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**ENVIRONMENTAL DOCUMENT**

**FOR**

**FM 2696 (BLANCO ROAD)  
FROM LOOP 1604 TO SPECHT ROAD  
SAN ANTONIO, BEXAR COUNTY, TEXAS**

**CCSJ: 2708-01-022**

**CSJ's: 2708-01-024 & 2708-01-025**

**July 2006**

**PREPARED FOR**

**THE FEDERAL HIGHWAY ADMINISTRATION**

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**FM 2696 (BLANCO ROAD)  
FROM LOOP 1604 TO SPECHT ROAD  
SAN ANTONIO, BEXAR COUNTY, TEXAS**

**CCSJ: 2708-01-022**

**CSJ's: 2708-01-024 and 2708-01-025**

**July 2006**

**I. INTRODUCTION**

This environmental document evaluates the nature and extent of environmental effects of the proposed roadway improvements along Farm-to-Market (FM) 2696 (Blanco Road) in San Antonio, Bexar County, Texas. The project construction begins at Glade Crossing and ends at Specht Road. The logical termini for the project are Loop 1604 and Specht Road and the study limits are from Loop 1604 to the Bexar/Comal County Line.

Prior roadway improvements were made from Loop 1604 to Glade Crossing under a previous construction project. This previous construction project included operational improvements including the addition of turn lanes and a raised median. This project did not include additional capacity, however, the pavement in this section was constructed at a width so that the proposed project could tie to it at Glade Crossing. The proposed project would include re-striping and changing of lane assignment in the section between Loop 1604 and Glade Crossing without any grading or widening of the existing roadway. These changes, however, would increase capacity beginning at Loop 1604. A location map of the project area is shown in **Figure 1**.

This project is located within the San Antonio Bexar County Metropolitan Transportation Planning Organization (MPO) area. The proposed action has been determined to be consistent with the area's metropolitan transportation plan known as "Mobility 2030" as adopted by the MPO. The proposed action is also listed in the 2006-2008 Transportation Improvement Plan (TIP).

The roadway improvements have been divided into three CSJ's as illustrated in the table below.

**Table 1**  
**Project Descriptions**

CSJ	Highway	Limits From	Limits To	Letting
2708-01-022	FM 2696 (Blanco Road)	Glade Crossing	Wilderness Oak	1/2007
2708-01-024	FM 2696 (Blanco Road)	Wilderness Oak	W. Oak Estates	1/2007
2708-01-025	FM 2696 (Blanco Road)	W. Oak Estates	Specht Road	1/2010

**II. DESCRIPTION OF THE EXISTING FACILITY**

The study limits are on FM 2696 from Loop 1604 to the Bexar/Comal County Line. The logical termini are from Loop 1604 to Specht Road and the project construction limits are from Glade Crossing to Specht Road in northwestern San Antonio, Bexar County, Texas. Approximately 3.4 miles of the project is located within the San Antonio City Limits and the remaining approximate five miles is located in Bexar County. Photographs of the existing roadway are presented in **Exhibit A**.

**a. Loop 1604 to Glade Crossing**

The land use adjacent to the existing roadway consists of mostly commercial properties with two residential subdivisions. The speed limit varies from 40 to 45 miles per hour (mph).

This portion of FM 2696 was improved as part of the previous FM 2696 improvements south of Loop 1604, which included operational improvements including the addition of turn lanes and a raised median. This project did not include additional capacity, however, the pavement in this section was constructed at a width so that the proposed project could transition to the existing pavement at Glade Crossing. The roadway typically has a raised median from Loop 1604 to Glade Crossing. The northbound and southbound lanes consist of two–12 foot travel lanes with a five foot bike lane and sidewalks on both sides of the roadway. At the signalized intersection with Loop 1604, there is a right turn lane from the Loop 1604 westbound frontage road onto northbound FM 2696 and on southbound FM 2696 onto the Loop 1604 westbound frontage road. A signalized intersection was constructed approximately 1,100 feet north of Loop 1604 to allow access to commercial strip centers located on both sides of the road. At this intersection, right and left turn lanes are present and the raised median is interrupted to allow for cross traffic. At Glade Crossing, the north and southbound lanes taper from the four lane divided roadway back

to the existing two lane roadway with varying width shoulders. The current traffic volume is 16,500 vehicles per day (VPD).

**b. Glade Crossing to Bexar /Comal County Line**

The land use adjacent to the existing roadway consists of mostly undeveloped properties, including Camp Bullis, and residential subdivisions, but closer to the beginning of the project (Glade Crossing), there are some strip centers, an apartment complex and single facility businesses. Just north of the Glade Crossing, one apartment complex is located on the east side of FM 2696 and the remainder of the adjacent land from Glade Crossing to Wilderness Oak is comprised primarily of residential housing and strip businesses. Land use north of Wilderness Oak to Old Blanco Road is a mosaic of undeveloped lands and residential subdivisions with oversized lots. An occasional strip center or single facility business is located adjacent to the ROW. Camp Bullis, a U.S. Army training installation, borders FM 2696 to the west beginning 0.5 mile south of Wilderness Oak and ending just south of the Bexar/Comal County Line. The proposed improvements would not require ROW from the military property. Two parks are located adjacent to FM 2696. Panther Springs Park, owned and operated by the City of San Antonio, is located approximately 0.65 mile north of Wilderness Oak. Bullis Park, owned by Bexar County, is located between the two locations where Old Blanco Road intersects FM 2696. No ROW or easements would be required from either of the parks. Land use north of Old Blanco Road is primarily rural with Camp Bullis to the west and scattered single family housing to the east.

Existing FM 2696 consists of two–12 foot lanes with varying width shoulders (6 to 8 feet) for an overall pavement width varying from 36 to 40 feet with no curb or sidewalk. The existing ROW is typically 120 feet, but ranges from 109 to 384 feet. The existing typical section is shown in **Figure 2A**.

The current traffic volume from Glade Crossing to Wilderness Oak is 16,500 VPD. The current traffic volume from Wilderness Oak to W. Oak Estates is 6,600 VPD and current traffic volume from W. Oak Estates to Old Blanco Road is 3,100 VPD. The current traffic volume from Old Blanco Road to Specht Road is 2,300 VPD. The speed limit varies from 50 to 60 mph.

### **III. DESCRIPTION OF THE PROPOSED ACTION**

#### **1. Roadway Improvements**

The proposed action would add capacity within the existing FM 2696 corridor from Loop 1604 to Specht Road with the ultimate design being four through lanes. No improvements beyond a transition back to the existing typical section would occur north of Specht Road. Overall, FM 2696 would be reconstructed and widened from two lanes to four lanes with a raised median and improvements would occur (left and right turn lanes) at the intersections. Proposed typical sections are shown in **Figures 2A and 2B**. An aerial with the schematic shown is displayed on **Figures 3A-3F**. The total length of the project is approximately 8.4 miles. The posted speed limit is 60 miles per hour. A more detailed description of the proposed action is described below.

##### **a. Loop 1604 to Glade Crossing**

For this section, previous improvements were implemented which included the construction of turn lanes and a raised median in conjunction with the FM 2696 widening south of Loop 1604. These turn lanes would be converted to through lanes to add capacity in the corridor.

##### **b. Glade Crossing to Specht Road**

For each direction, the proposed pavement section would typically consist of one–11 foot inside lane plus a one foot offset to the median and one–12 foot outside lane along with a 16 foot raised median and six foot bike lanes for an overall pavement width of 74 feet (**Figure 2A**). The proposed roadway would be curbed with continuous five foot sidewalks on each side. Stormwater runoff would typically pass through designated curb slot openings along the corridor and drain to roadside ditches between the roadway and the ROW.

The proposed vertical alignment of FM 2696 would essentially match the existing profile, but would be raised up to two feet in some areas along the corridor.

The projected (2025) traffic volume from Glade Crossing to Wilderness Oak is 27,200 VPD. The projected traffic volume from Wilderness Oak to W. Oak Estates is 10,400 VPD and projected traffic volume from W. Oak Estates to Old Blanco Road is 4,800 VPD. The projected traffic volume from Old Blanco Road to Specht Road is 3,400 VPD.

**c. Turnarounds**

Because FM 2696 would be upgraded to a divided facility, median openings would be constructed at four locations along the corridor to provide access for U-turn movements. To deter vehicles from stopping in the inside lane, a left turn lane with proper storage capacity would be provided to accommodate turning vehicles. The U-turning vehicle would cross the through travel lanes of the traffic from the opposing direction, navigate through the U-turn maneuver on additional pavement (a.k.a. jug handle), and then would merge with traffic. A typical detail of this turnaround is shown on **Figure 2A**.

**d. Intersections**

To provide access to cross streets within the project limits, a median opening treatment detail is shown on **Figure 2B, View 1**. A typical intersection would provide the following. For the southbound direction just south of the intersection, there would be an inside 16 foot acceleration lane (for the cross street traffic turning south on FM 2696), an 11 foot inside lane, a 12 foot outside lane and a 6 foot bike lane. In the northbound direction, there would be a 6 foot median with a one foot offset, an 11 foot inside lane, a 12 foot outside lane, a six foot bike lane and a 10 foot right turn lane. The overall pavement width is 90 feet. This is shown on **Figure 2B, Section A-A**. For the southbound direction just north of the intersection, there would be a 10 foot inside left turn deceleration lane (for southbound FM 2696 traffic turning onto the cross street), a 6 foot median with a one foot offset on either side of the median, an 11 foot inside lane, a 12 foot outside lane and a 6 foot bike lane. In the northbound direction, there would be a 6 foot median with a one foot offset on either side of the median, an 11 foot inside lane, a 12 foot outside lane and a 6 foot bike lane. The overall pavement width is 80 feet. This is shown on **Figure 2B, Section B-B**.

This configuration discussed above would occur at the intersections of FM 2696 and the following cross-streets: Enclave Bluff, Ranch Oak, Calico Landing, Oak Estates Drive, Midnight Drive, Slumber Pass, Falls Street, Rye Drive, both connections of Old Blanco Road and Specht Road.

Glade Crossing, Huebner Road and Wilderness Oak are signalized intersections. The lane configuration provided at the signalized intersections is described as follows. In the northbound direction, there would be a 10 foot left turn lane, 6 foot median with a one foot offset on either side of the median, an 11 foot inside lane, a 12 foot outside lane, a 6 foot bike lane and a 10 ten

foot right turn lane. In the southbound direction, there would be a 10 foot left turn lane, an 11 foot inside lane, a 12 foot outside lane, a 6 foot bike lane and 10 ten foot right turn.

## **2. Roadway Construction**

To construct the roadway widening and rehabilitation, traffic would be routed through the construction areas where the roadway and/or bridges would be constructed in half-sections. Continuous access to residences and businesses would be provided during construction.

## **3. Right-of-Way**

The existing ROW is typically 120 feet, but varies from 109 feet to 384 feet in some sections. It is anticipated that all of the roadway reconstruction would be performed in the FM 2696 existing ROW. Since there are no existing drainage easements along the corridor, no work would occur in any easements. It is not anticipated that any easements would be required.

Since no new ROW would be obtained, the proposed project would be exempt from the requirements of the Farmland Protection Policy Act and requires no coordination with the National Resource Conservation Service (NRCS).

## **4. Utility Construction**

Buried underground telephone lines, gas lines and water lines occur along the ROW. Overhead electric, telephone and cable TV lines also occur along the ROW. It is unknown if any of the utilities would be joint bid. All of these utilities are anticipated to require adjustment as a result of the proposed project. The depth of the utilities are anticipated to be four to six feet deep.

## **5. Project Funding**

This project would be constructed using state and federal funds as stated in the San Antonio Bexar County Metropolitan Transportation Plan (MTP) – “Mobility 2030”. Two of the CSJ’s, 2708-01-022 and 2708-01-023, are listed in the 2006-2008 Transportation Improvement Program (TIP). The cost for construction of the roadway improvements is approximately \$35,484,500.

#### **IV. PURPOSE AND NEED FOR THE PROPOSED PROJECT AND REASONABLE ALTERNATIVES**

The purpose of the project is to increase the capacity of the roadway to accommodate the increase in population growth and development in the immediate area as well as to ensure the roadway meets a desirable Level of Service (LOS) “B” with a minimum of LOS “D”. Also, the proposed project would add a raised median with various access points (left turn lanes) along the corridor to facilitate an uninterrupted traffic flow, and decrease travel time; subsequently increasing the capacity and safety of the roadway. The proposed project would improve mobility and safety within the FM 2696 corridor.

The FM 2696 corridor is one of only three major north-south corridors in northern San Antonio. Within the study limits, the FM 2696 corridor serves as a north-south travel route from Loop 1604 through northern Bexar County and beyond. The need for the project is indicated by the existing and projected growth in the area. This increase in traffic volume is due to rapid commercial and residential subdivision development along the corridor.

