	Small Quantity Generator
St.	=	State
T	=	Threatened
TARL	=	Texas Archeological Research Laboratory
TNRCC	=	Texas Natural Resource Conservation Commission
TOC	=	Tactical Operational Center
TPWD	=	Texas Parks and Wildlife Department
TSD	=	Treatment, Storage, and Disposal
TTS	=	Temporary Threshold Shift
TWC	=	Texas Water Commission
$\mu g/m^3$	=	micrograms per cubic meter
U.S.	=	United States
USACE	=	U.S. Army Corps of Engineers
USBP	=	U.S. Border Patrol
USFWS	=	U.S. Fish and Wildlife Service
USGS	=	U.S. Geological Service
UTM	=	Universal Transverse Mecator
var.	=	variety

APPENDICES

APPENDIX A

Stormwater Pollution Prevention Plan

Pollution Prevention Plan
for
JTF-6 Mission JT513/515/425-98
in the Vicinity of
Laredo, Texas

January 1998

Prepared for:

United States Corps of Engineers
Fort Worth District

Prepared by:

Geo-Marine, Inc.
and
Ecology and Environment, Inc.

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1 Project Description

1.1 Purpose

This National Pollutant Discharge Elimination System (NPDES) Stormwater Pollution Prevention Plan (PPP) has been prepared for U.S. Border Patrol Project. The project consists of road construction activities near Laredo and Eagle Pass, Texas for the U.S. Border Patrol. The goal of this project is for units of Joint Task Force-6 (JTF-6) to assist the U.S. Border Patrol in maintaining increased visibility within known high drug trafficking and smuggling activity areas.

1.2 General Activities

This project includes the construction and repair of approximately 193.3 miles of ranch roads and highway rights-of-way for NPDES PPP calculations out of 239.8 miles of surveyed right-of-way. Soil disturbing activities include the following:

- grading of roads and drag paths,
- construction of culverts, fords, and bridges,
- excavation of drainage ditches,
- excavation and construction of helicopter landing pads (helipads),
- construction of a forward aerial refueling point (FARP), and
- construction of K-Span buildings

The construction activity areas have been divided into nine geographic sites: Galvan Ranch, Swartz Ranch, Stone Ranch, Rio Bravo Road, River Road, U.S. Highway 83, U.S. Highway 277, Farm-to-Market (FM) Road 2644, and FM 3338. Two military units will be performing the construction work. The 864th Engineer

Battalion, Fort Lewis, Washington will be conducting activities at Galvan Ranch, Rio Bravo Road, River Road, U.S. Highway 83, and FM 3338. The 68th Engineer Battalion, Fort Hood, Texas, will be conducting activities at Swartz Ranch, Stone Ranch, U.S. Highway 277, and FM 2644.

2 Site Descriptions

A description and summary of information for each of the project construction sites are presented in this section.

2.1 Location of Sites

As stated previously, the construction sites are located in south Texas and have been divided into nine geographic site areas: Galvan Ranch, Stone Ranch, Swartz Ranch, Laredo River Road, Rio Bravo Road, U.S. Highway 83, U.S. Highway 277, FM 2644, and FM 3338. A general project location map is provided as Figure 2-1. Figures showing plans for each site are included in Appendix A as Figures A-1 through A-7.

2.2 Site Areas

The project encompasses an estimated 193.3 miles of roadway for NPDES PPP calculations and encompasses an area of approximately 930.4 acres. A total of 239.8 miles were surveyed for environmentally sensitive areas. A summary of site areas and general locations is provided in Table 2-1.

2.3 Site Ownership

U.S. Highway 83, U.S. Highway 277, and FM 3338 construction sites are owned by the State of Texas. The remaining sites are owned by private individuals. Ownership information for the privately owned sites is summarized in Table 2-2.

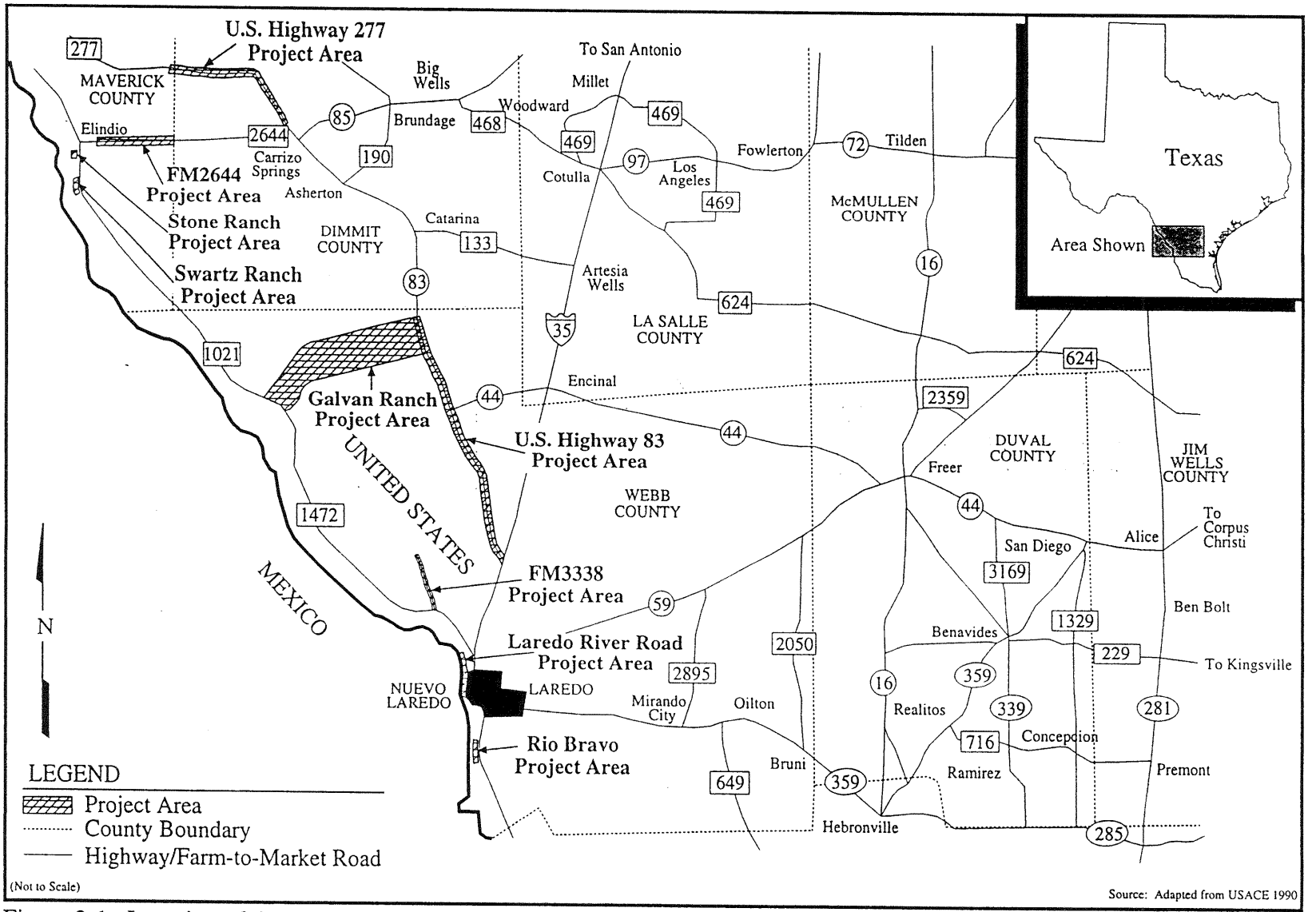

Figure 2-1. Location of the Project Area.

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TABLE 2-1

SUMMARY OF SITE AREAS AND GENERAL LOCATIONS

SITE NAME	GENERAL LOCATION	COUNTY	LENGTH (MILES)	AREA[1 2 3] (ACRES)
Galvan Ranch	50 miles north of Laredo	Webb	95.5	370.4
Stone Ranch	30 miles south-southeast of Eagle Pass	Maverick	5.0	19.4
Swartz Ranch	40 miles south-southeast of Eagle Pass	Maverick	18.5	71.8
Rio Bravo Road	Southwest of Laredo	Webb	3.3	12.8
Laredo River Road	City of Laredo	Webb	6.0	23.3
U.S. Highway 83	10 miles north of Laredo	Webb	28 (56)[4]	190
U.S. Highway 277	10 miles east of Eagle Pass	Maverick and Dimmitt	18.5	62.8
FM 2644	7 miles west of Carrizo Springs	Maverick	10.5 (21)[4]	71.3
FM 3338	15 miles northwest of Laredo	Webb	8.0 (16)[4]	108.6

Notes:

[1] Road construction activities at Galvan Ranch, Stone Ranch, Swartz Ranch, Rio Bravo Road, and Laredo River Road will consist of constructing new roads and/or modifying existing dirt roads. Areas were determined by using a typical overall roadway width of 32 feet.

[2] Road construction activities for U.S. Highway 83, FM 2644, and FM 3338 will consist of constructing 28 feet wide drag roads on both sides of an existing paved road. Areas were determined by using a typical width of 56 feet.

[3] Road construction activities for U.S. Highway 277 will consist of constructing a 28 feet wide drag road on one side of an existing paved road. Area was determined by using a typical width of 28 feet.

[4] Surveyed length.

TABLE 2-2

SITE OWNERS AND ADDRESSES

SITE NAME	OWNER NAME	OWNER ADDRESS
Galvan Ranch	Ed Rachal Foundation	210 S. Carancahua, Suite 303, Corpus Christi, TX 78401
Stone Ranch	Gene Allen	HC-01, Box 73, Carrizo Springs, TX 78834
Swartz Ranch	Phyllis Karcher	100 Warbler Way, San Antonio, TX 78231
Rio Bravo Road	(To Be Published)	(To Be Published)
Laredo River Road	(To Be Published)	(To Be Published)
FM 2644	James W. Smith	P.O. Box 70, El Indio, TX 78860

2.4 Runoff Coefficients

Road construction activities at Galvan Ranch, Stone Ranch, Swartz Ranch, Rio Bravo Road, and Laredo River Road will consist of constructing new roads and/or modifying existing dirt roads to a typical overall roadway width of 32 feet. Construction activities include covering a 10-feet wide area of roadway to be used by vehicles with several inches of caliche and/or calbinder, and compacting. A six-feet wide drag path will be created on one side of the roadway by grading native soils. Four feet wide shoulders will then be sloped on both sides of the roadway. Four feet wide drainage ditches will border each side of the roadway. Final slopes across the construction areas will match or slightly modify pre-existing slopes. See Appendix A for an illustration of a typical road cross-section (Figure A-8). Road construction activities for U.S. Highway 83, FM 2644, and FM 3338 will consist of constructing 28 feet wide drag roads on both sides of an existing paved road, while road construction activities for U.S. Highway 277 will consist of constructing a 28 feet wide drag road on one side of an existing paved road. These widths are considered the most conservative (largest) values because field conditions in certain areas may limit the actual width of the roadways.

To determine site runoff coefficients, or C values, soil types were determined for each location using soil surveys provided by the U.S. Department of Agriculture, Soil Conservation Service (SCS). Soil classifications are summarized in Table 2-3. Runoff coefficients were then assigned to each site based on the soil type. Because the finished sites will contain more than one type of surface material, final C values were estimated by weighting the C values for the surface materials. A runoff coefficient of 0.8 was assigned to the caliche/calbinder or asphalt portion of the roadway (31 percent), while the runoff coefficient for the soil type at each site was used for the remaining portion of the roadway (69 percent). Runoff coefficients are presented in Table 2-3.

TABLE 2-3

SOIL CLASSIFICATIONS AND RUNOFF COEFFICIENTS

SITE NAME	SOIL TYPE	SOIL GROUP[1]	RUNOFF COEFFICIENT (SOIL)[2]	RUNOFF COEFFICIENT (FINAL SITE)
Galvan Ranch	Duval-Webb-Brystal	B/C/B	0.23	0.41
	Catarina-Maverick-Palafox	B/C/B	0.23	0.41
Stone Ranch	Jimenez-Quemado-Olmos	C/C/C	0.3	0.46
Swartz Ranch	Copita-Pryor-Catarina	B/C/D	0.3	0.46
	Rio Grande	B	0.2	0.39
Rio Bravo Road	Rio Grande	B	0.2	0.39
Laredo River Road	Rio Grande	B	0.2	0.39
U.S. Highway 83	Catarina-Maverick-Moglia	B/C/C	0.27	0.43
	Copita-Verick-Tela	B/C/C	0.27	0.43
	Duval-Webb-Brystal	B/C/B	0.23	0.41
U.S. Highway 277	Copita-Pryor-Catarina	B/C/D	0.3	0.46
	Brundage-Cochina-Imogene	D/C/C	0.33	0.48
	Tonio-Pryor-Brystal	B/C/B	0.23	0.41
	Duval-Webb-Brystal	B/C/B	0.23	0.41
	Antosa-Bobillo-Brystal	C/C/B	0.3	0.43
	Verick-Dilley-Randado	C/C/C	0.3	0.46
FM 2644	Copita-Pryor-Catarina	B/C/D	0.3	0.46
	Brundage-Cochina-Imogene	D/C/C	0.33	0.48
FM 3338	Copita-Verick-Tela	B/C/C	0.27	0.43

Notes:

[1] Soil groups are defined as follows:
A = Deep sands, deep loesses, aggregated soils
B = Shallow loess and sandy loams
C = Many clay loams, shallow sandy loams, soils low in organic matter, and soils high in clay
D = Soils of high swelling percentage, heavy plastic clays, and certain saline soils

[2] Based on C values for pastures.

2.5 Receiving Waters

Drainage patterns will not be significantly altered by the construction activities. Stormwater runoff will be routed to natural drainage ways by drainage ditches, and culverts adjacent to roadways. Receiving waters for each site are listed in Table 2-4 and shown in the site plans (Appendix A).

2.6 Construction Tasks and Sequence of Major Activities

The primary task of this project is the construction and repair of approximately 193.3 miles of road for NPDES PPP calculations. Additional tasks will include constructing temporary Tactical Operations Centers (TOCs) at Galvan Ranch and Swartz Ranch to support construction activities. Living/office quarters will consist of tents with wooden pallets used as floors at each camp. Construction materials will be stored in a maintenance shed at Galvan Ranch and in a conex at the Swartz and Stone Ranches. Existing vegetation at the base camps will not be cleared, except for the construction of a FARP and helicopter landing pads. An effort will be made to minimize disturbance of native vegetation.

Tasks that include soil disturbing activities are:

- Road construction/road repair;
- Construction of helicopter pads and a K-Span buildings;
- Construction of a FARP; and
- Brush clearing upgradient of Rio Bravo and Laredo River Roads.

