FHWA-FLA-EIS-88-02-D
Federal Highway Administration
Region Four

ADMINISTRATIVE ACTION
DRAFT ENVIRONMENTAL IMPACT STATEMENT

U.S. Department of Transportation
Federal Highway Administration

and

Florida Department of Transportation

State Project Number: 15150-1565
Federal Project Number: FFD-185-1(46)
Work Program Number: 7116860

US Highway 19 (State Road 55) from State Road 694 (Gandy Boulevard) in Pinellas County to State Road 595 (Alternate US 19) in Pasco County, Florida.

This project consists of upgrading 24.6 miles of US 19 from a 4 and 6-lane at-grade arterial to a 6 and 8-lane limited access expressway. There are 12 major interchanges, 13 overpasses/minor interchanges, and 6 grade separations planned in this section of US 19.

Submitted pursuant to 42 U.S.C.4332 (2)(c).

10/27/88
Date

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JAN 16 1989

BY: _____

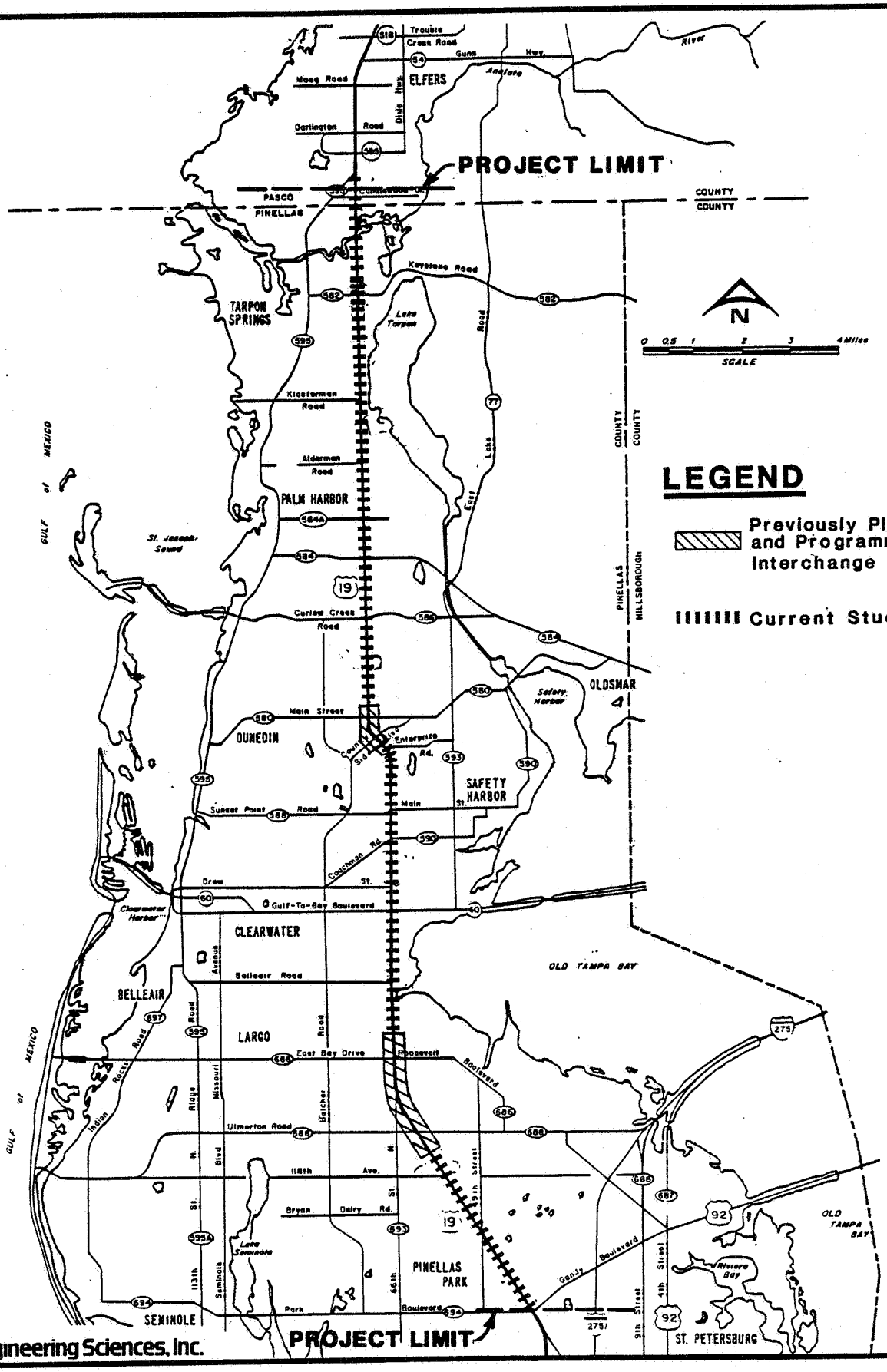
## 0.0 SUMMARY

### 0.1 PROPOSED ACTION

US 19 is the only continuous north-south general land service highway serving the populous west coast of the Pinellas/Pasco County area. The Florida Department of Transportation proposes to improve US 19 (SR 55) from SR 694 (Gandy Boulevard) in Pinellas County to SR 595 (Alternate US 19) in Pasco County. Exhibit 1 portrays the project limits in relation to major population centers of the region.

This draft Environmental Impact Statement presents the information used to determine the type, design, and location of multi-lane improvements, interchange design concepts, and frontage road access control features along the US 19 corridor. Some sections of this future six- and eight- lane highway have previously been designed by the Department to reflect necessary roadway improvements.

Based on examination of improvement concepts, various build and no-build alternatives were identified and analyzed. The methodology used in analyzing the proposed alternatives is discussed in Section 2.0 along with the justification for the elimination of non-viable alternatives from further study.




Greiner Engineering Sciences, Inc.

# U.S. 19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES

Pinellas and Pasco Counties, Florida

STATE PROJECT NO. 15150-1565

# U.S. 19 CORRIDOR STUDY AREA

Florida Department of Transportation

EXHIBIT 1

Section 3.0 presents a description of the existing social, economic and environmental settings for the area potentially affected by the Preliminary Alternatives. Section 4.0 of this report discusses the probable social, economic and environmental effects and measures to mitigate adverse impacts of the Preliminary Alternatives. Impacts examined in Section 4.0 include urban and community impacts, cultural and natural resource impacts, and physical environment impacts including air quality and noise.

The existing US 19 roadway from the southern end of the project and proceeding north from Gandy Boulevard is a four-lane divided arterial section with 12-foot travel lanes and a raised median of varying width. Existing US 19 transitions from a four-lane section to a six-lane section north of East Bay Drive (SR 686). Additional signalization and turn lanes are provided at major intersections within this segment. The US 19 interchange with SR 60 (Gulf to Bay Boulevard) is a four-lane divided section with a GM-type median barrier. From 1,200 feet north of SR 60 to 4,800 feet north of Klosterman Road, US 19 is currently a six-lane divided section with 28- to 16- foot medians. Exclusive turn lanes and upgraded signalization are provided at all cross streets. US 19 from 4,800 feet north of Klosterman Road to the Pinellas/Pasco County line is a four-lane divided rural section. US 19 from the Pinellas/Pasco County line north to Alternate US 19 (SR 595) is a six-lane facility with a 16- to 28- foot median and 12- foot travel lanes. Exclusive

turn lanes and upgraded signalization have been provided at major intersections.

The proposed action involves multi-lane improvements including interchange designs and frontage road access to US 19 (SR 55). The project corridor extends from Gandy Boulevard (SR 694) in Pinellas County, Florida to Alternate US 19 (SR 595) in Pasco County, Florida, approximately 24.6 miles.

The proposed action consists of improving US 19 to a six-lane freeway mainline with two-lane one-way frontage roads the entire 24.6- mile length, with the exception of a varying six- and eight-lane mainline from north of Nursery Road to Coachman Road. Interchanges and overpasses are provided at major cross streets.

The proposed action by design segment is summarized below:

Segment A:

- 8-lane mainline without frontage roads beginning north of Gandy Boulevard
- 6-lane mainline with 2-lane one-way frontage roads beginning north of 78th Avenue
- Overpasses at 86th Avenue North, Mainlands Boulevard. and 118th Avenue North
- Improved 49th Street Interchange
- Frontage road bridges at Cross Bayou Canal

Segment B:

- 6- and 8-lane mainline with 2-lane one-way frontage roads
- Interchanges at Belleair Road, SR 60, Drew Street, Coachman Road, and Sunset Point Road.
- Overpasses at CSX Transportation Railroad, Nursery Road, Druid Road, Enterprise Road and proposed 3rd Avenue South.
- Ramp reversal north and south of 3rd Avenue South.
- Shift segment south of SR 60 to the west
- Shift segment north of SR 60 back to the existing centerline
- Parallel north-south local access road north of Drew Street and east of US 19

Segment C:

- 6-lane mainline with 2-lane one-way frontage roads
- Interchanges at Curlew Road, Tampa Road (depressed section), Nebraska Avenue, Alderman Road (depressed section), and Klosterman Road
- Overpasses at Michigan Boulevard Extension, Northside Drive, CR 39/95, Old Post Road, and Meres Avenue
- New two-way secondary frontage road connector between Highland Lakes entrance and Nebraska Avenue

Segment D:

- 6-lane mainline with 2-lane one-way frontage roads north and south of the Anclote River
- Interchanges at Tarpon Avenue and Alternate US 19 (SR 595)
- Railroad overpass south of Alternate US 19 (SR 595)
- Railroad overpass north of Live Oak Street

- o U-turns for northbound and southbound frontage road circulation north and south of railroad overpass north of Live Oak Street
- o Bridges at Anclote River
- o Overpasses at Live Oak Street and Flora Avenue

The project lies within unincorporated areas of Pinellas and Pasco Counties and the municipalities of Pinellas Park, Clearwater, Dunedin, and Tarpon Springs.

## 0.2 OTHER SIGNIFICANT GOVERNMENT ACTIONS

The Florida Department of Transportation has initiated a series of major improvement projects along US 19 in Pinellas County. These projects include urban interchanges at Ulmerton Road (SR 688), East Bay Drive (SR 686), Countryside Boulevard, Main Street (SR 580), and Tarpon Avenue (SR 582). They also include interchange revisions at 66th Street and transition projects to connect the interchanges and frontage roads to the existing US 19. These projects are scheduled as shown below:

**East Bay Drive to north of Haines Bayshore Road**

Under Construction

**Cross Bayou to 126th Street**

Under Construction

**Ulmerton/66th Street**

Under Construction

**CR 588 to Countryside Boulevard**

Letting: Spring, 1992
Est. Beginning: Fall 1992
Est. Construction Time: 1-1/2 Years

**Countryside/SR 580**

Letting: Spring 1989
Est. Beginning: Fall 1989
Est. Construction Time: 2 Years

**Tarpon Avenue**

Interchange letting is beyond the Department's Five-Year Work Program.

These construction projects are all compatible with the proposed action. The location of these projects are all beyond the project limits of the study segments.

In addition to the construction projects identified above, Pinellas County has begun a corridor route location study for the extension of Bryan Dairy Road (CR 296) from Hamlin Boulevard to I-275. This study is currently underway, with completion expected in 1988. Construction on the first segment is anticipated to begin January 1988.

## 0.3 ALTERNATIVES CONSIDERED

Various alternatives were considered for improving US 19, such as widening the existing roadway, alternative route locations, alternative transportation modes and facility types, and the No-Project Alternative.

Only alternatives which involved converting the roadway to a controlled access roadway with frontage roads were considered feasible and compatible with adopted local comprehensive plans. For each design segment of the project alternative, interchange and overpass locations and differing frontage road access to the mainline were evaluated.

The Design Segment A evaluation included three other alternatives consisting of:

- o differing combinations of overpass and interchange locations;
- o a two-way frontage road from 49th Street to 118th Avenue North; and
- o an interchange at 82nd Avenue.

The evaluation of Design Segment B included eight other alternatives consisting of:

- o differing combinations of overpass and interchange locations;

- an interchange or overpass at Executive Center Drive;
- reduced right-of-way at Nursery Road;
- alignment shifts at SR 60 and Coachman Road;
- ramp reversal near Executive Center Drive; and
- ramp reversal near the proposed 3rd Avenue South.

The Segment C evaluation included five other alternatives consisting of:

- differing combinations of overpass and interchange locations;
- an interchange at Republic Drive;
- alignment shifts at Curlew Road and SR 584;
- two-way frontage roads from Curlew Road to SR 584; and
- no overpass at Meres Avenue.

Evaluation of Segment D included four other alternatives consisting of:

- differing combinations of overpass and interchange locations;
- a three-level interchange at Alternate US 19 (SR 595); and
- two-way frontage roads throughout the entire segment.

## 0.4 SIGNIFICANT ENVIRONMENTAL IMPACTS

The proposed US 19 improvements will cause the relocations of properties of 16 residences and 26 businesses. Noise will impact several residential areas. The State Historic Preservation Officer has determined that no resources listed or eligible for listing on the National Register of Historic Places would be impacted. Wetlands and flood prone areas will be encountered with any of the alternatives, requiring mitigative design considerations.

Impacts during construction include air, noise and localized stormwater runoff pollution. Long term operational impacts include increased noise in the immediate vicinity of the proposed facility.

Improvements to US 19 will result in a number of beneficial impacts. The proposed improvements will provide decreased travel time and fuel consumption for motorists on US 19 and parallel facilities. Increased roadway capacity will provide for an acceptable peak LOS throughout the corridor. Improvements to US 19 will allow continued large scale development in the corridor and needed economic growth for Pinellas County.

Specific information and detail on the environmental impacts of the proposed US 19 improvements are contained in Section 4 of this report.

## 0.5 LIST OF OTHER GOVERNMENT ACTIONS REQUIRED

Federal, state and local permits which are required by the proposed US 19 improvements are listed below:

### A. Federal Regulatory Agencies

1. The U.S. Army Corps of Engineers regulates dredging and filling according to the River and Harbor Act of 1899, the Clean Water Act of 1972 (Public Law 92-500) and 1977 Amendments (Public Law 95-217), the Federal Fish and Wildlife Coordination Act of 1958 and the National Environmental Policy Act of 1979. The Corps also has jurisdiction over isolated wetlands due to the EPA's interpretation of "waters of the United States" pursuant to 40 CFR 328.3 (a) (3).

(The U.S. Fish and Wildlife Service and the National Marine Fisheries Service are the review and commenting agencies responsible to the Corps regarding impacts to biotic communities.)

2. The EPA issues National Pollution Discharge Elimination System (NPDES) permits (water quality) and reviews permits issued by FDER regarding hazardous wastes. Through the same regulatory program as the Corps, the EPA may prohibit or otherwise restrict the discharge of

dredge and fill materials. NPDES permits are required from EPA for facilities which discharge into surface waters from one or more point sources. NPDES permits are issued pursuant to S.403 and S.402 of Public Law 95-217, and parts 121 through 125 of Title 40 CFR.

B. State Regulatory Agencies

1. The Florida Department of Natural Resources (DNR) may have involvement due to the "state lands" provisions administered through Chapter 253 and 258 of the Florida Statutes and Chapter 18-21 of the Florida Statutes, Sovereignty Submerged lands.

2. The Florida Statutes Chapter 403 has given the Florida Department of Environmental Regulation (FDER) the authority to issue permits for waterbodies connected to "waters of the state". The Stormwater Management Master Plan may require FDER involvement pursuant to the following rules:

* Chapter 17-3 FAC - Water Quality Standards
* Chapter 17-4 FAC - Permits
* Chapter 17-12 FAC - Dredge and Fill Activities
* Chapter 17-25 FAC - Regulation of Stormwater

3. The Florida Department of Transportation (FDOT) may have involvement due to drainage connections to FDOT Right-of-Way (F.A.C. 14-86). Drainage systems shall be designed, constructed, operated, and maintained to meet FDOT requirements. A permit could be required for increasing discharges or improving cross drains on SR 54 and US 301.

Drainage connection requirements are separated into two categories; (1) watersheds with positive outfalls, and (2) watersheds without positive outfalls (FDOT Handbook for Drainage Connection Permits, February 1987).

C. Regional Regulatory Agencies

1. Chapter 373 and portions of Chapter 403 of the Florida Statutes authorizes the Southwest Florida Water Management District (SWFWMD) to issue permits for isolated wetlands and those connected to "waters of the state" for surface water management purposes.

Chapter 40D-4 FAC - Surface Water Management Permit
Chapter 40D-40 FAC - General Surface Water Permits

D. Local Regulatory Agencies

1. Pinellas Park Water Management District reviews Surface Water Management projects within Pinellas Park and then comments to the City who ultimately provides the necessary approval.

2. Pinellas County Water & Navigation Authority would require dredge and fill permits for work within tidally influenced waters.

3. Pasco County regulates construction in the floodplains and floodways as a cooperating agency of the National Flood Insurance Program 1968 (NFIP). The Pasco County Flood Damage Prevention Ordinance No. 18-16 was adopted to meet the eligibility requirements for qualification in NFIP. All new construction or substantial improvements must be built to meet the requirements of this ordinance.

## 0.6 PROBABLE ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

The reconstruction and use of the upgraded US 19 highway will result in a number of unavoidable adverse effects on the environment. These impacts are presented within the various discipline sections of this report and are presented as a summary in this section.

### 0.6.1 SOCIAL AND ECONOMIC

The major short-term socio-economic impact would occur during the construction stage, when local traffic/pedestrian circulation and access patterns would be temporarily disrupted.

Long-term impacts would occur from the taking of some land and structures in interchange areas and the associated business and residential relocation. In addition, access patterns at the interchange areas will be altered. Specific information on social and economic impacts are provided in Section 4.1 of this report.

### 0.6.2 NATURAL RESOURCES

The reconstruction of the US 19 corridor would likely result in minor effects on wetland vegetation and associated wildlife during interchange construction, extension of drainage culverts and improvements to waterway crossings. These impacts would be associated with the construction phase; however, and the development should not present long-term impacts on these wetland areas. Specific information on impacts to natural resources is contained in Section 4.3 of this report.

### 0.6.3 PHYSICAL ENVIRONMENT

Noise levels from traffic on the upgraded facility would increase ambient levels adjacent to the highway alignment by 3 to 5 dBA above background conditions. In addition, noise levels from construction equipment would also temporarily increase background levels.

Temporary increases in air pollution concentrations from increases in particulate matter (dust) from clearing and grading operations are potential adverse effects during construction.

In addition, the reconstruction of the highway corridor and the runoff associated with the completed facility could, without amelioration, adversely affect stormwater runoff.

Specific information on the impacts of the proposed US 19 improvements on the physical environment is found in Section 4.3 of this report.

## 0.7 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The proposed reconstruction of the US 19 (SR 55) corridor would require certain irreversible and irretrievable commitments of resources.

Land within the highway's existing right-of-way and some new lands adjacent to interchanges would be irreversibly and irretrievably committed to transportation use; some biotic communities in the path of construction would be permanently lost; and acoustic noise close to the highway would increase.

Each of these represents a commitment of resources, just as the reconstruction of the US 19 facility would represent a commitment of economic resources, manpower, and material in Pinellas and Pasco Counties. Expressed in other terms, however, the highway would represent the logical upgrading of a previously committed long-range system. It would represent the improvement of a critical segment of a major urban arterial highway on the west coast of Florida. It would enhance the long-term access opportunities and support the county's and region's commitment to maintain the economic vitality of its urban areas.

In summary, the project's irretrievable commitment of resources is balanced by the beneficial commitment to maintain and improve the community economic base, improve the region's air quality and achieve the goals of improved local and regional transportation service.

## 0.8 FEASIBLE MEASURES TO AVOID OR MINIMIZE POTENTIAL ADVERSE IMPACTS

### 0.8.1 SOCIAL AND ECONOMIC

The Florida Department of Transportation will require that traffic in the corridor be maintained throughout the construction phase. With the exception of short-term diversion, two lanes of traffic would be maintained in both

directions of US 19. This should reduce adverse impacts on both business and the traveling public due to construction activities.

By the establishment of urban interchanges with retaining walls, the use of closed storm sewer systems and similar measures, the improvements have been planned to minimize the amount of land acquisition required. In addition, in non-interchange areas, the maximum use of the median for widening purposes lessens the need to acquire property in these areas.

Relocation assistance for businesses and residents along the US 19 alignment would be provided by the Florida Department of Transportation. An established policy of financial assistance, including payments for moving and replacement, would provide additional supportive measures to relocatees.

For the numerous commercial interests within the corridor which will not be relocated, the project has mitigated potential access problems through the maintenance of major cross corridor access, maximizing the use of access ramping, the development of free U-turn movements at interchanges, and through the development of two-lane frontage roads.

### 0.8.2 NATURAL RESOURCES

The proposed US 19 improvements have been planned to cause the minimum disruption necessary of existing vegetative and wildlife habitat. Details of the mitigating measures would be established during permit reviews by the Florida Department of Environmental Regulation, the Southwest Florida Water Management District, U.S. Corps of Engineers, and U.S. Coast Guard. However, conceptual measures to reduce or eliminate wetland impacts include development of proper erosion and sedimentation controls, proper contouring of land and revegetation of areas with natural wetland vegetation.

### 0.8.3 PHYSICAL ENVIRONMENT

The proposed project is expected to increase the number of areas which receive noise levels in excess of FHWA Noise Abatement Criteria; however, the relative increase in noise level is not determined to be substantive. The existing corridor is predominately commercial in nature, and the high level of access requirements associated with the US 19 corridor does not make mitigation (in terms of barriers, for example) practical. Where open land presently occurs adjacent to the roadway, mitigation should result from zoning regulations and setbacks established by local officials.

Noise levels from construction equipment will temporarily increase during construction. Construction noise will be controlled on this project by adherence to the controls listed in the Supplemental Specifications to the Florida Department of Transportation Standard Specifications.

To minimize temporary construction-related air quality impacts, open burning would only be conducted when a determination that meteorological conditions were satisfactory for proper dispersion of pollutants. In order to avoid wind blown dust and dirt during dry periods of construction, water will be applied when necessary and permanent seeding and mulching will be established as soon as possible after final grading is completed.

The proposed project would involve both open and closed drainage systems. The project may require the redesign and relocation of existing parallel drainage systems, modifications or extensions of drainage crossings, fill in adjacent wetlands and the widening of bridges over waterways. Detention areas for the treatment of stormwater runoff, pursuant to Chapter 17-25 F.A.C., Regulation of Stormwater Discharge, will be evaluated during final design. Design parameters will take into consideration requirements set forth by the Florida Department of Environmental Regulation, Southwest Florida Water Management District and other agency comments as received throughout the permitting process.

## 0.9 RELATIONSHIP BETWEEN SHORT-TERM IMPACTS AND THE LONG-TERM BENEFITS

The impacts of the US 19 corridor improvements would be limited to the construction period, which would be the time of greatest environmental disruption. Short-term disruption for corridor residents would generally relate to their proximity to the proposed right-of-way line. Those closest would be affected by the use of heavy equipment, excavation, dust, dirt, disrupted circulation patterns, and noise.

During construction some local access points could be temporarily closed as a result of construction activities. Commercial and industrial operations would be disrupted over the short-term as a result of this construction; however, the improved access should stimulate long-term business growth within the corridor.

Localized construction-related increases in air pollution concentrations adjacent to the planned facility would be offset by the long-term reduction in traffic emission loads.

The major impact on natural resources involves the taking of biotic communities within the existing right-of-way and small amounts of vegetation in interchange areas. The project, however, poses no significant long-term threat to the survival of corridor wildlife.

Water quality could be adversely affected in the short-term. During the highway's construction, turbidity would be anticipated to increase in water courses directly adjacent to construction activities. However, as a result of planned water quality control measures, it is anticipated that water quality after construction would return to pre-construction levels.

Most importantly, the planned US 19 project would, in the long-term, fulfill County, Regional, and State transportation and land use plans and policies by providing an upgraded urban travel corridor through one of Florida's most densely urbanized regions.

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# SECTION 1

# 1.0 PURPOSE OF AND NEED FOR PROJECT

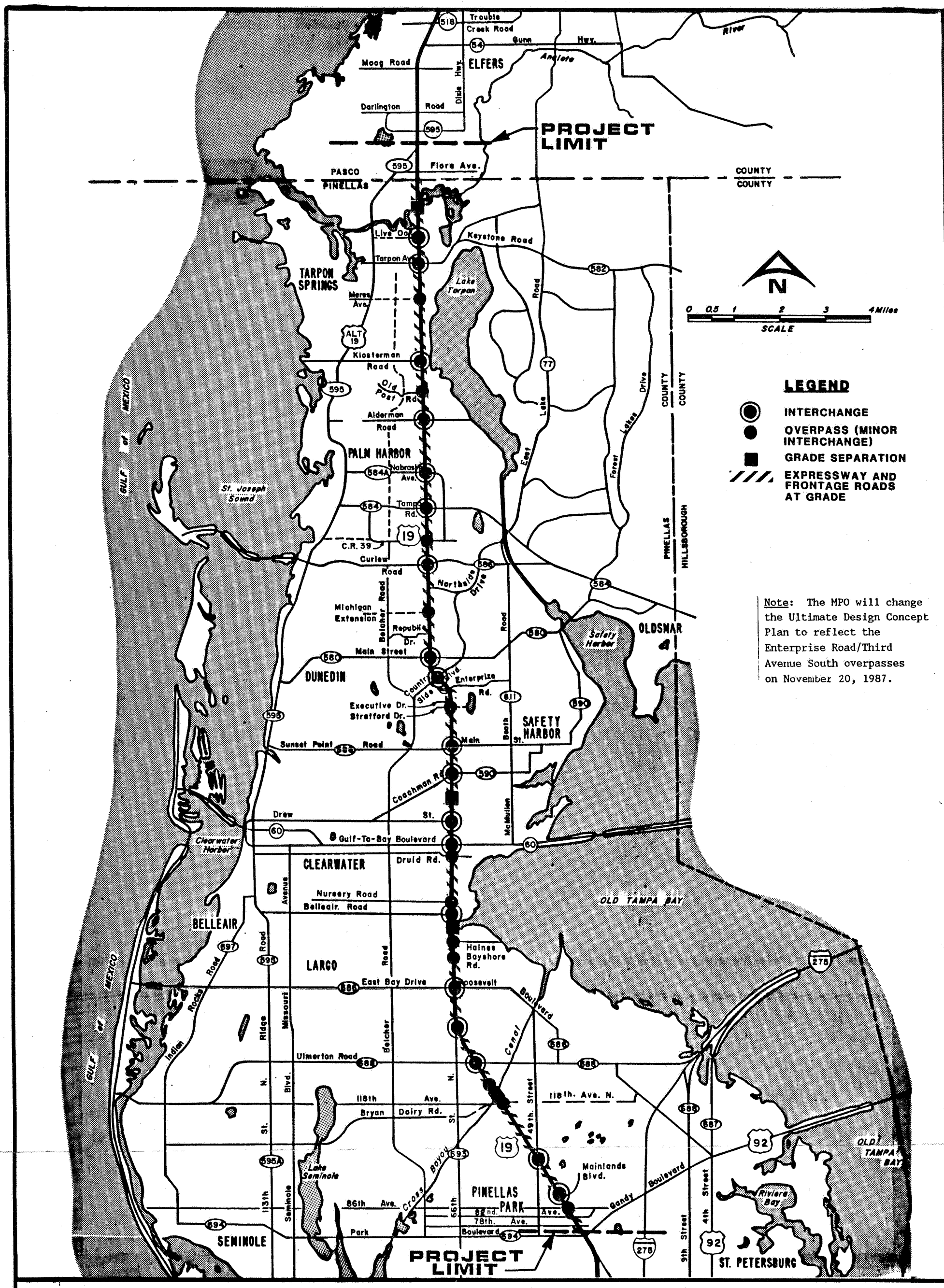
US Highway 19 is the major regional facility within the Pinellas/Pasco coastal corridor. It serves abutting retail, commercial, residential, service land uses, and the established population concentrations of the two counties.

As a result of accelerated population growth within Pinellas and Pasco Counties, and the resultant high cross road traffic volumes, many segments of US 19 currently operate at unacceptable levels of service (LOS) during both peak and off peak hours of the day. A great demand for additional transportation capacity presently exists within the general area of US 19. To present an overview of the transportation needs within the context of the existing facility, the following discussion outlines the general characteristics of the US 19 corridor.

## 1.1 SYSTEM LINKAGE

### 1.1.1 EXISTING FACILITY

Roads within the study area are shown on Exhibit 1.1. Beginning at the southern end of the project and proceeding north from Gandy Boulevard to East Bay Drive, the existing US 19 roadway is a four-lane divided arterial section




Note: The MPO will change the Ultimate Design Concept Plan to reflect the Enterprise Road/Third Avenue South overpasses on November 20, 1987.

**U.S.19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES**
**Pinellas and Pasco Counties, Florida**
**STATE PROJECT NO. 15150-1565**

# PINELLAS COUNTY U.S. 19 ULTIMATE DESIGN CONCEPT

**Florida Department of Transportation**

Greiner Engineering Sciences, Inc.

EXHIBIT 1.1

with 12-foot travel lanes, and a raised median of varying width. From just north of Gandy Boulevard (SR 694) to south of Cross Bayou Canal, a distance of 3.2 miles, U.S. 19 was recently widened from four lanes to six lanes. The segment from just north of Gandy Boulevard to 78th Avenue North (approximately 1,035 feet) has a 100-foot right-of-way section. North of 78th Avenue North, US 19 maintains a minimum 200-foot right-of-way.

The segment of US 19 from south of Cross Bayou Canal to north of Haines Bayshore Road is under construction to increase the road from four lanes to six lanes divided, including interchanges at SR 688, SR 693, and SR 686. The existing US 19 transitions from a four-lane section to a six-lane improved section north of SR 686 (East Bay Drive). From north of East Bay Drive to Seville Boulevard (entrance to Clearwater Mall just south of the SR 60 interchange) is a six-lane upgraded section, with median widths of 28 to 16feet, previously improved in 1983 as part of the 1979/80 US 19 planning project. Additional signalization and turn lanes are provided at major intersections within the section.

The US 19 interchange with SR 60 (Seville to 1,200 feet north of SR 60) is a four-lane divided section with a GM-type median barrier. This section of US 19 is not currently programmed for upgrading to six lanes.

US 19 from 1,200 feet north of SR 60 to 4,800 feet north of Klosterman Road is currently a six-lane divided section with 28- to 16-foot medians. This segment of US 19 is approximately 13 miles in length. Exclusive turn lanes and upgraded signalization is provided at all major cross streets. The upgrading of this segment from 4 to 6 lanes was accomplished during 1982-83 as part of the previously approved 1979-80 US 19 planning project. Right-of-way is 200- foot minimum throughout this segment.

US 19 from a point 4,800 feet north of Klosterman Road to the Pinellas/Pasco County line is currently a four-lane divided rural section. This section has medians with widths varying between 28 and 44 feet. The Tarpon Avenue intersection and the Anclote River crossing are within this segment. A portion of this roadway segment has previously been programmed for reconstruction, with an interchange located at Tarpon Avenue. As part of this study, access to the Tarpon Springs area has been re-evaluated and additional overpasses proposed. This additional study has delayed the reconstruction of this portion of US 19. The entire segment is 4.2 miles in length.

US 19 has been reconstructed from the Pinellas/Pasco County line north to SR 595 (Alternate US 19) as a six-lane facility with 16- to 28-foot medians and 12-foot travel lanes. Exclusive turn lanes and upgraded signalization have been provided at major intersections. This segment is approximately 1.1 miles

in length. This segment was previously upgraded as part of the 1982-83 FDOT improvement program. Right-of-way within this segment is a 200-foot minimum.

### 1.1.2 EXISTING STREET SYSTEM

Roads within the study area are shown on Exhibit 1.1

North-South Roadways

Several major and minor arterial highways parallel US 19 for various segments; however, there are no County-long roadway links in competition with US 19 for inter-county or other long trip length travel. The only state road which traverses the same length as US 19 within the current project study area is SR 595 (Alternate US 19) located along the extreme western portion of Pinellas County. State Road 595 varies between four and two miles in separation from US 19 from SR 694 (Park Boulevard) to near the Anclote River, where State Road 595 swings northeast and intersects with US 19 just north of the Pinellas/Pasco County line. State Road 595 is a two- and four-lane undivided roadway for most of its length (see Exhibit 1.1).

Belcher Road (CR 70) parallels US 19 on the west from Park Boulevard (SR 694) on the south to Curlew Road (SR 586) on the north. Belcher Road is a major

four- and six-lane arterial facility. As the area to the north develops, Belcher Road can be extended, with Lake Street being the eventual northern terminus. The majority of traffic currently utilizing Belcher Road appears to be local residential trips. There are some pockets of commercial land uses along Belcher Road; however, these areas are minor community-based retail centers. The vast majority of the Belcher Road corridor is residential in character.

McMullen-Booth Road (CR 611)/East Lake Road (CR 77) is a north-south parallel roadway from SR 60 (Courtney Campbell Causeway) north to Pasco County and east of US 19. The existing roadway is two lanes and of rural design. Plans to upgrade McMullen-Booth, from SR 60 northward, have been approved on a limited basis. The land development characteristics along the McMullen-Booth corridor, from SR 60 north to SR 580 (Main Street), are basically residential with commercial nodes at major crossroads. North of SR 580, the roadway serves residential land uses as a scenic route with limited curb and median openings to preserve capacity.

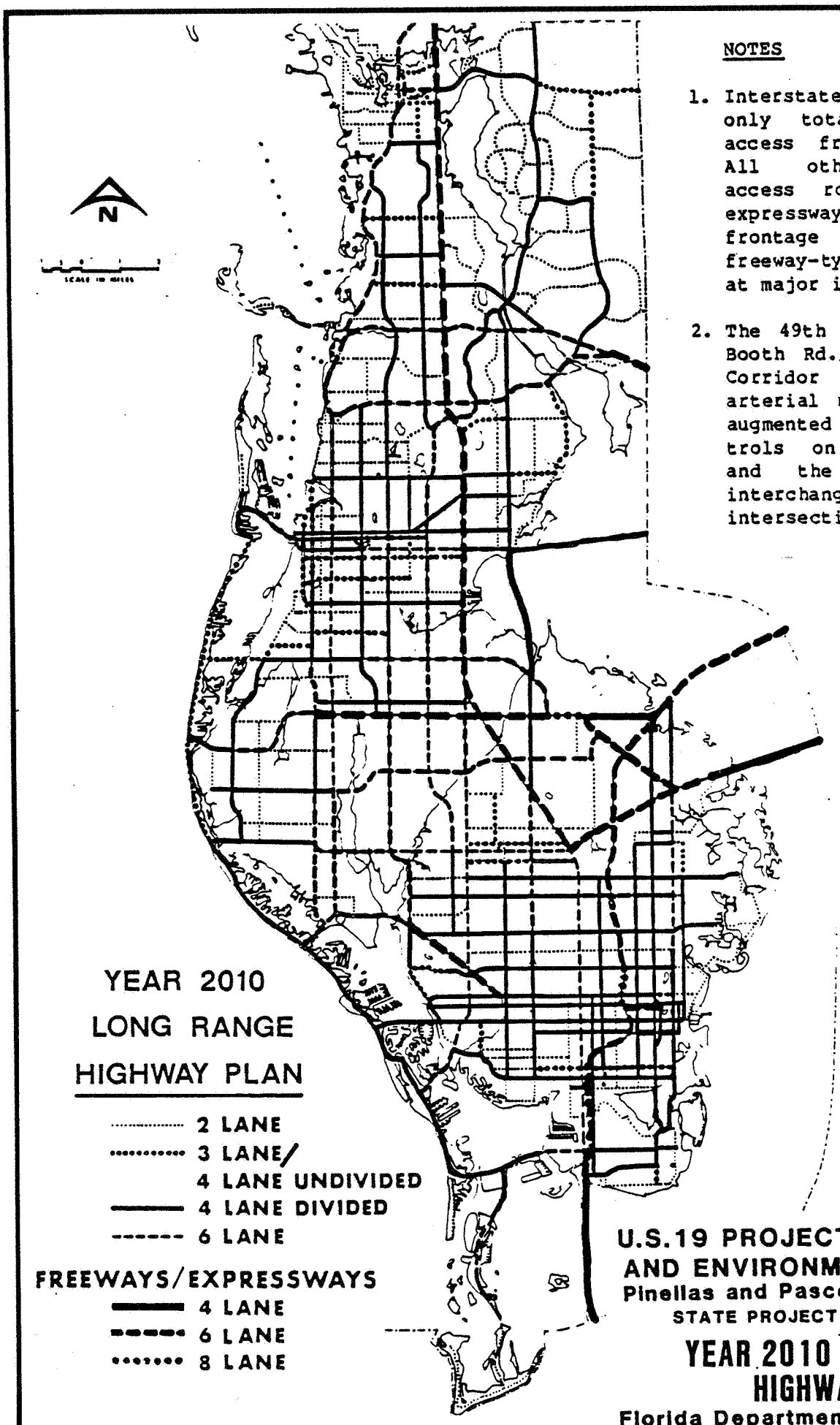
East-West Roadways

Due to the advantageous north-south continuity of US 19 and the patterns of adjacent land development previously approved, most east-west roads of any

consequence intersect US 19. There are also 21 major east-west regional roadways which intersect with US 19 and provide the vast majority of vehicle trip making within the corridor study area. These major east-west roads are listed below in a south to north order. All of these roadways are signalized at this time.

Other lesser signalized roadways also connect to US 19; however, those listed here are considered to be "significant" roadways which connect US 19 to other portions of Pinellas County and, as such, form an integral part of the County's highway network.

- SR 694 (Gandy Boulevard)
- CR 691 (49th Street)
- SR 688 (Ulmerton Road)
- SR 693 (66th Street)
- SR 686 (East Bay Drive)
- Belleair Road
- Nursery Road
- SR 60 (Gulf to Bay Boulevard)
- Drew Street
- CR 590 (Coachman Road)
- CR 588 (Sunset Point Road)
- (CR 102) Enterprise Road
- Countryside Boulevard
- SR 580 (Main Street)
- SR 586 (Curlew Road)
- CR 584 (Ozona-Tampa Highway)
- CR 584A (Nebraska Avenue)
- CR 42 (Alderman Road)
- Klosterman Road
- SR 582 (Tarpon Avenue)
- SR 595 (Alternate US 19)




NOTES

1. Interstate 275 is the only totally controlled access freeway facility. All other controlled access roads shown are expressways with parallel frontage roads and freeway-type interchanges at major intersections.

2. The 49th Street/McMullen-Booth Rd./East Lake Road Corridor is a high-level arterial roadway which is augmented through controls on direct access and the placement of interchanges at major intersections.

YEAR 2010
LONG RANGE
HIGHWAY PLAN

2 LANE
3 LANE/
4 LANE UNDIVIDED
4 LANE DIVIDED
6 LANE

FREEWAYS/EXPRESSWAYS
4 LANE
6 LANE
8 LANE

**U.S.19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES**
**Pinellas and Pasco Counties, Florida**
**STATE PROJECT NO. 15150-1565**

# YEAR 2010 LONG-RANGE HIGHWAY PLAN

**Florida Department of Transportation**

EXHIBIT 1.2

Summary: Existing Street System

US 19 is currently a four- and six-lane divided highway with uncontrolled access. Additionally, US 19 is the primary north-south arterial highway in Pinellas County. The highway intersects all major east-west arterials in the study corridor and provides essential system linkages in the mid- and north-County study area. Exhibit 1.2 shows these system linkages and the relationship of US 19 to Pinellas County's highway network.

### 1.1.3 FUTURE STREET SYSTEM

The year 2010 Long-Range Highway Plan utilized in this report was produced by the Pinellas Area Transportation Study (PATS) and approved for use by the Metropolitan Planning Organization (MPO). See Exhibit 1.2 for a copy of the adopted future highway network.

As shown on Exhibit 1.2, US 19 from Gandy Boulevard (SR 694) north to the Pinellas/Pasco County line is designated as a six-lane Freeway/Expressway. The US 19 roadway plan for the Year 2010 assumes a six-lane freeway as a basic concept.

In addition to the year 2010 Adopted Highway Plan, Pinellas County has developed a map entitled US 19 Ultimate Design Concepts (See Exhibit 1.1).

According to the County Planning Department "this map represents the generalized concept for the full improvement of US 19 and is consistent with current Florida Department of Transportation interchange designs and recommendations from local circulation plans developed under the local government comprehensive planning act, January 1985."

The design concepts and interchange/overpass locations presented in this report are consistent with the information and design concepts presented in the County's US 19 Ultimate Design Concepts map. Exhibit 1.2 provides the locations of interchanges and overpasses indicated on the County's US 19 Ultimate Design Concepts map.

The Florida Department of Transportation has initiated a series of major improvement projects along US 19 in Pinellas County. These projects include urban interchanges at Ulmerton Road (SR 688), East Bay Drive (SR 686), Countryside Boulevard, Main Steet (SR 580), and Tarpon Avenue (SR 582). They also include interchange revisions at 66th Street and transition projects to connect the interchanges and frontage roads to the existing US 19. These projects are scheduled as shown below:

**East Bay Drive to north of Haines Bayshore Road**

Under Construction

**Cross Bayou to 126th Street**

Under Construction

**Ulmerton/66th Street**

Under Construction

**CR 588 to Countryside Boulevard**

Letting: Spring 1992
Est. Beginning: Fall 1992
Est. Construction Time 1-1/2 Years

**Countryside/SR 580**

Letting: Spring 1989
Est. Beginning: Fall 1989
Est. Construction Time: 2 Years

**Tarpon Avenue**

Interchange letting is beyond the Department's Five-Year Work Program.

These construction projects are all compatible with the proposed action. The location of these projects are all beyond the project limits of the study segments.

In addition to the construction projects identified above, Pinellas County has begun a corridor route location study for the extension of Bryan Dairy Road (CR 296) from Hamlin Boulevard to I-275. This study is currently underway, with completion expected 1989.

## 1.2 CAPACITY

### 1.2.1 EXISTING TRAFFIC CONDITIONS

Existing conditions along US 19 were obtained from previous reports, studies, and field survey traffic counts. Field reconnaissance included compilation of existing roadway characteristics, peak-hour, and average daily traffic conditions. The location of intersection counts and the types of counts taken are shown in Table 1.1.

Exhibit 1.3 displays the 1984 Average Daily Traffic (ADT) volumes along US 19. Table 1.2 provides the generalized traffic characteristics associated with the existing US 19 traffic flow. The low percent of ADT volume occurring in the "peak period" is a reflection of the congestion and resultant spreading of the peak hour to more than one period, resulting in a lower percent in the highest hour but a larger percent than normally expected in adjacent hours.

Exhibits 1.4 and 1.5 show existing a.m. and p.m. peak-hour intersection turning movement volumes at major US 19 intersections. Existing a.m. and p.m. peak-hour level of traffic service for intersections and mid-block locations are shown on Exhibit 1.6. Tables 1.3 and 1.4 show existing a.m. and p.m. roadway link vehicle counts and levels of service for the various US 19

## TABLE 1.1

## U.S. 19 TRAFFIC COUNT LOCATIONS

| Location | Type of Count |
|---|---|
| S.R. 694 (Gandy Boulevard) | 8-hour turning movement count |
| CR 691 (49th Street) | A.M. & P.M. peak-hour turning movement count |
| Belleair Road | A.M. & P.M. peak-hour turning movement count |
| Nursery Road | A.M. & P.M. peak-hour turning movement count |
| SR 60 (Gulf to Bay Boulevard) | A.M. & P.M. peak-hour turning movement count |
| Drew Street | 8-hour turning movement count |
| Coachman Road (CR 590) | A.M. & P.M. peak-hour turning movement count |
| CR 588 (Sunset Point Road) | 8-hour turning movement count |
| CR 102 (Enterprise Road) | A.M. & P.M. peak-hour turning movement count |
| SR 586 (Curlew Road) | A.M. & P.M. peak-hour turning movement count |
| CR 584 (Ozona-Tampa Highway) | A.M. & P.M. peak-hour turning movement count |
| CR 584A (Nebraska Avenue) | A.M. & P.M. peak-hour turning movement count |
| CR 42 (Alderman Road) | A.M. & P.M. peak-hour turning movement count |
| Klosterman Road | A.M. & P.M. peak-hour turning movement count |
| (Alternate US 19) SR 595 | 8-hour turning movement count |

NOTE: 1) Eight-hour counts taken from 7-11 A.M. and 2-6 P.M. A.M. and P.M. peak-hour counts from 7-8 A.M. and 4-5 P.M.

2) Twenty-four hour machine counts were taken on all intersection approaches.

## TABLE 1.2

## U.S. 19 EXISTING TRAFFIC CHARACTERISTICS

| Traffic Characteristics | 1984 Existing |
|---|---|
| Percent of Traffic in Peak Hour (K) | 7.9% |
| Directional Split (D) | 55.4% |
| 24-Hour Truck percentage (T) | 6.4% |
| Design-Hour Truck percentage (DT) | 2.9% |

N

N.T.S.

MATCH LINE

EXECUTIVE CENTER DR.

68,080

ENTERPRISE RD.

59,185

N/A

COUNTRYSIDE BLVD

S.R. 580 (MAIN ST.)

53,580

S.R. 586 (CURLEW RD.)

45,800

C.R. 584 (OZONA-TAMPA HWY.)

46,480

C.R. 584A (NEBRASKA AVE.)

52,690

C.R 42 (ALDERMAN RD.)

50,695

KLOSTERMAN RD.

42,120

U.S. HWY. 19

S.R. 582 (TARPON AVE.)

36,000

S.R. 595 (ALT. U.S. 19)

PINELLAS COUNTY

PASCO COUNTY

43,650

FLORA AVENUE

46,520

END PROJECT

S.R. 595 (DIXIE HWY.)

BEGIN PROJECT

U.S. HWY. 19

S.R. 694 (GANDY BLVD.)

37,050

S.R. 694 (PARK BLVD.)

78TH AVE.

49TH ST.

35,160

43,170

66TH ST (OLD HAINES RD.)

118TH AVE.

N/A

S.R. 688 (ULMERTON RD.)

46,810

S.R. 686 (EAST BAY DR)

66,160

BELLEAIR RD.

68,300

NURSERY RD.

70,180

S.R. 60 (GULF TO BAY BLVD.)

63,350

DREW ST.

C.R 590 (COACHMAN RD.)

57,350

61,000

C.R. 588 (SUNSET PT. RD.)

68,080

EXECUTIVE CENTER DR

MATCH LINE

## LEGEND

PREVIOUSLY PROGRAMMED INTERCHANGE

0000 — 1984 AVERAGE DAILY TRAFFIC

N/A — NOT AVAILABLE

# U.S.19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES

Pinellas and Pasco Counties, Florida

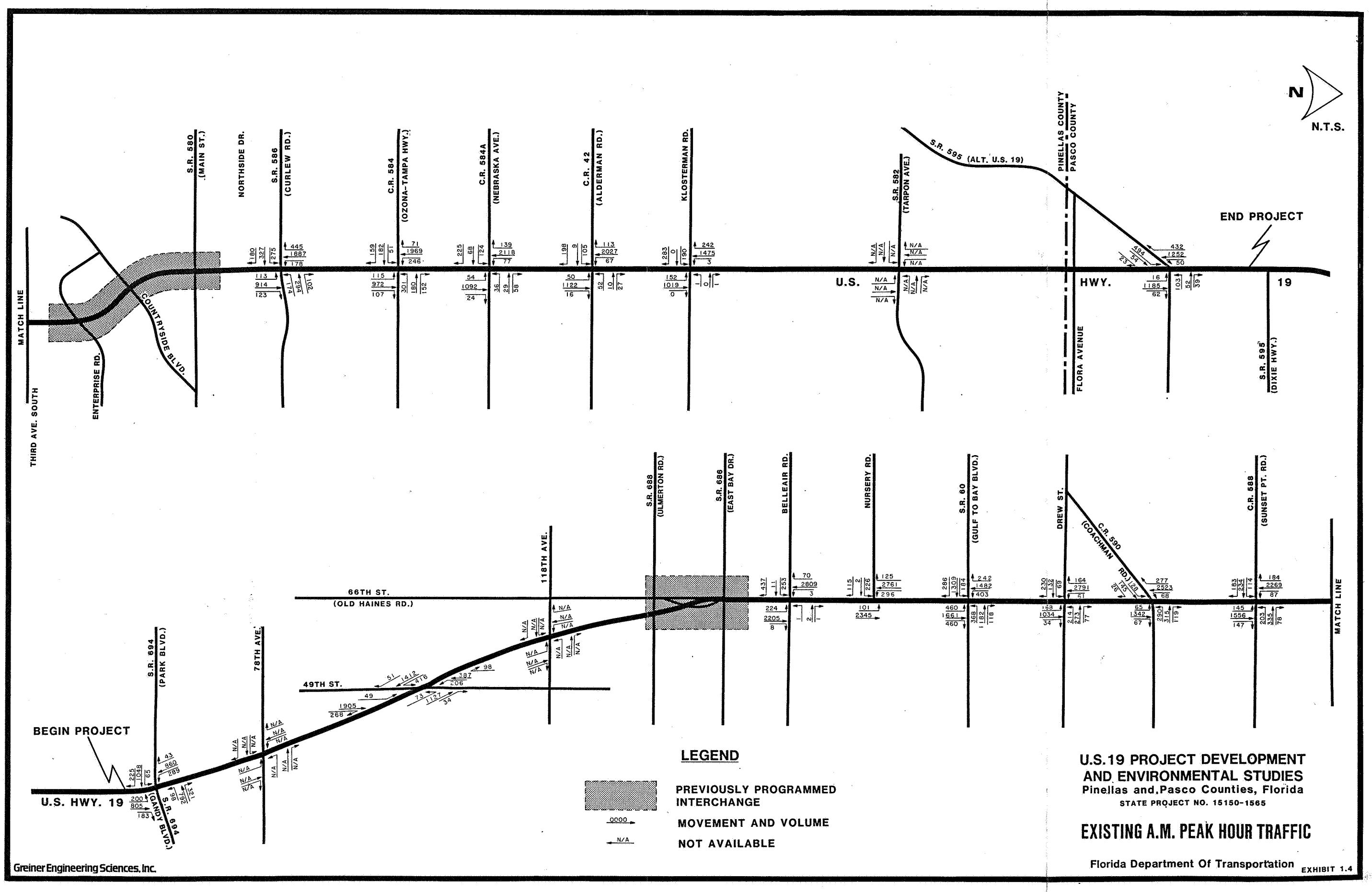
STATE PROJECT NO. 15150-1565

# 1984 AVERAGE DAILY TRAFFIC VOLUMES

Florida Department Of Transportation

EXHIBIT 1.3

Greiner Engineering Sciences, Inc.




**LEGEND**

PREVIOUSLY PROGRAMMED INTERCHANGE

0000 MOVEMENT AND VOLUME

N/A NOT AVAILABLE

# U.S.19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES

Pinellas and Pasco Counties, Florida

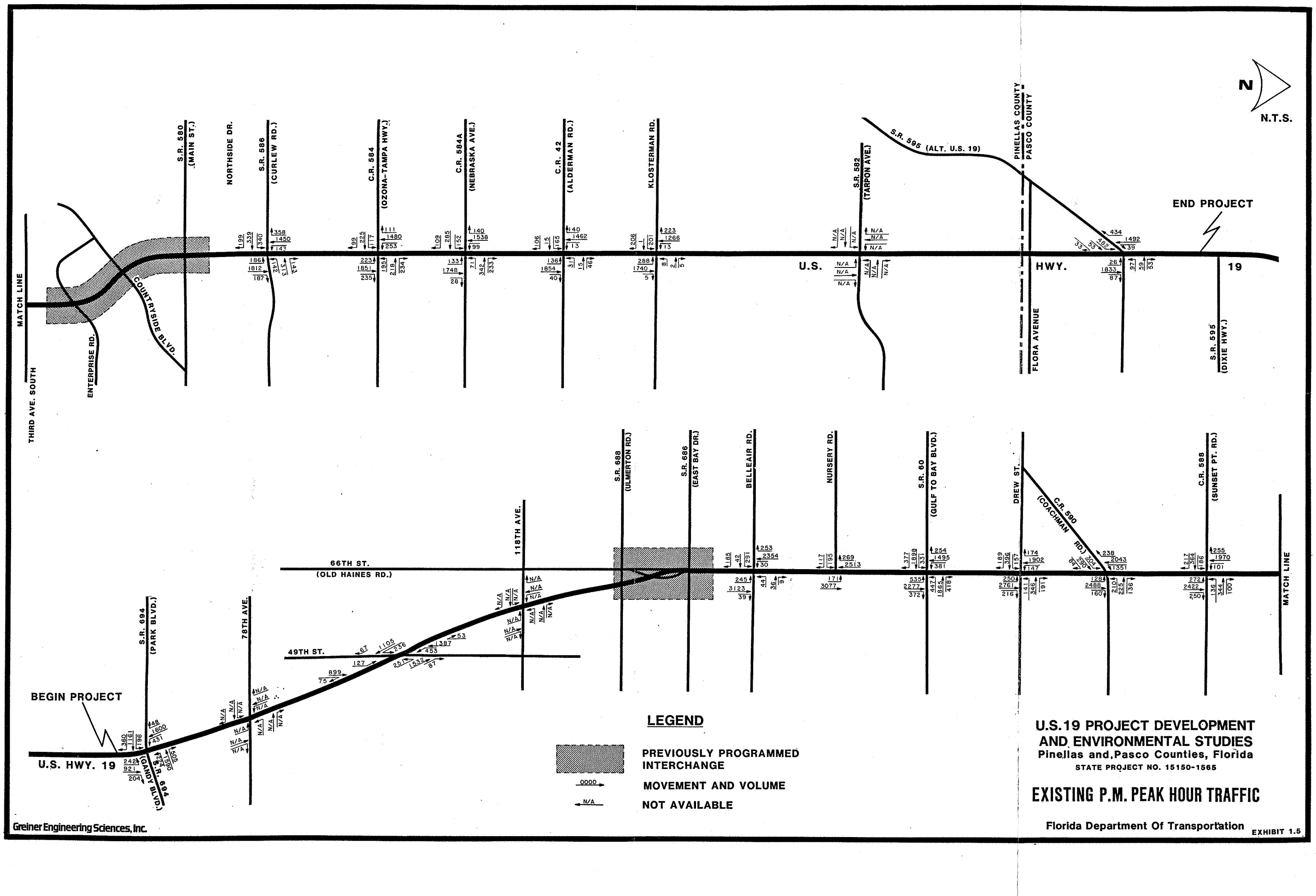
STATE PROJECT NO. 15150-1565

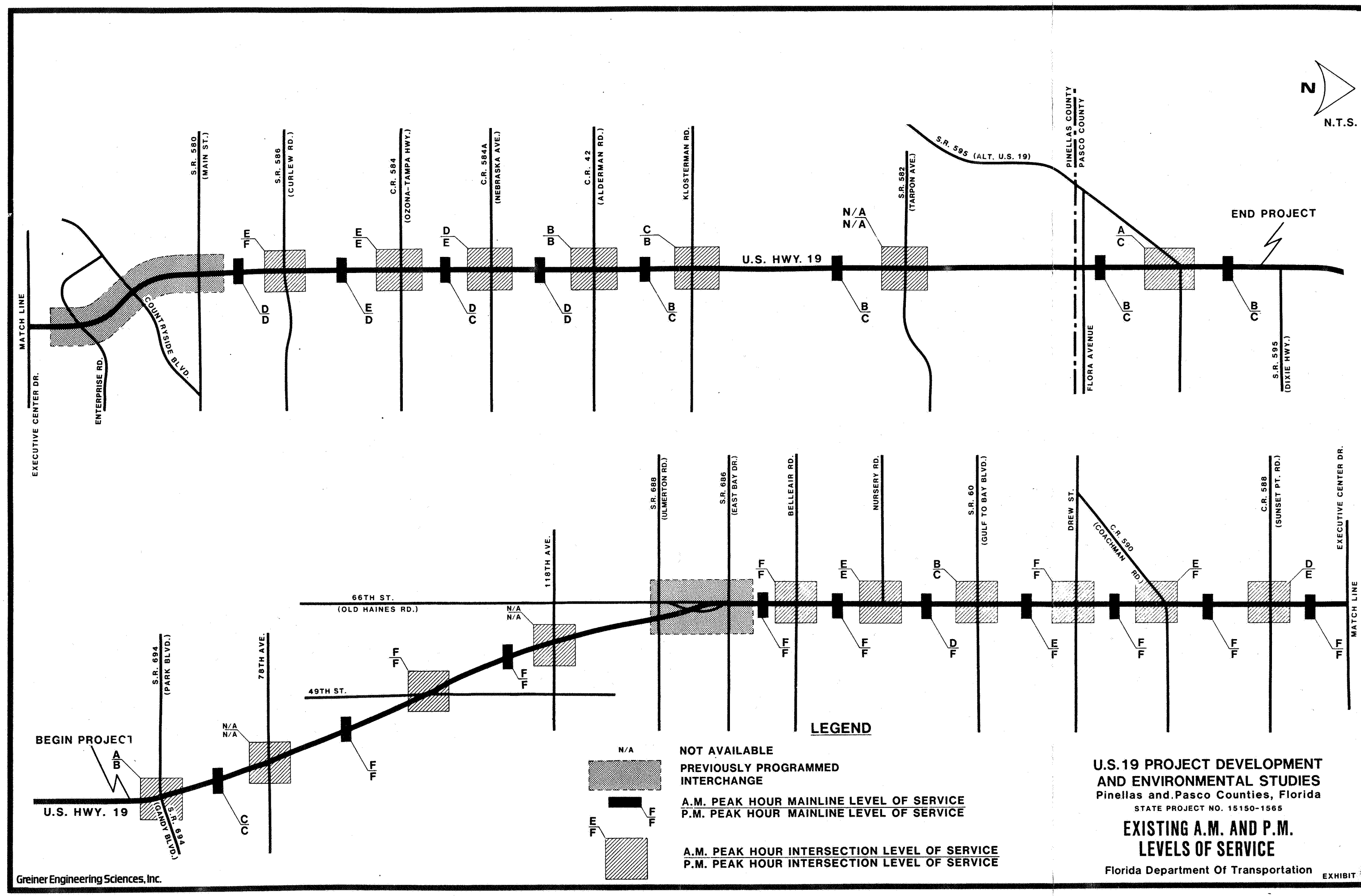
## EXISTING A.M. PEAK HOUR TRAFFIC

Florida Department Of Transportation

EXHIBIT 1.4

Greiner Engineering Sciences, Inc.


N
N.T.S.
MATCH LINE
THIRD AVE. SOUTH
ENTERPRISE RD.
COUNTRYSIDE BLVD.
S.R. 580 (MAIN ST.)
NORTHSIDE DR.
S.R. 586 (CURLEW RD.)
C.R. 584 (OZONA-TAMPA HWY.)
C.R. 584A (NEBRASKA AVE.)
C.R. 42 (ALDERMAN RD.)
KLOSTERMAN RD.
S.R. 582 (TARPON AVE.)
S.R. 595 (ALT. U.S. 19)
PINELLAS COUNTY
PASCO COUNTY
FLORA AVENUE
U.S. HWY. 19
END PROJECT
S.R. 595 (DIXIE HWY.)
BEGIN PROJECT
U.S. HWY. 19
S.R. 694 (GANDY BLVD.)
S.R. 694 (PARK BLVD.)
78TH AVE.
49TH ST.
66TH ST. (OLD HAINES RD.)
118TH AVE.
S.R. 688 (ULMERTON RD.)
S.R. 686 (EAST BAY DR.)
BELLEAIR RD.
NURSERY RD.
S.R. 60 (GULF TO BAY BLVD.)
DREW ST.
C.R. 590 (COACHMAN RD.)
C.R. 588 (SUNSET PT. RD.)
MATCH LINE
LEGEND
PREVIOUSLY PROGRAMMED INTERCHANGE
0000 MOVEMENT AND VOLUME
N/A NOT AVAILABLE
U.S.19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES
Pinellas and Pasco Counties, Florida
STATE PROJECT NO. 15150-1565
EXISTING P.M. PEAK HOUR TRAFFIC
Florida Department Of Transportation
EXHIBIT 1.5
Greiner Engineering Sciences, Inc.




Greiner Engineering Sciences, Inc.

# U.S.19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES

Pinellas and Pasco Counties, Florida

STATE PROJECT NO. 15150-1565

## EXISTING A.M. AND P.M. LEVELS OF SERVICE

Florida Department Of Transportation

EXHIBIT 1.6

TABLE 1.3

U.S. 19 EXISTING P.M. PEAK-HOUR
TRAFFIC CONDITIONS

| Link From | To | Existing Lanes | A.M. Peak-Hour Traffic Conditions ADT | Major Direction | Minor Direction | Directional Capacity[1] | V/C Ratio | LOS[2] |
|---|---|---|---|---|---|---|---|---|
| SR 694 (Gandy Boulevard) | 78th Avenue | 4 | 37,050 | 2,079 SB | 1,622 NB | 1,680 | 1.24 | F |
| 78th Avenue | 49th Street | 4 | 35,160 | 1,832 NB | 1,797 SB | 1,680 | 1.09 | F |
| 49th Street | 118th Avenue | 4 | 43,170 | 1,985 SB | 1,953 NB | 1,680 | 1.18 | F |
| SR 686 (East Bay Drive) | Belleair Road | 6 | 66,160 | 3,407 NB | 2,583 SB | 2,610 | 1.31 | F |
| Belleair Road | Nursery Road | 6 | 68,300 | 3,336 NB | 2,634 NB | 2,610 | 1.28 | F |
| Nursery Road | SR 60 (Gulf to Bay Boulevard) | 6 | 70,180 | 2,774 NB | 2,257 SB | 2,610 | 1.06 | F |
| SR 60 (Gulf to Bay Boulevard) | Drew Street | 6 | 63,350 | 2,673 NB | 1,872 SB | 2,610 | 1.02 | F |
| Drew Street | CR 590 (Coachman Road) | 6 | 57,350 | 2,958 NB | 2,280 SB | 2,610 | 1.13 | F |
| CR 590 (Coachman Road) | CR 588 (Sunset Point Road) | 6 | 61,000 | 2,934 NB | 2,370 SB | 2,160 | 1.12 | F |
| CR 588 (Sunset Point Road) | Enterprise Road | 6 | 68,080 | 2,666 NB | 2,250 SB | 2,610 | 1.02 | F |
| SR 580 (Main Street) | SR 586 (Curlew Road) | 6 | 53,580 | 2,185 NB | 1,791 SB | 2,610 | 0.84 | D |
| SR 586 (Curlew Road) | CR 584 (Ozona-Tampa Highway) | 6 | 45,800 | 2,302 NB | 1,862 SB | 2,610 | 0.88 | D |
| CR 584 (Ozona-Tampa Highway) | CR 584A (Nebraska Avenue) | 6 | 46,480 | 2,056 NB | 1,781 SB | 2,610 | 0.79 | C |

TABLE 1.3

U.S. 19 EXISTING P.M. PEAK-HOUR
TRAFFIC CONDITIONS
(Continued)

| Link From | To | Existing Lanes | A.M. Peak-Hour Traffic Conditions ADT | Major Direction | Minor Direction | Directional Capacity[1] | V/C Ratio | LOS[2] |
|---|---|---|---|---|---|---|---|---|
| CR 584A (Nebraska Avenue) | CR 42 (Alderman Road) | 6 | 52,690 | 2,130 NB | 1,688 SB | 2,610 | 0.82 | D |
| CR 42 (Alderman Road) | Klosterman Road | 6 | 50,695 | 2,049 NB | 1,548 SB | 2,610 | 0.79 | C |
| Klosterman Road | SR 582 (Tarpon Avenue) | 6 | 42,120 | 1,946 NB | 1,502 SB | 2,610 | 0.75 | C |
| Pinellas/Pasco County Line | SR 595 (Alt. US 19) | 6 | 38,000 | 2,071 SB | 1,946 NB | 2,610 | 0.79 | C |
| SR 595 (Alt. US 19) | End of Project | 6 | 46,520 | 1,965 SB | 1,919 NB | 2,610 | 0.75 | C |

[1]Capacity at LOS E from Task C Report by COMSIS Corporation for FDOT.

[2]The V/C Ratios below were used to determine peak-hour Level of Service.

| Level of Service | Arterials[a] | Freeways[b] 4-lane | 6-lane | 8-lane |
|---|---|---|---|---|
| A | <0.60 | <0.35 | <0.40 | <0.42 |
| B | <0.70 | <0.50 | <0.58 | <0.63 |
| C | <0.80 | <0.68 | <0.73 | <0.75 |
| D | <0.90 | <0.82 | <0.82 | <0.83 |
| E | <1.00 | <1.00 | <1.00 | <1.00 |
| F | >1.00 | >1.00 | >1.00 | >1.00 |

[a]Highway Capacity Manual, 1965, Special Report 87.
[b]Traffic and Transportation Handbook, Institute of Traffic Engineers, 1982.

TABLE 1.4

U.S. 19 EXISTING A.M. PEAK-HOUR
TRAFFIC CONDITIONS

| Link From | To | Existing Lanes | A.M. Peak-Hour Traffic Conditions ADT | Major Direction | Minor Direction | Directional Capacity[1] | V/C Ratio | LOS[2] |
|---|---|---|---|---|---|---|---|---|
| SR 694 (Gandy Boulevard) | 78th Avenue | 4 | 37,050 | 1,192 SB | 1,191 NB | 1,680 | 0.71 | C |
| 78th Avenue | 49th Street | 4 | 35,160 | 1,738 NB | 1,487 SB | 1,680 | 1.03 | F |
| 49th Street | 118th Avenue | 4 | 43,170 | 1,937 NB | 1,680 SB | 1,680 | 1.75 | F |
| SR 686 (East Bay Drive) | Belleair Road | 6 | 66,160 | 3,247 SB | 2,437 NB | 2,610 | 1.24 | F |
| Belleair Road | Nursery Road | 6 | 68,300 | 2,879 SB | 2,452 NB | 2,610 | 1.10 | F |
| Nursery Road | SR 60 (Gulf to Bay Boulevard) | 6 | 70,180 | 2,214 SB | 2,116 NB | 2,610 | 0.85 | D |
| SR 60 (Gulf to Bay Boulevard) | Drew Street | 6 | 63,350 | 2,384 SB | 1,122 NB | 2,610 | 0.91 | E |
| Drew Street | CR 590 (Coachman Road) | 6 | 57,350 | 2,928 SB | 1,327 NB | 2,610 | 1.12 | F |
| CR 590 (Coachman Road) | CR 588 (Sunset Point Road) | 6 | 61,000 | 2,762 SB | 1,719 NB | 2,160 | 1.06 | F |
| CR 588 (Sunset Point Road) | Enterprise Road | 6 | 68,080 | 2,861 SB | 1,526 NB | 2,610 | 1.10 | F |
| SR 580 (Main Street) | SR 586 (Curlew Road) | 6 | 53,580 | 2,214 SB | 1,150 NB | 2,610 | 0.85 | D |
| SR 586 (Curlew Road) | CR 584 (Ozona-(Tampa Highway) | 6 | 45,800 | 2,470 SB | 1,242 NB | 2,610 | 0.95 | E |
| CR 584 (Ozona-Tampa Highway) | CR 584A (Nebraska Avenue) | 6 | 46,480 | 2,348 SB | 2,345 NB | 2,610 | 0.90 | D |

TABLE 1.4

U.S. 19 EXISTING A.M. PEAK-HOUR
TRAFFIC CONDITIONS
(Continued)

| Link From | To | Existing Lanes | A.M. Peak-Hour Traffic Conditions ADT | Major Direction | Minor Direction | Directional Capacity[1] | V/C Ratio | LOS[2] |
|---|---|---|---|---|---|---|---|---|
| CR 584A (Nebraska Avenue) | CR 42 (Alderman Road) | 6 | 52,690 | 2,306 SB | 1,236 NB | 2,610 | 0.88 | D |
| CR 42 (Alderman Road) | Klosterman Road | 6 | 50,695 | 1,936 SB | 1,212 NB | 2,610 | 0.63 | B |
| Klosterman Road | SR 582 (Tarpon Avenue) | 4 | 42,120 | 1,720 SB | 1,303 NB | 2,610 | 0.66 | B |
| Pinellas/Pasco County Line | SR 595 | 4 | 38,000 | 1,681 SB | 1,122 NB | 2,610 | 0.64 | B |
| SR 595 (Alt. US 19) | End of Project | 6 | 46,520 | 1,702 SB | 1,106 NB | 2,610 | 0.65 | B |

[1]Capacity at LOS from Task C Report by COMSIS Corporation for FDOT
[2]The V/C Ratios below were used to determine peak-hour Level of Service

| Level of Service | Arterials[a] | Freeways[b] 4-Lane | 6-Lane | 8-Lane |
|---|---|---|---|---|
| A | <0.60 | <0.35 | <0.40 | <0.42 |
| B | <0.70 | <0.50 | <0.58 | <0.63 |
| C | <0.80 | <0.68 | <0.73 | <0.75 |
| D | <0.90 | <0.82 | <0.83 | <0.82 |
| E | <1.00 | <1.00 | <1.00 | <1.00 |
| F | >1.00 | >1.00 | >1.00 | >1.00 |

[a]Highway Capacity Manual, 1965, Special Report 87.
[b]Traffic and Transportation Handbook, Instituite of Engineers, 1982

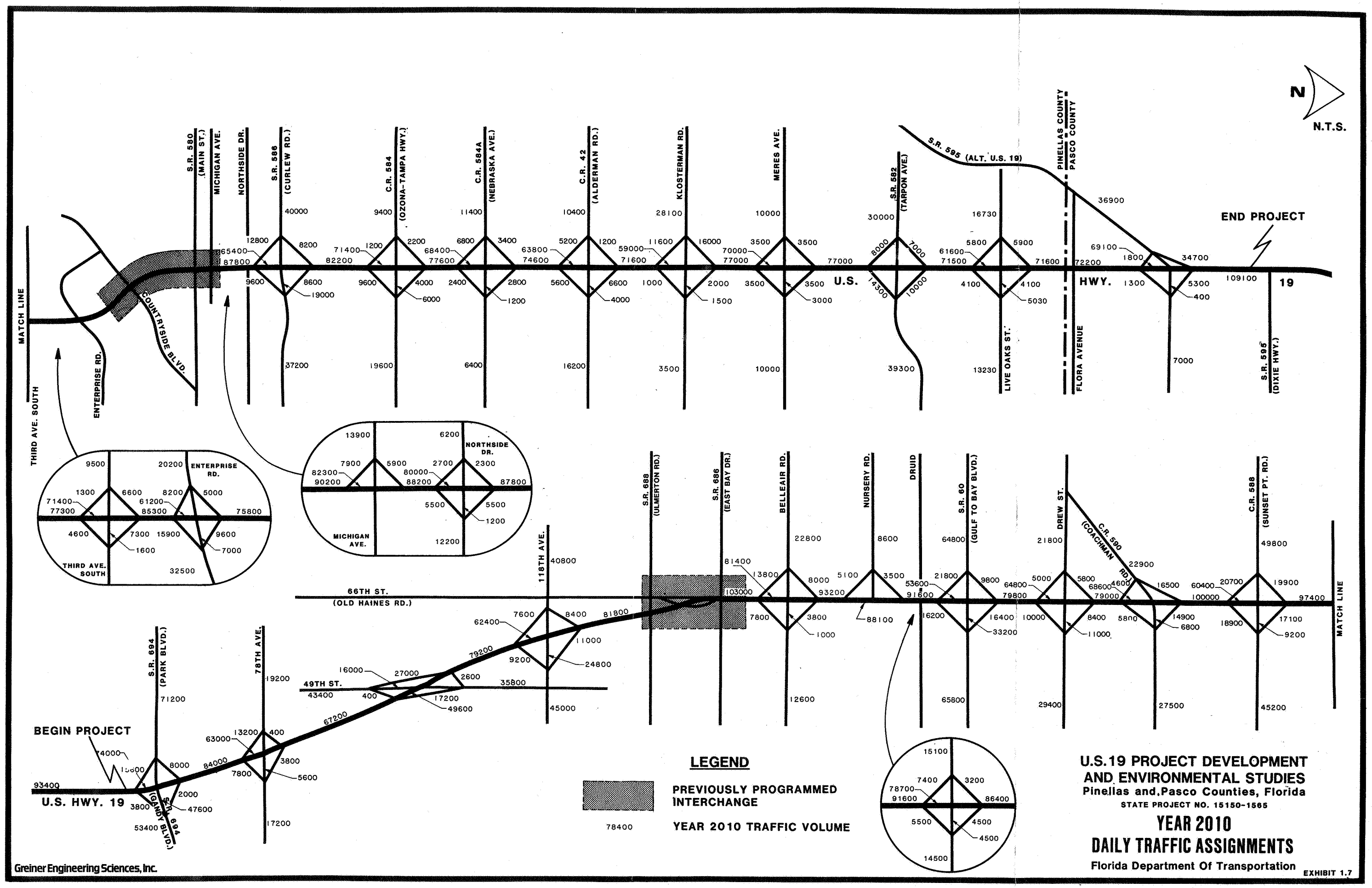
roadway segments under study. As shown on Exhibit 1.6 and in Tables 1.3 and 1.4, many intersections and links are currently operating below level of service (D).