The existing level of service (LOS) of FM 2696 also makes it necessary to upgrade this roadway to provide four lanes of traffic. From Glade Crossing to Wilderness Oak, the existing LOS is F. With the proposed improvements implemented, the LOS would rise to B under current traffic volumes and evolves to a LOS C over the 20-year design life of the project. From Wilderness Oak to W. Oak Estates, the existing LOS is C. With the proposed improvements implemented, the LOS also rises to B under current traffic volumes and maintains a LOS B over the 20-year design life of the project. To provide consistency of design and to meet driver expectancy and hence, maximize safety, it is preferable to maintain the four lane section to Specht Road.

Constructing additional travel lanes, providing intersection improvements and constructing acceleration and deceleration lanes, would accommodate the increasing traffic volumes, decrease congestion, improve the LOS, enhance mobility and improve safety within the corridor. The addition of a raised median would facilitate uninterrupted traffic flow and decrease travel time, which would increase capacity and importantly, improve safety.

Growth of the area is another reason for the upgrading of this roadway. Except for the previously-improved area from Loop 1604 to Glade Crossing, FM 2696 (Blanco Road) to the Bexar/Comal County Line remains today as a two-lane roadway in an area where rapid growth and development has occurred over the last twenty years. Reviewing the 1985 and 1995 TxDOT-San Antonio District on-system traffic maps for certain segments of FM 2696 (Blanco

Road), average daily traffic counts are shown in the following table along with the current traffic volumes.

**Table 2**  
**Traffic Volumes and Percent Increases**

<b>FM 2696 (Blanco Road)</b>	<b>1985 Traffic Count</b>	<b>1995 Traffic Count</b>	<b>2005 Traffic Count</b>	<b>% increase over 10 years (from 1985 to 1995)</b>	<b>% increase over 10 years (from 1995 to 2005)</b>	<b>% increase over 20 years (from 1985 to 2005)</b>
Glade Crossing to Wilderness Oak	2,800	7,500	16,500	168%	120%	489%
Wilderness Oak to W. Oak Estates	2,100	4,700	6,600	124%	40%	214%
W. Oak Estates to Old Blanco Road	950	2,500	3,100	163%	24%	69%
Old Blanco Road to Specht Road	750	1,100	1,700	47%	55%	127%

Source: (TxDOT On-System Traffic County Maps, San Antonio District)

As seen above in **Table 2**, there have been triple digit percent increases in average daily traffic in many segments of FM 2696 from 1985 to date. The growth trend is expected to continue to increase. The projected 2025 traffic volumes are as follows: from Glade Crossing to Wilderness Oak—27,200 VPD; Wilderness Oak to W. Oak Estates—10,400 VPD; from W. Oak Estates to Old Blanco Road—4,800 VPD; and from Old Blanco Road to Specht Road—3,400 VPD. From the current 2005 traffic volumes to the projected 2025 volumes, increases of 64%, 58%, 55% and 100%, respectively, make it necessary to rehabilitate, widen and implement current design standards to better manage congestion and accommodate continued traffic growth.

Since this roadway widening project is on existing location, only the no-build and improvements to the existing location alternative were considered. Although the no-build alternative would not result in the expansion of the existing roadway facility, routine roadway maintenance would still be required. However, the no-build alternative was not considered compatible with current and expected growth trends because it would not increase the capacity of the roadway facility to accommodate anticipated future traffic volumes. Motorists using the existing roadway facility would be expected to experience future traffic delays and traffic congestion. Therefore, the no-build alternative would not address the need for the project and ignores the plans of the local and regional transportation planning authorities and thus, was eliminated from further study.

## V. POTENTIAL ENVIRONMENTAL EFFECTS

There are no airports in the vicinity of the project and therefore, an Airway-Highway clearance would not be required.

### 1. Social and Economic Impacts

#### a. Population and Demographics

The study limits begin at Loop 1604, which is located in the northwest quadrant of the City of San Antonio in Bexar County and terminates at the Comal County Line. The 1990 Census population estimate for Bexar County and the City of San Antonio was 1,185,394 and 935,933; respectively. The 2000 Census population estimate for Bexar County and the City of San Antonio was 1,392,931 and 1,144,646; respectively. Therefore, the populations of Bexar County and the City of San Antonio had an overall population increase of 17.5 and 22.2 percent; respectively.

The current population within the six affected 2000 Census block groups is 17,647; as shown in **Table 3**. Block Group 1916.00:1 is within the boundaries of Camp Bullis U.S. Army Base and Military Reservation. The 2000 Census block group data indicated that there was a population of 16. To verify the total population within block group 1916.00:1, Census 2000 group quarter population data was examined and no group quarter populations were identified.

Regional and community growth in the project vicinity is expected to continue along present trends. Current land use at the southern end of the proposed project is predominantly used for strip centers, apartments, residential subdivisions and commercial businesses. Adjacent properties to the eastern boundary of the proposed project are primarily residential subdivisions and commercial businesses with one county park, Bullis Park and one City park, Panther Springs Park. Land use adjacent to the western boundary is primarily occupied by the Camp Bullis U.S. Army Base and Military Reservation. As evidenced by the present land use trend, vacant land along FM 2696 (Blanco Road) would continue to be developed regardless of whether the proposed widening improvements to the roadway facility is implemented or not. Therefore, this land use trend is expected to remain the same after construction.

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, was enacted on February 11, 1994 and mandates that federal agencies identify and address, as appropriate, disproportionately high and adverse human

health or environmental effects of programs on minority and low-income populations. The potential effects of the proposed project have been evaluated in accordance with the requirements of the Executive Order. The percent minority (i.e., persons classified by the U.S. Census Bureau as Black, Asian, American Indian or Alaska Native, Hispanic, or other non-white persons) within the six 2000 Census block groups ranges from 6.3 to 25.6 percent (**Table 3**). Cumulatively, approximately 23.3 percent of the population within the six 2000 Census block groups is classified as minority, compared to 64.4 percent in Bexar County and 68.2 percent in the City of San Antonio. Approximately 1.8 percent of the population within the six 2000 Census block groups is classified as low-income (i.e., persons living below the national poverty level), compared to 15.9 percent in Bexar County and 17.3 percent in the City of San Antonio. **Table 3** shows the percent of the population classified as minority or low-income for the 2000 Census block groups within or adjacent to the study area, Bexar County and the City of San Antonio.

**Table 3**  
**Population and Demographics for Environmental Justice Analysis**

Geographic Area	Total Population	Race/Ethnicity by Percent				% Minority	% Low-Income
		Hispanic	White	Black	Other		
<b>County and City</b>							
Bexar County	1,392,931	54.3	35.6	6.9	3.2	64.4	15.9
San Antonio	1,144,646	58.6	31.8	6.5	3.1	68.2	17.3
<b>BLOCK GROUPS</b>							
1916.00:1	16	6.3	93.7	0.0	0.0	6.3	0.0
1918.02:1	4,197	14.0	78.9	3.4	3.7	21.1	0.5
1918.03:3	2,119	13.6	77.8	3.4	5.2	22.2	0.8
1918.04:1	454	19.4	78.4	0.2	2.0	21.6	0.0
1918.04:2	3,032	21.7	74.4	1.3	2.6	25.6	1.3
1918.05:1	7,829	17.6	75.9	1.9	4.6	24.1	3.0
6-Block Group Total	17,647	17.0	76.7	2.3	4.0	23.3	1.8

Source: U.S. Census Bureau 2000

The proposed project would not affect, bisect or isolate any distinct neighborhoods, ethnic groups or other specific groups. There would be no disproportionately high and adverse human health or environmental effects to minority or low-income individuals or communities. No effect on neighborhood and community cohesion would occur. No businesses or residences would be displaced as a result of this project. The proposed improvements would provide a safer, more

efficient transportation route for local residents, commuters, commercial vehicles and the traveling public including minority and low-income individuals.

**b. Limited English Proficiency**

Executive Order 13166, *Improving Access to Services for Persons with Limited English Proficiency*, sets a framework to improve access to federally conducted and federally assisted programs and activities for persons who, as a result of national origin, are limited in their English proficiency. According to the 2000 Census, 2.9 percent of the persons within the affected six 2000 Census block groups speak English less than “very well,” which is considered Limited English Proficient (LEP) and 0.9 percent are “linguistically isolated.” The majority (approximately 97.1 percent) of persons living within the six 2000 Census block groups speak English “very well.” Within the six 2000 Census block groups, LEP and linguistically isolated populations, 71.9 and 70.6 percent, respectively, speak Spanish.

Opportunities for community input in the National Environmental Policy Act (NEPA) process have been and would continue to be provided. Reasonable attempts to solicit public comments were made at the public meeting held on September 2, 2004. The meeting was announced in local newspapers and meeting notices were mailed to elected officials, government agencies, local organizations, civic groups, the media, businesses, and interested citizens. It was determined by TxDOT that publication of notices in Spanish would not be warranted because 97.1 percent of the persons in the project area speak English “very well.”

**c. Economic Impacts**

The proposed project would occur within the existing ROW. No commercial businesses are expected to be adversely affected by this project. Businesses may be inconvenienced and would suffer slightly during the construction phase of the project; however, this situation would be temporary. Phased construction and maintenance of access to adjacent properties would minimize this impact. No existing streets, intersections or driveways to public and private facilities would be closed.

During construction, the local economy can be expected to experience a temporary increase in spending by construction employees at businesses and fast-food restaurants in the vicinity and would not be expected to have any adverse impact on local employment in the vicinity of the project. It is anticipated that there would be no major effect on adjacent property values nor

would there be any change to the local tax base since planned development of the adjacent properties are being executed or have been executed.

The proposed project would not alter existing travel patterns. The proposed project would improve access, mobility and safety within the project area, thereby, enhancing services provided by public transportation, area law enforcement agencies, fire department and other emergency services.

## **2. Air Quality**

The San Antonio area (3 counties: Bexar, Comal and Guadalupe) has recently been classified as non-attainment under the federal 8-hour ozone national ambient air quality standards; however, the effective date of this designation has been deferred. Due to the pro-active efforts of the San Antonio area in implementing an Early Action Compact (EAC) measures such as transportation conformity, would not apply in the area. The proposed action is consistent with the San Antonio-Bexar County Metropolitan Planning Organization's 2030 *Metropolitan Transportation Plan* and 2006-2008 *Transportation Improvement Program*. This project would not violate any implementation plan for the county.

All projects in the San Antonio-Bexar County Metropolitan Planning Organization's 2006-2008 *Transportation Improvement Program* that are proposed for federal or state funds are consistent with federal guidelines in Title 23, Section 450 and Title 49, Section 613.200, Subpart B of the *Code of Federal Regulations*. The program considers energy, environment, air quality, cost and mobility.

The estimated traffic volume in 2010, the estimated time of construction (ETC), is 16,500 vehicles per day. In 2030, the traffic volume is estimated to be 30,000 vehicles per day. Because traffic volume projections exceed 20,000 VPD and the Blanco Road project is added capacity, a Traffic Air Quality Analysis is required. Topography and meteorology of the project area would not seriously restrict dispersion of the air pollutants.

Carbon Monoxide (CO) concentration levels were calculated using the Caline 3 line source dispersion model and Mobile 6 mobile source emissions model in accordance with the TxDOT Air Quality Guidelines. **Table 4** summarizes the results of the analysis. Local concentrations of carbon monoxide are not expected to exceed national standards at any time.

**Table 4**  
**Estimated CO Concentrations**

<b>Year</b>	<b>1-Hour CO Concentration (ppm)</b>	<b>Percent of NAAQS Standard (1-hour)</b>	<b>8-Hour CO Concentration (ppm)</b>	<b>Percent of NAAQS Standard (8-hour)</b>
2005	2.8	8	1.5	17
2025	2.5	7	1.4	16
<ul style="list-style-type: none"> <li>● One-hour CO national standard is 35 ppm.</li> <li>● Eight-hour CO national standard is 9 ppm.</li> <li>● Estimated one-hour ambient CO concentration is 1.7 ppm.</li> <li>● Estimated eight-hour ambient CO concentration is 1.1 ppm.</li> </ul>				

These CO concentrations are below NAAQS standards; therefore, the project would not have a substantial impact on air quality.

The purpose of this project is to increase the capacity of the roadway along with improving mobility and safety within the roadway corridor by constructing additional travel lanes, providing intersection improvements and providing acceleration and deceleration lanes. This project would not result in any meaningful changes in traffic volumes, vehicle mix, location of existing roadways, or any other factor that would cause an increase in emissions impacts relative to the no-build alternative. As such, TxDOT/FHWA has determined that this project would generate minimal air quality impacts for Clean Air Act criteria pollutants and has not been linked with any special Mobile Source Air Toxics (MSAT) concerns. Consequently, this project or transportation improvement is exempt from analysis for MSATs.