An environmental assessment that included a field survey was conducted for each of the site areas to determine if wetlands, threatened and endangered species, and/or critical habitats exist on or adjacent to site construction areas. None were identified in the site areas. A field survey was also conducted for cultural resources to determine if any site areas were potentially eligible for listing on the Registry of National Historic Places. Approximately 25 potential sites were identified and marked,

TABLE 2-4

SITE RECEIVING WATERS

SITE NAME	RECEIVING WATERS[1]
Galvan Ranch	Pinto Creek Santa Isabel Creek Cuchara Creek Chalker Creek Raices Creek
Swartz Ranch	Rio Grande River (adjacent) Cuervo Creek Tovar Creek
Stone Ranch	Rio Grande River (adjacent)
Rio Bravo Road	Rio Grande River (adjacent)
Laredo River Road	Rio Grande River (adjacent)
U.S. Highway 83	Palito Blanco Arroyo Cochio Creek Cuchara Creek Las Raices Creek Taboncillo Creek
U.S. Highway 277	Comanche Creek Cayetano Creek Pendencia Creek Pena Creek Salt Creek Rocky Creek
FM 2644	San Ambrosia Creek
FM 3338	Tordillo Creek Santa Isabel Creek

Notes:

[1] Receiving waters are crossed by roads unless otherwise noted.

to minimize disturbance by construction activities. Activities for each soil disturbing task are described in the following sections.

2.6.1 Road Construction/Road Repair

Construction/repair activities include the following steps:

(1) Sensitive areas identified as containing cultural resource sites, unique habitats, rare and endangered plants and animals, and wetlands were identified prior to the start of construction activities. These field surveyed areas were staked and flagged and will not be disturbed by construction activities.

(2) Areas will be cleared and grubbed of vegetation using hand equipment and/or machinery if vegetation is present.

(3) Soils will be moistened by a water truck to control dust.

(4) Grading of roads will be done with heavy construction equipment.

(5) Several inches of caliche and/or calbinder will be used to stabilize the surfaces of the roadways.

(6) Soils, caliche, and calbinder will be compacted with a roller.

(7) Drainage ditches will be excavated on both sides of the roadway to control and direct runoff. Soils from the excavations will be graded and compacted.

(8) Culverts, fords, and bridges will be constructed at major stream bottoms. Minor narrow dry washes will be graded when crossed by ranch and service access roads.

(9) Retaining walls will be used to stabilize slopes at fords and bridges, when required.

(10) Straw bale check dams and/or siltation fencing will be installed, as required, at points of water conveyance to reduce erosion and trap sediment.

2.6.2 Helicopter Landing Pads/K-Span Buildings

Soil disturbing activities for the helicopter landing pads and K-Span buildings are similar because both will include the construction of a 6- to 12-inch thick concrete pad. The K-Span buildings will also include metal poles used to support sheet metal. Construction activities include the following:

(1) Sensitive areas identified as containing cultural resource sites, unique habitats, rare and endangered plants and animals, and wetlands were identified prior to the start of construction activities. These field surveyed areas were staked and flagged and will not be disturbed by construction activities.

(2) Areas will be cleared and grubbed of vegetation using hand equipment and/or machinery.

(3) Eroded and disturbed areas will be hand graded. Major stream bottoms, unnamed tributaries, and drainage ways will not be located on or adjacent to the helicopter landing pad and building sites, and will not be disturbed by hand construction activities.

(4) Straw bale check dams and or siltation fencing will be installed, as required, at nearby points of water conveyance to reduce erosion and trap sediment.

2.6.3 FARP

One FARP will be constructed at the base camp located at Galvan Ranch. The FARP consists of a lined excavation that contains two 20,000 gallon fuel bags, used to refuel construction vehicles and aircraft. Construction activities include the following steps:

(1) Sensitive areas identified as containing cultural resource sites, unique habitats, rare and endangered plants and animals, and wetlands were identified prior to the start of construction activities. These field surveyed areas were staked and flagged and will not be disturbed by construction activities.

(2) Areas will be cleared and grubbed of vegetation using hand equipment and/or machinery.

(3) Soils will be excavated to one to two feet below grade. Soil piles will be covered and/or moistened to prevent wind erosion, as required.

(4) The excavation will be lined with an impermeable liner.

(5) Excavated soils will be used to form a one to two-foot high earthen dike (berm) surrounding the excavation. Standard engineering practices (e.g., watering and compaction) will be used to stabilize the berms. Any remaining excavated soils will be graded and compacted.

(6) At the conclusion of the project, the liner will be removed from the excavation. The excavation will then be backfilled by collapsing berms into the excavation and compacting.

2.6.4 Brush Clearance

Brush will be cleared 15 feet from the centerline (8 feet from the outer edge) on the upgradient side of the Rio Bravo and Laredo River roads. The upgradient side of these roads is defined as on the opposite side of the road from the Rio Grande. Brush clearing activities will be as follows:

(1) Brush will cleared by using hand equipment and/or machinery.

(2) Drainage ditches will be installed using best engineering practices to decrease the velocity and volume of stormwater.

3 Controls

3.1 Erosion and Sediment Controls

3.1.1 Stabilization Practices

Stabilization practices include the following:

- Portions of road surfaces designed for vehicular traffic will be stabilized with caliche and/or calbinder and compacted.
- Roadways will be sprinkled with water to control dust during construction.
- During construction, soil piles will be sprinkled with water and/or covered to control dust and wind erosion, as necessary.

3.1.2 Structural Controls

Structural controls include:

- Retaining walls and/or swales will be installed at fords or bridges, as required.
- Soil berms/dikes will be installed around the FARP to contain runoff.
- For brush clearance areas adjacent to Rio Bravo and Laredo River Roads, drainage ditches will be installed using best engineering practices to decrease velocity and volume of stormwater runoff.
- Bales of straw and/or siltation fences will be staked in low areas to control surface water runoff and sedimentation at points of conveyance and to reduce velocity of waters discharged.

3.2 Stormwater Management

Permanent stormwater management features will be drainage ditches and retaining walls. Drainage ditches will be constructed on both sides of each road. Water will be routed to the nearest natural drainage channel and discharged. Drainage ditches will be two feet in depth and four feet in width, with sloped sides. Retaining walls will be constructed near culverts, fords, and bridges, as required to control erosion.

3.2.1 Non-Stormwater Discharges

Non-stormwater discharges will not be allowed during construction of the project, except for emergency fire-fighting flows and other flows permitted in Federal Register, Volume 57, Number 175, 9 September 92. Any spill of a hazardous substance or oil in excess of reporting quantities shall be reported as required under 40 CFR 110 (Discharge of oil). The site superintendent will notify the National Response Center (NRC) at (800) 424-8802 in accordance with the requirements of 40 CFR 117 (Determination of reportable quantities for hazardous substances) and 40 CFR 302 (Designation, reportable quantities, and notification) as soon as he or she has knowledge of the discharge. The superintendent will submit, within 14 calendar days of knowledge of the release, a written description of the release, the date that such release occurred, the circumstances leading to the release, and steps to be taken to minimize the chance of future occurrences to the appropriate EPA Regional Office. The stormwater pollution prevention plan must be modified within 14 calendar days of knowledge of the release to: provide a description of the release, the circumstances leading to the release, and the date of the release. In addition, the plan must be reviewed and modified to identify measures to prevent the reoccurrence of such releases and to respond to such releases.

3.3 Other Controls

3.3.1 Waste Disposal

All personnel participating in construction activities will be instructed on the procedures for waste disposal.

3.3.1.1 Waste Materials

All construction waste materials (brush, paper, cloth, etc.) will be collected daily, stored in containers and disposed of in an approved manner or at a state approved landfill facility. No construction waste materials will be buried onsite. The trash storage containers will meet all local and state solid waste management regulations. Containers will have secure, tight-fitting lids and be emptied as needed. A limited amount of construction waste will be generated.

3.3.1.2 Hazardous Waste

All hazardous waste will be transported, handled, stored, and used in strict accordance with local, state, federal, and manufacturer's recommendations. All hazardous waste materials will be disposed of in the manner specified by local or state regulation, or by the manufacturer.

3.3.1.3 Sanitary Waste

All sanitary waste will be collected in portable units by a licensed contractor or qualified Army sanitary waste disposal personnel. All waste will be disposed of at a state-approved facility, in accordance with local and state regulations.

3.3.2 Offsite Vehicle Tracking

Excess mud, dirt, or rock tracked on the public roadways will be removed daily. Excavated material will not be removed from the site.

3.3.3 Dust Control

Roadways and soil piles will be sprayed with water as needed, to reduce the generation of dust and prevent wind erosion.

3.4 Timing of Controls/Measures

Stabilized construction entrances will be installed prior to the start of construction activities. All clearing, grubbing, and control of stormwater runoff will be done contemporaneously with grading/regrading and other construction activities.

If construction activity temporarily ceases at a site for 14 or more calendar days, the site will be stabilized by measures such as moistening and/or compacting soils, covering soil piles, or building retaining walls; unless construction activities will resume within 21 calendar days of the cessation of construction activities.

Once construction activity ceases permanently, the entire site will be stabilized. Silt fences and straw bale check dams will be removed after any accumulated sediments have been removed.

3.5 Certification of Compliance

The stormwater pollution prevention plan was prepared in accordance with guidelines published in the Federal Register, Volume 57, Number 175, September 9, 1992 which is currently undergoing a proposed reissuance (Federal Register, Volume 62 Number 155, June 2, 1997). After construction, an EPA stormwater permit for industrial operations will not be required. Stormwater in the project area is regulated by the EPA.

3.6 Maintenance/Inspection Procedures

These are the inspection and maintenance practices that will be used to maintain erosion and sediment controls.

- All pollution prevention measures will be inspected by the assigned U.S. Army Reserve Engineering Battalion quality

control organization at least once every seven days and within 24 hours following any storm event of 0.5 inches or more.

- All measures will be maintained in good working order; if a repair is necessary, it will be initiated within 24 hours of report.

- Silt fences will be inspected for depth of sediment, tears, to see if the fabric is securely attached to the fence posts, and to see that the fence posts are firmly in the ground.
- Built up sediment will be removed when it has reached one-third the height of the siltation fence.

- Areas being regraded will be inspected for erosion and soil loss from the site.

- Discharge points will be inspected for signs of erosion or sediment associated with the discharge.

- Locations where vehicles enter and leave the site will be checked for signs of off-site sediment tracking.

- Best Management Practices (BMP) and pollution control maintenance procedures will be inspected for adequacy.

- A maintenance inspection report will be made after each inspection. A copy of the report form to be completed by the inspector is provided in Appendix B.

- Any deficiencies will be noted in the inspection report and corrections implemented within seven calendar days. The PPP will be revised as necessary during the construction period.

4 Spill Prevention and Control

4.1 Inventory For Pollution Prevention Plan

The following materials or substances are expected to be present on site during construction activities:

- Diesel Fuel
- Gasoline Fuel
- Oil
- Transmission Fluid
- Hydraulic Fluid
- Lubricants
- Marking Paint

4.2 Spill Prevention

4.2.1 Material Management Practices

The following management practices will be implemented to reduce the risk of spills or accidental exposure of materials and substances to stormwater runoff.

4.2.1.1 Good Housekeeping

The following good housekeeping practices will be followed onsite during the construction project.

- An effort will be made to store only enough product to do the job.

- All materials stored on site will be stored in a neat, orderly manner in their appropriate containers and, if possible, under a roof or other enclosure.

- Products will be kept in their original containers with the original manufacturer's label.

- Substances will not be mixed with one another unless recommended by the manufacturer. Whenever possible, all of a product will be used before disposing of the container.

- Manufacturer's recommendations for proper use and disposal will be followed.

- The site superintendent will conduct daily inspections to ensure proper use and disposal of onsite materials.

- All vehicles and equipment will be monitored daily for leaks during regularly scheduled preventive maintenance actions.

4.2.1.2 Hazardous Products

These practices are used to reduce the risks associated with hazardous materials.

- Products will be kept in original sealed containers unless they are not resealable.

- Original labels and material safety data sheets will be retained.

- Surplus materials will be removed daily after working hours.

- All empty containers will be disposed of in an approved manner.

- If surplus product must be disposed of, manufacturers' or local and State recommended methods for proper disposal will be followed.

4.2.2 Product Specific Practices

The following product specific practices will be followed onsite.

4.2.2.1 Petroleum Products

All onsite vehicles will be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage. Petroleum products will be stored in tightly sealed containers which are clearly labeled.

4.2.2.2 Paints

All containers will be tightly sealed and stored when not required for use. Excess paint will not be discharged to the storm sewer system but will be properly disposed of according to manufacturers' instructions, or state and local regulations.

4.2.2.3 Concrete Trucks

Concrete trucks will not be allowed to wash out or discharge surplus concrete or drum wash water on the site.

4.3 Spill Control Practices

In addition to the good housekeeping and material management practices discussed in the previous sections of this plan, the following practices will be followed for spill prevention and cleanup. Specific spill control procedures are outlined in a separate spill control plan found in each unit's field standard operating procedure manual. The following practices are general guidance only:

- Manufacturers' recommended methods for spill cleanup will be clearly posted and site personnel will be made aware of the procedures and the location for the information and cleanup supplies.
- Materials and equipment necessary for spill cleanup will be kept in the material storage area onsite. All spills will be cleaned up immediately after discovery.
- Personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
- Spills of toxic or hazardous material will be reported to the appropriate state or local government agency, regardless of size.

- The spill prevention plan will be adjusted to include measures to prevent this type of spill from reoccurring and how to clean up the spill if there is another one. A description of the spill, what caused it, and the cleanup measures will also be included.

- The site superintendent responsible for the day-to-day site operations will be the spill prevention and cleanup coordinator.

5 Certification

5.1 Pollution Prevention Plan Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signed: _____ Date: _____

Louis E. Barker
Chief Patrol Agent
U. S. Border Patrol

5.2 Contractor's Certification

I certify under penalty of law that I understand the terms and conditions of the general National Pollutant Discharge Elimination System (NPDES) permit that authorizes the stormwater discharges associated with industrial activity from the construction site identified as part of this certification.