### 1.2.2 YEAR 2010 TRAFFIC PROJECTIONS

The objective of evaluating traffic volumes and traffic conditions is to arrive at an estimate of the feasibility of designing a facility to accommodate the future-year 2010 demand traffic at Level of Service D or higher. In order to properly assess required future-year roadway geometrics to ensure this acceptable level of traffic service along the US 19 corridor, it is necessary to examine intersections and links for future-year 2010 conditions.

Exhibit 1.7 displays Year 2010 Daily Traffic volume assignments for the US 19 corridor and principal crossroads. A review of Exhibit 1.7 shows that the range of daily traffic volumes projected for the Year 2010 on US 19 varies from a low of 67,200 vehicles per day south of 49th Street to a high of over 109,000 vehicles per day just north of Alternate US 19.

The year 2010 daily traffic volumes shown on Exhibit 1.7 were converted to Design Hour Volumes by applying peak-hour traffic characteristics previously

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adopted by the Florida DOT as part of the March 1985 US 19 Traffic Report. These 2010 traffic factors are presented in Table 1.5. Exhibit 1.8 shows the resultant year 2010 Design Hour Volumes (DHV) developed for each movement to test geometric design concepts for the US 19 project.

Year 2010 traffic demands were used to evaluate a basic freeway concept applied to US 19. This analysis provided a conceptual test of Pinellas County's US 19 Ultimate Design Concepts and the Year 2010 Long-Range Highway Plan. The freeway traffic demand analysis serves as the base case analysis of upgrading US 19.

Evaluation of the US 19 corridor with Pinellas County's Year 2010 freeway concept improvements was conducted using a link analysis. The freeway base case analysis assumed a six- lane freeway with parallel two- lane, one-way frontage roads throughout the corridor. The combined laneage capacity was then compared to demand traffic volumes by direction and a level service estimated based on the volume-to-capacity ratio. The conceptual base case analysis for the year 2010 traffic indicates levels of service on US 19 would be at level of D or better throughout the study area. The freeway concept plan analysis levels of service are presented graphically on Exhibit 1.9.

N

N.T.S.

MATCH LINE

THIRD AVE. SOUTH

ENTERPRISE RD.

COUNTRYSIDE BLVD.

S.R. 580 (MAIN ST.)

MICHIGAN AVE.

NORTHSIDE DR.

S.R. 586 (CURLEW RD.)

C.R. 584 (OZONA-TAMPA HWY.)

C.R. 584A (NEBRASKA AVE.)

C.R. 42 (ALDERMAN RD.)

KLOSTERMAN RD.

MERES AVE.

S.R. 582 (TARPON AVE.)

S.R. 595 (ALT. U.S. 19)

PINELLAS COUNTY
PASCO COUNTY

END PROJECT

U.S. HWY. 19

LIVE OAKS ST.

FLORA AVENUE

S.R. 595 (DIXIE HWY.)

BEGIN PROJECT

U.S. HWY. 19

S.R. 694 (GANDY BLVD.)

S.R. 694 (PARK BLVD.)

78TH AVE.

86TH AVE.

MAINLANDS BLVD.

49TH ST.

66TH ST. (OLD HAINES RD.)

118TH AVE.

S.R. 688 (ULMERTON RD.)

S.R. 686 (EAST BAY DR.)

BELLEAIR RD.

NURSERY RD.

DRUID

S.R. 60 (GULF TO BAY BLVD.)

DREW ST.

C.R. 590 (COACHMAN RD.)

C.R. 588 (SUNSET PT. RD.)

MATCH LINE

## LEGEND

PREVIOUSLY PROGRAMMED INTERCHANGE

MOVEMENT AND VOLUME

0000

# U.S.19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES

Pinellas and Pasco Counties, Florida

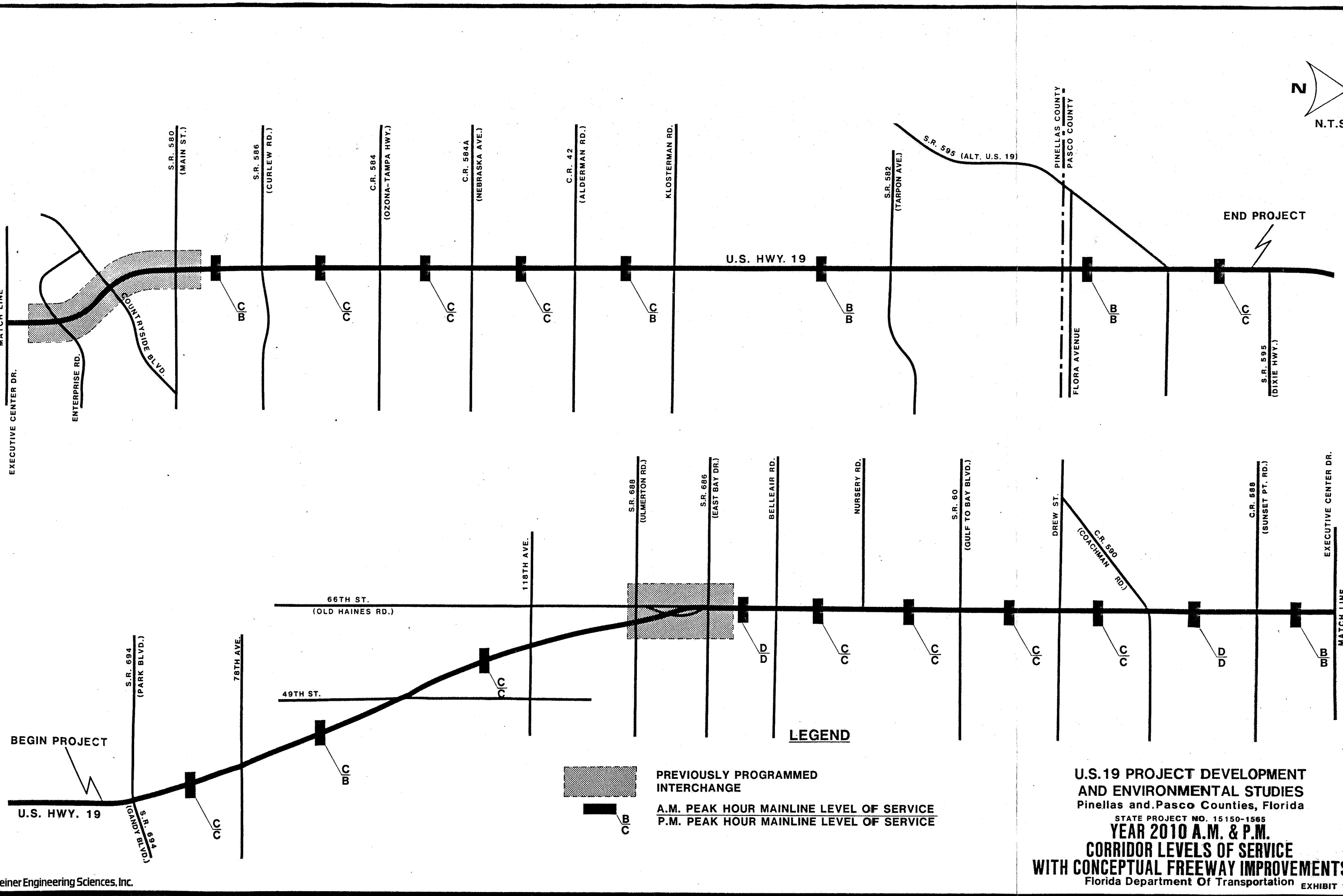
STATE PROJECT NO. 15150-1565

# YEAR 2010 U.S.19 CORRIDOR DESIGN HOUR VOLUMES

Florida Department Of Transportation

Greiner Engineering Sciences, Inc.

EXHIBIT 1.8




Greiner Engineering Sciences, Inc.

# U.S.19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES

Pinellas and Pasco Counties, Florida

STATE PROJECT NO. 15150-1565

## YEAR 2010 A.M. & P.M. CORRIDOR LEVELS OF SERVICE WITH CONCEPTUAL FREEWAY IMPROVEMENTS

Florida Department Of Transportation

EXHIBIT 1.9

## 1.3 TRANSPORTATION DEMAND

The US 19 improvements proposed in this EIS are consistent with the 1988 Florida Strategic Transportation Plan and with both Pinellas and Pasco Counties' long-range land use and transportation plans.

The 1988 Florida Strategic Transportation Plan proposes US 19 as an expressway from Gandy Boulevard to SR 580.

The Comprehensive Land Use Plan, Pinellas County, specifies consulting the Metropolitan Planning Organization (MPO) Year 2010 Long-Range Highway Plan for detailed highway needs. As shown in Exhibit 1.2, US 19 from Gandy Boulevard (SR 694) north to the Pinellas/Pasco County Line is designated as a six-lane Freeway/Expressway. In addition to the Year 2010 Long-Range Highway Plan, Pinellas County has developed a map entitled US 19 Ultimate Design Concepts. This map is presented as Exhibit 1.1. The design concepts and interchange/overpass locations presented in this EIS are consistent with the information and design concepts presented in Exhibit 1.1. Additional information on land use and transportation is contained in Section 3.0, Affected Environment.

Pasco County's Comprehensive Plan does not contain a map indicating future transportation needs. It does contain a traffic element which states:

"Arterial roads should have limited access or should be served by service access roads." The Metropolitan Planning Organization for West Pasco includes in its 1995 Transportation Plan the following objective: "Provide for conversion of urban arterials to controlled or limited access facilities by restricting access and egress, and through the use of service roads where adjacent land is of strip commercial character." Additional information on long-range planning is found in Section 3.0 of this report.

In order to ensure that the proposed plans were consistent with long range plans, extensive involvement with the Pinellas County Metropolitan Planning Organization (MPO), its support staff, and the Technical Coordinating Committee was included in the planning process. A detailed discussion of all local government involvement, including the MPO, is found in Section 7.0 of this report. A copy of the MPO resolution supporting the proposed US 19 improvements dated September 26, 1986 is in Appendix A of this report.

## 1.4 LOCAL GOVERNMENT AUTHORITY

In order to ensure that the proposed improvements were consistent with long range plans, an extensive local government process was initiated to ensure local government participation in the development of and concurrence with the proposed action. The Pinellas County Metropolitan Planning Organization and

all municipalities through which the corridor travels have passed resolutions supporting the Preferred Alternatives. Table 1.6 contains a list of the resolutions received supporting the proposed action. Copies of the resolutions can be found in Appendix A of this document. A more detailed discussion on local government involvement is provided in Section 7.0, Comments and Coordination section, of this environmental document.

## 1.5 SOCIAL DEMANDS OR ECONOMIC DEVELOPMENT

Existing development along the entire 24.6 miles of the US 19 corridor can be characterized as intense commercial/office/retail. There are areas of the corridor where development is less intense. However, the types of land use activities are typically highway, commercial-oriented retail mixed with office parks and limited amounts of multi-family residential. The US 19 corridor has experienced explosive development since the mid 1970's. Land previously vacant or in citrus groves has been developed as office parks, retail commercial centers, restaurants, and car dealerships. An extensive discussion of the existing, proposed and planned land uses is contained in Section 3.0, Affected Environment. Exhibit 3.15 presents Developments of Regional Impact within the corridor. Table 3.6 lists these developments by name and type of use. Exhibits 3.7, 3.8, 3.9 and 3.10 indicate current land use. A review of the maps shows the predominance of high traffic generating commercial uses along the corridor.

## TABLE 1.6

## LOCAL GOVERNMENTAL BODIES PROVIDING RESOLUTIONS IN SUPPORT OF THE PROPOSED ACTION

| Date | Governmental Unit |
|---|---|
| September 09, 1986 | City of Tarpon Springs |
| September 26, 1986 | Pinellas County MPO |
| October 09, 1986 | City of Pinellas Park |
| November 13, 1986 | City of Dunedin |
| February 05, 1987 | City of Clearwater |
| April 09, 1987 | Pinellas County |

In addition to the intensification of land uses currently taking place and those proposed under the Comprehensive Plans, both Pasco and Pinellas Counties are experiencing rapid population and employment growth. Because US 19 is the only continuous north/south route through the western coastal area, the growth places increasing capacity demands along the corridor and on major cross streets. Demographic trends and projections are discussed in greater detail in the Affected Environment, Section 3.0.

## 1.6 MODAL INTER-RELATIONSHIPS

The proposed action complements and facilitates all other transportation modes which interface with the corridor. US 19 crosses the CSX Transportation Railroads at two locations, near the Anclote River and north of Drew Street. At both locations, US 19 goes over the railroad track. Because of MPO discussions using the railroad tracks near the Anclote River as a corridor for future mass transit, at grade signalized crossings for the frontage roads were included in the proposed action.

The Year 2010 Transit Plan for Pinellas County indicates the use of US 19 from Gandy Boulevard to the County Line for express bus service. The proposed action's increase in roadway capacity will support the use of US 19 for express bus service. Park and ride locations are also specified in the long-

range transit plan. The proposed action allows for frontage road access to all these proposed locations. More specific information on the long-range transit plan in Pinellas County is provided in Section 3.0, Affected Environment. Neither Pasco County's Comprehensive Plan nor its Transportation Plan address transit or other modal options.

The proposed action includes a wide outside curb lane along the access roads the entire length of the project. This is in conformance with the Pinellas County Comprehensive Bicycle Plan which specifies future bicycle routes. Although Pasco County has not specified bicycle route locations, the County Comprehensive Plan has as an objective the establishment of a bikeway system connecting major activity centers. Additional discussion on Comprehensive Bicycle Plans is provided in Section 3.0, Affected Environment.

Pinellas County's airports are located outside of the US 19 corridor. However, improved capacity along the US 19 corridor will facilitate traffic movement throughout the county and improve access via the currently programmed improvements at East Bay Drive (SR 686) and Ulmerton Road (SR 688). SR 686 provides access to St. Petersburg-Clearwater Airport east of US 19.

Major port facilities in Pinellas County are located in St. Petersburg beyond the US 19 project corridor. Improved capacity along the US 19 corridor will

provide better access to port facilities for businesses and residents located in central and northern Pinellas County.

## 1.7 SAFETY

Historic (1980-1984) accident data was provided by the Florida DOT. The information was provided in a summary form for the entire section of US 19 under study. This data was also broken into individual roadway segments detailing specific roadway conditions and intersection locations with high safety ratios.

An important fact related to accidents is the safety ratio which is determined by:

$$\frac{\text{Actual Accidents}/10^6 \text{ miles}}{\text{Critical Accidents}/10^6 \text{ miles}} = \text{Safety Ratio}$$

The actual accident rate (AAR) is calculated from accident data supplied by the Florida Department of Transportation. The critical accident rate (CAR) is based on State averages for similar road types. If the AAR/CAR is greater than 1, the intersection is considered a critical location.

It should be noted that generally the safety ratio for US 19 demonstrates a decline from 1980 to 1984. This can be attributed to recent (1982-83)

improvements to US 19 and resultant higher number computed for critical accident rate used in the formula for the US 19 corridor safety ratio. The safety ratio for specific segments of US 19 varies due to the number of accidents, vehicle miles of travel and roadway construction type. A safety ratio greater than 1.00 is undesirable. As the current arterial improvements become more and more congested with a greater travel demand, the accident safety ratio would be expected to rise again.

Accident data (average values) for the entire US 19 study corridor are presented in Table 1.7. Accident data for the specific design segments of the US 19 corridor were analyzed and are presented in Tables 1.8 through 1.11. Exhibit 2.2 presents the design segments in graphic form. These tables provide accident data for the four analysis segments studied in detail in the US 19 Design Alternatives Report.[1] Table 1.8 presents data for the US 19 facility from Gandy Boulevard north to 126th Avenue North (Design Segment A). Table 1.9 provides accident data for US 19 from north of SR 686 to south of Enterprise Road (Design Segment B). Table 1.10 presents accident data for the US 19 roadway from north of SR 580 to south of SR 582 (Design Segment C). Table 1.11 provides accident data for US 19 from north of SR 582 (Tarpon Avenue) to north of SR 595 (Alternate US 19); Design Segment D.

TABLE 1.7

U.S. 19 ACCIDENT DATA SUMMARY:
GANDY BOULEVARD TO ALTERNATE U.S. 19

| Year | Accidents | ADT[1] | Actual Accident Rate[1,2] | Critical Accident Rate[1,2] | Safety Ratio | Fatalities | Injuries | Property Loss ($) | Economic Loss ($) |
|---|---|---|---|---|---|---|---|---|---|
| 1980 | 1,102 | 41,210 | 3.421 | 6.563 | 0.521 | 14 | 770 | $3,965,840 | $8,960,000 |
| 1981 | 1,200 | 41,470 | 3.356 | 6.549 | 0.512 | 11 | 802 | $5,017,790 | $8,616,000 |
| 1982 | 1,266 | 40,920 | 3.315 | 6.585 | 0.503 | 15 | 853 | $5,429,120 | $9,824,000 |
| 1983 | 1,307 | 40,500 | 3.390 | 7.005 | 0.484 | 12 | 880 | $3,788,000 | $10,824,000 |
| 1984 | 841 | 42,810 | 2.234 | 4.603 | 0.485 | 15 | 843 | $2,463,000 | $11,139,900 |
| TOTAL | 5,716 | | | | | 67 | 4,148 | $20,663,750 | $49,363,900 |

Data supplied by FDOT.

[1]Average Volume.

[2]Accident/Million Vehicle Miles.

TABLE 1.8

GANDY BOULEVARD NORTH TO 126TH AVENUE NORTH
U.S. 19 DESIGN SEGMENT A
ACCIDENT SUMMARY DATA

| Year | Accidents | ADT[1] | Actual Accident Rate[1] | Critical Accident Rate[1] | Safety Ratio | Fatalities | Injuries | Property Loss ($) | Economic Loss ($) |
|---|---|---|---|---|---|---|---|---|---|
| 1980 | 176 | 33,370 | 3.416 | 6.644 | 0.514 | 1 | 129 | $631,600 | $1,232,000 |
| 1981 | 166 | 34,060 | 3.156 | 6.628 | 0.476 | 3 | 78 | $798,280 | $1,224,000 |
| 1982 | 151 | 29,830 | 3.278 | 6.701 | 0.489 | 4 | 86 | $545,730 | $1,488,000 |
| 1983 | 141 | 28,550 | 3.198 | 7.144 | 0.447 | 2 | 82 | $305,000 | $1,202,600 |
| 1984 | 110 | 36,592 | 1.947 | 4.634 | 0.420 | - | 76 | $267,000 | $706,800 |
| TOTAL | 744 | | | | | 10 | 451 | $2,547,610 | $5,853,400 |

Data supplied by FDOT.

[1]Accident/Million Vehicle Miles.

TABLE 1.9

ACCIDENT SUMMARY DATA
U.S. 19 DESIGN SEGMENT B
SR 686 to South of Enterprise Road

| Year | Accidents | ADT[1] | Actual Accident Rate[1] | Critical Accident Rate[1] | Safety Ratio | Fatalities | Injuries | Property Loss ($) | Economic Loss ($) |
|---|---|---|---|---|---|---|---|---|---|
| 1980 | 594 | 49,920 | 5.174 | 6.288 | 0.822 | 7 | 437 | $2,057,090 | $4,896,000 |
| 1981 | 700 | 45,520 | 6.687 | 6.325 | 1.051 | 6 | 489 | $2,858,740 | $5,112,000 |
| 1982 | 669 | 50,790 | 5.728 | 6.280 | 0.912 | 10 | 488 | $3,047,300 | $5,904,000 |
| 1983 | 712 | 50,812 | 6.093 | 6,682 | 0.911 | 2 | 501 | $2,287,000 | $5,099,300 |
| 1984 | 376 | 54,360 | 2.993 | 4.357 | 0.686 | 7 | 374 | $1,171,000 | $5,018,200 |
| TOTAL | 3,051 | | | | | 32 | 2,289 | $11,421,130 | $26,029,500 |

Data supplied by FDOT

[1] Accident/Million Vehicle Miles

TABLE 1.10

ACCIDENT SUMMARY DATA
U.S. 19 DESIGN SEGMENT C
SR 580 to South of SR 582

| Year | Accidents | ADT[1] | Actual Accident Rate[1] | Critical Accident Rate[1] | Safety Ratio | Fatalities | Injuries | Property Loss ($) | Economic Loss ($) |
|---|---|---|---|---|---|---|---|---|---|
| 1980 | 293 | 40,680 | 2.294 | 6.250 | 0.367 | 5 | 185 | $1,148,380 | $2,480,000 |
| 1981 | 298 | 40,300 | 2.355 | 6.258 | 0.376 | 2 | 222 | $1,239,610 | $2,176,000 |
| 1982 | 413 | 46,090 | 2.854 | 6.210 | 0.459 | 1 | 252 | $1,712,330 | $2,216,000 |
| 1983 | 423 | 45,640 | 2.952 | 6.613 | 0.446 | 8 | 276 | $1,113,000 | $4,326,800 |
| 1984 | 316 | 42,712 | 2.356 | 4.338 | 0.543 | 6 | 362 | $917,000 | $4,686,600 |
| TOTAL | 1,743 | | | | | 22 | 1,297 | $6,130,320 | $15,885,400 |

Data supplied by FDOT.

[1]Accident/Million Vehicle Miles.

TABLE 1.11

ACCIDENT SUMMARY DATA
U.S. 19 DESIGN SEGMENT D
SR 582 (Tarpon Avenue) to North of SR 595 (Alternate US 19)

| Year | Accidents | ADT[1] | Actual Accident Rate[1] | Critical Accident Rate[1] | Safety Ratio | Fatalities | Injuries | Property Loss ($) | Economic Loss ($) |
|---|---|---|---|---|---|---|---|---|---|
| 1980 | 39 | 40,880 | 1.497 | 7.071 | 0.211 | 1 | 19 | $128,770 | $352,000 |
| 1981 | 36 | 46,010 | 1.227 | 6.985 | 0.175 | - | 13 | $121,160 | $104,000 |
| 1982 | 33 | 36,980 | 1.400 | 7.149 | 0.195 | - | 27 | $123,760 | $216,000 |
| 1983 | 31 | 36,988 | 1.315 | 7.581 | 0.173 | - | 21 | $83,000 | $195,300 |
| 1984 | 39 | 37,316 | 1.639 | 5.081 | 0.322 | 2 | 31 | $108,000 | $728,300 |
| TOTAL | 178 | | | | | 3 | 111 | $564,690 | $1,595,600 |

Data supplied by FDOT

[1]Accident/Million Vehicle Miles.

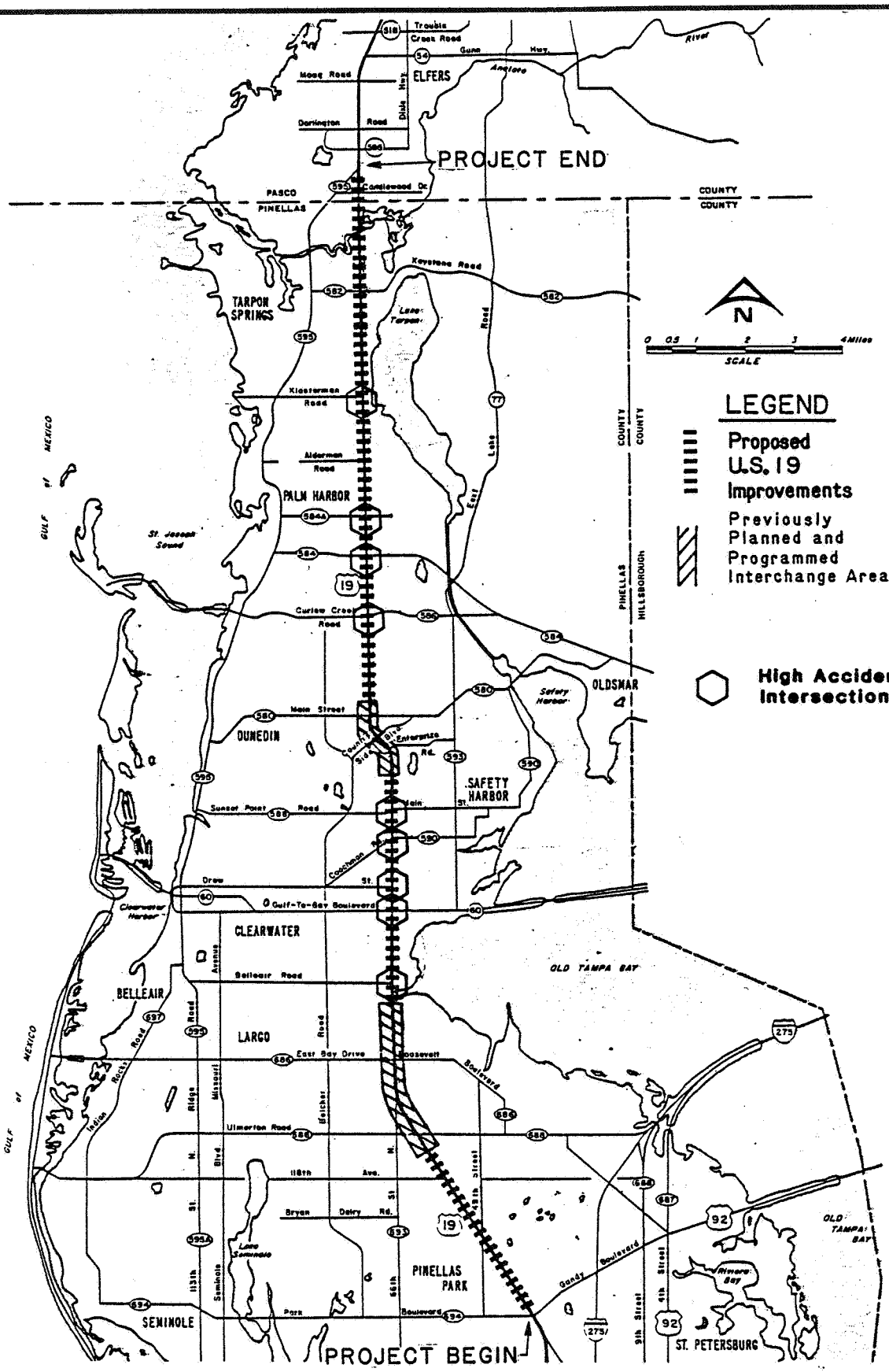
Review of the accident tables (Table 1.9 through 1.12) shows that the Design Segment B (SR 686 to south of Enterprise Road) had the worst safety ratio rating. This area of US 19 also had the largest number of total accidents (3,051), the highest number of fatalities (32), and the most injuries (2,289) of all four study segments.

The nine US 19 intersections with the worst records, in terms of their safety ratios, are provided in rank order in Table 1.12. The figures provided in Table 1.12 are averages of the 1980-1984 values for each intersection. Eight of the nine intersections listed have safety ratios greater than 2.0, which is excessive.

These safety ratios higher than 1.0 indicate that the intersections could use some form of geometric/signalization improvements due to safety considerations. The two worst intersections (based on safety ratios) are Drew Street and Sunset Point Road. Exhibit 1.10 shows the locations of the nine intersections.

## 1.8 NAVIGATION

Bridge structures are located at four (4) waterways. Allen's Creek, Alligator Creek, Cross Bayou Canal, and the Anclote River. Table 1.13 provides the




SOURCE: Florida Department of Transportation

# U.S.19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES

**Pinellas and Pasco Counties, Florida**

**STATE PROJECT NO. 15150-1565**

# HIGH ACCIDENT INTERSECTION LOCATIONS

**Florida Department of Transportation**

Greiner Engineering Sciences, Inc.

EXHIBIT 1.10

Exhibit 1.10

TABLE 1.12

U.S. 19 CRITICAL INTERSECTION ACCIDENT SUMMARY
1980 - 1984 Averages

| U.S. 19 Intersection With | Accidents/Year | Actual Accident Rate/Year[1] | Critical Accident Rate/Year[1] | Safety Ratio/Year | Fatalities/ Year | Injuries/Year | Property Loss ($)/Year | Economic Loss ($)/Year |
|---|---|---|---|---|---|---|---|---|
| Drew Street | 34 | 49.522 | 13.548 | 3.655 | 0.6 | 25 | $110,228 | $337,980 |
| Sunset Point Road | 31 | 47.428 | 13.748 | 3.450 | --- | 20 | $99,644 | $172,820 |
| Klosterman Road | 23 | 38.521 | 14.276 | 2.698 | 0.4 | 24 | $112,130 | $289,540 |
| Belleair Road | 20 | 34.908 | 14.396 | 2.425 | --- | 17 | $83,878 | $138,000 |
| Curlew Road | 22 | 32.894 | 13.841 | 2.377 | 0.2 | 18 | $101,150 | $192,620 |
| Coachman Road | 21 | 28.961 | 13.568 | 2.135 | 0.4 | 16 | $72,402 | $177,040 |
| Ozona/Tampa Highway | 19 | 29.560 | 13.936 | 2.099 | 0.6 | 16 | $75,846 | $268,060 |
| Nebraska Avenue | 18 | 28.221 | 14.089 | 2.003 | 0.2 | 15 | $79,208 | $164,580 |
| Gulf to Bay Boulevard | 57 | 5.561 | 7.598 | 0.732 | 0.4 | 38 | $233,208 | $321,120 |
| TOTAL | 245 | | | | 2.8 | 189 | $967,924 | $2,061,760 |

Data supplied by FDOT.

5-Year Average Value - Ranked by Safety Ratios

[1]Accident/Million Vehicle Miles.

TABLE 1.13

US 19 BRIDGE STRUCTURE DATA

| Waterway | Structure Number | Structual Condition Rating | Estimated Remaining Life | Bridge Roadway Curb to Curb |
|---|---|---|---|---|
| Cross Bayou Canal | 150035 | 5 | 16 years | 40.0 feet |
| Cross Bayou Canal | 150080 | 5 | 15 years | 40.0 feet |
| Allens Creek | 150036 | 5 | 15 years | 120.0 feet |
| Alligator Creek | 150033 | 9 | 12 years | -- |
| Anclote River | 150032 | 9 | 28 years | 28.0 feet |
| Anclote River | 150084 | 9 | 34 years | 40.0 feet |

Source: Florida Department of Transportation

bridge structure number, condition rating, estimated remaining life and existing roadway width.

The proposed action will require the replacement of bridges in order to satisfy design requirements of a freeway mainline with two one-way frontage roads, and maintain traffic during construction. None of the structures listed in Table 1.13 are over navigable waters.

The U.S. Coast Guard is a cooperating agency on this project and received notification of the study. Correspondence received regarding the proposed improvements are located in Appendix D.

## REFERENCE

[1] Design Alternatives Report - U.S. 19 Project Development and Environmental Studies. Pinellas and Pasco Counties, Florida, State Project No. 15150-1565, Prepared for the Florida Department of Transportation. Prepared by Greiner Engineering, Inc., April, 1986.

# SECTION 2

## 2.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION

This section of the Draft Environmental Impact Statement provides a general summary of all the alternatives considered but rejected, the alternatives considered for further study, the alternatives recommended at the public workshop and the "Proposed Action". The section includes the evaluation criteria and matrix which led to the development of viable and preferred alternatives.

### 2.0.1 TRAFFIC DEMAND

Section 1 of this report discusses the year 2010 traffic projections for a basic freeway concept applied to US 19. This analysis, presented in Exhibits 1.7 and 1.8, provides the basis for a conceptual test of Pinellas County's US 19 Ultimate Design Concepts (See Exhibit 1.1) and the year 2010 Long-Range highway plan. The freeway traffic demand analysis serves as the base case analysis for improvements to U.S. 19.

Evaluation of the US 19 corridor with Pinellas County's Year 2010 freeway concept improvements was conducted using a link analysis. The freeway base case analysis assumed a six-lane freeway with parallel two-lane, one-way frontage roads throughout the corridor. The combined laneage capacity was then compared to demand traffic volumes by direction and a level of service

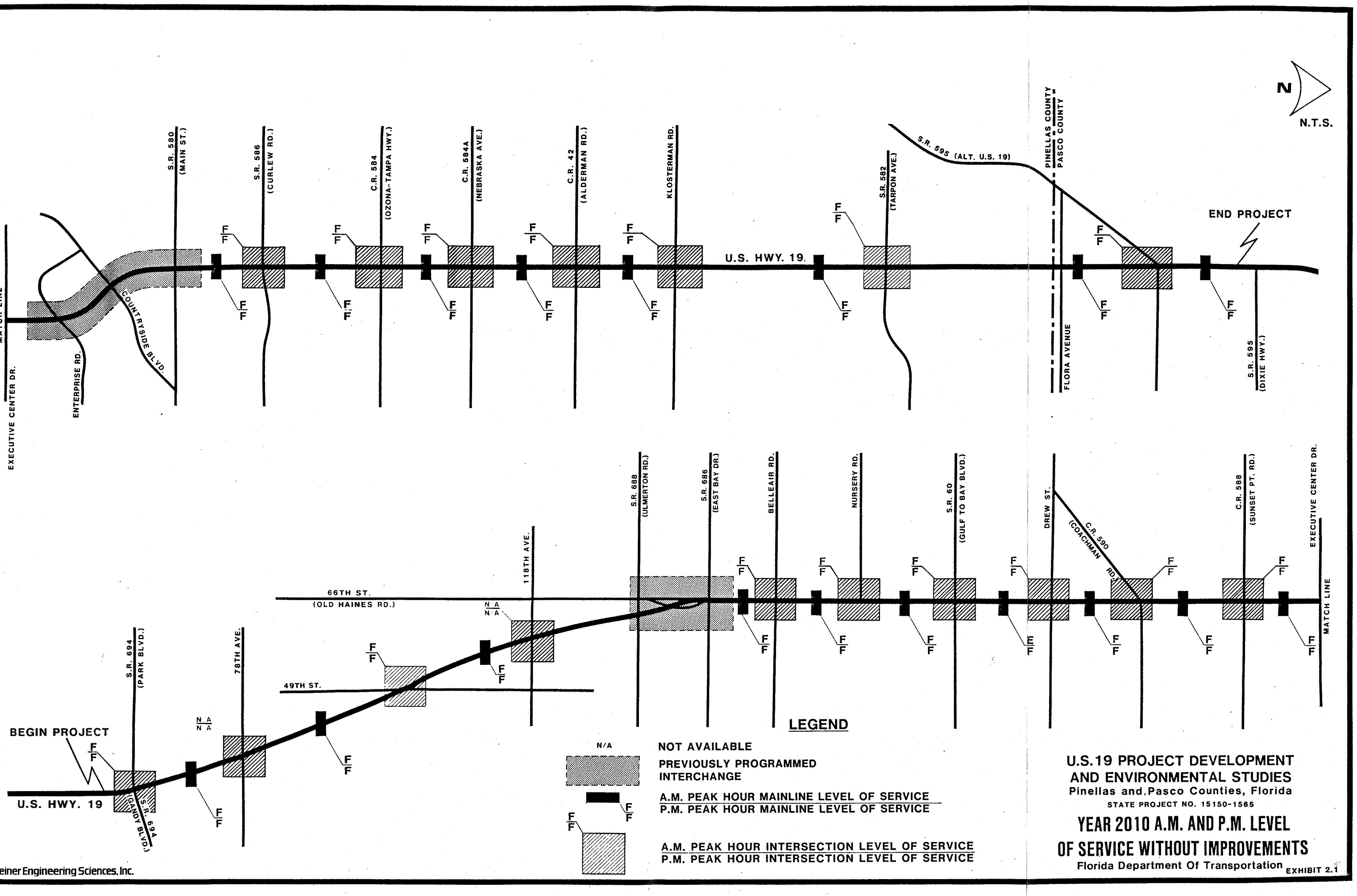
estimated based on the volume-to-capacity ratio. The conceptual base case analysis for the year 2010 traffic indicates levels of service on US 19 would be at a level of D or better throughout the study area. The freeway concept plan analysis levels of service are presented graphically on Exhibit 1.9.

Year 2010 traffic demand was also utilized to evaluate the No-Project scenario for US 19. The 2010 traffic was assigned to the existing US 19 geometry and an analysis conducted to determine operational characteristics. The intersection LOS for a No-Action Alternative was computed by using existing intersection geometry. This reflects anticipated roadway conditions without any corridor improvements. The various US 19 roadway link and intersection a.m. and p.m. levels of service are provided for this "No Improvement" scenario graphically on Exhibit 2.1. There are no links operating above Level of Service F in 2010 without improvements.

The No-Action Alternative and its impacts are discussed in more detail in Section 2.1 of this report.

### 2.0.2 ROADWAY DESIGN AND ACCESS

In order to conduct an analysis of the various alternatives for improvements to US 19 decisions on roadway design were necessary. This involved an examination of the existing roadway, abutting land use and adopted




# U.S.19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES

Pinellas and Pasco Counties, Florida

STATE PROJECT NO. 15150-1565

## YEAR 2010 A.M. AND P.M. LEVEL OF SERVICE WITHOUT IMPROVEMENTS

Florida Department Of Transportation

EXHIBIT 2.1

Greiner Engineering Sciences, Inc.

transportation plans and policies. More detailed information on the process used to determine the roadway design and planning criteria is found in the Design Alternatives Report.[1] This report is appended by reference.

Existing right-of-way along the corridor's project limits is typically 200 feet with variation in some areas. In most cases, interchange locations and ramp terminals will require additional right-of-way. However, with right-of-way being one of the primary planning concerns, most mainline sections (six-lane) and overpass locations have been designed, where practical, to fit within the existing right-of-way. In addition, all of the overpasses and interchanges are proposed as urban interchange turning movements with retaining walls. The County's adopted US 19 Ultimate Design Concepts plan specifies the urban interchange design as a policy. The County's freeway concept provides the basic format of improvements, with modifications to the basic plan forming the various alternative concepts for US 19.

Specific design criteria approved by the FDOT and FHWA are provided in Table 2.1. Typical sections, which include the mainline above and below grade (six and eight lanes), interchanges (six- and eight-lane mainline), and a typical overpass and bridge crossing as shown on Exhibits 2.2, 2.3 and 2.4. Also provided on Exhibits 2.5 and 2.6 are plan and elevation views of six- and eight-lane interchanges.

## TABLE 2.1

## U.S. 19 CONCEPT DESIGN CRITERIA

**Design Speeds**

* Mainline - 60 mph desirable/55 mph
* Slip Ramps - 50 mph desirable.40 mph
* Cross Streets - 45 mph
* Frontage Roads - 45 mph

**Pavement Widths**

* Mainline - 12′ standard lane width
* Interchange Turning Lanes - 12′ plus widening for curvature - AASHTO Standards
* Ramps - Single Lane 15′ minimum
* Cross Streets - 12′ Lanes (through lanes)

**Shoulder Widths**

* Mainline Roadway Section - 8′ Paved Outside Right, (actually 10′ including 2′ of the 3.5′ shoulder gutter), 10′ Paved Inside Left
* mainline Bridge Section - 10′ Outside Right, 10′ Left

**Median Widths**

* Roadway Mainline Section - 22′ (includes barrier wall)

**Vertical Clearances**

* Mainline and Ramps - 16.5′ Minimum

**Vertical Alignment**

* Rates of Grade: Mainline - 3% Desirable/5% Maximum
  Ramps - 4% Desirable/6% Maximum
* Stopping Sight Distance - AASHTO Standards
* Length of Crest and Sag Vertical Curves - 1984 AASHTO Standards Desirable with consideration for Decision Sight Distance at points of conflict.

## TABLE 2.1

## U.S. 19 DESIGN CONCEPT CRITERIA
## (Continued)

### Horizontal Alignment

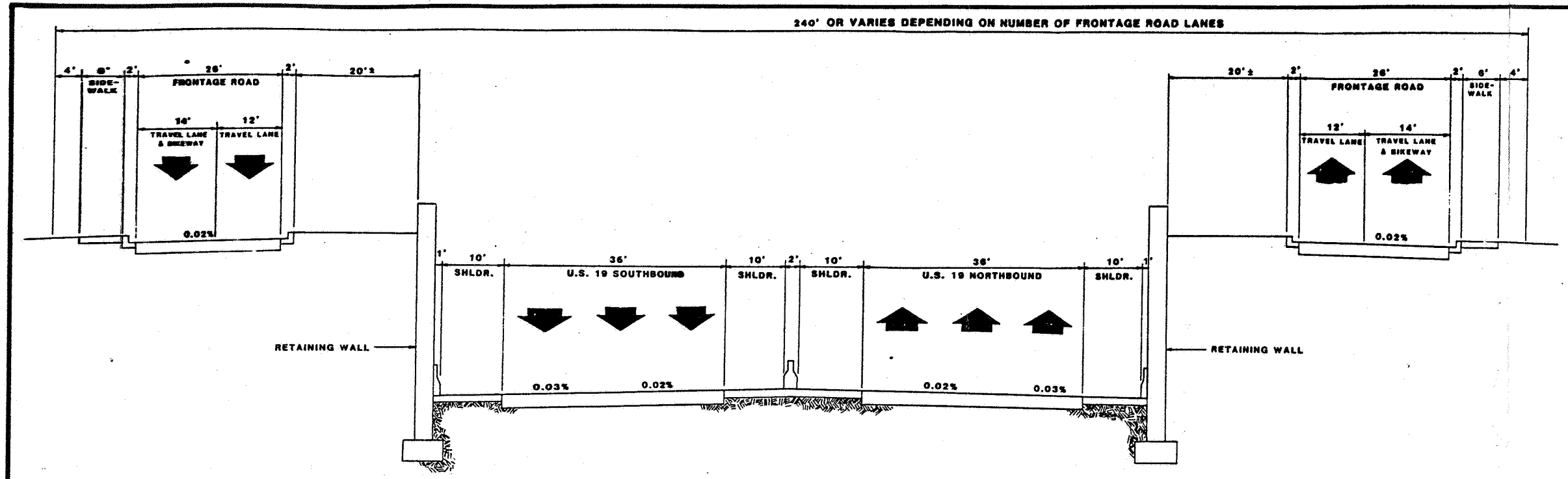
* Degree of Curve: Mainline - 4° Maximum/3.5° desirable
  Slip Ramps - 6° Maximum
* Minimum Length of Curve - 400'
* Tangents - Length between reversed curves should be adequate to facilitate super-elevation transition.
* Ramp Terminal Design - FDOT Roadway Standards

### Cross Slopes - Tangent Sections

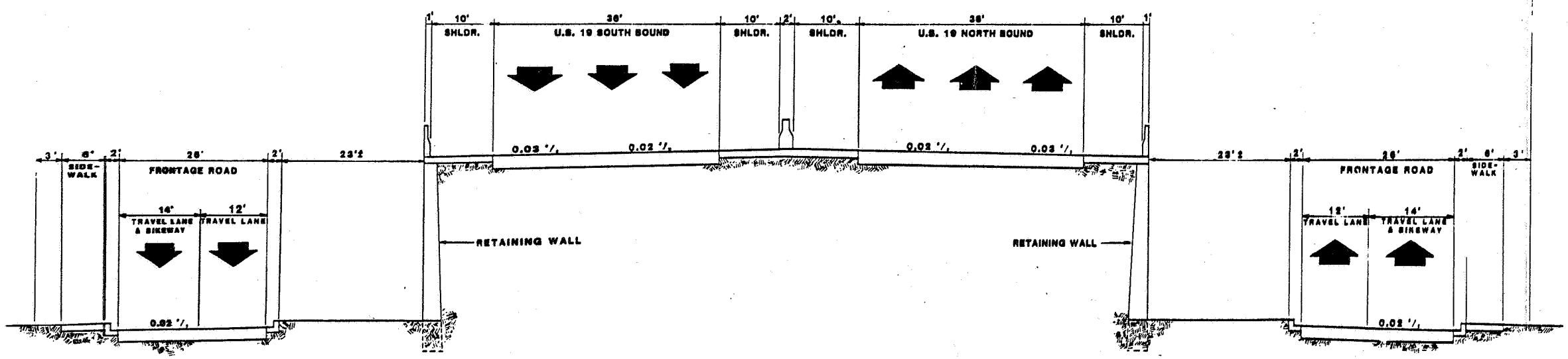
* Mainline - Slopes downwards at 0.03ft./ft. on the outside lane and 0.02ft./ft. on two inside lanes.
* Embankment Slopes: Index 700 FDOT Roadway Standards
* Ramps - Slopes downward at 0.02 ft./ft.

### Sources

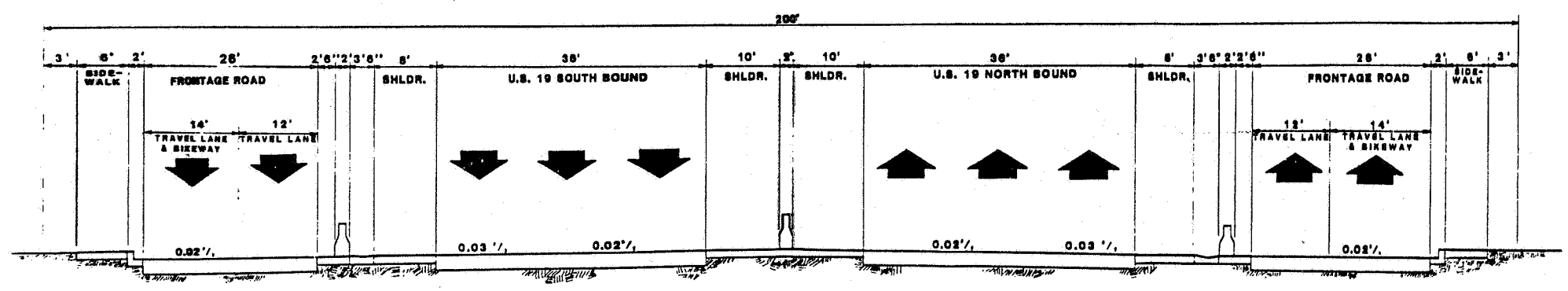
* "A Policy on Geometric Design of Highways and Streets", AASHTO, 1984
* Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways," FDOT, 1981.
* "Roadway and Traffic Standards", FDOT, 1984.




6-LANE DEPRESSED URBAN INTERCHANGE TYPICAL SECTION




6-LANE URBAN INTERCHANGE TYPICAL SECTION




6-LANE MAINLINE TYPICAL SECTION

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**U.S. 19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES**

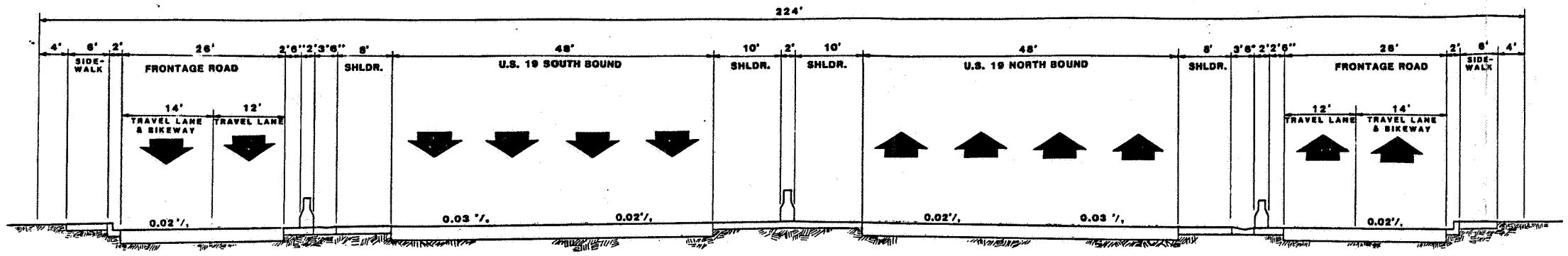
**Pinellas and Pasco Counties, Florida**

STATE PROJECT NO. 15150-1565

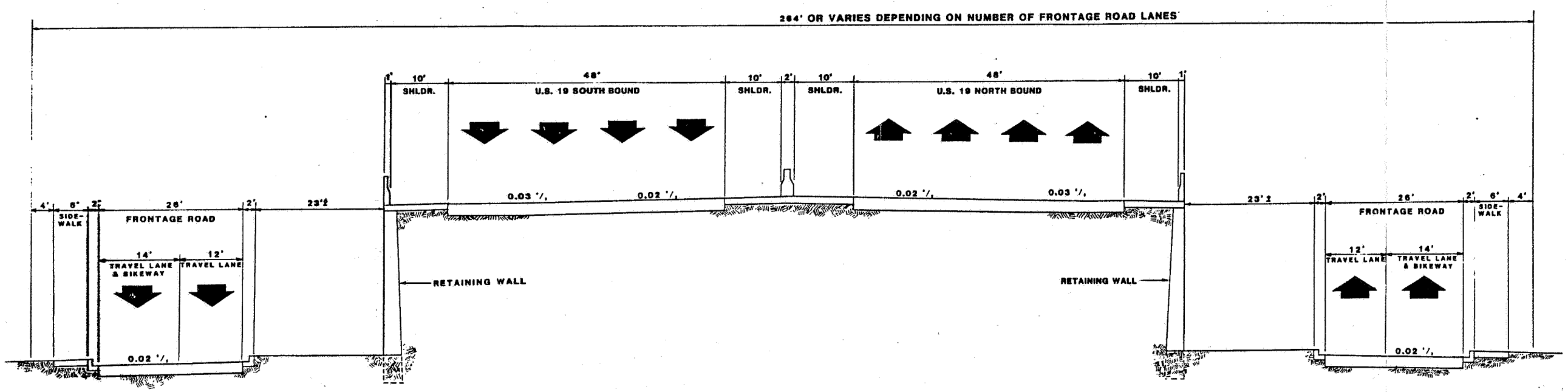
# 6 LANE TYPICAL SECTIONS

**Florida Department of Transportation**

EXHIBIT 2.2




**8-LANE MAINLINE TYPICAL SECTION**




**8-LANE URBAN INTERCHANGE TYPICAL SECTION**

**U.S. 19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES**
**Pinellas and Pasco Counties, Florida**
STATE PROJECT NO. 15150-1565

# 8 LANE TYPICAL SECTIONS

**Florida Department of Transportation**
EXHIBIT 2.3

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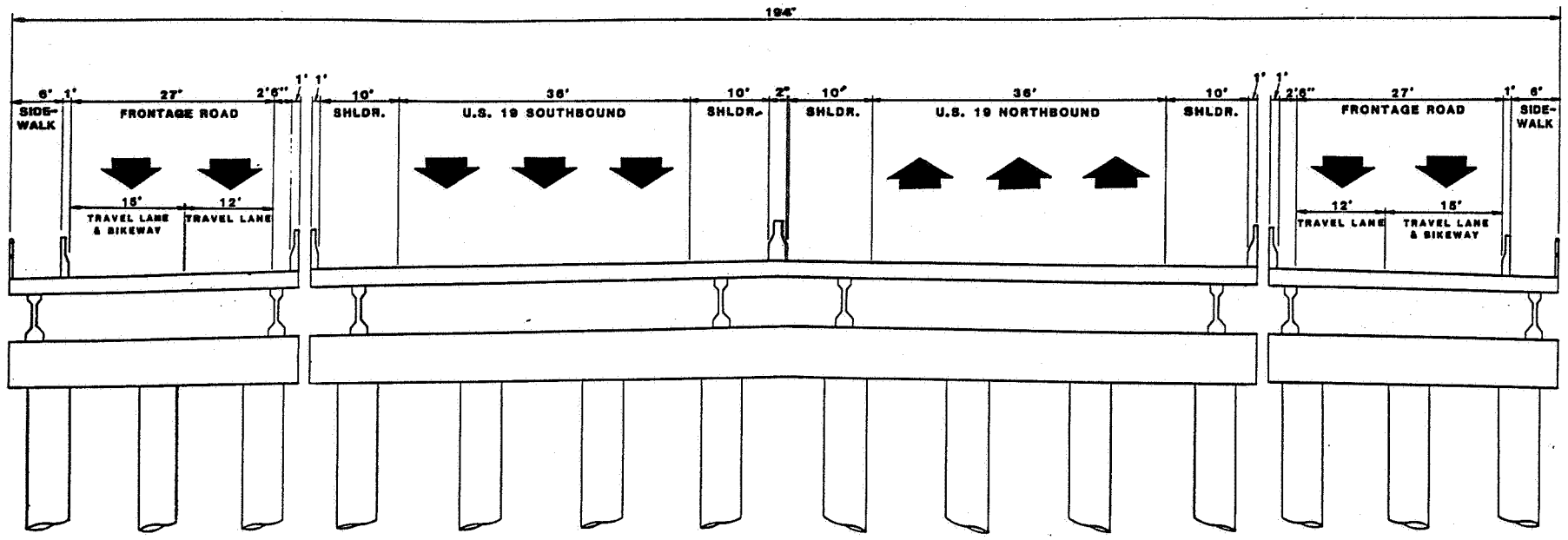
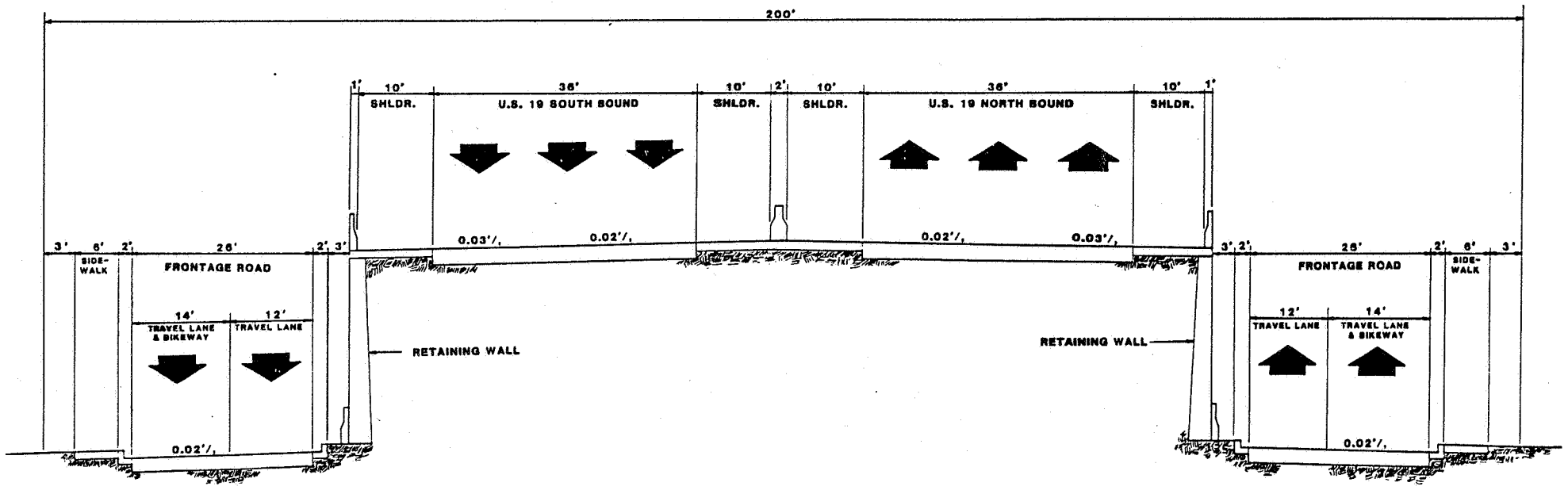



**MAINLINE AND FRONTAGE ROAD TYPICAL SECTION ACROSS WATER BODY**



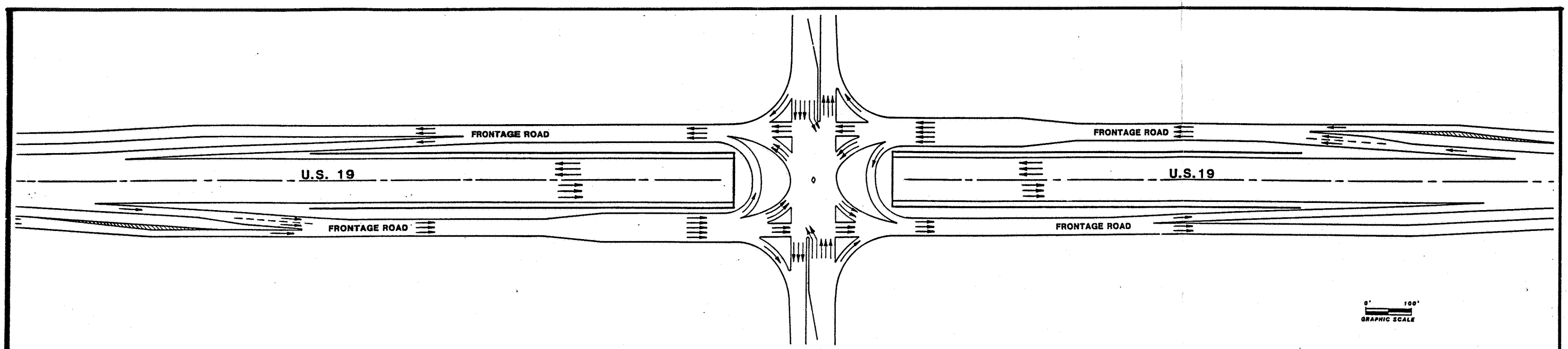

**URBAN OVERPASS TYPICAL SECTION**

**U.S. 19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES**
**Pinellas and Pasco Counties, Florida**
STATE PROJECT NO 15150-1565

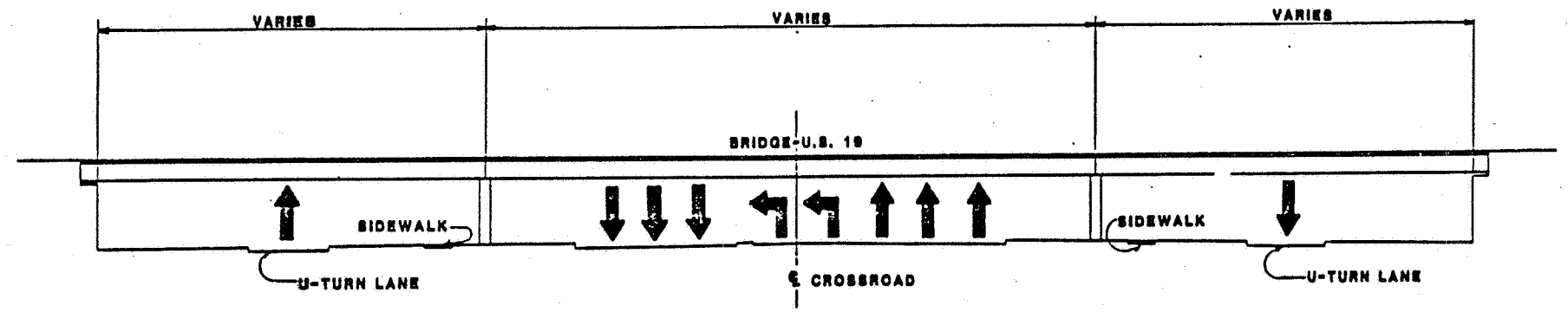
# BRIDGE CROSSING AND OVERPASS TYPICAL SECTIONS

**Florida Department of Transportation**
EXHIBIT 2.4

Greiner Engineering Sciences, Inc.




**TYPICAL INTERCHANGE PLAN VIEW**
**CONVENTIONAL RAMPS WITH 6-LANE MAINLINE**



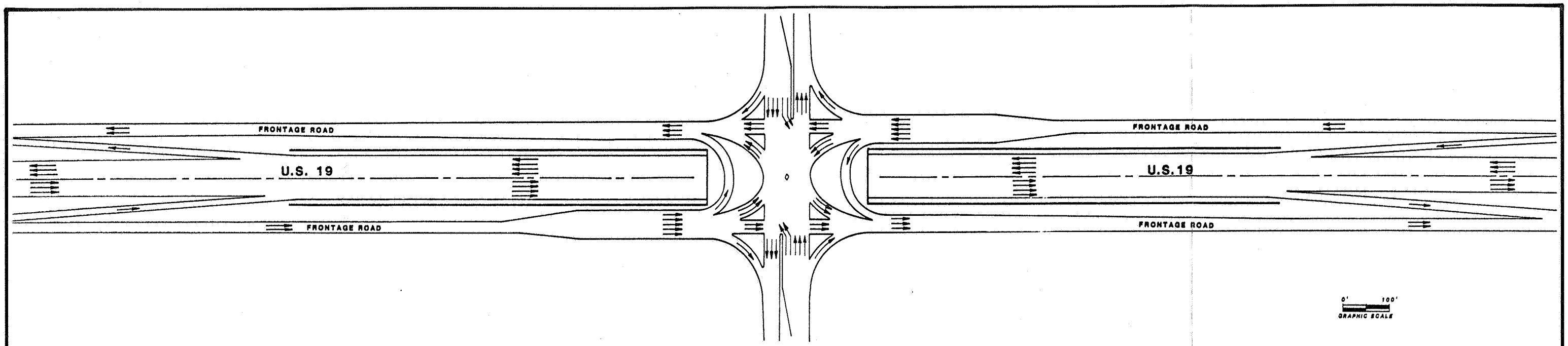

**TYPICAL CROSSROAD ELEVATION AT INTERCHANGE**

**U.S. 19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES**
**Pinellas and Pasco Counties, Florida**
STATE PROJECT NO. 15150-1565

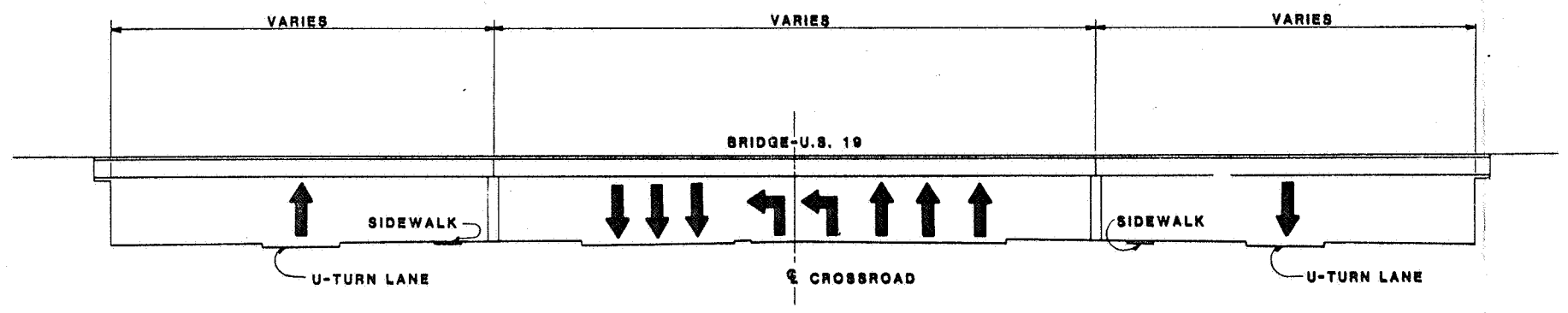
# TYPICAL 6 LANE INTERCHANGE PLAN AND ELEVATION

**Florida Department of Transportation**
EXHIBIT 2.5

Greiner Engineering Sciences, Inc.




**TYPICAL INTERCHANGE PLAN VIEW**
**REVERSED RAMPS WITH 8-LANE MAINLINE**




**TYPICAL CROSSROAD ELEVATION AT INTERCHANGE**

**U.S. 19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES**
**Pinellas and Pasco Counties, Florida**
STATE PROJECT NO. 15150-1565

# TYPICAL 8 LANE INTERCHANGE PLAN AND ELEVATION

**Florida Department of Transportation**

EXHIBIT 2.6

Greiner Engineering Sciences, Inc.

A profile of the existing and proposed vertical alignment was developed to verify the practicality of bridge clearances and ramp terminal locations.

The lane geometry developed for all design alternatives is based on Year 2010 traffic projects.

Accessibility is a key factor in the proposed conversion of US 19 from an arterial to a freeway design concept. A nationwide review of freeway frontage/service road applications was undertaken by the Florida DOT and its consultants, and data provided from this investigation assisted in the development of accessibility criteria. A principal factor in the accessibility of US 19 is the frequency of corridor crossovers or turnarounds. This factor dictated a design concept of minimizing the distance a traveler would have to drive before the opportunity to cross US 19 and proceed in the opposite direction.

## Interchanges

The general design rule for the study was that interchange and crossovers should be located and designed at all major crossroads as adopted in the Year 2010 Long-Range Highway Plan and the County's US 19 Ultimate Design Concepts map (Exhibit 1.1) and within applicable design criteria (Table 2.1).

## Overpasses

In addition to interchanges, supplemental cross-corridor access and circulation should be provided by overpasses at the following locations or situations:

- o Crossroad overpasses identified in the County's **US 19 Ultimate Design Concepts** map.

- o Minor arterials serving large local developments or tributary areas to US 19 traffic.

- o If distance between interchanges or other crossovers is greater than one mile.

- o If placement of potential interchange ramp movements conflicted with another interchange's ramp placement.

Overpass areas and location opportunities were determined by examining traffic conditions at minor cross streets, distances between access areas (interchanges), and examining exiting or proposed development along the corridor.

Service/Frontage Roads

The US 19 service/frontage road concepts provide for local access from abutting properties. Alternative one- and two-way frontage road concepts were evaluated.

The US 19 service/frontage road design incorporates a continuous one-way, wide outside curb lane which will be striped for bicycle use. A review of Exhibits 2.2, 2.3 and 2.4 shows this major regional bicycle travelway. This continuous bicycle route will form the "spine" of the County's bicycle route system. Adequate crossroad travelways for bicycles have been provided at interchanges and overpasses.

Pedestrian access and safety has been accomplished by dedication of a continuous six- foot sidewalk parallel to the local service roads. A review of Exhibits 2.2, 2.3 and 2.4 also shows this feature for all typical sections.

## 2.1 NO-ACTION ALTERNATIVE

Traffic demand and level of service for the No-Action Alternative were presented and discussed in Section 2.02 of this report and presented on Exhibit 2.1. A discussion of the No-Action Alternative follows.

Most of the existing US 19 24.6-mile length consists of a four- and six-lane divided highway. Maximum acceptable capacity of a four-lane and six-lane roadway would be approximately 36,000 and 55,700 vehicles per day. Therefore, if these improvements were not implemented, between 11,300 (near 49th Street) to 73,000 (near the County line) vehicles per day would have to be diverted to under-planned parallel facilities by the design year 2010. Moreover, at maximum capacity, US 19 traffic would be operating at speeds equal to or less than 7 miles per hour. Congestion would increase travel times for motorists, resulting in increased fuel consumption, higher levels of air pollutants and greater delays for emergency services.

Conversely, if the project is not constructed, there would be no displacement of businesses or families, no biotic community impacts would occur, construction impacts would not occur, right-of-way would not have to be acquired, funds would not have to be expended, and the view of the road would remain constant. However, these limited beneficial attributes of not implementing the proposed action would be at the expense of increased adverse impacts resulting from congesting roads in parallel corridors.

It should be noted that the existing a.m. and p.m. peak levels of service are uniformly below LOS E at most intersections and mainline segments from Gandy Boulevard to Alderman Road. The No-Action Alternative would only perpetuate this intolerable situation.

The postponement of action in the US 19 corridor could have severe economic consequences for the Upper Pinellas County development community. Improvements to US 19 are critical to the continued acceptance of further large-scale developments in the County, and lack of capacity in the US 19 corridor could impede or defer economic growth in the north Pinellas economy.

All of the alternatives, including the No-Action Alternative, are under consideration as the possible final action until the public hearing is held and comments on the Draft Environmental Impact Statement have been evaluated.