Moreover, EPA regulations for vehicle engines and fuels would cause overall MSATs to decline significantly over the next 20 years. Even after accounting for an above 60% increase in VMT, TxDOT/FHWA predicts MSATs would decline between 50 and 90 percent from a baseline year of 2000 to the future year of 2020. This decline is based on the current vehicle and fuel regulations in place today and with the significant projected growth in VMT. These reductions would both reduce the background level of MSATs as well as the possibility of even minor MSAT emissions increases from this project.

### 3. Noise Analysis

This analysis was accomplished in accordance with TxDOT's *Guidelines for Analysis and Abatement of Highway Traffic Noise*, which are approved by the Federal Highway Administration.

Sound from highway traffic is generated primarily from a vehicle's tires, engine and exhaust. It is commonly measured in decibels and is expressed as "dB."

Sound occurs over a wide range of frequencies. However, not all frequencies are detectable by the human ear; therefore, an adjustment is made to the high and low frequencies to approximate the way an average person hears traffic sounds. This adjustment is called A-weighting and is expressed as "dBA."

Also, because traffic sound levels are never constant due to the changing number, type and speed of vehicles, a single value is used to represent the average or equivalent sound level and is expressed as "Leq." **Table 5** shows several sounds commonly heard and their respective noise levels.

**Table 5**  
**Common Sound/Noise levels**

<b>COMMON SOUND/NOISE LEVELS</b>		
<b>Outdoor</b>	<b>dBA</b>	<b>Indoor</b>
Pneumatic hammer	100	Subway Train
Gas lawn mower at 3 feet		
	90	Food blender at 3 feet
Downtown (large city)	80	Garbage disposal at 3 feet
Lawn mower at 100 feet	70	Vacuum cleaner at 10 feet
		Normal speech at 3 feet
Air conditioning unit	60	Clothes dryer at 3 feet
Babbling brook		Large business office
Quiet urban (daytime)	50	Dishwasher (next room)
Quiet urban (nighttime)	40	Library

The Federal Highway Administration has established noise abatement criteria for various land use activity areas (**Table 6**) as one of two means to determine when a traffic noise impact would occur.

**Table 6  
FHWA Noise Abatement Criteria**

<b>FHWA NOISE ABATEMENT CRITERIA</b>		
<b>Activity Category</b>	<b>dBA Leq</b>	<b>Description of Land Use Activity Areas</b>
A	57 (exterior)	Lands on which serenity and quiet are of extra-ordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries and hospitals.
C	72 (exterior)	Developed lands, properties or activities not included in categories A or B above.
D	--	Undeveloped lands.
E	52 (interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals and auditoriums.

NOTE: primary consideration is given to exterior areas (Category A, B or C) where frequent human activity occurs. However, interior areas (Category E) are used if exterior areas are physically shielded from the roadway, or if there is little or no human activity in exterior areas adjacent to the roadway.

A noise impact occurs when either the absolute or relative criterion is met:

Absolute criterion: the predicted noise level at a receiver approaches, equals or exceeds the noise abatement criterion. “Approach” is defined as one dBA below the noise abatement criterion. For example, a noise impact would occur at a Category B residence if the noise level is predicted to be 66 dBA or above.

Relative criterion: the predicted noise level substantially exceeds the existing noise level at a receiver even though the predicted noise level does not approach, equal or exceed the noise abatement criterion. “Substantially exceeds” is defined as more than 10 dBA. For example, a

noise impact would occur at a Category B residence if the existing level is 54 dBA and the predicted level is 65 dBA (11 dBA increase).

When a traffic noise impact occurs, noise abatement measures must be considered. A noise abatement measure is any positive action taken to reduce the impact of traffic noise on an activity area.

The Federal Highway Administration traffic noise modeling software TNM was used to calculate existing and predicted traffic noise levels. The model considers the number, type and speed of vehicles, highway alignment and grade, cuts, fills and natural berms, surrounding terrain features and the locations of activity areas likely to be affected by traffic noise.

Existing and predicted traffic (**Table 7**) noise levels were modeled for representative Category B, Category C and Category E receivers (**Table 8**) that are adjacent to the highway that might be impacted by traffic noise and that may potentially benefit from feasible and reasonable noise abatement. The receiver locations are shown in **Figures 3A-3F**.

**Table 7  
Traffic Volumes along FM 2696**

Segment of FM 2696	2005 Traffic Volume (vehicles/day)	2025 Traffic Volume (vehicles/day)
Loop 1604 to Wilderness Oak	16,500	27,200
Wilderness Oak to Oak Estates	6,600	10,400
Oak Estates to Old Blanco Rd	3,100	4,800

As indicated below in **Table 8**, predicted noise levels exceed existing levels by a maximum of three decibels, and the noise abatement criterion was not approached, equaled or exceeded. Therefore, the project would not result in a traffic noise impact.

**Table 8  
Predicted Peak Hour Traffic Noise Levels (L<sub>eq</sub>, dBA)**

Receiver	NAC Category	NAC Level	Existing 2005	Predicted 2025	Change (+/-)	Noise Impact?
R1: Residence	B	67	59	61	+2	No
R2: Park	B	67	59	61	+2	No

Receiver	NAC Category	NAC Level	Existing 2005	Predicted 2025	Change (+/-)	Noise Impact?
R3: Residence	B	67	50	52	+2	No
R4: Residence	B	67	58	60	+2	No
R5: Business Retail	C	72	57	59	+2	No
R6: Residence	B	67	57	59	+2	No
R7: Residence	B	67	57	59	+2	No
R8: Residence	B	67	63	65	+2	No
R9: Business Office	C	72	61	63	+2	No
R10: Residence	B	67	62	64	+2	No
R11: Residence	B	67	61	63	+2	No
R12: Residence	B	67	57	58	+1	No
R13: Gas Station	C	72	60	62	+2	No
R14: Shopping Center	C	72	57	59	+2	No
R15: Business Office	C	72	57	59	+2	No
R16: Residence	B	67	56	58	+2	No
R17: Business Office	C	72	65	67	+2	No
R18: Residence	B	67	59	61	+2	No
R19: Residence	B	67	63	65	+2	No
R20: Residence	B	67	60	62	+2	No
R21: Residence	B	67	61	62	+1	No
R22: Residence	B	67	64	65	+1	No
R23: Residence	B	67	62	64	+2	No
R24: Town Home	B	67	63	65	+2	No
R25: Town Home	B	67	63	65	+2	No
R26: Town Home	B	67	61	63	+2	No
R27: Town Home	B	67	58	60	+2	No
R28: Town Home	B	67	57	59	+2	No
R29: Town Home	B	67	58	61	+3	No
R30: Town Home	B	67	60	62	+2	No
R31: Town Home	B	67	60	62	+2	No
R32: Town Home	B	67	60	62	+2	No
R33: Town Home	B	67	60	62	+2	No
R34: Town Home	B	67	60	62	+2	No
R35: Town Home	B	67	60	62	+2	No
R36: Town Home	B	67	59	61	+2	No

Receiver	NAC Category	NAC Level	Existing 2005	Predicted 2025	Change (+/-)	Noise Impact?
R37: Shopping Center	C	72	64	67	+3	No
R38: Residence	B	67	62	64	+2	No
R39: Shopping Center	C	72	65	67	+2	No
R40: Apartment	E	52	47	49	+2	No
R41: Apartment	E	52	47	49	+2	No
R42: Apartment	E	52	47	49	+2	No
R43: Apartment	E	52	46	49	+3	No
R44: Apartment	E	52	46	48	+2	No
R45: Apartment	E	52	46	48	+2	No
R46: Apartment	E	52	48	50	+2	No
R47: Shopping Center	C	72	62	64	+2	No
R48: Apartment	E	52	47	49	+2	No
R49: Apartment	E	52	47	49	+2	No
R50: Apartment	E	52	40	42	+2	No

Land use activity areas on the east side of FM 2696 between Specht Road and Old Blanco Road, Rye Drive and Midnight Drive, Oak Estates Drive and Calico Landing, and Gathering Oak and Wilderness Oak are currently Category D, undeveloped land. No new development is planned in these areas. There is no noise abatement criterion for undeveloped land. However, to avoid noise impacts that may result from future development of properties adjacent to the project, local officials responsible for land use control programs should ensure that new residential or other Category B activities are not planned within the predicted 2025 noise impact contour (**Table 9**).

**Table 9**  
**Noise Contours for Guiding Future Development**

Land Use	Impact Contour (dBA)	Distance from Right-of-Way (feet)
Residential	66	20
Commercial	71	N/A*

\* The 71 dBA noise contour falls within the ROW.

A copy of this traffic noise analysis would be made available to local officials to ensure that future developments are planned, designed and programmed in a manner that would avoid traffic noise impacts. On the date of approval of this document (Date of Public Knowledge), the Federal

Highway Administration and TxDOT are no longer responsible for providing noise abatement for new development adjacent to the project.

#### **4. Water Quality**

Surface water runoff from the project area flows to Meusebach Creek or Panther Springs Creek, and eventually to the San Antonio River. Effects to water quality, if any, are expected to be temporary and minor. This project does not cross any public water supply reservoirs. Portions of the project are located over the Edwards Aquifer Recharge Zone and Contributing Zone and therefore, a Edwards Aquifer Protection Plan would be prepared in accordance with 30 Texas Administrative Code (TAC) Chapter 213, Edwards Aquifer Rules. Since the project is federally funded, coordination with the Environmental Protection Agency's Sole Source Aquifer Program would be required.

An Edwards Aquifer observation well is located approximately 600 feet south of Slumber Pass on the east side of FM 2696 and is shown on **Figure 3D**. This well is not in the Edwards Aquifer Recharge Zone, however, measures such as sediment control devices would be taken during construction to protect the observation well.

##### **a. Stormwater**

The Texas Commission on Environmental Quality (TCEQ) regulates the discharge of storm water from certain construction sites that disturb one or more acres of land. Since this project would disturb five or more acres of land, a TCEQ Texas Pollutant Discharge Elimination System (TPDES) Construction General Permit (CGP) would be required. In addition, the project would require a Notice of Intent (NOI) to be filed with the TCEQ.

The plans and specifications would include a Storm Water Pollution Prevention Plan (SW3P). Measures would be taken to prevent or correct erosion that may develop during construction. All temporary erosion controls, such as silt fences and rock berms, would be in compliance with TxDOT Standard Specifications and would be in place, according to the construction plans, prior to commencement of construction related activities and inspected on a regular basis.

##### **b. Creek Crossings/Wetlands/Permits/Floodplains**

The project was surveyed for waters of the U.S., including wetlands, on January 19, 2005. There were no wetland areas identified within the project limits. However, a potential wetland area is

located in the ROW approximately 0.5 mile north of Specht Road, on the west side (STA 617+60). While this potential wetland is not located within the project limits, it is located within the study limits, but would not be impacted by construction activities. No wetland delineation or determination was conducted for this potential wetland.

Within the project limits, FM 2696 crosses six drainages. Each of these exhibited ordinary high water marks (OHWM) and were determined to be U.S. Army Corps of Engineer's jurisdictional waters, which are shown on the USGS Camp Bullis, Castle Hills, Longhorn and Bulverde topographic maps (**Figure 4**). The six jurisdictional waterway crossings are three crossings of Panther Springs Creek, an unnamed tributary to Panther Springs Creek, an unnamed tributary to Meusebach Creek and Meusebach Creek. There are no existing drainage easements along the project corridor.

Since the roadway is in the schematic phase, the roadway design is not sufficiently complete to determine the exact USACE permit requirements for each of the crossings. Bexar County would be developing the construction plans and therefore, the permit requirements would be assessed during the design phase either by the County or in conjunction with TxDOT. An estimate of the required permits has been made for each of the jurisdictional crossings and is discussed below. At this time, grading is not anticipated beyond the existing ROW since there are no existing drainage easements along the corridor. The amount of grading within the ROW at the proposed bridge structures has not been finalized. The need for the USACE permits would be continually evaluated by TxDOT as the design of the roadway project progresses and the hydraulics are finalized.

At STA 1058+75 (approximately 700 feet north of Huebner Road), the project crosses Panther Springs Creek (**Exhibit A, Photo #3**). This is the first of three crossings for Panther Springs Creek. There is an existing seven barrel-6 foot by 5 foot multiple box culvert under the northbound lanes and an existing seven barrel-9 foot by 5 foot multiple box culvert under the southbound lanes. These structures would likely be extended approximately 38 feet on the upstream end and 25 feet on the downstream end. It is not anticipated that any grading would be required at this crossing. As summarized in **Table 10**, it is anticipated that work at this crossing would result in a permanent impact of approximately 0.06 acre below the plane of ordinary high water. This would also include any required utility adjustments. At this time, it is anticipated that the work would qualify for coverage under Nationwide Permit #14 (without notification) from the U.S. Army Corps of Engineers.