Signature	Company Name and Address	Responsible for
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

A Site Plans and Typical Road Cross-Section

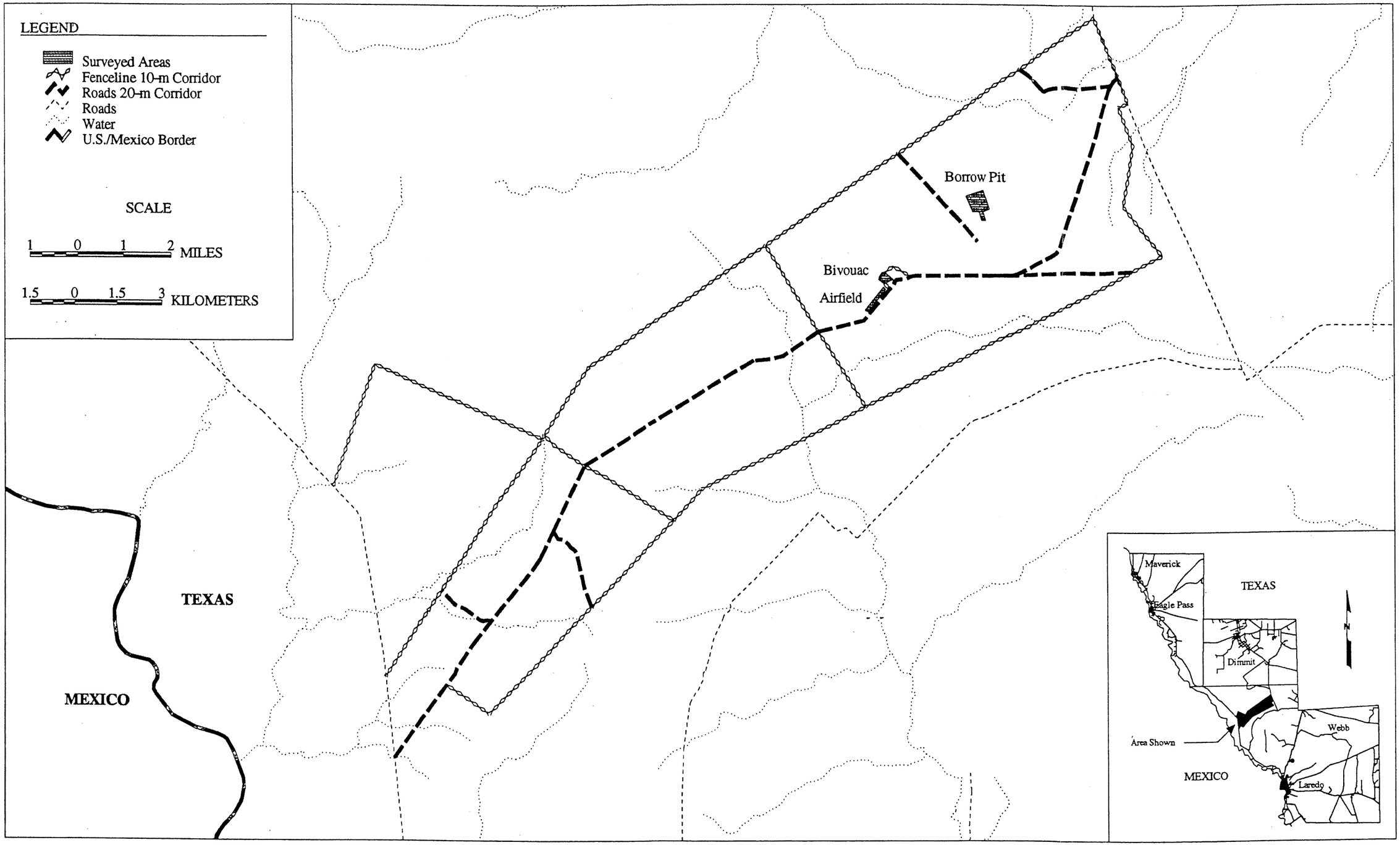


Figure A-1. Galvan Ranch.

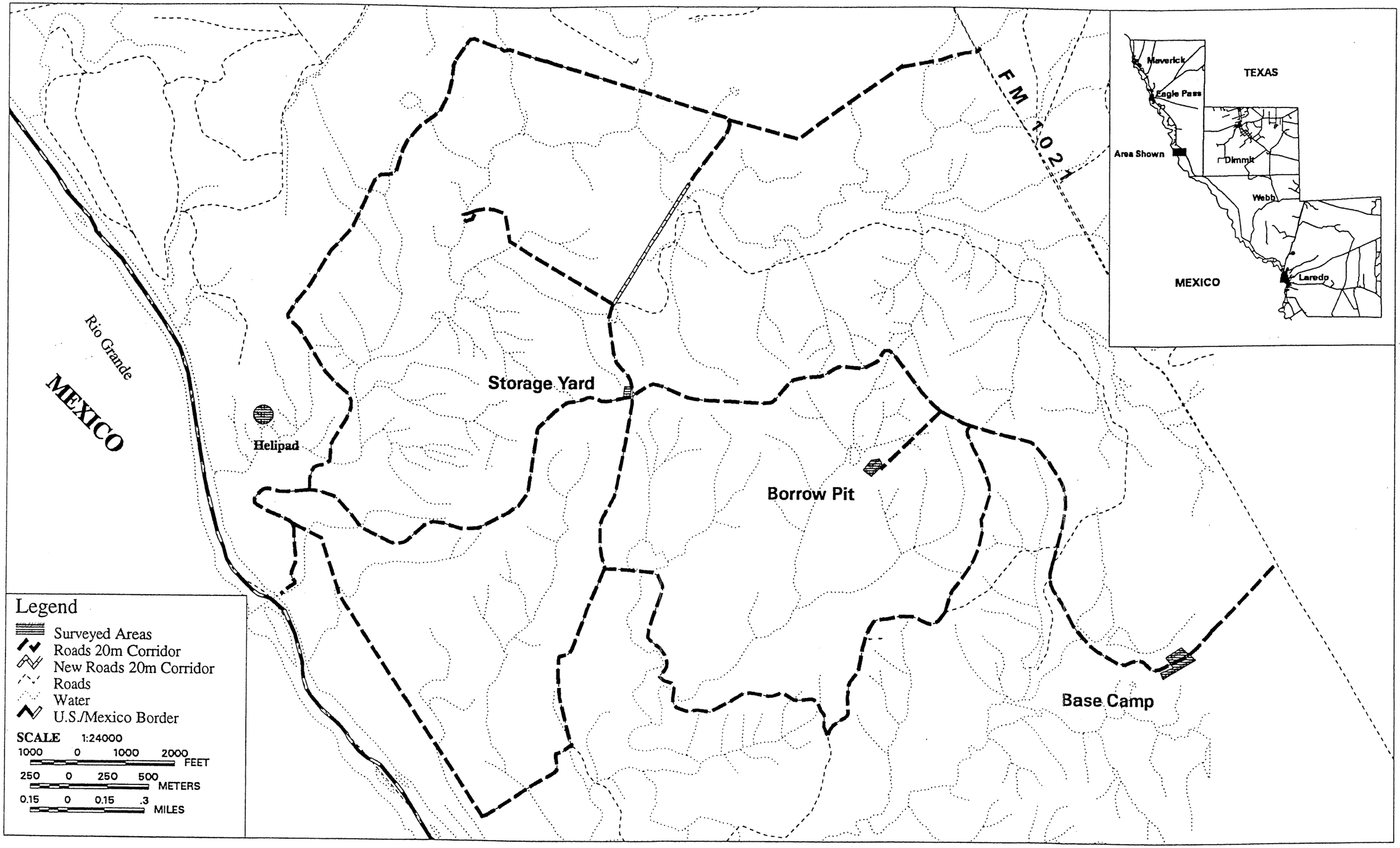


Figure A-3. Swartz Ranch.

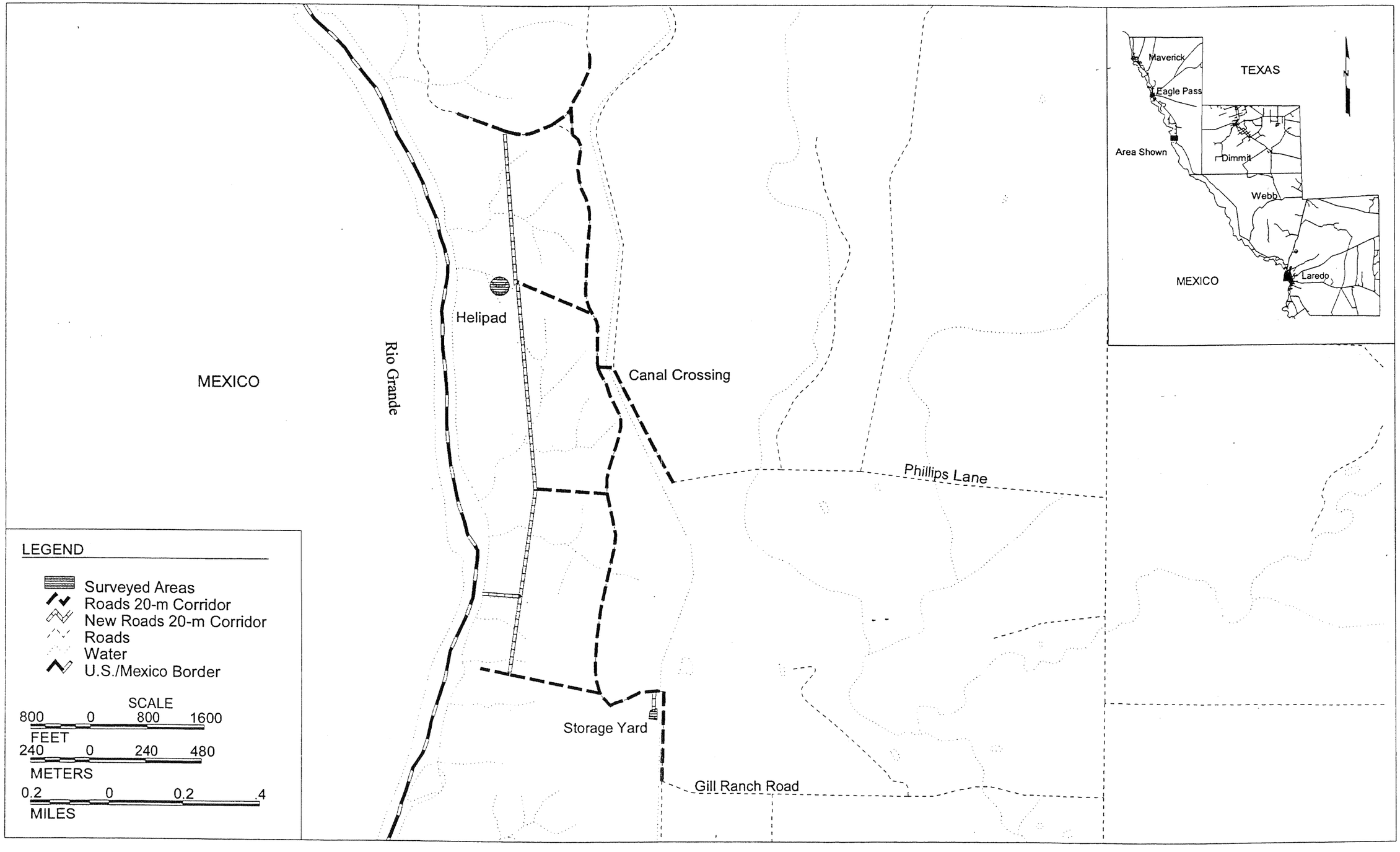


Figure A-2. Stone Ranch.

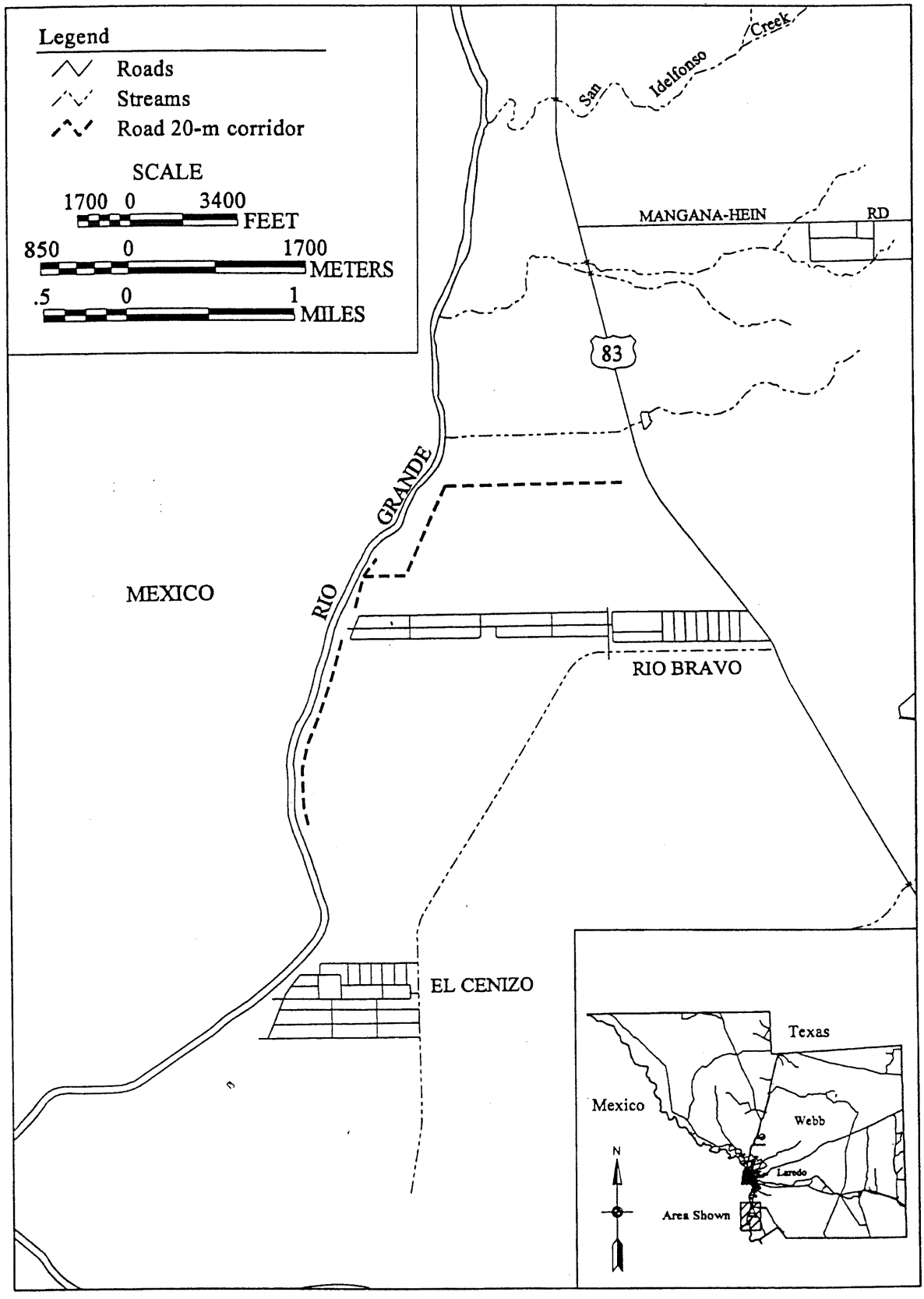


Figure A-4. Rio Bravo.