## 2.2 TRANSPORTATION SYSTEMS MANAGEMENT ALTERNATIVE

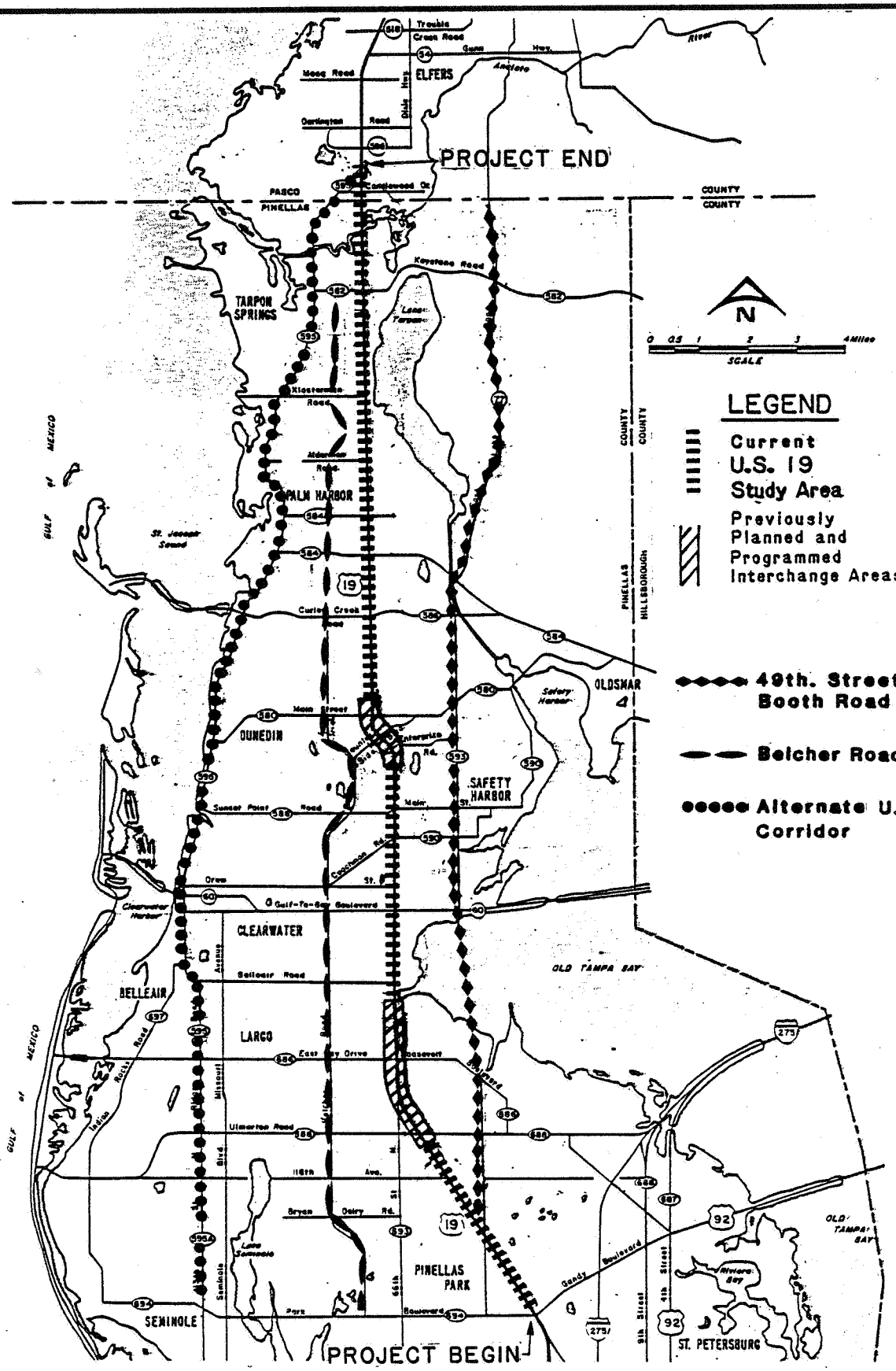
In lieu of the Construction or No-Action Alternatives, a Transportation System Management (TSM) concept which would maximize utilization of the existing facility was considered. The existing four- and six-lane roadway could not be significantly upgraded with geometric intersection improvements or traffic signal timing optimizations to carry the projected 2010 traffic volumes. The existing traffic demand exceeds the reasonable capacity of an eight-lane arterial. Moreover, with a significantly greater number of vehicles on an upgraded roadway, there would be a generally higher level of air and noise pollution than for the No-Action Alternative, with emergency response times during the peak hours being about the same.

## 2.3 MULTI-MODAL ALTERNATIVES

The Pinellas Suncoast Transit Authority (PSTA) operates a limited service system in Pinellas County and transit is not considered a reasonable nor feasible alternative solution to the US 19 traffic demands. Current estimates of transit usage in the PSTA service area of 0.8 percent mode split indicate that transit usage would not be sufficient to serve as an alternative to upgrading and improving this section of US 19.

A rideshare program, called Share-A-Ride, is sponsored by the Pinellas County Metropolitan Planning Organization and the Florida Department of Transportation. In 1986, approximately 300 persons participated in the program. Standard Florida Department of Transportation signs promoting the program are located at major intersections along US 19. While participation is expected to significantly increase in the future, it is not sufficient for rideshare to serve as an alternative to upgrading US 19.[2]

Pinellas County and the Florida Department of Transportation have recently completed Phase IIA Transitional Study for Guideway Transit project in Pinellas County. This study was a broad examination of the potential for high technology transit in select corridors. No decision was reached during Phase IIA of the study on specific technology, station locations, or ridership. Phase IIB Alternatives Analysis/Environmental Impact Statement studies were




# U.S.19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES

**Pinellas and Pasco Counties, Florida**

**STATE PROJECT NO. 15150-1565**

# ALTERNATIVE CORRIDORS CONSIDERED

**Florida Department of Transportation**

Greiner Engineering Sciences, Inc.

**EXHIBIT 2.7**

initiated in January 1987. Alternative alignments currently under study are Alternatives 8-1 through 8-5 which follows US 19 from Roosevelt Boulevard to Countryside Mall. Since no selection of alignment routes, station locations, determination of ridership, nor development of technology has been finalized, the effect of advanced technology transit on redevelopment of the US 19 corridor is unknown.

## 2.4 CONSTRUCTION ALTERNATIVES

### 2.4.1 ALTERNATIVE CORRIDORS

An examination of the geography and demographics of upper Pinellas County serves as an excellent background to the discussion of alternative corridors to the US 19 proposed upgrading. Exhibit 2.7 shows three likely alternative corridors:

- SR 595 (Alternate US 19)
- Belcher Road (CR 70)
- 49th Street/McMullen-Booth Road/East Lake Road

Exhibit 2.7 shows the long-term connectivity of these local arterials.

## SR 595 (Alternate US 19)

This alternative corridor is planned as a six-lane arterial from Bay Pines Boulevard north to US 19 in Pasco County. The roadway is characterized by frequent traffic lights, limited right-of-way and is not located in a position to serve the central portion of Pinellas County. The highway could be characterized as a "scenic" route with its frequent routing through established local neighborhoods along the coastal communities.

## Belcher Road (CR 70)

Belcher Road serves as an existing reliever to US 19 from Park Boulevard (SR 694) on the south to the Countryside development area of Northeast Clearwater. Belcher Road is a six-lane arterial with limited design capacity within a restricted right-of-way from SR 694 to Countryside Boulevard on the north. North of Countryside Boulevard, Belcher is a four-lane arterial. The roadway currently terminates at Curlew Road (SR 584) on the north, but is planned to be extended to Tarpon Avenue (SR 582) in the Year 2010 Long-Range Plan. The segment of Belcher Road from Klosterman Road north to Lake Street is planned as a two-lane roadway.

An overriding problem with utilizing Belcher Road as a viable reliever to the upgrading needs of the US 19 corridor is the nature of the adjacent land uses

through which the roadway traverses. Except for isolated pockets of commercial activity located at major east-west arterials, Belcher Road runs adjacent to residential land uses and predominantly single family residences. An attempt to convert Belcher Road to a higher design facility such as a freeway would be met with significant public opposition. The Belcher Road corridor does not appear to be a viable alternative.

49th Street/McMullen-Booth/East Lake Road

Review of Exhibit 2.1 shows the 49th Street North Extension across Old Tampa Bay as being a tentative route pending approval of its financial feasibility, and environmental studies. Previous financial evaluations have shown this toll bridge corridor crossing of the Old Tampa Bay to not be a feasible bond project. During the past year, the Pinellas County Commission voted an additional two cent per gallon gas tax, a portion of which is dedicated to the 49th Street Bridge. Based upon the Commission action, it appears likely that the 49th Street Bridge crossing will be feasible in the near-term period through the early 1990's. The McMullen-Booth Road corridor from SR 60 north to the Pinellas-Pasco County Line is already included as a four- and six-lane arterial with access control in the highway network modeling for process used to develop the U.S. 19 traffic projections.

Recent feasibility studies for S.R. 686 took improvements on U.S. 19 (as a limited access expressway) into account and indicate the need for a six-lane bridge on 49th Street, further substantiating the need for both corridors.

Summary Of Alternative Corridors

The corridors evaluated as alternatives for U.S. 19 travel demand are already assumed to be at maximum laneage by the Pinellas County MPO's Adopted Plan; this is specifically true concerning the network modeling for the year 2010. The Pinellas County Plan already provides for 6 lanes on Alternate U.S. 19 from Tyrone Boulevard (south) to U.S. 19 in Pasco County (north), 6 lanes on Belcher Road from Park Boulevard (Gandy Boulevard) north to Countryside Boulevard, 4 lanes divided north to Klosterman Road, and 4 lanes divided on 49th Street from U.S. 19 to Pasco County. Since these facilities were designated to be at their reasonable limit of improvements, it was clear that these corridors could not be improved further to divert any significant U.S. 19 travel without violating generally accepted guidelines for size of major arterials.

### 2.4.2 ELEVATED FREEWAY CONCEPT

In addition to alternative corridors, the concept of a structurally elevated, or "double deck," freeway alternative was evaluated. The US 19 corridor from

Cross Bayou Canal north to Haines Bayshore Road (a distance of 3.71 miles) was selected as a case study area for the elevated freeway alternative. The same interchange opportunities and major crossroad access points were included in the case study. Comparison of costs for construction, design, utilities and right-of-way were conducted for the elevated versus the current design under construction. A separate report entitled Elevated Freeway Alternative, October 1987 was prepared.[3] This report is appended by reference.

The "double deck" concept provides less right-of-way takings, principally at major cross roads. Significant negative aspects to that concept include a far lower level of service for local traffic during peak hours, unless major expansion of the at-grade roadways were undertaken, and a lack of access to commercial establishments from the freeway. The concept also resulted in far larger capital expenditures than the conventional freeway, even taking into consideration the restricted right-of-way takings.

A basic element in the US 19 elevated freeway alternative is the need to reconstruct significant portions of US 19 due to the lack of adequate median to place suitable median pier supports. Two pier concepts were evaluated, single pier and multiple column/pier approaches. Both pier concepts required significant arterial reconstruction to allow for proper substructure construction to adequately support the superstructure.

Based upon the results of the elevated freeway alternatives study, it was recommended that such a concept not be implemented. Application of such a plan for the entire U.S. 19 corridor would not be cost effective and would not provide relief from traffic congestion or poor levels of service.

### 2.4.3 REASONABLE AND FEASIBLE ALTERNATIVES

The alignment of the upgraded US 19 roadway will generally follow the alignment of existing US 19. The specific alignment alternatives, along with alternative designs, are discussed in the following sections and evaluated based on selected factors to identify feasible alternatives for more detailed analysis. This section presents the alternative design concepts which have been developed as a result of evaluations of background data, traffic demand forecasts, and application of the design criteria to the facility concepts. These alternative design concepts are considered reasonable and feasible, in that they satisfy the planning and engineering criteria, appear to be acceptable from a community impact viewpoint and are cost-efficient designs. All of these alternatives appear to be "permittable" from the standpoint of current environmental regulations.

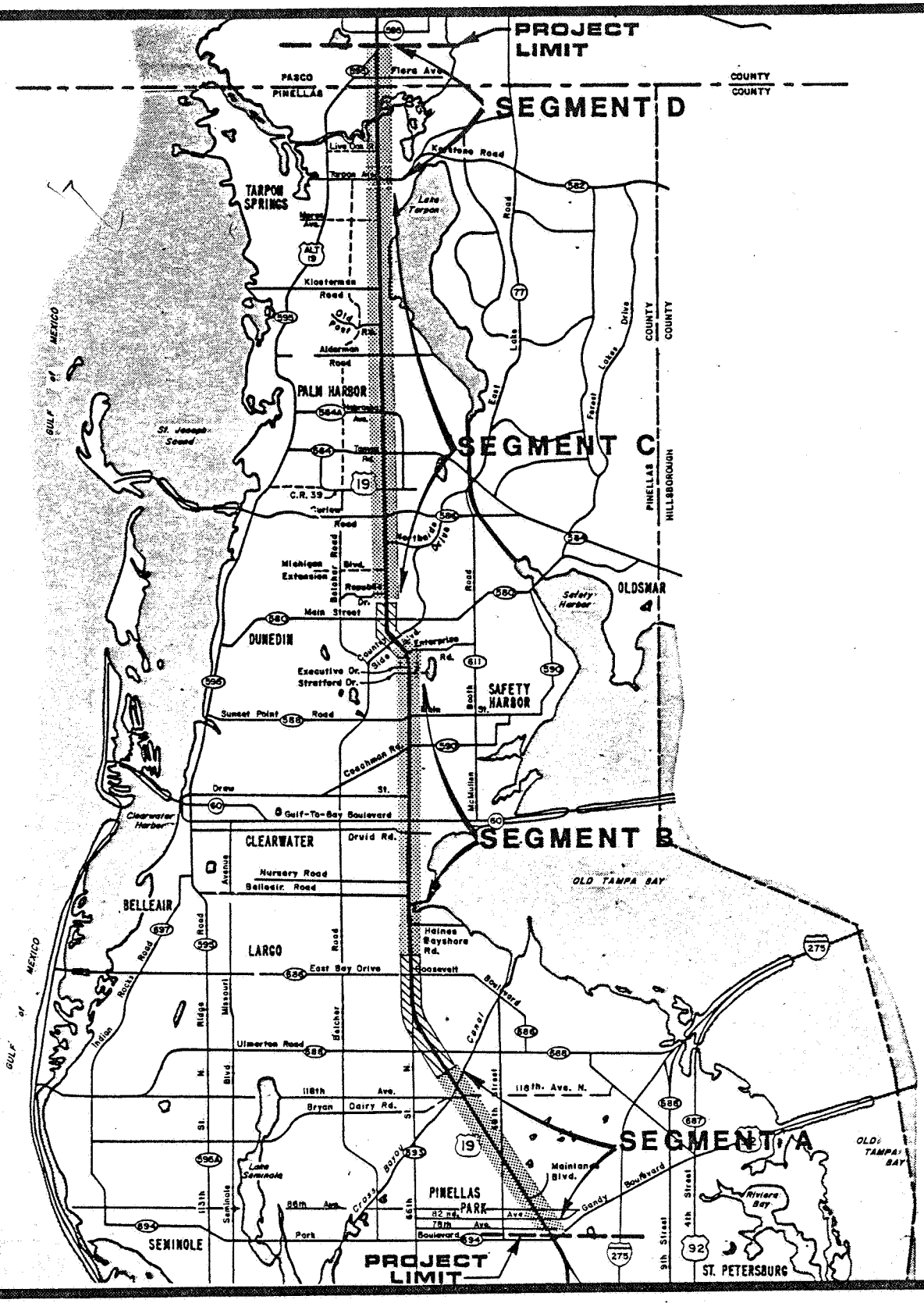
Typical sections are presented in Exhibits 2.2 through 2.6. The lane geometry developed for all of the design alternatives was based on year 2010 traffic.

Some sections of this future six- and eight-lane corridor have previously been designed by the Department to reflect necessary roadway improvements. As a result, the current project has been divided into four design segments (A, B, C and D). The limits of these design segments are shown on Exhibit 2.8. Segment A extends from Gandy Boulevard to Cross Bayou Canal, Segment B is located between Whitney Road and Enterprise Road, Segment C extends from Evans Road to south of Tarpon Avenue, and Segment D begins at Tarpon Avenue and terminates at the northern limits of the project at SR 595 (Alternate US 19).

Evaluations for each separate design segment (A, B, C, and D) are presented below:

Design Segment A

This design segment begins at Gandy Boulevard (SR 694) and ends near the Cross Bayou Canal south of Ulmerton Road (SR 688). Alternatives A-1, A-1A, A-2 and A-3 are briefly outlined below with descriptions of the major design features provided in each of the Design Segment A alternatives. Exhibit 2.9 provides a graphic summary of the various Segment A Concepts.




# U.S. 19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES

**Pinellas and Pasco Counties, Florida**

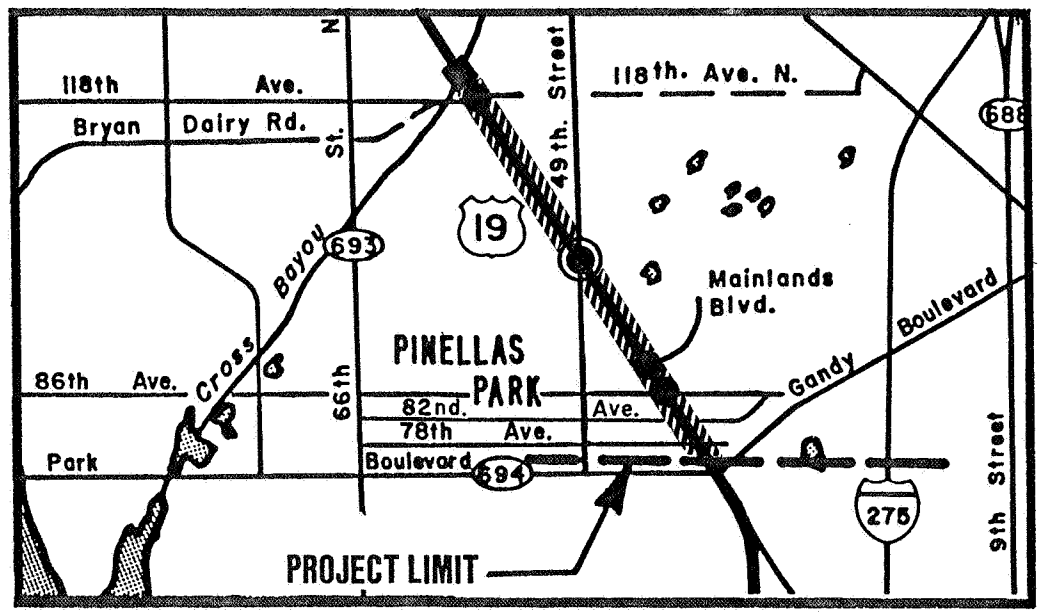
STATE PROJECT NO. 15150-1565

# DESIGN SEGMENT LOCATION MAP

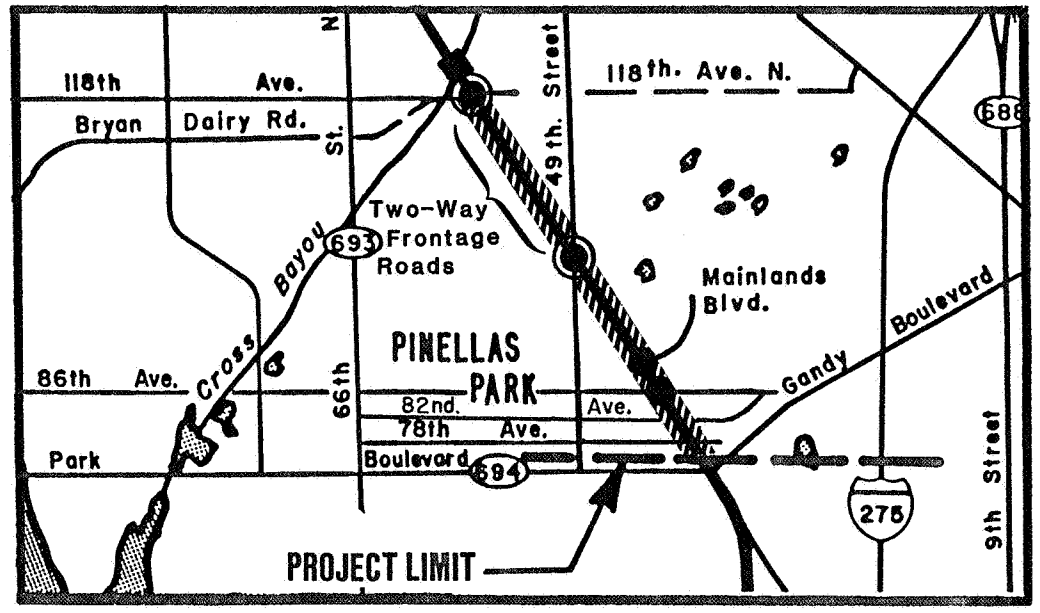
**Florida Department of Transportation**

EXHIBIT 2.8

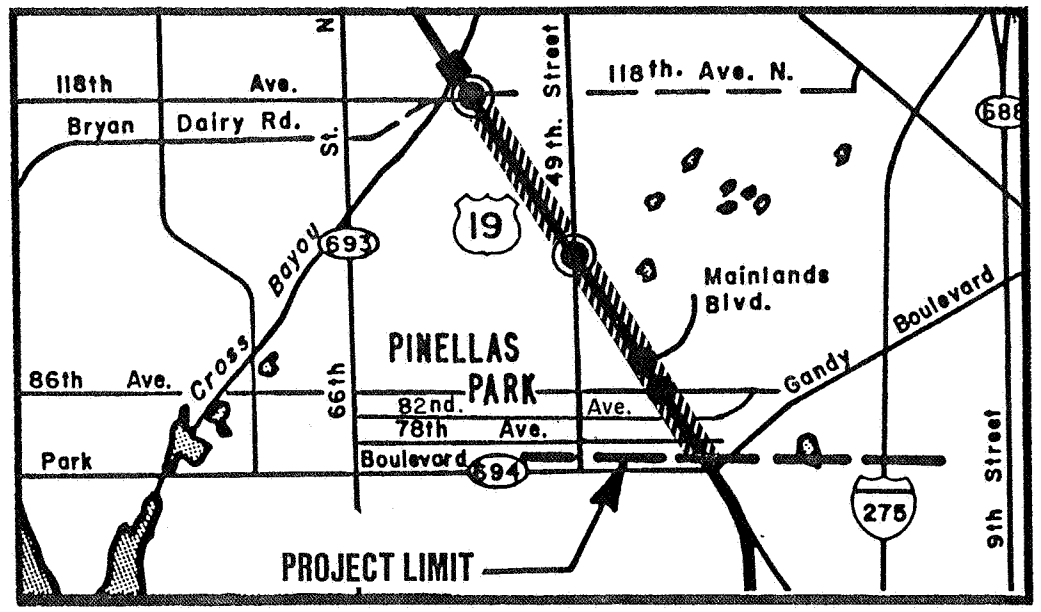
Gremer Engineering Sciences, Inc.



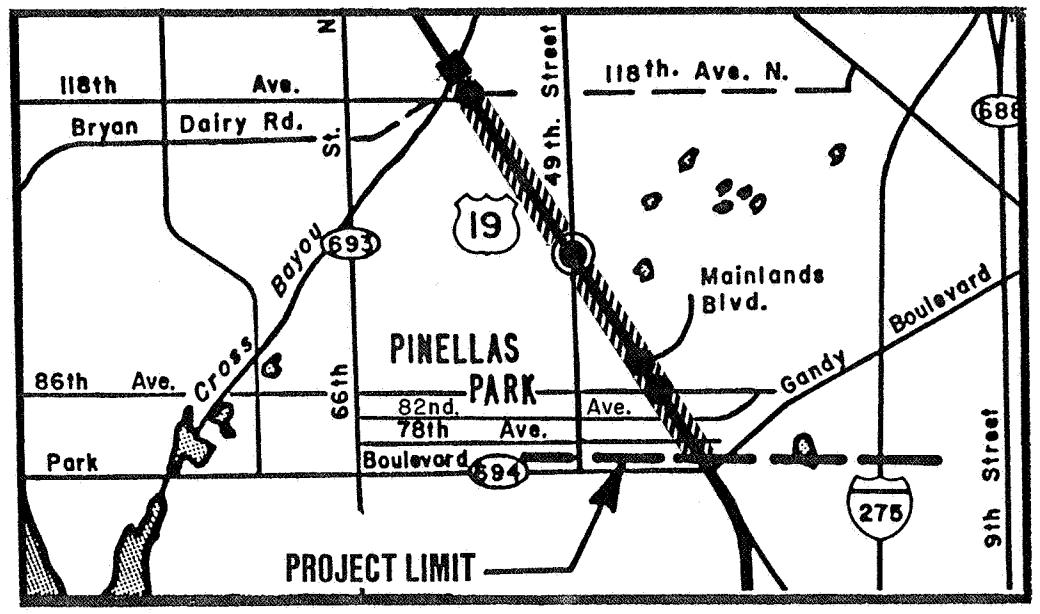

ALT. A-1




ALT. A-3




ALT. A-2




ALT. A-1A

## LEGEND

- INTERCHANGE
- OVERPASS (MINOR INTERCHANGE)
- GRADE SEPARATION
- EXPRESSWAY AND FRONTAGE ROADS AT GRADE

N

**U.S. 19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES**

**Pinellas and Pasco Counties, Florida**

STATE PROJECT NO. 15150-1565

# SEGMENT A ALTERNATIVE DESIGN CONCEPTS

**Florida Department of Transportation**

EXHIBIT 2.9

Greiner Engineering Sciences, Inc.

Date: 05/23/94
From: SKELTON, DONALD
To: Mahshid Arasteh
cc: Pamela Ganey
Subject: Cost Information

PD701DS - DOT1
PD701MA - DOT1
PD701PG - DOT1

---

Please have Jai get together the costs for the following road segments:
1) Ulmerton Rd--from 49th St. to the Interstate
2) E. Bay Roosevelt--from 49th St. to the Interstate (Seg. 2B, 3, and 4)
3) I-275--from Roosevelt to 4th St.
4) US 19--from Gandy to SR 686
5) Gandy--from US 19 to 4th and from 4th to the bridge

The costs should be broken down into PE, R/W, and Const. He should verify nos. with Rick Creamer. I need this info by the end of Tuesday (5/24/94). I he needs help let me know, maybe Pam can help him.

#3 I-275 → Roosevelt to 4th St. FPER 1/90
PE → 30% of const. estimate $3,531,000 → includes CEI
ROW → N/A; done w/in existing
const. → $17,655,100

Alternative 1B
Segment 1 → Roosevelt intersection; widen to inside
Segment 2 → 9th to Ulmerton including Big Eddy bridge → 2 SL bridges
Segment 3 → 4th St. North; existing alignment

#5 Gandy → 4th St to bridge (Segment 1 of Corridor) — FPER Spring 1994
PE → $6,146,000 (12% of const)
ROW → $9,420,000
const → $51,216,000 (includes CEI)

US 19 to 4th: PE 7.9 m
ROW 11.2 m
const. 61.0 M + 6.1 m for CEI (10%) = 67.1 m — Fact Sheet 3/3/94

#4 US 19 → Gandy to SR 686 DEIS 10/2/88
Design Segment A → Gandy to Cross Bayou Canal (S of Ulmerton)

1/87 dollars; 2 inflation factor.
PE → 6.175 m
ROW → 8.652 m
const → 34.886 m
49.713 m

- 8L mainline w/ frontage roads beginning N of Gandy
- 6L mainline w/ 2 lane one way frontage roads beginning north of 78th Ave.
- at grade intersection at 78th Ave.
- overpass at 86th Ave, Maryland Blvd. & 118th Ave
- frontage road bridges at Cross Bayou Canal

Ulmerton Rd: 49th st. to Interstate:

Funded?

E of 49th to Roosevelt: Design: 4.6
ROW: 12.0
Construction: 92.2

Roosevelt to I-275 Design: 2.1 ✓
R.O.W 7.9 ✓
Construction 23.0

Total: Design: 6.7
Ulmerton 49th st to Interstate R.O.W: 19.9
Reference PER page 5-31 (1-1992) Construction: 115.2

Roosevelt/E. Bay 49th st. to Gandy including Roosevelt to Gandy interchange. Excluding I275/CR 296 interchange:

Reference: PER page 5-30 (April 1991) Feb 1992 Design:

R.O.W: 31.37
Construction: 166.74

C.R. 296 Design:
Reference PER (page: III-9, Feb 1991) R.O.W: 0.3
Construction: 28

I 275 interchange: extra 32 million total

Total: Roosevelt ~~to~~ 28, 3 & 4: Design:
ROW: 31.67 + 32 M for I275 study
Const: 194.74

# GANDY BOULEVARD (SR 694) - US 19 TO 4TH STREET
# WPI NUMBER: 7117019
# STATE PROJECT NUMBER: 15240-1513
# FEDERAL AID NUMBER: F-295-1(1)
# MARCH 30, 1994

***Contact*** Lee Royal, Public Information Officer or Gabor Farkasfalvy, Project Engineer (1-800-226-7220)

## *Project Description*

The limits of the project are from west of US 19 to east of 4th Street in Pinellas County. Approximate length is 5.4 kilometers (3.4 miles).

Existing facility varies from a four lane rural roadway to a four lane urban roadway.

## *Proposed Improvements*

Upgrading to a six lane controlled access highway with interchanges, grade separations, frontage roads and enhanced safety features such as sidewalks, crosswalks, curb cut ramps for the physically handicapped and barrier walls. Interchanges are provided at Roosevelt Boulevard at 9th Street, Gandy Boulevard at 4th and 9th Streets.

## *Project Schedule*

| | |
|---|---|
| Notice to Proceed | February 21, 1992 |
| Public Workshop | November 16, 1993 |
| Submit Draft Environmental Document | October 94 |
| Public Hearing | December 94 |
| Approval of Environmental Document/LDA | June 95 |

## *Project Impacts & Estimated Costs*

| | | | |
|---|---|---|---|
| Business Relocations: | 0 | Cost Estimates: | |
| Residential Relocations: | 17 | | |
| Wetlands: | Not yet quantified | Design: | $7.9 million |
| | | ROW: | $11.2 million |
| | | Construction: | $61.0 million |

## *Adopted Work Program Funding*

| | Limits | Fiscal Year |
|---|---|---|
| Design: | Not programmed | N/A |
| ROW: | Not programmed | N/A |
| Construction: | Not programmed | N/A |

COST ESTIMATES THAT ARE SHORED BY THE END OF THE WEEK. GROWER WILL DO I-275 & I-4 AS NOTED. THX.

# FLORIDA DEPARTMENT OF TRANSPORTATION
## DISTRICT SEVEN
## COST OF REGIONAL ROAD DEVELOPMENT
### ($ in Millions)

RCC:herdev.wk1
07-May-93

| Corridor/Project | WPI # | Limits | Phase/Work | Fiscal Year | $ Amount | Unfunded $ | Remarks |
|---|---|---|---|---|---|---|---|
| Hernando – North Suncoast Expressway | 7152002,03 | County Line to S.R. 50 | Design | 93/94 | 7.1 | | Funded in Work Program |
| | | | Right-of-Way | | | 18.0 | PDE Estimate (PDC) |
| | | | Construction | | | 33.0 | PDE Estimate (PDC) |
| | 7152004 | N. of S.R. 50 to U.S. 98 | Design | 93/94 | 4.2 | | Funded in Work Program |
| | | | Right-of-Way | | | 14.8 | PDE Estimate (PDC) |
| | | | Construction | | | 41.8 | PDE Estimate (PDC) |
| Hernando – I-75 | 714xxxx | Pasco/Hern County Line to S.R. 50 (4 to 6 Lanes) | Design | | | [redacted] | PDE Estimate |
| | | | Right-of-Way | | | | PDE Estimate |
| | | | Construction | | | | PDE Estimate |
| | 714xxxx | S.R. 50 to Citrus County Line (4 to 6 Lanes) | Design | | | [redacted] | PDE Estimate |
| | | | Right-of-Way | | | | PDE Estimate |
| | | | Construction | | | | PDE Estimate |
| Hernando – U.S. 19 | 7112168 | Pasco County Line to Toucan Trail (4 to 6 Lanes) | Design | | Underway | | Funded in Work Program |
| | | | Construction | 93/94 | 4.0 | | Funded in Work Program |
| | 711xxxx | Toucan Trail to S.R. 50 (4 to 6 Lanes) | Design | | | 1.2 | PDE Estimate (PDC) |
| | | | Construction | | | 8.5 | PDE Estimate (PDC) |
| Hernando – U.S. 19 | 711xxxx | S.R. 50 to Citrus County Line (2 to 4 Lanes) | Design | | | [redacted] | PDE Estimate |
| | | | Right-of-Way | | | | PDE Estimate |
| | | | Construction | | | | PDE Estimate |
| Hernando – S.R. 50 | 7112122 | C.R. 485/S.R. 50A to U.S. 98 | Design | 93/94 | 0.5 | | Funded in Work Program |
| | | | Right-of-Way | 97/98 | 3.1 | | Funded in Work Program |
| | | | Construction | | | 5.4 | PDE Estimate (PDC) |

# FLORIDA DEPARTMENT OF TRANSPORTATION
## DISTRICT SEVEN
## COST OF REGIONAL ROAD DEVELOPMENT
## ($ in Millions)

RCCherdev.wk1
07-May-93

| Corridor/Project | WPI # | Limits | Phase/Work | Fiscal Year | $ Amount | Unfunded $ | Remarks |
|---|---|---|---|---|---|---|---|
| Hernando - S.R. 50 | 7112118 | E. of Colorado to E. of S.R. 50/C.R. 485 | Design | Complete | | | |
| | | | Right-of-Way | Underway | 5.3 | | Funded in Work Program |
| | | | Construction | 97/98 | 3.4 | | Funded in Work Program |
| | 7112128 | C.R. 41 to Cedar Lane Road | Design | Complete | | | |
| | | | Right-of-Way | N/A | | | |
| | | | Construction | 96/97 | 4.0 | | Funded in Work Program |
| | 7112129 | Cedar Lane to S. of S.R. 50/50A | Design | Complete | | | |
| | | | Right-of-Way | N/A | | | |
| | | | Construction | 93/94 | 3.1 | | Funded in Work Program |
| | 7112124 | C.R. 41 to W. of Lockhart Road | Design | Complete | | | |
| | | | Right-of-Way | N/A | | | |
| | | | Construction | 94/95 | 4.7 | | Funded in Work Program |
| Hernando - S.R. 50 | 7112126 | E. of Rital Croom to E. of S.R. 700 | Design | 94/95 | 0.5 | | Funded in Work Program |
| | | | Right-of-Way | N/A | | | |
| | | | Construction | 97/98 | 3.3 | | Funded in Work Program |
| | 711xxxx | E. of S.R. 700 to Sumter County Line | Design | | | 0.2 | PDE Estimate (PDC) |
| | | | Right-of-Way | N/A | | | |
| | | | Construction | | | 2.4 | PDE Estimate (PDC) |
| | | | | Totals | 43.2 | 125.3 | |

# FLORIDA DEPARTMENT OF TRANSPORTATION
## DISTRICT SEVEN
## COST OF REGIONAL ROAD DEVELOPMENT
## ($ in Millions)

RCCchildev.wk1
07-May-93

| Corridor/Project | WPI # | Limits | Phase/Work | Fiscal Year | $ Amount | Unfunded $ | Remarks |
|---|---|---|---|---|---|---|---|
| Hillsborough – S.R. 60 | 7113787 | Kingsway to Valrico Road | Construction | 94/95 | 4.0 | | Funded in Work Program |
| | 7113857 | Valrico Road to S. Dover Road | Design | | | 0.6 | PDE Estimate (PDC) |
| | | (4 to 6 Lanes) | Right-of-Way | | | 2.5 | PDE Estimate (PDC) |
| | | | Construction | | | 2.8 | PDE Estimate (PDC) |
| | 7113858 | S. Dover Road to Turkey Creek Road | Design | | | 0.6 | PDE Estimate (PDC) |
| | | (4 to 6 Lanes) | Right-of-Way | | | 2.5 | PDE Estimate (PDC) |
| | | | Construction | | | 4.1 | PDE Estimate (PDC) |
| | 7113859 | Turkey Creek Road to S.R. 39 | Design | | | 0.6 | PDE Estimate (PDC) |
| | | (4 to 6 Lanes) | Right-of-Way | | | 2.5 | PDE Estimate (PDC) |
| | | | Construction | | | 4.1 | PDE Estimate (PDC) |
| | 711xxxx | S.R. 39 to Polk County Line | P.D. & E. | | | 1.5 | |
| Hillsborough – S.R. 60 (Memorial Highway) | 7113944 | Cypress Street to Fish Creek (4 to 6 Lanes) | Design | 93/94 | 3.0 | | Funded in Work Program |
| | | | Right-of-Way | | | 19.4 | Need PDE Estimate |
| | | | Construction | | | 65.0 | Need PDE Estimate |
| | 7113871 | Courtney Campbell Cswy to Fish Creek | Design | 93/94 | 1.4 | | Funded in Work Program |
| | | | Right-of-Way | | | 7.4 | Need PDE Estimate |
| | | | Construction | | | 35.0 | Need PDE Estimate |
| Hillsborough – S.R. 60 (Courtney Campbell) | 711xxxx | Memorial to Pinellas County Line | Design | | | 1.4 | Need PDE Estimate |
| | | | Right-of-Way | | | 0 | Need PDE Estimate |
| | | | Construction | | | 88 | Need PDE Estimate |
| Crosstown Expressway (Eastern Extension) | 7xxxxxx | Crosstown Expressway to S.R. 60 | Design | | | 20.0 | Need PDE Estimate |
| | | | Right-of-Way | | | 181.0 | Need PDE Estimate |
| | | | Construction | | | 231.0 | Need PDE Estimate |

Spruce St. interchange or Airport

Section 21

HNTB
John Owen
875-0051

# FLORIDA DEPARTMENT OF TRANSPORTATION
## DISTRICT SEVEN
## COST OF REGIONAL ROAD DEVELOPMENT
## ($ in Millions)

RCC:hilldev.wk1
07-May-93

| Corridor/Project | WPI # | Limits | Phase/Work | Fiscal Year | $ Amount | Unfunded $ | Remarks |
|---|---|---|---|---|---|---|---|
| Hillsborough – U.S.92 | 711xxxx | Gandy Connector – W. End of Bridge | Design | | | 13.8 | PDE Estimate (PDC) |
| | | to Dale Mabry | Right-of-Way | | | 21.5 | PDE Estimate (PDC) |
| | | | Construction | | | 112.0 | PDE Estimate (PDC) |
| | 7113770 | Gandy Bridge – Replacement | Design | Underway | | | |
| | | | Right-of-Way | N/A | | | |
| | | | Construction | 93/94 | 42.2 | | Funded in Work Program |
| Hillsborough – S.R. 39 | 7113826 | Interstate 4 to Knights Griffin Road | Design | | | 0.7 | PDE Estimate (PDC) |
| | | (2 to 4 Lanes) | Right-of-Way | | | 3.0 | PDE Estimate (PDC) |
| | | | Construction | | | 7.2 | PDE Estimate (PDC) |
| | 7113827 | Knights Griffin Road to Hall Road | Design | | | 0.5 | PDE Estimate (PDC) |
| | | (2 to 4 Lanes) | Right-of-Way | | | 1.1 | PDE Estimate (PDC) |
| | | | Construction | | | 4.7 | PDE Estimate (PDC) |
| | 7113828 | Hall Road to Pasco County Line | Design | | | 0.6 | PDE Estimate (PDC) |
| | | | Right-of-Way | | | 1.2 | PDE Estimate (PDC) |
| | | | Construction | | | 5.0 | PDE Estimate (PDC) |
| Hillsborough County – I-275 | 7143128 | Howard Frankland Bridge to Himes | Design | 92/93 | 7.7 | | Funded in Work Program |
| | | | Right-of-Way | 94/95 | 56.1 | | Funded in Work Program |
| | | | Construction | | | | Need PDE Estimate |
| | 7143129 | Himes Avenue to North Blvd. | Design | 96/97 | 4.0 | | Funded in Work Program |
| | | | Right-of-Way | | | | Need PDE Estimate |
| | | | Construction | | | | Need PDE Estimate |
| | 7143130 | North Blvd. to 15th Street | Design | | | | Need PDE Estimate |
| | | | Right-of-Way | | | | Need PDE Estimate |
| | | | Construction | | | | Need PDE Estimate |
| | 714xxxx | Crosstown Connector | Design | | | | Funded in Work Program |
| | | | Right-of-Way | | | 72.0 | PDE Estimate (PDC) |
| | | | Construction | | | 250.3 | PDE Estimate (PDC) |

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# FLORIDA DEPARTMENT OF TRANSPORTATION
## DISTRICT SEVEN
## COST OF REGIONAL ROAD DEVELOPMENT
### ($ in Millions)

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07-May-93

| Corridor/Project | WPI # | Limits | Phase/Work | Fiscal Year | $ Amount | Unfunded $ | Remarks |
|---|---|---|---|---|---|---|---|
| Hillsborough County – I–275 | 7143136 | N. of Buffalo to S. of Hillsborough | Design | | | | Need PDE Estimate |
| | | | Right–of–Way | | | | Need PDE Estimate |
| | | | Construction | | | | Need PDE Estimate |
| | 7143137 | S. of Hillsborough Ave. to S. of River | Design | | | | Need PDE Estimate |
| | | | Right–of–Way | | | | Need PDE Estimate |
| | | | Construction | | | | Need PDE Estimate |
| | 7143138 | S. of River to N. of Waters Ave. | Design | 96/97 | 2.5 | | Funded in Work Program |
| | | | Right–of–Way | | | | Need PDE Estimate |
| | | | Construction | | | | Need PDE Estimate |
| | 7143139 | N. of Waters to Linebaugh Ave. | Design | 96/97 | 2.5 | | Funded in Work Program |
| | | | Right–of–Way | | | | Need PDE Estimate |
| | | | Construction | | | | Need PDE Estimate |
| | 7143140 | Linebaugh Ave. to N. of Fowler Ave. | Design | 94/95 | 2.2 | | Funded in Work Program |
| | | | Right–of–Way | | | | Need PDE Estimate |
| | | | Construction | | | | Need PDE Estimate |
| Hillsborough County – I–275 | 7143141 | Fowler Ave. to N. of Fletcher Ave. | Design | 96/97 | 1.3 | | Funded in Work Program |
| | | | Right–of–Way | | | | Need PDE Estimate |
| | | | Construction | | | | Need PDE Estimate |
| | 7143142 | N. of Fletcher to N. of Nebraska | Design | 96/97 | 3.0 | | Funded in Work Program |
| | | | Right–of–Way | | | | Need PDE Estimate |
| | | | Construction | | | | Need PDE Estimate |
| | 7143143 | N. of Nebraska to S. of I–275/I–75 | Design | 96/97 | 1.5 | | Funded in Work Program |
| | | | Right–of–Way | | | | Need PDE Estimate |
| | | | Construction | | | | Need PDE Estimate |
| Hillsborough County – I–4 (6 Lane Interim) | 7143197 | E. of 50th Street to I–75 | Design | 92/93 | 7.9 | | Funded in Work Program |
| | | | Right–of–Way | 94/95 | 12.1 | | Funded in Work Program |
| | | | Construction | 97/98 | 86.6 | | Funded in Work Program |

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See Comment on previous page. (Same for next)

# FLORIDA DEPARTMENT OF TRANSPORTATION
## DISTRICT SEVEN
## COST OF REGIONAL ROAD DEVELOPMENT
## ($ in Millions)

RCCshilder.wk1
07-May-93

| Corridor/Project | WPI # | Limits | Phase/Work | Fiscal Year | $ Amount | Unfunded $ | Remarks |
|---|---|---|---|---|---|---|---|
| Hillsborough County – I-4 (6 Lane Interim) | 7143198 | I-75 to W. of McIntosh Road | Design | 92/93 | 3.9 | | Funded in Work Program |
| | | | Right-of-Way | 93/94 | 6.1 | | Funded in Work Program |
| | | | Construction | 94/95 | 45.1 | | Funded in Work Program |
| | 7143199 | W. of McIntosh to W. of Forbes Road | Design | 92/93 | 3.8 | | Funded in Work Program |
| | | | Right-of-Way | 93/94 | 6.8 | | Funded in Work Program |
| | | | Construction | 96/97 | 31.9 | | Funded in Work Program |
| | 7143200 | W. of Forbes Road to E. of S.R. 39 | Design | 92/93 | 5.7 | | Funded in Work Program |
| | | | Right-of-Way | 93/94 | 5.8 | | Funded in Work Program |
| | | | Construction | 95/96 | 56.1 | | Funded in Work Program |
| | 7143201 | E. of S.R. 39 to Polk County Line | Design | 92/93 | 3.8 | | Funded in Work Program |
| | | | Right-of-Way | 93/94 | 2.4 | | Funded in Work Program |
| | | | Construction | 96/97 | 36.6 | | Funded in Work Program |
| Hillsborough County – I-4 | 7140028 | I-4 Master Plan Update | P. D. & E. | 96/97 | 1.7 | | Funded in Work Program |
| Hillsborough County – I-4 (Ultimate) | 7133131 | 15th Street to Crosstown Connector | Design | 93/94 | 3.9 | | Funded in Work Program |
| | | | Right-of-Way | | | | Need PDE Estimate |
| | | | Construction | | | | Need PDE Estimate |
| GREINER | 7143132 | Crosstown Connector to 50th Street | Design | 93/94 | 3.2 | | Funded in Work Program |
| | | | Right-of-Way | | | | Need PDE Estimate |
| | | | Construction | | | | Need PDE Estimate |
| | 714xxxx | 50th Street to I-75 | Design | | | | Need PDE Estimate |
| | | | Right-of-Way | | | | Need PDE Estimate |
| | | | Construction | | | | Need PDE Estimate |
| | 714xxxx | I-75 to McIntosh Road | Design | | | | Need PDE Estimate |
| | | | Right-of-Way | | | | Need PDE Estimate |
| | | | Construction | | | | Need PDE Estimate |

# FLORIDA DEPARTMENT OF TRANSPORTATION
## DISTRICT SEVEN
## COST OF REGIONAL ROAD DEVELOPMENT
## ($ in Millions)

RCC:hildev.wk1
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| Corridor/Project | WPI # | Limits | Phase/Work | Fiscal Year | $ Amount | Unfunded $ | Remarks |
|---|---|---|---|---|---|---|---|
| Hillsborough County – I-4 (Ultimate) | 714xxxx | McIntosh Road to Forbes Road | Design | | | | Need PDE Estimate |
| | | | Right-of-Way | | | | Need PDE Estimate |
| GREWTER | | | Construction | | | | Need PDE Estimate |
| | 714xxxx | Forbes Road to S.R. 39 | Design | | | | Need PDE Estimate |
| | | | Right-of-Way | | | | Need PDE Estimate |
| | | | Construction | | | | Need PDE Estimate |
| | 714xxxx | S.R. 39 to Polk County Line | Design | | | | Need PDE Estimate |
| | | | Right-of-Way | | | | Need PDE Estimate |
| | | | Construction | | | | Need PDE Estimate |
| Hillsborough – I-75 | 7140031 | I-75 Master Plan Update Manatee C/L to Citrus C/L | P. D. & E. | 94/95 | 4.6 | | Funded in Work Program |
| | 714xxxx | Fowler Avenue to Pasco County Line (4 to 6 Lanes) | Design | | | | Need PDE Estimate |
| | | | Right-of-Way | | | | Need PDE Estimate |
| | | | Construction | | | | Need PDE Estimate |
| | 714xxxx | Manatee County Line to Crosstown (4 to 6 Lanes) | Design | | | | Need PDE Estimate |
| | | | Right-of-Way | | | | Need PDE Estimate |
| | | | Construction | | | | Need PDE Estimate |
| Hillsborough – Veterans Expressway Connector | 7113789 | Cheval Trail to Pasco County Line | Design | Underway | | | |
| | | | Right-of-Way | Underway | 10.2 | | Funded in Work Program |
| | | | Construction | 94/95 | 4.0 | | Funded in Work Program |
| Hillsborough – North Suncoast Expressway | 7153119 | Veterans Expressway to Pasco County Line | Design | 93/94 | 4.5 | | |
| | | | Right-of-Way | | | | |
| | | | Construction | | | 14.6 | PDE Estimate (PDC) |
| | | | | | | 68.4 | PDE Estimate (PDC) |
| Hillsborough – 22nd Street Causeway Port Connector | 7113845 | I-4 to Port of Tampa | Design | | | 1.0 | Need PDE Estimate |
| | | | Right-of-Way | | | 12.5 | Need PDE Estimate |
| | | | Construction | | | 14.5 | Need PDE Estimate |
| | | | Totals | | 478.1 | 598.4 | |

No PDE Yet - See Hillsborough Consultant

These #'s are for USA/I-4 Interchange

# FLORIDA DEPARTMENT OF TRANSPORTATION
## DISTRICT SEVEN
## COST OF REGIONAL ROAD DEVELOPMENT
### ($ in Millions)

RCCpasdev.wk1
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| Corridor/Project | WPI # | Limits | Phase/Work | Fiscal Year | $ Amount | Unfunded $ | Remarks |
|---|---|---|---|---|---|---|---|
| Pasco – North Suncoast Expressway | 715.5802,03,04 | Hillsborough/Pasco County Line to N. of S.R. 52 | Design | 93/94 | 8.6 | | Funded in Work Program |
| | | | Right-of-Way | | | 4.2 | PDE Estimate (PDC) |
| | | | Construction | | | 81.5 | PDE Estimate (PDC) |
| | 715.5805 | N. of S.R. 52 to Pasco/Hernando County Line | Design | 93/94 | 4.9 | | Funded in Work Program |
| | | | Right-of-Way | | | 11.9 | PDE Estimate (PDC) |
| | | | Construction | | | 49.0 | PDE Estimate (PDC) |
| Pasco – Bi-County Thruway | 71xxxx | North Suncoast Expressway to I-75 | Design | | | 12.5 | PDE Estimate (PDC) |
| | | | Right-of-Way | | | 13.8 | PDE Estimate (PDC) |
| | | | Construction | | | 111.2 | PDE Estimate (PDC) |
| Pasco – Veterans Expressway Connector | 7115971 | Hills/Pasco County Line to U.S. 41 (2 to 4 Lanes) | Design | Complete | | | Design Complete |
| | | | Right-of-Way | 92/93 | 2.8 | | Funded in Work Program |
| | | | Construction | 94/95 | 2.3 | | Funded in Work Program |
| | 711xxxx | Hills/Pasco County Line to U.S. 41 (4 to 6 Lanes) | Design | | | | PDE Estimate |
| | | | Right-of-Way | | | | PDE Estimate |
| | | | Construction | | | | PDE Estimate |
| Pasco – S.R. 54 (Veterans Exwy Connector) | 7115981 | E. of U.S. 41 to Cypress Creek (2 to 4 Lanes) | Design | 94/95 | 0.9 | | Funded in Work Program |
| | | | Right-of-Way | 96/97 | 2.5 | | Funded in Work Program |
| | | | Construction | | | 6.9 | PDE Estimate (PDC) |
| Pasco – S.R. 54 Extension | 7115988 | Cypress Creek to C.R. 581 (4 & 6 Lanes) | Design | 92/93 | 0.9 | | Funded in Work Program |
| | | | Right-of-Way | 94/95 | 3.2 | | Funded in Work Program |
| | | | Construction | | | 12.0 | PDE Estimate (PDC) |
| | 711xxxx | C.R. 581 to C.R. 579 (4 Lanes) | Design | | | 1.2 | PDE Estimate (PDC) |
| | | | Right-of-Way | | | 7.3 | PDE Estimate (PDC) |
| | | | Construction | | | 12.0 | PDE Estimate (PDC) |

Get an estimate from Mat. This is ref. to as the old N. Tampa Pkwy study.

# FLORIDA DEPARTMENT OF TRANSPORTATION
## DISTRICT SEVEN
## COST OF REGIONAL ROAD DEVELOPMENT
### ($ in Millions)

RCC:pasdev.wk1
07-May-93

| Corridor/Project | WPI # | Limits | Phase/Work | Fiscal Year | $ Amount | Unfunded $ | Remarks |
|---|---|---|---|---|---|---|---|
| Pasco – S.R. 54 Extension | 711xxxx | C.R. 579 to U. S. 301 | Design | | | 0.6 | PDE Estimate (PDC) |
| | | (4 Lanes) | Right-of-Way | | | 3.7 | PDE Estimate (PDC) |
| | | | Construction | | | 6.0 | PDE Estimate (PDC) |
| Pasco – I-75 | 7147617 | 1 Mile North of Pasco County Line | Design | 92/93 | 1.0 | | Funded in Work Program |
| | | (New Interchange) | Right-of-Way | | | | PDE Estimate |
| | | | Construction | | | | PDE Estimate |
| | 7147618 | S.R 54 Interchange | Design | 93/94 | 3.9 | | Funded in Work Program |
| | | (Existing Interchange) | Right-of-Way | | | | PDE Estimate |
| | | | Construction | | | | PDE Estimate |
| | 714xxxx | Hillsborough/Pasco County Line to | Design | | | | PDE Estimate |
| | | Overpass Road | Right-of-Way | | | | PDE Estimate |
| | | (4 to 6 Lanes) | Construction | | | | PDE Estimate |
| | 714xxxx | Overpass Road to C.R. 578 | Design | | | | PDE Estimate |
| | | (4 to 6 Lanes) | Right-of-Way | | | | PDE Estimate |
| | | | Construction | | | | PDE Estimate |
| | 714xxxx | C.R. 578 to Citrus County Line | Design | | | | PDE Estimate |
| | | (4 to 6 Lanes) | Right-of-Way | | | | PDE Estimate |
| | | | Construction | | | | PDE Estimate |
| Pasco – S.R. 39 | 711xxxx | Hillsborough/Pasco County Line to | Design | | | 0.6 | PDE Estimate (PDC) |
| | | S.R. 54 Extension | Right-of-Way | | | 1.2 | PDE Estimate (PDC) |
| | | | Construction | | | 3.8 | PDE Estimate (PDC) |
| | | | | Totals | 31.0 | 339.4 | |

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# FLORIDA DEPARTMENT OF TRANSPORTATION
## DISTRICT SEVEN
## COST OF REGIONAL ROAD DEVELOPMENT
## ($ in Millions)

RCC:pindev.wk1
07-May-93

| Corridor/Project | WPI # | Limits | Phase/Work | Fiscal Year | $ Amount | Unfunded $ | Remarks |
|---|---|---|---|---|---|---|---|
| Pinellas – Bi-County Thruway | 71xxxxx | N.E. Corridor to Pasco County Line | Design | | | | Need PDE Estimate |
| | | | Right-of-Way | | | | Need PDE Estimate |
| | | | Construction | | | | Need PDE Estimate |
| Pinellas – N.E. Corridor | 71xxxxx | S.R. 60 to Bi-County Thruwy (Limits?) | Design | | | | Need PDE Estimate |
| | | | Right-of-Way | | | | Need PDE Estimate |
| | | | Construction | | | | Need PDE Estimate |
| Pinellas – Gandy Corridor | 7117157 | 4th Street to W. End Gandy Bridge | Design | | | | Need PDE Estimate |
| | | | Right-of-Way | | | | Need PDE Estimate |
| | | | Construction | | | | Need PDE Estimate |
| | 7116782 | 4th and 9th Street Interchanges | Design | 93/94 | 1.3 | | Funded in Work Program |
| | | | Right-of-Way | | | 3.7 | PDE Estimate (PDC) |
| | | | Construction | | | 14.0 | PDE Estimate (PDC) |
| | 711xxxx | 9th Street to U.S. 19 | Design | | | | Need PDE Estimate |
| | | | Right-of-Way | | | | Need PDE Estimate |
| | | | Construction | | | | Need PDE Estimate |
| Pinellas – Ulmerton Road | 7117144,45 | W. of 66th Street to E. of 49th Street | Design | | | 4.0 | PDE Estimate (PDC) |
| | | | Right-of-Way | | | 9.5 | PDE Estimate (PDC) |
| | | | Construction | | | 78.4 | PDE Estimate (PDC) |
| | 711xxxx | E. of 49th Street to Roosevelt | Design | | | 4.6 | PDE Estimate (PDC) |
| | | | Right-of-Way | | | 12.0 | PDE Estimate (PDC) |
| | | | Construction | | | 92.2 | PDE Estimate (PDC) |
| Pinellas – Ulmerton Road | 7117146 | Roosevelt to i-275 | Design | 95/96 | 2.1 | | Funded in Work Program |
| | | | Right-of-Way | 97/98 | 7.9 | | Funded in Work Program |
| | | | Construction | | | 23.0 | PDE Estimate (PDC) |

# FLORIDA DEPARTMENT OF TRANSPORTATION
## DISTRICT SEVEN
## COST OF REGIONAL ROAD DEVELOPMENT
## ($ in Millions)

RCC:pindev.wk1
07-May-93

| Corridor/Project | WPI # | Limits | Phase/Work | Fiscal Year | $ Amount | Unfunded $ | Remarks |
|---|---|---|---|---|---|---|---|
| Pinellas – U.S. 19 | 7117158 | 110th Avenue to 126th Avenue (118th Avenue Interchange) | Design | 93/94 | 2.0 | | Funded in Work Program |
| | | | Right-of-Way | | | 8.8 | PDE Estimate (PDC) |
| | | | Construction | | | 22.0 | PDE Estimate (PDC) |
| | 7116967 | S. Haines Bayshore toS. of Harn Road (Bellair Interchange) | Design | 93/94 | 1.3 | | |
| | | | Right-of-Way | | | 10.6 | PDE Estimate (PDC) |
| | | | Construction | | | 10.0 | PDE Estimate (PDC) |
| | 7117037 | Harn Blvd. to N. of Gulf to Bay (S.R. 60 Interchange) | Design | 95/96 | 1.5 | | |
| | | | Right-of-Way | | | 17.5 | PDE Estimate (PDC) |
| | | | Construction | | | 38.5 | PDE Estimate (PDC) |
| | 7117045 | N. of S.R. 60 to CSX R/R Crossing (Drew Street Interchange) | Design | Complete | | | Funded in Work Program |
| | | | Right-of-Way | Underway | 19.7 | | Funded in Work Program |
| | | | Construction | 95/96 | 19.2 | | Funded in Work Program |
| | 7116974 | S. of Coachman to N. of Sunset Point (N.E. Coachman and Sunset Point Interchanges) | Design | Underway | | | |
| | | | Right-of-Way | 96/97 | 19.3 | | Funded in Work Program |
| | | | Construction | | | 27.6 | PDE Estimate (PDC) |
| | 7116976 | N. of Sunset Point to S. of Countryside Blvd | Design | | | 1.5 | PDE Estimate (PDC) |
| | | | Right-of-Way | | | 15.5 | PDE Estimate (PDC) |
| | | | Construction | | | 15.7 | PDE Estimate (PDC) |
| | 711xxxx | S. of Curlew Road to N. of Curlew Road (Curlew Interchange) | Design | | | 0.2 | PDE Estimate (PDC) |
| | | | Right-of-Way | | | 3.5 | PDE Estimate (PDC) |
| | | | Construction | | | 1.5 | PDE Estimate (PDC) |
| Pinellas – U.S. 19 | 7117125 | Live Oak Street to Pinellas/Pasco County Line | Design | 93/94 | 0.8 | | Funded in Work Program |
| | | | Construction | 95/96 | 8.3 | | Funded in Work Program |

# FLORIDA DEPARTMENT OF TRANSPORTATION
## DISTRICT SEVEN
## COST OF REGIONAL ROAD DEVELOPMENT
## ($ in Millions)

RCC:pinder.wk1
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| Corridor/Project | WPI # | Limits | Phase/Work | Fiscal Year | $ Amount | Unfunded $ | Remarks |
|---|---|---|---|---|---|---|---|
| Pinellas – S.R. 686 | 711xxxx | Ulmerton Road to Gandy Blvd. | Design | | | 1.0 | PDE Estimate (PDC) |
| | | | Right-of-Way | | | 2.0 | PDE Estimate (PDC) |
| | | | Construction | | | 18.1 | PDE Estimate (PDC) |
| Pinellas – Bayside Bridge Connector | 711xxxx | Ulmerton Road to Roosevelt | Design | | | | Need PDE Estimate |
| | | | Right-of-Way | | | | Need PDE Estimate |
| | | | Construction | | | | Need PDE Estimate |
| Pinellas – I-275 | 7140030 | I-275 Master Plan Development | P. D. & E. | 93/94 | 5.5 | | Funded in Work Program |
| | 7147865 | Roosevelt Interchange to 9th Street | Design | 94/95 | 1.9 | | Funded in Work Program |
| | | | Construction | | | 4.6 | PDE Estimate (PDC) |
| | 7147874 | 9th Street to Big Island Gap | Design | | | 1.0 | PDE Estimate (PDC) |
| | | | Construction | | | 5.8 | PDE Estimate (PDC) |
| | 7147872 | Big Island Gap to 4th Street | Design | Underway | | | |
| | | | Construction | 93/94 | 5.2 | | Funded in Work Program |
| | | | | | 96.0 | 446.8 | |

**Alternative A-1:**

- 6-lane mainline with 2-lane one-way frontage roads
- Overpasses at 82nd Avenue North
- Overpasses at Mainlands Boulevard
- Improved 49th Street Interchange
- Overpass at 118th Avenue North
- Frontage road bridges at Cross Bayou Canal

**Alternative A-1A:**

- 8-lane mainline without frontage roads beginning north of Gandy Boulevard
- 6-lane mainline with 2-lane one-way frontage roads beginning north of 78th Avenue
- Overpass at 86th Avenue North
- Overpass at Mainlands Boulevard
- Improved 49th Street Interchange
- Overpass at 118th Avenue North
- Frontage road bridges at Cross Bayou Canal

**Alternative A-2:**

- 6-lane mainline with 2-lane one-way frontage roads from north of Gandy Boulevard to 118th Avenue North
- Overpass at 82nd Avenue North
- Overpass at Mainlands Boulevard
- Improved 49th Street Interchange
- Half-cloverleaf interchange at the southside of 118th Avenue North

- o 8-lane mainline with 1-lane one-way frontage roads from 118th Avenue North to the Cross Bayou Canal
- o Frontage road bridges at Cross Bayou Canal

**Alternative A-3:**

- o 6-lane mainline with 2-lane one-way frontage roads from Gandy Boulevard north to 49th Street North
- o Overpass at 82nd Avenue North
- o Overpass at Mainlands Boulevard
- o Improved 49th Street Interchange
- o 6-lane mainline with 2-lane 2-way frontage roads between 49th Street North and 118th Avenue North
- o Half-cloverleaf interchange at the southside of 118th Avenue North
- o 8-lane mainline with 1-lane 1-way frontage roads from 118th Avenue North to Cross Bayou Canal
- o Frontage road bridges at Cross Bayou Canal

**Cost Estimates**

Preliminary cost estimates for Design Segment A alternatives (A-1 through A-3) have been developed. These estimates are based upon the engineering design criteria previously presented in this report. Table 2.2 provides the preliminary cost estimates for the US 19 Alternatives. These cost estimates do not include major utility relocation costs. Utility coordination provided by the Department with local utilities has indicated that the issues of utility impacts are essentially ubiquitous; the relative impacts are the same

for all alternative designs and should not play a major role in the selection of one alternative design over another. The cost of relocation for utilities for the entire study area is estimated to be $116,670,000 in 1987 dollars.

## Conclusion

Exhibit 2.10 shows a comparison matrix of alternatives for Design Segment A. Based upon the various engineering, traffic analysis, planning, community impacts, local access and circulation, and system continuity factors existing within the US 19 corridor study area, Alternative A-1 was selected as the preferred alternative for presentation to the public at the Public Workshop in July, 1986.

As a result of public comments received at the July, 1986 Public Workshop and Information Center and discussions with Pinellas County and City of Pinellas Park staff and officials, Alternative A-1 was refined; Alternative A-1A incorporates those refinements. The refinements involved providing an at-grade intersection at 78th Avenue and an overpass at proposed 86th Avenue instead of 82nd Avenue. An additional southbound off ramp was also added south of 118th Avenue North to provide better access to the development within the area and Horizon Mental Hospital. As a result of the public comments and subsequent refinements to Alternative A-1, Alternative A-1A was identified as the preferred alternative for design segment A.

## TABLE 2.2

### Design Segment A
### Preliminary Cost Estimate

| Design Alternative | 6-Lane Section: Roadway Miles | 6-Lane Section: Roadway Cost | 6-Lane Section: Typ. Interchange Number | 6-Lane Section: Typ. Interchange Cost | 8-Lane Section: Roadway Miles | 8-Lane Section: Roadway Cost | 8-Lane Section: Typ. Interchange Number | 8-Lane Section: Typ. Interchange Cost | Non-Typical Interchanges Number | Non-Typical Interchanges Cost | Overpasses Number | Overpasses Cost | Bridges Number | Bridges Cost | Misc. Costs | Total Construction Costs | Design Administrative Contingency | Right-of-Way Costs | Alternative Total Costs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A1 | 2.18 | $10.259 | 0 | $0.000 | 0 | $0.000 | 0 | $0.000 | 0 | $0.000 | 3 | $24.337 | 1 | $0.616 | $0.633 | $35.845 | $6.344 | $7.573 | $49.762 |
| A1A | 1.66 | $7.812 | 0 | $0.000 | 0.52 | $3.298 | 0 | $0.000 | 0 | $0.000 | 3 | $22.444 | 1 | $0.616 | $0.716 | $34.886 | $6.175 | $8.652 | $49.713 |
| A2 | 2.04 | $9.600 | 0 | $0.000 | 0.14 | $0.888 | 0 | $0.000 | 1 | $11.007 | 2 | $16.225 | 1 | $0.616 | $0.633 | $38.969 | $6.897 | $18.781 | $64.647 |
| A3 | 2.04 | $9.600 | 0 | $0.000 | 0.14 | $0.888 | 0 | $0.000 | 1 | $11.007 | 2 | $16.225 | 1 | $0.616 | $0.633 | $38.969 | $6.897 | $22.583 | $68.449 |

NOTE: Cost in Millions of January 1987 Dollars, No Inflation.

# Exhibit 2.10

**DESIGN SEGMENT A**
**ALTERNATIVES COMPARISON**

| Factor \ Alternative | A1 | A1A | A2 | A3 | Best Alternative |
|---|---|---|---|---|---|
| Right-of-Way Costs[1] | $7.573 | $8.652 | $18.781 | $22.583 | A1 |
| Construction & Contingency Costs[1] | $42.189 | $41.061 | $45.866 | $45.866 | A1A |
| Total Costs[1] | $49.762 | $49.713 | $64.647 | $68.449 | A1A |
| Relocations[2] | 5 | 13 | 16 | 17 | A1 |
| Right-of-Way Takings | 36 | 35 | 53 | 57 | A1A |
| Average Cost of Right-of-Way/Relocation | 1.514 | .665 | 1.173 | 1.328 | A1A |
| Average Interchange/ Overpass Spacing | 0.69 mi | 0.66 mi | 0.68 mi | 0.68 mi | A1A |
| Accessibility Rating[3] | 1.22 | 0.55 | 1.16 | 1.16 | A1A |

1 Costs in millions of 1987 dollars; no inflation.

2 Major right-of-way and relocation only; i.e., business, residential and personal property

3 Accessibility Rating = $\dfrac{\text{Design Segment Length}}{[(\#\text{ of full interchanges} \times 1.50) + (\#\text{ of half interchanges} \times 1.25) + (\#\text{ of overpasses} \times 1.0)]}$

## Design Segment B

The limits of Design Segment B extend from Whitney Road north to Enterprise Road. There are nine different alternatives (B-1 through B-8C) for Design Segment B. Provided below in outline format are brief descriptions of the major design features of each alternative. Exhibit 2.11 provides a graphic summary of the Design Segment B alternatives.