At STA 1042+75 (approximately 0.43 mile north of the Huebner Road), the project crosses Panther Springs Creek (**Exhibit A, Photo #4**). This is the second of three crossings for Panther Springs Creek. The existing seven barrel–8 foot by 8 foot box culvert would likely be extended approximately 22 feet on the upstream and 12 feet on the downstream end. At the time, it is not anticipated that any grading would be required at this crossing. As summarized in **Table 10**, it is anticipated that work at this crossing would result in a permanent impact of approximately 0.03 acre below the plane of ordinary high water. This would also include any required utility adjustments. At this time, it is anticipated that the work would qualify for coverage under Nationwide Permit #14 (without notification) from the U.S. Army Corps of Engineers.

At STA 923+75 (approximately 1.56 miles north of Wilderness Oak), the project crosses Panther Springs Creek (**Exhibit A, Photo #5**). This is the third of three crossings for Panther Springs Creek. The existing five span 127.5 foot bridge over Panther Springs Creek would likely be replaced with a three span 240 foot box beam bridge. However, it has not been determined how much grading would be required at the bridge and within the ROW to pass a specific flood event. If no grading is required at the bridge or within the ROW, it is anticipated that work at this crossing would likely result in a permanent impact of less than 0.001 acre below the plane of ordinary high water for placement of bridge columns and thus, would meet the requirements for coverage under Nationwide Permit #14 (without notification) from the U.S. Army Corps of Engineers. Since the total amount of jurisdictional waters within the ROW is over 0.5 acres and if any extensive grading would be required, TxDOT would attempt to design the project to permanently impact less than 0.5 acres to stay within the requirements of a Nationwide Permit #14. However, if this is not feasible, then the project may likely meet the requirements for an Individual Permit.

At STA 841+00 (approximately 1.0 mile north of W. Oaks Estates), the project crosses an unnamed tributary to Panther Springs Creek (**Exhibit A, Photo #7**). The existing seven 48-inch CMP culvert would likely be replaced with a four barrel–8 foot by 4 foot box culvert. This box culvert would be approximately 25 foot longer than the existing structure. It is anticipated that approximately 25 feet of grading would occur from the end of the proposed boxes downstream to the ROW line. No grading is expected upstream of the boxes. As summarized in **Table 10**, work at this crossing would likely result in a permanent impact of less than 0.04 acre below the plane of ordinary high water. This would also include any utility required adjustments. This crossing would likely meet the conditions for Nationwide Permit #14 (without notification) from the U.S. Army Corps of Engineers.

AT STA 720+26 (approximately 1,355 feet south of Old Blanco Road), the project crosses an unnamed tributary to Meusebach Creek (**Exhibit A, Photo #11**). The existing two 48-inch CMP culvert would likely be replaced with a four barrel–8 foot by 6 foot box culvert. The box culvert would be approximately 25 foot longer than the existing structure. It is anticipated that approximately 20 feet of grading would occur from the ROW line to the upstream boxes. As summarized in **Table 10** work at this crossing would result in a permanent impact of approximately 0.02 acre below the plane of ordinary high water. This would also include any required utility adjustments. Since the total amount of acres of jurisdictional waters in the ROW is approximately 0.065 acres, this crossing would meet the conditions for Nationwide Permit #14 (without notification) from the U.S. Army Corps of Engineers.

At STA 669+00 (approximately 0.50 mile south of Specht Road), the project crosses Meusebach Creek (**Exhibit A, Photo #10**). The existing five barrel–9 foot by 5 foot box culvert would be replaced with a three span 195 foot box beam bridge. However, it has not been determined how much grading would be required at the bridge and/or within the ROW to pass a specific flood event. If no grading is required at the bridge or within the ROW, it is anticipated that work at this crossing would likely result in a permanent impact of less than 0.001 acre below the plane of ordinary high water for placement of bridge columns and thus, would meet the requirements for coverage under Nationwide Permit #14 (without notification) from the U.S. Army Corps of Engineers. Since the total amount of jurisdictional waters within the ROW is approximately 0.3 acre and if any extensive grading would be required, then the project may likely meet the requirements for a Nationwide Permit # 14 (with notification).

**Table 10**  
**Summary of Impacts to Waters of the U.S.**

No.	Station	Name	Area of Permanent Impacts (acres)	Total U.S. waters in ROW (Acres)	Wetland	Anticipated Permit
1	1058+75	1st Crossing of Panther Springs Creek	0.06	0.09	N	NWP 14 (No PCN)
2	1042+75	2nd Crossing of Panther Springs Creek	0.03	0.05	N	NWP 14 (No PCN)
3	923+75	3rd Crossing of Panther Springs Creek	Not Known at the time	0.51	N	NWP 14 (Potential IP)
4	841+00	Unnamed tributary to Panther Springs Creek	0.04	0.11	N	NWP 14 (No PCN)

5	720+26	Unnamed tributary to Meusebach Creek	0.02	0.04	N	NWP 14 (No PCN)
6	669+00	Meusebach Creek	Not Known at the time	0.30	N	NWP 14 (Potential PCN)

According to the flood insurance rate map (FIRM panels 48029C0110E, 48029C0120E, 48029C0257E) for Bexar County, Texas, portions of the proposed project are located within a 100-year flood hazard zone. The hydraulic design for the drainage structures associated with this project would be in accordance with current TxDOT and FHWA design policies and standards. The highway facility would permit the conveyance of a 100-year flood, inundation of the roadway being acceptable, without causing significant impacts to the roadway or floodplains upstream or downstream. The entirety of the project is located in Bexar County, which is a regular participant in the National Flood Insurance Program. The project would not increase the base flood elevation to a level that would violate applicable floodplain regulations. The project would be coordinated with the local floodplain administrator. The 100-year floodplain boundary is shown on **Figure 4**.

**c. 401 Certification**

To meet the requirements of the TCEQ’s 401 Water Quality Certification conditions for nationwide permits, best management practices would be included in the project to address water quality during and after construction. During construction, measures developed and implemented as part of the SW3P would reduce adverse effects to water quality. The project would use TCEQ-approved erosion and sedimentation controls during construction to minimize temporary impacts. In addition, TCEQ-approved post-construction measures to address total suspended solids in storm water runoff would also be implemented. Post construction total suspended solids (TSS) controls would consist of vegetation-lined drainage ditches along the roadway.

**d. Threatened and Impaired Waters**

Based on the TCEQ’s 2002 Clean Water Act Section 303 (d) list, this project does not cross an impaired water body, but is within 5 miles upstream of one listed (impaired) water segment 1910 of Salado Creek. This project crosses a tributary to Meusebach Creek, Meusebach Creek, a tributary to Panthers Springs Creek, and crosses Panthers Springs Creek in three different locations. These water ways are tributaries to Salado Creek, Stream Segment 1910. The overall category for this portion of Segment 1910 is 5a, meaning “the water body does not meet applicable water quality standards or is threatened for one or more designated uses by one or

more pollutants”, and “a Total Maximum Daily Load (TMDL) is underway, scheduled, or would be scheduled”. Segment 1910 is listed as not supporting aquatic life and contact recreation uses because of elevated bacteria levels.

## 5. Vegetation

The project area consists of existing ROW. As described in Texas Parks and Wildlife Department’s (TPWD) *The Vegetation Types of Texas Including Cropland*, the project limits are within the Edwards Plateau ecoregion and are mapped as Live Oak-Ashe Juniper Woods and Live Oak-Ashe Juniper Parks vegetation types. Live Oak-Ashe Juniper Woods are mapped as occurring from Loop 1604 north to approximately West Oaks Estates Drive, and Live Oak-Ashe Juniper Parks are mapped as occurring from West Oaks Estates Drive north to the Bexar/Comal county line. Species commonly associated with Live Oak- Ashe Juniper Parks are live oak (*Quercus virginiana*), Ashe juniper (*Juniperus ashei*), mesquite (*Prosopis glandulosa*), Texas oak (*Quercus buckleyi*), shin oak (*Q. sinuate* var. *brevilobata*), cedar elm (*Ulmus crassifolia*), netleaf hackberry (*Celtis reticulata*), flameleaf sumac (*Rhus lanceolata*), agarita (*Berberis trifoliolata*), Texas persimmon (*Diospyros texana*), Texas prickly pear (*Opuntia lindheimeri*), Texas kidneywood (*Eysenhardtia texana*), greenbrier (*Smilax bona-nox*), Texas wintergrass (*Stipa leucotricha*), little bluestem (*Schizachyrium scoparium*), curly mesquite (*Hilaria belangeri*), Texas grama (*Bouteloua rigidisetata*), Halls panicum (*Panicum hallii*), purple three-awn (*Aristida purpurea*), hairy tridens (*Tridens pilosum*), cedar sedge (*Carex planostachys*), two-leaved senna (*Cassia roemeriana*), mat euphorbia (*Euphorbia serpens*) and rabbit tobacco (*Evax prolifera*). Species commonly associated with Live Oak-Ashe Juniper Woods are Texas oak, shin oak, cedar elm, evergreen sumac (*Rhus virens*), escarpment cherry (*Prunus serotina* var. *eximia*), greenbrier, Texas mountain laurel (*Sophora secundiflora*), poison oak (*Rhus toxicodendron*), twistleaf yucca (*Yucca rupicola*), elbowbush (*Forestiera pubescens*), cedar sedge, little bluestem, Neally grama (*Bouteloua uniflora*), Texas grama, meadow dropseed (*Sporobolus asper* var. *hookeri*), Texas wintergrass, curly mesquite, pellitory (*Parietaria pensylvanica*), noseburn (*Tragia ramosa*), spreading sida (*Sida filicaulis*), woodsorrel (*Oxalis* spp.), and mat euphorbia. The distribution area and the dominant species were the primary determining factors of vegetation type, since many of the subdominant species reported for these vegetation types do not occur in the project area.

### Existing ROW

Vegetation within the ROW consists mainly of regularly maintained TxDOT seeded grasses and approximately 14 acres of wooded vegetation. Woody vegetation consists of small patches of

trees with an understory of shrubs; shrubs also occur along fencelines. Bermuda (*Cynodon dactylon*), King Ranch bluestem (*Bothriochloa ischaemum*), and Johnson grass (*Sorghum halepense*) are the dominant grass species within the ROW, with lesser amounts of silver bluestem (*Bothriochloa saccharoides*) and windmill grass (*Chloris* spp.). The forbs consist of western ragweed (*Ambrosia psilostachya*), Mexican hat (*Ratibida columnaris*), and croton (*Croton* spp.). Live oak is the dominant tree species found in the ROW with lesser amounts of Ashe juniper, post oak (*Quercus stellata*), and Texas oak. Cedar elm and netleaf hackberry are found in low densities near drainages. Live oaks average approximately 20 feet tall and average 15 inches in diameter at breast height (DBH). Texas persimmon is the dominant shrub species in the ROW with lesser amounts of agarita, elbow bush, and live oak and Ashe Juniper saplings. Greenbrier and grape (*Vitis* spp.) are the dominant vine species found in the ROW.

### **Adjacent Properties**

Vegetation of adjacent properties in undeveloped areas is live oak/Ashe juniper woodland, mixed grass fields, and residential and commercial landscaping. In wooded areas adjacent to the ROW, live oak trees occur in low to moderate densities. Live oak trees range in height from 8 to 30 feet with most being approximately 18 feet tall. Ashe juniper trees also occur in low to moderately high densities. Ashe juniper trees range in height from 6 to 20 feet with most being approximately 15 feet tall. Other tree species are present in very low densities or occur as isolated individuals including mesquite, huisache (*Acacia farnesiana*), Lacey oak (*Quercus glaucooides*), shin oak, and blackjack oak (*Quercus marilandica*). Shrub species adjacent to the ROW are present in low to moderate densities and include sapling live oak and Ashe juniper, agarita, evergreen sumac, elbow bush, netleaf hackberry, bumelia (*Sideroxylon lanuginosa*), Texas persimmon, twisted-leaf yucca (*Yucca rupicola*), and sotol (*Dasyilirion texanum*).

Adjacent properties consist of moderate to dense residential and commercial development, open cropland/rangeland, and the Camp Bullis Military Reservation, which is mostly undeveloped Ashe juniper woodland. Open cropland/rangeland adjacent to the ROW begins on the east side approximately 3,200 feet south of Specht Road (near STA 675+00) and extends north to the Bexar/Comal County line. The Camp Bullis Military Reservation occurs immediately adjacent to the west ROW beginning approximately 0.5 mile south of Wilderness Oak (near STA 1037+00) and ending just south of the Bexar/Comal County Line. The military reservation regularly maintains their fenceline with a road adjacent to the ROW just outside of the ROW fence.