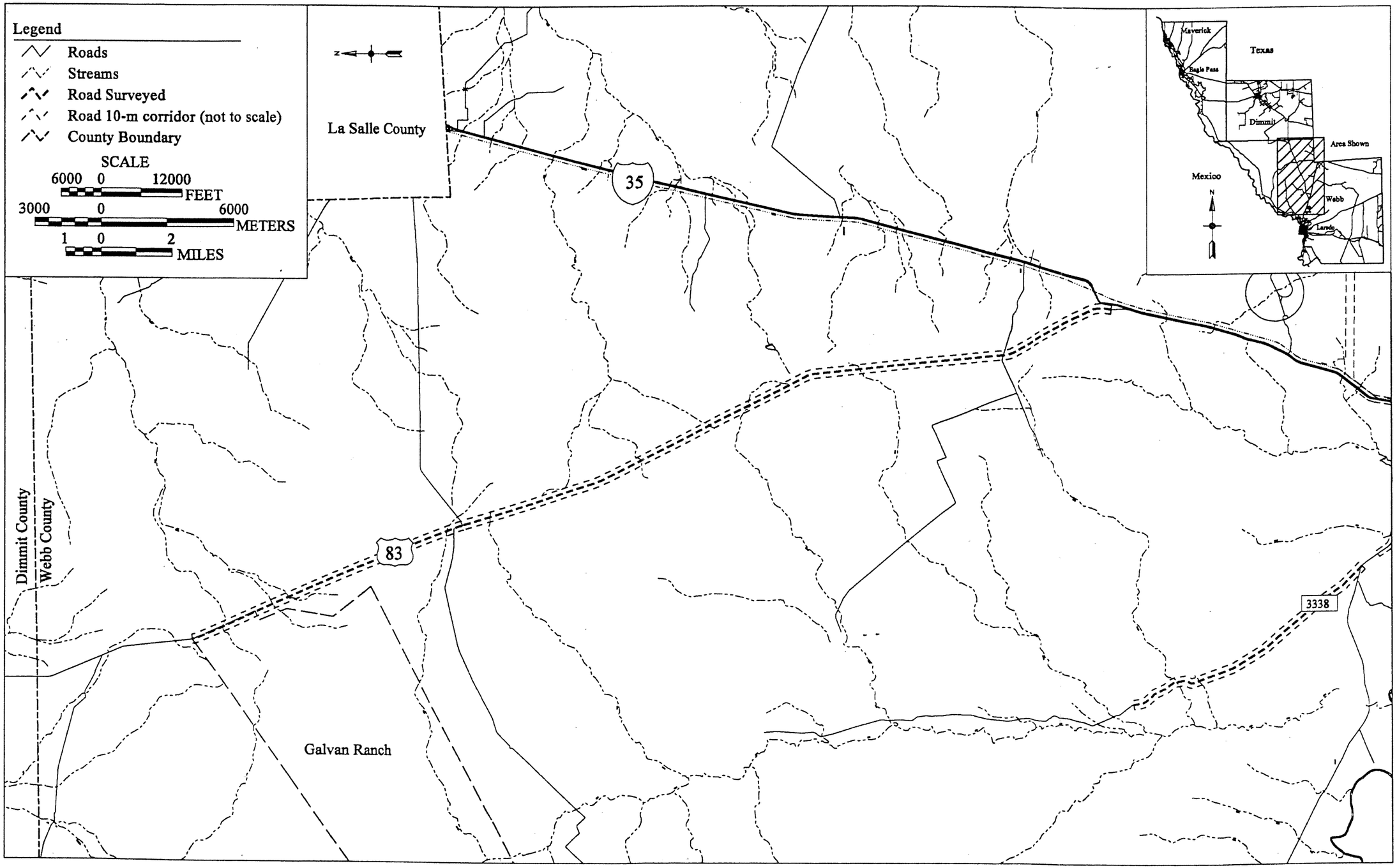


Figure A-6. U.S. Highway 83 and FM 3338.

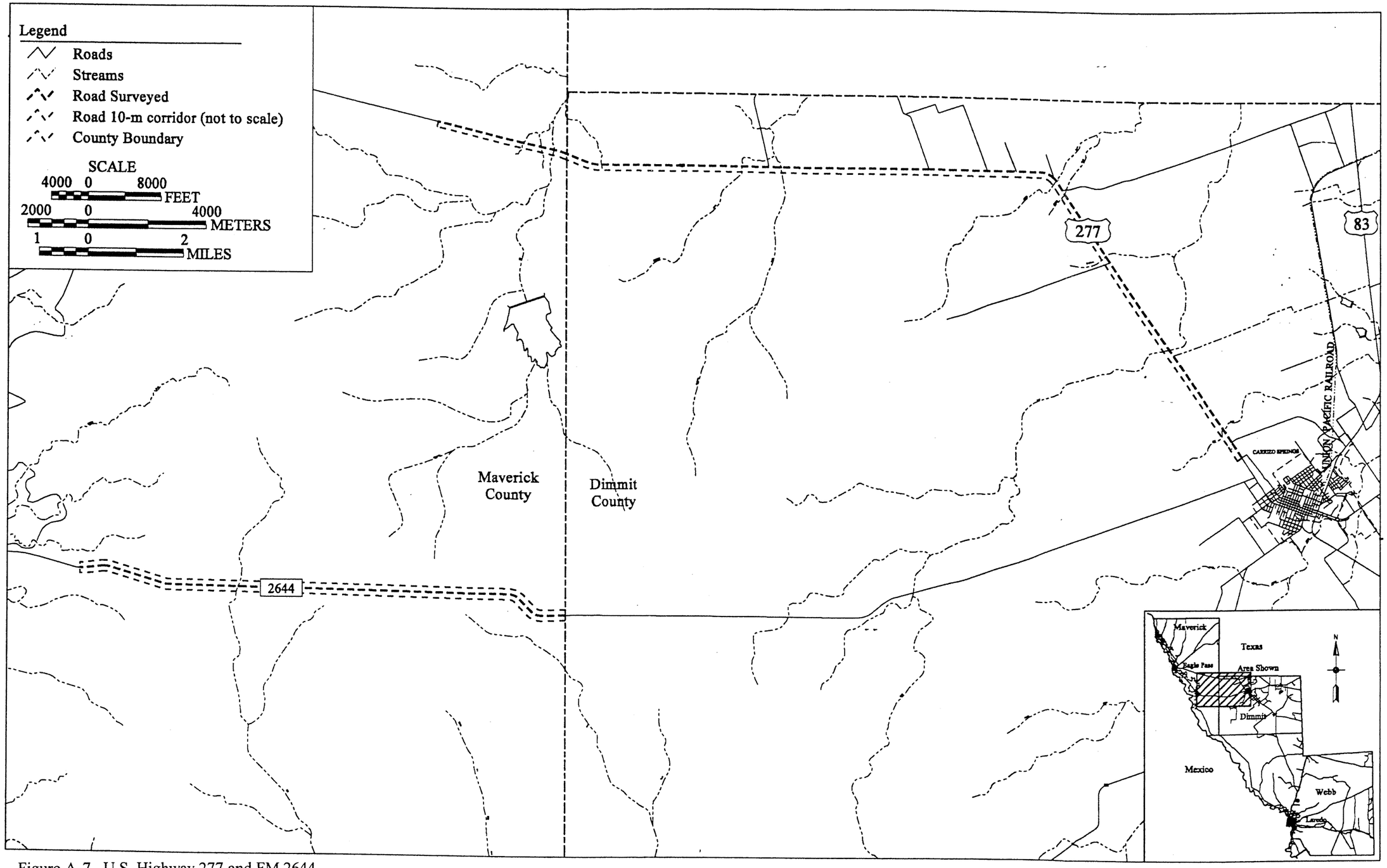


Figure A-7. U.S. Highway 277 and FM 2644.

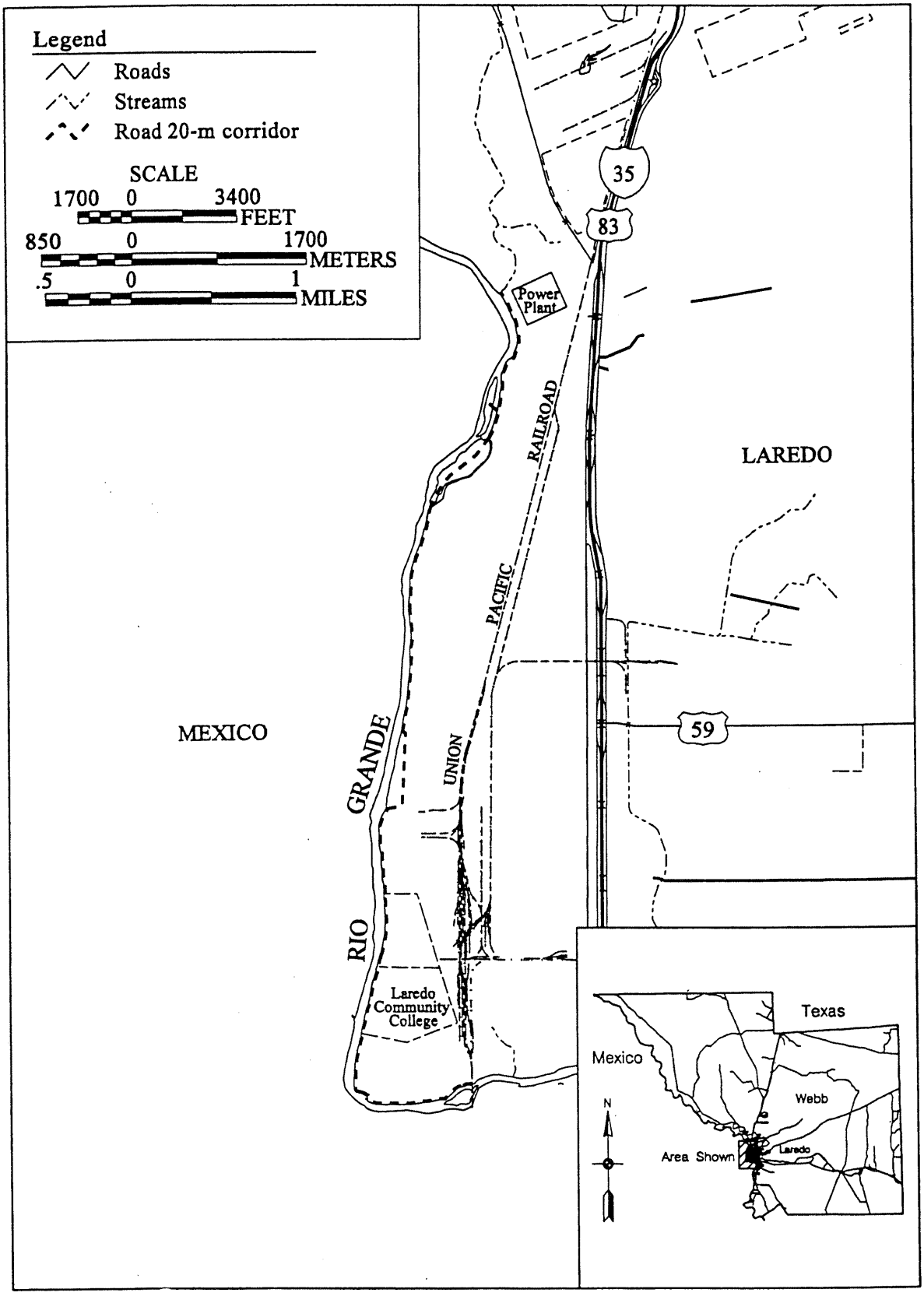
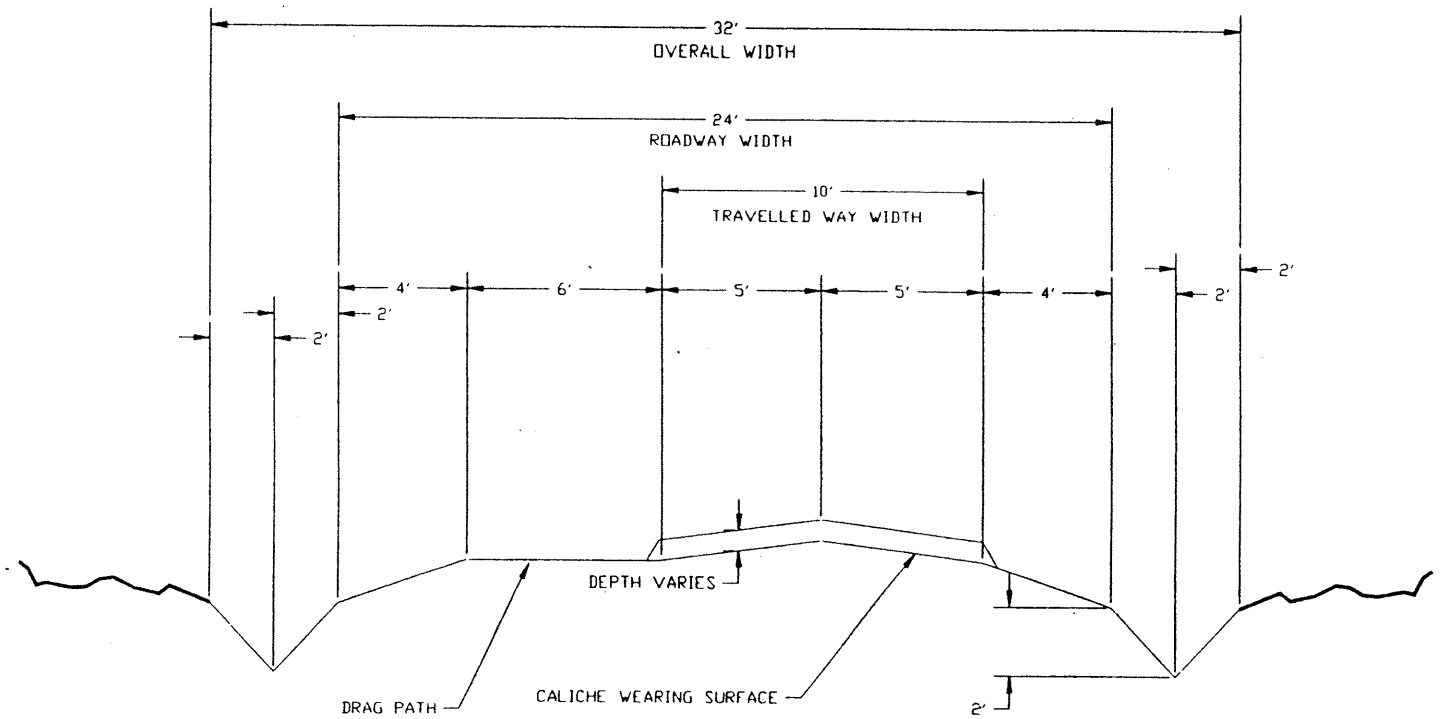


Figure A-5. Laredo River Road.