**Alternative B-1:**

- 6- and 8-lane mainline with 2-lane one-way frontage roads
- Interchanges at Belleair Road, SR 60, Drew Street, Coachman Road and Sunset Point Road
- Overpasses at the CSX Transportation Railroad and Nursery Road
- Bridges over Allen's Creek

**Alternative B-2:**

- 6- and 8-lane mainline with 2- lane one-way frontage roads
- Interchanges at Belleair Road, SR 60, Drew Street, Coachman Road and Sunset Point Road
- Overpass at the CSX Transportation Railroad
- Condensed overpass section at Nursery Road
- Bridges over Allen's Creek

**Alternative B-3:**

- 6- and 8-lane mainline with 2- lane one-way frontage roads
- Interchanges at Belleair Road, SR 60, Drew Street, Coachman Road and Sunset Point Road
- Overpasses at the CSX Transportation Railroad, Nursery Road and Druid/Seville Road
- Bridges over Allen's Creek

**Alternative B-4:**

- 6- and 8-lane mainline with 2- lane one-way frontage roads
- Interchanges at Belleair Road, SR 60, Drew Street, Coachman Road and Sunset Point Road
- Overpasses at the CSX Transportation Railroad and Nursery Road
- Shift segment south of SR 60 to the west
- Bridges over Allen's Creek

**Alternative B-5:**

- 6- and 8-lane mainline with 2- lane one-way frontage roads
- Interchanges at Belleair Road, SR 60, Drew Street, Coachman Road and Sunset Point Road
- Overpasses at the CSX Transportation Railroad, Nursery Road and Druid/Seville Road
- Shift segment north and south of SR 60 to the west
- Bridges over Allen's Creek

**Alternative B-6:**

- 6- and 8-lane mainline with 2- lane one-way frontage roads
- Interchanges at Belleair Road, SR 60, Drew Street, Coachman Road and Sunset Point Road
- Overpasses at the CSX Transportation Railroad and Nursery Road
- Shift segment north and south of Coachman Road to the east
- Bridges over Allen's Creek

**Alternative B-7:**

- 6- and 8-lane mainline with 2- lane one-way frontage roads
- Interchanges at Belleair Road, SR 60, Drew Street, Coachman Road and Sunset Point Road
- Overpasses at the CSX Transportation Railroad, Nursery Road and Executive Center Drive
- Ramp reversal north and south of Executive Center Drive
- Bridges over Allen's Creek

**Alternative B-8:**

- 6- and 8-lane mainline with 2- lane one-way frontage roads
- Interchanges at Belleair Road, SR 60, Drew Street, Coachman Road and Sunset Point Road
- Overpasses at the CSX Transportation Railroad, Druid/Seville Road and Executive Center Drive
- Condensed overpass at Nursery Road
- Ramp reversal north and south of Executive Center Drive
- Shift segment south of SR 60 to the west

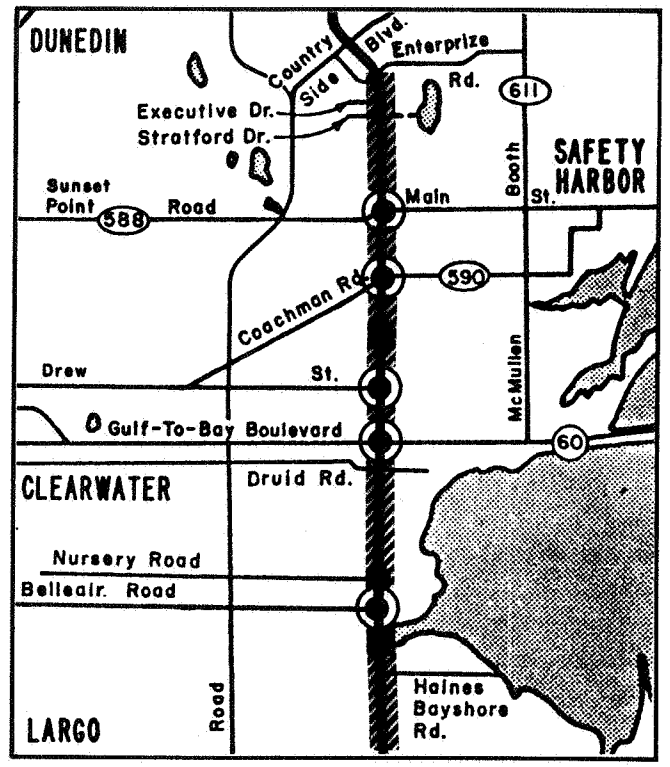
- Shift segment north of SR 60 to the centerline
- Bridges over Allen's creek

**Alternative B-8C:**

- 6- and 8-lane mainline with 2- lane one-way frontage roads
- Interchanges at Belleair Road, SR 60, Drew Street, Coachman Road, and Sunset Point Road
- Overpasses at CSX Transportation Railroad, Nursery Road, Druid/Seville Road, and Executive Center Drive
- Ramp reversal north and south of Executive Center Drive
- Shift segment north of SR 60 to the centerline
- Shift segment south of SR 60 to the west
- Parallel north-south local access road north of Drew Street and east of US 19
- Bridges over Allen's Creek

**Alternative B-8D:**

- 6- and 8-lane mainline with 2- lane one-way frontage roads.
- Interchanges at Belleair Road SR 60, Drew Street, Coachman Road, and Sunset Point Road.
- Overpasses at CSX Transportation Railroad, Nursery Road, Druid/Seville Road, Enterprise Road, and proposed 3rd Avenue South.
- Ramp reversal north and south of proposed 3rd Avenue South.
- Shift segment north of SR 60 to the centerline
- Shift segment south of SR 60 to the west

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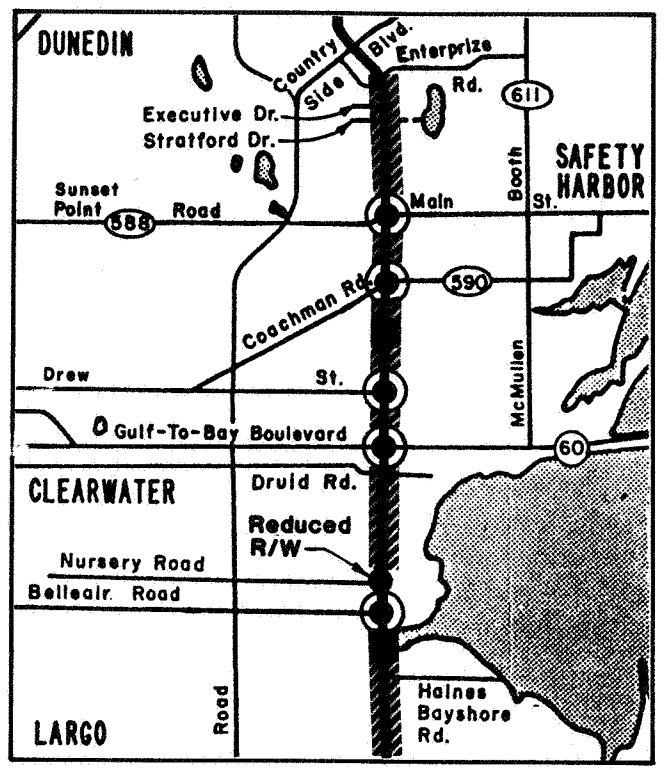


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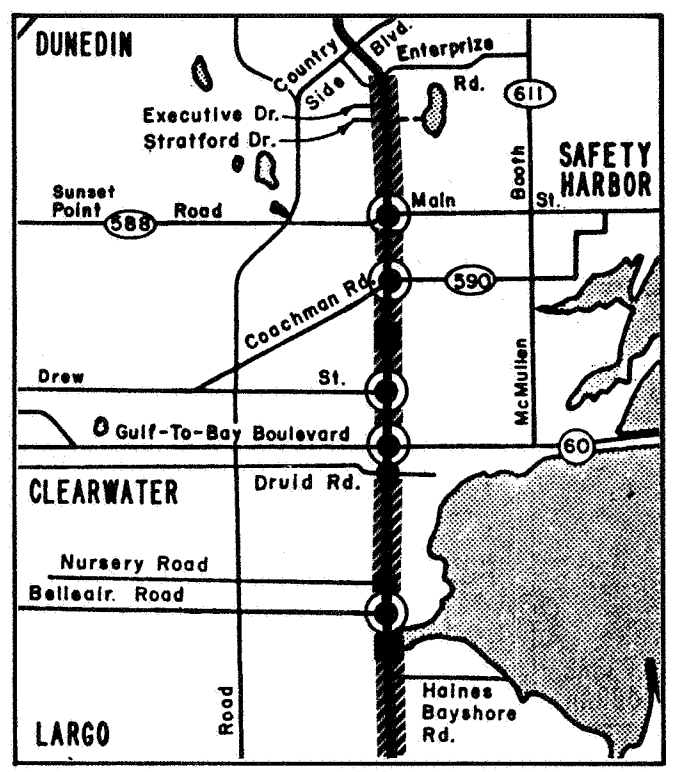


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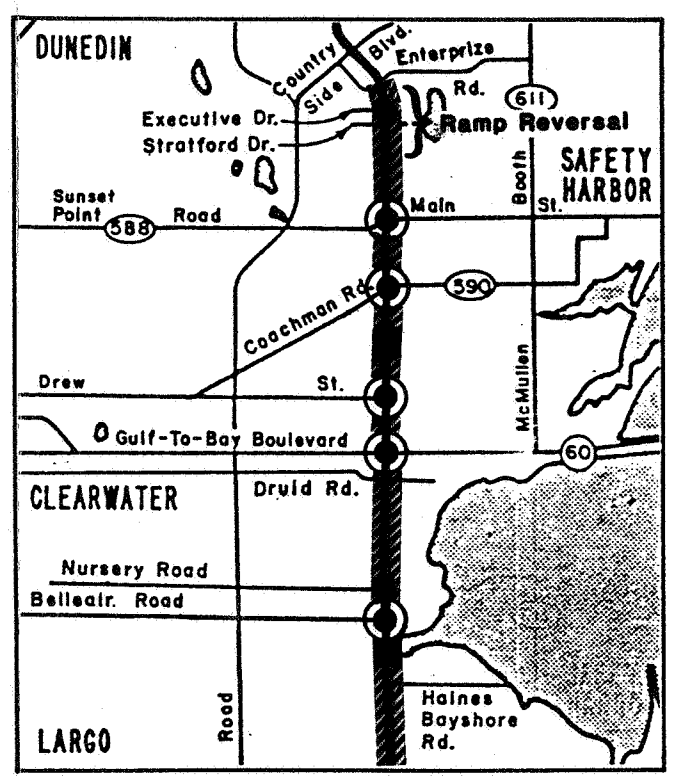


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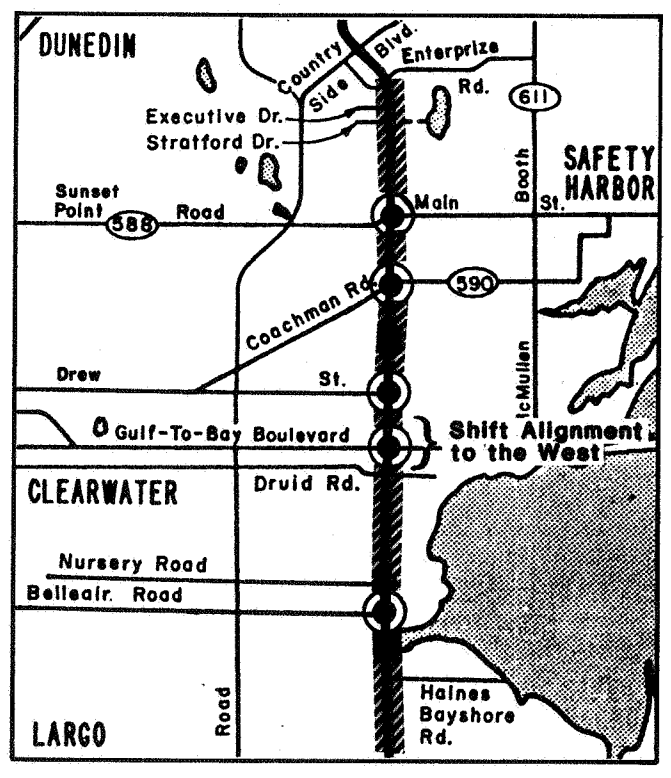


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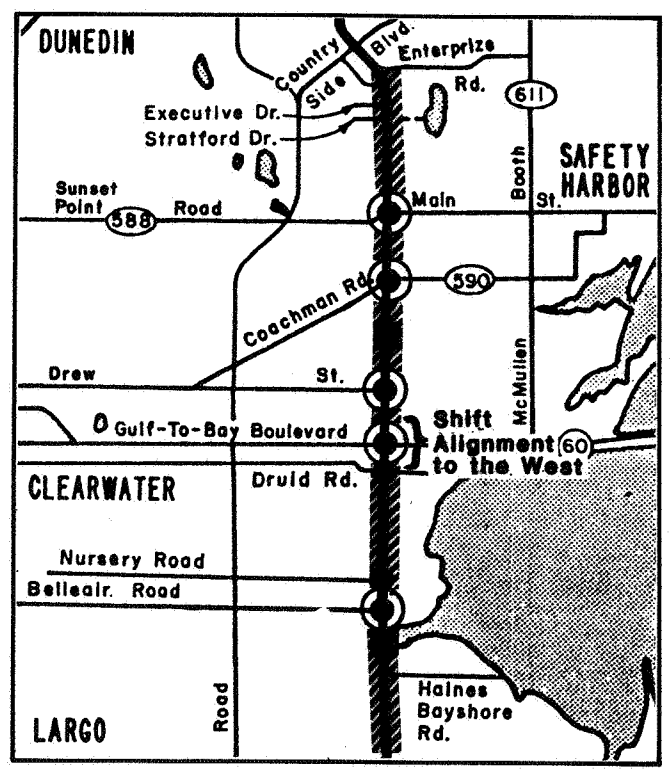


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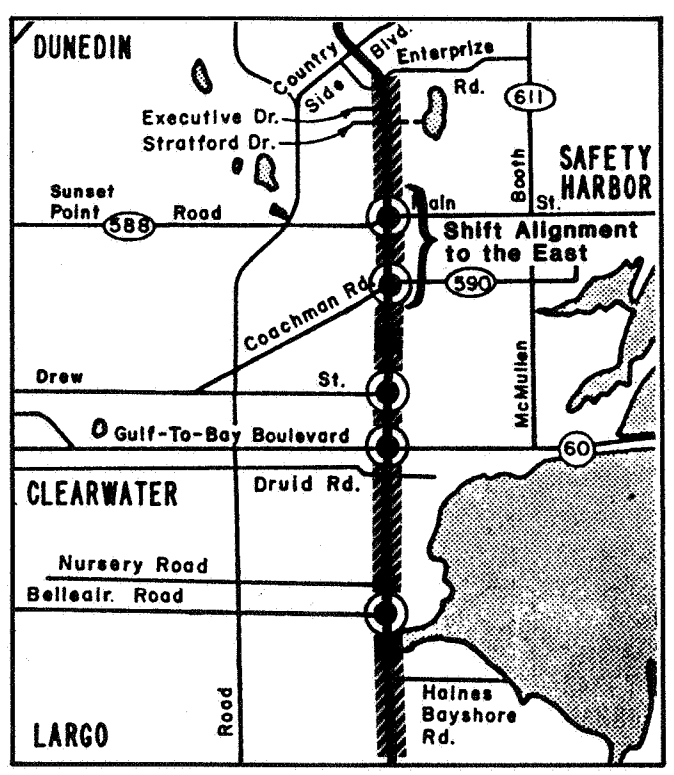



ALT. B-6

**LEGEND**

- INTERCHANGE
- OVERPASS (MINOR INTERCHANGE)
- GRADE SEPARATION
- EXPRESSWAY AND FRONTAGE ROADS AT GRADE

N

Greiner Engineering Sciences, Inc.
CONSULTING ENGINEERS TAMPA, FLORIDA

# U.S.19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES

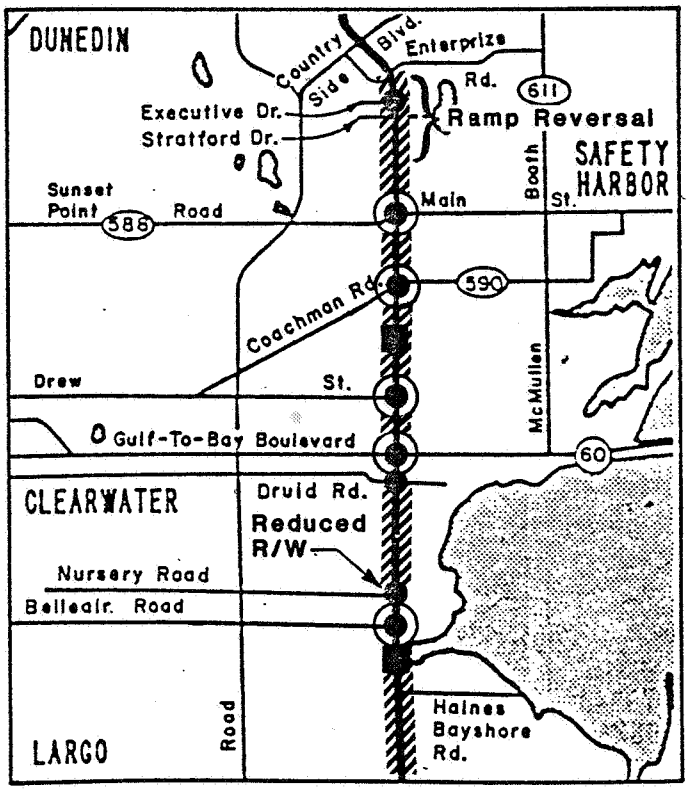
Pinellas and Pasco Counties, Florida
STATE PROJECT NO. 15150-1565

## DESIGN SEGMENT B ALTERNATIVE DESIGN CONCEPTS

Florida Department of Transportation



EXHIBIT 2.11

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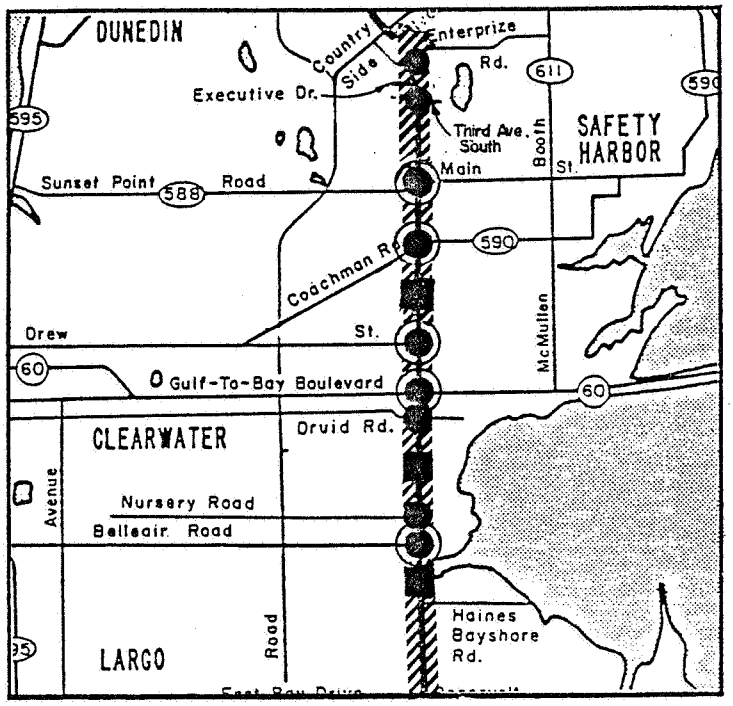


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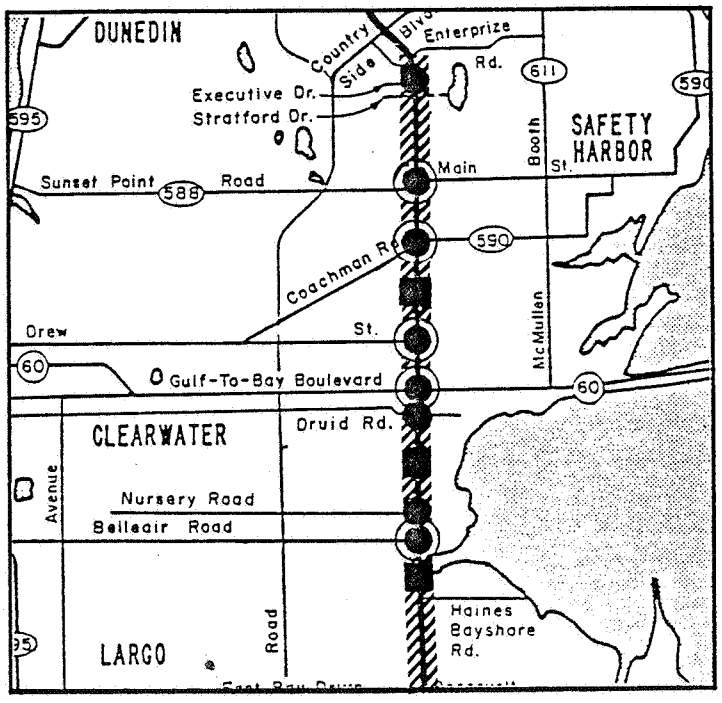



ALT. B-8C

## LEGEND

- INTERCHANGE
- OVERPASS (MINOR INTERCHANGE)
- GRADE SEPARATION
- EXPRESSWAY AND FRONTAGE ROADS AT GRADE

N

# U.S.19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES

Pinellas and Pasco Counties, Florida

STATE PROJECT NO. 15150-1565

# SEGMENT B ALTERNATIVE DESIGN CONCEPTS

Florida Department of Transportation

Greiner Engineering Sciences, Inc.
CONSULTING ENGINEERS TAMPA, FLORIDA



EXHIBIT 2.11

- Parallel north-south local access road north of Drew Street and east of US 19
- Bridges over Allen's Creek

**Cost Estimate**

Preliminary cost estimates for Design Segment B alternatives (B-1 through B-8C) have been developed. These estimates are based upon the engineering design criteria previously presented in this report. Table 2.3 provides the preliminary cost estimates for the US 19 Alternatives. These cost estimates do not include major utility relocation costs.

Utility coordination provided by the Department with local utilities has indicated that the issues of utility impacts are essentially ubiquitous; the relative impacts are the same for all alternative designs and should not play a major role in the selection of one alternative design over another. The estimated cost for utility relocation for the entire study area is estimated to be $116,670,000 in 1987 dollars.

**Conclusion**

Exhibit 2.12 shows a comparison matrix of alternatives for Design Segment B. Based upon the various engineering, traffic analysis, planning, community impacts, local access and circulation, and system continuity factors existing

## TABLE 2.3

### Design Segment B
### Preliminary Cost Estimate

| Design Alternative | 6-Lane Section: Roadway Miles | 6-Lane Section: Roadway Cost | 6-Lane Section: Typ. Interchange Number | 6-Lane Section: Typ. Interchange Cost | 8-Lane Section: Roadway Miles | 8-Lane Section: Roadway Cost | 8-Lane Section: Typ. Interchange Number | 8-Lane Section: Typ. Interchange Cost | Non-Typical Interchanges Number | Non-Typical Interchanges Cost | Overpasses Number | Overpasses Cost | Bridges Number | Bridges Cost | Misc. Costs | Total Construction Costs | Design Administrative Contingency | Right-of-Way Costs | Alternative Total Costs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B1 | 1.57 | $7.386 | 4 | $31.590 | 0.85 | $5.391 | 1 | $9.616 | 0 | $0.000 | 1 | $8.112 | 1 | $2.127 | $0.142 | $64.364 | $11.393 | $45.278 | $121.038 |
| B2 | 1.57 | $7.386 | 4 | $31.590 | 0.85 | $5.391 | 1 | $9.616 | 0 | $0.000 | 1 | $8.112 | 1 | $2.127 | $0.142 | $64.364 | $11.393 | $42.516 | $118.276 |
| B3 | 1.00 | $4.706 | 4 | $31.590 | 0.85 | $5.391 | 1 | $9.616 | 0 | $0.000 | 2 | $16.225 | 1 | $2.127 | $0.142 | $69.797 | $12.354 | $45.938 | $128.089 |
| B4 | 1.57 | $7.386 | 4 | $31.590 | 0.85 | $5.391 | 1 | $9.616 | 0 | $0.000 | 1 | $8.112 | 1 | $2.127 | $0.142 | $64.364 | $11.393 | $43.384 | $119.144 |
| B5 | 1.00 | $4.706 | 4 | $31.590 | 0.85 | $5.391 | 1 | $9.616 | 0 | $0.000 | 2 | $16.225 | 1 | $2.127 | $0.142 | $69.797 | $12.354 | $44.684 | $126.835 |
| B6 | 1.57 | $7.386 | 4 | $31.590 | 0.85 | $5.391 | 1 | $9.616 | 0 | $0.000 | 1 | $8.112 | 1 | $2.127 | $0.142 | $64.364 | $11.393 | $47.647 | $123.835 |
| B7 | 1.00 | $4.706 | 4 | $31.590 | 0.85 | $5.391 | 1 | $9.616 | 0 | $0.000 | 2 | $16.225 | 1 | $2.127 | $0.142 | $69.797 | $12.354 | $45.159 | $127.310 |
| B8 | 0.43 | $2.023 | 4 | $31.590 | 0.85 | $5.391 | 1 | $9.616 | 0 | $0.000 | 3 | $24.337 | 1 | $2.127 | $0.142 | $75.226 | $13.315 | $44.025 | $132.567 |
| B8C | 0.43 | $2.023 | 4 | $31.590 | 0.85 | $5.391 | 1 | $9.616 | 0 | $0.000 | 3 | $24.337 | 1 | $2.127 | $0.299 | $75.384 | $13.343 | $44.890 | $133.617 |
| B8D | 0.43 | $2.023 | 4 | $31.590 | 0.85 | $5.391 | 1 | $9.616 | 0 | $0.000 | 4 | $32.449 | 1 | $2.127 | $0.299 | $83.495 | $14.779 | $45.906 | $144.180 |

NOTE: Cost in Millions of 1987 Dollars, No Inflation.

EXHIBIT 2.12
DESIGN SEGMENT B
ALTERNATIVE COMPARISON

| Factor \ Alternative | B1 | B2 | B3 | B4 | B5 | B6 | B7 | B8 | B8C | B8D | Best Alternative |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Right-of-Way Costs[1] | $45.278 | $42.516 | $45.938 | $43.384 | $44.684 | $47.647 | $45.159 | $44.025 | $44.890 | $45.906 | B2 |
| Construction & Contingency Costs[1] | $75.760 | $75.760 | $82.151 | $75.760 | $82.151 | $75.760 | $82.151 | $88.542 | $88.727 | $98.274 | B1,2,4,6 |
| Total Costs[1] | $121.038 | $118.276 | $128.089 | $119.144 | $126.835 | $123.407 | $127.310 | $132.567 | $133.617 | $144.180 | B2 |
| Relocation[2] | 38 | 38 | 38 | 22 | 22 | 47 | 36 | 25 | 26 | 26 | B4,5 |
| Right-of-Way Takings[2] | 42 | 42 | 43 | 41 | 42 | 36 | 49 | 48 | 49 | 49 | B6 |
| Average Cost of Right-of-Way/Relocation | 1.191 | 1.118 | 1.209 | 1.972 | 2.031 | 1.014 | 1.254 | 1.761 | 1.727 | 1.766 | B6 |
| Average Interchange/ Overpass Spacing | 0.60 mi | 0.60 mi | 0.52 mi | 0.60 mi | 0.52 mi | 0.60 mi | 0.75 mi | 0.64 mi | 0.64 mi | .57 | B3,5 |
| Accessibility Rating[3] | 0.80 | 0.80 | 0.72 | 0.80 | 0.72 | 0.80 | 0.72 | 0.65 | 0.65 | .47 | B8D |

1 Costs in millions of 1987 dollars; no inflation.

2 Major right-of-way and relocation only; i.e., business, residential and personal property

3 Accessibility Rating = $\frac{\text{Design Segment Length}}{[(\#\text{of full interchanges} \times 1.50) + (\#\text{ of half interchanges} \times 1.25) + (\#\text{ of overpasses} \times 1.0)]}$

within the US 19 corridor study area, Alternative B-8 was selected as the preferred alternative for presentation to the public at the Public Workshop held in July, 1986. Although Alternative B-8 was not the "cheapest" from a design and construction perspective, it did, however, provide the most overall effective solution to the area's deficiencies. The high degree of cross-corridor circulation and accessibility combined with the relatively low right-of-way and relocation costs provided superior design qualities.

As the result of comments received during the Information Center and discussions with staff of Pinellas County, Alternative B-8 was refined to B-8C to reflecet improved access for the County highway maintenance facility located on the east side of US 19 north of Drew Street. The refinement changed the location of the maintenance facility access road to allow for additional left turn storage for maintenance heavy equipment and vehicles entering US 19 at Drew Street.

After the development of Alternative B-8C, additional comments were received from the City of Clearwater regarding the access to the large scale office and retail development which had occurred along Enterprise Road.

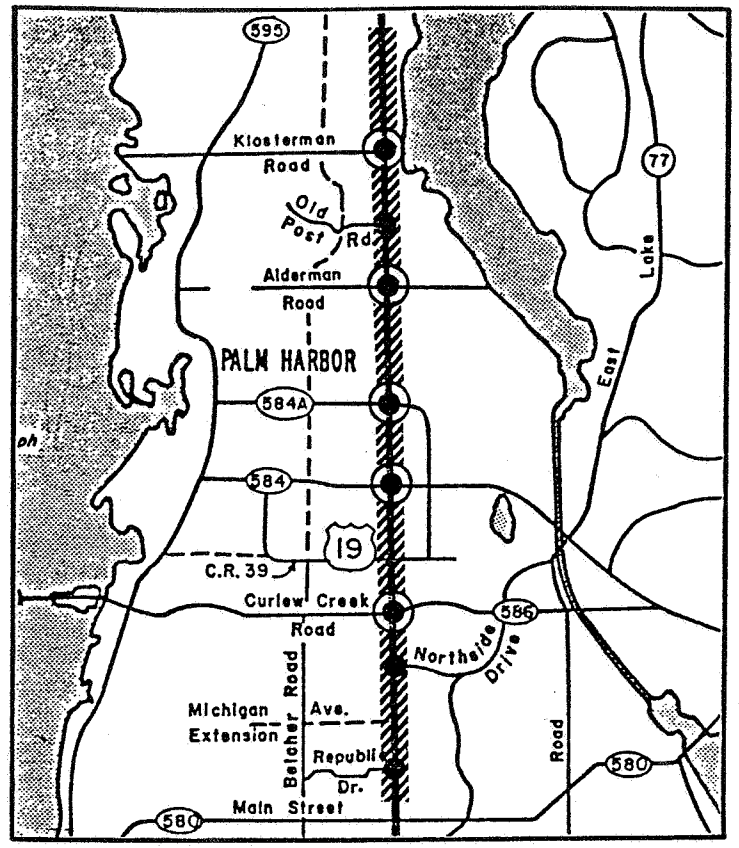
A separate report entitled "Enterprise Road Access Study, October 1987," was prepared.[4] The report is appended by reference. The report evaluates an

additional overpass at Enterprise Road and the impacts of the overpass on the proposed major interchanges at S.R. 588 (Sunset Point Road/Main Street) and at Countryside Boulevard. These interchanges had been previously approved through a Final Environmental Impact Statement approved in April, 1980. The report also included an evaluation of an Enterprise Road overpass impacts on the proposed overpass at Executive Center Drive.

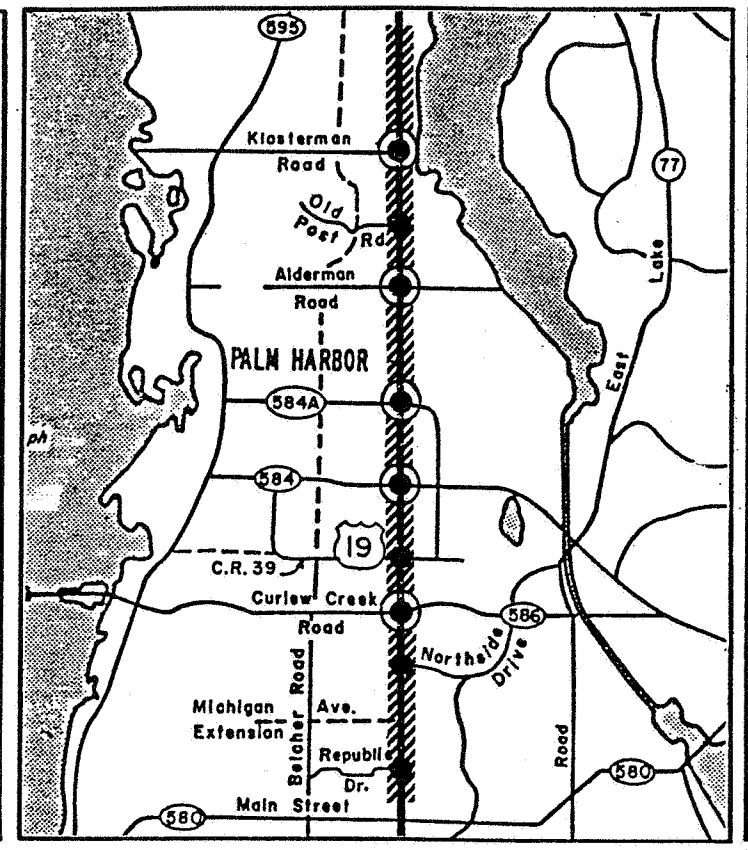
The report concludes the alternative shown here as B-8D is the preferred alternative. This alternative provides for an additional overpass at Enterprise Road and moves the Executive Center Drive 530 feet south for the public right of way at the proposed 3rd Avenue South. In addition, this alternative results in better traffic operation at S.R. 588 (Sunset Point Road/Main Street) and at Countryside Boulevard; and better interchange spacing between S.R. 588 (Sunset Point Road/Main Street) and Enterprise Boulevard.

## Design Segment C

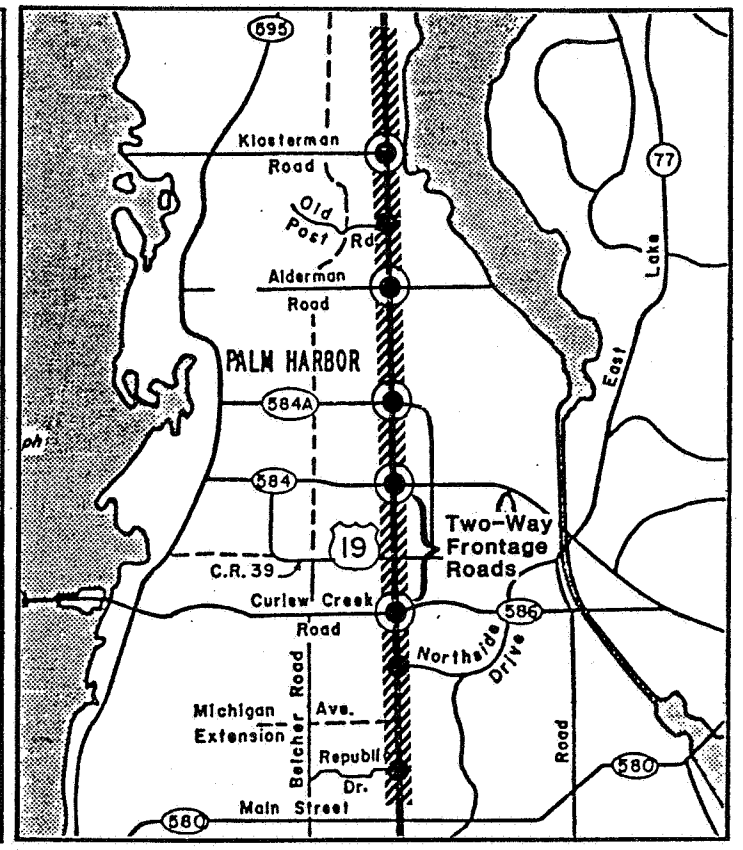
The limits of Design Segment C extend from Evans Road to south of Tarpon Avenue (SR 582). Provided below in outline format are brief descriptions of the major design features of each alternative. Exhibit 2.13 provides a graphic summary of the Design Segment C alternatives. It should be noted as a result of supplemental studies beginning in October, 1986 Segment C boundaries




ALT C-1




ALT C-2

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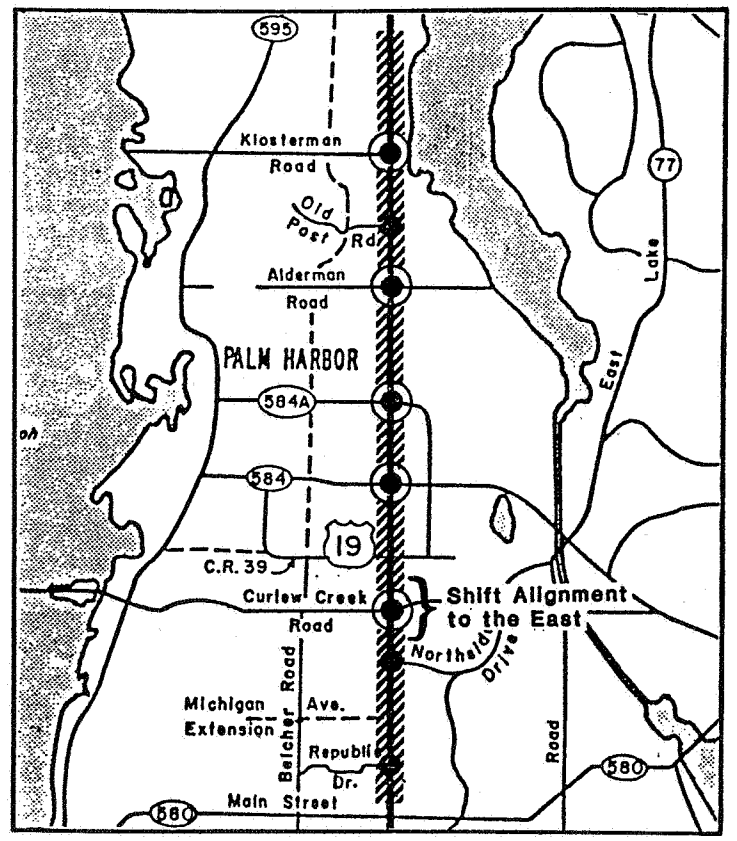


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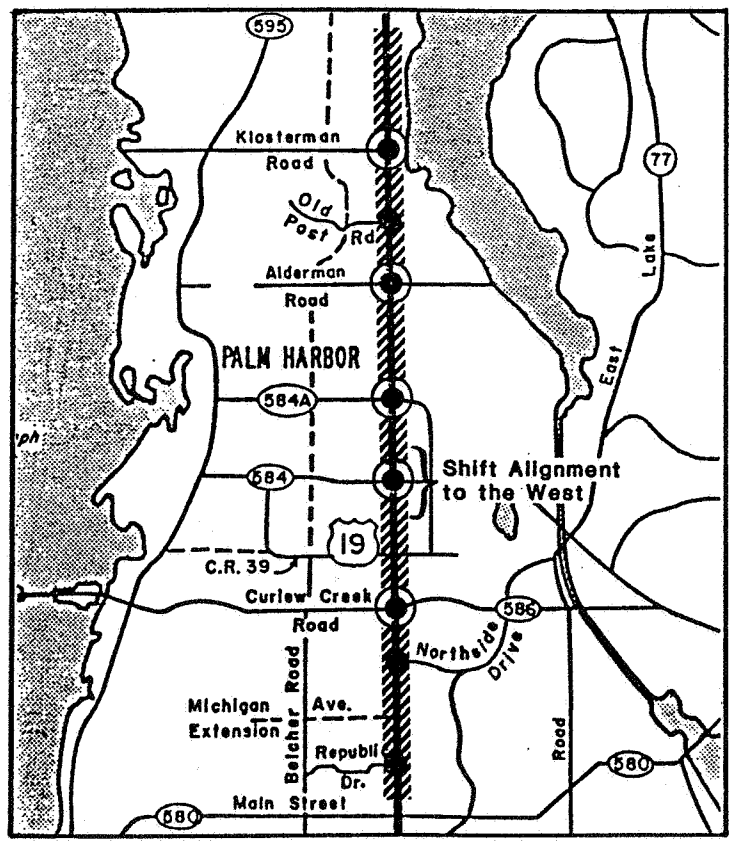


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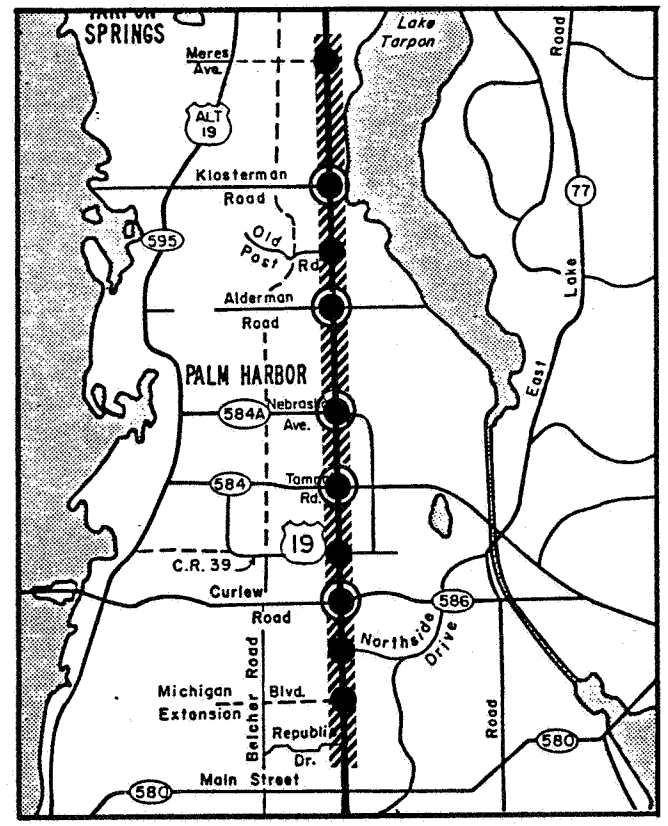



ALT. C-2A

## LEGEND

- INTERCHANGE
- OVERPASS (MINOR INTERCHANGE)
- EXPRESSWAY AND FRONTAGE ROADS AT GRADE

N

**U.S. 19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES**
**Pinellas and Pasco Counties, Florida**
STATE PROJECT NO. 15150-1565

# DESIGN SEGMENT C-ALTERNATIVE DESIGN CONCEPTS

**Florida Department of Transportation**

EXHIBIT 2.13

Greiner Engineering Sciences, Inc.

were extended north of Klosterman Road. This allowed for the evaluation of additional access to the Tarpon Springs area. As a result of the study limits extension, Alternative C-2A extends beyond the original project limits.

**Alternative C-1:**

- 6-lane mainline with 2-lane one-way frontage roads
- Interchanges at Curlew Road, Tampa Road (depressed section), Nebraska Avenue, Alderman Road (depressed section), and Klosterman Road
- Overpasses at Republic Drive, Northside Drive and Old Post Road
- New two-way secondary frontage road connector between Highland Lakes Entrance and Nebraska Avenue

**Alternative C-2:**

- 6-lane mainline with 2-lane one-way frontage roads
- Interchanges at Curlew Road, Tampa Road (depressed section), Nebraska Avenue, Alderman Road (depressed section), and Klosterman Road
- Overpasses at Republic Drive, Northside Drive, CR 39/95 and Old Post Road
- New two-way secondary frontage road connector between Highland Lakes Entrance and Nebraska Avenue

**Alternative C-2A:**

- 6-lane mainline with 2-lane one-way frontage roads
- Interchanges at Curlew Road, Tampa Road (depressed section), Nebraska Avenue, Alderman Road (depressed section), and Klosterman Road

- Overpass at Michigan Boulevard Extension, Northside Drive, CR 39/95, Old Post Road, and Meres Avenue

- New two-way secondary frontage road connector between Highland Lakes entrance and Nebraska Avenue

**Alternative C-3:**

- 6-lane mainline with 2-lane one-way and two way frontage roads

- Interchanges at Curlew Road, Tampa Road (depressed section), Nebraska Avenue, Alderman Road (depressed section), and Klosterman Road

- Overpasses at Republic Drive, Northside Drive and Old Post Road

- New two-way secondary frontage road connector between Highland Lakes Entrance and Nebraska Avenue

- Two way frontage road system from Curlew Road to Tampa Road

**Alternative C-4:**

- 6-lane mainline with 2-lane one way frontage roads

- Interchanges at Curlew Road, Tampa Road (depressed section), Nebraska Avenue, Alderman Road (depressed section), and Klosterman Road

- Overpasses at Republic Drive, Northside Drive and Old Post Road

- New two-way secondary frontage road connector between Highland Lakes Entrance and Nebraska Avenue

- Shift mainline alignment at Curlew Road interchange to the east

**Alternative C-5:**

- 6-lane mainline with 2-lane one-way frontage roads

- Interchanges at Curlew Road, Tampa Road (depressed section), Nebraska Avenue, Alderman Road (depressed section), and Klosterman Road
- Overpasses at Republic Drive, Northside Drive and Old Post Road
- New two-way secondary frontage road connector between Highland Lakes Entrance and Nebraska Avenue
- Shift mainline at Nebraska Avenue to the west

**Cost Estimates**

Preliminary cost estimates for Design Segment C alternatives (C-1 through C-5) have been developed. These estimates are based upon the engineering design criteria previously presented in this report. Table 2.4 provides the preliminary cost estimates for the US 19 Alternatives. These cost estimates do not include major utility relocation costs.

Utility coordination provided by the Department with local utilities has indicated that the issues of utility impacts are essentially ubiquitous. The relative impacts are the same for all alternative designs and should not play a major role in the selection of one alternative design over another. The estimated cost for utility relocation for the entire study area is estimated to be $116,670,000 in 1987 dollars.

## TABLE 2.4

### Design Segment C
### Preliminary Cost Estimate

| Design Alternative | 6-Lane Section: Roadway Miles | 6-Lane Section: Roadway Cost | 6-Lane Section: Typ. Interchange Number | 6-Lane Section: Typ. Interchange Cost | 8-Lane Section: Roadway Miles | 8-Lane Section: Roadway Cost | 8-Lane Section: Typ. Interchange Number | 8-Lane Section: Typ. Interchange Cost | Non-Typical Interchanges Number | Non-Typical Interchanges Cost | Overpasses Number | Overpasses Cost | Bridges Number | Bridges Cost | Misc. Costs | Total Construction Costs | Design Administrative Contingency | Right-of-Way Costs | Alternative Total Costs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C1 | 3.26 | $15.341 | 3 | $23.693 | 0 | $0.000 | 0 | $0.000 | 2 | $7.723 | 3 | $24.337 | 0 | $0.000 | $0.000 | $71.094 | $12.584 | $44.474 | $128.152 |
| C2 | 2.69 | $12.659 | 3 | $23.693 | 0 | $0.000 | 0 | $0.000 | 2 | $7.723 | 4 | $32.450 | 0 | $0.000 | $0.000 | $76.525 | $13.545 | $44.675 | $134.742 |
| C2A | 2.40 | $11.294 | 3 | $23.693 | 0 | $0.000 | 0 | $0.000 | 2 | $7.723 | 5 | $36.586 | 0 | $0.000 | $0.000 | $79.296 | $14.036 | $44.890 | $138.223 |
| C3 | 3.26 | $15.341 | 3 | $23.693 | 0 | $0.000 | 0 | $0.000 | 2 | $7.723 | 3 | $24.337 | 0 | $0.000 | $0.000 | $71.094 | $12.584 | $56.100 | $139.778 |
| C4 | 3.26 | $15.341 | 3 | $23.693 | 0 | $0.000 | 0 | $0.000 | 2 | $7.723 | 3 | $24.337 | 0 | $0.000 | $0.000 | $71.094 | $12.584 | $48.847 | $132.525 |
| C5 | 3.26 | $15.341 | 3 | $23.693 | 0 | $0.000 | 0 | $0.000 | 2 | $7.723 | 3 | $24.337 | 0 | $0.000 | $0.000 | $71.094 | $12.584 | $51.200 | $134.878 |

**NOTE:** Cost in Millions of 1987 Dollars, No Inflation.

## Conclusion

Exhibit 2.14 shows a comparison matrix of alternatives for Design Segment C. Based upon the various engineering, traffic planning, community impacts, local access and circulation, and system continuity factors existing within the US 19 corridor study area, Alternative C-2 was selected as the preferred alignment for presentation to the public at the Public Workshop held in July, 1986.

As a result of public comments received at the Public Workshop and Information Center and discussions with the cities of Clearwater and Dunedin, refinements were made to Alternative C-2. This Alternative C-2A is selected as the proposed action and meets the access and long range planning objectives for both municipalities.

Alternative C-2A substitutes an overpass at Republic Drive with an overpass at the proposed extension of Michigan Boulevard. This alternative provides better future system linkage between US 19 and Belcher Road without increasing neighborhood through traffic.

Prior to the Public Workshop and Information Center, the project limits of Segment C were extended north of Klosterman Road and a re-evaluation of access

EXHIBIT 2.14
DESIGN SEGMENT C
ALTERNATIVES COMPARISON

| Factor | Alternative C1 | C2 | C2A | C3 | C4 | C5 | Best Alternative |
|---|---|---|---|---|---|---|---|
| Right-of-Way Costs[1] | $44.474 | $44.675 | $44.890 | $56.100 | $48.847 | $51.200 | C1 |
| Construction & Contingency Costs | $83.678 | $90.067 | $93.333 | $83.678 | $83.678 | $83.678 | C1.3.4.5. |
| Total Costs[1] | 128.152 | $134.742 | $138.223 | $139.778 | $132.525 | $134.878 | C1 |
| Relocations[2] | 24 | 24 | 26 | 27 | 24 | 24 | C1,2,4,5 |
| Right-of-Way Takings | 209 | 214 | 218 | 203 | 210 | 201 | C5 |
| Average Cost of Right-of-Way/Relocations | 1.85 | 1.86 | 1.73 | 2.07 | 2.04 | 2.13 | C2A |
| Average Interchange/ Overpass Spacing | 0.94 mi | 0.82 mi | 1.01 mi[4] | 0.94 mi | 0.94 mi | 0.94 mi | C2 |
| Accessibility Rating[3] | 1.00 | 0.91 | 0.90 | 1.00 | 1.00 | 1.00 | C2A |

1 Costs in millions of 1987 dollars; no inflation

2 Major right-of-way and relocation only; i.e., business, residential, personal property

3 Accessibility Rating = $\frac{\text{Design Segment Length}}{[(\#\text{ of full interchanges} \times 1.50) + (\#\text{ of half interchanges} \times 1.25) + (\#\text{ of overpasses} \times 1.0)]}$

4 Study segment limits change

to the Tarpon Springs area was made. This resulted in a report entitled "Tarpon Avenue Concept Report (January, 1987), [5] which is appended by reference. As the result of this analysis and discussions with the City of Tarpon Springs staff and officials, Alternative C-2A, the preferred alternative, includes an additional overpass at the proposed intersection of Meres Avenue and US 19.

Design Segment D

The limits of Design Segment D extend from south of Tarpon Avenue to north of Alternate US 19 (SR 595). Provided below in outline format are brief descriptions of the major design features of each alternative. Exhibit 2.15 provides a graphic summary of the Design Segment D alternatives.

It should be noted that the project limits were extended to south of Tarpon Avenue in order to re-evaluate access to the Tarpon Springs area. As a result of the study limits extension, the preferred Alternative D-2B extends beyond the original project limits. It includes an overpass at Live Oak Street.

**Alternative D-1:**

- 6-lane mainline with 2-lane two-way frontage roads north and south of the Anclote River (no frontage roads cross river)

- Railroad overpass south of SR 595
- Mainline overpass at Anclote River
- Overpass at Flora Avenue
- Interchange at SR 595

**Alternative D-2:**

- 6-lane mainline with 2-lane one-way frontage roads north and south of the Anclote River
- Railroad overpass south of SR 595
- Overpass at Anclote River
- Overpass at Flora Avenue
- Interchange at SR 595

**Alternative D-2B:**

- 6-lane mainline with 2-lane one-way frontage roads north and south of the Anclote River
- Interchanges at Tarpon Avenue and SR 595 (Alt. 19)
- Railroad overpass south of SR 595 (Alt. 19)
- U-turns for northbound and southbound frontage road circulation north and south of railroad overpass
- Bridges at Anclote River
- Overpasses at Live Oak Street and Flora Avenue
- Interchange at SR 595

**Alternative D-3:**

- 6-lane mainline with 2-lane two-way frontage roads north and south of the Anclote River (no frontage road bridges over river)
- Railroad overpass south of SR 595
- Mainline overpass at Anclote River
- Overpass at Flora Avenue
- Three-level interchange at SR 595

**Alternative D-4:**

- 6-lane mainline with 2-lane one-way frontage roads north and south of the Anclote River
- Railroad overpass south of S.R. 595
- Overpass at Anclote River
- Overpass at Flora Avenue
- Three-level interchange at S.R. 595

**Cost Estimates**

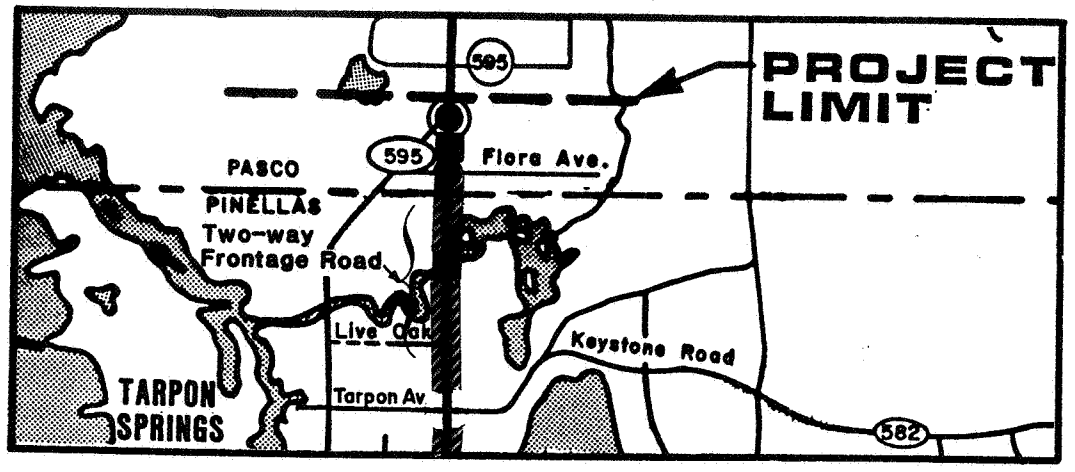
Preliminary cost estimates for Design Segment D alternatives (D-1 through D-4) have been developed. These estimates are based upon the engineering design criteria previously presented in this report. Table 2.5 provides the preliminary cost estimates for the U.S. 19 Alternatives. These cost estimates do not include major utility relocation costs. Utility coordination provided by the Department with local utilities has indicated that the issues of utility impacts are essentially ubiquitous. The relative impacts are the same

## TABLE 2.5

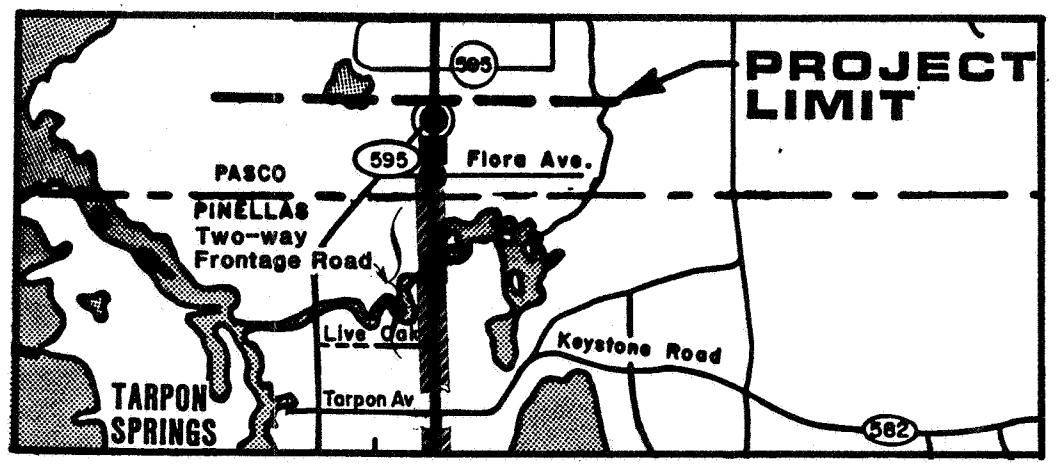
### Design Segment D
### Preliminary Cost Estimate

| Design Alternative | 6-Lane Section: Roadway Miles | 6-Lane Section: Roadway Cost | 6-Lane Section: Typ. Interchange Number | 6-Lane Section: Typ. Interchange Cost | 8-Lane Section: Roadway Miles | 8-Lane Section: Roadway Cost | 8-Lane Section: Typ. Interchange Number | 8-Lane Section: Typ. Interchange Cost | Non-Typical Interchanges Number | Non-Typical Interchanges Cost | Overpasses Number | Overpasses Cost | Bridges Number | Bridges Cost | Misc. Costs | Total Construction Costs | Design Administrative Contingency | Right-of-Way Costs | Alternative Total Costs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D1 | 1.06 | $4.988 | 0 | $0.000 | 0 | $0.000 | 0 | $0.000 | 1 | $11.672 | 1 | $8.112 | 2 | $1.404 | $0.000 | $26.176 | $4.633 | $11.985 | $42.794 |
| D2 | 1.06 | $4.988 | 0 | $0.000 | 0 | $0.000 | 0 | $0.000 | 1 | $11.672 | 1 | $8.112 | 2 | $3.785 | $0.000 | $28.558 | $5.055 | $9.101 | $42.714 |
| D2B | 1.07 | $5.035 | 1 | $7.898 | 0 | $0.000 | 0 | $0.000 | 1 | $11.672 | 2 | $13.404 | 4 | $8.048 | $0.975 | $47.032 | $8.325 | $9.289 | $64.646 |
| D3 | 1.06 | $4.988 | 0 | $0.000 | 0 | $0.000 | 0 | $0.000 | 1 | $14.808 | 1 | $8.112 | 2 | $1.404 | $0.000 | $29.312 | $5.188 | $13.808 | $48.308 |
| D4 | 1.06 | $4.988 | 0 | $0.000 | 0 | $0.000 | 0 | $0.000 | 1 | $14.808 | 1 | $8.112 | 2 | $3.785 | $0.000 | $31.694 | $5.610 | $11.512 | $48.816 |

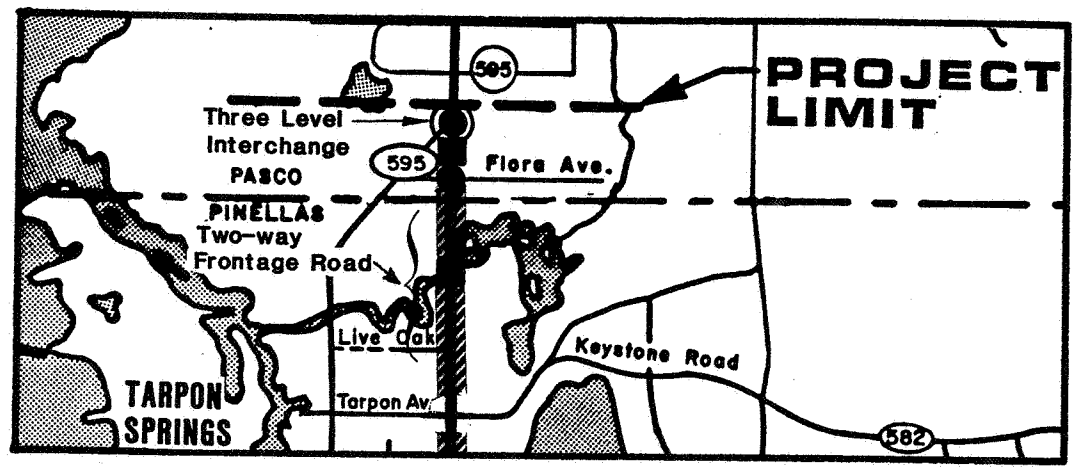
NOTE: Cost in Millions of 1987 Dollars, No Inflation.



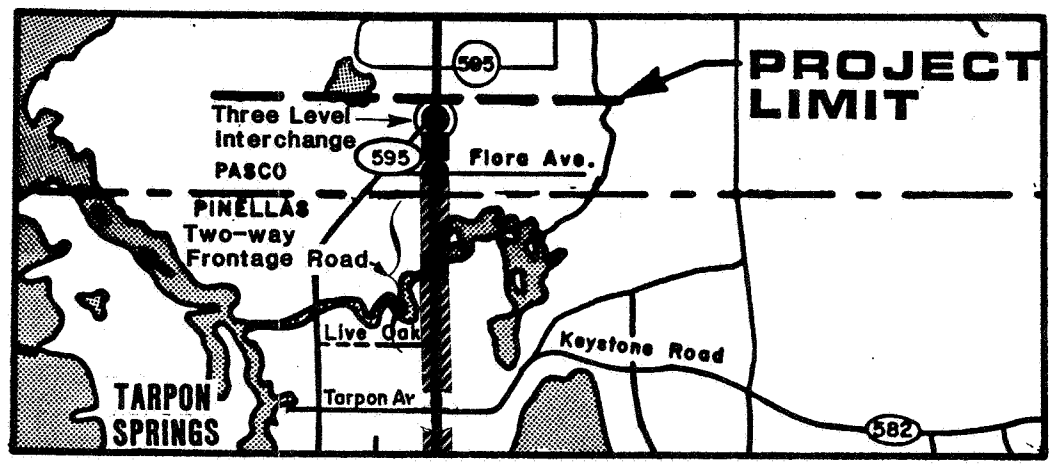

ALT. D-1



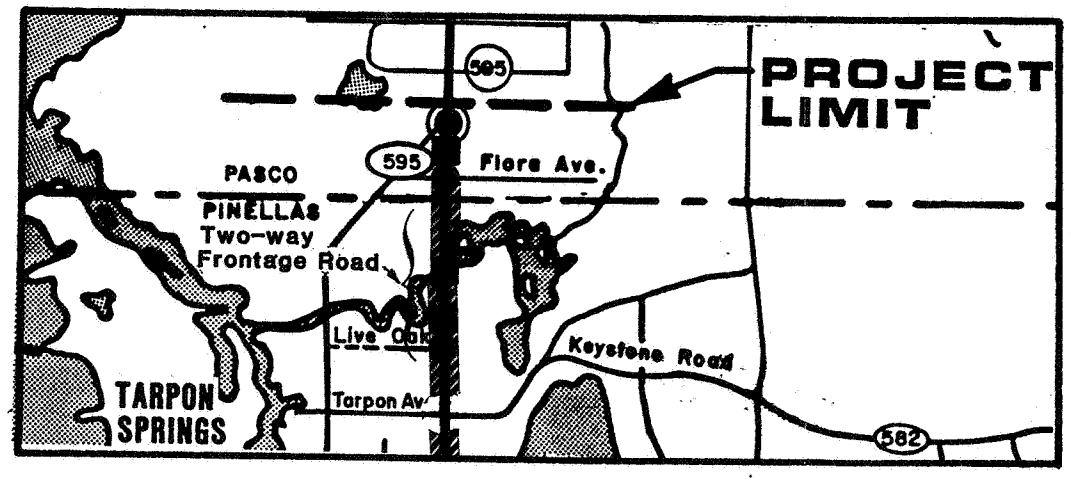

ALT. D-2




ALT. D-3




ALT. D-4




ALT. D-2B

## LEGEND

- INTERCHANGE
- OVERPASS (MINOR INTERCHANGE)
- GRADE SEPARATION
- EXPRESSWAY AND FRONTAGE ROADS AT GRADE

N

**U.S. 19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES**
**Pinellas and Pasco Counties, Florida**
STATE PROJECT NO. 15150-1565

# DESIGN SEGMENT D-ALTERNATIVE DESIGN CONCEPTS

**Florida Department of Transportation**
EXHIBIT 2.15

Greiner Engineering Sciences, Inc.

for all alternative designs and should not play a major role in the selection of one alternative design over another. The estimated cost for utility relocation for the entire study area is estimated to be $116,670,000 in 1987 dollars.

**Conclusions**

Exhibit 2.16 shows a comparison matrix of alternatives for Design Segment D. Based upon the various engineering, traffic planning, community impacts, local access and circulation, and system continuity factors existing within the US 19 corridor study area, Alternative D-2 was selected as the preferred alternative.

Alternative D-2 was presented to the public at the July, 1986 Public Workshop as the preferred alternative.

After the July Public Workshop, the Segment D project limits were extended, and a re-evaluation of access to the Tarpon Springs urban area was made. This resulted in a report entitled "Tarpon Avenue Concept Report, January, 1987," which is appended by reference. As a result of this analysis and discussions with City of Tarpon Springs staff and officials, Alternative D-2 was refined to Alternative D-2B. Alternative D-2B, the preferred alternative, includes an

EXHIBIT 2.16
DESIGN SEGMENT D
ALTERNATIVES COMPARISON

| Factor | Alternative D1 | D2 | D2B[4] | D3 | D4 | Best Alternative |
|---|---|---|---|---|---|---|
| Right-of-Way Costs[1] | $11.985 | $9.101 | $9.289 | $13.808 | $11.512 | D2 |
| Construction & Contingency Costs [1] | $30.809 | $33.613 | $55.357 | $34.500 | $37.304 | D1 |
| Total Costs[1] | $42.794 | $42.714 | $64.646 | $48.308 | $48.816 | D2 |
| Relocations[2] | 2 | 2 | 2 | 20 | 9 | D1,2,D2B |
| Right-of-Way Takings[2] | 81 | 65 | 67 | 95 | 80 | D2 |
| Average Cost of Right-of-Way/Relocations | 5.976 | 4.55 | 4.64 | .690 | 1.279 | D3 |
| Average Interchange/ Overpass Spacing | 1.21 mi | 1.21 mi | 1.06 mi | 1.21 mi | 1.21 mi | D2B |
| Accessibility Rating[3] | 1.25 | 1.25 | 0.90 | 1.25 | 1.25 | D2B |

1 Costs in millions of 1987 dollars; no inflation

2 Major right-of-way and relocation only; i.e., business, residential, personal property

3 Accessibility Rating = $\dfrac{\text{Design Segment Length}}{[\text{\# of full interchanges} \times 1.50) + (\text{\# of half interchanges} \times 1.25) + (\text{\# of overpasses} \times 1.0)]}$

4 Study segment limits change

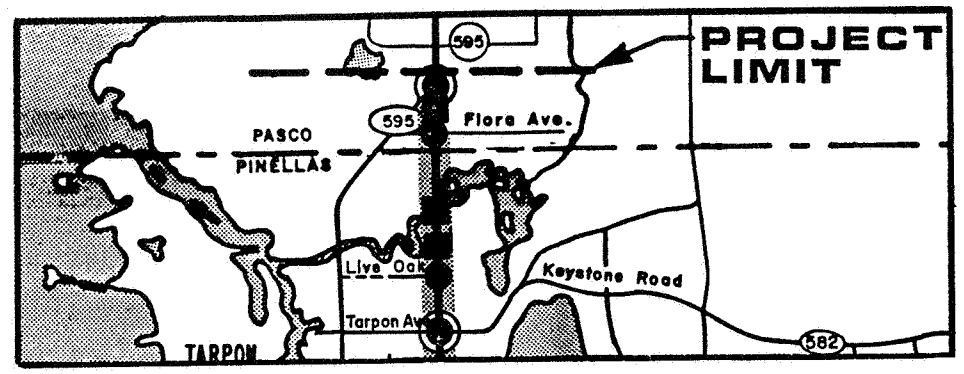
overpass at Live Oak Street, at grade frontage roads at the crossing of the CSX Transportation Railroad, and revised frontage road access northbound near the Anclote River.

## Summary

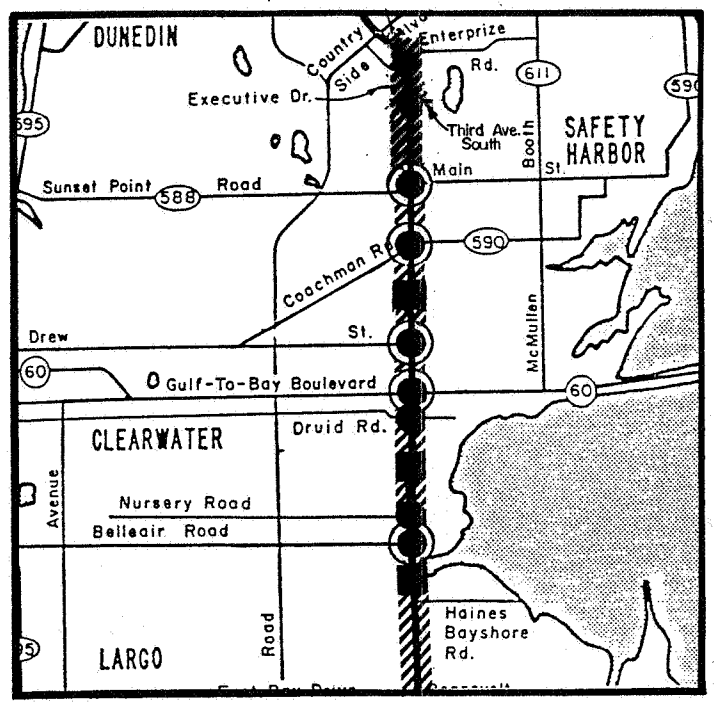
The analyses of the reasonable and feasible alternative concepts presented in this section provided for the selection of a preferred freeway concept for each of the four corridor design segments. The preferred alternatives are:

- Concept A-1A
- Concept B-8D
- Concept C-2A
- Concept D-2B

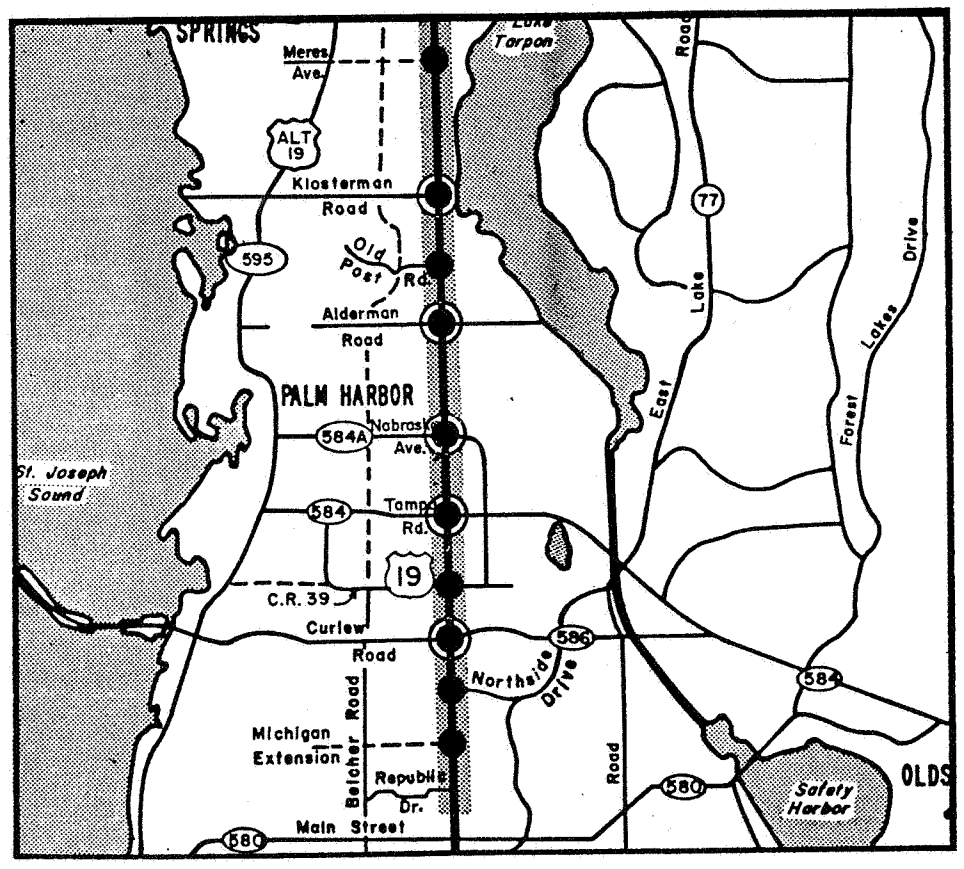
Exhibit 2.17 presents graphically the design concepts preferred for the US 19 study corridor. Exhibit 2.18 presents a summary of the key factors associated with the preferred concept. The preferred freeway concept is estimated to cost $513,432,000 to construct in 1987 dollars. This estimated price includes construction, design, administration, contingency, right-of-way, and relocation. This design concept complies with the **Pinellas County Year 2010 Long-Range Highway Plan** and the County's **US 19 Ultimate Design Concepts.**



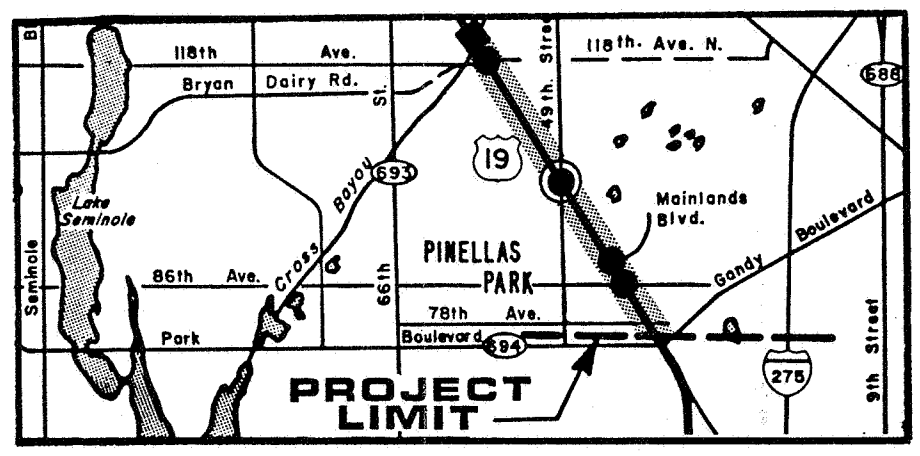

ALT. D-2B




ALT. B-8D




ALT. C-2A

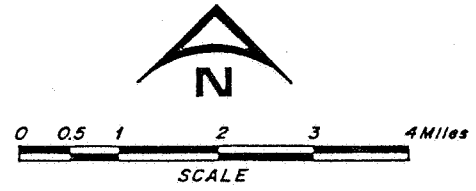



ALT. A-1A

## LEGEND

- INTERCHANGE
- OVERPASS (MINOR INTERCHANGE)
- GRADE SEPARATION
- EXPRESSWAY AND FRONTAGE ROADS AT GRADE

**NOTE:**
Previously Programed Interchange Areas Are Not Shown




# U.S. 19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES

Pinellas and Pasco Counties, Florida
STATE PROJECT NO. 15150-1565

## PREFERRED U.S. 19 DESIGN CONCEPTS

Florida Department of Transportation

EXHIBIT 2.17

Greiner Engineering Sciences, Inc.