### **Unusual and Special Habitat Features**

Two unusual vegetation features occur in the existing ROW as outlined in the Memorandum of Agreement (MOA) between TxDOT and the Texas Parks and Wildlife Department: fencerow vegetation and unusually large trees. Trees or shrubs along a fenceline (ROW) adjacent to a field (fencerow vegetation) occur on the east side of Blanco Road from approximately 3,200 feet south of Specht Road (near STA 675+00) north to the Bexar/Comal County line. **Table 11** describes four trees that are unusually larger than other trees in the study area and are to be preserved.

**Table 11**  
**Unusually Large Trees to be Preserved in the FM 2696 ROW**

<b>Tree Species</b>	<b>DBH (Diameter at Breast Height)</b>	<b>East/West side of FM 2696 (Blanco Road)</b>	<b>Station</b>
Live Oak	24 inches	East	975+00
Live Oak	27 inches	East	837+00
Live Oak	28 inches	East	753+00
Live Oak	27 inches	East	742+00

Four special habitat features occur within the project area: 1) a cave occurs near the eastern edge of the ROW north of Calico Road near station 936+00, 2) three snags are located within the project area: one snag is located north of Huebner Road near station 1043+00 on the east side of the ROW and two snags are located south of Oak Estates Drive near station 914+00 (east side), 3) cliff swallow nest occurs under the Panther Springs Creek bridge (STA 1043+00). The nest was not active at the time of the field survey (January 2005). No other special habitat features outlined in the MOA are present within the project area. Please note that a potential wetland is located 0.5 mile north of Specht Road, occurring within the ROW and adjacent to the west side of the ROW. While this potential wetland is located within the study limits, it is not located within the project limits and would not be impacted by construction activities.

Migratory birds may feed or nest within the limits of the proposed project during construction activities. Measures would be taken to avoid the take of migratory birds, their occupied nests, their young and their eggs.

### **Vegetation Impacts**

The majority of the area to be disturbed consists of regularly maintained TxDOT ROW consisting of grasses. Approximately 14 acres of patchy woody vegetation would be impacted in

the project area. Within woody vegetation patches, canopy cover ranges from 50 to 100 percent; however, overall canopy cover of the project area is less than 5 percent. Most of the unusually large trees within the existing ROW are expected to be removed with the exception of four live oaks trees near stations 975+00, 837+00, 753+00 and 742+00 on the east side of the ROW (Table 11).

### **Compensatory Mitigation**

In accordance with the TxDOT-TPWD MOA, habitats given consideration for non-regulatory mitigation include:

- 1) habitat for Federal candidate species (impacted by the project) if mitigation would assist in the prevention of the listing of the species;
- 2) rare vegetation series (S1, S2, S3) that also locally provide habitat for a state-listed species. Refer to “Plant Communities of Texas (Series Level)” by TPWD for Series designations;
- 3) all vegetation communities listed as S1 or S2, regardless of whether or not the series in question provide habitat for state-listed species;
- 4) bottomland hardwoods, native prairies, and riparian sites; and
- 5) any other habitat feature considered to be locally important that the TxDOT District chooses to consider.

No habitats that are given consideration for non-regulatory mitigation occur within the project limits; therefore, no compensatory mitigation is proposed.

Plant communities found within and adjacent to the project area are listed as Series 4 in the *Plant Communities of Texas (Series Level)*. A Series 4 plant community is one that is “apparently secure in the state” and does not warrant mitigation. No rare vegetation communities occur within the project area.

No landscaping is planned for this project at this time. Disturbed areas would be revegetated according to TxDOT’s standard practices, which to the extent practical are in compliance with Executive Order 13112 on Invasive Species.

## **6. Threatened and Endangered Species**

This section assesses the potential for the proposed project to adversely affect any of the endangered or threatened species or subspecies considered by USFWS or TPWD as having

potential to occur in Bexar County. This analysis includes a review of TPWD’s Biological Natural Diversity Database (NDD), including review of maps and Element Occurrence Records (EORs). **Table 12** includes the listing status of these taxa, a brief description of the species and their habitat requirements, a determination of whether the species or their habitats are expected to occur in the project area, expected project impacts, and other pertinent information.

The USFWS considers 11 federally listed threatened or endangered species as potentially occurring in Bexar County. These species include two birds: golden-cheeked warbler (*Dendroica chrysoparia*) and black-capped vireo (*Vireo atricapilla*); and nine karst invertebrates: Madla’s cave meshweaver (*Cicurina madla*), Robber Baron Cave meshweaver (*Cicurina baronia*), Government Canyon Bat Cave meshweaver (*Cicurina vespera*), Braken Bat Cave meshweaver (*Cicurina venii*), Government Canyon Bat Cave spider (*Neoleptoneta microps*), Cokendolpher cave harvestman (*Texella cokendolpheri*), Helotes mold beetle (*Batrisodes venyivi*), and two unnamed species of ground beetles (*Rhadine exilis* and *Rhadine infernalis*).

Species listed as threatened or endangered by USFWS are protected by the Endangered Species Act (ESA). Section 9 of the ESA prohibits the “take” of threatened and endangered species; take is defined as “harass, harm, pursue, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct.” Generally, USFWS considers modification of regularly occupied endangered species habitat to constitute “harm” and, therefore, be a violation of the ESA.

**Table 12**  
**Threatened and Endangered Species with Potential to Occur in Bexar County and Anticipated Impacts**

Species	Species Habitat Description	Habitat Present?	Effect	Pertinent Information
<b>Black-capped vireo</b> ( <i>Vireo atricapilla</i> ) <b>FE, SE</b>	Typically occur in areas with thin soil and limestone bedrock that support scrubby vegetation dominated by broad-leaved shrubs. Shin oak ( <i>Quercus sinuata</i> var. <i>breviloba</i> ) or evergreen sumac ( <i>Rhus virens</i> ) are usually common in areas occupied by vireos in central Texas. Foliage volume generally high; relatively open upper canopy layer.	Yes	No	No diverse shrub communities with high foliage volume exist within the ROW. Potential black-capped vireo habitat occurs outside the project area on Camp Bullis Military Reservation. <b>No black-capped vireos detected within ROW or within 300 feet adjacent to the ROW during 3 years of surveys.</b>

Species	Species Habitat Description	Habitat Present?	Effect	Pertinent Information
<b>Golden-cheeked warbler</b> ( <i>Dendroica crysoptaria</i> ) <b>FE, SE</b>	Live oak/ Ashe juniper woodlands; mature Ashe juniper and high canopy closure needed for nesting material; broad-leafed deciduous species such as lacey oak ( <i>Quercus glaucooides</i> ) and Texas Oak ( <i>Quercus buckleyi</i> ) necessary for insect prey.	Yes	No	No live oak/Ashe juniper woodland exists within the ROW. Potential golden-cheeked warbler habitat exists outside the project area on Camp Bullis Military Reservation. <b>No golden-cheeked warblers detected within ROW or within 300 feet adjacent to the ROW during 3 years of surveys.</b>
Nine karst invertebrate species <b>FE</b>	Small, eyeless, or essentially eyeless invertebrates; subterranean karst spaces, permanent dark zone, stable temperature, and stable high humidity, north, north central, northwestern, or western Bexar County.	Yes	May affect, not likely to adversely effect	<b>One cave is located in the ROW on the east side just north of Calico Landing and contains <i>Rhadine exilis</i>. An impacts analysis has been conducted and the results have been presented in a separate report (January 2006).</b>
<b>Black spotted newt</b> ( <i>Notophthalmus meridionalis</i> ) <b>ST</b>	Can be found in wet or sometimes wet areas, such as arroyos, canals, ditches, or even shallow depressions; aestivates in the ground during dry periods; Gulf Coastal Plain south of the San Antonio River.	No	No	The project area occurs north of the San Antonio River outside of the Gulf Coastal Plain. <b>Project area is outside of known geographic range of the species.</b>
<b>Comal blind salamander</b> ( <i>Eurycea tridentifera</i> ) <b>ST</b>	Endemic; semi-troglobitic; found in springs and waters of caves in Bexar and Comal counties.	No	No	<b>No springs or water-filled caves occur in or adjacent to ROW.</b>
<b>American peregrine falcon</b> ( <i>Falco peregrinus anatum</i> ) <b>SE</b>	Potential migrant; prefers open areas with large trees, utility poles, or cliffs to perch upon, and their diet consists mainly of shorebirds and ducks. In Texas, found primarily west of Comal County.	No	No	May fly over area during migration, but no impact expected. <b>No suitable vegetation or cliffs occur in the project area.</b>
<b>Arctic peregrine falcon</b> ( <i>Falco peregrinus tundrius</i> ) <b>ST</b>	Potential migrant; the Texas Gulf Coast is the only spring staging area for the bird's migration in the western hemisphere. Prefers cliffs and bluffs, usually near rivers or lakes in Arctic tundra (nesting); coastlines and mountains (winter).	No	No	May fly over area during migration, but no impact expected. <b>No cliffs or bluffs occur in or adjacent to ROW.</b>

Species	Species Habitat Description	Habitat Present?	Effect	Pertinent Information
<b>White-faced ibis</b> ( <i>Plegadis chihi</i> ) ST	Prefers freshwater marshes, sloughs, and irrigated rice fields, but would attend brackish and saltwater habitats; nests in marshes, in low trees, on the ground in bulrushes or reeds, or on floating mats.	No	No	<b>No suitable water bodies occur in or adjacent to ROW.</b>
<b>Whooping crane</b> ( <i>Grus americana</i> ) FE, SE	Potential migrant; during migration occasionally uses marshes, river bottoms, potholes, prairies, and croplands; critical habitat on Texas coast at Aransas National Wildlife Refuge.	No	No	Very rare migrant over the eastern third of the Edwards Plateau Region. May fly over area during migration, but no impacts expected. <b>No suitable water bodies exist within or adjacent to ROW.</b>
<b>Wood stork</b> ( <i>Mycteria Americana</i> ) ST	Forages in prairie ponds, flooded pastures or fields, ditches, and other shallow standing water, including salt-water; usually roosts communally in tall snags, sometimes associated with other wading birds. Breeds in Mexico.	No	No	<b>No suitable water bodies exist within or adjacent to ROW.</b>
<b>Zone-tailed hawk</b> ( <i>Buteo albonotatus</i> ) ST	Arid open country, including open deciduous or pine-oak woodland, mesa or mountain county, often near watercourses, and wooded canyons and tree-lined rivers along middle slopes of desert mountains; nests in various habitats and sites, ranging from small trees in lower desert, giant cottonwoods in riparian areas, to mature conifers in high mountain regions.	No	No	<b>No suitable vegetation communities exist within or adjacent to ROW.</b>
<b>Toothless blindcat</b> ( <i>Trogloglanis pattersoni</i> ) ST	San Antonio Pool of the Edwards Aquifer.	No	No	San Antonio Pool of the Edwards Aquifer is over 800 feet below surface, a water pollution abatement plan would be implemented to minimize water quality impacts.
<b>Widemouth blindcat</b> ( <i>Satan eurystomus</i> ) ST	San Antonio Pool of the Edwards Aquifer.	No	No	San Antonio Pool of the Edwards Aquifer is over 800 feet below surface, a water pollution abatement plan would be implemented to minimize water quality impacts.