1' 0 1 2 3 4 5'

864TH ENGINEER BATTALION S-3 CONSTRUCTION SECTION FORT LEWIS, WASHINGTON 98433		
DATE: 17 Oct 97	LAREDO RIVER ROAD TYPICAL CROSS-SECTION	
DRAWN BY: SSG ARMOUR ☆		
DESIGNED BY: 1LT TALARICO		
REVIEWED BY: 2LT FAJARDO	DRAWING NUMBER	SCALE: NTS
APPROVED BY	SIZE: A / REVISION	SHEET: 1 OF 1
APPROVED BY (signature)		DATE

Figure A-8.

B Inspection and Maintenance Report Form

STORMWATER POLLUTION PREVENTION PLAN
INSPECTION AND MAINTENANCE REPORT FORM
LAREDO, TEXAS

TO BE COMPLETED EVERY 7 DAYS AND WITHIN 24 HOURS OF
A RAINFALL EVENT OF 0.5 INCHES OR MORE

INSPECTOR: _____ DATE: _____

INSPECTOR'S QUALIFICATIONS:

_____

_____

_____

_____

DAYS SINCE LAST RAINFALL: _____
AMOUNT OF LAST RAINFALL: _____ INCHES

STABILIZATION MEASURES					
AREA	**DATE SINCE LAST DISTURBED**	**DATE OF NEXT DISTURBANCE**	**STABILIZED? (YES/NO)**	**STABILIZED WITH**	**CONDITION**

STABILIZATION REQUIRED:

_____

_____

_____

_____

_____

TO BE PERFORMED BY: _____ ON OR BEFORE: _____

STORMWATER POLLUTION PREVENTION PLAN
INSPECTION AND MAINTENANCE REPORT FORM
LAREDO, TEXAS
(Continued)

CONTROLS

STABILIZED CONSTRUCTION ENTRANCE:			
LOCATION	DOES MUCH SEDIMENT GET TRACKED ON TO ROAD?	DOES ALL TRAFFIC USE THE STABILIZED ENTRANCE TO LEAVE THE SITE?	IS THE CULVERT BENEATH THE ENTRANCE WORKING?

SILT FENCES			
LOCATION	DEPTH OF SEDIMENT	CONDITION OF FABRIC	POLES IN GROUND?

EARTH DIKE/BERM AREAS		
LOCATION	IS DIKE STABILIZED?	EVIDENCE OF WASHOUT/OVERTOPPING?

STORMWATER POLLUTION PREVENTION PLAN
INSPECTION AND MAINTENANCE REPORT FORM
LAREDO, TEXAS
(Continued)

CONTROLS

STRAW BALES			
LOCATION	BALES IN GOOD CONDITION?	EVIDENCE OF WASHOUT?	DEPTH OF SEDIMENT

DRAINAGE SWALES/DITCHES			
LOCATION	CONDITION OF SIDE SLOPES	SIGNS OF OVERTOPPING?	EVIDENCE OF EROSION?

MAINTENANCE REQUIRED FOR CONTROLS:

_____

_____

_____

_____

_____

_____

TO BE PERFORMED BY: _____ ON OR BEFORE: _____

C Revisions to Plan

STORMWATER POLLUTION PREVENTION PLAN
INSPECTION AND MAINTENANCE REPORT FORM
NOTICE OF REVISION

CHANGES REQUIRED TO THE POLLUTION PREVENTION PLAN:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

REASONS FOR CHANGES:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE: _____ DATE: _____

D Notice of Intent and Notice of Termination

THIS FORM REPLACES PREVIOUS FORM 3510-6 (8-92)
See Reverse for Instructions

Form Approved. OMB No. 2040-0086
Approval expires 8-31-98

NPDES FORM

EPA

United States Environmental Protection Agency
Washington, DC 20460

Notice of Intent (NOI) for Storm Water Discharges Associated with Industrial Activity Under a NPDES Permit

Submission of this Notice of Intent constitutes notice that the party identified in Section II of this form intends to be authorized by a NPDES permit issued for storm water discharges associated with industrial activity in the State identified in Section III of this form. Becoming a permittee obligates such discharger to comply with the terms and conditions of the permit. ALL NECESSARY INFORMATION MUST BE PROVIDED ON THIS FORM.

I. Permit Selection: You **must** indicate the NPDES Storm Water general permit under which you are applying for coverage. Check one of these.

Baseline Industrial [ ] Baseline Construction [X] Multi-Sector (Group Permit) [ ]

II. Facility Operator Information

Name: U S BORDER PATROL - LAREDO SECTOR Phone: 956 723 4367

Address: 2007 W DEL MAR BLVD. Status of Owner/Operator: F

City: LAREDO State: TX ZIP Code: 78041 -

III. Facility/Site Location Information

Name: JTF-6 LAREDO SECTOR

Is the facility located on Indian Lands? (Y or N) [ ]

Address:

City: State: ZIP Code: -

Latitude: 27 29 51 Longitude: 099 31 05 Quarter: Section: Township: Range:

IV. Site Activity Information

1S4 Operator Name:

Receiving Water Body: RIO GRANDE RIVER

If you are filing as a co-permittee, enter storm water general permit number:

SIC or Designated Activity Code: Primary: 0 2nd:

Is the facility required to submit monitoring data? (1, 2, 3, or 4) 1

If You Have Another Existing NPDES Permit, Enter Permit Number:

Multi-Sector Permit Applicants Only:

Based on the Instructions provided in Addendum H of the Multi-Sector permit, are species identified in Addendum H in proximity to the storm water discharges to be covered under this permit, or the areas of BMP construction to control those storm water discharges? (Y or N) [ ]

Will construction (land disturbing activities) be conducted for storm water controls? (Y or N) [ ]

Is applicant subject to and in compliance with a written historic preservation agreement? (Y or N) [ ]

V. Additional Information Required for Construction Activities Only

Project Start Date: 01 15 98 Completion Date: 05 15 98 Estimated Area to be Disturbed (in Acres): 930.4 Is the Storm Water Pollution Prevention Plan in compliance with State and/or Local sediment and erosion plans? (Y or N) Y

VI. Certification: The certification statement in Box 1 applies to all applicants.
The certification statement in Box 2 applies only to facilities applying for the Multi-Sector storm water general permit.

BOX 1 **ALL APPLICANTS**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

BOX 2 **MULTI-SECTOR STORM WATER GENERAL PERMIT APPLICANTS ONLY:**

I certify under penalty of law that I have read and understand Part I.B. eligibility requirements for coverage under the Multi-Sector storm water general permit, including those requirements relating to the protection of species identified in Addendum H.

To the best of my knowledge, the discharges covered under this permit, and construction of BMPs to control storm water run-off, are not likely to and will not likely adversely affect any species identified in Addendum H of the Multi-Sector storm water general permit or are otherwise eligible for coverage due to previous authorization under the Endangered Species Act.

To the best of my knowledge, I further certify that such discharges, and construction of BMPs to control storm water run-off, do not have an effect on properties listed or eligible for listing on the National Register of Historic Places under the National Historic Preservation Act, or are otherwise eligible for coverage due to a previous agreement under the National Historic Preservation Act.

I understand that continued coverage under the Multi-Sector general permit is contingent upon maintaining eligibility as provided for in Part I.B.

Print Name: LOUISE BARKER Date:

Signature: _____

Instructions - EPA Form 3510-6
Notice Of Intent (NOI) For Storm Water Discharges Associated With Industrial Activity To Be Covered Under a NPDES General Permit

Who Must File A Notice Of Intent (NOI) Form

Federal law at 40 CFR Part 122 prohibits point source discharges of storm water associated with industrial activity to a water body(ies) of the U.S. without a National Pollutant Discharge Elimination System (NPDES) permit. The operator of an industrial activity that has such a storm water discharge must submit a NOI to obtain coverage under a NPDES Storm Water General Permit. If you have questions about whether you need a permit under the NPDES Storm Water program, or if you need information as to whether a particular program is administered by EPA or a state agency, telephone or write to the Notice of Intent Processing Center at (703) 931-3230.

Where To File NOI Form

NOIs must be sent to the following address:

Storm Water Notice of Intent (4203)
401 M Street, S.W.
Washington, DC 20460

Completing The Form

You must type or print, using upper-case letters, in the appropriate areas only. Please place each character between the marks. Abbreviate if necessary to stay within the number of characters allowed for each item. Use one space for breaks between words, but not for punctuation marks unless they are needed to clarify your responses. If you have any questions on this form, call the Notice of Intent Processing Center at (703) 931-3230.

Section I Permit Selection

You must indicate the NPDES storm water general permit under which you are applying for coverage. Check one box only. The Baseline Industrial and Baseline Construction permits were issued in September 1992. The Multi-Sector Permit became effective October 1, 1995.

Section II Facility Operator Information

Provide the legal name of the person, firm, public organization, or any other entity that operates the facility or site described in this application. The name of the operator may or may not be the same as the name of the facility. The responsible party is the legal entity that controls the facility's operation, rather than the plant or site manager. Do not use a colloquial name. Enter the complete address and telephone number of the operator.

Enter the appropriate letter to indicate the legal status of the operator of the facility: F = Federal; S = State; M = Public (other than federal or state) P = Private

Section III Facility/Site Location Information

Enter the facility's or site's official or legal name and complete street address, including city, state, and ZIP code. Do not provide a P.O. Box number as the street address. If **applying for a Baseline Permit and the facility or site lacks a street address**, indicate the state and either the latitude and longitude of the facility to the nearest 15 seconds or the quarter, section, township, and range (to the nearest quarter section) of the approximate center of the site. **If applying for the Multi-Sector Permit Indicate the complete street address and either the latitude and longitude of the facility to the nearest 15 seconds or the quarter, section, township, and range (to the nearest quarter section) of the approximate center of the site.**

All applicants must indicate whether the facility is located on Indian lands.

Section IV Site Activity Information

If the storm water discharges to a municipal separate storm sewer system (MS4), enter the name of the operator of the MS4 (e.g., municipality name, county name) and the receiving water of the discharge from the MS4. (A MS4 is defined as a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) that is owned or operated by a state, city, town, borough, county, parish, district, association, or other public body which is designed or used for collecting or conveying storm water.)

If the facility discharges storm water directly to receiving water(s), enter the name of the receiving water(s).

If you are filing as a co-permittee and a storm water general permit number has been issued, enter the number in the place provided.

Indicate the monitoring status of the facility. Refer to the permit for information on monitoring requirements. Indicate the monitoring status by entering one of the following:

1 = Not subject to monitoring requirements under the conditions of the permit.
2 = Subject to monitoring requirements and required to submit data.
3 = Subject to monitoring requirements but not required to submit data.
4 = Subject to monitoring requirements but submitting certification for monitoring exclusion.

List, in descending order of significance, up to two 4-digit standard industrial classification (SIC) codes that best describe the principal products or services provided at the facility or site identified in Section III of this application. If you are applying for coverage under the construction general permit, enter "CO" (which represents SIC codes 1500-1799).

For industrial activities defined in 40 CFR 122.26(b)(14)(i)-(xi) that do not have SIC codes that accurately describe the principal products produced or services provided, use the following 2-character codes.

HZ = Hazardous waste treatment, storage, or disposal facilities, including those that are operating under interim status or a permit under subtitle C of RCRA [40 CFR 122.26(b)(14)(iv)];
LF = Landfills, land application sites, and open dumps that receive or have received any industrial wastes, including those that are subject to regulation under subtitle D of RCRA [40 CFR 122.26(b)(14)(v)];
SE = Steam electric power generating facilities, including coal handling sites [40 CFR 122.26(b)(14)(vii)];
TW = Treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage [40 CFR 122.26(b)(ix)]; or
CO = Construction activities [40 CFR 122.26(b)(14)(x)].

If there is another NPDES permit presently issued for the facility or site listed in Section III, enter the permit number. If an application for the facility has been submitted but no permit number has been assigned, enter the application number.

Facilities applying for coverage under the Multi-Sector storm water general permit must answer the last three questions in Section IV. Refer to Addendum H of the Multi-Sector general permit for a list of species that are either proposed or listed as threatened or endangered. "BMP" means "Best Management Practices" that are used to control storm water discharges.

Indicate whether any construction will be conducted to install or develop storm water runoff controls.

Section V Additional Information Required for Construction Activities Only

Construction activities must complete Section V in addition to Sections I through IV. Only construction activities need to complete Section V.

Enter the project start date and the estimated completion date for the entire development plan.

Provide an estimate of the total number of acres of the site on which soil will be disturbed (round to the nearest acre).

Indicate whether the storm water pollution prevention plan for the site is in compliance with approved state and/or local sediment and erosion plans, permits, or storm water management plans.

Section VI Certification

Federal statutes provide for severe penalties for submitting false information on this application form. Federal regulations require this application to be signed as follows:

For a corporation: by a responsible corporate officer, which means: (i) president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions, or (ii) the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

For a partnership or sole proprietorship: by a general partner or the proprietor; or

For a municipality, state, Federal, or other public facility: by either a principal executive officer or ranking elected official.

Paperwork Reduction Act Notice

Public reporting burden for this application is estimated to average 0.5 hours per application, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimates, any other aspect of the collection of information, or suggestions for improving this form, including any suggestions which may increase or reduce this burden to: Chief, Information Policy Branch, 2136, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460, or Director, Office of Information and Regulator Affairs, Office of Management and Budget, Washington, DC 20503.

THIS FORM REPLACES PREVIOUS FORM 3510-7 (8-92)

Please See Instructions Before Completing This Form

Form Approved. OMB No. 2040-0086
Approval expires: 8-31-98

NPDES FORM

EPA

United States Environmental Protection Agency
Washington, DC 20460

Notice of Termination (NOT) of Coverage Under a NPDES General Permit for Storm Water Discharges Associated with Industrial Activity

Submission of this Notice of Termination constitutes notice that the party identified in Section II of this form is no longer authorized to discharge storm water associated with industrial activity under the NPDES program. ALL NECESSARY INFORMATION MUST BE PROVIDED ON THIS FORM.