EXHIBIT 2.18

PREFERRED CONCEPT SUMMARY

| Factor \ Alternative | A1A | B8D | C2A | D2B | Total for Preferred Alternative |
|---|---|---|---|---|---|
| Right-of-Way Costs[1] | $ 8.652 | $45.906 | $44.890 | $ 9.289 | $108.737 |
| Construction & Contingency Costs[1] | $41.061 | $98.274 | $93.333 | $55.357 | $288.025 |
| Utility Relocation Costs | - | - | - | - | $116.670 |
| Total Costs[1] | $49.713 | $144.180 | $138.223 | $64.646 | $513.432 |
| Relocations[2] | 13 | 26 | 26 | 2 | 67 |
| Right-of-Way Takings[2] | 35 | 49 | 218 | 67 | 369 |
| Average Cost of Right-of-Way/Relocation[1,2] | .665 | 1.76 | 1.73 | 4.64 | 8.795 |
| Average Interchange/ Overpass Spacing | 0.66 mi | .57 mi | 0.65 mi | 1.06 mi | .73 mi |
| Accessibility Rating[3] | 0.55 | .47 | .90 | .90 | .71 |

1 Costs in millions of 1987 dollars; no inflation.

2 Major right-of-way and relocation only; i.e., business, residential and personal property

3 Accessibility Rating = $\frac{\text{Design Segment Length}}{[(\#\text{ of full interchanges} \times 1.50) + (\#\text{ of half interchanges} \times 1.25) + (\#\text{ of overpasses} \times 1.0)]}$

## 2.5 TRAFFIC OPERATIONS ANALYSIS

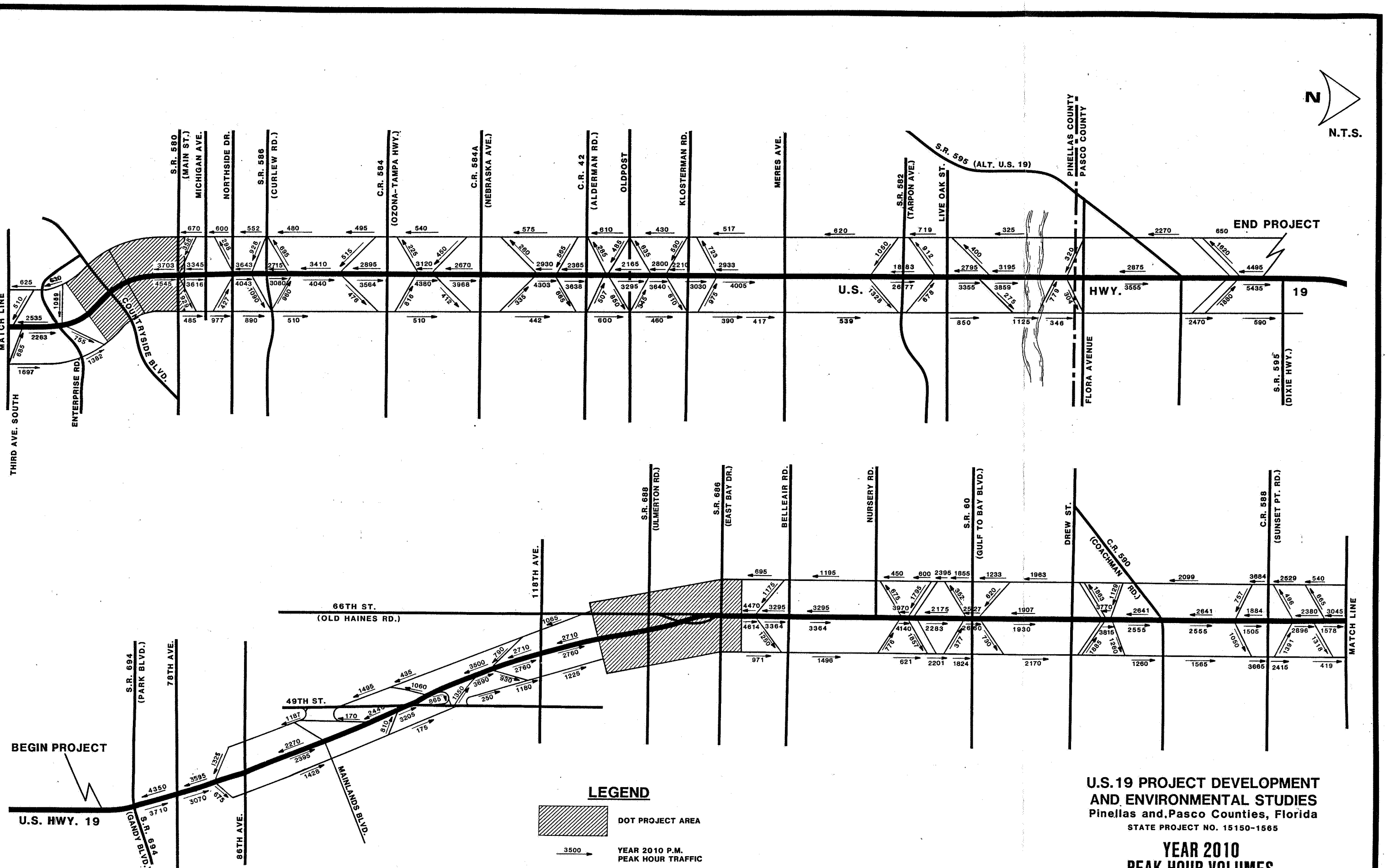
Once the preferred alternative was selected by combining the most advantageous alternatives from each segment, a detailed traffic analysis was undertaken. This analysis examined the operations on the freeway including the frontage road, as well as the signalized intersections at the crossroads.

### 2.5.1 EXPRESSWAY/FRONTAGE ROAD SYSTEM

The preferred alternative consists basically of a mainline roadway with three lanes in each direction and a frontage system with two lanes in each direction. In several locations where there are intense weaving areas, auxiliary lanes between ramps are provided which increases the mainline to eight lanes. Typical areas where this occurs are the segments between Nursery Road and Druid/Seville, and between Drew Street and CR 590. Frontage roads are increased to three lanes in the areas of SR 60 and Sunset Point Road.

Frontage road access control limits have been identified for typical locations as approximately 300 feet from the ramp gore to the first driveway.

Exhibit 2.19 shows the year 2010 peak hour volumes used to analyze operations on the freeway system. The analysis included the determination of levels of




# U.S.19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES

Pinellas and Pasco Counties, Florida

STATE PROJECT NO. 15150-1565

## YEAR 2010 PEAK HOUR VOLUMES

Florida Department Of Transportation

Greiner Engineering Sciences, Inc.

EXHIBIT 2.19

service on the mainline, frontage road, and ramps. Exhibit 2.20 provides an illustration summarizing the Levels of Service (LOS) on each roadway component.

The basis of Exhibit 2.19 was developed in Table 1.7, which shows the year 2010 peak hour traffic conditions. This table provides the volume/capacity ratios and LOS's of each segment of the mainline and frontage road. It is important to note that the preferred freeway alternative will operate at LOS "D" or better during peak operating conditions.

Weaving conditions were evaluated for the freeway. Table 2.6 provides all of the appropriate weaving conditions levels of service. An examination of Table 2.6 indicates six segments where the weaving conditions control the LOS of the expressway. This means that the turbulence created by weaving traffic will lower the LOS of the mainline from an LOS obtained from the total volume alone. For example, the segment between Drew Street and Coachman Road has a total peak hour volume of 3,815 vehicles per hour. This equates to a volume/capacity ratio of 0.50 and a LOS "B". However, an examination of weaving conditions lowers the LOS to "D".

TABLE 2.6

YEAR 2010 PEAK HOUR TRAFFIC CONDITIONS

| LINK | | PROPOSED | MAINLINE PEAK DIRECTION | | | | FRONTAGE ROAD PEAK DIRECTION | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| FROM | TO | LANES | VOLUME | CAPACITY[3] | V/C | LOS[4] | VOLUME | CAPACITY[1] | V/C | LOS[4] |
| Segment A | | | | | | | | | | |
| 78th Avenue | 86th Avenue | 6 | 3595 | 5700 | 0.63 | C | 1325 | 1800 | 0.74 | C |
| 86th Avenue | 49th Street | 6 | 2395 | 5700 | 0.42 | B | 1428 | 1800 | 0.79 | C |
| 49th Street | 118th Avenue | 7 | 3690 | 7600 | 0.49 | C[7] | 1180 | 1800 | 0.66 | B |
| Segment B | | | | | | | | | | |
| SR 686 (East Bay Dr) | Belleair Road | 6 | 4614 | 5700 | 0.81 | D | 971 | 1800 | 0.54 | B |
| Belleair Road | Nursery Road | 6 | 3364 | 5700 | 0.59 | C | 1496 | 1800 | 0.83 | D |
| Nursery Road | Druid/Seville | 8 | 4140 | 7600 | 0.54 | C[7] | 621 | 1800 | 0.35 | A |
| Druid/Seville | SR 60 (Gulf to Bay Blvd) | 6 | 2283 | 5700 | 0.38 | A | 2395 | 2700[2] | 0.89 | D |
| SR 60 (Gulf to Bay Blvd) | Drew Street | 6 | 1930 | 5700 | 0.34 | B | 2170 | 2700[2] | 0.80 | C |
| Drew Street | CR 590 (Coachman Road) | 8 | 3815 | 7600 | 0.50 | D[7] | 1260 | 1800 | 0.70 | B |
| CR 590 (Coachman Road) | CR 588 (Sunset Point Rd) | 6 | 2641 | 5700 | 0.46 | B | 2099 | 2700 | 0.78 | C |
| CR 588 (Sunset Point Rd) | Enterprise Road | 6 | 3045 | 5700 | 0.53 | D[7] | 2033 | 2700 | 0.75 | C |

TABLE 2.6

YEAR 2010 PEAK HOUR TRAFFIC CONDITIONS
(Continued)

| LINK FROM | TO | PROPOSED LANES | MAINLINE PEAK DIRECTION VOLUME | CAPACITY | V/C | LOS[4] | FRONTAGE ROAD PEAK DIRECTION VOLUME | CAPACITY[1] | V/C | LOS[4] |
|---|---|---|---|---|---|---|---|---|---|---|
| Segment C | | | | | | | | | | |
| SR 580 (Main Street) | SR 586 (Curlew Road) | 6 | 4043 | 5700 | 0.71 | D[7] | 977 | 1800 | 0.54 | B |
| SR 586 (Curlew Road) | CR 584 (Ozona-Tampa Hwy) | 6 | 4040 | 5700 | 0.71 | C | 510 | 1800 | 0.28 | A |
| CR 584 (Ozona-Tampa Hwy) | CR 584A (Nebraska Ave) | 6 | 4380 | 5700 | 0.77 | D | 540 | 1800 | 0.30 | A |
| CR 584A (Nebraska Ave) | CR 42 (Alderman Road) | 6 | 4303 | 5700 | 0.75 | D | 575 | 1800 | 0.32 | A |
| CR 42 (Alderman Rd) | Old Post Road | 6 | 4145 | 5700 | 0.73 | D[7] | 610 | 1800 | 0.34 | A |
| Old Post Road | Klosterman Road | 6 | 3640 | 5700 | 0.64 | C | 460 | 1800 | 0.26 | A |
| Klosterman Road | SR 582 (Tarpon Ave) | 6 | 4005 | 5700 | 0.70 | C | 620 | 1800 | 0.34 | A |
| Segment D | | | | | | | | | | |
| Pinellas/Pasco County Line | SR 595 (Alt. US 19) | 6 | 3555 | 5700 | 0.62 | C | 346 | 1800 | 0.19 | A |
| SR 595 (Alt. US 19) | End of Project | 8 | 5435 | 7600 | 0.72 | C | 650 | 1800 | 0.36 | A |

TABLE 2.6

YEAR 2010 PEAK HOUR TRAFFIC CONDITIONS
(Continued)

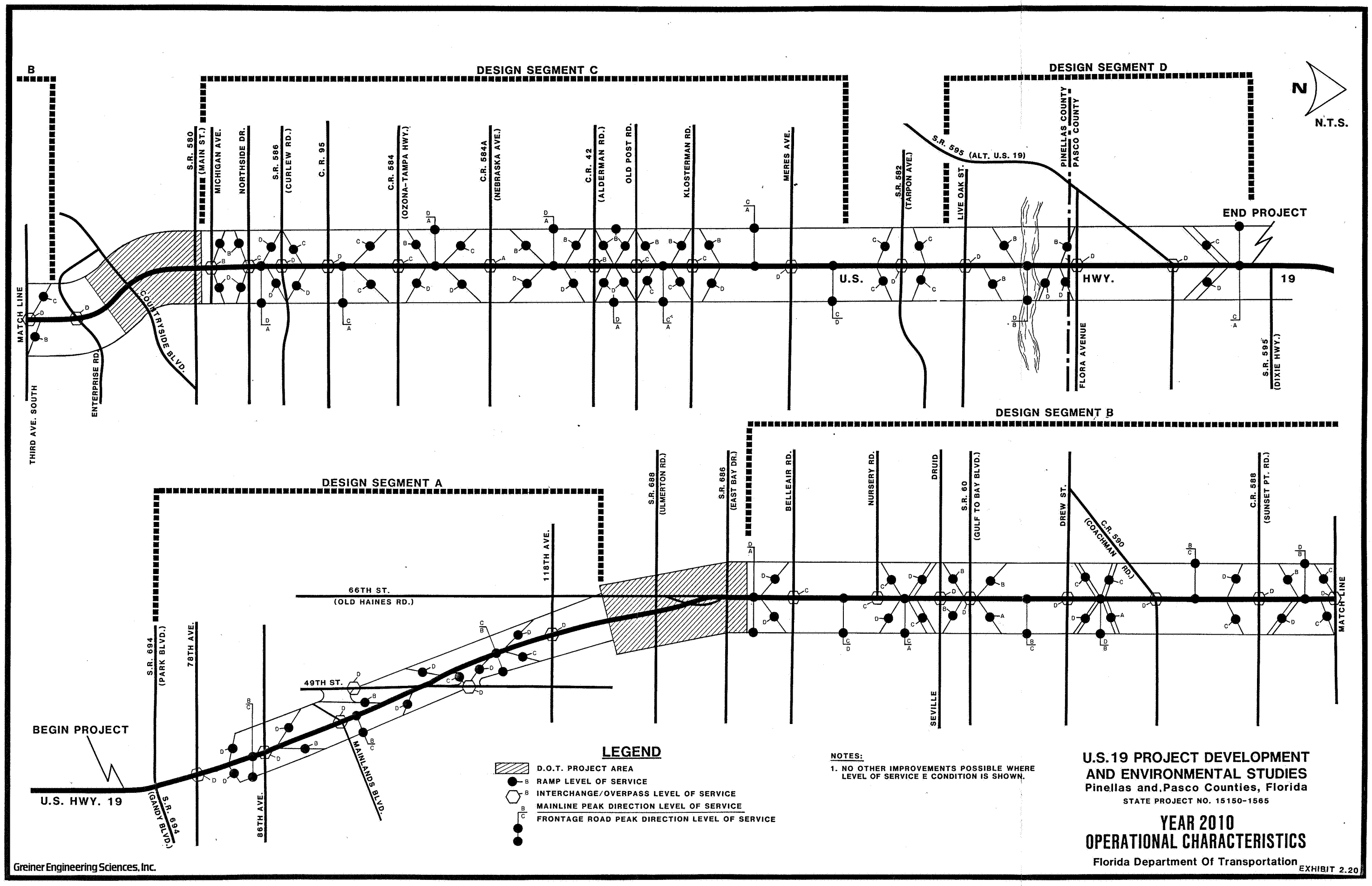
[1]Two Lane Frontage Road.
[2]Three Lane Frontage Road.
[3]Capacity at LOS E from Task C Report by COMSIS Corporation for FDOT.
[4]The V/C Ratios below were used to determine peak-hour Level of Service.

| | | Freeway[5] | | |
|---|---|---|---|---|
| Level of Service | Arterials[6] | 4-Lane | 6-Lane | 8-Lane |
| A | ≤0.60 | <0.35 | <0.40 | <0.42 |
| B | <0.70 | <0.50 | <0.58 | <0.63 |
| C | <0.80 | <0.68 | <0.73 | <0.75 |
| D | <0.90 | <0.82 | <0.82 | <0.83 |
| E | <1.00 | <1.00 | <1.00 | <1.00 |
| F | >1.00 | >1.00 | >1.00 | >1.00 |

[5]Highway Capacity Manual, 1965, Special Report 87.

[6]Traffic and Transportation Handbook, Institute of Traffic Engineers, 1982.

[7]LOS Determined by Weaving Volume.




## LEGEND

- D.O.T. PROJECT AREA
- RAMP LEVEL OF SERVICE
- INTERCHANGE/OVERPASS LEVEL OF SERVICE
- MAINLINE PEAK DIRECTION LEVEL OF SERVICE
- FRONTAGE ROAD PEAK DIRECTION LEVEL OF SERVICE

**NOTES:**

1. NO OTHER IMPROVEMENTS POSSIBLE WHERE LEVEL OF SERVICE E CONDITION IS SHOWN.

# U.S.19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES

Pinellas and Pasco Counties, Florida

STATE PROJECT NO. 15150-1565

## YEAR 2010 OPERATIONAL CHARACTERISTICS

Florida Department Of Transportation

Greiner Engineering Sciences, Inc.

EXHIBIT 2.20

In cases where the weaving conditions lowered the LOS below "E", auxiliary lanes were added to preliminary concepts to improve operations. In cases where the LOS remained "D" or better, extra lanes were not added in order to minimize right-of-way takings and impacts on adjacent businesses. In cases where the weaving conditions lowered the LOS of the mainline but not below "D", the addition of auxiliary lanes would be beneficial. These cases should be examined during preliminary engineering to see if there is the potential to add lanes as a result of right-of-way takings which may result in excess right-of-way due to the nature of the specific parcel takings.

### 2.5.2 AT-GRADE INTERSECTIONS AT OVERPASSES AND INTERCHANGES

The major interchanges along the US 19 corridor reflect the Pinellas County adopted urban interchange policy concept at the crossroads. This type of interchange maximizes the use of right-of-way by providing a continuous bridge to span the crossroad. This enables the intersection to operate like a typical at-grade intersection where the left turns run concurrently during the north/south movement and again during the east/west movement. This operation allows the crossroads to set up the left turns in less right-of-way than the typical diamond interchange with piers in the median of the crossroad.

Table 2.7, US 19 Interchange/Overpass At-Grade Intersection Operation Characteristics, provides a summary of the volume/capacity ratio and LOS's for major signalized intersections within the corridor. These analyses were based on the traffic volumes listed in Exhibit 2.9.

The analysis of the intersections determined the lane requirements needed to provide an acceptable level of service for operation in the Year 2010. In conjunction with lane requirements, storage lengths for turn lanes were determined. Storage lengths were based on the queue length of the turning volume or on the length required for the turning movement to bypass the through movement queue, whichever was greater. The lane requirements and storage lengths are also listed in Table 2.7.

All intersections are anticipated to operate at LOS "D" or better in the design year. Implementation of these improvements should provide improved traffic service well into the future.

TABLE 2.7

YEAR 2010 INTERCHANGE/OVERPASS AT-GRADE
INTERSECTION OPERATIONAL CHARACTERISTICS

LANE REQUIREMENTS AND MINIMUM STORAGE LENGTH (IN FEET)

| CROSS ROAD | NORTHBOUND | | | | SOUTHBOUND | | | | EASTBOUND | | | | WESTBOUND | | | SUMMARY OF CRITICAL MOVEMENT | V/C | LOS[1] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U | L | T | R | U | L | T | R | L | T | R | L | T | R | | | |
| 86th Ave. N. | - | 1 | 1 | 1 | - | 1 | 1 | S | 1 | 1 | 1 | 1 | 2 | S | | | | |
| | - | 325 | 200 | 200 | - | 105 | 105 | - | 195 | 195 | 195 | 270 | 125 | - | | 1448 | 0.88 | D |
| Mainlands | 1 | - | 2 | S | - | 1 | 2 | - | - | - | - | 1 | - | 1 | | | | |
| Blvd. | 430 | - | 430 | - | - | 230 | 230 | - | - | - | - | 260 | - | 260 | | 1285 | 0.78 | D |
| 49th St. N. | - | 2 | - | - | - | - | 2 | - | - | - | - | - | - | - | | | | |
| (North Ramps) | - | 210 | - | - | - | - | 125 | - | - | - | - | - | - | - | | 1368 | 0.83 | D |
| 49th St. N. | - | - | 2 | - | - | 1 | - | - | - | - | - | - | - | - | | | | |
| (South Ramps) | - | - | 150 | - | - | 270 | - | - | - | - | - | - | - | - | | 1346 | 0.78 | D |
| 118th Ave N. | - | 2 | S | 1 | - | 2 | S | 1 | 2 | 3 | 1 | 2 | 3 | 1 | | | | |
| | | 370 | - | 370 | - | 330 | - | 330 | 160 | 160 | 160 | 245 | 245 | 245 | | 1426 | 0.86 | D |
| Bellair Road | 1 | 2 | 2 | 1 | 1 | 2 | S1 | 1 | 2 | 2 | 1 | 2 | 2 | S | | | | |
| | 315 | 315 | 315 | 315 | 230 | 230 | 230 | 230 | 308 | 50 | 50 | 370 | 50 | - | | 1196 | 0.75 | C |
| Nursery Road | - | 1 | 2 | S | - | 1 | 2 | S | 1 | 1 | S | 1 | 1 | S | | | | |
| | - | 470 | 470 | - | - | 260 | 260 | - | 180 | 180 | - | 90 | 90 | - | | 1197 | 0.73 | C |
| Druid Road | - | 1 | 3 | 1 | - | 1 | 3 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | | | | |
| | - | 495 | 495 | 495 | - | 500 | 500 | 500 | 150 | 150 | 150 | 105 | 105 | 105 | | 1382 | 0.97 | D |

S - Shared Lane

Storage Lengths to 8' Point

[1]LOS E indicates no practical at-grade improvements are feasible

TABLE 2.7

YEAR 2010 INTERCHANGE/OVERPASS AT-GRADE
INTERSECTION OPERATIONAL CHARACTERISTICS
(Continued)

LANE REQUIREMENTS AND MINIMUM STORAGE LENGTH (IN FEET)

| CROSS ROAD | NORTHBOUND | | | | SOUTHBOUND | | | | EASTBOUND | | | WESTBOUND | | | SUMMARY OF CRITICAL MOVEMENT | V/C | LOS[1] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U | L | T | R | U | L | T | R | L | T | R | L | T | R | | | |
| S.R. 60 | 1 | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | 3 | 1 | 2 | 3 | 1 | | | |
| | 295 | 295 | 135 | 135 | 220 | 220 | 125 | 125 | 375 | 375 | 375 | 300 | 300 | 300 | 1304 | 0.88 | D |
| Drew St. | 1 | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | 2 | 1 | 2 | 2 | 1 | | | |
| | 345 | 345 | 345 | 345 | 300 | 300 | 300 | 300 | 190 | 190 | - | 195 | 195 | 195 | 1408 | 0.85 | D |
| Coachman Rd. | 1 | 2 | S1 | 1 | 1 | 2 | S1 | 2 | 2 | 1 | 1 | 2 | 1 | 1 | | | |
| | 150 | 150 | 150 | 150 | 270 | 270 | 270 | 270 | 235 | 235 | 235 | 200 | 200 | 200 | 1350 | 0.82 | D |
| Sunset Pt. Rd. | 1 | 2 | 3 | 1 | 1 | 2 | 3 | 1 | 2 | 2 | 1 | 2 | 2 | 17 | | | |
| | 385 | 385 | 215 | 580 | 330 | 330 | 330 | 330 | 215 | 215 | 585 | 340 | 225 | 225 | 1374 | 0.97 | D |
| Executive Dr. | - | 1 | 2 | S | - | 1 | 2 | S | 1 | 1 | S | 1 | 1 | S | | | |
| | - | 335 | 335 | - | - | 105 | 95 | - | 200 | 200 | - | 265 | 265 | - | 1440 | 0.87 | D |
| Republic Drive | - | 1 | 1 | S | - | 1 | 1 | S | 1 | 1 | S | 1 | 1 | S | | | |
| | - | 320 | 320 | - | - | 295 | 295 | - | 155 | 155 | - | 175 | 175 | - | 925 | 0.67 | B |
| Northside Drive | - | 1 | 1 | S | - | 1 | 2 | S | 1 | 2 | 1 | 1 | 2 | 1 | | | |
| | - | 205 | 125 | - | - | 160 | 80 | - | 255 | 255 | 255 | 240 | 240 | 240 | 986 | 0.72 | C |
| Curlew Road | 1 | 2 | 2 | - | 1 | 2 | 2 | - | 2 | 3 | 1 | 2 | 3 | 1 | | | |
| | 320 | 320 | 200 | 200 | 195 | 195 | 135 | 135 | 250 | 250 | 250 | 295 | 295 | 295 | 1274 | 0.88 | D |

S - Shared Lane

Storage Lengths to 8' Point

[1]LOS E indicates no practical at-grade improvements are feasible

TABLE 2.7

YEAR 2010 INTERCHANGE/OVERPASS AT-GRADE
INTERSECTION OPERATIONAL CHARACTERISTICS
(Continued)

LANE REQUIREMENTS AND MINIMUM STORAGE LENGTH (IN FEET)

| CROSS ROAD | NORTHBOUND | | | | SOUTHBOUND | | | | EASTBOUND | | | WESTBOUND | | | SUMMARY OF CRITICAL MOVEMENT | V/C | LOS[1] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U | L | T | R | U | L | T | R | L | T | R | L | T | R | | | |
| C.R. 39 | - | 1 | S1 | S | - | 1 | S1 | S | 1 | 1 | S | 1 | 1 | S | | | |
| | - | 160 | 160 | - | - | 155 | 155 | 155 | 215 | 175 | - | 310 | 310 | - | 1393 | 0.84 | D |
| Tampa Road | 1 | 2 | S1 | S | 1 | 2 | S1 | S | 2 | 2 | S | 2 | 2 | S | | | |
| (S.R. 584) | 330 | 330 | - | 170 | 170 | 170 | - | 105 | 105 | - | 170 | 170 | - | 1263 | 0.77 | C | |
| Nebraska Rd. | 1 | 2 | S1 | S | 1 | 2 | S1 | S | 2 | 2S | 2 | 2S | | | | | |
| (S.R. 584A) | 175 | 175 | 175 | - | 130 | 130 | 130 | - | 120 | 120 | - | 100 | 60 | - | 767 | 0.47 | A |
| Alderman Road | 1 | 2 | S1 | 1 | 1 | 2 | S1 | S | 2 | 1 | S | 2 | 1 | 1 | | | |
| | 170 | 170 | 170 | 170 | 210 | 210 | 210 | - | 150 | 150 | - | 120 | 120 | 120 | 1028 | 0.62 | B |
| Old Post Road | - | 1 | S1 | S | - | 1 | S1 | S | 1 | 1 | S | 1 | 1 | S | | | |
| | - | 310 | 310 | - | - | 335 | 335 | - | 150 | 150 | - | 105 | 105 | - | 1249 | 0.73 | C |
| Klosterman Rd. | 1 | 2 | S1 | S | 1 | 1 | 2 | 1 | 2 | 2 | S1 | 1 | 1 | S | | | |
| | 220 | 220 | 220 | - | 95 | 95 | 95 | 95 | 280 | 50 | 50 | 85 | - | 1126 | 0.68 | C | |
| Flora Avenue | - | 1 | 2 | S | - | 1 | 2 | S | 1 | 1 | S | 1 | 1 | S | | | |
| | - | 140 | 125 | - | - | 125 | 70 | - | 60 | 60 | - | 60 | 60 | - | 738 | 0.45 | A |
| Alt. 19 | 1 | 1 | 2 | S | 1 | 1 | 2 | - | 3 | 1 | S | 1 | S | S | | | |
| | 50 | 75 | 135 | - | 65 | 210 | 130 | - | 535 | 100 | - | 70 | - | - | 1160 | 0.86 | D |

S - Shared Lane

Storage Lengths to 8' Point

[1]LOS E indicates no practical at-grade improvements are efasible.

## REFERENCES

[1] Pinellas County Metropolitan Planning Organization. January 1987.

[2] Design Alternatives Report, April 1986 updated January, 1988.

[3] Final Report Elevated Freeway Alternative Report, December 1987.

[4] Enterprise Road Access Study, October 1987

[5] Tarpon Avenue Concept Report, January, 1987

# SECTION 3

# 3.0 AFFECTED ENVIRONMENT

## 3.1 POPULATION AND COMMUNITY GROWTH CHARACTERISTICS

### 3.1.1. POPULATION CHARACTERISTICS

The tremendous growth experienced by the State of Florida during the last 25 years is mirrored in the experience of Pinellas County. Pinellas County had a 1960 permanent population of 374,665 persons. By 1980, the County had grown to 728,531, a 94.4 percent increase. Population increased an additional 9.89 percent to 799,933 by 1985. Growth in Pasco County has been significantly greater than in the state as a whole. In 1960, Pasco County was rural with a population of 36,785; by 1980, the population increased 426 percent to 193,643. Population increased another 20.5 percent to 233,272 by 1985. See Table 3.1.

These past population trends are expected to continue into the year 2000 according to the latest state and local population forecasts. Table 3.1 also provides a comparison of Pasco and Pinellas Counties, Tampa Bay Region and State of Florida population trends for the period 1960 through 2000.

Pinellas County's current population is expected to increase over 7.6 percent by the year 1990 and by over 20 percent by the turn of the century. These

TABLE 3.1

COMPARATIVE POPULATION TRENDS 1960 - 2000[a]

| | Population[b] | | | % Increase | Population[b] | | | % Increase |
|---|---|---|---|---|---|---|---|---|
| | 1960 | 1970 | 1980 | 1960 - 1980 | 1985 | 1990 | 2000 | 1985 - 2000 |
| Pasco County | 36,785 | 75,955 | 193,643 | 426.4 | 233,272 | 279,139 | 356,418 | 52.8 |
| Pinellas County | 374,700 | 522,300 | 728,531 | 94.4 | 799,933 | 860,800 | 960,100 | 20.0 |
| Tampa Bay Region[c] | 878,400 | 1,185,700 | 1,717,597 | 95.5 | 2,157,300 | 2,157,300 | 2,485,900 | 15.2 |
| Florida | 4,951,600 | 6,791,400 | 9,746,324 | 128.0 | 11,124,932 | 13,749,823 | 14,765,800 | 30.8 |

[a]Source: U.S. Census 1960-1970, University of Florida, Bureau of Economic and Business Research Population Studies, Bulletin No. 77, June, 1986. (Mid Range)

[b]Permanent year round population only, no seasonal or tourist population.

[c]Pasco, Pinellas, Hillsborough, and Manatee Counties.

rates of increase are lower than the state, but higher than the Tampa Bay Region's anticipated growth. The entire region, has experienced a tremendous growth surge since the 1960's and more moderate growth will continue for the next 15 years.

Pasco County's population will continue to grow with an increase of 52.8 percent by the year 2000. These rates of increase are greater than Pinellas County, the Tampa Bay Region and Florida.

The effects of such growth on Pasco and Pinellas Counties, by virtue of their geographic location in the heart of the Region could be magnified beyond their own increase in base population. This is especially critical since US 19 is the only continuous north-south major highway route linking Pasco and Manatee Counties' urban areas.

In addition to the permanent populations of Pasco and Pinellas Counties are the transient, or tourist and seasonal (less than 12 months), population groups, which increase the Pinellas County and the Pasco County population. These transient and seasonal populations are both positive and negative factors. The Pinellas economy is heavily dependent upon tourist-related retail trade and service industries; however, this significant seasonal increase in the total population also places an added burden upon the physical facilities required to serve the people of Pinellas County, particularly state

highways such as US 19. Pasco County is less dependent on tourist-related industries; however, many of the same problems are experienced to a lesser degree.

A summary by age for Pasco and Pinellas Counties and Florida race characteristics is found on Table 3.2. Comparison of the 1980 Pinellas County population with the estimates and projections for 1985, 1990 and 2000 indicate a stable population with a slight increase in the percent of elderly and slight decrease in the percent of children (0-14 years) in the future. The percent of blacks is expected to increase significantly (16.9 percent by the year 2000).

The age characteristics of Pinellas County differ substantially from the state as a whole. In 1985 it is estimated Pinellas County had 3.2 percent less children and 8.1 percent more elderly. Review of this set of tables indicates Pinellas County will continue to have a significantly older population than the State of Florida, and fewer households with children.

In Pasco County, persons 65+ are projected to increase by 6.3 percent by the year 2000, while children (0-14) will decrease 3 percent, indicating the population will continue to be significantly older than the state as a whole. The percent of black populations will remain nearly the same over the next 20 years.

## TABLE 3.2

## SUMMARY OF AGE AND RACE CHARACTERISTICS

| Characteristic | Pasco County 1980 | 1985 | 1990 | 2000 |
|---|---|---|---|---|
| Percent Age 0-14 | 14.7 | 13.9 | 13.2 | 11.7 |
| Percent Age 15-64 | 54.6 | 53.0 | 51.1 | 51.3 |
| Percent Age 65+ | 30.7 | 33.1 | 35.7 | 37.0 |
| | 100% | 100% | 100% | 100% |
| Percent Black | 2.1 | 2.0 | 2.0 | 1.95 |

| Characteristic | Pinellas County 1980 | 1985 | 1990 | 2000 |
|---|---|---|---|---|
| Percent Age 0-14 | 14.9 | 14.2 | 14.6 | 14.2 |
| Percent Age 15-64 | 57.2 | 57.5 | 56.5 | 57.3 |
| Percent Age 65+ | 27.9 | 28.3 | 28.9 | 28.5 |
| | 100% | 100% | 100% | 100% |
| Percent Black | 7.6 | 7.7 | 8.2 | 9.0 |

| Characteristic | Florida 1980 | 1985 | 1990 | 2000 |
|---|---|---|---|---|
| Percent Age 0-14 | 19.2 | 17.4 | 18.4 | 18.1 |
| Percent Age 15-64 | 63.5 | 62.2 | 61.7 | 61.0 |
| Percent Age 65+ | 17.3 | 20.4 | 19.9 | 20.9 |
| | 100% | 100% | 100% | 100% |
| Percent Black | 13.8 | 13.6 | 13.8 | 14.1 |

Source: Population Studies, University of Florida, Bureau of Ecoonomic and Business Research, Bulletin No. 77, June, 1986, Bulletin No. 78, July, 1986.

### 3.1.2 COMMUNITY GROWTH CHARACTERISTICS

The US 19 corridor can be characterized as the most significant retail and office corridor within Pinellas County. The corridor contains the county's two regional shopping centers and contains the locations of a significant portion of the county's office employment along its 24.6-mile length. US 19 also forms the transportation spine for Pinellas County, carrying workers to other major arterials and employment centers.

Significant concentrations of residential development occur near but not directly abutting US 19. Traditional population centers occur in St. Petersburg, along the Gulf in coastal communities and in the City of Clearwater. US 19 traverses through edges of the communities of St. Petersburg, Pinellas Park, Clearwater and Tarpon Springs, as well as unincorporated portions of Pinellas County. New and redeveloped land use along US 19 reflect its function as a linear spine of employment and retail and service activities for both residents and visitors to Pinellas County.

Land use along US 19 has experienced a dramatic change within the last 10 years. Much of the land along US 19 between SR 60 and Alternate 19 was vacant, residential or farmland. These uses have been replaced by office centers, shopping centers and auto dealers. Significant retail and office development and more intense redevelopment continues to spread in the area

south of S.R. 60 and in the area north of Klosterman Road.

Detailed information on existing and future land use as well as Developments of Regional Impact is presented in Section 3.4 of this report.

## 3.2 ECONOMIC CONDITIONS

### 3.2.1 INCOME AND EMPLOYMENT

Table 3.3 presents percent of per capita income by type for Pasco and Pinellas Counties and Florida. The presence of significant elderly population in Pinellas is indicated by the significantly higher percentage of income derived from both retirement and dividend, interest, and rent sources. Wages as a source of total personal income account for 11.4 percent less of total income in Pinellas County than Florida as a whole.

Pasco County has a much larger segment of its population deriving income from retirement payments (30.8 percent) than either Pinellas County or Florida. The percentage of personal income from retirement payments is nearly twice as large as Florida as a whole. Income derived from wages in Pinellas County is 20.1 percent less than the state in total.

TABLE 3.3

PERCENT OF PER CAPITA INCOME BY TYPE
IN PINELLAS COUNTY, PASCO COUNTY AND FLORIDA, 1982

| | | Transfer Payments | | | | |
|---|---|---|---|---|---|---|
| | % Wages Earnings | % Income Maintenance[1] | % Unemployment | % Retirement and Other | % Dividends, Interest & Rent | Personal Income |
| Pasco County | 37.5 | .8 | .4 | 30.8 | 30.5 | 100% |
| Pinellas County | 46.0 | .5 | .2 | 21.7 | 31.6 | 100% |
| Florida | 57.4 | 1.0 | .3 | 16.2 | 25.1 | 100% |

Source: 1985 Florida Statistical Abstract, University of Florida, Nineteenth Edition, 1985.

1 Includes Supplemental Security Income Payments, AFDC, General Assistance Payments, Food Stamps, and Other Assistance programs.

Pasco County, Pinellas County, and Florida labor force statistics for 1982-1984 are presented in Table 3.4. The information indicates a growing labor force and decreasing unemployment rate during this time period for Pasco County, Pinellas County, and Florida. However, Pinellas County's labor force has grown slightly faster (7.9 percent) than Florida (7.4 percent), while Pinellas County's unemployment rate has decreased by a greater amount (30 percent) than the state as a whole (23 percent). Pasco County's labor force, while much smaller than Pinellas County, has grown significantly faster (11 percent). The decrease in unemployment in Pasco County is almost the same as the state as a whole, which is 22.0 percent.

Table 3.5 presents employment by industry group for residents of Pinellas County and Florida. The statistics indicate Pinellas County has an employment base similar to Florida as a whole; however, a slightly larger percentage of workers are employed in both the service and retail trade categories. This is an indication of the function of Pinellas County as a center for tourism. The economy of the County, however, is diverse with strong participation in all industry groups including manufacturing.

Pasco County's employment base is also similar to Florida; however, there is an even larger percentage of workers employed in both service and retail trade categories. Pasco County's economy is less diverse than Pinellas County or Florida, with a significantly lower percent of income being the result of wages.

## TABLE 3.4

## LABOR FORCE: ESTIMATES BY EMPLOYMENT STATUS

| Pasco County | Labor Force | Employment | Unemployment | Rate |
|---|---|---|---|---|
| 1982 | 82,250 | 75,394 | 6,856 | 8.3 |
| 1983 | 85,292 | 78,147 | 7,145 | 8.4 |
| 1984 | 91,287 | 85,440 | 5,847 | 6.4 |
| **Pinellas County** | | | | |
| 1982 | 316,179 | 295,331 | 20,848 | 6.6 |
| 1983 | 328,388 | 306,112 | 22,276 | 6.8 |
| 1984 | 341,408 | 325,797 | 15,612 | 4.6 |
| **Florida** | | | | |
| 1982 | 4,746,000 | 4,358,000 | 388,000 | 8.2 |
| 1983 | 4,903,000 | 4,482,000 | 421,000 | 8.6 |
| 1984 | 5,098,521 | 4,776,546 | 321,975 | 6.3 |

Source: 1985 Florida Statistical Abstract, University of Florida, Nineteenth Edition 1985.

TABLE 3.5

EMPLOYMENT BY INDUSTRY GROUP, MARCH 1984[1]

| Category | Pasco County | | Pinellas County | | Florida | |
|---|---|---|---|---|---|---|
| | Number | Percent | Number | Percent | Number | Percent |
| All Industries | 44,320 | 100% | 289,385 | 100% | 4,228,293 | 100% |
| Agriculture, Forestry, Fishing | 1,816 | 4.1 | 2,036 | .7 | 136,939 | 3.3% |
| Mining | M/[3] | - | L[2] | - | 10,209 | .2 |
| Construction | 4,596 | 10.4 | 22,400 | 7.7 | 309,414 | 7.3 |
| Manufacturing | 3,595 | 8.1 | 42,990 | 14.9 | 496,679 | 11.7 |
| Transportation, Comm. Utilities | 2,206 | 5.0 | 12,276 | 4.2 | 270,118 | 6.4 |
| Wholesale Trade | 997 | 2.2 | 10,937 | 3.8 | 228,325 | 5.4 |
| Retail Trade | 12,041 | 27.2 | 67,940 | 23.5 | 884,522 | 20.9 |
| Finance, Insurance, Real Estate | 2,565 | 5.8 | 23,459 | 8.1 | 291,677 | 6.9 |
| Services | 14,387 | 32.5 | 93,083 | 32.2 | 1,333,907 | 31.6 |
| Government | 2,087 | 4.7 | 14,256 | 4.9 | 265,635 | 6.3 |
| Other | - | - | L[2] | - | 868 | - |

Source: 1985 Florida Statistical Abstract, University of Florida, 1985.

[1] Employment covered by unemployment compensation laws.

[2] Employment Range: L 1-19

[3] Employment Range: M 20-99

## 3.3 CULTURAL RESOURCES

### 3.3.1 HISTORIC AND ARCHAEOLOGICAL SITES

The State of Florida Historic Preservation Officer has determined that there are no significant historic or archaeological sites within the US 19 study corridor. Surveys by an archaeologist and an historic sites specialist indicated that within the project corridor there were no sites listed or eligible for listing in the National Register of Historic Places. In addition, no other sites of national, state, or local significance were determined to be present (Appendix D).

### 3.3.2 PARKS AND RECREATIONAL FACILITIES

Four parks and one recreational facility are located along the project corridor. They are as follows:

- Freedom Lake Park (south of 49th Street);
- Carpenter Field Complex (north of Drew Street);
- Cliff Stephens Park (north of Drew Street);
- Moccasin Lake Nature Park, and
- Anderson Park (north of Klosterman Road).

The locations of the parks are illustrated on Exhibits 3.7 through 3.10, presented in section 3.5.2, Existing Land Use.

Freedom Lake Park is a 32.9-acre recreational area owned and operated by the City of Pinellas Park. Freedom Lake Park is situated in the southeast quadrant of the US 19/49th Street interchange with access from a local street off of 49th Street. Activities include picnicking, fishing and exercising areas.

Carpenter Field is a 30.4-acre softball/baseball complex owned and operated by the City of Clearwater. It is utilized by the Clearwater Bombers softball team, the Philadelphia Phillies baseball team for spring training, and city league softball and youth baseball.

Cliff Stephens Park consists of 64.2 acres owned by the Southwest Florida Water Management District. It is leased to and operated by the City of Clearwater. Facilities include a fitness trail, disc golf course, boat ramps, and fishing piers.

Moccasin Lake Nature Park consists of 51.8 acres owned and operated by the City of Clearwater. Facilities include an environmental and energy educational center, nature trails, and picnic and barbecue areas.

Anderson Park consists of 128 acres owned and operated by Pinellas County on Lake Tarpon. Facilities include boat launching areas, boardwalks, playgrounds, picnic shelters, and barbecue areas.

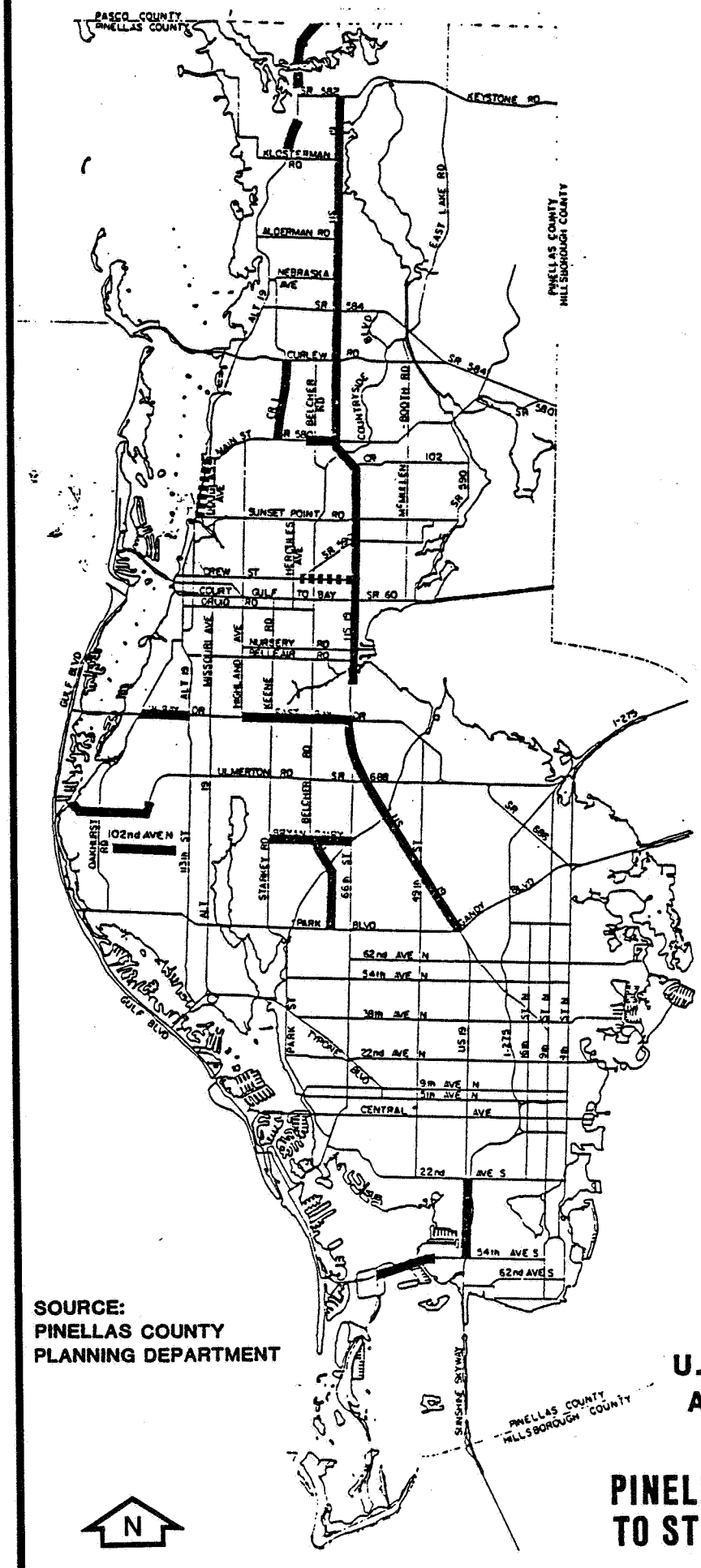
### 3.3.3 BICYCLE AND PEDESTRIAN FACILITIES

Roads in Pinellas County which meet established standards for bicycle use, including those under construction, total 47.5 miles. Exhibit 3.1 shows those roads. Pasco County has no designated bicycle routes within unincorporated areas.

A Comprehensive Bicycle Plan was adopted by the Pinellas County Metropolitan Planning Organization in July, 1985. It contains an Interim Bicycle Route Plan until the development of a more detailed route. The map of recommended bicycle routes is shown on Exhibit 3.2. US 19 is proposed as the "spine" of the system.

The Pasco County Comprehensive Plan contains the following objective on bicycle facilities:

- To provide for the establishment of an adequate bikeway system connecting major activity centers in the County.




## LEGEND

ROADS CONSTRUCTED AFTER STATE POLICY CHANGE

ROADS CONSTRUCTED PRIOR TO STATE POLICY CHANGE

**SOURCE:**
**PINELLAS COUNTY**
**PLANNING DEPARTMENT**

# U.S. 19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES

**Pinellas and Pasco Counties, Florida**

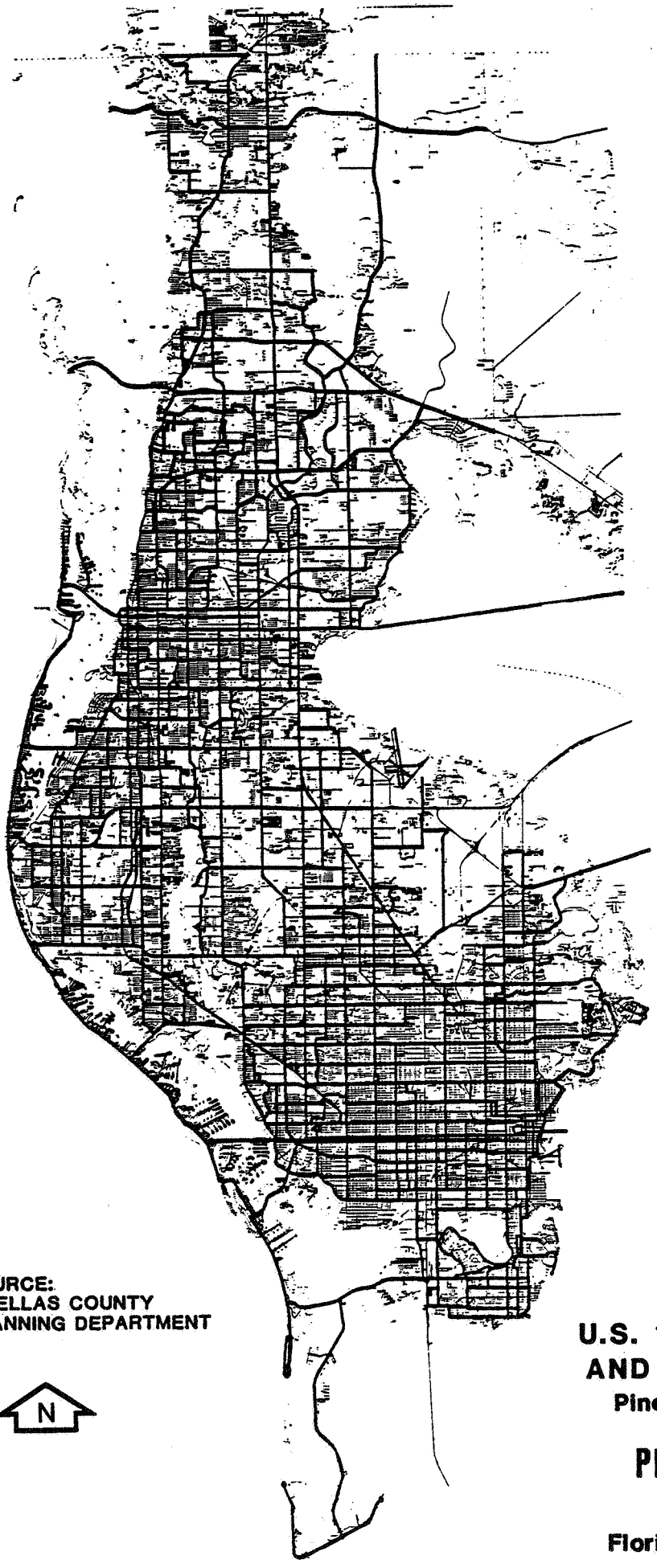
STATE PROJECT NO 15150-1565

# PINELLAS COUNTY ROADS CONSTRUCTED TO STATE STANDARDS FOR BICYCLE USE

**Florida Department of Transportation**

Greiner Engineering Sciences, Inc.

EXHIBIT 3.1



SOURCE:
PINELLAS COUNTY
PLANNING DEPARTMENT

N

# U.S. 19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES

**Pinellas and Pasco Counties, Florida**

STATE PROJECT NO 15150-1565

# PINELLAS COUNTY INTERIM BICYCLE ROUTE PLAN

**Florida Department of Transportation**

EXHIBIT 3.2

## 3.4 UTILITIES

The US 19 corridor contains a large number and diverse types of utilities within the existing and proposed right-of-way. The corridor also contains a large number of power and telephone poles throughout the length of the corridor; these facilities are not shown on the exhibits.

Two major utility facilities are located in the northern section of the corridor. Adjacent to the proposed right-of-way in the northeast quadrant of the intersection of Tarpon Avenue and US 19 exists a large Florida Power Corporation (FPC) substation. North of the substation, within the proposed right-of-way, are large "H"-frame-mounted power transmission lines. The transmission line is located northeast of the Seaboard Coastline Railroad. The transmission line serves northern Pinellas County. Exhibits 3.3 through 3.6 indicate the existing and proposed utilities by design segment within the US 19 corridor.

Florida Gas Transmission Company has an underground ten-inch-diameter high-pressure gas main running on the east side of US 19 from 78th Avenue North to Coachman Road. This transmission line serves mid-Pinellas County.

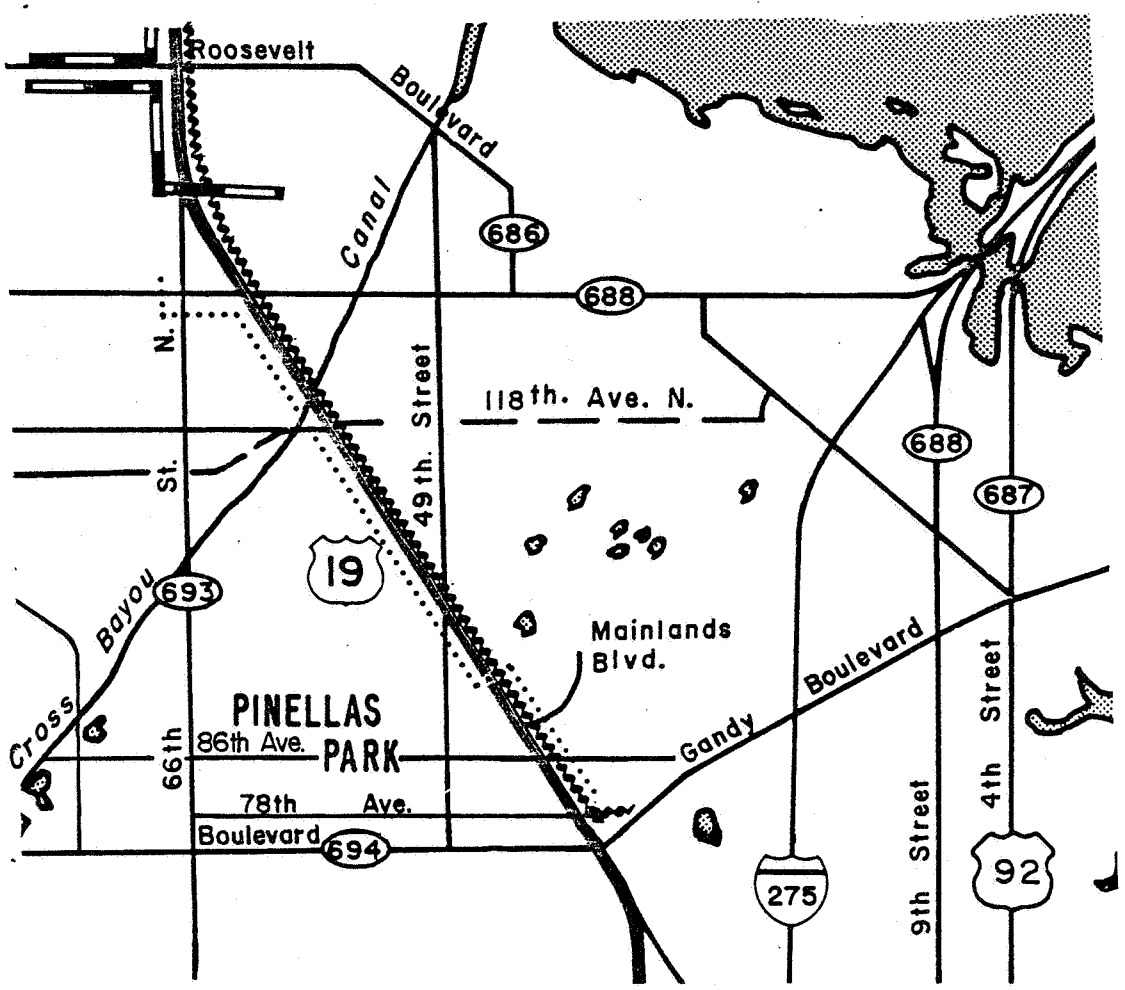
General Telephone Company (GTE) has major underground telephone conduits within the east side of the right-of-way from the beginning of the project to

49th Street. The conduits cross US 19 at 49th Street and go north on the west side to Ulmerton Road (SR 688). The conduits begin again west of US 19 north of the Michigan Boulevard extension and extend north to the project limits. GTE trunk and fiber optical cable also occurs within the corridor, running parallel to the conduits from the proposed Michigan Boulevard extension north to the project limits. These conduits and trunk lines serve all of Pinellas County.

The City of St. Petersburg water transmission lines exist in the southern portion of the corridor, beginning at Coachman Road and running south to near Haines Bayshore Road. These water transmission lines serve the residents of St. Petersburg.

The City of Clearwater also has water lines within the existing and proposed corridor. They start near Stratford Drive and run south on the east side of US 19 until Coachman Road where they cross to the west side. They continue south to Drew Street where they cross US 19 again and run south on the east side. Between Drew Street and Haines Bayshore the lines are on both sides of the corridor. These water lines serve the residents of Clearwater.

The City of Clearwater also has gas mains throughout the middle of the US 19 corridor. The gas lines begin north of Main Street (SR 580) running south to Roosevelt Boulevard. In most of this area, they are located on both sides of




## LEGEND

- Pinellas County Water Transmission Line
- Pinellas County Water Distribution Lines
- Pinellas County Sewer Main
- Tarpon Springs Proposed Water Main
- Tarpon Springs Proposed Fire Main
- City of Clearwater Water Main
- City of Clearwater Gas Main
- St. Petersburg Water Transmission Lines
- GTE Major Conduit System
- GTE Trunk & Optical Fiber Cabel
- Florida Gas Transmission Lines
- Florida Power Transmission Lines
- Florida Power Oil Transmission Lines

N

0 0.5 1 2

# U.S. 19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES

**Pinellas and Pasco Counties, Florida**

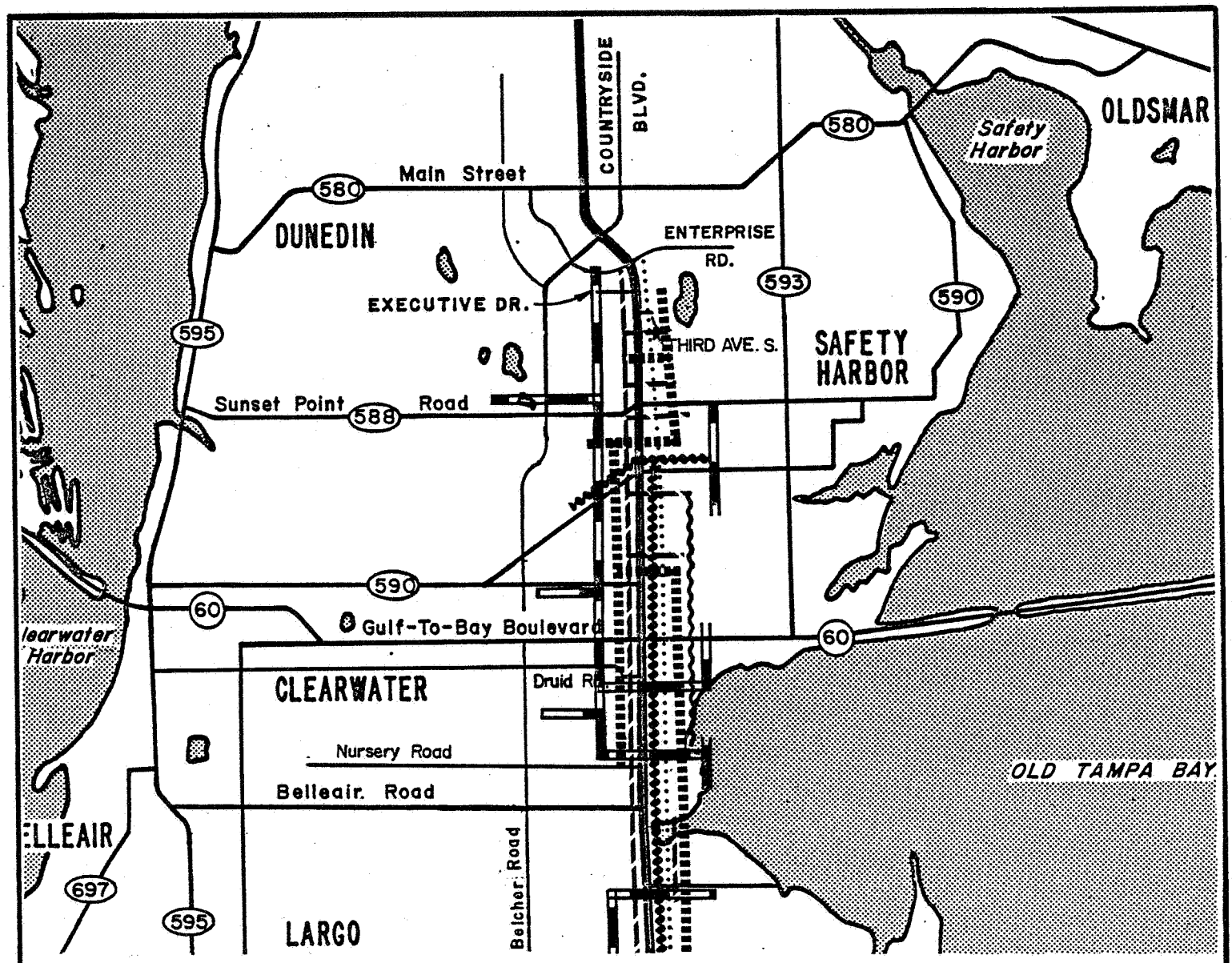
STATE PROJECT NO. 15150-1565

## DESIGN SEGMENT A-

## EXISTING AND PROPOSED UTILITIES

**Florida Department of Transportation**

EXHIBIT 3.3




LEGEND

- Pinellas County Water Transmission Line
- Pinellas County Water Distribution Lines
- Pinellas County Sewer Main
- Tarpon Springs Proposed Water Main
- Tarpon Springs Proposed Fire Main
- City of Clearwater Water Main
- City of Clearwater Gas Main
- St. Petersburg Water Transmission Lines
- GTE Major Conduit System
- GTE Trunk & Optical Fiber Cabel
- Florida Gas Transmission Lines
- Florida Power Transmission Lines
- Florida Power Oil Transmission Lines
- Florida Power Substation
- Florida Power "H" Mounted Transmission Lines

N

0 0.5 1 2

# U.S. 19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES

**Pinellas and Pasco Counties, Florida**

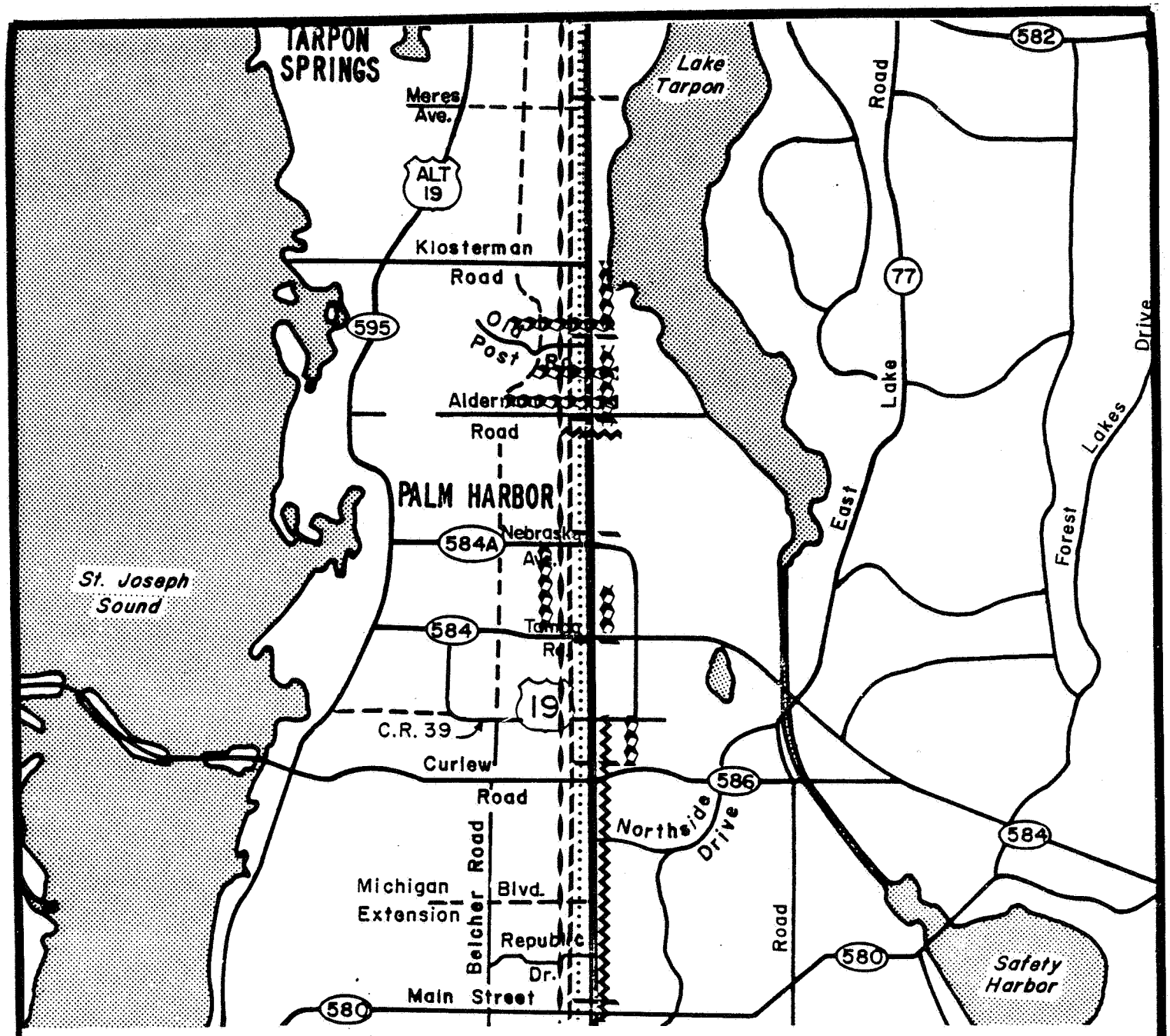
STATE PROJECT NO. 15150-1565

## DESIGN SEGMENT B- EXISTING AND PROPOSED UTILITIES

**Florida Department of Transportation**

EXHIBIT 3.4

Gremer Engineering Sciences, Inc.