Species	Species Habitat Description	Habitat Present?	Effect	Pertinent Information
<b>Black bear</b> ( <i>Ursus americanus</i> ) <b>FT/SA (in historic range, NL elsewhere in Texas), ST</b>	Within historical range of Louisiana Black Bear in eastern Texas, inhabits bottomland hardwoods and large tracts of undeveloped forested areas.	No	No	<b>No suitable bottomland hardwoods or large tracts of undeveloped forested areas exist within or adjacent to ROW.</b>
<b>Cagle's map turtle</b> ( <i>Graptemys caglei</i> ) <b>FC, ST</b>	Guadalupe River system: limestone or mud-bottomed streams with moderate current, and numerous pools of varying depths. Also in slow moving water, 1-3 m deep, behind impoundments.	No	No	<b>No suitable water bodies exist in or adjacent to ROW.</b>
<b>Indigo snake</b> ( <i>Drymarchon corais</i> ) <b>ST</b>	South of the Guadalupe River and Balcones Escarpment; thornbush-chaparral woodlands of south Texas, especially dense riparian corridors; suburban areas and irrigated croplands.	No	No	Not observed in Bexar County since the 1950s. <b>No suitable vegetation communities exist in or adjacent to ROW.</b>
<b>Texas horned lizard</b> ( <i>Phrynosoma cornutum</i> ) <b>ST</b>	Open, arid and semi-arid regions with sparse vegetation, including grass, cactus, scattered brush or scrubby trees; soils may vary in texture from sandy to rocky; burrows into soil, enters rodent burrows, or hides under rock when inactive; breeds March-Sept.	No	No	No harvester ant nests observed within ROW. Grassy areas within and adjacent to ROW were either mowed or contained dense grass not preferred by the horned lizard. <b>No suitable vegetation communities exist in or adjacent to ROW.</b>
<b>Texas tortoise</b> ( <i>Gopherus berlandieri</i> ) <b>ST</b>	Open brush with a grass understory is preferred; open grass and bare ground are avoided; when inactive occupies shallow depressions at base of bush or cactus, sometimes in underground burrows or under objects; longevity greater than 50 years; active March-November; breeds April-November.	No	No	<b>No open brush areas exist in or adjacent to ROW.</b>
<b>Timber/canebrake rattlesnake</b> ( <i>Crotalus horridus</i> ) <b>ST</b>	Swamps, floodplains, upland pine and deciduous woodlands, riparian zones, abandoned farmland; limestone bluffs, sandy soil or black clay; prefers dense ground cover.	No	No	<b>No suitable vegetation communities exist within or adjacent to ROW.</b>

**USFWS Status**

FE Federal Endangered  
 FT Federal Threatened  
 FDL Federal De-listed  
 PT Proposed Threatened  
 FC Federal Candidate

**TPWD Status**

SE State Endangered  
 ST State Threatened

A review of TPWD's NDD dated 26 March 2004 for USGS Castle Hills and Camp Bullis 7.5-minute topographic quadrangle maps indicated that there are recorded occurrences of endangered species within the general vicinity of the project area. The endangered species found were the federally endangered golden-cheeked warbler, the federally endangered black-capped vireo, and the federally endangered ground beetle, *Rhadine exilis*. The golden-cheeked warbler, black-capped vireo and endangered ground beetle occur on Camp Bullis Military Reservation located adjacent to the western portion of the project area. Camp Bullis maintains a cleared buffer zone along the FM 2696 ROW, therefore no songbird habitat occurs within this zone. In addition, Camp Bullis manages karst invertebrate species on its property according to a Memorandum of Understanding signed by Camp Bullis and the USFWS December 20, 2002 (Federal Register Volume 68, Number 67, April 8, 2003). The nearest other mapped occurrence of threatened or endangered species was approximately 2.4 miles from the project area and therefore, there would be no effect upon these species by the proposed project.

SWCA conducted three years (2002, 2003 and 2004) of golden-cheeked warbler and black-capped vireo surveys, per USFWS protocol, along the existing FM 2696 ROW. No golden-cheeked warblers or black-capped vireos were detected during the 352 hours and 23 minutes spent surveying the ROW. The USFWS recommends three years of negative results before golden-cheeked warblers and black-capped vireos can be considered absent from a site. Although golden-cheeked warblers are present on Camp Bullis Military Reservation, per USFWS guidelines, golden-cheeked warblers and black-capped vireos can be considered absent from the FM 2696 ROW and within 300 feet adjacent to the ROW.

A cave containing the endangered ground beetle (*Rhadine exilis*) is located in the ROW near the eastern edge of the ROW north of Calico Road near station 936+00. The cave was discovered by SWCA in March of 2004 after fill material blanketing the area around the feature began to wash into the subsurface exposing a sinkhole measuring roughly four feet in diameter. On 12 July 2004, a SWCA karst biologist and two karst technicians completed excavation of the feature entrance and covered the entrance with plywood and a plastic tarp to keep the feature from drying out. On 14 July 2004, an SWCA karst biologist and an assistant biologist entered the cave to conduct the first of three required surveys to establish presence or absence of listed species. After rappelling approximately 55 feet to the bottom of the single shaft that forms the cave, eight *Rhadine exilis* ground beetles were found. TxDOT has temporarily covered the cave with a large manhole cover and boulders during the preparation of the impact analysis report. TxDOT is currently in informal consultation with the USFWS concerning possible impacts to the endangered ground beetle, and these impacts and conservation measures have been addressed in a separate report (January 2006). Conservation measures, as outlined in the January 2006 report,

would be taken during construction as agreed upon by TxDOT and USFWS to avoid adverse impacts to the cave.

## **7. Cultural Resources**

### **Historical Resources**

A review of the National Register of Historic Places (NRHP), the list of State Archaeological Landmarks (SAL) and the list of Recorded Texas Historic Landmarks (RTHL) indicated that no historically significant properties have been documented within the area of potential effects (APE). It has been determined through consultation with the State Historic Preservation Officer (SHPO) that the APE for the proposed project is 500 feet from the existing ROW. A cultural resource survey conducted by TxDOT personnel revealed that there are no structures 50 years of age or older (built prior to 1957) located within the project APE. Furthermore, no Official State Historical markers (OSHM) are located within the project APE.

With the exception of the pipe culvert and headwall as shown in **Exhibit A, Photo #11**, which appears to be over 50 years in age, there are no other historic-age structures in the ROW. This pipe culvert is within the study limits, but outside the project limits. While these culverts typify construction methods and design of the mid-20th century, they display no significant engineering or ornamental features. In consideration of this information and in concurrence with the State Historic Preservation Officer, these structures were determined not eligible for NRHP listing through the statewide Depression Era inventory efforts.

In accordance with the Programmatic Agreement among the Federal Highway Administration (FHWA), the Texas Historical Commission (THC), the Advisory Council on Historic Preservation and the Texas Department of Transportation (TxDOT) and the Memorandum of Understanding among TxDOT and THC, TxDOT would notify the SHPO informing them that no structures 50 years of age or older were discovered within the project APE.

### **Archaeological Resources**

As per the requirements of Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and the Texas Antiquities Code, an archaeological survey was conducted in the project area to identify and evaluate any archaeological sites potentially eligible for the National Register and/or for designation as State Archaeological Landmarks. The survey also targeted previously recorded sites in the area and assessed the current nature of the sites, their eligibility and significance, and potential impacts from the current project. A report of these investigations was prepared in accordance with NHPA and the Antiquities Code requirements.

The report stated that no further archaeological work was recommended. Coordination has been completed. Additionally, tribal coordination was completed on July 22, 2005.

## **8. Hazardous Materials/Waste**

A visual survey of the project limits and the immediately surrounding area was conducted to observe obvious existing or potentially hazardous materials, substances, or conditions. Properties adjacent to the project limits and the right-of-way included undeveloped land, residential, and commercial properties.

Additionally, a regulatory environmental database, developed by Banks Information Solutions, Inc, was reviewed for the following federal, state, and local databases: the Environmental Protection Agency's (EPA) National Priorities List (NPL), the Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS), the Resource Conservation and Recovery Information System (RCIS), the Emergency Response Notification System (ERNS), the Texas Commission on Environmental Quality's (TCEQ) State Superfund Registry, Petroleum Storage Tank (PST) list, Leaking Petroleum Storage Tank (LPST) list, the Solid Waste Landfills list, the Voluntary Clean-up Program (VCP) list, Dry Cleaner Remediation Program database, and the City of San Antonio "Landfill Locations Within Bexar County" Map, dated 1989. These resources were searched by facility name, county, zip code, and/or street name.

Two registered active PST facilities were located adjacent to the project limits. They include the Farmco Convenience Store (TCEQ Facility No. 69358), which is located at 25020 Blanco Road and the Blanco Switching Center (TCEQ Facility No. 67125), which is located at 18610 Blanco Road. Neither of these two PST sites was listed on the TCEQ database as known leaking underground storage tank (LPST) site.

Two dry cleaning facilities were observed adjacent project limits. The Pilgrim Cleaners is located at 18360 Blanco Road and the Pledge Cleaners located at 25020 Blanco Road. Review of the TCEQ's Dry Cleaner Remediation Program database did not indicate that either of these two sites have had a release of solvents into the environment. No further investigation is needed for these two sites.

The EPA's Emergency Response Notification System (ERNS) database reported a 200 gallon diesel spill at the Strand Services site located at 21330 Blanco Road. The original facility appears to have been demolished recently and a new building and paved area is currently under

construction at this location. Information concerning the clean up of the spill is not available; however, a spill at this site would likely flow away from the ROW in response to the surface topography. No further investigation is needed for this site.

Review of the City of San Antonio's "Landfill Locations Within Bexar County" map did not identify any permitted or un-permitted landfills within or adjacent to the project limits.

If any hazardous substances/wastes are encountered unexpectedly during construction, appropriate measures for proper management of the contamination would be initiated in accordance with all applicable federal, state and local regulations.

## **9. Section 4(f) Properties**

Under Section 4(f) of the 1966 Transportation Act, projects, which impact or use public parks, recreation areas, wildlife or waterfowl refuges, and historic sites, must perform a 4(f) evaluation. Two parks, Panther Springs Park and Bullis Park, are situated immediately adjacent to the ROW. No ROW and no easements from either park would be required. Also, accessibility to these parks would be maintained during construction. The proposed project would not require the use of nor substantially impair the purposes of any publicly owned land from a public park, recreational area, wildlife and waterfowl refuge lands or historic sites of national, state or local significance; therefore, a Section 4(f) evaluation would not be required.

## **10. Indirect and Cumulative Impacts**

In general, indirect and cumulative impacts include those consequences of the proposed action that are not direct and may not be readily observable. Specifically, indirect or indirect impacts are those effects that are expected to be caused by the proposed project, but are later in time or are removed in distance. Cumulative impacts are those impacts that result from the incremental consequences of an action when added to other past, present and reasonably foreseeable future actions and tend to be less defined than indirect impacts. Indirect and cumulative impacts are less defined than direct impacts; however, they can generally be described when they are foreseeable.

The proposed project, combined with other local roadway improvements, would facilitate mobility in the area and improve access in and around the FM 2696 corridor. Potential adverse cumulative effects may include those effects associated with the conversion of undeveloped and agricultural lands to developed land such as increased impervious cover and loss of wildlife

habitat. The gradual conversion of land adjacent to the proposed facility along the east side of FM 2696 from undeveloped to developed is anticipated to continue to occur over the long term as evidenced by the City of San Antonio's Metropolitan Development Plan ([http://www.sanantonio.gov/planning/pdf/GIS/map\\_download/0512GT06.pdf](http://www.sanantonio.gov/planning/pdf/GIS/map_download/0512GT06.pdf)). Camp Bullis constitutes a majority of the adjacent property on the west side of FM 2696. Camp Bullis is a United States Army facility that has a habitat conservation plan in place to conserve natural resources and would be required to provide environmental documentation per the National Environmental Policy Act for any proposed development. Maps of the endangered species locations on Camp Bullis have been reviewed and significant development along the border of FM 2696 is not reasonably foreseeable. Direct and indirect impacts of the proposed project have been avoided or minimized and have been discussed in detail in the respective sections of this document including, but not limited to, water resources and threatened and endangered species. The potential impacts of the currently proposed TxDOT project with the aforementioned minimization efforts would not constitute an adverse cumulative effect on the human environment when combined with the effects of other past, present, and reasonably foreseeable actions within the subject project area.

## **11. Public Involvement**

A public meeting was held on September 2, 2004 at Hardy Oaks Elementary School to address the expansion of FM 2696 from Loop 1604 to Specht Road. The meeting consisted of a short presentation by the planning engineer where she described the purpose of the meeting, project limits, funding sources and project development process. The project engineer gave a technical presentation describing the existing and proposed typical section, proposed drainage modifications, proposed intersection improvements and construction of the project in half-sections. An open-house followed the presentation for the public to view a preliminary schematic overlay on aerial photography as well as existing and proposed typical sections. During the open house, members of the public were allowed to discuss the project with TxDOT representatives and project consultants. The public meeting attendees generally received the project in a positive manner. The primary questions and concerns voiced by public meeting attendees dealt with the change in access due to the raised median and the type of median opening being proposed. TxDOT representatives explained that the raised median and median opening type were being proposed to increase safety and mobility along the corridor.