I. Permit Information

NPDES Storm Water General Permit Number: [ ]

Check Here if You are No Longer the Operator of the Facility: [ ]

Check Here if the Storm Water Discharge is Being Terminated: [X]

II. Facility Operator Information

Name: U.S. BORDER PATROL- LAREDO SECTOR Phone: 956 723 4367

Address: 2007 W. DEL MAR BLVD

City: LAREDO State: TX ZIP Code: 78041

III. Facility/Site Location Information

Name: JTF-6 LAREDO SECTOR

Address:

City: State: ZIP Code:

Latitude: 27 29 51 Longitude: 099 31 05 Quarter: Section: Township: Range:

IV. Certification:

I certify under penalty of law that all storm water discharges associated with industrial activity from the identified facility that are authorized by a NPDES general permit have been eliminated or that I am no longer the operator of the facility or construction site. I understand that by submitting this Notice of Termination, I am no longer authorized to discharge storm water associated with industrial activity under this general permit, and that discharging pollutants in storm water associated with industrial activity to waters of the United States is unlawful under the Clean Water Act where the discharge is not authorized by a NPDES permit. I also understand that the submittal of this Notice of Termination does not release an operator from liability for any violations of this permit or the Clean Water Act.

Print Name: LOUIS E BARKER Date:

Signature: _____

Instructions for Completing Notice of Termination (NOT) Form

Who May File a Notice of Termination (NOT) Form

Permittees who are presently covered under an EPA-issued National Pollutant Discharge Elimination System (NPDES) General Permit (including the 1995 Multi-Sector Permit) for Storm Water Dicharges Associated with Industrial Activity may submit a Notice of Termination (NOT) form when their facilities no longer have any storm water discharges associated with industrial activity as defined in the storm water regulations at 40 CFR 122.26(b)(14), or when they are no longer the operator of the facilities.

For construction activities, elimination of all storm water discharges associated with industrial activity occurs when disturbed soils at the construction site have been finally stabilized and temporary erosion and sediment control measures have been removed or will be removed at an appropriate time, or that all storm water discharges associated with industrial activity from the construction site that are authorized by a NPDES general permit have otherwise been eliminated. Final stabilization means that all soil-disturbing activities at the site have been completed, and that a uniform perennial vegetative cover with a density of 70% of the cover for unpaved areas and areas not covered by permanent structures has been established, or equivalent permanent stabilization measures (such as the use of riprap, gabions, or geotextiles) have been employed.

Where to File NOT Form

Send this form to the the following address:

Storm Water Notice of Termination (4203)
401 M Street, S.W.
Washington, DC 20460

Completing the Form

Type or print, using upper-case letters, in the appropriate areas only. Please place each character between the marks. Abbreviate if necessary to stay within the number of characters allowed for each item. Use only one space for breaks between words, but not for punctuation marks unless they are needed to clarify your response. If you have any questions about this form, telephone or write the Notice of Intent Processing Center at (703) 931-3230.

Instructions - EPA Form 3510-7
Notice of Termination (NOT) of Coverage Under The NPDES General Permit
for Storm Water Discharges Associated With Industrial Activity

Section I Permit Information

Enter the existing NPDES Storm Water General Permit number assigned to the facility or site identified in Section III. If you do not know the permit number, telephone or write your EPA Regional storm water contact person.

Indicate your reason for submitting this Notice of Termination by checking the appropriate box:

If there has been a change of operator and you are no longer the operator of the facility or site identified in Section III, check the corresponding box.

If all storm water discharges at the facility or site identified in Section III have been terminated, check the corresponding box.

Section II Facility Operator Information

Give the legal name of the person, firm, public organization, or any other entity that operates the facility or site described in this application. The name of the operator may or may not be the same name as the facility. The operator of the facility is the legal entity which controls the facility's operation, rather than the plant or site manager. Do not use a colloquial name. Enter the complete address and telephone number of the operator.

Section III Facility/Site Location Information

Enter the facility's or site's official or legal name and complete address, including city, state and ZIP code. If the facility lacks a street address, indicate the state, the latitude and longitude of the facility to the nearest 15 seconds, or the quarter, section, township, and range (to the nearest quarter section) of the approximate center of the site.

Section IV Certification

Federal statutes provide for severe penalties for submitting false information on this application form. Federal regulations require this application to be signed as follows:

For a corporation: by a responsible corporate officer, which means: (i) president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions, or (ii) the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

For a partnership or sole proprietorship: by a general partner or the proprietor; or

For a municipality, State, Federal, or other public facility: by either a principal executive officer or ranking elected official.

Paperwork Reduction Act Notice

Public reporting burden for this application is estimated to average 0.5 hours per application, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate, any other aspect of the collection of information, or suggestions for improving this form, including any suggestions which may increase or reduce this burden to: Chief, Information Policy Branch, 2136, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460, or Director, Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

APPENDIX B

List of Common/Scientific Plant Names

Appendix B

List of Common/Scientific Plant Names

Allthorn/*Koeberlinia spinosa*
Bluewood/*Condalia hookeri*
Bull nettle/*Cnidoscolus texanus*
Catclaw/*Acacia greggii*
Cenzia/*Leucophyllum frutescens*
Coldenia/*Coldenia* spp.
Coyotillo/*Karwinskia humboldtiana*
Croton/*Croton* spp.
Curly mesquite/*Hilaria belangeri*
Desert olive/*Forestiera angustifolia*
Desert yaupon/*Schaefferia cuneifolia*
Dogweed/*Dyssodia pentachaeta* var. *pentachaeta*
Firewheel/*Gaillardia* spp.
Goatbush/*Castela texana*
Granjeno/*Celtis pallida*
Guajillo/*Acacia berlandieri*
Guayacan/*Porleiria angustifolia*
Hairy grama/*Bouteloua hirsuta*
Hairy tridens/*Erioneuron pilosum*
Hooded windmillgrass/*Chloris culcullata*
Kidneywood/*Eysenhardtia texana*
Knotwood leafflower/*Phyllanthus polygonoides*
Leatherstem/*Jatropha dioica*
Lindheimer tephrosia/*Tephrasia lindheimeri*
Lotebush/*Ziziphus obtusifolia*
Mat euphorbia/*Euphorbia serpens*
Mesquite/*Prosopis glandulosa*
Paloverde/*Cercidium texanum*
Pan American balsamscale/*Elyonurus tripacoides*
Pink pappusgrass/*Pappophorum bicolor*
Purple three-awn/*Aristida purpurea*
Roemer three-awn/*Aristida roemeriana*
Silverleaf nightshade/*Solanum elaeagnifolium*
Single-spike paspalum/*Paspalum monostachyum*
Slender evolvulus/*Evolvulus alsinoides*
Slim tridens/*Tridens muticus* var. *mutius*
Sotol/*Dasylirion* spp.
Tanglehead/*Heteropogon contortus*
Tasajillo/*Opuntia leptocaulis*
Texas colubrina/*Colubrina texensis*
Texas grama/*Bouteloua rigidiseta*
Texas lantana/*Lantana horrida*
Texas pricklypear/*Opuntia lindheimeri*
Tumble lovegrass/*Eragrostis sesilispica*
Two-leaved senna/*Cassia roemeriana*
Whitebush/*Aloysia gratissima*
Yucca/*Yucca* spp.

Legend: var. = variety
spp. = species

Source: Hatch et al. 1990

APPENDIX C

Federal Species of Concern Potentially Occurring in Webb, Maverick, and Dimmit Counties

Appendix C

Federal Species of Concern Listed by County Potentially Occurring in Webb, Maverick, and Dimmit Counties

TAXA		COUNTY
PLANTS		
Nickel's pincushion (cory) cactus	*Coryphantha sulcata* var. *nickelsiae*	Webb
Texas trumpets	*Acleisantes crassifolia*	Maverick
Dimmit sunflower	*Helianthus praecox* var. *hirtus*	Dimmit
FISH		
Proserpine shiner	*Cyprinella proserpina*	Maverick
BIRDS		
Audubon's oriole	*Icterus graduacauda audubonii*	Webb, Maverick
Ferruginous hawk	*Buteo regalis*	*
Loggerhead shrike	*Lanius ludovicianus*	*
Long-billed curlew	*Numenius americanus*	Webb, Maverick
Mexican hooded oriole	*Icterus cucullatus cucullatus*	Maverick, Dimmit
Sennett's hooded oriole	*Icterus cucullatus sennetti*	Webb
Texas olive sparrow	*Arremonops rufivirgatus rufiviratus*	Webb, Maverick
MAMMALS		
Carrizo Springs pocket gopher	*Geomys personatus streckeri*	Dimmit

* = Includes all counties in proposed project area

var. = variety

Source: USFWS 1997

APPENDIX D

ERIIS Reports

PERTAINING TO:
LAREDO RIVER ROAD
LAREDO, TX

REPORT NUMBER:
202249A

PREPARED ON:
10/30/1997

ON BEHALF OF:
Geo-Marine, Inc.
550 E. 15th Street
Plano, TX 75074

If you have any questions or comments regarding this report, please contact ERIIS Customer Service at 1-800-989-0403, locally at 703-834-0600, or fax us at 703-834-0606. Thank you for your order.

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NPL
Date of Data: 08/12/1997
Release Date: 08/13/1997
Date on System: 10/03/1997
US Environmental Protection Agency
Office of Solid Waste and Emergency Response
703/603-8881

National Priorities List

The NPL Report is an EPA listing of the nation's worst uncontrolled or abandoned hazardous waste sites. NPL sites are targeted for possible long-term remedial action under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980. In addition, the NPL Report includes information concerning cleanup agreements between EPA and Potentially Responsible Parties (commonly called Records of Decision, or RODS), any liens filed against contaminated properties, as well as the past and current EPA budget expenditures tracked within the Superfund Consolidated Accomplishments Plan (SCAP).

RCRIS_CA
Date of Data: 04/04/1997
Release Date: 06/02/1997
Date on System: 08/08/1997
US Environmental Protection Agency
Office of Solid Waste and Emergency Response
800/424-9346

Resource Conservation and Recovery Information System - TSD's Subject to Corrective Action

The RCRIS_CA Report contains information pertaining to hazardous waste treatment, storage , and disposal Facilities (RCRA TSD's) which have conducted, or are currently conducting, a corrective action(s) as regulated under the Resource Conservation and Recovery Act. The following information is included within the RCRIS_CA Report:
- Information pertaining to the status of facilities tracked by the RCRA Administrative Action Tracking System (RAATS)
- Inspections & evaluations conducted by federal and state agencies
- All reported facility violations, the environmental statute(s) violated, and any proposed & actual penalties
- Information pertaining to corrective actions undertaken by the facility or EPA
- A complete listing of EPA regulated hazardous wastes which are generated or stored on-site

RCRIS_TS
Date of Data: 04/04/1997
Release Date: 06/02/1997
Date on System: 08/15/1997
US Environmental Protection Agency
Office of Solid Waste and Emergency Response
800/424-9346

Resource Conservation and Recovery Information System - Non-Corrective Action TSD Facilities

The RCRIS_TS Report contains information pertaining to facilities which either treat, store, or dispose of EPA regulated hazardous waste. The following information is also included in the RCRIS_TS Report:

- Information pertaining to the status of facilities tracked by the RCRA Administrative Action Tracking System (RAATS)
- Inspections & evaluations conducted by federal and state agencies
- All reported facility violations, the environmental statute(s) violated, and any proposed & actual penalties
- A complete listing of EPA regulated hazardous wastes which are generated or stored on-site

CERCLIS
Date of Data: 08/12/1997
Release Date: 08/13/1997
Date on System: 10/03/1997
US Environmental Protection Agency
Office of Solid Waste and Emergency Response
703/603-8881

Comprehensive Environmental Response, Compensation, and Liability Information System

The CERCLIS Database is a comprehensive listing of known or suspected uncontrolled or abandoned hazardous waste sites. These sites have either been investigated, or are currently under investigation by the U.S. EPA for the release, or threatened release of hazardous substances. Once a site is placed in CERCLIS, it may be subjected to several levels of review and evaluation, and ultimately placed on the National Priorities List (NPL). In addition to site events and milestone dates, the CERCLIS Report also contains financial information from the Superfund Consolidated Accomplishments Plan (SCAP).

NFRAP
Date of Data: 08/12/1997
Release Date: 08/13/1997
Date on System: 10/03/1997
US Environmental Protection Agency
Office of Solid Waste and Emergency Response
703/603-8881

No Further Remedial Action Planned Sites

The No Further Remedial Action Planned Report (NFRAP), also known as the CERCLIS Archive, contains information pertaining to sites which have been removed from the U.S. EPA's CERCLIS Database. NFRAP sites may be sites where, following an initial investigation, either no contamination was found, contamination was removed quickly without need for the site to be placed on the NPL, or the contamination was not serious enough to require federal Superfund action or NPL consideration.

RCRIS_LG
Date of Data: 04/04/1997
Release Date: 06/02/1997
Date on System: 08/08/1997
US Environmental Protection Agency
Office of Solid Waste and Emergency Response
800/424-9346

Resource Conservation and Recovery Information System - Large Quantity Generators

The RCRIS_LG Report contains information pertaining to facilities which either generate more than 1000kg of EPA regulated hazardous waste per month, or meet other applicable requirements of the Resource Conservation And Recovery Act. The following information is also included in the RCRIS_LG Report:
- Information pertaining to the status of facilities tracked by the RCRA Administrative Action Tracking System (RAATS)
- Inspections & evaluations conducted by federal and state agencies
- All reported facility violations, the environmental statute(s) violated, and any proposed & actual penalties
- Information pertaining to corrective actions undertaken by the

facility or EPA
- A complete listing of EPA regulated hazardous wastes which are generated or stored on-site

RCRIS_SG
Date of Data: 04/04/1997
Release Date: 06/02/1997
Date on System: 08/08/1997
US Environmental Protection Agency
Office of Solid Waste and Emergency Response
800/424-9346

Resource Conservation and Recovery Information System - Small Quantity Generators

The RCRIS_SG Report contains information pertaining to facilities which either generate between 100kg and 1000kg of EPA regulated hazardous waste per month, or meet other applicable requirements of the Resource Conservation And Recovery Act. On advice of the U.S. EPA, ERIIS does not report so-called "RCRA Protective Filers." Protective Filers, commonly called Conditionally Exempt Small Quantity Generators (CESQG's), are facilities that have completed RCRA notification paperwork, but are not, in fact, subject to RCRA regulation. The determination of CESQG status is made by the U.S. EPA. The following information is also included in the RCRIS_SG Report:
- Information pertaining to the status of facilities tracked by the RCRA Administrative Action Tracking System (RAATS)
- Inspections & evaluations conducted by federal and state agencies
- All reported facility violations, the environmental statute(s) violated, and any proposed & actual penalties
- Information pertaining to corrective actions undertaken by the facility or EPA
- A complete listing of EPA regulated hazardous wastes which are generated or stored on-site

ERNS
Date of Data: 08/07/1997
Release Date: 08/15/1997
Date on System: 10/03/1997
US Environmental Protection Agency
Office of Solid Waste and Emergency Response
202/260-2342

Emergency Response Notification System

ERNS is a national computer database system that is used to store information concerning the sudden and/or accidental release of hazardous substances, including petroleum, into the environment. The ERNS Reporting System contains preliminary information on specific releases, including the spill location, the substance released, and the responsible party. Please note that the information in the ERNS Report pertains only to those releases that occured between January 1, 1997 and June 11, 1997.