# U.S. 19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES

**Pinellas and Pasco Counties, Florida**

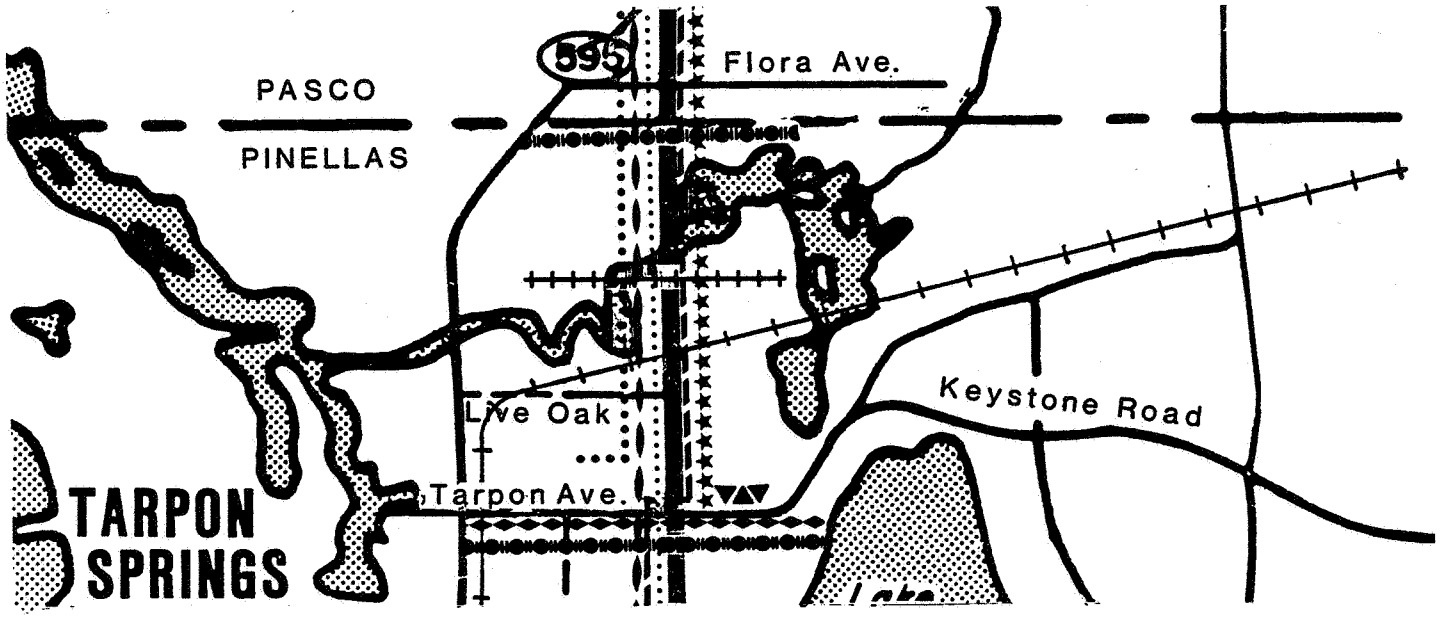
STATE PROJECT NO. 15150-1565

## DESIGN SEGMENT C- EXISTING AND PROPOSED UTILITIES

**Florida Department of Transportation**

EXHIBIT 3.5

Greiner Engineering Sciences, Inc.




## LEGEND

- Pinellas County Water Transmission Line
- Pinellas County Water Distribution Lines
- Pinellas County Sewer Main
- Tarpon Springs Proposed Water Main
- Tarpon Springs Proposed Fire Main
- City of Clearwater Water Main
- City of Clearwater Gas Main
- St. Petersburg Water Transmission Lines
- GTE Major Conduit System
- GTE Trunk & Optical Fiber Cabel
- Florida Gas Transmission Lines
- Florida Power Transmission Lines
- Florida Power Oil Transmission Lines
- Florida Power Substation
- Florida Power "H" Mounted Transmission Lines

N

0 1 2

Graphic Scale in Miles

# U.S.19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES

Pinellas and Pasco Counties, Florida

STATE PROJECT NO. 15150-1565

# DESIGN SEGMENT D- EXISTING AND PROPOSED UTILITIES

Florida Department of Transportation

Greiner Engineering Sciences, Inc.

EXHIBIT 3.6

the road. The gas lines also cross US 19 at Countryside Boulevard, Druid Road, Nursery Road, Haines Bayshore Road, and north of 66th Street. These gas transmission lines serve the residents of Clearwater.

Pinellas County has both water transmission and distribution lines within the corridor. The water transmission lines are located nearly the whole length of the corridor from the county line to Haines Bayshore Road. The water transmission line crosses US 19 twelve times near major intersections. Water distribution lines are more limited. They run on the east side of the corridor between CR 39 and Republic Drive. The line also crosses US 19 at Alderman Road. These water transmission and distribution lines serve unincorporated areas of Pinellas County.

Florida Power Transmission lines run from the substation at Tarpon Avenue on the east side of US 19 to the major "H" frame mounted transmission lines. Florida Power Transmission also has oil lines within the west side of the existing and proposed right-of-way from the northern project limits south to Tarpon Avenue. These power transmission lines serve northern Pinellas County.

The City of Tarpon Springs has proposed water and sewer lines to cross US 19. The sewer lines are to cross sewer lines are to cross near the county line and south of Tarpon Avenue. These lines are proposed to serve residents of Tarpon Springs.

The only existing sewer lines within the corridor are owned by Pinellas County. Lines run parallel to US 19 near Klosterman Road, Alderman Road, Nebraska Avenue, Tampa Road, and Curlew Road. The lines also cross US 19 three times near Klosterman Road and Alderman Road. These sewer lines serve residents of unincorporated Pinellas County.

## 3.5 COMMUNITY SERVICES

U.S. 19 is used by public agencies and private service companies in Pinellas County to provide solid waste removal, emergency medical service, school bus routes and police and fire protection. At the initiation of the study process, county and municipal agencies were contacted by letter to obtain service areas and routes. Private firms providing solid waste removal and emergency medical service were also contacted by letter for the same information. A list of all agencies and firms contacted is found in Appendix D.

A review of current land uses along the corridor shows no churches abutt US 19.

## 3.6 COMPREHENSIVE PLANNING

The US 19 corridor runs from Gandy Boulevard in Pinellas County to Alternate US 19 (SR 595) in Pasco County. Proposals for future land use have been

depicted in two documents. The Comprehensive Land Use Plan, Pinellas County was adopted in August 1982 by the Pinellas County Planning Council. In Pasco County, the Board of County Commissioners adopted the Pasco County Comprehensive Plan in February 1982.

In addition to the unincorporated areas of Pinellas and Pasco Counties, the US 19 corridor also falls within the jurisdiction of Tampa Bay Regional Planning Council and the cities of Pinellas Park, Clearwater, Dunedin and Tarpon Springs. The Tampa Bay Regional Planning Council's policy statement Future of the Region (adopted July, 1987) provides specific support for the reconstruction of facilities such as US 19 instead of the commitment of resources for new highway development.

### 3.6.1 COASTAL ZONE CONSISTENCY

One of the principal features of the Pinellas County natural landscape is its location totally in the Coastal Zone. This unique position places special constraints upon those planning for Pinellas' future development.

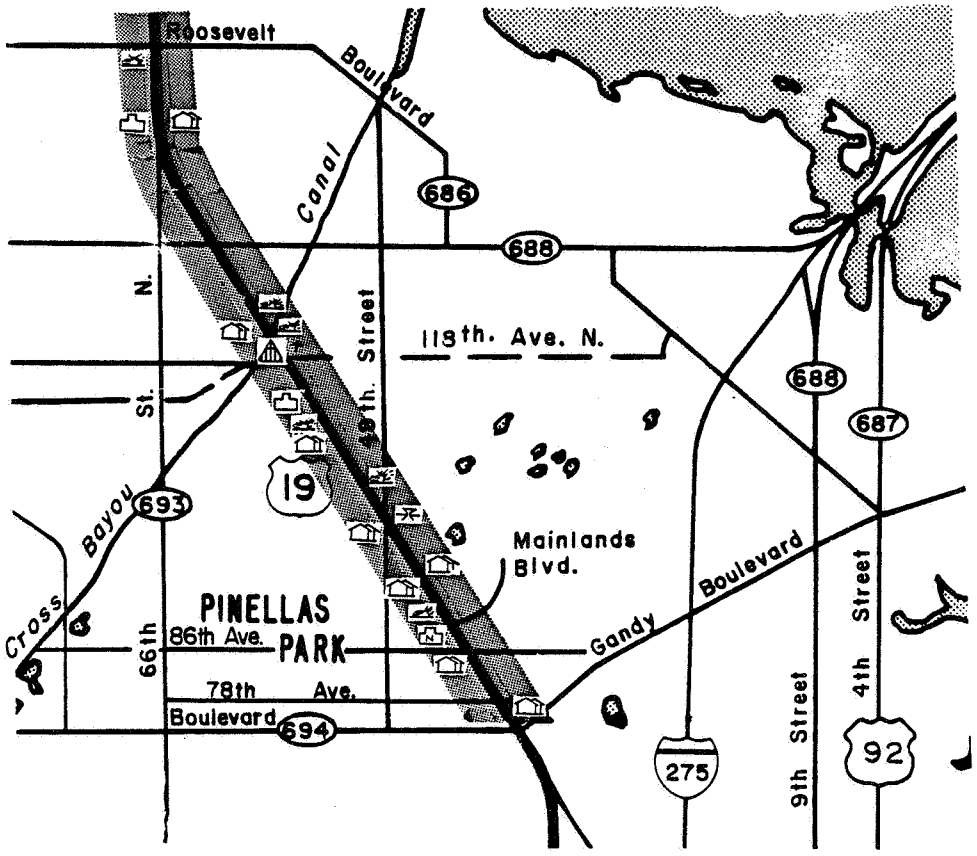
### 3.6.2 EXISTING LAND USE

Exhibits 3.7 through 3.10 indicate existing generalized land use. The discussion on existing land use which follows begins at the southern project

termination at US 19 and Gandy Boulevard. The US 19 corridor at Gandy Boulevard is dominated by the regional-size shopping mall, Pinellas Square Mall, located in the southwest quadrant of the interchange of Gandy Boulevard, and US 19. North of Gandy Boulevard, the land uses are in transition from low density, small retail businesses to larger commercial operations. The County's Freedom Lake Park is located in the southeast quadrant of the US 19/49th Street interchange. There is also a large number of residential dwelling units located near the 49th Street interchange.

Redevelopment is active in this portion of the corridor up to and including East Bay Drive (SR 686). Large employment centers near the Ulmerton Road (SR 688) intersection include Honeywell, Inc., a major electronics business and other associated support industries.

Redevelopment of the previous low intensity land uses at the US 19 and East Bay Drive intersection has recently included the Tampa Bay Area Outlet Mall, a major retail complex in the southeast quadrant, and the rehabilitation and conversion of the former Eckerd Drugs warehouse to the Fortune Federal office complex. The general trend of greater intensity and higher density land use changes - primarily geared to office and retail - will accelerate with the completion of the programmed interchanges at East Bay Drive (SR 686), 66th Street (SR 693) and Ulmerton Road (SR 688).




## LEGEND

- Hwy. Commercial / Office
- Residential
- Hospital
- Park/Recreation
- Cemetery
- Nursing Home
- Vacant
- Church

0 0.5 1 2

Graphic Scale in Miles

Greiner Engineering Sciences Inc.

# U.S. 19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES

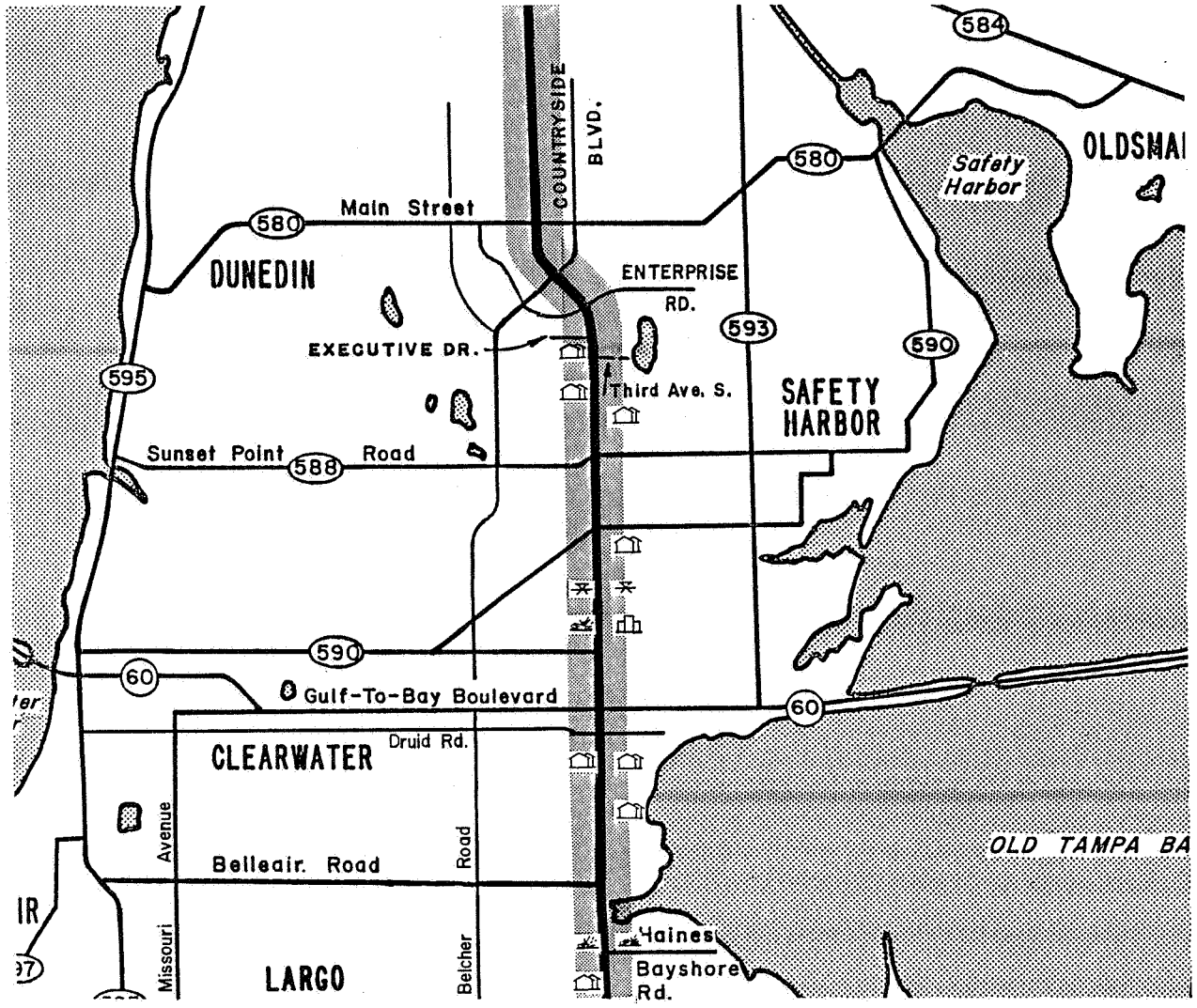
Pinellas and Pasco Counties, Florida

STATE PROJECT NO. 15150-1565

## DESIGN SEGMENT A-EXISTING LAND USE

Florida Department of Transportation

EXHIBIT 3.7




## LEGEND

- Hwy. Commercial / Office
- Residential
- Vacant
- Park/Recreation
- Public/Government

0 0.5 1 2

Graphic Scale in Miles

Greiner Engineering Sciences Inc.

# U.S. 19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES

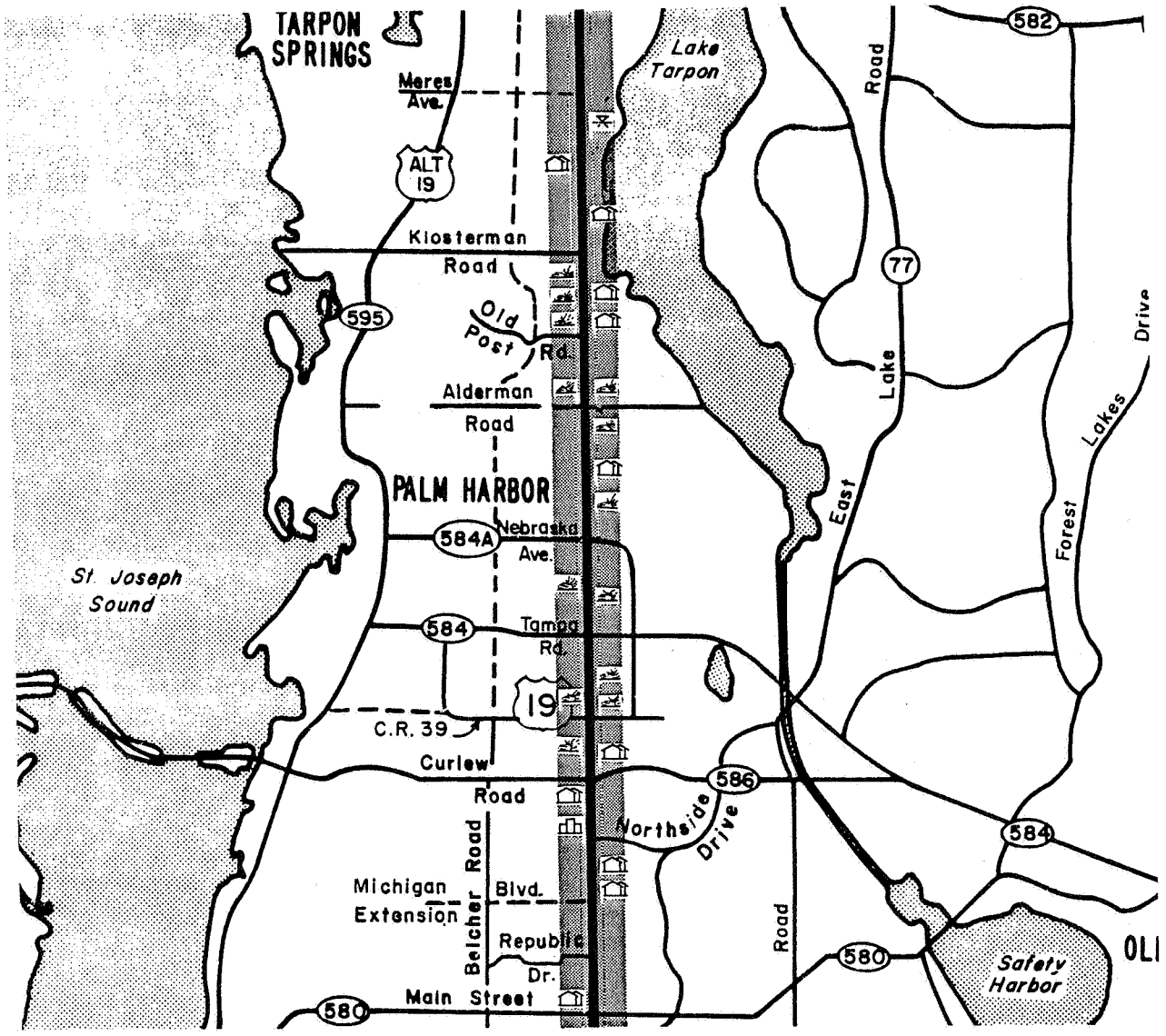
Pinellas and Pasco Counties, Florida

STATE PROJECT NO. 15150-1565

## DESIGN SEGMENT B-EXISTING LAND USE

Florida Department of Transportation

EXHIBIT 3.8




## LEGEND

- Hwy. Commercial / Office
- Vacant
- Park/Recreation
- Public/Government
- Residential

0 0.5 1 2

Graphic Scale in Miles

Greiner Engineering Sciences Inc.

# U.S. 19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES

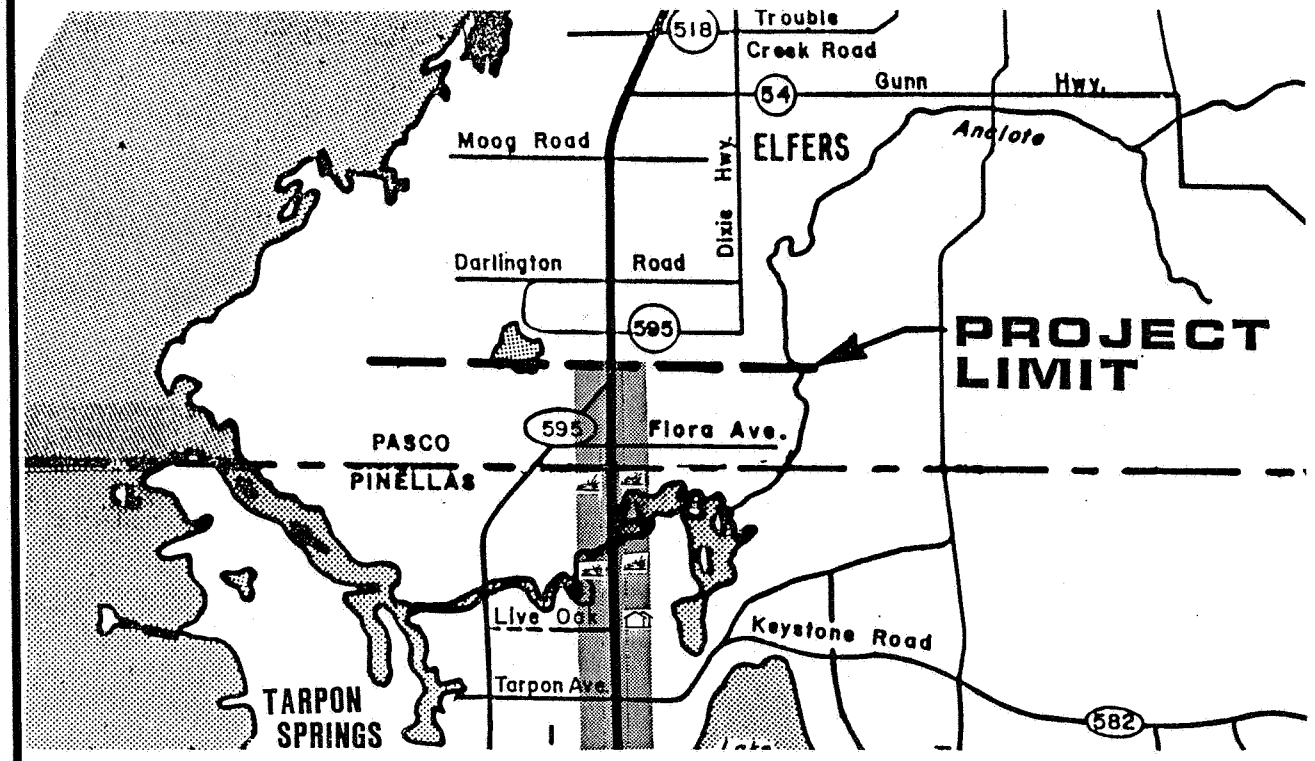
**Pinellas and Pasco Counties, Florida**

STATE PROJECT NO. 15150-1565

## DESIGN SEGMENT C-EXISTING LAND USE

**Florida Department of Transportation**

**EXHIBIT 3.9**




## LEGEND

- Hwy. Commercial / Office
- Residential
- Vacant

0 0.5 1 2

Graphic Scale in Miles

Greiner Engineering Sciences Inc.

# U.S. 19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES

Pinellas and Pasco Counties, Florida

STATE PROJECT NO. 15150-1565

## DESIGN SEGMENT D-EXISTING LAND USE

Florida Department of Transportation

EXHIBIT 3.10

North of East Bay Drive to Drew Street, the level of development intensity increases dramatically along both sides of US 19. The focus of this segment's trip making are the major retail and office centers at the existing SR 60 (Gulf to Bay Boulevard) interchange. Clearwater Mall (a regional shopping mall), a series of motels, strip commercial centers (of community service size), and the new Park Place office/retail complex (in excess of 1 million square feet of lease area) all depend on the US 19 corridor for economic viability.

North of Drew Street there is a lessening of development, until north of the SCL railroad tracks. This area contains a softball/recreation complex north of Drew Street on the west side, and open space and drainage areas north of the SCL tracks on both sides of US 19.

Development levels again intensify at the CR 590 (Coachman Road) intersection. Recent new developments include the Loehman's Plaza (a sub-regional mall) retail outlet center, and several large-scale, multi-family housing projects south of Coachman Road. There is another major retail strip center located at Sunset Point Road; however, the majority of land uses north of Coachman Road to the Enterprise Road (CR 102)/Countryside Boulevard/SR 580 (Main Street) area is a wide mix of highway commercial, small office centers, and some mobile homes.

A recent redevelopment project along the east side of US 19 between Sunset Point Road and Enterprise Road is the opening of a series of new auto dealerships and a large office park complex.

The SR 580/Countryside Boulevard area is dominated by the largest retail center in Pinellas County - Countryside Mall. Adjacent areas along Enterprise Road, Countryside Boulevard, SR 580 and US 19 have also developed as major mixed-use projects. Most of these mixed-use projects are a combination of professional office and specialty retail and restaurants. Some previous highway commercial uses and remnants of mobile home park housing are in the area north of SR 580 on the westside. The Countryside Boulevard/SR 580 roadways are programmed for reconstruction as an interchange complex with construction to begin in 1988. These improvements are part of the previously approved FDOT actions resulting from the Environmental Impact Statement studies, approved April 15, 1980.

North of the SR 580 area to Alderman Road, a distance of approximately 5 miles, the characteristics of the corridor land uses gradually shift from continuous strip commercial centers to a lesser intensity of mixed uses. The recent developments along this section of US 19 have characteristically been a mix of low density single family/multi-family areas set back from US 19 with commercial/office/retail centers fronting directly on US 19. The area has a more pronounced "planned unit development" character than the older more

developed corridor areas to the south. There are several major retail/office complexes located at principal major crossroads, such as those located at SR 586 (Curlew Road), SR 584 (Tampa Highway), and Alderman Road.

North of Alderman Road to the Tarpon Avenue area, the character of land development shifts to less intense, with greater separation between retail and office complexes. Several large residential developments access US 19 in this area and there are large undeveloped tracts of frontage still existing within the area. Most large vacant parcels are, however, zoned for high intensity retail and office uses, and can be expected to be developed in the near-term. The John Anderson County Park is located on the east side of US 19 just north of Klosterman Road.

The area from just south of Tarpon Avenue to the SCL railroad tracks north of Tarpon Avenue is characterized on the west side by large-scale retail business, interspersed with highway-oriented fast-food outlets. The east side of the highway has a mix of older, small highway retail businesses and public uses, principally the FPC sub-station at the northeast corner of US 19 and Tarpon Avenue. There are two large community-scale retail centers located in the southwest and northwest quadrants of the Tarpon Avenue intersection. Farther north on US 19, near Live Oak Street, is a major auto dealership and nearby office park.

North of the CSX Transportation Railroad, the US 19 corridor crosses the Anclote River Basin. Land uses south of the river are currently basically undeveloped, except for a single office building on the west side. North of the river, the land use development increases dramatically with a hospital and offices on the east side and auto dealership on the west.

Development density increases significantly north of the Pinellas/Pasco County line. Both sides of US 19, from the County line north to Alternate US 19 (SR 595), are lined with highway commercial and small office buildings. A major commercial/light industrial land use located on the west side of US 19 is a major traffic generator.

Existing generalized land use by segment is presented on Exhibits 3.7 through 3.10. As discussed above, the predominate land use is a mixture of retail and office uses. They are shown as commercial use. Residential uses including mobile home parks are shown when they either directly abut the corridor or the primary entrance is from US 19. The exhibits also show tracts of vacant land, hospitals and nursing homes, cemeteries, and park or recreational uses.

### 3.6.3 FUTURE LAND USE

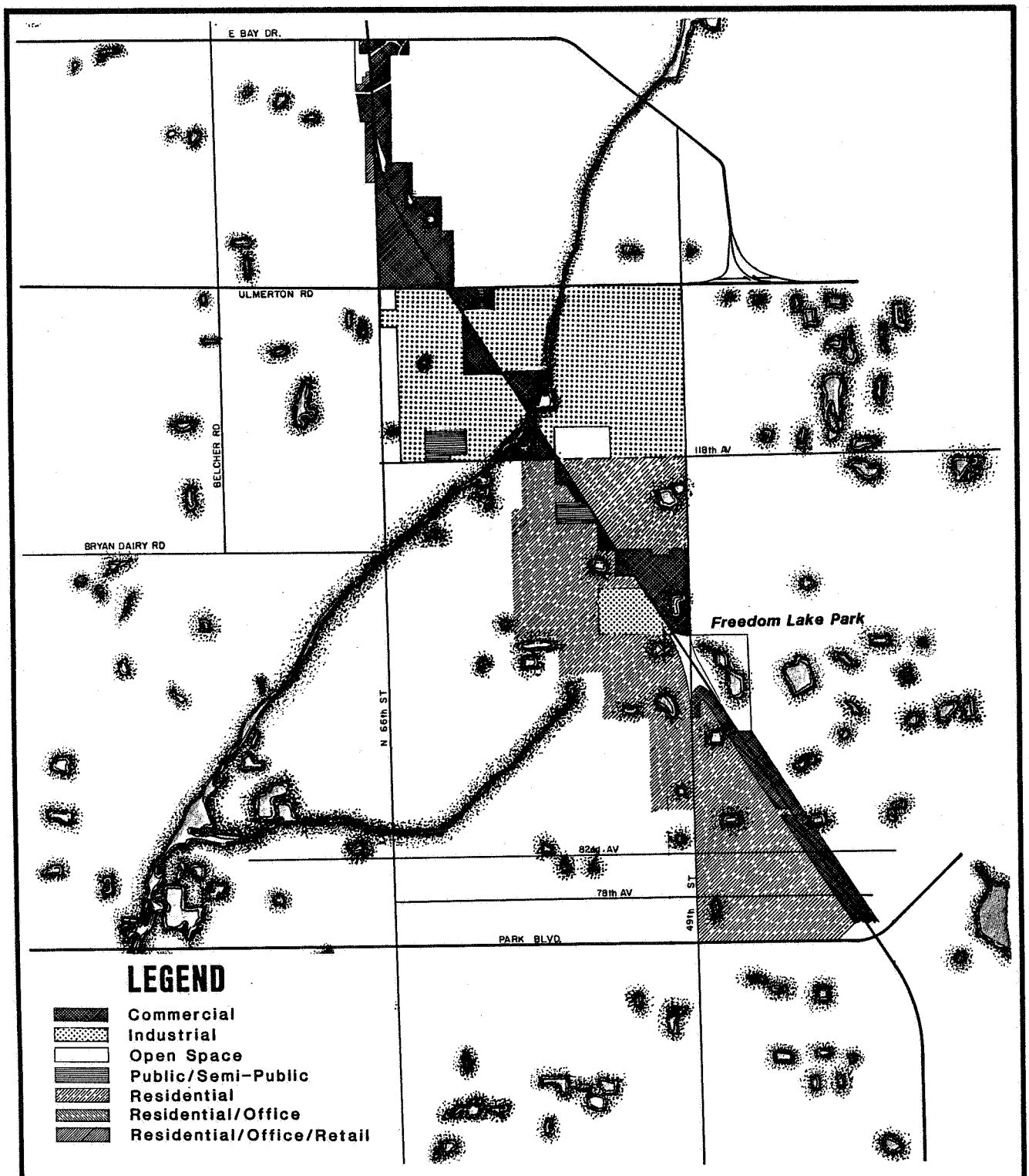
Future land use proposals within Pinellas County as depicted in the Comprehensive Land Use Plan are the result of a cooperative effort between all the Pinellas County Municipalities and the County. Future land use as presented in the comprehensive plan are shown by design segment in Exhibits 3.11 through 3.14.

Proposed land use in Segment A is generally:

- General Highway Commercial from Gandy Boulevard to south of 49th Street where it changes to Open Space;
- A mixture of General Commercial, Light Industrial, Public, and Medium Density Residential from 49th Street to Cross Bayou.

Within Segment B, the proposed land uses are:

- From north of Ulmerton Road until Allen's Creek, primarily General Commercial with some Residential Office and limited amounts of Urban Low Density Residential.
- Between Allen's Creek and Gulf to Bay Boulevard (SR 60), a mixture of General Commercial, Residential/Office, Light Industrial, and Medium Density Residential.




# U.S. 19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES

**Pinellas and Pasco Counties, Florida**

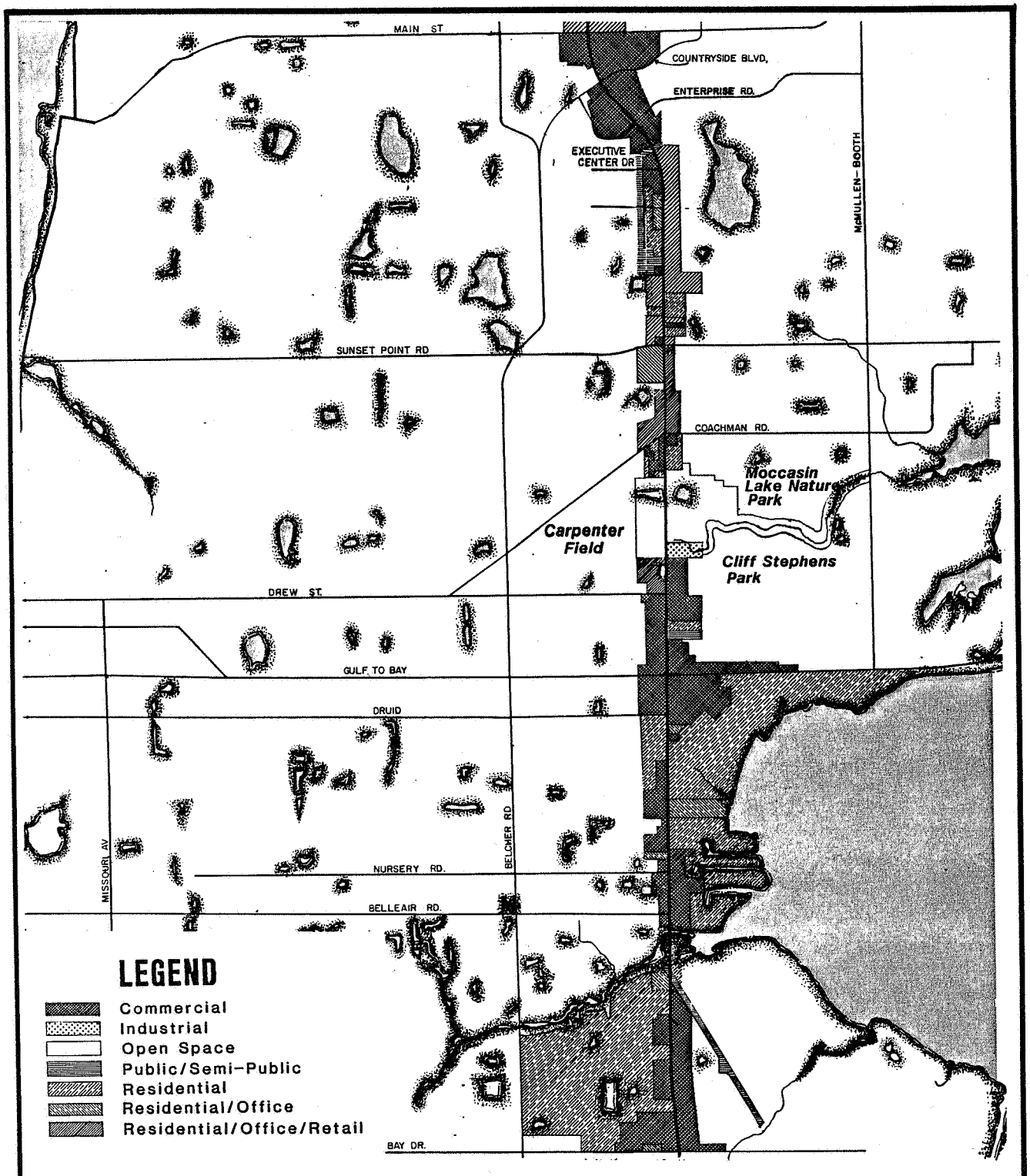
STATE PROJECT NO. 15150-1565

## DESIGN SEGMENT A-FUTURE LAND USE

**Florida Department of Transportation**

Greiner Engineering Sciences Inc.

**EXHIBIT 3.11**




# U.S. 19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES

**Pinellas and Pasco Counties, Florida**

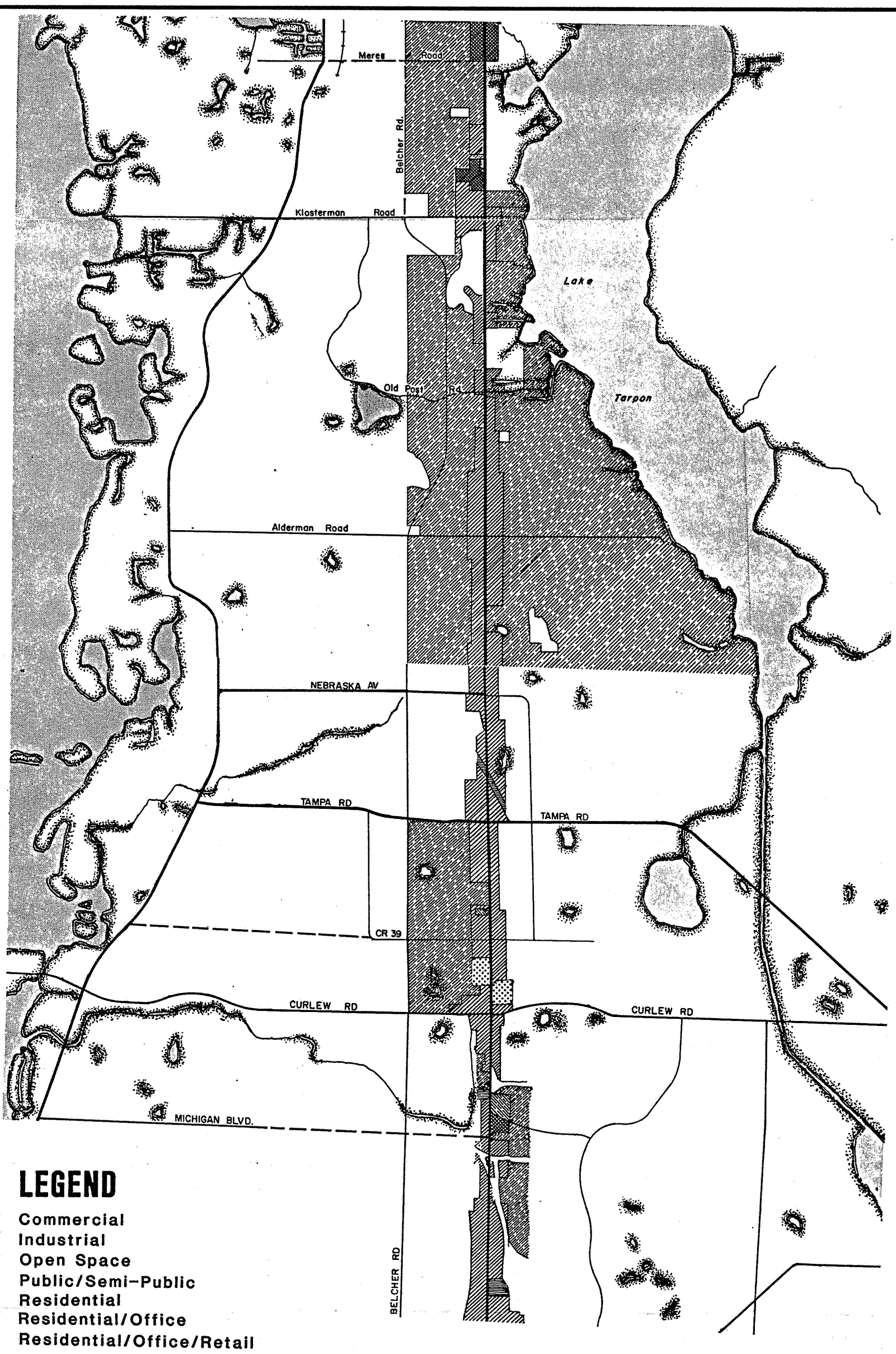
STATE PROJECT NO. 15150-1565

## DESIGN SEGMENT B-FUTURE LAND USE

**Florida Department of Transportation**

Greiner Engineering Sciences Inc.

**EXHIBIT 3.12**




## LEGEND

- Commercial
- Industrial
- Open Space
- Public/Semi-Public
- Residential
- Residential/Office
- Residential/Office/Retail

0 0.5 1

Graphic Scale In Miles

# U.S. 19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES

Pinellas and Pasco Counties, Florida

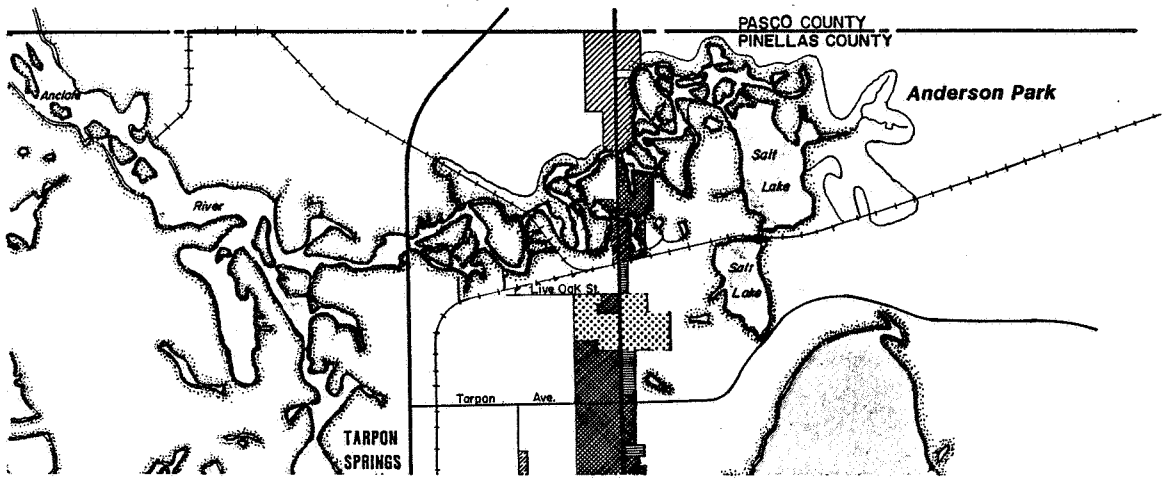
STATE PROJECT NO. 15150-1565

# DESIGN SEGMENT C-FUTURE LAND USE

Florida Department of Transportation

Greiner Engineering Sciences Inc.

EXHIBIT 3.13




## LEGEND

- Commercial
- Industrial
- Open Space
- Public/Semi-Public
- Residential
- Residential/Office
- Residential/Office/Retail

0 0.5 1
Graphic Scale in Miles

# U.S. 19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES

**Pinellas and Pasco Counties, Florida**

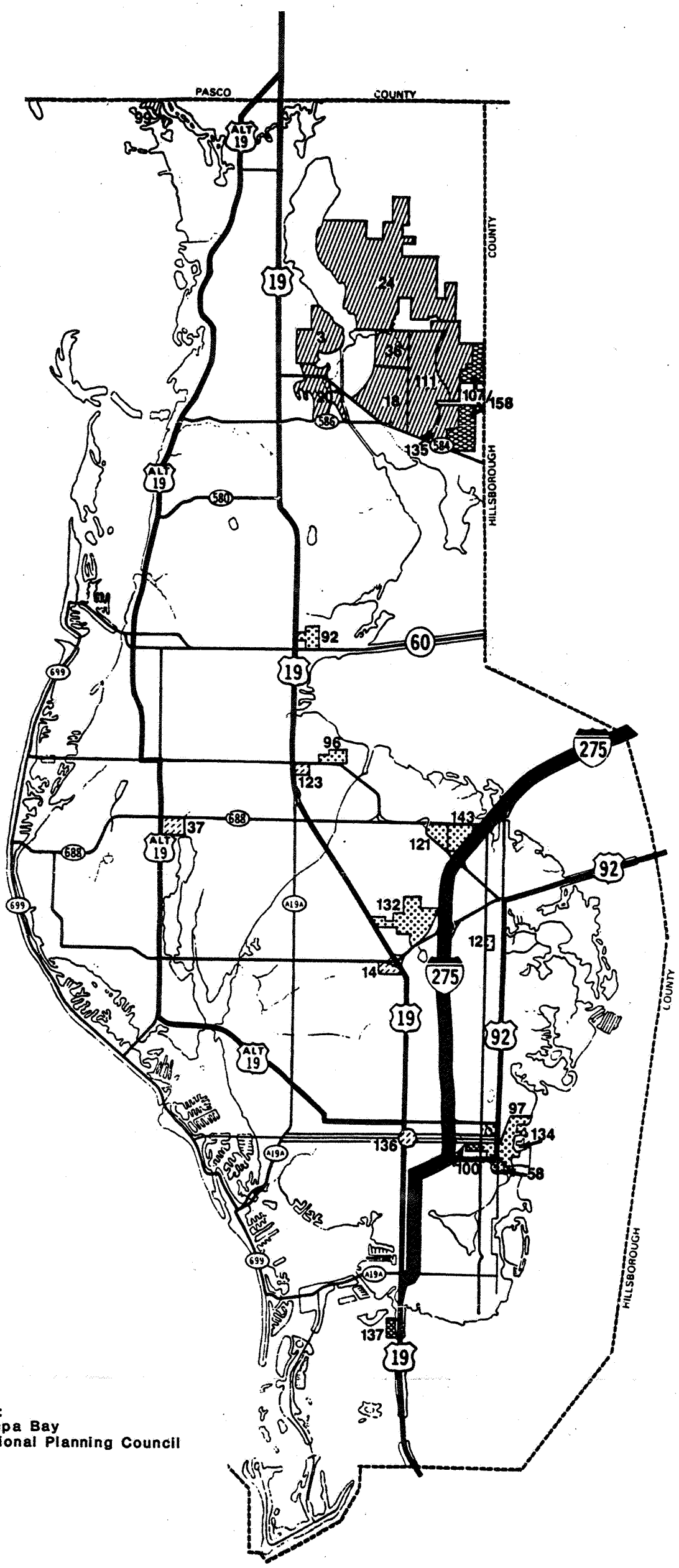
STATE PROJECT NO. 15150-1565

## DESIGN SEGMENT D-FUTURE LAND USE

**Florida Department of Transportation**

Greiner Engineering Sciences Inc.

**EXHIBIT 3.14**




## LEGEND

3 Highland Lakes
12 Gateway Mall
14 Pinellas Square Mall
18 East Lake Woodlands
20 Ramblewood
24 Lake Tarpon Village
36 Boot Ranch
37 Carriage Hill Mall
58 USF, Bayboro Campus Expansion
92 Metro (Park Place)
96 Pioneer Center Corp. Office Park
97 St. Petersburg Intown
99 Harbour Watch / Riverside Landing
100 St. Petersburg Intown Stadium
107 Tampa Bay Park Commerce
111 Forest Lakes Phase II & III
121 The Carillon
123 Bay Area Outlet Mall
132 Gateway Centre
134 Harborage at Bayboro
135 Cypress Lakes
136 Central Plaza
137 Marina Del Sol
143 Feather Sound Commerce Center
156 Largo Collections
158 Tampa Bay Pk. Of Commerce (I,II,IV)

Residential
Shopping Centers
Office Parks
Schools
Oil Facilities
Phosphate Mining
Transmission Line
Industrial Park
Recreation
Airport Complex *
Area Wide

Source:
Tampa Bay
Regional Planning Council

N

0 1 2 3 4
Graphic Scale In Miles

Greiner Engineering Sciences, Inc.

# U.S. 19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES

**Pinellas and Pasco Counties, Florida**

STATE PROJECT NO 15150-1565

# DEVELOPMENTS OF REGIONAL IMPACT

**Florida Department of Transportation**

EXHIBIT 3.15

## TABLE 3.6

## DEVELOPMENTS OF REGIONAL IMPACT
## 1973 THRU JULY 1986

| DRI No. | Stage & Status | Name | Type | Acres | Square Foot Commercial | Square Foot Industrial |
|---|---|---|---|---|---|---|
| 14 | DO | Pinellas Square Mall | C | 56 | 709,000 | - |
| 92 | DO | Metro (Park Place) | O | 99 | 1,253,000 | - |
| 123 | DO | Bay Area Outlet Mall | C | 58.4 | 497,595 | - |
| 132 | DO | Gateway Center | OIHC | 579 | 3,277,000 | 2,520,000 |

Stages: DO - Council Approved Development Order
L - Litigation
DRI- Under DRI Review

Type: C - Commercial
O - Office
I - Industrial
H - Hotel/Motel

Source: Tampa Bay Regional Planning Council, October 12, 1987

In addition to the adopted Year 2010 Long Range Highway Plan, Pinellas County has developed a map entitled US 19 Ultimate Design Concepts. According to the County Planning Department, "this map represents the generalized concept for the full improvement of US 19 and is consistent with current Florida Department of Transportation interchange designs and recommendations from local circulation plans developed under the local government comprehensive planning act, January, 1985." Exhibit 1.2 presents the US 19 Ultimate Design Concept.

The Pasco County Comprehensive Plan does not contain a map indicating future transportation plans. It does, however, contain a traffic circulation element. This element states:

> "Arterial roads should have limited access or should be served by service/access roads."[1]

The Metropolitan Planning Organization for the West Pasco County Area Transportation Study adopted a 1995 Transportation Plan in December, 1984. Its stated objectives include the following:

> "Provide for the conversion of urban arterials to controlled or limited access facilities by restricting access and egress, and through the use of service roads where adjacent land use is of a strip commercial character.

Provide for limited access linkages to both Pinellas and Hillsborough Counties that are convenient, safe, and quick."[2]

### 3.6.6 TRANSIT PLANS

In addition to the Year 2010 Long Range Highway Plan, the Pinellas County Metropolitan Planning Organization has developed and adopted the Year 2010 Long Range Public Transit Plan. It was adopted in October, 1984. This plan indicates the entire US 19 corridor (from Gandy Boulevard to the County Line) as an Express Bus Service corridor. A portion of the corridor, from East Bay Drive to Gulf to Bay Boulevard is also shown as a Potential Future Guideway Corridor. Major Park and Ride Facilities are indicated in the general vicinity of US 19 and Gandy Boulevard, Gulf to Bay Boulevard (SR 60), Countryside Boulevard, Nebraska Avenue, and Keystone Road. Pasco County's Comprehensive Plan traffic element does not address transit.

### 3.6.7. FARMLANDS

Prime and unique farmlands as defined in the Farmland Protection Policy Act (PL 97-98) are not determined to be present within the study corridor by the Soil Conservation Service. Additionally, no lands of significant local farmland value along US 19 in Pasco or Pinellas Counties were identified by the State of Florida Department of Agriculture.

## 3.7 WATER RESOURCES

### 3.7.1. GROUNDWATER

Groundwater resources within the project area are contained in two regional aquifers. The Floridan aquifer is a highly productive water-bearing unit, composed primarily of fractured limestone. The surficial aquifer consists of undifferentiated unconsolidated sands, silts and clays. Separating these aquifers is a semi-confining layer of variable transmissivity which is composed of clays and clayey silty sands. This semi-confining unit tends to prohibit or retard the seepage of groundwater from one aquifer to the other. The hydrogeology of each of these units will be discussed in greater detail below.

The Floridan aquifer comprises stratigraphic units of the Tampa formation which consist or hard, sandy white to light tan fossiliferous limestone interspersed with chert fragments. Lithologic logs from the Southwest Florida Water Management District indicate that the top of the Tampa formation is located approximately 20 to 140 feet below the ground surface. Overall, the formation appears to be closest to the surface in the northern section of the study area and slopes downward toward the southern end of the study area. According to Heath and Smith (1954), the Tampa Formation ranges in thickness from about 100 feet in the north to 150 feet in the southern portion of the

corridor. Limestone of the Tampa formation is characterized by abundant solution channels and fracture cavities which yield large storage capacities and high transmissivities. As a result, the Tampa formation provides the principle water bearing source for domestic wells in Pinellas County. However, there are no municipal wellfields operated by the West Coast Regional Water Supply Authority within the immediate vicinity of the project area. Pinellas County has had a history of saltwater intrusion problems which develop as a result of significant drawdown from municipal supply wells. Consequently, the West Coast Regional Water Supply Authority has located major Tampa Bay area production wells in outlying areas of Pinellas, Pasco and Hillsborough Counties. Therefore, the proposed modifications to US 19 are not expected to affect the water quality of municipal production wells.

The Hawthorne formation and middle and upper Miocene deposits, which unconformably overlie the Tampa formation, acts as a confining unit that retards or prohibits vertical movement of water to and from the Floridan aquifer. The Hawthorne formation is located mainly south of the City of Clearwater. It consists of hard gray sandstone to sandy gray clay with phosphate and an angular chert fragments which are irregularly distributed throughout the formation. Although beds of sand within the Hawthorn formation may yield water to small domestic wells locally, the Hawthorn is generally a poor regional water producer due to the irregular distribution and relatively low permeability of sand and clay sediments. Clays of the Hawthorn tend to

confine groundwater from vertical seepage to and from the Floridan aquifer. From Clearwater to Palm Harbor, middle and upper Miocene deposits provide a competent confining bed to keep water from seeping into the underlying limestone (Heath and Smith, 1954). Miocene deposits consist of blue to gray clay, fine-grained sandstone, and weathered lumps of limestone. Chert fragments may appear locally. Within the immediate vicinity of the study area, lithologic logs indicate that top of the confining layer ranges from 7 to 60 feet below the ground surface. Confining layer thicknesses range from 8 feet in Tarpon Springs to approximately 80 feet south of Clearwater.

An unconfined surficial aquifer extends from the ground surface to the underlying confining layer of sediments from the Hawthorn formation and middle to upper Miocene deposits. Within the study area, the unconfined aquifer consist of undifferentiated Pliocene and Pleistocene fine to course grained sands and shelly sands which range in thickness from a few feet to greater than 50 feet. Groundwater of the surficial aquifer is subject to degraded water quality as a result of organic decay, pesticides and infiltrating urban runoff.

Because of the deteriorated nature of background water quality within the surficial aquifer, Pliocene and Pleistocene sands could be used in treating urban stormwater runoff which may result from the construction and modification of US 19. Filtration and treatment processes include decay,

chemical solutioning, and dilution. The degree to which these processes affect the nature and breakdown of pollutants is dependent upon the lithology, stratigraphy, groundwater movement and type of pollutant involved.

Construction and modification of US 19 is expected to have minimal impact upon the water quality in the Florida aquifer. As previously mentioned, unconsolidated sands in the surficial aquifer will act as natural filitration system. Low permeability clayey sands and sandy clays of the Hawthorn formation and upper to middle Miocene deposits will limit groundwater seepage from the surficial aquifer within the highly urbanized portion of southern Pinellas County is minimal, while in the northern portion of Pinellas County and southern Pasco County recharge is considered low to moderate.

### 3.7.2. SURFACE WATER

Drainage divides within the project study area were identified in the Location Hydraulic Report (January 1987) and its accompanying 1" = 400' scale aerial photographs. Detailed information can be found in this report, which is appended by reference.

Historical surficial drainage patterns have been altered throughout the study area by past roadway improvements, residential and commercial developments. In general, stormwater runoff within the project corridor is collected by curb

and gutter roadway sections, roadside swales, or other stormwater conveyances. In some areas, these are routed through recently introduced detention facilities; however, most of the runoff is conveyed directly to Old Tampa Bay, Lake Tarpon or the Gulf of Mexico through various ditches, canals, or enclosed pipe systems.

Major streams, canals, navigable waterways and significant wetland areas have been identified in the Permit Coordination Report (April, 1988) prepared for this project under separate cover. Detailed information, including photographs of each site can be found in that report. In summary, the following major waterways have been identified: Cross Bayou Canal; Allen's Creek and associated tidal flats, Alligator Creek, Curlew Creek and the Anclote River and associated tidal flats.

## 3.8 FLOODPLAINS AND REGULATORY FLOODWAYS

In accordance with Executive Order 11988 "Floodplain Management" and FHPM 6-7-3(2) the location of potential floodplain encroachments and regulatory floodways were determined within the project limits. The information was obtained from Flood Insurance Studies (FIS) and Flood Insurance Rate Maps (FIRM) for Unincorporated Pinellas (Community-Panel No. 125139-0038C, 0076C, 0078C, 0086C, 0088C, 0126C, 0128C, 0136C, 0139C, 0202C, June 1, 1983) and Pasco (Community Panel No. 120230-0361C, March 15, 1984) counties and the

cities of Pinellas Park (Community-Panel No. 120251-0004D, 0008D, May 15, 1984), Clearwater (Community-Panel No. 125096-0005B, 0010B, 0017B, June 1, 1983) and Tarpon Springs (Community-Panel No. 120259-0003B), Florida. Flood Boundary and Floodway Maps (Floodway) Pinellas County, Florida (Community-Panel No. 125139-0036, 0126, June 1, 1983) were also used as sources of information.

Within the project limits floodplains are designated "A" (areas of 100-year elevation with flood hazard factors not determined), "AH" (areas of 100-year flooding where depths are shallow, one (1) to three(3) feet), "A8, etc" (areas of between the limits of the 100-year and 500-year flood; or areas which are subject to average flooding of less than one (1) foot), and "C" (areas of minimal flooding). General areas where the 100-year floodplain is adjacent to the existing US 19 are as follows:

Pinellas County

* South of 49th Street (US 19 roadway not included);
* Cross Bayou (US 19 roadway not included);
* South of Allens Creek to north of Belleair Road (US 19 roadway included Zone. A9 (EL10) 6/1/83);
* North of Drew Street to north of S.C.L. Railroad, Alligator Creek (US 19 roadway not included);

* Curlew Creek (US 19 roadway not included);
* South of Klosterman Road (US 19 roadway not included);
* Sunset Drive to Mango Street (US 19 roadway not included);
* Anclote River (US 19 roadway included Zone A8 (EL10) 6/1/83); and

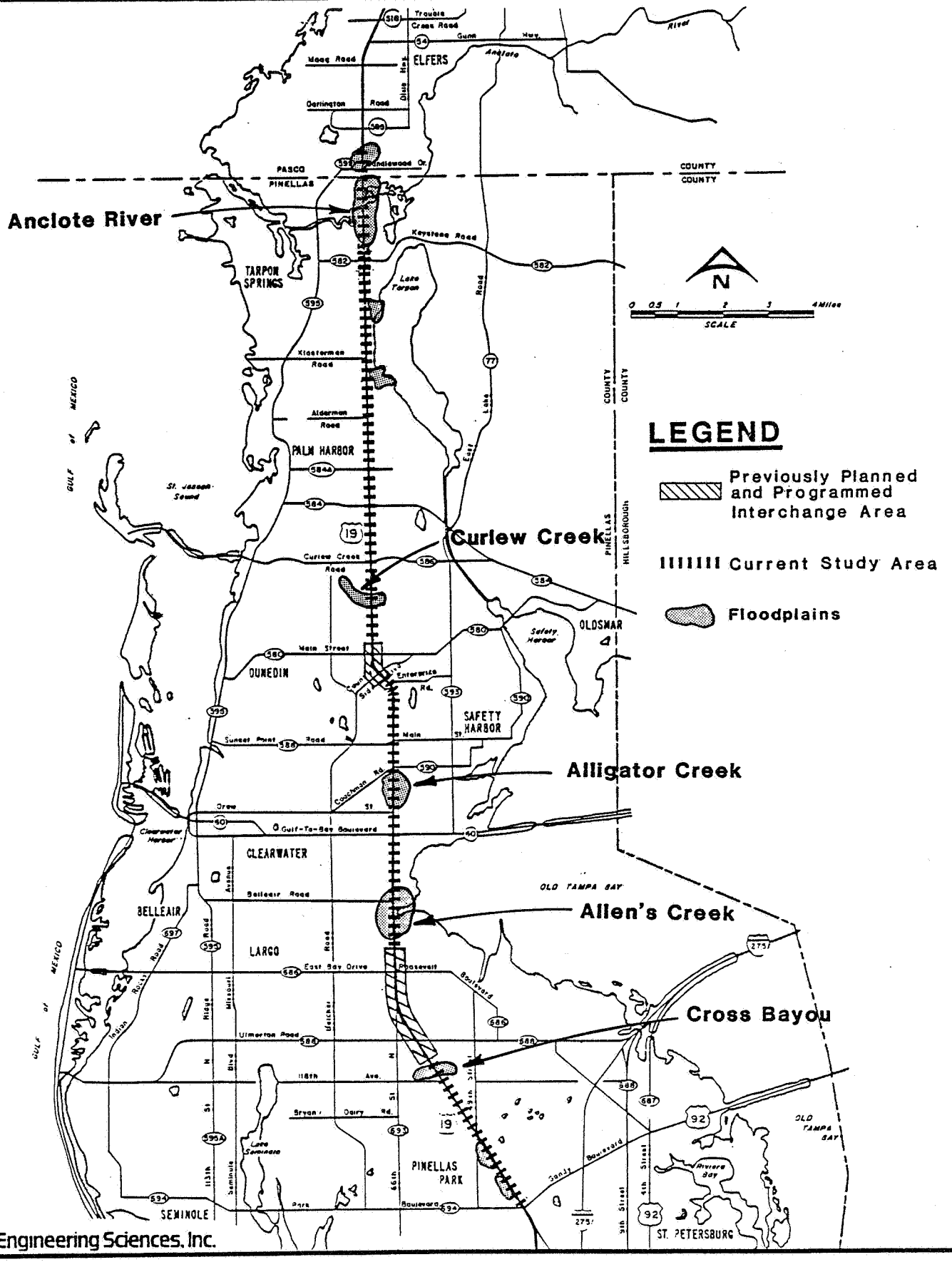
Pasco County

* Alternate US 19 (US 19 roadway included Zone A13 (EL12) 3/15/84).

Exhibit 3.16 shows the approximate location of the floodplains as delineated by the Federal Emergency Management Agency (FEMA).

Alligator Creek and the Anclote River have regulatory floodways. The floodway is a portion of the floodplain reserved specifically for conveyance of discharge for the base flood. Vertical and horizontal obstructions in this area are restricted to that of causing a cumulative increase in water surface elevation above the natural channel base flood elevation that does not exceed one (1) as established by FEMA.

Implementation of the US 19 project will widen the roadway. The widening will require both widening and replacing cross drains and bridges. The impacts on floodplains and floodways due to the roadway widening is described in Section 4.3.8. of this report.




Greiner Engineering Sciences, Inc.

# U.S. 19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES

Pinellas and Pasco Counties, Florida

STATE PROJECT NO. 15150-1565

## FLOODPLAINS

Florida Department of Transportation

EXHIBIT 3.16

Details of the existing hydraulics and floodplains pertinent to the project can be found in the Location Hydraulic Report, August 1987. The report was prepared in accordance with FHPM 6-7-3(2).

All cross drain conveyance structures of off-site lows were evaluated as to flood plain involvement. Structures S-1, S-2, S-3, S-7, S-13, S-15, S-16, S-16A, S-24 and S-28 are located in F.E.M.A. Zone C. These structures were analyzed to determine flood plain involvement. The risk of these structures was determined to be Category 3, which involves the modification of existing drainage structures. Further information on these structurs can be found in the Location Hydraulic Report.

## 3.9 VEGETATION

The US 19 study corridor is heavily developed with few natural vegetative communities remaining. The roadway has been the major growth corridor in central and upper Pinellas County and has experienced rapid growth in the last three decades.

### 3.9.1 UPLANDS

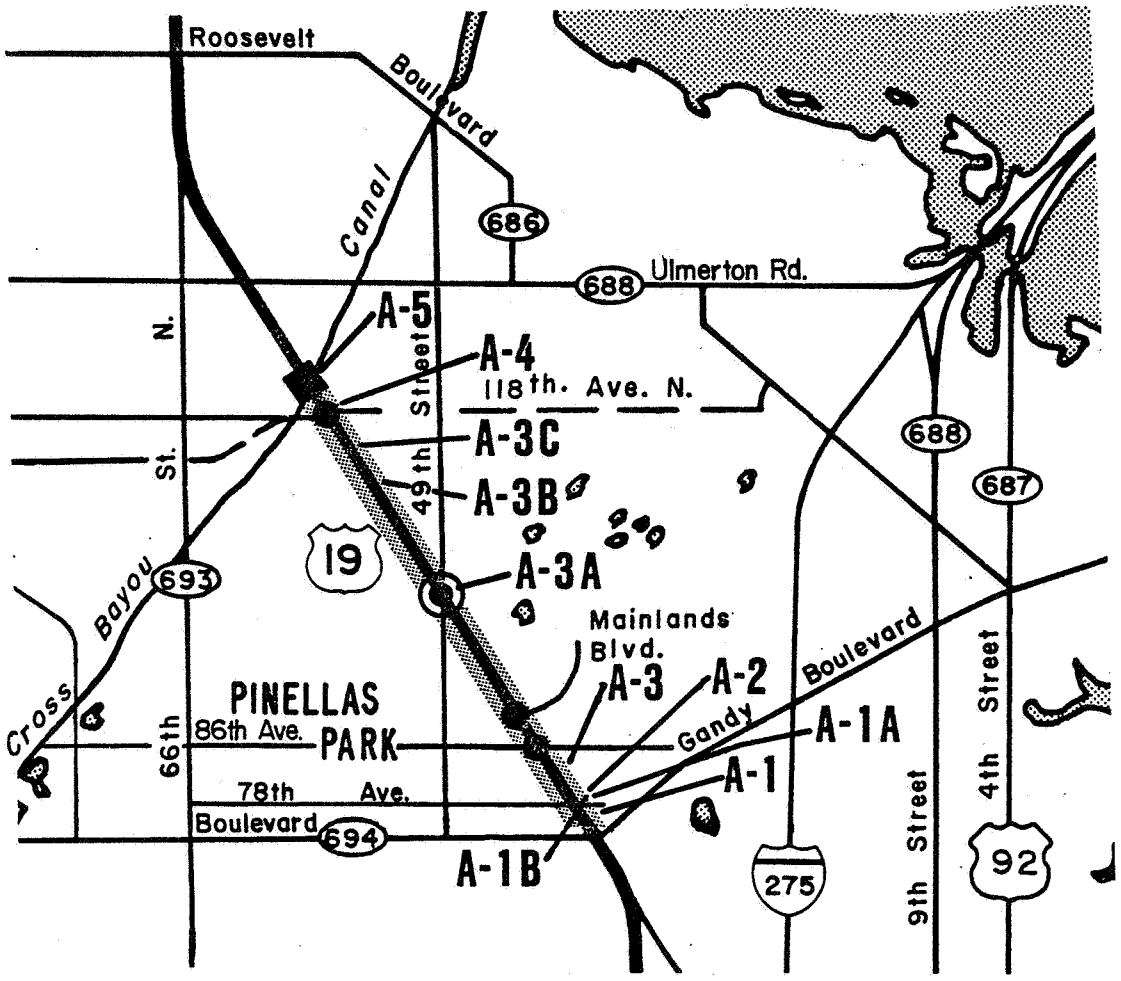
Natural uplands remaining along the corridor are limited to a few isolated areas that are remnants of much larger communities. Pine flatwood communities

are found in areas with poorly drained soils and are characterized by longleaf pines or slash pines and saw palmetto with native grasses and shrubs. Other vegetation found in upland areas include wax myrtle, scrub oak, Florida bay, Florida holly, live oak and introduced exotics such as Brazilian pepper.

A few sand pine, xeric oak communities remain in higher sandy areas with well drained soils. Predominant vegetation in these areas include: scrub oak, turkey oak, sand pine, and saw palmetto. These and other natural plant communities may be found in the parks along the corridor.

### 3.9.2 WETLANDS

In compliance with Executive Order 11990 the study area has been evaluated for wetland areas within the corridor which have the potential to be impacted by the proposed improvements. The study corridor encompassed the existing US 19 roadway and the entire area within the proposed right-of-way. The identification and inventory of wetlands was accomplished through interpretation of 1" = 100' scale aerial photographs, the U.S. Fish and Wildlife Service Classification System, "Classification of Wetlands and Deepwater Habitats" and review of National Wetlands Inventory (NWI) maps. Field reviews were conducted in August, 1986 and March, 1988 to more accurately inventory these areas and evaluate the potential for impacts. The results of these field reviews led to the identification of wetland sites within the corridor.




**LEGEND**

- INTERCHANGE
- OVERPASS (MINOR INTERCHANGE)
- GRADE SEPARATION
- EXPRESSWAY AND FRONTAGE ROADS AT GRADE
- A-1 PERMIT COORDINATION SITE

NOTE:
Previously Programmed Interchange Areas Are Not Shown

N

Scale in miles

0 0.5 1 2

# U.S. 19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES

Pinellas and Pasco Counties, Florida

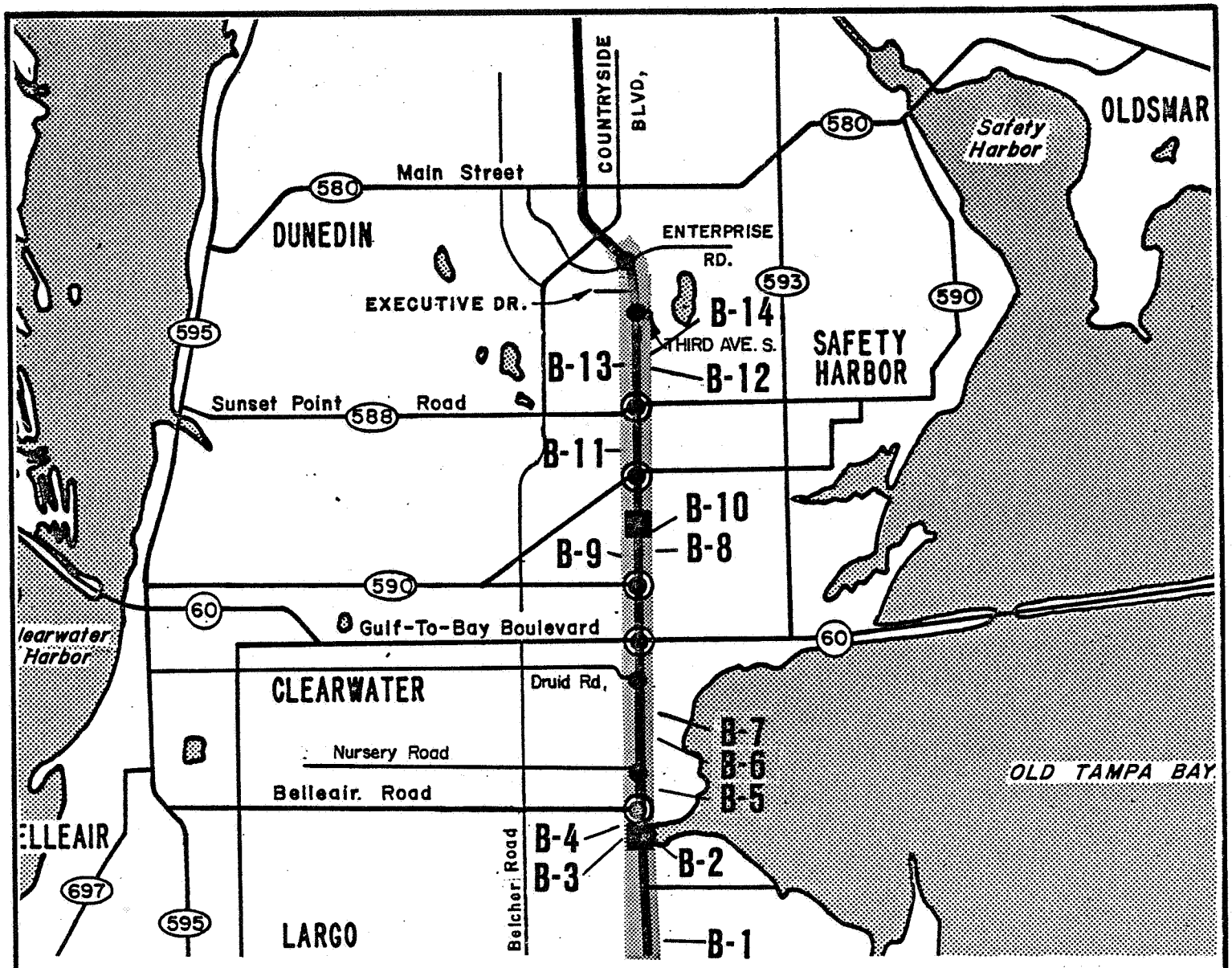
STATE PROJECT NO. 15150-1565

## DESIGN SEGMENT A
## PERMIT COORDINATION SITES

Florida Department of Transportation

EXHIBIT 3.17

Greiner Engineering Sciences, Inc.