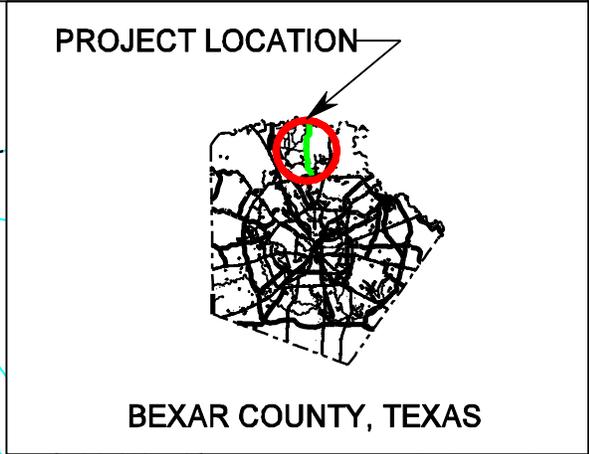
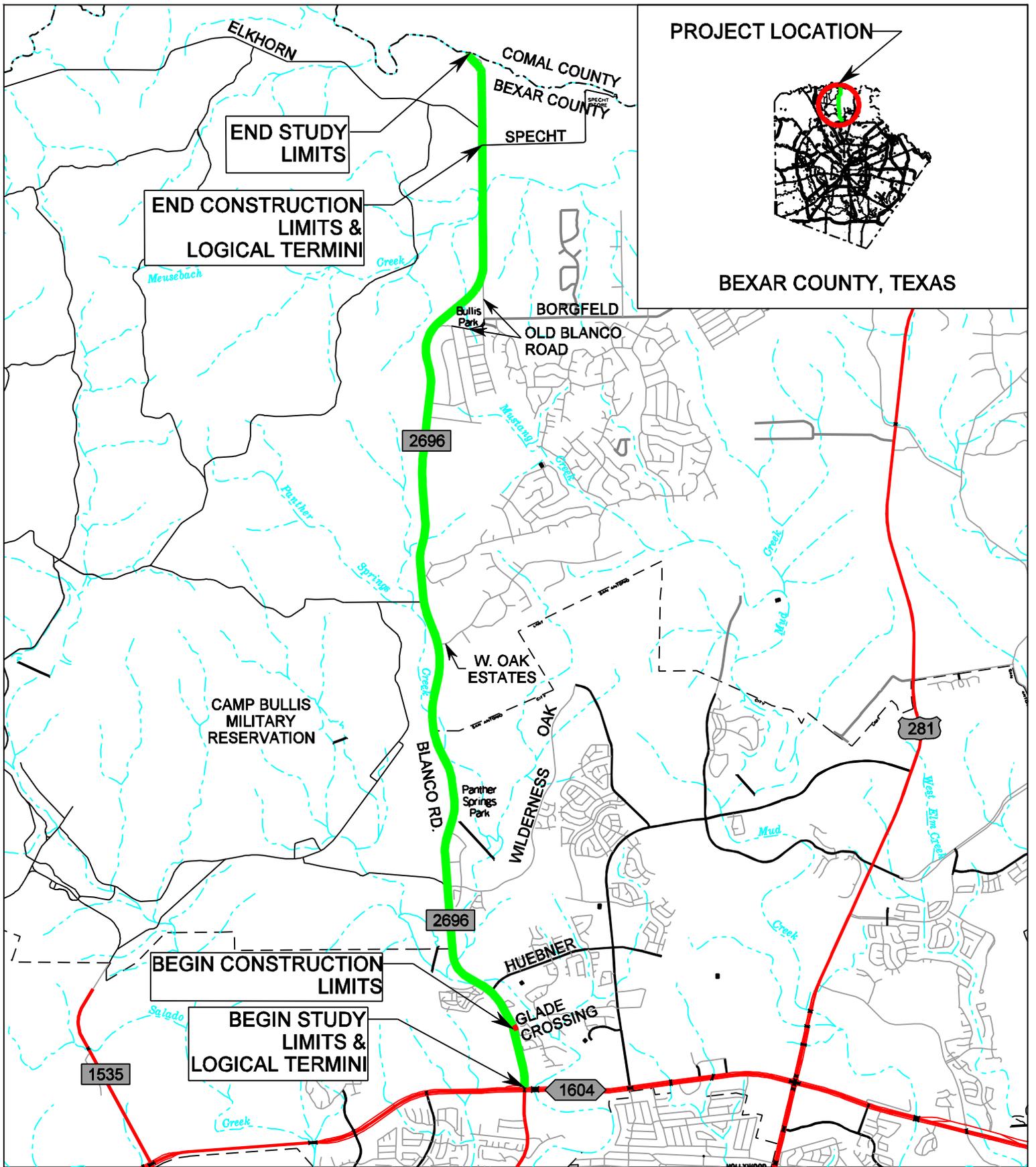
Several stakeholder meetings were held throughout the development of this project. These meetings were held with representatives from homeowners associations, commercial developers, business owners, the YMCA and individual landowners. During these meetings, TxDOT

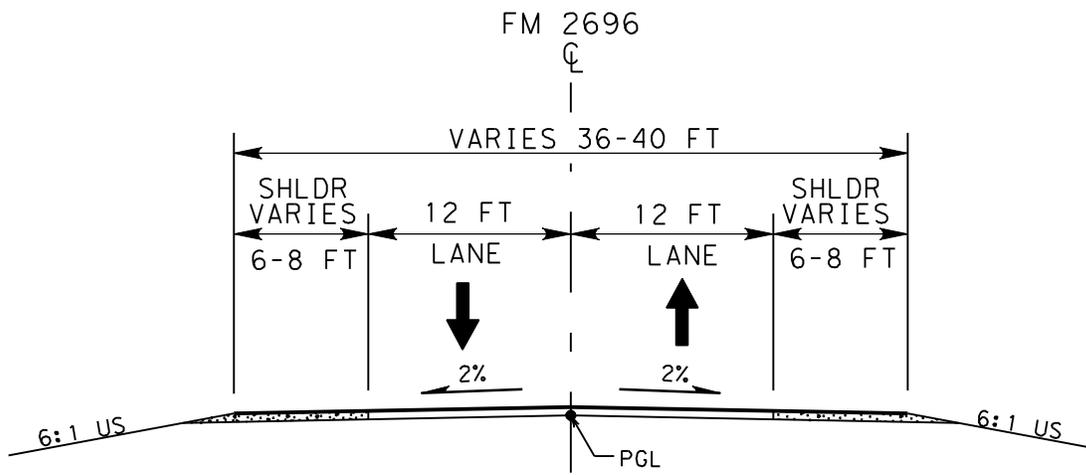
officials answered questions and addressed concerns from the various stakeholders. Typically, the primary questions and concerns raised were related to the location and type of access that would be allowed with the implementation of this project.

Following clearance of the environmental document, an opportunity for a public hearing was afforded covering the social, economic and environmental effects of the proposed project. No requests for a public hearing were received.

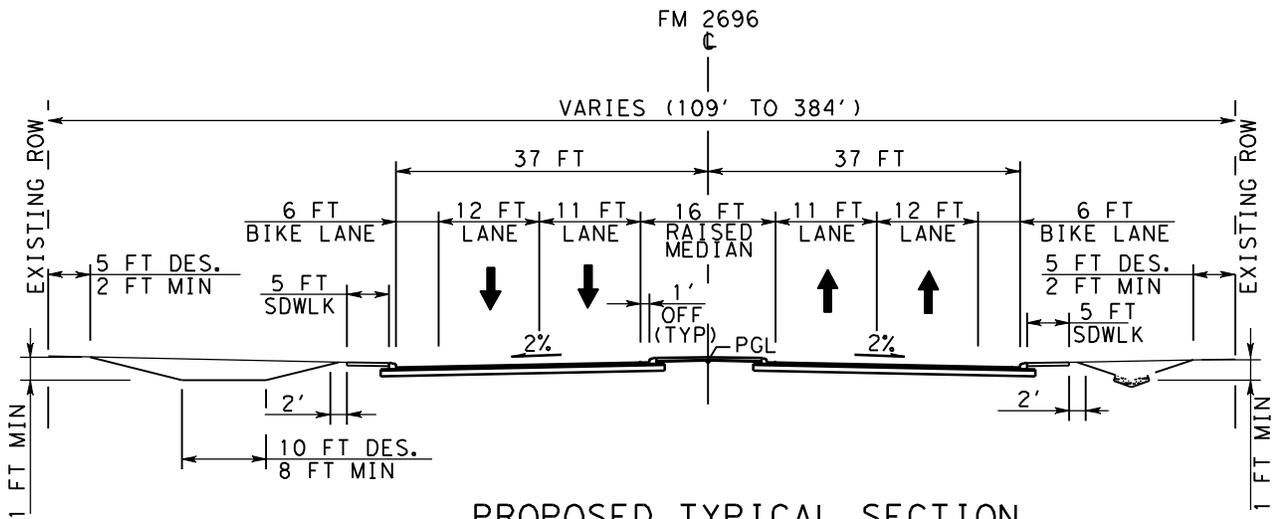
## **VI. CONCLUSION**

The engineering, social, economic and environmental investigations conducted thus far indicate that only insignificant impacts from this proposed action would occur. This project meets the requirements of a Categorical Exclusion (CE).

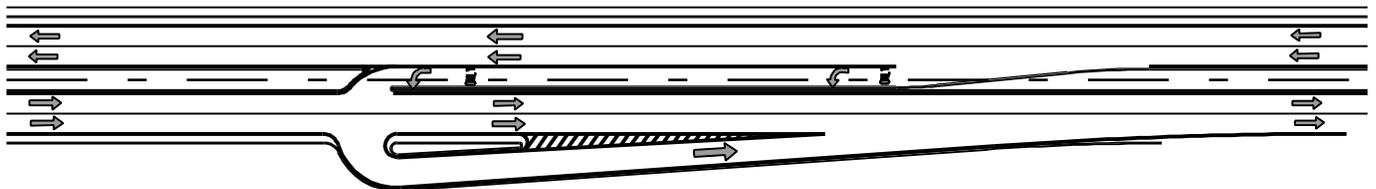




EXISTING TYPICAL SECTION  
GLADE CROSSING TO SPECHT ROAD



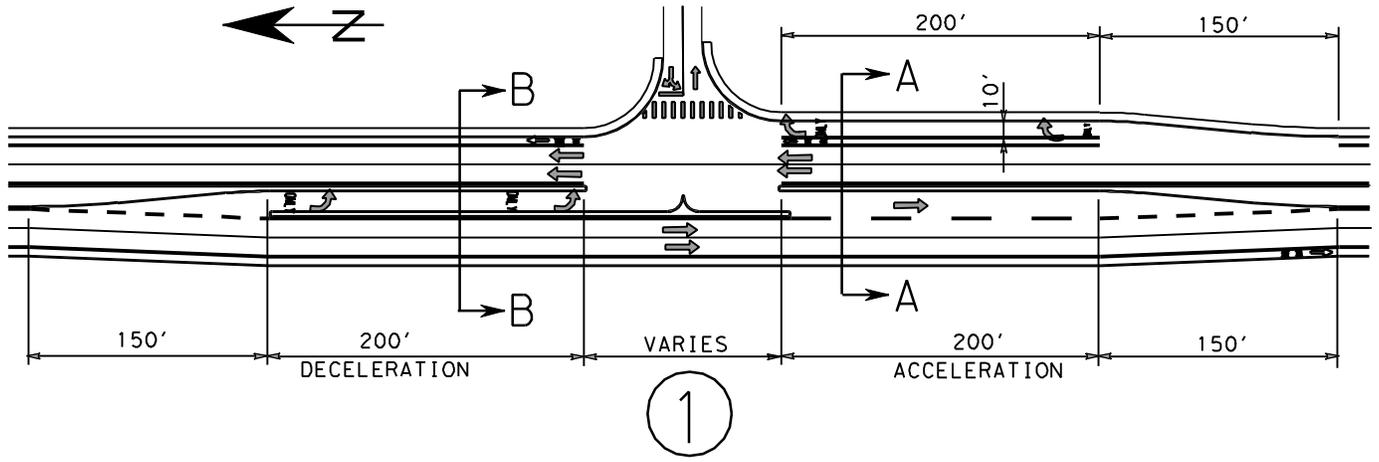
PROPOSED TYPICAL SECTION



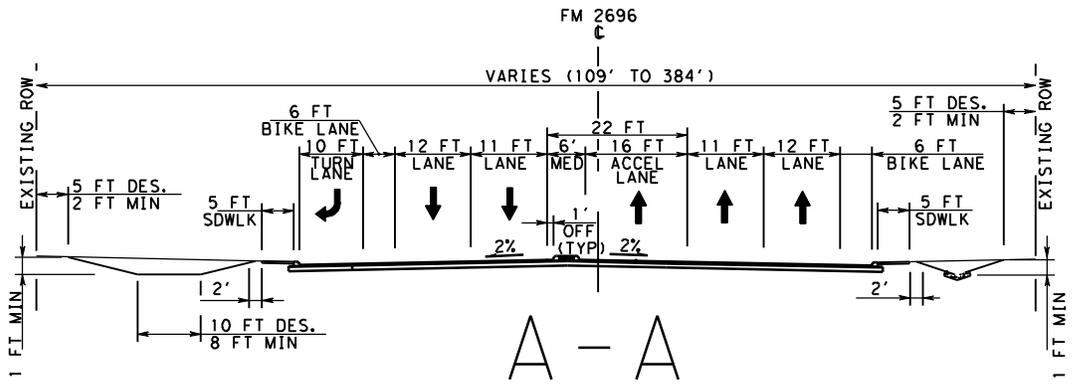
TYPICAL U-TURN DETAIL  
"JUG HANDLE"