HWS
Date of Data: 03/31/1997
Release Date: 07/31/1997
Date on System: 10/03/1997
TX Natural Resource Conservation Comm.
Superfund Section
512/239-2141

Texas State Superfund Quarterly Status Report

The Texas State Superfund Report contains information pertaining to potentially hazardous sites which have been placed on the State Priority List by the Texas Natural Resource Conservation Commission (TNRCC).

LRST
Date of Data: 09/23/1997
Release Date: 09/29/1997
Date on System: 10/24/1997
TX Natural Resource Conservation Comm.
Information Resources
512/239-0986

Texas Leaking Petroleum Storage Tanks

The Texas Leaking Petroleum Storage Tank Report is a comprehensive listing of all reported active and inactive leaking aboveground and underground storage tanks located within the State of Texas.

SWF
Date of Data: 09/17/1997
Release Date: 10/01/1997
Date on System: 10/24/1997
TX Natural Resource Conservation Comm.
Information Resources
512/239-6067

Texas Municipal Solid Waste Landfill Report

The Texas Municipal Solid Waste Landfill Report is a comprehensive listing of all facilities that have been issued a permit by the Texas Natural Resource Conservation Commission (TNRCC) to operate a municipal solid waste landfill.

RST
Date of Data: 09/23/1997
Release Date: 09/29/1997
Date on System: 10/24/1997
TX Natural Resource Conservation Comm.
Information Resources
512/239-0986

Texas Petroleum Storage Tanks

The Texas Petroleum Storage Tank Report is a comprehensive listing of all registered active and inactive aboveground and underground storage tanks located within the State of Texas.

ERIIS SUMMARY OF PLOTTABLE SITES

ERIIS Report #202249A — Oct 28, 1997

ERIIS ID.	FACILITY/ADDRESS	DATABASE	DISTANCE FROM SITE	MAP ID
48037012934	GILBERT INTERNATIONAL 6219 GILBERT RD LAREDO, TX 78041-2594 COUNTY: WEBB	LRST	Corridor	2934
48036061817	GILBERT INTERNATIONAL 1 GILBERT RD LAREDO, TX 78041-2502 COUNTY: WEBB	RST	Corridor	1817
48037011238	HANSEN CHEVRON I 35 & DEL MAR LAREDO, TX COUNTY: WEBB	LRST	Corridor	1238
48037009190	LAREDO JUNIOR COLLEGE EAST END OF COLLEGE CAMPUS LAREDO, TX 78040 COUNTY: WEBB	LRST	Corridor	9190
48037008965	LAREDO JUNIOR COLLEGE MAINTENACE FC W END WASHINGTON ST LAREDO, TX 78040 COUNTY: WEBB	LRST	Corridor	8965
48036061780	ROADWAY EXPRESS, INC 100 DEL MAR INDUSTRIAL BLVD LAREDO, TX 78041 COUNTY: WEBB	RST	Corridor	1780
48008008428	ROBERTSHAW CONTROLS CO INC 100 MANUFACTURING RD LAREDO, TX 78041-2568 COUNTY: WEBB	RCRIS_SG	Corridor	8428
48036061819	THE LAREDO COCA COLA BOTTLING CO 1402 INDUSTRIAL BLVD LAREDO, TX 78041-2508 COUNTY: WEBB	RST	Corridor	1819

ERIIS Report #202249A

Oct 28, 1997

ERIIS ID / EPA ID	FACILITY	ADDRESS	RAATS ISSUE DATE / RAATS ACTION/STATUS / RAATS PENALTIES	DISTANCE FROM SITE	DIRECTION FROM SITE	MAP ID
48008008428 TXD988043188	ROBERTSHAW CONTROLS CO INC COUNTY: WEBB	100 MANUFACTURING RD LAREDO, TX 78041-2568	FACILITY NOT REPORTED IN RAATS	Corridor Site		8428

HAZARDOUS WASTES

	WASTE CODE:	AMOUNT OF WASTE:	SOURCE OF INFO:
1.	D000	.00000	NOTIFICATION
2.	D001	.00000	NOTIFICATION
3.	F001	.00000	NOTIFICATION
4.	F003	.00000	NOTIFICATION
5.	U080	.00000	NOTIFICATION
6.	U226	.00000	NOTIFICATION
7.	U239	.00000	NOTIFICATION

ERIIS ID / FACILITY ID	FACILITY	ADDRESS	MANAGER	DISTANCE FROM SITE	DIRECTION FROM SITE	MAP ID
48036061780 / 0055934	ROADWAY EXPRESS, INC COUNTY: WEBB	100 DEL MAR INDUSTRIAL BLVD LAREDO, TX 78041	J. L. ORNELAS (512) 723-5292	Corridor Site		1780

TANK ID	DATE INSTALLED	CAPACITY	SUBSTANCE(S) STORED	POSITION	STATUS	TANK MATERIAL
1	UNKNOWN	10000	DIESEL	UNDERGROUND	REMOVED FROM GROUND	STEEL
2	UNKNOWN	10000	DIESEL	UNDERGROUND	REMOVED FROM GROUND	STEEL
3	UNKNOWN	10000	DIESEL	UNDERGROUND	REMOVED FROM GROUND	STEEL
4	UNKNOWN	2000	GASOLINE	UNDERGROUND	REMOVED FROM GROUND	STEEL

ERIIS ID / FACILITY ID	FACILITY	ADDRESS	MANAGER	DISTANCE FROM SITE	DIRECTION FROM SITE	MAP ID
48036061817 / 0063567	GILBERT INTERNATIONAL COUNTY: WEBB	1 GILBERT RD LAREDO, TX 78041	MR MOCTEZUMA (512) 723-4308	Corridor Site		1817

TANK ID	DATE INSTALLED	CAPACITY	SUBSTANCE(S) STORED	POSITION	STATUS	TANK MATERIAL
1	UNKNOWN	2000	GASOLINE	UNDERGROUND	REMOVED FROM GROUND	STEEL
2	UNKNOWN	2000	GASOLINE	UNDERGROUND	REMOVED FROM GROUND	STEEL

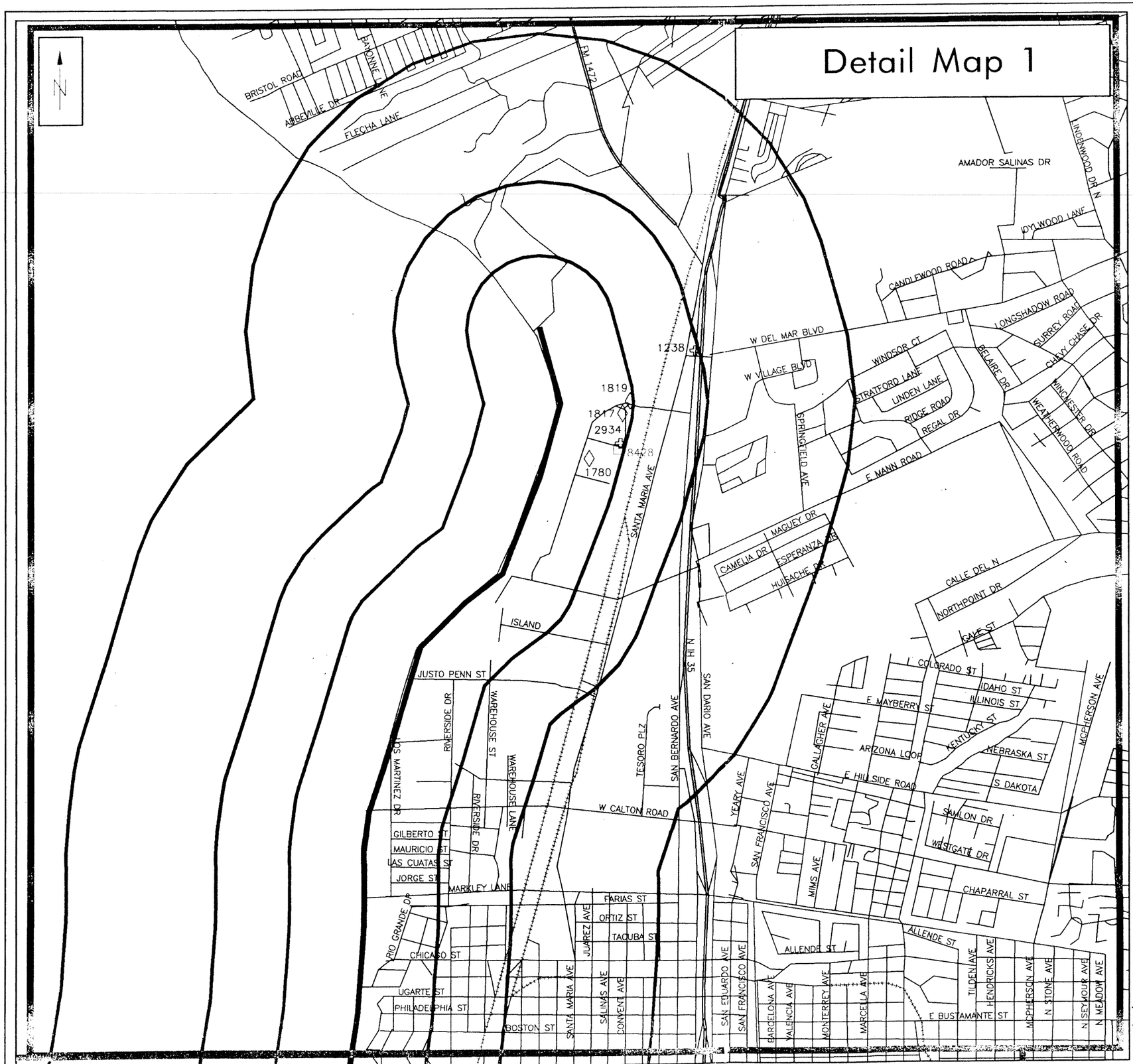
ERIIS ID / FACILITY ID	FACILITY	ADDRESS	MANAGER	DISTANCE FROM SITE	DIRECTION FROM SITE	MAP ID
48036061819 / 0063933	THE LAREDO COCA COLA BOTTLING CO COUNTY: WEBB	1402 INDUSTRIAL BLVD LAREDO, TX 78041	ALEGRIA (210) 726-2672	Corridor Site		1819

TANK ID	DATE INSTALLED	CAPACITY	SUBSTANCE(S) STORED	POSITION	STATUS	TANK MATERIAL
	UNKNOWN	0	NOT REPORTED	UNDERGROUND	UNKNOWN	NOT REPORTED

ERIIS ENVIRONMENTAL DATA REPORT
TEXAS LEAKING PETROLEUM STORAGE TANKS
LRST - PLOTTABLE SITES - PAGE 1

ERIIS Report #202249A — Oct 28, 1997

ERIIS ID / LPST ID	FACILITY	ADDRESS	COUNTY	PRP NAME	CONTACT PHONE	MAP ID
48037009190 100611	LAREDO JUNIOR COLLEGE DISTANCE FROM SITE: Corridor Site DIRECTION FROM SITE:	EAST END OF COLLEGE CAMPUS LAREDO, TX 78040	WEBB	LAREDO JUNIOR COLLEGE	ROGER L DR WORSLEY 512/721-5126	9190
	PRIORITY: MINOR SOIL CONTAMINATION - DOES NOT REQUIRE A RAP STATUS: FINAL CONCURRENCE ISSUED, CASE CLOSED					
48037008965 100376	LAREDO JUNIOR COLLEGE MAINTENACE FC DISTANCE FROM SITE: Corridor Site DIRECTION FROM SITE:	W END WASHINGTON ST LAREDO, TX 78040	WEBB	LAREDO COMMUNITY COLLEGE	DANIEL FLORES 210/721-5124	8965
	PRIORITY: SOIL CONTAMINATION ONLY, REQUIRES FULL SITE ASSESSMENT & RAP STATUS: PHASE 2 REPORT RECEIVED, REVIEW PENDING					
48037012934 104583	GILBERT INTERNATIONAL DISTANCE FROM SITE: Corridor Site DIRECTION FROM SITE:	6219 GILBERT RD LAREDO, TX 78041-2594	WEBB	GILBERT INTERNATIONAL	JOE GILBERT 210/723-4308	2934
	PRIORITY: GROUP 1 GROUNDWATER, OFF-SITE MIGRATION UNLIKELY STATUS: PHASE 2 REPORT RECEIVED, REVIEW PENDING					
48037011238 102782	HANSEN CHEVRON DISTANCE FROM SITE: Corridor Site DIRECTION FROM SITE:	I 35 & DEL MAR LAREDO, TX	WEBB	HANSEN GLORIA	GLORIA HANSEN NOT REPORTED	1238
	PRIORITY: SOIL CONTAMINATION - NO REMEDIAL ACTION REQUIRED STATUS: FINAL CONCURRENCE ISSUED, CASE CLOSED					



ERIIS
505 Huntmar Park Dr, Suite 200
Herndon, VA 20170
(703)834-0600 (800)989-0402
FAX: (703)834-0606

SITE INFORMATION

Laredo River Road
Laredo, TX
Webb County
Job Number: 202249A
Map Plotted: Oct 28, 1997

MAP LEGEND

- Study Site
- ASTM Buffer
- Hydrography
- Railroads
- Roads
- Highways
- NPL 0 Sites
- RCRIS_TS 0 Sites
- RCRIS_CA 0 Sites
- CERCLIS 0 Sites
- NFRAP 0 Sites
- RCRIS_LG 0 Sites
- RCRIS_SG 1 Site
- ERNS 0 Sites
- HWS 0 Sites
- LRST 4 Sites
- SWF 0 Sites
- RST 3 Sites