## LEGEND

- INTERCHANGE
- OVERPASS (MINOR INTERCHANGE)
- GRADE SEPARATION
- EXPRESSWAY AND FRONTAGE ROADS AT GRADE
- B-1 PERMIT COORDINATION SITE

N

Scale in miles

0 0.5 1 2

NOTE:
Previously Programmed Interchange Areas Are Not Shown

# U.S. 19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES

Pinellas and Pasco Counties, Florida

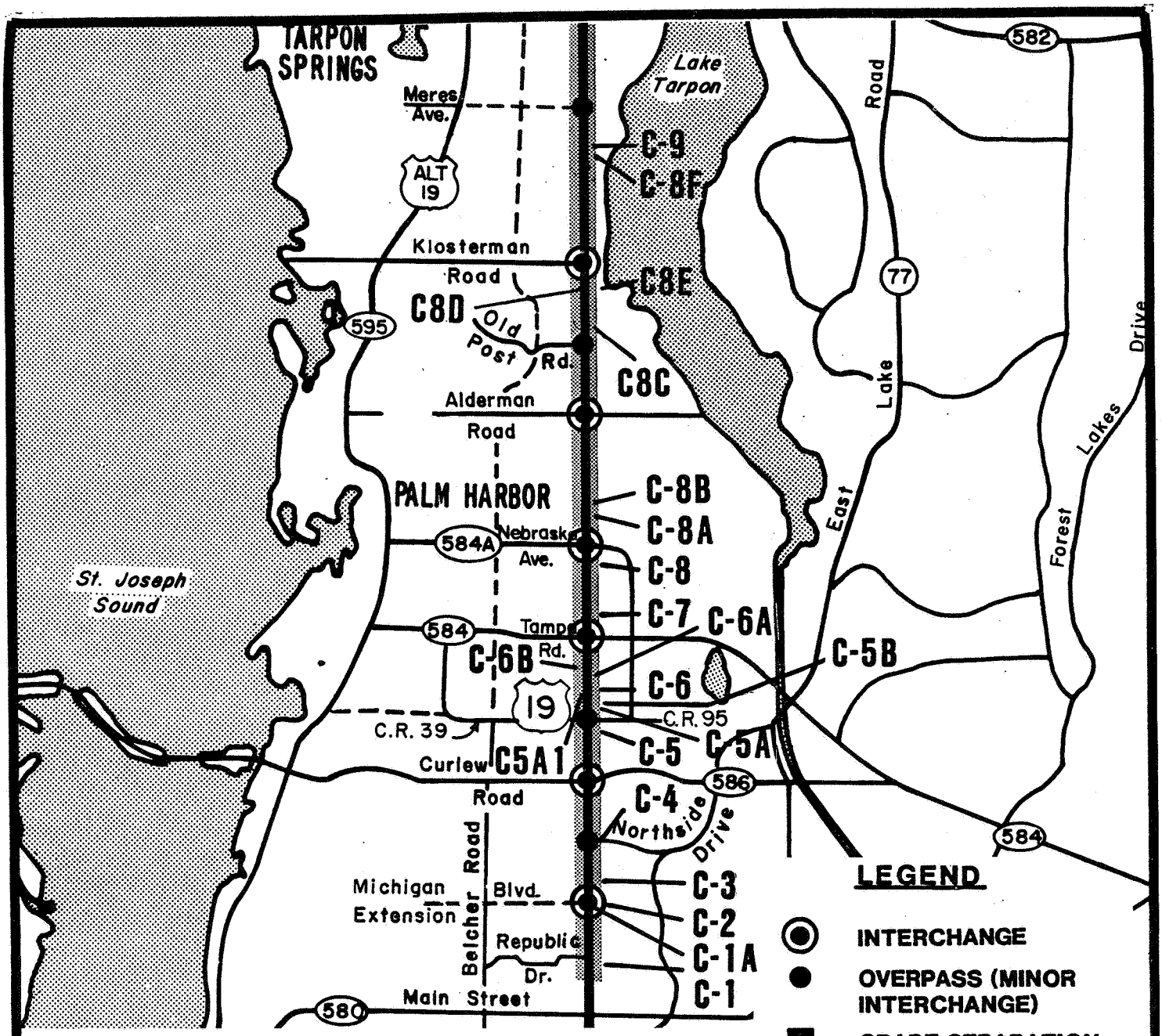
STATE PROJECT NO. 15150-1565

## DESIGN SEGMENT B PERMIT COORDINATION SITES

Florida Department of Transportation

EXHIBIT 3.18

Greiner Engineering Sciences, Inc.




NOTE:
Previously Programmed Interchange Areas Are Not Shown

N
Scale in miles
0 0.5 1 2

# U.S. 19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES

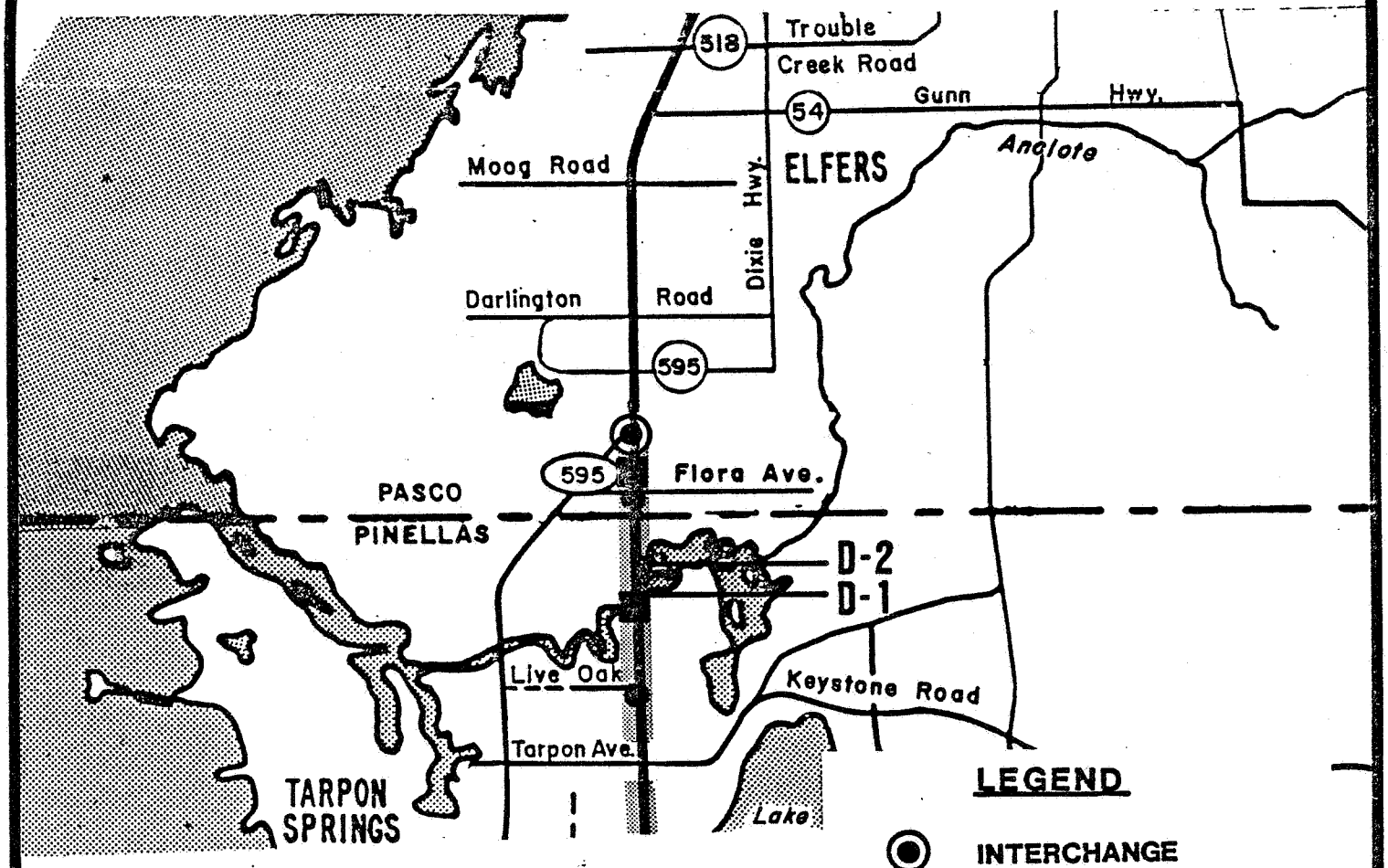
Pinellas and Pasco Counties, Florida
STATE PROJECT NO. 15150-1565

## DESIGN SEGMENT C

## PERMIT COORDINATION SITES

Florida Department of Transportation
EXHIBIT 3.19

Greiner Engineering Sciences, Inc.




## LEGEND

- INTERCHANGE
- OVERPASS (MINOR INTERCHANGE)
- GRADE SEPARATION
- EXPRESSWAY AND FRONTAGE ROADS AT GRADE
- D-1 PERMIT COORDINATION SITE

NOTE:
Previously Programmed Interchange Areas Are Not Shown

N

Scale in miles

0 0.5 1 2

# U.S. 19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES

Pinellas and Pasco Counties, Florida

STATE PROJECT NO. 15150-1565

## DESIGN SEGMENT D PERMIT COORDINATION SITES

Florida Department of Transportation

EXHIBIT 3.20

Gremer Engineering Sciences, Inc.

Exhibits 3.17 through 3.20 illustrate the location of the identified wetland areas. Wetlands which are classified by the US Fish and Wildlife Service National Wetlands Inventory are shown in Table 3.7. Man-made drainage ditches, retention ponds and borrow pits have not been assigned NWI classifications by the USFWS. However, larger drainage ditches may be classified as R2UBHx (Riverine, lower perennial, unconsolidated bottom, permanent, excavated) and retention ponds as POWHx (Palustrine, open water, permanent, excavated). These areas are not delineated on the NWI maps.

Saltwater and freshwater wetlands occur along the project corridor and consist of drainage ditches, adjacent marshes, tidal flats, and waterways with bridge crossings. Saltwater wetlands are found at the Cross Bayou Canal, Allen's Creek, and the Anclote River, along with their associated tidal flats. Dominant shoreline vegetation at tidally influenced areas include red mangrove, black mangrove, white mangrove, cordgrass, and black rush. It is unlikely that submerged seagrasses are present at any of the sites due to the lack of adequate substrate and water quality.

Freshwater wetlands along the study corridor include drainage ditches, canals, a creek, and small isolated wetlands. These areas generally contain vegetation associated with littoral zones and consist of emergent or floating annuals and perennials. This includes such species as the common cattail, Bacopa, pickerelweed and alligator weed which are common inhabitants and will

TABLE 3.7

NATIONAL WETLANDS INVENTORY CLASSIFIED WETLANDS

| Permit Coordination Site | Code | System | Subsystem | Class | Subclass | Water Regime |
|---|---|---|---|---|---|---|
| A-3 | PEM5C | Palustrine | None | Emergent | Narrow leaved persistent | Seasonal |
| A-5 | POWH | Palustrine | None | Open Water | | Permanent |
| | PSS3C | Palustrine | None | Scrub Shrub | Broad leaved evergreen | Seasonal |
| | PEM5C | Palustrine | None | Emergent | Narrow leaved persistent | Seasonal |
| | EIOWL | Estuarine | Subtidal | Open Water | | Subtidal |
| B-2 | E2SS3U | Estuarine | Intertidal | Scrub Shrub | Broad leaved evergreen | Unknown |
| B-3 | E2SS3U | Estuarine | Intertidal | Scrub Shrub | Broad leaved evergreen | Unknown |
| B-4 | EIOWL | Estuarine | Subtidal | Open Water | | Subtidal |
| B-9 | PFO2F | Palustrine | None | Forested | Needle leaved deciduous | Semipermanent |
| B-11 | PFO3C | Palustrine | None | Forested | Broad leaved evergreen | Seasonal |
| | PFO1C | Palustrine | None | Forested | Broad leaved deciduous | Seasonal |
| C-8C | PFO2F | Palustrine | None | Forested | Needle leaved deciduous | Semipermanent |
| C-8D | PFO2F | Palustrine | None | Forested | Needle leaved deciduous | Semipermanent |
| D-2 | E2EM1P | Estuarine | Intertidal | Emergent | Persistent | Irregular |

Source: U.S. Department of the Interior, Fish and Wildlife Service, and National Wetlands Inventory Maps. (St. Petersburg, Safety Harbor, Oldsmar, Elfers Quadrangle Maps)

reproduce rapidly. In shallow ponds and ditches these species survive with intermittent flooding. Several ditches do not appear to retain enough water for the support of wetland vegetation and are generally covered by upland weeds and grasses. Other plants associated with wetland areas and their surrounding ecotones include deciduous and evergreen shrubs and trees, such as bald cypress, willow, and red maple.

Table 3.8 provides a list of plant species representative of the study corridor. It is recognized that observations from short term field work may not determine conclusively the presence of each and every species which may be found within the study limits. The omission of any species is not intentional.

## 3.10 WILDLIFE

Habitat for wildlife is very limited within the study corridor. As discussed in previous sections, the corridor is heavily developed with few natural communities remaining.

## TABLE 3.8

## OBSERVED PLANT SPECIES WITHIN THE U.S. 19 STUDY CORRIDOR

| Common Name | Scientific Name |
|---|---|
| Algae | - |
| Alligator weed | Alternanthera philoxeroides |
| Arrowhead | Sagittaria lancifolia |
| Bacopa | Bacopa monnieri |
| Bald cypress | Taxodium distichum |
| Barnyard grass | Echinochloa crusgalli |
| Bladder pod | Sessbania vesiccaria, S. punicea |
| Black mangrove | Avicennia germinans |
| Black rush | Juncus roemerianus |
| Brazilian pepper | Schinus terebinthifolius |
| Buttonweed | Diodia virginiana |
| Cassia | Cassia sp. |
| Castor bean | Ricinus communis |
| Cattail | Typha spp. |
| Caric sedge | Carex spp. |
| Common salvinia | Salvinia rotundifolia |
| Cordgrass | Spartina bakeri |
| Dog fennel | Eupatorium capillifolium |
| Elderberry | Sambucus canadensis |
| Elephant ear | Colocasia esculentum |
| Goldenrod | Solidago spp. |
| Hydrilla | Hydrilla verticillata |
| Lemon bacopa | Bacopa caroliniana |
| Lizard's tail | Saururus cernus |
| Maidencane | Panicum hemitomon |
| Morning glory | Ipomoea spp. |
| Pennywort | Hydrocotyle umbellata |
| Pickerelweed | Pontederia lanceolata |
| Red mangrove | Rhizophora mangle |
| Red maple | Acer rubrum |
| Salt bush | Baccharis spp. |
| Saltgrass | Distichlis spicata |
| Saltmarsh cordgrass | Spartina alterniflora |
| Sea lavender | Limonium nashii |
| Sea purslane | Sesuvium portulacastrum |
| Sedge | Cyperus sp. |
| Soft rush | Juncus effusus |
| Soft-stem bulrush | Scirpus validus |
| Star rush | Dichromena colorata |
| Water hyacinth | Eichhornia crassipes |
| Water primrose | Ludwigia octovalis |
| Wax myrtle | Myrica cerifera |
| Willow | Salix spp. |

Small isolated areas of undeveloped uplands and wetlands provide habitat for mostly urban adapted species. Larger contiguous habitat areas such as Allen's Creek, Cross Bayou Canal, the Anclote River, and associated areas represent the most significant wildlife habitat areas within the study area.

A variety of plants and animals which are listed by the state and federal governments as endangered, threatened or rare have ranges within Pinellas and Pasco Counties.[5] The probability of occurrence of most listed species within the study corridor is very low because of the lack of suitable habitat. No areas officially designated as "Critical Habitat" by the U.S. Fish and Wildlife Service are in the vicinity of the study corridor. Some migratory and highly mobile species may pass through the study area but are not expected to establish permanent residences or breeding areas. A request for information on the presence and distribution of Endangered and Threatened Species within Pinellas and Pasco counties has been made to the U.S. Fish and Wildlife Service and subsequent correspondence is included in Appendix D.

## 3.11 AIR QUALITY

The study corridor is heavily developed and characterized by high traffic volumes and poor levels of service. These traffic conditions contribute greatly to the production of air pollutants in Pinellas County.

Pinellas County is considered a non-attainment area for Ozone due to exceedances of ambient air quality standards. The County is classified as meeting standards for other air pollutants for which there are criteria, including Carbon Monoxide and particulates.

Areas most sensitive to air pollutants from traffic on US 19 are outdoor locations of human activity near the roadway. These areas include sidewalks, telephone booths, service stations, outdoor eating areas, and recreational areas.

## 3.12 NOISE

The project corridor is heavily developed with a variety of land uses with different sensitivities to traffic noise. Exhibits 3.7 through 3.10 present generalized land use within the project corridor. Most of the corridor is comprised of land uses which are not especially noise sensitive. This includes shopping centers, restaurants, service stations, automobile dealerships, banks, offices, and other commercial activities. A few remaining tracts of undeveloped land remain along the corridor and in all probability would become commercially oriented.

Noise sensitive land uses are scattered throughout the project corridor. Residential areas to be found include single family homes, rental apartments,

condominiums, and trailer parks. Parks within the corridor include three City parks, a County park, and a City sports complex. Other noise sensitive areas include a hospital, a day care center, a nursing home, a cemetery, and several motels.

The dominant noise source within the study area is generated from traffic on US 19. Aircraft operations are an occasional but less significant noise source because the study corridor is not in the immediate vicinity of any airport. Other minor noise sources come from infrequent trains, construction activities, and other adjacent roadways.

## 3.13 HAZARDOUS WASTE

In order to determine whether or not the proposed roadway improvements to U.S. 19 will result in hazardous waste site involvement, a survey of potential waste sites located along the project corridor was conducted. The hazardous waste site inventory is published separately in the Hazardous Waste Site Inventory Report appended by reference. [6] An overview of the inventory is presented in this section.

The Environmental Protection Agency (EPA) has broadly defined hazardous waste as any material, or combination of materials, which poses a hazard to human health, welfare, or the environment. Hazardous wastes are characterized as

either reactive, toxic, infectious, explosive, flammable, corrosive, or radioactive. Hazardous wastes can take the form of solids, sludges, liquids, or gases and can consist of municipal refuse, industrial chemicals, wastewater effluent and petroleum products. Examples of typical hazardous waste sites include landfills, dumps, pits, lagoons, salvage areas and storage tanks.

The EPA has delegated to the Florida Department of Environmental Regulation (DER) the primary responsibility for the development and implementation of Florida's hazardous waste management program. However, a number of other public agencies and departments are also involved in hazardous materials and waste management within the project area. These federal, state, and local agencies and departments were contacted in order to obtain all available information regarding known hazardous material generators or waste sites in the project area. A list of agencies and departments contacted during the inventory is provided in Table 3.9.

Information obtained from government agencies and departments was combined with data developed during the survey of existing land uses. This data provides a good, general overview of potential hazardous material generators or users in the project area. In addition, landfills, dumps, and other large waste storage areas were located from the photo interpretation of 1:100 scale aerial photography of the study area.

## TABLE 3.9

## LIST OF FEDERAL, STATE, AND LOCAL AGENCIES OR DEPARTMENTS INVOLVED IN HAZARDOUS MATERIALS MANAGEMENT IN THE PROJECT STUDY AREA

**FEDERAL:**

United States Environmental Protection Agency

**STATE:**

Florida Department of Environmental Regulation

**LOCAL:**

Tampa Bay Regional Planning Council

Pinellas County Department of Environmental Management-Hazardous Waste Coordinator

Pinellas County Department of Solid Waste Management

Pinellas County Hazardous Materials Response Team

Pinellas County Department of Civil Emergency Services

Pasco County Department of Sanitary Landfills

Pasco County Department of Emergency Management

Pasco County Department of Environmental Health

Pasco County Department of Emergency Services

Pinellas Park Fire Department

Largo Fire Department

Clearwater Fire Department

Dunedin Fire Department

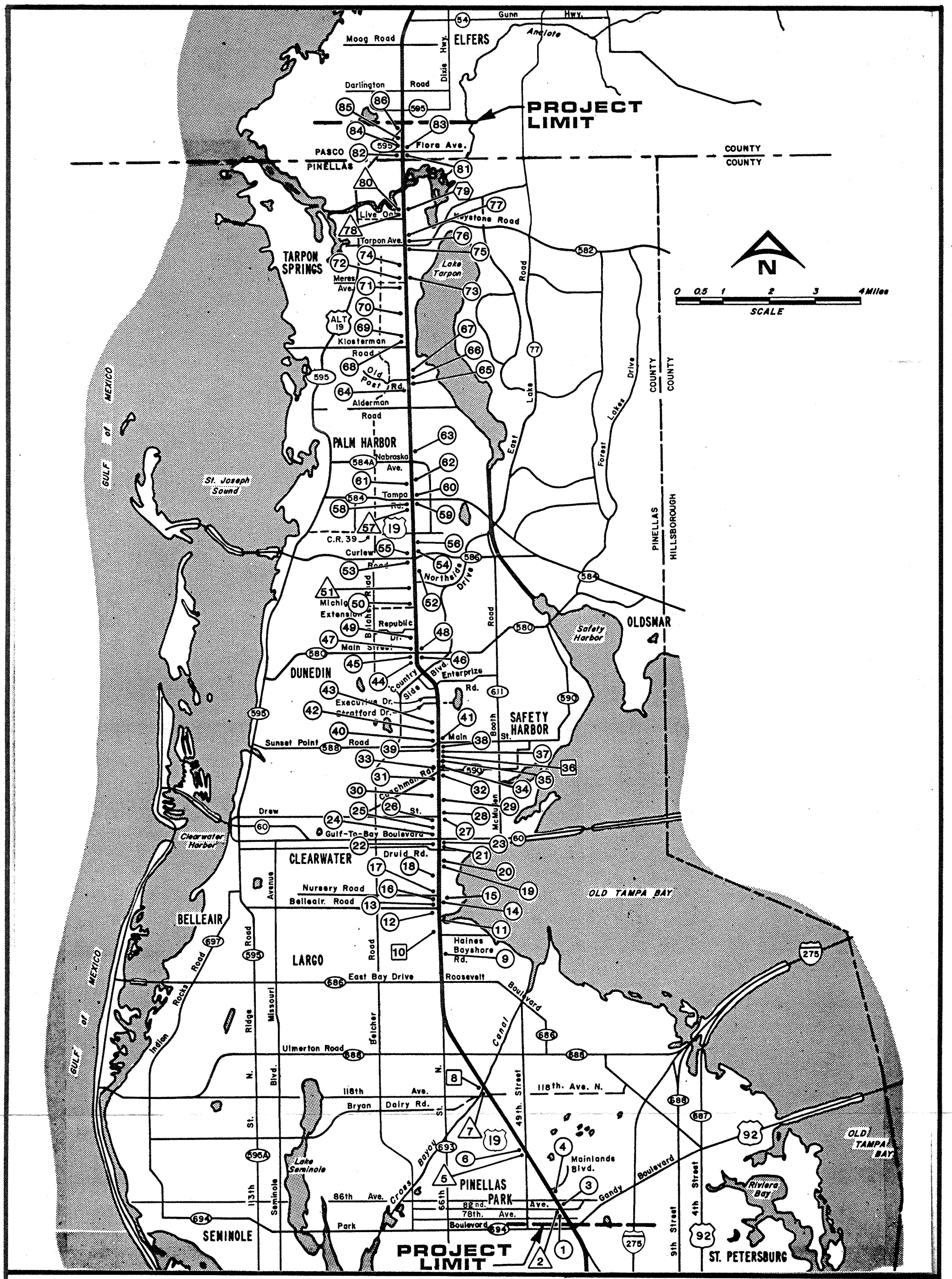
Palm Harbor Fire Department

Tarpon Springs Fire Department

In order to verify the existence of the hazardous waste sites identified in government records or reported by the contacted agencies and departments, field surveys were conducted of the entire project corridor. During these surveys, site visits were made and essential information was collected regarding site location, site characteristics, nature of the contaminent and potential site involvement for roadway construction. In addition, any previously unidentified sites within the project corridor that were believed to involve hazardous materials use or waste storage were investigated at the time of these field surveys.

The hazardous waste site inventory revealed numerous small scale businesses and industries involved in the use of storage of hazardous materials. Survey results indicate the existence of 86 potential hazardous waste sites of varying significance throughout the length of the project corridor. Exhibit 3.21 presents the location of each site, denoted by symbols which correspond to the nature of the site. Table 3.10 provides a summation of each site including the site name, site location, site description and site contents.

The vast majority of the sites identified in this survey are sites containing aboveground or underground tanks used for the storage of petroleum products and industrial chemicals. As shown in Exhibit 3.21, there are 75 of these storage tank sites located throughout the length of the project corridor. Predominant among these sites are 30 existing and 15 former motor vehicle




## LEGEND

- 65 Site Number
- ○ Underground Tank
- △ Aboveground Tank
- □ Dump Sites
- ⬡ Wastewater Treatment Facility
- ⬭ Other

NOTE:
See Tables 3,10 For Site Descriptions.

**FLORIDA DEPARTMENT OF TRANSPORTATION**

**U.S. 19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES**

Pinellas and Pasco Counties, Florida

STATE PROJECT NO. 15150-1565

# POTENTIAL HAZARDOUS WASTE SITE LOCATION MAP

EXHIBIT 3.21

TABLE 3-10

POTENTIAL HAZARDOUS WASTE SITES
IN THE PROJECT VICINITY

| Site Number | Site Name & Address | Nature of Site | FDER I.D. Number | S.I.C. Code | Potential Hazardous Materials | Storage Tanks | Regulatory Enforcement/ Contamination | Potential for Hazardous Materials Impacts |
|---|---|---|---|---|---|---|---|---|
| 1 | Pick Kwik #84<br>3919 78th Avenue N<br>Pinellas Park, FL 33565 | Convenience store, service station | 528623417 | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | Petroleum contamination in soil and groundwater reported to DER on 5-2-86. Recovery underway. EDI #520366. | Medium |
| 2 | Mr. Pool<br>8190 US 19 N<br>Pinellas Park, FL 33565 | Swimming pool sales, supplies | None | 1799 | Paint wastes, solvents, acidic or alkaline wastes, used oil, chlorine. | Yes | None reported | Medium |
| 3 | Certified Auto Brokers<br>8391 US 19 N<br>Pinellas Park, FL 33565 | Former motor vehicle service station, automobile sales | None | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Medium |
| 4 | Chevron #47940<br>9121 US 19 N<br>Pinellas Park, FL 33565 | Motor vehicle service station | 528515401 | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Low |
| 5 | A.B.A. Industries<br>10260 US 19 N<br>Pinellas Park, FL 34664 | Manufacturing of metal materials | 528520575 | 3449 | Waste water sludges, solvents, still bottoms from solvent distillation, cyanide wastes, acidic or alkaline wastes, plating wastes, used oil, gasoline. | Yes | None reported | Medium |
| 6 | Modern Tool & Die<br>5201 102nd Avenue N<br>Pinellas Park, FL 34644 | Manufacturing of machine tools | None | 3542 | Waste water sludges, solvents, still bottoms from solvent distillation, cyanide wastes, acidic or alkaline wastes, plating wastes, used oil. | Yes | None reported | Medium |

TABLE 3-10

POTENTIAL HAZARDOUS WASTE SITES
IN THE PROJECT VICINITY
(Continued)

| Site Number | Site Name & Address | Nature of Site | FDER I.D. Number | S.I.C. Code | Potential Hazardous Materials | Storage Tanks | Regulatory Enforcement/ Contamination | Potential for Hazardous Materials Impacts |
|---|---|---|---|---|---|---|---|---|
| 7 | National Pool & Patio<br>11800 US 19 N<br>Pinellas Park, FL 33464 | Swimming pool construction, sales, supplies | None | 1799 | Paint wastes, solvents, acidic or alkaline wastes, used oil, chlorine. | Yes | None reported | Medium |
| 8 | Layman's Used Merchandise<br>12090 US 19 N<br>Pinellas Park, FL 33464 | Sales of used and salvaged materials | None | 5093 | Used oil. | No | None reported | Medium |
| 9 | Globe Auto Imports<br>1915 US 19 S<br>Clearwater, FL 33520 | New and used automobile sales and service | 528624484 | 5599 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Low |
| 10 | Vacant Property<br>West side of US 19<br>400' north of Haines Bayshore<br>Clearwater, FL | Vacant property used for dumping of earthen fill, construction materials | None | None | | No | None reported | Low |
| 11 | Budget Car Sales<br>1689 US 19 S<br>Clearwater, FL 33516 | Former motor vehicle service station, automobile sales | None | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Medium |
| 12 | Orange Blossom Groves<br>SW corner of Belleair/US 19<br>Clearwater, FL 33516 | Citrus packing plant and sales | None | 0174 | Waste pesticides, washing and rinse solutions containing pesticides, solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Medium |
| 13 | Allied Discount Tires<br>NW corner of Belleair/US 19<br>Clearwater, FL 33516 | Former motor vehicle service station, tire sales | None | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Medium |

TABLE 3-10

POTENTIAL HAZARDOUS WASTE SITES
IN THE PROJECT VICINITY
(Continued)

| Site Number | Site Name & Address | Nature of Site | FDER I.D. Number | S.I.C. Code | Potential Hazardous Materials | Storage Tanks | Regulatory Enforcement/ Contamination | Potential for Hazardous Materials Impacts |
|---|---|---|---|---|---|---|---|---|
| 14 | Shell - Clearwater Car Wash<br>1595 US 19 S<br>Clearwater, FL 33516 | Motor vehicle service station | 528515203 | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Low |
| 15 | Home Shopping Network<br>1567 US 19 S<br>Clearwater, FL 33516 | Offices, television production facilities | None | 4833 | Solvents, ignitable wastes, diesel fuel. | Yes | None reported | Low |
| 16 | G.C.I. Auto Sales<br>1500 US 19 S<br>Clearwater, FL 33516 | Former motor vehicle service station, automobile sales | None | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Medium |
| 17 | Amoco<br>1496 US 19 S<br>Clearwater, FL 33516 | Motor vehicle service station | None | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Medium |
| 18 | Pinellas Auto Sales - Gulf<br>1340 US 19 S<br>Clearwater, FL 33546 | Motor vehicle service station, automobile sales | 528515486 | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | Contamination in monitoring well reported to DER on 12-4-87. Not recovered. EDI #522268. | Medium |
| 19 | Japanese Gardens Estates<br>1251 US 19 S<br>Clearwater, FL 33546 | Mobile home park | None | None | Liquified petroleum. | Yes | None reported | Low |
| 20 | Former Service Station<br>SE corner of Seville/US 19<br>Clearwater, FL | Motor vehicle service station, now removed | None | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Medium |
| 21 | Montgomery Ward Auto Center<br>140 US 19 S<br>Clearwater, FL 33546 | Motor vehcile service station, pumps removed | None | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Medium |

TABLE 3-10

POTENTIAL HAZARDOUS WASTE SITES
IN THE PROJECT VICINITY
(Continued)

| Site Number | Site Name & Address | Nature of Site | FDER I.D. Number | S.I.C. Code | Potential Hazardous Materials | Storage Tanks | Regulatory Enforcement/ Contamination | Potential for Hazardous Materials Impacts |
|---|---|---|---|---|---|---|---|---|
| 22 | Angel Properties-Talkington Oil<br>510 US 19 S<br>Clearwater, FL 33516 | Former motor vehicle service station | 528515593 | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | Petroleum contamination reported to DER on 9-29-87. Not recovered. EDI #521896. | Medium |
| 23 | Don Olson Firestone<br>117 US 19 S<br>Clearwater, FL 33516 | Motor vehicle repair facility, tire sales | None | 7538 | Solvents, acidic or alkaline wastes, batteries, used oil. | Yes | None reported | Medium |
| 24 | Replacement Rent-a-Car<br>2570 Gult to Bay Boulevard<br>Clearwater, FL 33516 | Former motor vehicle service station, automobile rentals | None | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Medium |
| 25 | Dimmitt Volkswagon - Mazda<br>100 US 19 S<br>Clearwater, FL 33575 | New and used automobile sales and service | 528520565 | 5599 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Low |
| 26 | Texaco #203-049<br>198 US 19 N<br>Clearwater, FL 33515 | Motor vehicle service station | 528515601 | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Low |
| 27 | Gas World #5-Kangaroo<br>181 US 19 N<br>Clearwater, FL 33575 | Motor vehicle service station | 528515357 | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Low |
| 28 | Amoco #982<br>201 US 19 N<br>Clearwater, FL 33515 | Motor vehicle service station | 528515133 | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Low |
| 29 | Pinellas Co. Highway Dept.<br>665 US 19 N<br>Clearwater, FL 33515 | Motor vehicle maintenance facility | 528624619 | 9131 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Low |

TABLE 3-10

POTENTIAL HAZARDOUS WASTE SITES
IN THE PROJECT VICINITY
(Continued)

| Site Number | Site Name & Address | Nature of Site | FDER I.D. Number | S.I.C. Code | Potential Hazardous Materials | Storage Tanks | Regulatory Enforcement/ Contamination | Potential for Hazardous Materials Impacts |
|---|---|---|---|---|---|---|---|---|
| 30 | Clearwater Waste Transfer<br>1005 Old Coachman Road<br>Clearwater, FL 33515 | Solid waste transfer facility | None | 9131 | Solid waste materials. | No | None reported | Low |
| 31 | Days Inn-Yuens Restaurant<br>1690 US 19 N<br>Clearwater, FL 33515 | Motor vehicle service station | 528515230 | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Low |
| 32 | Chevron #47018<br>1699 US 19 N<br>Clearwater, FL 33515 | Motor vehicle service station | 528515208 | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Low |
| 33 | Jiffy Lube<br>1700 US 19 N<br>Clearwater, FL 33575 | Motor vehicle service facility | 528624634 | 5541 | Solvents, acidic or alkaline wastes, used oil. | Yes | None reported | Low |
| 34 | Mobil #02-A71<br>1701 US 19 N<br>Clearwater, FL 33515 | Motor vehicle service station | 528515241 | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Low |
| 35 | Coachman Car Wash<br>1717 US 19 N<br>Clearwater, FL 33546 | Motor vehicle service station | 528840982 | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Low |
| 36 | Vacant Property<br>East side of US 19<br>south of S.R. 588<br>Clearwater, FL | Vacant property, some piles of earthen fill, debris | None | None | | No | None reported | Low |
| 37 | U-Haul Center #69<br>1899 US 19 N<br>Clearwater, FL 33515 | Motor vehicle service station | 528515580 | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Low |

TABLE 3-10

POTENTIAL HAZARDOUS WASTE SITES
IN THE PROJECT VICINITY
(Continued)

| Site Number | Site Name & Address | Nature of Site | FDER I.D. Number | S.I.C. Code | Potential Hazardous Materials | Storage Tanks | Regulatory Enforcement/ Contamination | Potential for Hazardous Materials Impacts |
|---|---|---|---|---|---|---|---|---|
| 38 | Spur #2328 - Go Shop<br>1921 US 19 N<br>Clearwater, FL 33515 | Motor vehicle service station | 528515552 | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Low |
| 39 | Chevron #47017<br>1900 US 19 N<br>Clearwater, FL 33516 | Motor vehicle service station | 528515579 | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Low |
| 40 | Shell - Kendrick<br>1920 US 19 N<br>Clearwater, FL 33546 | Motor vehicle service station | 528515360 | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Low |
| 41 | Exxon #5538<br>1945 US 19 N<br>Clearwater, FL 33515 | Motor vehicle service station | 528515160 | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Low |
| 42 | Hertz Rental Leasing<br>1990 US 19 N<br>Clearwater, FL 34618 | Former motor vehicle service station | 528515526 | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Low |
| 43 | Pace #3 - Poor Ole Mac's<br>2050 US 19 N<br>Clearwater, FL 33515 | Motor vehicle service station | 528515492 | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | Contamination in monitoring well reported to DER on 9-4-86. Not recovered. EDI #520173. | Medium |
| 44 | Shell - Countryside<br>2670 US 19 N<br>Clearwater, FL 33515 | Motor vehicle service station | 528515626 | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | Contamination in soil and groundwater reported to DER on 5-1-87. Recovery underway. EDI #520942. | Medium |

TABLE 3-10

POTENTIAL HAZARDOUS WASTE SITES
IN THE PROJECT VICINITY
(Continued)

| Site Number | Site Name & Address | Nature of Site | FDER I.D. Number | S.I.C. Code | Potential Hazardous Materials | Storage Tanks | Regulatory Enforcement/ Contamination | Potential for Hazardous Materials Impacts |
|---|---|---|---|---|---|---|---|---|
| 45 | Mobil #02-483<br>2696 US 19 N<br>Clearwater, FL 33515 | Motor vehicle service station | 528515423 | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | Contamination in groundwater reported to DER on 9-8-87. Not recovered. EDI #521701. | Medium |
| 46 | Sears Automotive Center<br>Countryside Mall<br>Clearwater, FL 33515 | Motor vehicle service facility | None | 7538 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Medium |
| 47 | Ice Cold Auto Air<br>2700 US 19 N<br>Clearwater, FL 33546 | Motor vehicle service station, pumps removed | 528515594 | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Low |
| 48 | Oriental Furniture<br>NE corner of US 19/SR 580<br>Clearwater, FL 33515 | Former motor vehicle service station | None | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Medium |
| 49 | Mossy-Kelly Oldsmobile<br>2848 US 19 N<br>Clearwater, FL 33575 | New and used automobile sales and service | 528630973 | 5511 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Low |
| 50 | B. F. Goodrich Tires<br>3074 US 19 N<br>Dunedin, FL 33575 | Motor vehicle service facility, tire sales | None | 7538 | Solvents, acidic or alkaline wastes, batteries, used oil. | Yes | None reported | Medium |
| 51 | A & W Pool Supplies<br>3178 US 19 N<br>Dunedin, FL 33575 | Swimming pool supplies | None | 1799 | Chlorine | Yes | None reported | Low |
| 52 | Pick Kwik #42<br>3401 US 19 N<br>Clearwater, FL 33515 | Motor vehicle service station | 528515483 | 5541 | Solvents, acidic or alkaline waste, batteries, used oil, gasoline. | Yes | Petroleum contamination in soil and groundwater reported to DER on 5-13-86. Recovery underway. EDI #520367. | Medium |

TABLE 3-10

POTENTIAL HAZARDOUS WASTE SITES
IN THE PROJECT VICINITY
(Continued)

| Site Number | Site Name & Address | Nature of Site | FDER I.D. Number | S.I.C. Code | Potential Hazardous Materials | Storage Tanks | Regulatory Enforcement/ Contamination | Potential for Hazardous Materials Impacts |
|---|---|---|---|---|---|---|---|---|
| 53 | Exxon #0336<br>3498 US 19 N<br>Clearwater, FL 33519 | Motor vehicle service station | 528732266 | 5541 | Solvents, acidic or alkaline waste, batteries, used oil, gasoline. | Yes | None reported | Low |
| 54 | Texaco #203-082<br>1199 US 19 S<br>Palm Harbor, FL 33563 | Motor vehicle service station | 528623853 | 5541 | Solvents, acidic or alkaline waste, batteries, used oil, gasoline. | Yes | Contamination in soil and groundwater reported to DER on 10-29-87. Not recovered. EDI #522004 | Medium |
| 55 | Mobil #02-627<br>3502 US 19 N<br>Palm Harbor, FL 33563 | Motor vehicle service station | 528515425 | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Low |
| 56 | Palm Harbor Homes<br>3575 US 19 N<br>Palm Harbor, FL 33563 | Mobile home manufacturing | 528624692 | 2451 | Paint wastes, solvents, ignitable wastes, gasoline. | Yes | None reported | Low |
| 57 | Pinch-a-Penny Pool Supplies<br>5100 US 19 N<br>Palm Harbor, FL 33563 | Swimming pool supplies | None | 1799 | Chlorine | Yes | None reported | Low |
| 58 | Shell<br>5190 US 19 N<br>Palm Harbor, FL 33563 | Motor vehicle service station | 528623618 | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Low |
| 59 | Tire Kingdom<br>101 US 19 N<br>Palm Harbor, FL 33563 | Former motor vehicle service station | None | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | yes | None reported | Medium |
| 60 | Mobil #02-A84<br>NE corner of US 19/SR 584 | Motor vehicle service station | 528623356 | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Low |

TABLE 3-10

POTENTIAL HAZARDOUS WASTE SITES
IN THE PROJECT VICINITY
(Continued)

| Site Number | Site Name & Address | Nature of Site | FDER I.D. Number | S.I.C. Code | Potential Hazardous Materials | Storage Tanks | Regulatory Enforcement/ Contamination | Potential for Hazardous Materials Impacts |
|---|---|---|---|---|---|---|---|---|
| 61 | Amoco<br>581 US 19 N<br>Palm Harbor, FL 33563 | Motor vehicle service station | None | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Medium |
| 62 | Johnson Motors<br>East side of US 19,<br>3/4 miles north of SR 584<br>Palm Harbor, FL | Former motor vehicle service station | None | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Medium |
| 63 | Texaco #203-1404<br>2270 US 19 N<br>Palm Harbor, FL 33563 | Motor vehicle service station | 528623813 | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | Contamination reported to DER on 8-21-87. Not recovered. EDI #522043. | Medium |
| 64 | Farm Store #484<br>3575 US 19 N<br>Palm Harbor, FL 33563 | Motor vehicle service station | 528623483 | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Low |
| 65 | Pick Kwik #126<br>3800 US 19 N<br>Palm, Harbor, FL 33563 | Motor vehicle service station | 528623411 | 5411 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | Petroleum contamination in soil reported to DER on 8-4-86. Not recovered. EDI #521148. | Medium |
| 66 | Pinellas Marine Center<br>3810 US 19 N<br>Palm Harbor, FL 33563 | Boat sales and service facility | 528515487 | 5551 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Low |
| 67 | KOA Campground<br>3906 US 19 N<br>Palm Harbor, FL 33563 | Recreational campground facility | None | None | Liquified petroleum | Yes | None reported | Low |
| 68 | Danny's Car Wash<br>1994 US 19 S<br>Tarpon Springs, FL 34689 | Motor vehicle service station, car wash | 528624562 | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | Petroleum contamination in groundwater reported to DER on 8-15-87. Not recovered. EDI #521608. | Medium |

TABLE 3-10

POTENTIAL HAZARDOUS WASTE SITES
IN THE PROJECT VICINITY
(Continued)

| Site Number | Site Name & Address | Nature of Site | FDER I.D. Number | S.I.C. Code | Potential Hazardous Materials | Storage Tanks | Regulatory Enforcement/ Contamination | Potential for Hazardous Materials Impacts |
|---|---|---|---|---|---|---|---|---|
| 69 | Co-op #4 - Phillips 66<br>1880 US 19 S<br>Tarpon Springs, FL 33589 | Motor vehicle service station | 528623401 | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Low |
| 70 | Haney's Sawmill & Fencing<br>1680 US 19 S<br>Tarpon Springs, FL 33589 | Former motor vehicle service station | None | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Medium |
| 71 | Gianna, Inc. - Spur<br>1460 US 19 S<br>Tarpon Springs, FL 34689 | Motor vehicle service station | 528631217 | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Low |
| 72 | Days Inn<br>816 US 19 S<br>Tarpon Springs, FL 34689 | Motor vehicle service station | 528624522 | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Low |
| 73 | Jerry's Oil Co. - Bay Gas<br>905 US 19 S<br>Tarpon Springs, FL 34689 | Motor vehicle service station | 528732810 | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Low |
| 74 | Texaco #203-212<br>550 US 19 S<br>Tarpon Springs, FL 33589 | Former motor vehicle service station | 528623814 | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | No | None reported | Low |
| 75 | Mobil<br>1000 E Tarpon Avenue<br>Tarpon Springs, FL 33589 | Motor vehicle service station | None | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Medium |
| 76 | Shell<br>1001 E Tarpon Avenue<br>Tarpon Springs, FL 33589 | Motor vehicle service station | 528623573 | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Low |

TABLE 3-10

POTENTIAL HAZARDOUS WASTE SITES
IN THE PROJECT VICINITY
(Continued)

| Site Number | Site Name & Address | Nature of Site | FDER I.D. Number | S.I.C. Code | Potential Hazardous Materials | Storage Tanks | Regulatory Enforcement/ Contamination | Potential for Hazardous Materials Impacts |
|---|---|---|---|---|---|---|---|---|
| 77 | Florida Power Corp.<br>101 Cemetery Road<br>Tarpon Springs, FL 33589 | Electrical substation equipment maintenance and storage | None | 4911 | Wash and rinse solutions, sludges, paint wastes, solvents, still bottoms from distillation of solvents, acidic or alkaline wastes, ignitable wastes, used oil, PCBs. | No | None reported | Medium |
| 78 | Sunshine Pool Supplies<br>801-A US 19 N<br>Tarpon Springs, FL 33589 | Swimming pool supplies | None | 1799 | Chlorine | Yes | None reported | Low |
| 79 | Tarpon Glen Mobile Home Park<br>750 US 19 N<br>Tarpon Springs, FL 33589 | Mobile home park, private wastewater treatment plant | 4052P00105 | 4952 | Wastewater treatment sludges. | Yes | None reported | Medium |
| 80 | Metal Industries<br>955 Live Oak<br>Tarpon Springs, FL 33589 | Metal products manufacturing | None | 3449 | Wastewater treatment sludges, solvents, still bottoms from distillation of solvents, cyanide wastes, acidic or alkaline wastes, plating wastes, used oil. | Yes | None reported | Medium |
| 81 | D'Andrea Electric<br>1024 US 19 N<br>Holiday, FL 33590 | Electrical contractor | 528623872 | 1799 | Paint wastes, solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Low |
| 82 | Tenneco #161<br>1217 US 19 N<br>Holiday, FL 33590 | Motor vehicle service station | 518630295 | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Low |

TABLE 3-10

POTENTIAL HAZARDOUS WASTE SITES
IN THE PROJECT VICINITY

| Site Number | Site Name & Address | Nature of Site | FDER I.D. Number | S.I.C. Code | Potential Hazardous Materials | Storage Tanks | Regulatory Enforcement/ Contamination | Potential for Hazardous Materials Impacts |
|---|---|---|---|---|---|---|---|---|
| 83 | Pilot #254<br>1324 US 19 N<br>Holiday, FL 33590 | Motor vehicle service station | 518520047 | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | Petroleum contamination in soil and groundwater reported to DER on 9-21-87. Not recovered. EDI #511995. | Medium |
| 84 | Wickes Lumber Yard<br>1405 US 19 N<br>Holiday, FL 33590 | Former lumber yard, gasoline pumps | None | 5251 | Pesticide wastes, paint wastes, ignitable wastes, used oil, gasoline. | Yes | None reported | Medium |
| 85 | Chevron #48141<br>1533 US 19 N<br>Holiday, FL 33590 | Motor vehicle service station | 518519766 | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Low |
| 86 | Tire Kingdom<br>1633 US 19 N<br>Holiday, FL 33590 | Former motor vehicle service station, now repair facility and tire sales | 518731917 | 5541 | Solvents, acidic or alkaline wastes, batteries, used oil, gasoline. | Yes | None reported | Low |



Definitions of Ratings:

No: After review of all available information, there is nothing to indicate hazardous material would be a problem. It is possible that hazardous material could have been handled on the parcel; however, all information (DER reports, monitoring wells, water and soil samples, etc.) indicate problems should not be expected.

Low: The operation has a hazardous waste generator ID number, or deals with hazardous materials; however, based on all available information, there is not reason to believe there would be any involvement with hazardous materials.

Medium: After a review of all available information, indications are found (reports, Notice of Violation, consent order, etc.) that identify known soil and/or water contamination and that the problem does not need remediation, is being remediated (i.e., air stripping or the ground water, etc.), or that continued monitoring is required.

High: After a review of all available information, there is a potential for hazardous material problems on the parcel. Further assessment will be required after alignment selection and determine the actual presence and/or levels of hazardous materials and the need for remedial action.

service stations. These service stations contain underground tanks for the storage of gasoline, diesel fuel and lubricating oil. In addition, eight motor vehicle maintenance facilities and four automobile dealerships which contain underground fuel storage tanks have been identified.

Other sites containing storage tanks include five swimming pool service and supply companies. (Site Nos. 2, 7, 51, 57, and 58) which store chlorine in aboveground tanks; and two business, A.B.A. Industries (Site No. 5) and Metal Industries (Site No. 80), which have both aboveground and underground tanks of unknown contents.

Three current or former dump sites were located within the project corridor. A large storage area located near 118th Avenue and operated by Layman's Used Merchandise (Site No. 8) contains a variety of discarded construction and building debris, household appliances and plumbing materials; a vacant lot north of Haines Bayshore (Site No. 10) also contains various construction debris; and an unauthorized dump site located south of S.R. 588 (Site No. 36) contains scattered piles of roadway asphalt and other similar waste materials. There were no hazardous wastes observed at these three sites, but past dumping practices are undocumented.

The only licensed waste disposal site in the vicinity of the project corridor is the City of Clearwater Solid Waste Transfer Station (Site No. 30) located

on Old Coachman Road, several hundred feet from the corridor. This site is supervised so as to prohibit the disposal of hazardous materials.

One wastewater treatment facility is located within the project corridor. Wastewater treatment facilities are normally not regarded as hazardous waste sites; however, potentially hazardous substances are processed at these facilities and therefore the location of this site is recorded in this inventory. The Tarpon Glen Mobile Home Park (Site No. 79), adjacent to US 19 in Tarpon Springs, contains a small treatment plant and three associated percolation ponds.

At the Florida Power Corporation Tarpon Springs Engineering and Operations Center (Site No. 77), located north of Tarpon Avenue, large amounts of electrical equipment is stored next to the existing US 19 right-of-way. This equipment, including transformers and substations, could contain hazardous materials.

Based on current National and State Site Priority Lists, there are now approximately 40 hazardous waste sites throughout Florida that have been selected for cleanup under Superfund. However, EPA and DER records show that there are no such federal or state high priority sites located in the vicinity of the US 19 project corridor.

The disruption of hazardous waste sites can have a detrimental effect on the environment and can thereby impede roadways construction. However, these impacts and delays can be minimized or avoided when the sites are identified and investigated prior to roadway construction and site disturbance. The involvement of potential hazardous waste sites associated with the proposed improvements to US 19 are discussed in Section 4.14 along with recommended mitigation measures.

## REFERENCES


[1] Pasco County, Pasco County Comprehensive Plan, February 2, 1982. Page 19.

[2] West Pasco County Area Transportation Study, 1995 Transportation Plan, December, 1984, pp 1-2.

[3] Water Resources Atlas of Florida edited by Edward A. Fernald and Donald J. Patton, Florida State University, 1984.

[4] Location Hydraulic Report; US 19 project Development and Environmental Studies, Pinellas and Pasco Counties, Florida (State project Number 15150-1565), prepared for the Floria Department of Transportation, prepared by Greiner Engineering Sciences, Inc. August 1987.

[5] Pritchard, P. ed. 1978, Rare and Endangered Biota of Florida, Volume I-6, U.S. Fish and Wildlife Service, 1986. PART 50 CFR Section 17.94-96.

[6] Hazardous Waste Site Inventory Report; US 19 Project Development and Environmental Studies, Pinellas and Pasco Counties, Florida (State Project Number 15150-1565), prepared for the Florida Department of Transportation, prepared by Greiner Engineering Sciences, Inc. June, 1987.

# SECTION 4

# 4.0 ENVIRONMENTAL CONSEQUENCES

This section of the document discusses the impacts of the preferred action upon the human environment.

## 4.1 SOCIOECONOMIC IMPACTS

This section describes the potential impacts of constructing the proposed improvements to US 19 in terms of community disruption, relocation, and economic losses and gains.

### 4.1.1 COMMUNITY SERVICES

Service areas and routes of public agencies and private firms providing such services as fire protection, public education, emergency medical care and solid waste removal were incorporated into the evaluation of alternatives. The agencies and firms were requested by letter in August 1986 to evaluate the limited access concept and interchange location recommended during the public information workshop study phase. A list of local government agencies and firms which provide these community services by type of service and the person to contact is found in Appendix D, Section 3. Evaluation of the proposed improvements/effects upon community service indicates no negative impact, and with increased capacity and LOS, vehicles using US 19 will derive benefits.

## Recreation/Park land Resources

The proposed project shall not require the acquisition or alteration of any public recreation, park land or historic resources. Existing and proposed land use including recreation areas are shown on Exhibits 3.7 through 3.15.

Access to Carpenter Field, and Cliff Stephens and Moccasin Lake Parks is via Drew Street. An interchange has been provided at Drew Street, so access to these three parks remains unchanged. These three parks are located at the overpass of the CSX Railroad and Alligator Creek. The profile of U.S. 19 in this area will not change significantly, so there are no visual changes.

Freedom Park is located at the intersection of U.S. 19 and 49th Street. The future U.S. 19 roadway will not significantly alter the existing profile at 49th Street and U.S. 19. There is no access or visual changes.

Anderson Park is located on U.S. 19 between the proposed overpass at Meers Avenue and the proposed interchange at Klosterman Road. Access to the park will be via the northbound frontage road at two locations. Ramps at the interchange provide easy access to the park. The Meers Avenue overpass grade changes occur north of the park boundaries, so there are no visual impacts at this location. There is a slight grade change of approximately 3′ at the

extreme south end of the park near one of the park entrances and parking lot. This minimal grade change at this location has no negative impact on the park.

An analysis conducted to evaluate the effects of the project on noise levels determined that the project will increase noise levels during busy periods by approximately 4 dBA over those levels which would be experienced without the project. An increase of 4 dBA is generally not considered to be substantial. Noise levels exceeding FHWA Noise Abatement Criteria for outdoor noise levels of 67 dBA is expected to be exceeded at those portions of the parks which are closest to the roadway. However, no areas of significant human activity (eg., picnic shelters, playgrounds) were determined to receive noise levels exceeding 67 dBA. The feasibility of various noise mitigation measures were evaluated and are discussed in section 4.3.

### 4.1.2 COMMUNITY COHESION

Community Access

Roadway improvements will result in change in access to abutting land uses from that presently available. In order to provide for improved traffic flow and maintain effective access to businesses establishments and employment centers, certain features have been incorporated into the proposed action.

These include: development of two-lane frontage roads which provide access to abutting properties; high design cross corridor access through the establishment of interchanges or bridge structures, and the development of free U-turn capacity at major cross streets.

For commercial businesses dealing predominantly with local activities, the proposed action should result in improved retail services and sales. This would result from local recognition of access, improved roadway capacity, and improved safety conditions. These same factors would also benefit employees working along the corridor, especially during peak hour trips to work.

The conversion of US 19 to a controlled access facility will increase accessibility to the fronting commercial properties by decreasing the travel time required for medium to longer range (regional) shopping and employment trips. This increased accessibility should positively influence property values.

There are, however, certain unavoidable short term social and economic impacts associated with the preferred alternative. Traffic delays would likely be more pronounced than normal due to the dominant role US 19 plays in Pinellas County's transportation network.

## Social Groups

No minority groups, neighborhoods or cohesive ethnic communities would be impacted adversely by the project. US 19 is currently a 4- and 6- lane highway serving as an edge or boundary between local communities, subdivisions and residential developments. The proposed improvements should not result in any long term adverse social or economic impacts as the proposed project is in compliance with all adopted and recognized plans.

There are no churches abutting US 19.

This project has been developed in accordance with the Civil Rights Act of 1964, as amended by the Civil Rights Act of 1968.

## Community Cohesion and Safety

A discussion of existing accident conditions safety ratios was presented in Section 1 of this report. This information indicated that accidents at US 19 intersections declined between 1980 and 1984, with only one of the intersections was below the critical ratio of 1. The accidents resulted in an economic loss of over $2,000,000 for the 5-year period.

With the No-Project Alternative and increasing traffic volumes, an even

greater decline in safety can be anticipated. Construction of US 19 as a limited access expressway will decrease accidents and increase safety of drivers along the roadway.

### 4.1.3 LAND USE IMPACTS

A detailed discussion and maps of existing and future land use, as well as county growth patterns and Developments of Regional Impact, are found in Section 3 of this report.

US 19 is the transportation spine of Pinellas and Pasco Counties. It crosses all other major arterials within the study area. Land uses along US 19 within the past 10 years have been intensified and increased significantly. US 19 contains Pinellas County's two regional shopping malls and numerous strip malls, as well as major office and service employment. Previously vacant agricultural or undeveloped land now contains major employment centers, fast food restaurants and car dealerships. Exhibits 3.7 through 3.10 present existing land use, and Exhibits 3.11 through 3.15 show proposed land use. The current development pattern is expected to continue and extend beyond its present limits to both north and south.

Selection of the No-Project Alternative would result in no short-term

disruption of business or travel patterns. However, continued increases in traffic congestion throughout this corridor would result in long-term adverse impacts for the local community and businesses and would not fulfill the established goals and objectives of the community. Failure to relieve the severe traffic congestion along US 19 will likely result in a restriction of on-going business activities and be a detriment to the future economic viability of the corridor and the county.

The proposed improvements to US 19 will be beneficial to abutting properties and have positive secondary land use impacts. The upgrading of US 19 to a freeway with one way frontage roads and frequent U-turn movements will insure major office and retail centers will continue to remain viable, and will encourage the redevelopment of more marginal land uses. The increased level of service resulting from the proposed improvements is expected to continue the trend of locating major employment centers on or near US 19. It will also increase the accessibility of major regional retain centers on US 19 for all the residents of Pinellas and Pasco Counties. The increased accessibility can be expected to provide increased employment opportunities and increased retail sales thereby increasing tax revenues.

The proposed improvements to US 19 are consistent with the Comprehensive Land Use Plan, Pinellas County, the Year 2010 Long Range Highway Plan, and the US

19 Ultimate Design Concepts. The proposed action is also consistent with the land use and transportation elements of the Pasco County Comprehensive Plan.

The proposed action will accomplish the goals and objectives of the community. This support has been demonstrated by the communities along the corridor and the Pinellas County Metropolitan Planning Organization's resolutions endorsing the proposed action.

### 4.1.4 UTILITY AND RAILROAD IMPACTS

The existing US 19 right-of-way includes a large network of water, power, telecommunications, oil, and gas facilities. Exhibits 3.3 through 3.6 indicate the utility locations. Section 3.3 of this document discusses the type and location of these utilities as well as their service areas.

There is one major power substation and one major transmission line within the corridor. The Florida Power Corporation has a substation near the corridor at Tarpon Avenue. However, the proposed US 19 improvements do not impact this substation. The improvements do, however, require the relocation of two "H" mounted transmission lines and towers located between the CSX railroad and the Anclote River.

The design phase of the project will determine the precise limits of utility relocation required. It is anticipated that most utilities within the corridor will require some relocation as part of the proposed project.

Major utility relocation costs are included in the cost estimate on Exhibit 2.18 this document. The estimated utility relocation cost for the entire study area is $116,670,000 in 1987 dollars. Utility coordination provided by the Florida Department of Transportation with local utilities has indicated that the issue of utility impacts are essentially ubiquitous for any build alternative. That is, the relative impacts are the same order of magnitude for all build alternatives and should not play a major role in the selection of one alternative design over another.

The proposed project will have no impact on railroads. US 19 crosses the tracks owned by CSX Transportation Railroads at two locations. North of Drew Street, US 19 currently passes over tracks on a structure. This structure is not changed in the proposed action. US 19 also crosses the railroad south of the Anclote River. The proposed action includes an overpass with at-grade frontage roads at this location.

## 4.1.5 RELOCATION IMPACTS

The Florida Department of Transportation conducted and produced a Conceptual Stage Relocation Plan in June 1987. It serves as the basis for the information which follows on displacements resulting for the construction alternatives. First, an overview of the relocations which result from the proposed alternative is presented, followed by a detailed analysis for all construction alternatives within all four design segments. Subsequent to the discussion of the quantity of impacts, a summary of community-wide impacts and of the Federal Aid Acquisition Relocation Assistance Program is provided.

### Relocation Overview of the Proposed Alternative

This relocation overview will offer a clear picture of the relocation activity and cost generated by the proposed alternative.

The main categories of displacements are residential owner-occupants, residential tenant-occupants, businesses as rental of real property, other businesses and non-profit organizations. Rental of real property is defined as any landlord or property owner renting or leasing part or all of a residential or commercial property and deriving income from said rental. Non-profit organizations include churches, civic groups, social clubs and certain

other establishments.

Anticipated displacements on the proposed alternative are: 16 residential relocations; 9 business rentals, and 17 business owners. It should be noted that neither non-profit organizations, handicapped persons, nor minority families will be displaced. The estimated cost of relocation of the proposed alternative is approximately $1,500,000.00 including, on-premise advertising signs and other personal property moves.

Replacement sites are available to accommodate the successful and timely relocation of the residential occupants within the respective Pinellas County areas. This would not preclude the possibility that relocation could occur outside the respective neighborhood study area. The resources available are more than adequate to accommodate all displacements.

During the Relocation Plan analysis, stage data was collected and analyzed to determine the resource needs of each potential displacee. An inventory of displacee needs was compiled to determine the type and quantity of housing that would be necessary to accomplish a successful relocation of all displacees. At that time, the market was searched for the availability of sufficient resources to accomplish this purpose. More than sufficient resources are available to accommodate the small number of residential displacements.

A partial list of what is available at this time is enough to show that resource availability is more than ample. No condominium resources were sought since none were being displaced; however, condominium sales are plentiful in the Pinellas County area. As mentioned elsewhere in this report, there are numerous vacant single and multi-family homesites available in the Pinellas County area.

Other new subdivisions are being developed within each segment study area of the project. New construction in established subdivisions is also under way in local municipalities surrounding each segment. As a result, the residential displacees will be able to relocate within the immediate area.

The displaced businesses were also researched to establish their replacement site needs. No unusual circumstances were observed which would prevent the relocation of any of these businesses.

There are vacant commercial sites to which many businesses can relocate to, that are available along US 19 and in the Pinellas County area. In addition, several industrial parks have been developed in each study area segment with space available.

Many existing commercial buildings for both purchase and rent are available which can be used for a wide variety for uses. Along US 19, large shopping centers and numerous shopping marts/strips are being developed which would aid in the relocation of retail/service stores, specialty and/or sandwich shops. Also, an abundant supply of income property exists, especially for multi-family. It is believed that all displaced businesses and non-profit organizations should be able to relocate within the respect segment areas, if they so desire.

Segment A Relocations

Based upon the construction alternatives for Design Segment A, an evaluation of potential right-of-way requirements was undertaken. The results of field reviews were tabulated for each alternative and are summarized here.

Table 4.1 provides estimates of the number of relocations for each alternative, by specific category. The categories of relocations utilized in this study are:

* Business Relocations
* Residential Relocations
* Non-Profit Organization Relocations
* Other Relocations

TABLE 4.1

RELOCATION ESTIMATES
DESIGN SEGMENT A

**Segment A**

| Design Alternatives | Business Relocation | Residential Relocation | Non-Profit Organization Relocation | Other Relocation[1] | Total Relocation |
|---|---|---|---|---|---|
| Alternative A1 | 2 | 1 | 0 | 20 | 25 |
| Alternative A1-A | 3 | 3 | 0 | 7 | 13 |
| Alternative A2 | 8 | 2 | 0 | 14 | 24 |
| Alternative A3 | 9 | 2 | 0 | 13 | 24 |

[1]Predominately signs and appurtenances

Table 4.1 shows that the largest number of relocations are associated with the "Other" category. The "Other" category represents personal property takings and signs. Sign relocations represent the vast majority of the total number of relocations.

Segment B Relocations

Based upon the construction alternatives developed for Design Segment B, an evaluation of potential right-of-way requirements was undertaken. The results of these field reviews were tabulated for each alternative and are summarized here.

Table 4.2 provides estimates of the number of relocations for each alternative, by specific category. The categories of relocations utilized in this study are:

* Business Relocations
* Residential Relocations
* Non-profit Organization Relocations
* Other Relocations

TABLE 4.2

RELOCATION ESTIMATES
DESIGN SEGMENT B

Segment B

| Design Alternatives | Business Relocation | Residential Relocation | Non-Profit Organization Relocation | Other Relocation[1] | Total Relocation |
|---|---|---|---|---|---|
| Alternative B1 | 5 | 26 | 0 | 271 | 302 |
| Alternative B2 | 5 | 26 | 0 | 268 | 299 |
| Alternative B3 | 5 | 26 | 0 | 270 | 301 |
| Alternative B4 | 9 | 9 | 0 | 278 | 296 |
| Alternative B5 | 9 | 9 | 0 | 309 | 327 |
| Alternative B6 | 9 | 29 | 0 | 299 | 337 |
| Alternative B7 | 1 | 28 | 0 | 290 | 319 |
| Alternative B8 | 9 | 11 | 0 | 325 | 345 |
| Alternative B8-C | 9 | 11 | 0 | 325 | 345 |
| Alternative B8-D | 15 | 8 | 0 | 230 | 253 |

[1]Predominately signs and appurtenances

Table 4.2 shows that the largest number of relocations are associated with the "Other" category. The "Other" category represents personal property takings and signs. Sign relocations represent the vast majority of the total number of relocations.

Segment C Relocations

Based upon the construction alternatives developed for Design Segment C, an evaluation of potential right-of-way requirements was undertaken. The results of these field reviews were tabulated for each alternative and are summarized here.

Table 4.3 provides estimates of the number of relocations for each alternative, by specific category. The categories of relocations utilized in this study are:

* Business Relocations
* Residential Relocations
* Non-Profit Organization Relocations
* Other Relocations

Table 4.3 shows that the largest number of relocations are associated with the "Other" category. The "Other" category represents personal property takings and signs. Sign relocations represent the vast majority of the total number of relocations.

TABLE 4.3

RELOCATION ESTIMATES
DESIGN SEGMENT C

**Segment C**

| Design Alternatives | Business Relocation | Residential Relocation | Non-Profit Organization Relocation | Other Relocation[1] | Total Relocation |
|---|---|---|---|---|---|
| Alternative C1 | 16 | 5 | 0 | 218 | 239 |
| Alternative C2 | 16 | 5 | 0 | 218 | 239 |
| Alternative C2-A | 6 | 5 | 0 | 203 | 214 |
| Alternative C3 | 16 | 8 | 0 | 287 | 311 |
| Alternative C4 | 16 | 5 | 0 | 205 | 226 |
| Alternative C5 | 16 | 5 | 0 | 200 | 221 |

[1]Predominately signs and appurtenances

## Segment D Relocation

Based upon the construction alternatives developed for Design Segment D, an evaluation of potential right-of-way requirements was undertaken. The results of these field reviews were tabulated for each alternative and are summarized here.

Table 4.4 provides estimates of the number of relocations for each alternative, by specific category. The categories of relocations utilized in this study are:

* Business Relocations
* Residential Relocations
* Non-Profit Organization Relocations
* Other Relocations

Table 4.4 shows that the largest number of relocations are associated with the "Other" category. The "Other" category represents personal property takings and signs. Sign relocations represent the vast majority of the total number of relocations.

TABLE 4.4

RELOCATION ESTIMATES
DESIGN SEGMENT D

**Segment D**

| Design Alternatives | Business Relocation | Residential Relocation | Non-Profit Organization Relocation | Other Relocation[1] | Total Relocation |
|---|---|---|---|---|---|
| Alternative D1 | 0 | 0 | 0 | 64 | 64 |
| Alternative D2 | 0 | 0 | 0 | 61 | 61 |
| Alternative D2-B | 2 | 0 | 0 | 65 | 68 |
| Alternative D3 | 20 | 0 | 0 | 78 | 98 |
| Alternative D4 | 9 | 0 | 0 | 79 | 88 |

[1]Predominately signs and appurtenances

## Community Impacts of Relocations

In assessing the impact that this transportation project will have on the local communities, it was noted construction of this major project will have minimum disruption of neighborhood ties. Also, no major shopping centers, hospitals, schools, or other related establishments will be displaced, further minimizing disruption of the community.

The number of residential displacements that will occur on this project are 16 single family residences The disruption of these households on this alternative will have little or no impact on the residential communities. Competition for resources will be minimal because of the resource availability within the areas. The movement of these households away from the project area and into a new location will have little or no impact because of the small number of residential displacements generated by this project.

Displacement of the commercial establishments also will have little or no impact on the communities. Although there will be 85 displacees (including 9 business rental and 52 personal properties), it is less than the percent (8.6%) of the project's cumulative ongoing businesses (1,050). Actual displacements that will have to relocate to new buildings are 26 or 2.5% of total ongoing businesses. There are numerous resources available to accommodate these planned moves.

It is anticipated that replacement sites would be sought primarily along the US 19 corridor within each segment or adjacent to US 19 on one of several major cross roads. Due to resource availability and the nature of the businesses encountered, it is felt that all will relocate within the respective segment areas.