NOT TO SCALE

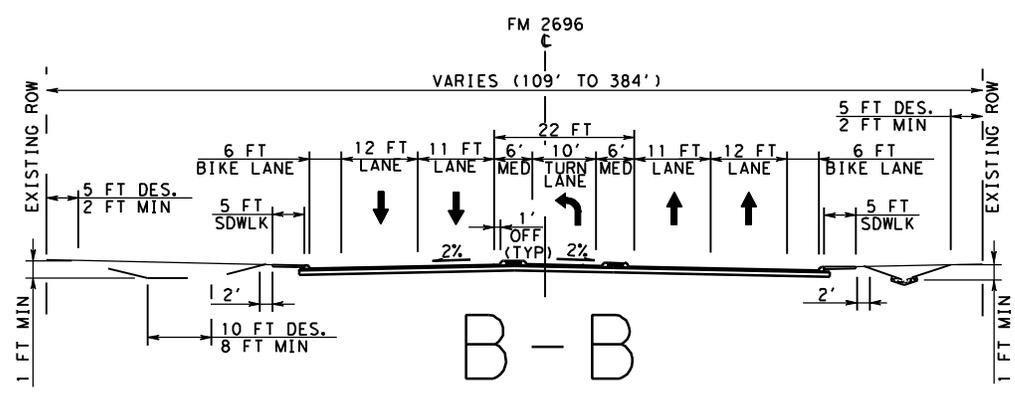




1  
 MEDIAN OPENING TREATMENT DETAIL  
 TYPICAL STREET INTERSECTION  
 PLAN VIEW



A - A  
 ACCELERATION LANE SECTION  
 SOUTH OF THE INTERSECTION



B - B  
 DECELERATION LANE SECTION  
 NORTH OF THE INTERSECTION

NOT TO SCALE

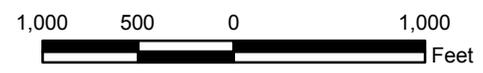


INTERSECTION TYPICAL SECTIONS  
 FM 2696 (BLANCO ROAD)  
 FROM GLADE CROSSING  
 TO SPECHT ROAD  
 SAN ANTONIO, BEXAR COUNTY, TEXAS  
 CSJ's: 2708-01-022, 2708-01-024 & 2708-01-025

FIGURE 2B



2003 BEXAR COUNTY AERIAL



NOISE RECEIVER LOCATION MAP  
 FM 2696 (BLANCO ROAD)  
 FROM GLADE CROSSING  
 TO SPECHT ROAD  
 SAN ANTONIO, BEXAR COUNTY, TEXAS  
 CSJ's: 2708-01-022, 2708-01-024 & 2708-01-025

FIGURE 3A



2003 BEXAR COUNTY AERIAL



NOISE RECEIVER LOCATION MAP  
 FM 2696 (BLANCO ROAD)  
 FROM GLADE CROSSING  
 TO SPECHT ROAD  
 SAN ANTONIO, BEXAR COUNTY, TEXAS  
 CSJ's: 2708-01-022, 2708-01-024 & 2708-01-025

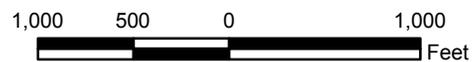


FIGURE 3B

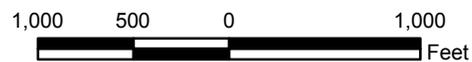


2003 BEXAR COUNTY AERIAL



NOISE RECEIVER LOCATION MAP  
 FM 2696 (BLANCO ROAD)  
 FROM GLADE CROSSING  
 TO SPECHT ROAD  
 SAN ANTONIO, BEXAR COUNTY, TEXAS  
 CSJ's:2708-01-022, 2708-01-024 & 2708-01-025

FIGURE 3C





2003 BEXAR COUNTY AERIAL



NOISE RECEIVER LOCATION MAP  
 FM 2696 (BLANCO ROAD)  
 FROM GLADE CROSSING  
 TO SPECHT ROAD  
 SAN ANTONIO, BEXAR COUNTY, TEXAS  
 CSJ's: 2708-01-022, 2708-01-024 & 2708-01-025

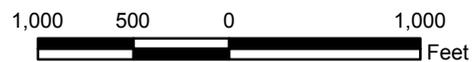
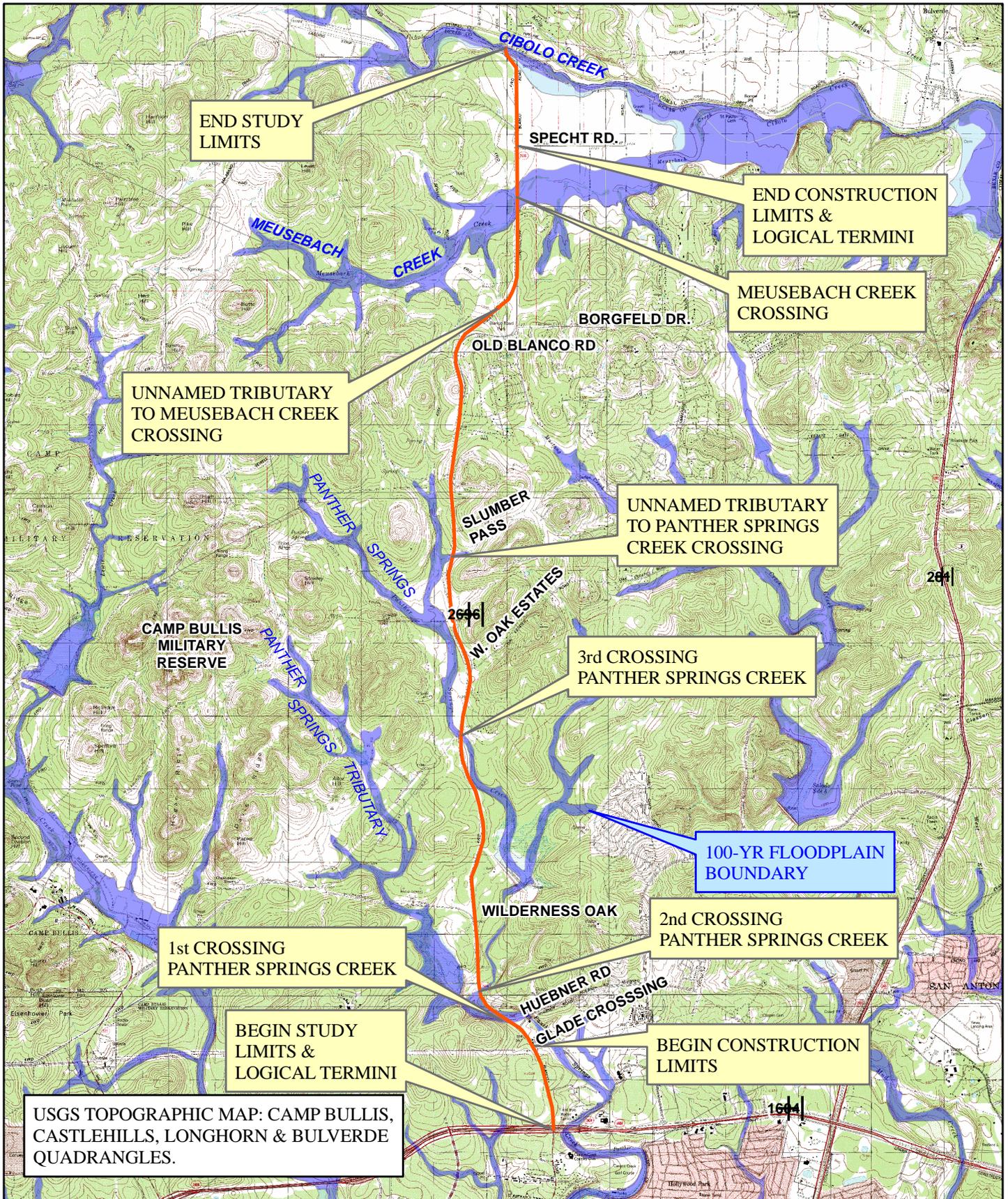


FIGURE 3E







**Photo 1:** Standing on the west side of FM 2696 and looking north from Loop 1604. This area was previously reconstructed under another project.



**Photo 2:** Standing on the west side of FM 2696 and looking south towards Loop 1604. Photo of urbanized area located along FM 2696. This area was previously reconstructed under a project south of Loop 1604.



**Photo 3:** Looking east at the first crossing of Panther Springs Creek (700 feet north of Huebner Road at STA 1058+75).



**Photo 4:** Typical view of multiple box culvert at stream crossing (Panther Springs Creek crossing 0.43 mile north of Huebner Road (STA 1042+75)).



**Photo 5:** Looking east at Panther Springs Creek (third crossing) bridge (1.56 miles north of Wilderness Oak (STA 923+75).



**Photo 6:** Standing on FM 2696 and looking south. This is a typical view of the ROW in a rural setting and showing typical vegetation inside and outside the ROW.



**Photo 7:** Looking west and downstream at the metal pipe crossing located at the Unnamed tributary to Panther Springs Creek crossing 1.0 mile north of W. Oaks Estates Dr. at STA 841+00.



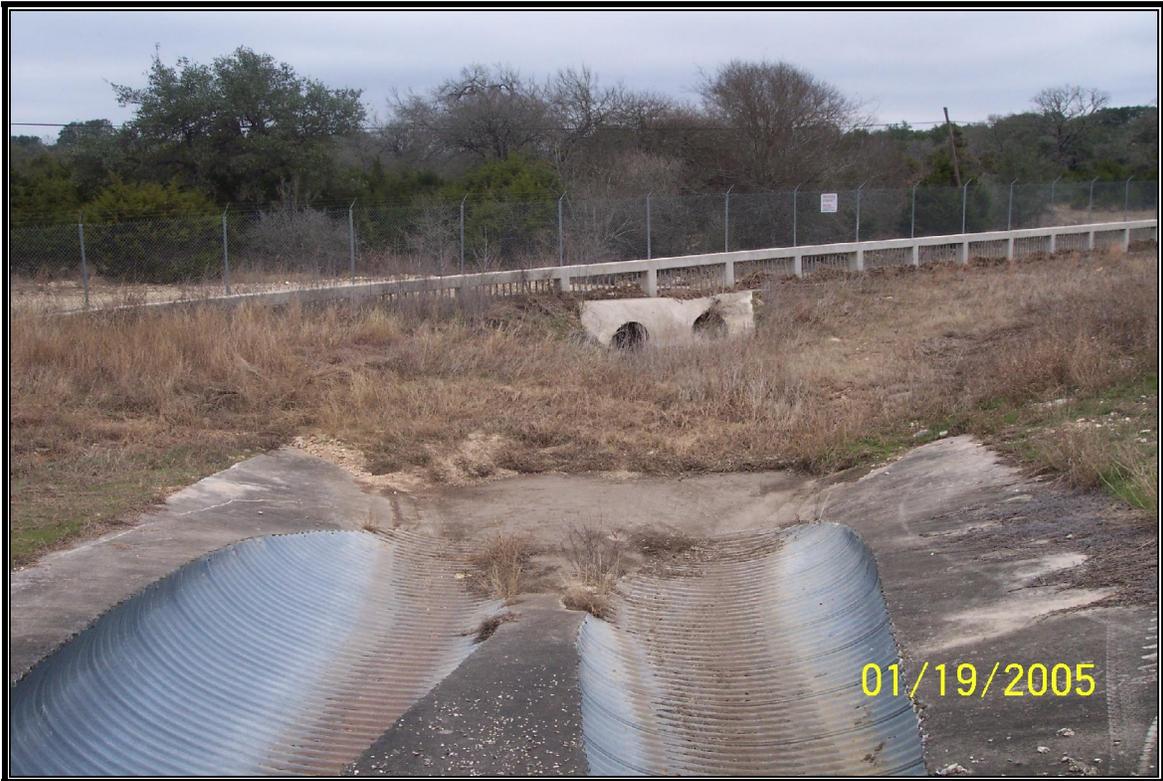
**Photo 8:** Standing in the northbound lane and looking north. This is a location where the ROW becomes very wide.



**Photo 9:** Standing west of the southbound travel lane and looking north. Typical scattered business in rural area.



**Photo 10:** Standing to the east of the northbound travel lane and facing south. Representative view of scattered trees in the ROW.



**Photo 11:** Standing on FM 2696 at the unnamed tributary to Meusebach Creek crossing looking downstream (STA 720+26).



**Photo 12:** Standing on FM 2696 at the Meusebach Creek crossing looking downstream (0.50 mile south of Specht Raod (STA 669+00)).



**Photo 13:** Potential culvert over 50 years old located in the study limits, but outside of the project limits approximately 0.50 mile north of Specht Road.



**Photo 14:** Standing on FM 2696 at the end of the study limits looking north at the Bexar/Comal County Line, which is the Cibolo Creek.