Miles

0 0.25 0.5

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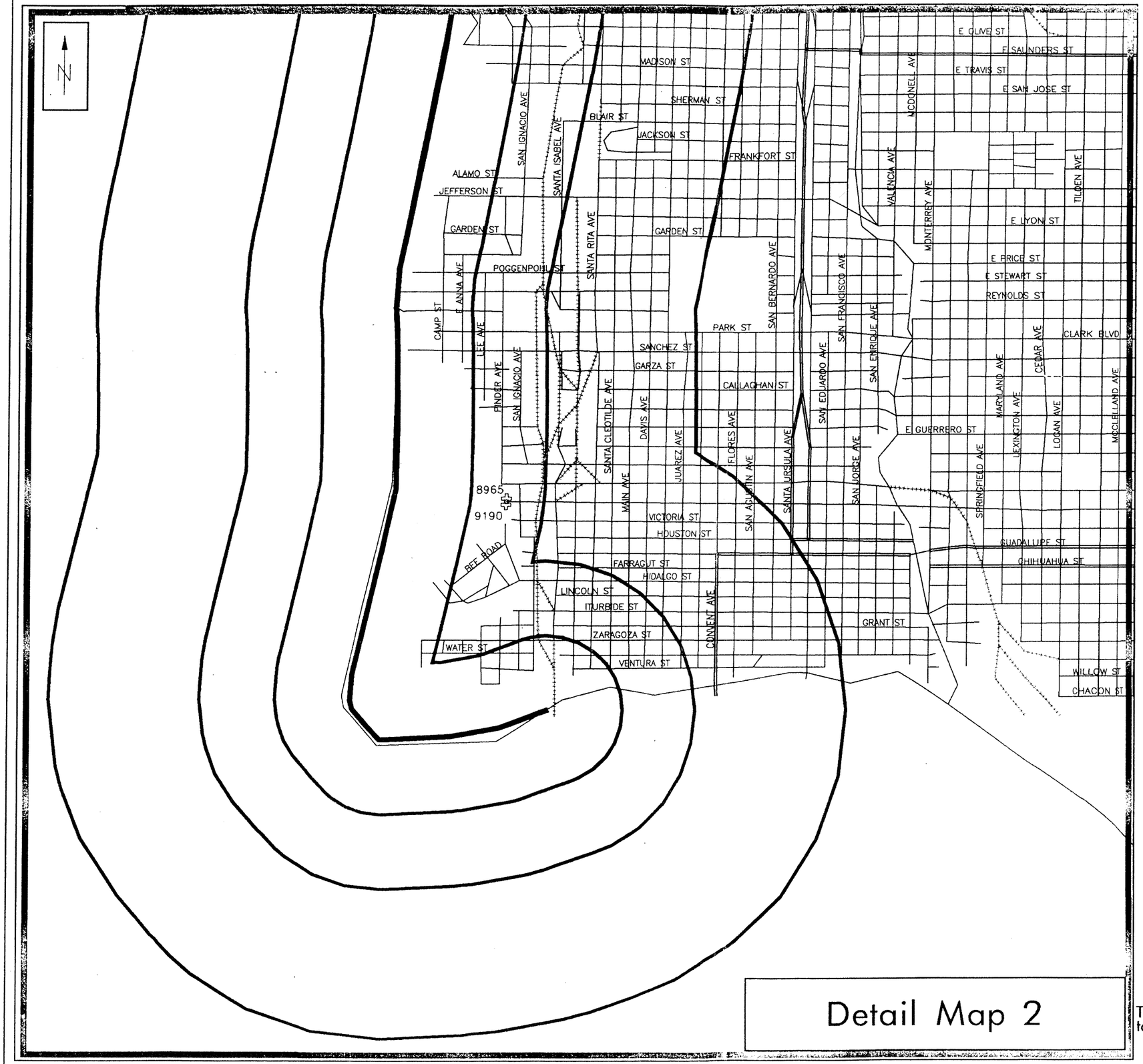

Detail Map 2

E R I S

505 Huntmar Park Dr, Suite 200
Herndon, VA 20170
(703)834-0600 (800)989-0402
FAX: (703)834-0606

SITE INFORMATION

Laredo River Road
Laredo, TX
Webb County
Job Number: 202249A
Map Plotted: Oct 28, 1997

MAP LEGEND

- Study Site
- ASTM Buffer
- Hydrography
- Railroads
- Roads
- Highways
- NPL 0 Sites
- RCRIS_TS 0 Sites
- RCRIS_CA 0 Sites
- CERCLIS 0 Sites
- NFRAP 0 Sites
- RCRIS_LG 0 Sites
- RCRIS_SG 1 Site
- ERNS 0 Sites
- HWS 0 Sites
- LRST 4 Sites
- SWF 0 Sites
- RST 3 Sites

Miles

0 0.25 0.5

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PERTAINING TO:
RIO BRAVO
LAREDO, TX

REPORT NUMBER:
202244A

PREPARED ON:
10/30/1997

ON BEHALF OF:
Geo-Marine, Inc.
550 E. 15th Street
Plano, TX 75074

If you have any questions or comments regarding this report, please contact ERIIS Customer Service at 1-800-989-0403, locally at 703-834-0600, or fax us at 703-834-0606. Thank you for your order.

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ERIIS CORRIDOR STATISTICAL PROFILE
State: TX

ERIIS Report #202244A Oct 29, 1997

Site:
RIO BRAVO
LAREDO, TX

Database	Plotted Sites
NPL	0
RCRIS_CA	0
RCRIS_TS	0
CERCLIS	0
NFRAP	0
RCRIS_LG	0
RCRIS_SG	0
ERNS	0
HWS	0
LRST	0
SWF	0
RST	0
	0

NR in a radius count indicates that the database cannot be reported by this search criteria due to insufficient and/or inaccurate addresses reported by a federal/state agency.

PERTAINING TO:
SCHWARTZ RANCH
TX

REPORT NUMBER:
202253A

PREPARED ON:
10/30/1997

ON BEHALF OF:
Geo-Marine, Inc.
550 E. 15th Street
Plano, TX 75074

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ERIIS CORRIDOR STATISTICAL PROFILE
State: TX

ERIIS Report #202253A

Oct 28, 1997

Site:
SCHWARTZ RANCH
, TX

Database	Plotted Sites
NPL	0
RCRIS_CA	0
RCRIS_TS	0
CERCLIS	0
NFRAP	0
RCRIS_LG	0
RCRIS_SG	0
ERNS	0
HWS	0
LRST	0
SWF	0
RST	0
	0

NR in a radius count indicates that the database cannot be reported by this search criteria due to insufficient and/or inaccurate addresses reported by a federal/state agency.

PERTAINING TO:
JONES RANCH
CARRIZO SPRINGS
TX

REPORT NUMBER:
202251A

PREPARED ON:
10/30/1997

ON BEHALF OF:
Geo-Marine, Inc.
550 E. 15th Street
Plano, TX 75074

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ERIIS CORRIDOR STATISTICAL PROFILE
State: TX

ERIIS Report #202251A

Oct 28, 1997

Site: JONES RANCH
CARRIZO SPRINGS
, TX

Database	Plotted Sites
NPL	0
RCRIS_CA	0
RCRIS_TS	0
CERCLIS	0
NFRAP	0
RCRIS_LG	0
RCRIS_SG	0
ERNS	0
HWS	0
LRST	0
SWF	0
RST	0
	0

NR in a radius count indicates that the database cannot be reported by this search criteria due to insufficient and/or inaccurate addresses reported by a federal/state agency.

PERTAINING TO:
GALVAN RANCH
TX

REPORT NUMBER:
202246A

PREPARED ON:
10/30/1997

ON BEHALF OF:
Geo-Marine, Inc.
550 E. 15th Street
Plano, TX 75074

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ERIIS CORRIDOR STATISTICAL PROFILE
State: TX

ERIIS Report #202246A

Oct 29, 1997

Site:
GALVAN RANCH
, TX

Database	Plotted Sites
NPL	0
RCRIS_CA	0
RCRIS_TS	0
CERCLIS	0
NFRAP	0
RCRIS_LG	0
RCRIS_SG	0
ERNS	0
HWS	0
LRST	0
SWF	0
RST	0
	0

NR in a radius count indicates that the database cannot be reported by this search criteria due to insufficient and/or inaccurate addresses reported by a federal/state agency.

APPENDIX E

Correspondence

November 3, 1997

U.S. Fish and Wildlife Service
Ecological Services
C/O Corpus Christi State University
Campus Box 338
6300 Ocean Drive
Corpus Christi, Texas 78412

Re: Federal List of Endangered, Threatened, Proposed, Candidate Species, Species of Special Concern for Proposed JTF-6 Road Improvements and Construction Activities in South Texas

Dear Sir,

The U.S. Army Corps of Engineers, Fort Worth District (COE), has been contracted by Joint Task Force Six (JTF-6) to conduct an Environmental Assessment for a proposed project near Laredo, Texas (Enclosures). The COE requests a current list of federal endangered, threatened, proposed, and candidate species, and species of special concern for Webb, Dimmit, and Maverick counties, Texas.

The proposed project involves road improvement and construction along the United States/Mexico border for the United States Border Patrol. Some of the regrading was performed in 1993 and was coordinated with your office.

This new effort was briefly discussed with Ms. Clements of your staff. If you have any questions or would like a site visit, please don't hesitate to call me at (817) 978-2370. Thank you for your assistance.

Sincerely,

Original Signed
Eric Verwers
Environmental Resource Planner

November 3, 1997

Texas Parks & Wildlife Department
Endangered Resources Branch
Attn: Shannon Breslin
3000 IH-35 South, Suite 100
Austin, Texas 78704

Re: State List of Endangered and Threatened Species for Proposed JTF-6 Road Improvement and Construction Activities in South Texas

Dear Ms. Breslin,

The U.S. Army Corps of Engineers, Fort Worth District, has been contracted by Joint Task Force Six (JTF-6) to conduct an Environmental Assessment for a proposed project near Laredo, Texas is formally requesting a current list of state endangered and threatened species for Webb, Dimmit, and Maverick counties, Texas. The proposed project involves road improvement and construction projects along the United States/Mexico border for the United States Border Patrol.

Thank you for your assistance. If you should have any questions or would like a site visit, please call me at (817) 978-2370.

Sincerely,

Original Signed
Eric Verwers
Environmental Resource Planner

APPENDIX F

Public Comments

INTERNATIONAL BOUNDARY AND WATER COMMISSION
UNITED STATES AND MEXICO

OFFICE OF THE COMMISSIONER
UNITED STATES SECTION

DEC 2 2 1997

Dan L. Wilkinson, Ph.D.
Vice President, Environmental Division
Geo-Marine, Inc.
550 East Fifteenth Street
Plano, TX 75074

RECEIVED
DEC 2 9 1997
BY:

Dear Dr. Wilkinson:

Thank you for the opportunity to review the draft December 1997 Environmental Assessment (EA) for the proposed JTF-6 Mission JT513/515/425-98 in Webb, Maverick, and Dimmit counties in the vicinity of Laredo, Texas. As you know, the United States Section, International Boundary and Water Commission (USIBWC) monitors projects along the U.S./Mexico border which have the potential for causing transboundary impacts to Mexico by altering or impacting existing surface and/or groundwater resources and drainage patterns. We understand that the proposed project involves road improvements and new road construction on approximately 386.7 kilometers (240.3 miles) of existing road and ranch road rights-of-way to facilitate the U.S. Border Patrol's (USBP) mission of reducing illegal drug activity along the U.S./Mexico border. Further, we understand that these road improvements are scheduled from January 1998 through March 1998 in the Laredo area and from January 1998 through April 1998 in the Carrizo Springs area.

As described in the draft Finding of No Significant Impact (FONSI), the proposed road improvements involve 45.9 km (28.5 miles) of main roads and 107.8 km (67 miles) fenceline roads on Galvan Ranch, 25.7 km (16 miles) along FM Road 3338, 8.9 km (5.5 miles) on Laredo River Road, and 5.3 km (3.3 miles) on Rio Bravo Road in Webb County; 29 km (18 miles) on Swartz Ranch, 5.6 km (3.5 miles) on Stone Ranch, and 16.1 km (10 miles) along FM Road 2644 in Maverick County; and 29.8 km (18.5 miles) along U.S. Highway 277 in Dimmit County. The new road construction includes 90.1 km (56 miles) of U.S. Highway 83 and 0.8 km (0.5 miles) of the Laredo River Road in Webb County and 17.7 km (11 miles) along FM Road 2644, 0.8 km (0.5 miles) on Swartz Ranch, and 2.4 km (1.5 miles) on Stone Ranch in Maverick County. The road improvements are summarized to include grading and filling, using clean fill material from existing borrow pits, within existing road beds.

The draft EA states that new roads and extensions of existing roads would have drainage ditches installed, and that any further alteration of existing roads would be undertaken only after coordination with construction and archeological monitoring personnel. Erosion and road degradation potential will be reduced by ceasing improvement activities during rainy periods and through the implementation of a Storm Water Pollution Prevention Plan (PPP) which will mitigate impacts to soils and surface water resources by reducing surface water runoff from the project site into receiving drainages. A total of 0.299 acre of jurisdictional non-wetland waters of the United States, meeting conditions of Nationwide Permit 14 will be impacted by

the proposed project. Low-water stream crossings and appropriate drainage structures including culverts and concrete fords at the road crossings have been designed into the proposed construction project to reduce scour and erosion in these areas. The entire area of impact for this proposed project is estimated to be 544 acres.

At this time, the USIBWC feels that the draft EA and FONSI for the proposed JTF-6 Mission in Webb, Maverick, and Dimmit counties adequately address impacts to surface water, groundwater and flood plains, and contain measures to control and minimize impacts due to transboundary runoff. Please notify us of any alterations to the project scope or of unforseen conditions encountered during construction and improvement activities. I may be reached at (915)832-4148 and Mr. Roberto Ramos in our Laredo Field Office may be reached at (956)726-2963.

Sincerely,

Yusuf E. Farran, P.E.
Division Engineer
Environmental Management Division

cc: Milton Blankenship (J3EN)
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TELEPHONE CONVERSATION REPORT

Project Name: Laredo EA **Project No.:** 1538-121

Call From: Dr Michael Tewes **With:** Texas A&M Kingsville **Date:** 12 JAN 98

Call to: Tom Ball **With:** GMI **Time:** 1310

Phone No.: 512 593-2111

1) Webb & Dimmit Counties are northern ocelot range boundary

2) He has no maps of ocelot habitat in those counties

3) He knows of no resident populations or habitat in those counties but he has not conducted studies there

Signature Thomas A Ball