Neither minorities or handicapped persons are to be displaced by this project. No school age children were identified within this project. The major characteristics of the immediate project area is middle aged adults with displacement composed of middle aged adults. Displacement of these families will not be disruptive on the economic structure of the communities nor on the individuals involved.

In summary, implementation of transportation improvements is a dynamic process which seeks to either install new or increase the capacity of selected roadways to better enhance their ability to meet the forecasted increased traffic needs. As a result, traffic will flow with greater ease and safety, and accessibility will be greatly enhanced by the installation of this much needed facility. Thus, the benefits derived from this improvement offset any inconveniences caused by the displaced homes and businesses.

## Federal and Acquisition and Relocation Assistance Program

In order to minimize the unavoidable affects of right of way acquisitions and displacement of people, the Florida Department of Transportation will carry out a Right of Way Acquisition and Relocation Assistance Program in accordance with Florida Statutes, Chapter 339.09 (5). The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public Law 91-646) establishes guidelines by which these programs are administered.

The Department of Transportation provides advance notification of impending right of way acquisitions. Before acquiring right of way, all properties are appraised on the basis of comparable sales and land use values in the area. Owners of property to be acquired will be offered and paid fair market value for their property rights.

At least one relocation agent is assigned to each highway project to carry out the relocation assistance and payments program. A relocation agent will contact each person to be relocated to determine individual needs and desires, and to provide information, answer questions, and give help in finding replacement property. Relocation services and payments are provided without regard to race, color, religion, sex, or national origin.

Financial assistance is available to the eligible relocatee to:

1. reimburse the relocatee for the actual reasonable costs of moving from homes, businesses, and farm operations acquired for a highway project;

2. make up the difference, if any, between the amount paid for the acquired dwelling and the cost of a comparable decent, safe and sanitary dwelling available on the private market;

3. provide reimbursement of expenses such as legal fees and other eligible closing costs incurred in buying a replacement dwelling; and

4. make payment for eligible increased interest cost resulting from having to get another mortgage at a higher interest rate. Replacement housing payments, increased interest payments, and closing costs are limited to $15,000 combined total.

A displaced tenant may be eligible to receive a payment, not to exceed $4,000, to rent a replacement dwelling or room, or to use as down payment including closing costs on the purchase of a replacement dwelling. The brochures which describe in detail the Department's relocation assistance program, and right-

of-way acquisition program are "Your Relocation" and "Coming Your Way". Both of these brochures are distributed at all hearings and are made available upon request to any interested persons.

## 4.2 CULTURAL AND HISTORICAL RESOURCES

No sites listed, or are eligible for listing, in the National Register of Historic Places are located within the corridor. No sites of state or local significance are known to exist within the corridor. Appendix D contains a letter from the Florida Department of State, Division of Archives, History and Records Management, stating this information.

### 4.2.1 SECTION 4(f) STATEMENTS

No national, state or local park properties will be required for project development; therefore, there will be no usage of Section 4(f) lands. The lands of local parks which are adjacent to the roadway will not be affected by the project.

## 4.3 NATURAL AND PHYSICAL IMPACTS

### 4.3.1 PEDESTRIAN/BICYCLE FACILITIES

The proposed action for US 19 includes a service/frontage road design. This service road incorporates a continuous one-way, wide outside curb lane striped for bicycle use. This major regional bicycle travelway is included as a part of the "Preferred Action". This continuous bicycle route will form the "spine" of the Pinellas County bicycle route system (see Exhibit 3.2). Adequate crossroad travelways for bicycles have been provided at interchanges and overpasses. The provision of bicycle facilities as a part of the proposed action meets the objectives of the Pinellas County Metropolitan Planning Organization Comprehensive Bicycle Plan and the Pasco County Comprehensive Plan - Transportation Element.

### 4.3.2 VISUAL IMPACTS AND AESTHETICS

The construction of the proposed improvements to US 19 will have some visual impacts on the adjacent corridor. One of the problems inherent in designing a limited access roadway through a developed area involves providing sufficient right-of-way to comply with roadway design criteria and setback requirements, while disrupting established areas as little as possible. Further, integrating the freeway with proposed and existing street patterns necessarily

creates some areas where the roadway is at surface grade and others where it is elevated or depressed. This would require construction of retaining walls and other elements which under most circumstances tend to create visual barriers.

The visual impacts of the proposed action are similar throughout the corridor. Frontage roads are at-grade causing little visual or aesthetic impact, with the exception of Tampa Road and Alderman Road where the mainline crosses under cross streets. Since the proposed action utilizes the existing corridor, and does not introduce a new path through these areas, the highway will be designed to be integrated in the urban fabric of the community. When possible, the roadway will be constructed on low landscape fills. Elevated structures could include architectural detailing or landscape trimmings for some structure elements pending final design plans.

### 4.3.3 AIR QUALITY

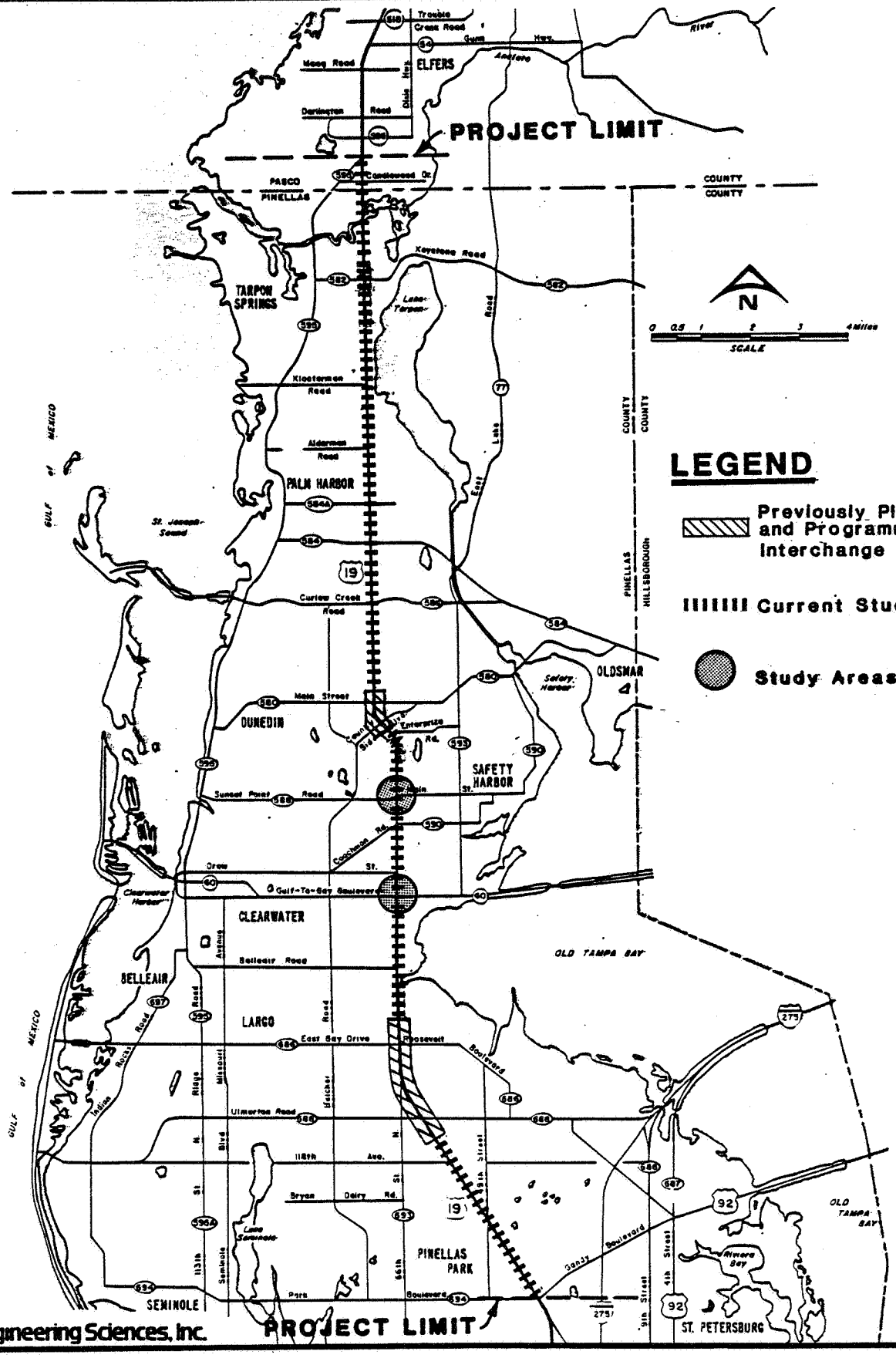
An impact assessment was conducted to evaluate the effect of the proposed improvements to US 19 on air quality. This assessment was documented in a separate Air Quality Report which is available (the Florida Department of Transportation) to those who require additional information. The assessment was conducted following the Florida Department of Transportation (FDOT) Air

Quality Guidelines (September 1986) [1] and includes a microscale dispersion analysis for carbon monoxide (CO).

## Microscale Analysis

The purpose of the microscale analysis was to determine if the proposed US 19 improvements would cause, or contribute to, an exceedance of the Ambient Air Quality Standard (AAQS) for carbon monoxide. CO concentrations were predicted in areas where the highest concentrations are expected to occur. These areas of high CO concentrations are characterized as having the heaviest traffic volumes and poorest overall operating conditions. Based on this criteria and information derived from the US 19 Design Alternatives Report [2], the intersections of US 19/Sunset Point Road and US 19/Gulf to Bay Boulevard (SR 60) were selected for the microscale dispersion analysis. These two intersections were also selected because they represent the two basic types of urban intersections planned for this project. Exhibit 4.1 shows the two locations of the air quality analysis.

Four receptors were chosen for each intersection; one in each quadrant. These receptors represent the closest areas of reasonable population exposure over a one- or eight-hour time interval. In this way, predicted CO concentrations can be compared with the AAQS, which are also based on one- and eight-hour time intervals.




Greiner Engineering Sciences, Inc.

# U.S. 19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES

Pinellas and Pasco Counties, Florida

STATE PROJECT NO. 15150-1565

## CARBON MONOXIDE DISPERSION ANALYSIS STUDY AREAS

Florida Department of Transportation

EXHIBIT 4.1

CO concentrations were predicted using the emissions model MOBILE3 and line source model CALINE3[3,4]. The analysis was designed to simulate potential worst-case meteorological and traffic conditions. Traffic and other transportation-related information necessary for this analysis was obtained from data provided in Section 2 and the US 19 Design Alternatives Report.

The results of the microscale analysis are presented in Tables 4.5. and 4.6. Shown are one and eight-hour CO values, expressed in parts per million (ppm), with and without the planned improvements.

The analysis indicates that, under simulated worst-case traffic and meteorological conditions, the planned improvements to US 19 will not cause, nor contribute to, an exceedance of the one- and eight-hour air quality standards for CO at the selected receptors.

The highest predicted opening year (1995) one and eight-hour concentrations at US 19/Sunset Point Road are 6 and 3 ppm, respectively, well within the standards of 35.0 and 9.0 ppm. Similarly, the highest predicted opening year (1995), one and eight-hour concentrations at US 19/Gulf to Bay Boulevard are 6 and 3 ppm, respectively, also below the standards.

TABLE 4.5

PREDICTED 1995 WORST-CASE CARBON MONOXIDE CONCENTRATIONS[a]

| Location | Receptor | One-Hour CO, ppm (AAQS = 35.0 ppm) With Project | One-Hour CO, ppm (AAQS = 35.0 ppm) Without Project | Eight-Hour CO, ppm (AAQS = 9.0 ppm) With Project | Eight-Hour CO, ppm (AAQS = 9.0 ppm) Without Project |
|---|---|---|---|---|---|
| US 19 & | 1 | 6 | 8 | 3 | 4 |
| Sunset Point Rd | 2 | 5 | 8 | 3 | 4 |
| | 3 | 6 | 7 | 3 | 4 |
| | 4 | 5 | 7 | 3 | 4 |
| US 19 & | 1 | 6 | 8 | 3 | 4 |
| Gulf-to-Bay Blvd | 2 | 5 | 6 | 3 | 4 |
| | 3 | 5 | 7 | 3 | 4 |
| | 4 | 6 | 8 | 3 | 4 |

[a]Includes background CO concentrations.

AAQS = Ambient Air Quality Standard

ppm = parts per million

TABLE 4.6

PREDICTED 2010 WORST-CASE CARBON MONOXIDE CONCENTRATIONS[a]

| Location | Receptor | One-Hour CO, ppm (AAQS = 35.0 ppm) With Project | One-Hour CO, ppm (AAQS = 35.0 ppm) Without Project | Eight-Hour CO, ppm (AAQS = 9.0 ppm) With Project | Eight-Hour CO, ppm (AAQS = 9.0 ppm) Without Project |
|---|---|---|---|---|---|
| US 19 & | 1 | 7 | 10 | 4 | 5 |
| Sunset Point Rd | 2 | 7 | 10 | 4 | 5 |
| | 3 | 7 | 9 | 4 | 5 |
| | 4 | 7 | 9 | 4 | 5 |
| US 19 & | 1 | 8 | 11 | 4 | 5 |
| Gulf-to-Bay Blvd | 2 | 6 | 8 | 3 | 4 |
| | 3 | 7 | 9 | 4 | 5 |
| | 4 | 8 | 11 | 4 | 5 |

[a]Includes background CO concentrations.

AAQS = Ambient Air Quality Standard

ppm = parts per million

The highest predicted design year (2010) one and eight-hour concentrations at US 19/Sunset Point Road are 7 and 4 ppm, respectively. Similarly, the highest predicted design year (2010) one and eight-hour concentrations at US 19/Gulf to Bay Boulevard are 8 and 4 respectively, also below the standards.

The data indicates that the highest predicted CO levels with the planned improvements are also below the CO standards. However, findings clearly show that CO levels will be reduced as a result of the planned improvements. These improvements reduce CO concentrations by increasing roadway capacity and reducing periods of excess queuing, congestion and delays.

Summary

Based on the results of the microscale dispersion analyses conducted under simulated worst-case conditions, the planned improvements to US 19 will not cause, nor contribute to, an exceedance of the one- and eight-hour air quality standards for CO. Furthermore, upon comparison with the results derived from the simulated conditions without the project, the findings show a reduction in CO concentrations with the improvements.

Local and state agencies were provided with an opportunity to comment on this project. There were no adverse comments received regarding air quality.

This project is in an area where the State Implementation Plan does not contain any transportation control measures. Therefore, the conformity procedures of 23 CFR 770 do not apply to this project. This project is in conformance with the State Implementation Plan because it will not cause violations of air quality standards and will not interfere with any transportation control measures.

Air pollution may be temporarily increased during construction. Potential construction air quality impacts and mitigation measures are contained in Section 4.3.16 of this report.

### 4.3.4 NOISE

An analysis was conducted to determine the potential impacts of the proposed roadway improvements and the feasibility of noise abatement measures. A more detailed discussion is contained in a separate US 19 Noise Report [5] which is available to those who require additional information.

#### Noise Sensitive Areas

As discussed in the Affected Environment Section, the US 19 corridor is heavily developed with a variety of land uses. Although, the predominant land

uses are commercially oriented, noise sensitive land uses are scattered throughout the project corridor. These include single family homes, rental apartments, condominiums, mobile home parks, motels, park and recreational areas, day care, medical, and nursing home facilities.

Future land use along the study corridor is expected to be primarily commercial in character. The Pinellas County Comprehensive Land Use Plan designates most of the corridor for future use as general commercial, residential/office/retail and light industrial land uses. Most vacant land areas and developable uplands would be expected to become commercial land uses. Some residential areas, especially those closest to the roadway and major interchanges, may become commercially oriented.

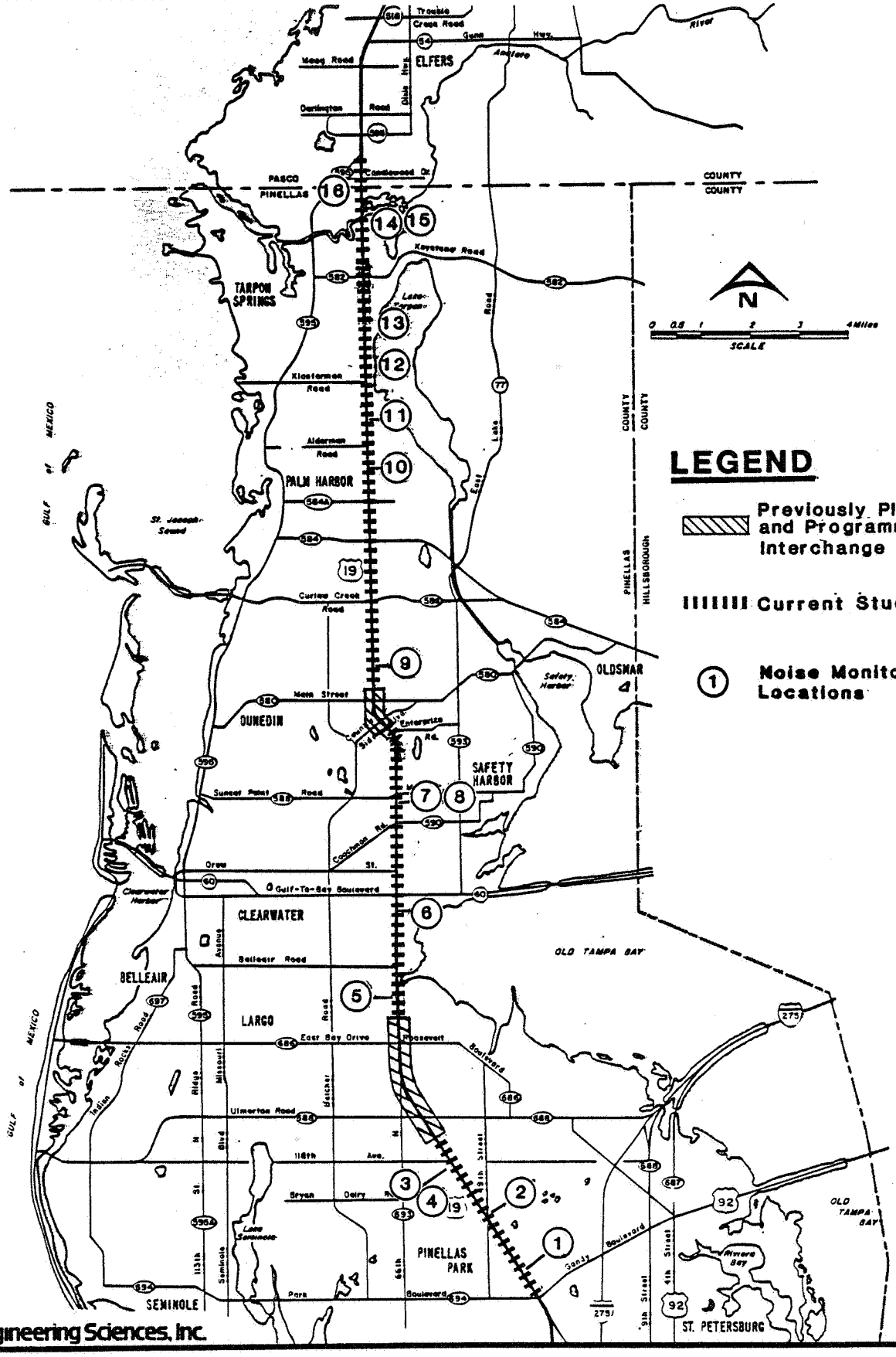
Traffic noise levels were evaluated by measuring noise levels at a series of representative locations and predicting worst case noise levels for typical sections of US 19 for Build and No Build scenarios.

Noise levels and traffic data were monitored at 16 representative locations along the US 19 study corridor in order to obtain information about existing noise levels, as well as to validate the results of the computer prediction model used in the worst case analysis. The measurement sites were selected to represent various combinations of traffic, land use and physical

characteristics along the roadway. The procedure for conducting the field monitoring was based on the methodology contained in the U.S. Department of Transportation reports Fundamentals and Abatement of Highway Traffic Noise [6] and Sound Procedures for Measuring Highway Noise [7]. It was determined from the noise monitoring that vehicular activity is the dominant noise source along the corridor.

The approved Federal Highway Administration computer model STAMINA-2.0 version 3 was utilized in the prediction. Results for selected receiver locations are expressed as the hourly equivalent noise level (Leq). The model was validated by comparing measured results with predicted results. All of the sites (Exhibit 4.2) show predicted levels which are within 3 dBA of the actual monitored levels. On this basis, the model is considered valid and reasonably accurate for the prediction of traffic noise levels for this analysis.

In order to estimate the effect of the proposed project on noise levels, an analysis was conducted using STAMINA for typical sections of U.S. 19 under No Build and Build alternatives at LOS C traffic for the design year 2010. LOS C is considered to represent worst case noise conditions because both vehicle activity and speed are at high levels. In most cases along the corridor, traffic volumes at LOS C are less than demand volume and are considered appropriate for noise analysis. Traffic characteristics and typical roadway




Greiner Engineering Sciences, Inc.

# U.S. 19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES

Pinellas and Pasco Counties, Florida

STATE PROJECT NO. 15150-1565

## NOISE MONITORING LOCATIONS

Florida Department of Transportation

EXHIBIT 4.2

configurations for the analysis were taken from the FDOT US 19 Traffic Report [8] the and Design Alternatives Report. For the No Build alternative, a typical six-lane section of the existing roadway was modeled. For the Build alternative, three scenarios were evaluated:

- Typical six-lane mainline section with two, two-lane one-way frontage roads;
- Typical eight-lane mainline section with two, two-lane one way frontage roads; and
- Typical six-lane US 19 six-lane crossroad interchange with associated frontage roads.

The Build and No Build traffic assumptions used in the noise prediction analysis are shown on Table 4.7.

Representative receivers were selected for the Build and No Build alternatives at seven in-line locations perpendicular to the roadway. The receivers were located from the right-of-way at distances of 0, 50, 100, 200, 400, 800 and 1,600 feet. In these analyses, the six-lane existing and proposed scenarios have a right-of-way of 200 feet, while the eight-lane proposed scenario has a right-of-way of 224 feet. The results are presented in Table 4.7.

TABLE 4.7

NOISE YEAR 2010 BUILD AND NO-BUILD WORST CASE TRAFFIC SCENARIOS

| | One Way Capacity | One Way Volume At LOS C | Speed At LOS C |
|---|---|---|---|
| NO BUILD CHARACTERISTICS | | | |
| 6 Lane Mainline | 2610 | 2090 | 55 |
| 6 Lane Crossroad | 2610 | 2090 | 30 |
| BUILD CHARACTERISTICS | | | |
| 6 Lane Mainline | 5700 | 4160 | 55 |
| 8 Lane Mainline | 7600 | 5700 | 55 |
| 2 Lane Frontage Road | 1800 | 1440 | 30 |
| 6 Lane Crossroad | 2610 | 2090 | 30 |

| DESIGN HOUR VEHICLE MIX | PERCENT OF TRAFFIC AT LOS C |
|---|---|
| Car | 97.5 |
| Light Truck | 0.7 |
| Heavy Truck | 1.8 |

Source: FDOT, U.S. 19 Design Alternatives Report, April 1986

## Traffic Noise Impacts

Noise exposure was determined by comparing the noise levels obtained from the prediction analysis with land use. Noise impacts were evaluated using the FHWA noise abatement criteria (Table 4.8) for interior and exterior sound levels with consideration of the substantial increased noise levels.

The proposed project is expected to increase the number of areas which receive noise levels in excess of FHWA noise abatement criteria; however, the relative increase in noise level is not determined to be substantial. Substantial increase in noise levels is generally determined to occur when the project results in increased noise levels of 10 to 15 dBA at noise sensitive areas. Table 4.9 shows that, generally, increases in noise levels of 3 to 5 dBA are expected along the corridor. One area is predicted to receive increased noise levels of 8 dBA. Consequently, the proposed project is not expected to substantially increase noise levels in noise sensitive areas.

The project is expected to result in an increase of the number of noise sensitive areas which are exposed to noise levels in excess of FHWA Noise Abatement criteria. The criteria designates five activity categories--A, B, C, D, and E--for level uses within certain noise levels. When these noise abatement criteria are approached or exceeded, noise abatement measures must be considered for projects with Federal involvement.

TABLE 4.8

FHWA NOISE ABATEMENT CRITERIA

Hourly A-Weighted Sound Level - decibels (dBA)

| Activity Category | Leq (h) | Description of Activity Category |
|---|---|---|
| A | 57 (Exterior) | Lands on which serenity and quiet are of extraordinary 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. |

Source: 23 CFR, Part 772; FWHA, 1982.

TABLE 4.9

PREDICTED LEQ NOISE LEVELS
(LOS C)

| Distance To Edge of Right of Way (Ft.) | EXISTING & YEAR 2010 NO BUILD ALTERNATIVE | YEAR 2010 BUILD ALTERNATIVE | |
|---|---|---|---|
| | 6 Lane Mainline | 6 Lane Mainline | 8 Lane Mainline |
| 0 | 72 | 77 | 77 |
| 50 | 69 | 73 | 74 |
| 100 | 67 | 71 | 72 |
| 200 | 64 | 68 | 69 |
| 400 | 61 | 64 | 65 |
| 800 | 57 | 60 | 61 |
| 1600 | 52 | 55 | 57 |

Noise levels are expected to exceed criteria for Activity Category B. Noise sensitive areas which are predicted to receive noise levels over FHWA criteria are described by project segment in Tables 4.10, 4.11, 4.12 and 4.13 and are located on Exhibit 4.3. The tables indicate the highest Leq predicted for the Build and No Build alternatives for those impacted areas is in excess of FHWA noise abatement criteria. A summary of the impacts within each segment and for the study area is found on Table 4.14.

Activity Category B land uses impacted (over 67 Leq exterior) by US 19 include residences, parks, recreation areas, a cemetery, a day care center, and private campgrounds. Mobile home parks are the most highly impacted category of noise sensitive areas along the corridor. This can be generally attributed to the proximity of the mobile home parks to the corridor and the relatively close spacing of the units. An increase from 96 units to 303 units exposed to hourly Leq of 67 dBA is estimated with the project. Several single family homes are estimated to become impacted by the project (an increase from 5 to 20 units over 67 Leq). Multi-family apartments and condominiums also would experience increases in noise above FHWA criteria. Because of attenuation from the buildings, increases over impact levels would occur mainly to those units closest to the roadway. Noise impacts to parks, recreation areas and the cemetery are expected to increase in areas along the perimeter closest to

TABLE 4.10

DESIGN SEGMENT A NOISE IMPACT ESTIMATES

Build and No-Build Scenarios at LOS C

| Location Number | Area Description | Land Use | Activity Category | Noise Abatement Criteria | 1985 and 2010 NO-BUILD ALT | | 2010 BUILD ALT | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Impacts Over Criteria | Leq[1] | Impacts Over Criteria | Leq[1] |
| A-1 | Pine Ridge Mobile Home Park | MH | B | 67 | 16 | 74 | 16 | 74 |
| A-2 | Mobile Home Park | MH | B | 67 | 1 | 67 | 12 | 71 |
| A-3 | Residential Area | SF | B | 67 | 0 | 66 | 4 | 70 |
| A-4 | Mobile Home Park | MH | B | 67 | 13 | 70 | 34 | 74 |
| A-5 | Residential Area | SF | B | 67 | 0 | 66 | 3 | 70 |
| A-6 | Freedom Park | Recreation | B | 67 | Yes | 77 | Yes | 77 |
| A-7 | Springwood Condominiums | MF | B | 67 | Yes | 70 | Yes | 70 |
| A-8 | Residential Area | SF | B | 67 | 1 | 67 | 1 | 71 |
| A-9 | Multi Family Development | MF | B | 67 | No | 66 | Yes | 70 |
| A-10 | Residential Area | SF | B | 67 | 0 | 64 | 1 | 67 |
| A-11 | Calvary Christian Church | Church | E | (52) | Yes | (47) | Yes | (56) |
| A-12 | Calvary Cemetery | Cemetery | B | 67 | Yes | 67 | Yes | 71 |

MH = Mobile Home Park

SF = Single Family Residential

MF = Multi Family Residential

( ) = Interior Noise Levels

[1]Closest area to roadway.

TABLE 4.11

DESIGN SEGMENT B NOISE IMPACT ESTIMATES

Build and No-Build Scenarios at LOS C

| Location Number | Area Description | Land Use | Activity Category | Noise Abatement Criteria | 1985 and 2010 NO-BUILD ALT Impacts Over Criteria | 1985 and 2010 NO-BUILD ALT Leq[1] | 2010 BUILD ALT Impacts Over Criteria | 2010 BUILD ALT Leq[1] |
|---|---|---|---|---|---|---|---|---|
| B-1 | Donovans Mobile Home Park | MH | B | 67 | 12 | 67 | 21 | 71 |
| B-2 | Donahues Mobile Home Park | MH | B | 67 | 4 | 69 | 6 | 73 |
| B-3 | Residential Area | SF | B | 67 | 0 | 64 | 1 | 68 |
| B-4 | Oaks Apartments | MF | B | 67 | Yes | 67 | Yes | 71 |
| B-5 | Mobile Home Park | MH | B | 67 | 0 | 74 | 1 | 68 |
| B-6 | Imperial Cove Apartments | MF | B | 67 | No | 66 | Yes | 70 |
| B-7 | Bay Cove Apartments | MF | B | 67 | No | 65 | Yes | 69 |
| B-8 | Japanese Gardens Mobile Home | MH | B | 67 | 19 | 72 | 51 | 77 |
| B-9 | Southgate Mobile Home Park | MH | B | 67 | 0 | 64 | 19 | 69 |
| B-10 | Cambridge Apartments | MF | B | 67 | Yes | 67 | Yes | 71 |
| B-11 | Carpenter Field | Recreation | B | 67 | No | 70 | Yes | 75 |
| B-12 | Moccasin Lake Park | Recreation | B | 67 | Yes | 72 | Yes | 77 |
| B-13 | Coachman Creek Condminiums | MF | B | 67 | Yes | 68 | Yes | 72 |
| B-14 | Ridge Haven Mobile Home Park | MH | B | 67 | 10 | 68 | 25 | 73 |
| B-15 | Capri Mobile Home Park | MH | B | 67 | 6 | 68 | 21 | 73 |
| B-16 | Southern Comfort M.H.P. | MH | B | 67 | 1 | 68 | 23 | 73 |
| B-17 | Tropical Breeze M.H.P. | MH | B | 67 | 2 | 68 | 21 | 73 |
| B-18 | Hillcrest Villa | MF | B | 67 | Yes | 72 | Yes | 77 |
| B-19 | Stratford Village Apartments | MF | B | 67 | Yes | 72 | Yes | 77 |

MH = Mobile Homes Park

SF = Single Family Residential

MF = Multi Family Residential

[1]Closest area to roadway.

TABLE 4.12

DESIGN SEGMENT C NOISE IMPACT ESTIMATES

Build and No-Build Scenarios at LOS C

| Location Number | Area Description | Land Use | Activity Category | Noise Abatement Criteria | 1985 AND 2010 NO-BUILD ALT Impacts Over Criteria | 1985 AND 2010 NO-BUILD ALT Leq[1] | 2010 BUILD ALT Impacts Over Criteria | 2010 BUILD ALT Leq[1] |
|---|---|---|---|---|---|---|---|---|
| C-1 | Silk Oak Lodge | MH | B | 67 | 2 | 68 | 6 | 72 |
| C-2 | Winding Creek Condominiums | MF | B | 67 | Yes | 67 | Yes | 71 |
| C-3 | Casa del Sol Condominiums | MF | B | 67 | Yes | 67 | Yes | 71 |
| C-4 | Serendipity Mobile Home Park | MH | B | 67 | 0 | 64 | 2 | 67 |
| C-5 | Riveria Mobile Home Park | MH | B | 67 | 6 | 68 | 13 | 72 |
| C-6 | Travel Town Campground | Campground | B | 67 | Yes | 69 | Yes | 73 |
| C-7 | Pine Ridge Apartments | MF | B | 67 | Yes | 68 | Yes | 72 |
| C-8 | Residential Area | SF | B | 67 | 3 | 70 | 3 | 74 |
| C-9 | Residential Area | SF | B | 67 | 0 | 64 | 2 | 68 |
| C-10 | KOA Campground | Campground | B | 67 | Yes | 70 | Yes | 74 |
| C-11 | Lakeview Mobile Home Park | MH | B | 67 | 0 | 66 | 5 | 70 |
| C-12 | Trailer Park | MH | B | 67 | 4 | 68 | 12 | 72 |
| C-13 | Cypress Point Campground | Campground | B | 67 | Yes | 69 | Yes | 73 |
| C-14 | Tarponair Mobile Home Resort | MH | B | 67 | 0 | 66 | 12 | 70 |
| C-15 | Small World Child Care | Child Care | B | 67 | Yes | 68 | Yes | 76 |
| C-16 | Anderson Park | Recreation | B | 67 | Yes | 72 | Yes | 76 |
| C-17 | Mobile Home Park | MH | B | 67 | 0 | 66 | 3 | 70 |

MH = Mobile Home Park
SF = Single Family Residential
MF = Multi Family Residential

[1]Closest area to roadway.

TABLE 4.13

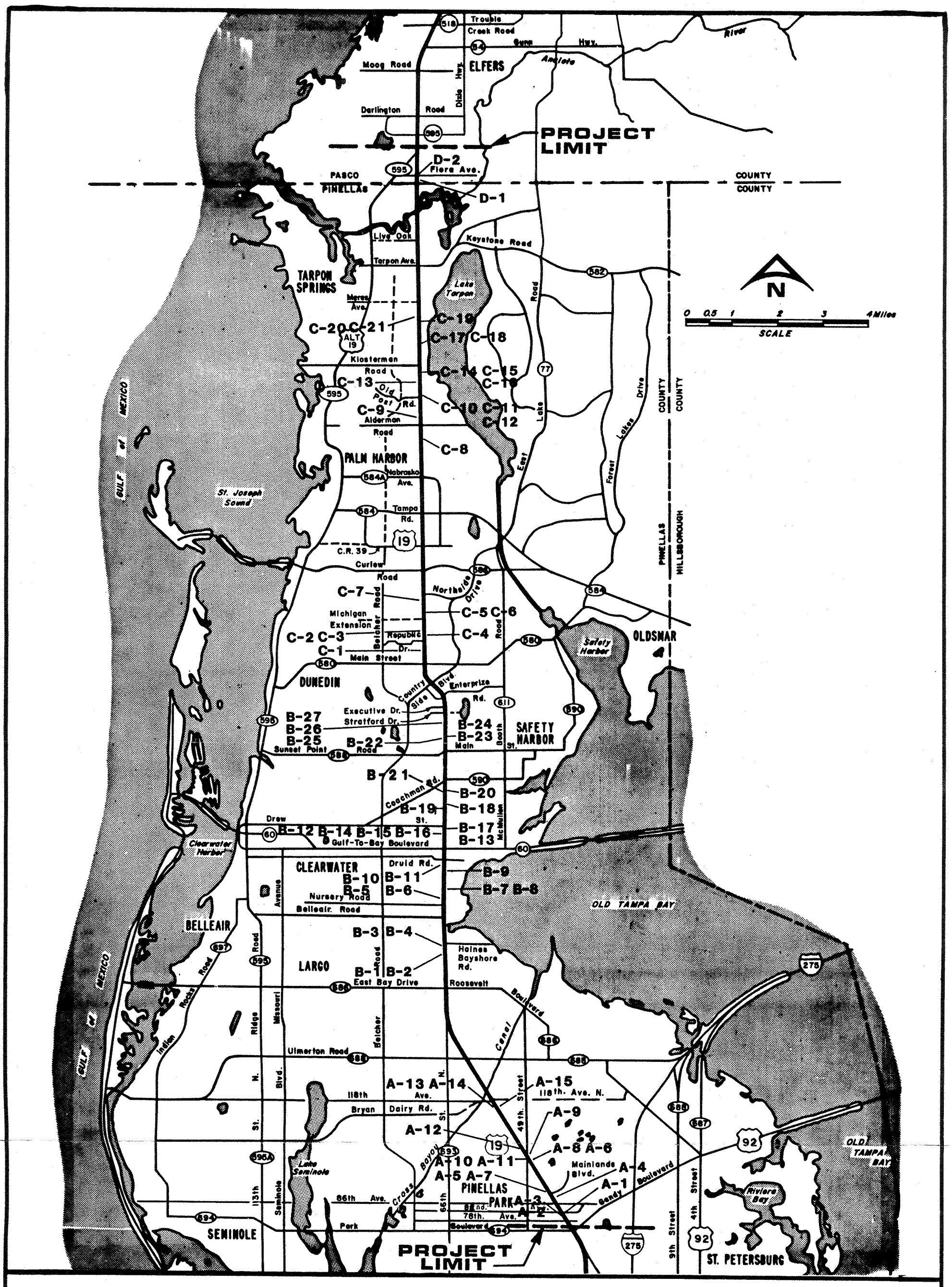
DESIGN SEGMENT D NOISE IMPACT ESTIMATES

Build and No-Build Scenarios at LOS C

| Location Number | Area Description | Land Use | Activity Category | Noise Abatement Criteria | 1985 and 2010 NO-BUILD ALT Impacts Over Criteria | 1985 and 2010 NO-BUILD ALT Leq[1] | 2010 BUILD ALT Impacts Over Criteria | 2010 BUILD ALT Leq[1] |
|---|---|---|---|---|---|---|---|---|
| D-1 | Residential Area | SF | B | 67 | 1 | 67 | 3 | 71 |
| D-2 | Residential Area | SF | B | 67 | 0 | 66 | 2 | 70 |

SF = Single Family Residential

[1]Closest area to roadway.




**U.S.19 PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDIES**
**Pinellas and Pasco Counties, Florida**
**STATE PROJECT NO. 15150-1565**

# NOISE SENSITIVE AREAS

**Florida Department of Transportation**

Greiner Engineering Sciences, Inc.

EXHIBIT 4.3

TABLE 4.14

NOISE IMPACT SUMMARY

| Design Segment | Land Use | 1985 and 2010 No-Build | 2010 Build | Increase With Build |
|---|---|---|---|---|
| A | Mobile Homes | 30 | 62 | 32 |
| | Single Family Homes | 1 | 9 | 8 |
| | Multi Family Complexes | 1 | 2 | 1 |
| | Parks/Rec Areas | 1 | 1 | 0 |
| | Cemetery | 1 | 1 | 0 |
| B | Mobile Homes | 54 | 188 | 134 |
| | Single Family Homes | 0 | 1 | 1 |
| | Multi Family Complexes | 5 | 7 | 2 |
| | Parks/Rec Areas | 1 | 2 | 1 |
| C | Mobile Homes | 12 | 53 | 41 |
| | Single Family Homes | 3 | 5 | 2 |
| | Multi Family Complexes | 1 | 2 | 1 |
| | Parks/Rec Areas | 1 | 1 | 0 |
| | Campgrounds (Private) | 3 | 3 | 0 |
| | Child Care Facility | 1 | 1 | 0 |
| D | Single Family Homes | 1 | 5 | 4 |
| TOTAL | Mobile Homes | 96 | 303 | 207 |
| | Single Family Homes | 5 | 20 | 15 |
| | Multi Family Complexes | 7 | 12 | 5 |
| | Parks/Rec Areas | 3 | 4 | 1 |
| | Cemetery | 0 | 1 | 0 |
| | Private Campgrounds | 3 | 3 | --- |
| | Child Care Facility | 1 | 1 | 0 |

the corridor. In most cases, the noise exposure over impact levels is not expected to occur in areas of heavy public activity. Some camping areas in private campgrounds will receive increased noise over criteria. A child care facility located near the right-of-way is impacted above criteria with or without the project.

## Noise Abatement Measures

The Federal Highway Administration requires that when noise impacts are identified and associated with a proposed project, a number of noise abatement measures must be considered. [9,10] Noise abatement measures which have been determined to be inappropriate or ineffective for US 19 include traffic management measures, realignment, noise barriers, land acquisition, and insulation. Measures which may be appropriate or effective include land use and zoning controls.

Traffic management measures such as traffic control devices, speed limit reduction, caps on activity and prohibiting some vehicles from operating all or part of the time would not be consistent with the objectives of the project and are not recommended as mitigating measures.

Realignment, either horizontally or vertically, to reduce noise impacts is not recommended. Horizontal realignment would shift impacts because noise sensitive areas are located throughout the corridor on both sides of the existing right-of-way. Vertical realignment has the potential to slightly reduce close-in noise levels but is not justified solely for means of noise abatement.

Structural, vegetative or earthen noise barriers are not considered effective or practical in the mitigation of noise from the proposed project. Due to the required design of the roadway and the prevalent commercial activities, noise barriers could not practically be either long or high enough to provide significant noise reduction to areas of residential noise impact. The frequency of access to the corridor via frontage roads and ramps would generally not allow for effective, continuous noise barriers either along the right-of-way or between the frontage road and the mainline.

Barriers located along the right-of-way limit are not effective for this project because the frequent access to the parallel frontage road does not allow for sufficiently continuous barriers. The 9 dBA insertion loss of a continuous 16 foot high wall (receiver 50 feet from right-of-way) would be greatly degraded by the frequent openings required for access. Barriers located between the frontage roads and the mainline would not be effective due

to the openings necessary for interchange ramps and because the heavily travelled frontage roads would remain unprotected. It is estimated that a continuous 16 foot high concrete wall would provide only 4 dBA insertion loss to a receiver 50 feet from the right-of-way. Because of these factors, noise barriers are not considered to be cost effective abatement measures for the identified impacted areas, including residences.

The fee simple or easement acquisition of noise impacted areas solely for purposes of noise abatement is not recommended. Many residential areas predicted to be impacted by the project may have higher value as a commercial land use and may naturally evolve in that direction.

Insulation for noise purposes is generally not considered to be an effective noise abatement measure for this project. For residential areas, soundproofing would be costly due to the large number of homes and would not have any effect upon exterior noise levels.

The location of the roadway in a largely urban setting does not allow for considerable land use control. However, in the cases of presently undeveloped land and land which may be redeveloped, such controls could include establishment of noise buffer areas or establishment of zoning regulations to restrict development to that which is compatible with roadway development.

Land use planning and zoning is established locally and, as a result, the types of land uses desired would be established by local planning authorities.

Zoning control measures would typically involve the application of variable construction setback lines and building code restrictions and stipulations. For example, a noise-sensitive activity setback line of a variable minimum distance from the land acquisition line of the roadway could be implemented where exterior noise levels exceed criteria. These would also be established by local authorities.

## Construction Noise

Noise generated by construction of the proposed action may affect some land uses during the construction period. Construction noise will be controlled by measures contained in FDOT's Standard Specifications for Road and Bridge Construction. In the event that standard control measures are not adequate to keep construction noise to acceptable levels (as determined by the engineer), the contractor may direct the use of other controls and abatement measures.

## Noise Summary

The proposed improvements to US 19 are expected to result in increased traffic noise levels and increased noise impacts. The vehicular activity on the

roadway during level of service C conditions is predicted to increase noise levels by 4 to 5 dBA with the project. This increase in noise levels is expected to widen the area of noise exposure along the corridor and is estimated to result in an increase in noise impacts. The existing US 19 corridor is predominantly commercial in nature. The continued urbanization of the corridor is expected to result in the natural displacement of many of the noise impacted areas.

The occurrence of additional future noise sensitive sites along the roadway depends upon the zoning and planning activities of local authorities. Local officials and planners can significantly prevent noise impacts through zoning regulations and construction setback requirements

There appears to be no apparent solutions available to mitigate the noise impacts at existing noise sensitive locations identified along corridor. Noise mitigation measures such as traffic management, realignment and barriers are not compatible with the design and function of the existing highway or the project. Property acquisition and soundproofing are not considered effective or economically feasible measures.

The results of the noise analysis will be coordinated with the appropriate state and local officials including the Division of Forestry and the

Department of Environmental Regulation in compliance with Section 335.17 Florida Statutes.

### 4.3.5 DRAINAGE

A Location Hydraulic Report, dated August 1987, [11] was completed in accordance with the requirements set forth in FHPM 6-7-3-(2), Paragraph 7. It provides preliminary information on existing cross drain structures, floodplains and soils which may be impacted due to the construction of the proposed improvements to US 19 between Gandy Boulevard (S.R. 694) and Alternate US19 in Pinellas and Pasco Counties. The document is appended by reference. Basic information concerning basin areas, floodplains, culvert sizes, location and available design high water information are contained in the 1" = 400' scale aerial photos appended to the report. These maps should be referenced for details on all existing cross drain and bridge structures located within the US 19 project corridor.

In accordance with the requirements set forth in FHPM 6-7-3(2), Paragraph 7, the proposed project corridor was evaluated to determine the impact of the proposed hydraulic improvements. All hydraulic improvements were categorized based upon the type of the hydraulic improvement and estimated floodplain impact.

The proposed roadway project should not significantly contribute to an increase in the flood zone area, since the existing flood zone designations are a result of either coastal flooding due to tidal surge, or are inherent in the topography of the surrounding area. Since the US 19 corridor is an existing, heavily developed roadway, the proposed roadway improvements should not contribute to the development in the flood zone. The modifications to the roadway will improve the use of the facility for emergency services and evacuation.

### 4.3.6 WETLANDS

Overview

In accordance with Executive Order 11990 "Protection of Wetlands" the project's involvement with wetlands was evaluated. An evaluation of alternative alignments has determined there is no practicable alternative to the proposed US 19 improvements. Alternatives other than the proposed alternatives could result in much greater impacts to wetlands. Bridge and roadway alternatives which do not incorporate the dual 2-lane frontage road concept would result in a narrower roadway with less wetland impacts, but would not have the capacity to meet traffic demand requirements. The no-build alternative would not have any additional impact on wetlands, but is

unacceptable due to traffic demand. All practicable measures to minimize harm to wetlands which may result from the improvements will be undertaken. Because the project development is located in a heavily urbanized area and is mainly confined within the existing right-of-way, substantial impacts to significant wetland areas are not anticipated. For a detailed description of vegetation see Section 3.9.2.

Wetlands which are anticipated to be affected by the project are not considered highly valuable in terms of wildlife, endangered species, recreation, or agriculture. Their disturbance or displacement are not expected to substantially affect natural resources. Wetland impacts will be avoided to the greatest extent possible by roadway design.

The proposed improvements will require construction in some freshwater and saltwater wetlands. Areas affected include man-made drainage ditches, bridge crossings and other adjacent wetlands. Wetland involvement will result from widening the roadway, constructing frontage roads and their bridges, and adding interchanges. Section 3.9.2 in conjunction with Table 3.7, provides the NWI classifications of each wetland, and Exhibits 3.17, 3.18, 3.19 and 3.20 illustrate the wetlands inventoried for permit coordination. Table 4.15 presents a description of these wetland areas, along with anticipated construction methods, type of encroachment and the acreage of impacts.

TABLE 4.15

SUMMARY OF WETLANDS INVOLVEMENT

| | Site | Description | Anticipated Construction Methods | Anticipated Impacts to Wetlands: Type of Encroachment | Anticipated Impacts to Wetlands: Acreages Eastside | Anticipated Impacts to Wetlands: Acreages Westside | Acreage of Existing System | Proposed Mitigation Acreage |
|---|---|---|---|---|---|---|---|---|
| Segment A | A-1 | Ditch, two 6'x4' box culverts | 2 | B | .006 | .006 | -- | -- |
| | A1A | Ditch, two 24" and two 36" (below grate) culverts drop box-junction box | 2 | B | .003 | N/I | -- | -- |
| | A1B | Ditch, Two 36" culverts | 2 | B | .002 | .002 | -- | -- |
| | A-2 | Ditch, two 42" and one 60" culverts | 2 | B | .005 | .003 | -- | -- |
| | A-3 | Wetland area near toe of slope | 1 | B | N/I | N/I | 1.5 | -- |
| | A-3-1 | Ditch, one 30" culvert with junction box on east | 2 | A | N/I | N/I | -- | -- |
| | A3A | Ditch, one 36" culvert one drop box west | 1 | A | N/I | N/I | -- | -- |
| | A3B | Retention Pond | 1 | A | N/I | N/I | .30 | -- |
| | A3C | Ditch, Two 36" culverts | 2 | B | .006 | .01 | -- | -- |
| | A-4 | Ditch, one 48" culvert | 2 | B | .004 | .001 | -- | -- |
| | A-5 | Bridge structure - Cross Bayou Canal | 3 | C | .06 | .06 | -- | 0.12 |
| Segment B | B-1 | Ditch, one culvert, 30" on east side and 42" on west side | 2 | B | .003 | .005 | -- | -- |
| | B-2 | Tidal area adjoining toe of slope | 2 | D | 0.31 | N/I | 54 | 0.31 |
| | B-3 | Tidal area adjoining toe of slope | 2 | D | N/I | 0.1 | 1.5 | 0.10 |
| | B-4 | Bridge structure - Allens Creek | 1 | C | 0.2 | 0.2 | -- | 0.40 |
| | B-5 | Ditch, two 36" culverts, one drop box west side | 2 | B | .001 | N/I | -- | -- |
| | B-6 | Ditch, two 36" culverts | 2 | B | 0.14 | 0.14 | -- | -- |
| | B-7 | Ditch, two culverts, on east side (60" & 30"), one 42" on west side | 2 | B | N/I | .012 | -- | -- |
| | B-8 | Ditch, one 42" culvert with retention pond on west | 2 | B | .002 | .08 | -- | -- |
| | B-9 | Retention pond near toe of slope | 4 | D | N/I | 0.6 | >5.0 | -- |
| | B-10 | Ditch, one 36" culvert - Alligator Creek | 1 | A | N/I | N/I | -- | -- |
| | B-11 | Wetland area near toe of slope, east side one 36" culvert | 4 | D | .003 | .53 | 2.0 | 0.53 |
| | B-12 | Ditch, one 30" culvert | 2 | B | .01 | N/I | -- | -- |
| | B-13 | Ditch, one 18" culvert | 2 | B | .004 | .003 | -- | -- |
| | B-14 | Ditch, one 30" culvert | 2 | A | N/I | N/I | -- | -- |

TABLE 4.15

SUMMARY OF WETLANDS INVOLVEMENT
Continued

| | Site | Description | Anticipated Construction Methods | Anticipated Impacts to Wetlands | | | Acreage of Existing System | Proposed Mitigation Acreage |
|---|---|---|---|---|---|---|---|---|
| | | | | Type of Encroachment | Acreages Eastside | Acreages Westside | | |
| Segment C | C-1 | Ditch, one 18" culvert, east side | 2 | B | .0006 | N/I | -- | -- |
| | C-1A | Ditch, 4 culverts | 2 | B | .17 | N/I | -- | -- |
| | C-2 | Ditch, four 54" culverts - Curlew Creek | 2 | B | .023 | .05 | -- | -- |
| | C-3 | Ditch, two 48" culverts | 2 | B | .025 | .022 | -- | -- |
| | C-4 | Ditch, two 54" culvert east side, two 72" x 48" box culverts west side | 2 | B | .02 | .02 | -- | -- |
| | C-5 | Ditch, one 36" culvert | 2 | B | N/I | .007 | -- | -- |
| | C-5A | Retention Pond | 4 | A | N/I | N/I | -- | -- |
| | C-5A1 | Wetland Area near toe of slope | 4 | D | N/I | .05 | -- | 0.05 |
| | C-6 | Ditch, one 36" culvert | 2 | B | .003 | N/I | -- | -- |
| | C-6A | Wetland area near toe of slope | 4 | D | .20 | N/I | 2.5 | 0.20 |
| | C-6B | Ditch, one 30" culvert | 2 | A | N/I | N/I | -- | -- |
| | C-7 | Ditch, two 30" culverts | 2 | B | .02 | N/I | -- | -- |
| | C-8 | Ditch, one 24" and one 30" culverts | 2 | B | .008 | .008 | -- | -- |
| | C-8A | Retention Pond | 4 | A | N/I | N/I | .08 | -- |
| | C-8B | Retention Pond | 4 | A | N/I | N/I | .08 | -- |
| | C-8C | Wetland Area near toe of slope | 4 | D | .23 | N/I | 4.5 | 0.23 |
| | C-8D | Wetland Area near toe of slope | 4 | D | N/I | 1.28 | 30.0 | 1.28 |
| | C-8E | Wetland Area near toe of slope | 4 | D | .24 | N/I | 1.0 | 0.24 |
| | C-8F | Wetland Area near toe of slope | 4 | D | .16 | N/I | 11.0 | 0.16 |
| | C-9 | Ditch, one 54" culvert with drop box on west side | 2 | B | .002 | N/I | -- | -- |
| Segment D | D-1 | Ditch, one box culvert 6' wide 4' high east side, 5 1/2' high west side | 4 | B | .05 | .042 | -- | 0.09 |
| | D-2 | Bridge structure - Anclote River | 3 | C | .2 | .19 | -- | 0.39 |
| | | | | | 2.1106 | 3.421 | | 4.10 |

N/I = No Impact

KEY TO MATRIX

Anticipated Construction Methods

1. Retention of culvert and headwall at existing location and steepen side side slopes where necessary.

2. Extension and/or replacement of culvert and associated structures.

3. Additional bridge abutments, pilings, piers, and slope protection.

4. Addition of fill material to extend side slopes.

Anticipated Impact on Wetland Areas

A. No encroachment into wetland area.

B. Encroachment into wetland area and permanent loss of area relative to extent of culvert relocation.

C. Disturbance of shoreline and river bottom, with permanent loss of area relative to number of additional pilings to be placed and required slope protection.

D. Encroachment into wetland area and permanent loss of area relative to extent of fill.

Bridge Crossings

Bridge improvements necessary at Cross Bayou Canal (A-5), Allen's Creek (B-4) and the Anclote River (D-2) will result in impacts to wetlands. The amount of bridge construction necessary is dependent upon the suitability of the existing structures to the proposed roadway design. At each bridge location, new bridges for frontage roads on each side of the existing structure will be necessary. This would involve the driving of additional piles into the waterway bottom, possible expansion of the toe of slope, and the construction of associated erosion control and drainage structures.

Wetland impacts due to construction at the Cross Bayou Canal would occur along the shoreline, from possible toe of slope extension, and along the canal bottom for frontage road bridge construction. The existing structure may be suitable for the roadway design and may not require replacement. Sparse wetland vegetation which is currently adjacent to the toe of slope and along the bank would be impacted. Species present include red mangrove, black mangrove, sea purslane, and pennywort.

The existing Allen's Creek Bridge is located near a proposed interchange and may require replacement in order to satisfy design grade requirements for an adjacent overpass. Slope extension and new bridges would impact shoreline and

creek bottom. The primary impacts to vegetation would occur to a relatively heavy growth of young red and black mangroves along a parallel ditch at the northeast side of the canal. Other wetland vegetation around the bridge which would be impacted consists of sparse growth of white mangrove, sea purslane, and saltgrass.

The Anclote River Bridge improvements, which require slope modifications and frontage road bridge installation, will affect wetlands along the river. The shoreline around and under the bridge is sparsely vegetated. The northwest quadrant of the area has the heaviest vegetation, consisting of black mangrove and saltmarsh cordgrass. No seagrasses are present. Heavy growth of blackrush in the bridge vicinity are not anticipated to be impacted by the bridge improvement.

Drainage Ditches

Natural and man-made drainage ditches alongside and under the existing roadway would be affected by the project. Man-made trenches were excavated for the purpose of storing and conveying stormwater runoff from roadside areas. Hydric conditions in the drainage ditches ranged from intermittently wet to permanently wet. The drainage system parallel to the existing roadway is planned to be enclosed or relocated in-kind as required in final design.

Cross drains under the roadway would require extension or replacement of culvert and headwall relocation where necessary. Most man-made drainage ditches along the corridor do not support significant wetland vegetation nor provide valuable wetland habitat. Modification of some drainage ditches may be considered incidental construction and not require permits.

Other Wetland Areas

Wetland areas with which there are no associated bridge or drainage structures are located at several locations along the roadway. The most significant are Sites B-2 and B-3 which are tidally influenced and are just south of the Allen's Creek Bridge on each side of the roadway. Site B-2 is the western extent of Largo Inlet along the east side of the roadway right-of-way. Site B-3 lies just across the roadway at the right-of-way and is part of Allen's Creek. Both sides are inhabited by mangroves and other marine wetland species. Some wetland impacts may occur at these areas from fill necessary to widen the roadway. Other wetlands which may be affected are generally small isolated freshwater wetlands which are adjacent to the right-of-way and may receive fill for roadway widening. These include Sites A-3 and B-11.

A more detailed description of the anticipated impacts follows:

## Detailed Description of Wetland Sites-Segment A

Ditches were grouped together due to their similarity in water quality functions and importance. Sites A-1A, A-1B, A-3-1, A-3A, and A-3C are small drainage ditches that contain wetland vegetation common to these habitats. The primary function of these ditches is for conveyance and storage of stormwater runoff. These ditches may fall under incidental construction and may not require permits. The habitat value of these ditches is minimal, providing limited food source to wading birds and aquatic invertebrates. Some of these ditch systems would retain their ecological and hydrologic function after construction of U.S.19, others will be piped to retention ponds for stormwater treatment. Impacts are shown in Table 4.15. No mitigation is proposed for these man-made and maintained systems.

Site A-1 - Consists of a drainage canal approximately 20 feet in width at its intersection with US 19, located 200 feet north of Gandy Boulevard (74th Avenue North). This canal originates west of US 19, crosses beneath the existing roadway (via double box culverts) and continues eastward, finally crossing Gandy Boulevard into Sawgrass Lake. The approximate water depth at the time of field review was 6 to 10 inches.

Canal vegetation consists of maidencane, pickerelweed and hydrilla east of US 19. There is no significant vegetation west of US 19 within the retention basin for La Quinta Motel.

The primary function of this canal is for conveyance and storage of stormwater runoff. The canal provides limited habitat value and would receive minimal impact from construction of U.S. 19. The canal would maintain its hydrolic function in stormwater conveyance and storage.

This site has not been classified by the U.S. Fish and Wildlife Service; however, it may be classified as R2UBHx.

Approximately 0.012 acres of wetlands are anticipated to be impacted by the proposed improvements. No mitigation is proposed.

Site A-2 - Consists of an eight-foot-wide drainage ditch at its intersection with US 19, located approximately 1,600 feet north of 82nd Avenue North. This ditch originates west of US 19, crosses beneath US 19 (via box culverts) and continues eastward towards site A-1. The water depth at time of inspection was 6 to 10 inches. The hydrophytic vegetation east of US 19 consists of alligator weed, barnyard grass, and maidencane. The west side contains alligator weed and willow shrubs. This site has not been classified by the

U.S. Fish and Wildlife Service. Approximately 0.008 acres of wetlands are anticipated to be impacted by the proposed improvements. No mitigation is proposed.

Site A-3 - Consists of a 1.5 acre wetland area adjacent to the existing right-of-way on the east side of US 19, located approximately 2,000 feet north of 82nd Avenue. Brazilian pepper and dog fennel dominate the west boundary of the wetland. Arrowhead, water primrose and additional herbaceous species have colonized this site.

The U.S. Fish and Wildlife Service has classified this wetland PEM5C (Palustrine, Emergent, Narrow leaved persistent, Seasonal). This site is not anticipated to be impacted by the proposed improvements.

Site A-3B - This is a retention pond, approximately 0.30 acres in size, located east of US 19 in the triangle formed by the intersection of US 19 and 52nd Street N. This site may be classified as POWHx. No impacts are anticipated.

Site A-4 - Consists of a 2- to 3-foot-wide drainage ditch at its intersection with US 19, approximately 50 feet north of 118th Avenue. This canal originates east of US 19, crosses beneath the existing roadway (via one 48-

inch R.C.P. culvert), and continues west to its confluence with the Cross Bayou Canal. The approximate water depth was 1 foot at the time of field review. Ditch vegetation consists of alligator weed, common salvinia, arrowhead, water primrose and sedge. The north ditch banks east of US 19 appear to receive periodic maintenance (e.g., mowing, brush removal, etc.).

Approximately 0.005 acres of wetlands are anticipated to be impacted. No mitigation is proposed.

Site A-5 - Consists of a 50-foot-wide canal (Cross Bayou Canal) at its intersection with US 19. This canal is tidally influenced and flows beneath US 19 through a divided, two-lane bridge structure. Approximate water depth at the time of field review was 2 feet below Mean Low Water (MLW).

Canal vegetation consists of black mangrove, sea purslane, wax myrtle, Brazilian pepper and saltgrass in the northeast quadrant of US 19 and the Cross Bayou Canal. The southeast quadrant contains red mangroves and pennywort. The northwest quadrant contains black mangroves, and the southwest quadrant contains red mangroves and Brazilian pepper.

This area has been classified as EIOWL (Estuarine, Subtidal, Open Water, Subtidal) and PUBH (Palustrine, Unconsolidated Bottom, Permanent) and

PSS3C/EM5L (Palustrine, Scrub-Shrub, Broad-leaved evergreen, Seasonal and Emergent, Narrow-leaved persistent, Seasonal) according to the U.S. Fish and Wildlife Service National Wetlands Inventory, 1982.

Approximately 0.12 acres of wetlands are anticipated to be impacted by all the proposed improvements. Mitigation is proposed on a 1:1 basis.

Detailed Description of Wetland Sites-Segment B

Site B-1 - Consists of a 5-foot-wide drainage ditch located approximately 1,350 feet north of Whitney Road. This ditch originates east of US 19, crosses beneath US 19 via one 30-inch culvert on the east side and one 42-inch culvert on the west side, and continued westward. Approximate water depth at time of the field review was 1 foot. Ditch vegetation consists of alligator weed, pennywort, sedge, pickerelweed, water primrose, and maidencane on the east side of US 19. Alligator weed occupies the waterway to the west. This site has not been classified by the U.S. Fish and Wildlife Service. Approximately 0.008 acres of wetlands are anticipated to be impacted by the proposed improvements. No mitigation is proposed

Site B-2 - Consists of a tidal flat located 400 to 1,200 feet south of Allen's Creek on the east side of US 19. It is part of a larger wetland area measuring approximately 54 acres. Dominant vegetation includes the recolonization of white and black mangrove from previous frost damage. Also present were Brazilian pepper, saltbush, cordgrass, soft rush, soft stem, bulrush, goldenrod, and sea lavender.

This areas has been classified as E2SS3U (Estuarine, Intertidal Scrub Shrub, Broad-leaved evergreen, Unknown) according to the U.S. Fish and Wildlife Service National Wetlands Inventory, 1982.

Approximately 0.31 acres of wetlands are anticipated to be impacted by the proposed improvements. Mitigation is proposed on a 1:1 basis.

Site B-3 - Consists of a tidal flat adjacent to the toe of slope west of US 19, approximately 700 to 900 feet South of Allen's Creek (200 feet in length). It is part of a larger wetland area measuring approximately 1.5 acres. Dominant vegetation included white mangroves returning from previous frost damage, caric sedge and various grasses. This area has been classified E2SS3U (The same as site B-2).

Approximately 0.1 acres of wetlands are anticipated to be impacted by the proposed construction. Mitigation is proposed on a 1:1 basis.

Site B-4 - Consists of a 100-foot-wide navigable waterway (Allen's Creek) at its intersection with US 19. This waterway is tidally influenced and flows underneath the existing 6-lane bridge structure. Approximate water depth at the time of field review was 1.8 feet below MLW.

Dominant vegetation includes a dense population of red and black mangroves along the parallel ditch adjacent to US 19 in the northeast quadrant. In addition, white mangrove, sea purslane, saltgrass and dog fenel are common. The parallel ditch located in the southeast quadrant contains saltgrass and a single red mangrove. The northwest quadrant contains red mangroves and saltgrass. The southwest quadrant contains saltgrass. This area has been classified as EIOWL by the USFWS (same as site A-5).

The anticipated impact to this site includes approximately 0.4 acres of wetlands impacts. Some of these impacts would be temporary during bridge construction. Mitigation is proposed on a 1:1 basis.

Site B-5 Consists of a 10-foot-wide drainage ditch located approximately 200 feet south of Nursery Road. This canal originates west of US 19 at a junction

box, crosses beneath the existing roadway (via two 36" R.C.P. culverts east of US 19) and continues east to its confluence with Old Tampa Bay. Approximate water depth at the time of field review was 3 to 6 inches.

The ditch vegetation consists of hydrilla, alligator weed, maidencane and various grasses. This site has not been classified by the U.S. Fish and Wildlife Service. This site is not anticipated to be affected by the proposed improvements.

Site B-6 - Consists of a 2- to 6-foot-wide drainage ditch, approximately 300 feet north of Harn Road. The ditch originates west of US 19 at a mitered end section and ditch bottom inlet, crosses beneath the existing roadway (via two 36-inch R.C.P. culverts), and continues east to its confluence with Old Tampa Bay. Approximate water depth at the time of the field review was 1 to 2 feet. A gas pipeline parallels US 19 on the east side of the road.

Ditch vegetation consists of arrowhead, elephant ear, water primrose and algae along the west side of US 19. Caric sedge, bladderpod, cattail and various grasses occupy the west side of the roadway. This site was not classified by the U.S. Fish and Wildlife Service. Approximately 0.28 acres of wetlands are anticipated to be affected by culvert extension. No mitigation is proposed.

Site B-7 - Consists of an 80-foot-wide drainage basin located approximately 350 feet south of Seville Boulevard. Algae and saltgrass were the only vegetation observed. This site has not been classified by the U.S. Fish and Wildlife Service, however it may be designated as R2UBHx. Approximately 0.012 acres of wetlands are anticipated to be impacted by culvert extension. No mitigation is proposed.

Site B-8 - Consists of a drainage ditch located approximately 700 feet north of Drew Street. The east side contains no significant wetland vegetation. The west side of US 19 has been altered since previous field inspections in August, 1986. This site and site B-9 have been converted to a retention pond for private development. The USFWS has not classified this wetland; however, it could be assigned POWHx. Approximately 0.082 acres of wetlands are anticipated to be filled for road construction. No mitigation is proposed.

Site B-9 - This site, previously a willow shrub wetland, has been converted to a retention pond for private development. This retention pond is larger than 5 acres in size. An alligator was observed on the banks of the pond. The USFWS has not classified this wetland. Approximately 0.60 acres of wetlands would be filled for road construction. No mitigation is proposed.

Site B-10 - Consists of a 50-foot-wide drainage canal located approximately 1,900 feet north of Drew Street. This site is not anticipated to be impacted by the proposed improvements.

Site B-11 - Consists of a two-acre isolated cypress stand located adjacent to toe-of-slope approximately 1,100 feet north of N.E. Coachman Road, west of US 19. The dominant vegetation includes bald cypress mixed with bays. This site has been encroached by recent development into and adjacent to the wetland area.

The U.S. Fish and Wildlife Service has classified this wetland PFO3/1C (Palustrine, Forested, Broad-leaved evergreen, Broad-leaved deciduous, Seasonal). The anticipated impact to this site includes approximately 0.533 acres of fill for proposed improvements. Mitigation is proposed on a 1:1 basis.

Sites B-12, B-13, and B-14 There are drainage ditches that contain ditch plants similar to sites in Segment A. These areas have not been classified by the USFWS. Anticipated impacts total approximately 0.55 acres for these sites. No mitigation is proposed.

Detailed Description of Wetland Sites-Segment C

Sites C-1, C-1A. C2, C-3, C-4, C-5, C-6, C-6B, C-7, C-8 and C-9 There are smaller drainage ditches that contain wetland vegetation typical to these areas. These man-made ditches were constructed for the conveyance and storage of stormwater runoff. These sites have not been classified by the U.S. Fish and Wildlife Service. These sites are anticipated to receive approximately 0.378 acres of impact due to culvert extensions. No mitigation is proposed.

Site C-5A - This consists of a retention pond approximately 1200′ north of C.R. 95. Existing vegetation is minimal with a dense algae growth. No impact is anticipated.

Site C-5A1 - Consists of a wetland with minimal habitat value located adjacent to toe-of-slope, approximately 1,400 to 1,800 feet north of CR 95, west of US 19. The dominant vegetation at the site includes willow, water oak, primrose willow, duckweed, and Brazilian pepper along the edges. This area has not been classified by the USFWS; however it may be assigned the classification PFO6F.

Approximately 0.05 acres of wetlands are anticipated to be filled for the proposed improvements. Mitigation is proposed at a 1:1 ratio.

Site C-6A - Consists of a wetland located adjacent to toe-of-slope, approximately 2,500 feet north of CR 95, east of US 19. The dominant vegetation includes red maple, water oak, willow, primrose willow, softrush, sweetbay and redbay. This is part of a wetland system encompassing approximately 2.5 acres. This site has not been classified by the USFWS; however a classification of PFO6F may be assigned.

Approximately 0.20 acres of wetlands are anticipated to be impacted by the proposed improvements. Mitigation is proposed on a 1:1 basis.

Site C-8A and C-8B There are retention ponds approximately 0.08 acres in size, located 820 feet and 1,040 feet north of SR 584A east of US 19. These man-made sites contain no wetland vegetation and are not anticipated to be impacted by the widening of US 19.

Site C-8C - Consists of a cypress stand located approximately 1,600 feet north of Old Post Road. Bald cypress was the dominant vegetation. This is a viable wetland system which encompasses approximately 4.5 acres. The U.S. Fish and Wildlife Service has classified this wetland PFO2F (Palustrine, Forested, Needle-leaved deciduous, Semi-permanent).

Approximate impact to this wetland would include 0.23 acres for fill.

Mitigation is proposed at a 1:1 ratio.

Site C-8D - Consists of a large, viable isolated cypress wetland located approximately 2,000 feet south of Klosterman Road, west of US 19. The dominant vegetation includes bald cypress mixed with willow shrubs. The entire wetland system includes approximately 30 acres. The U.S. Fish and Wildlife Service has classified this wetland PFO2F (Palustrine, Forested, Needle-leaved, Deciduous, Semi-permanent).

Approximately 1.28 acres of wetlands would be impacted. Mitigation is proposed at a 1:1 ratio.

Site C-8E - Consists of a cypress community located approximately 1,400 to 2,000 feet south of Klosterman Road on the east side of U.S. 19. The dominant vegetation includes bald cypress, mixed with willow shrubs. The overall wetland area is less than one acre in size, but does provide some habitat value. There is no classification of this system by USFWS; however it may be assigned a classification of PFO2F.

The anticipated impact to this site includes approximately 0.24 acres for fill in the wetland area. Mitigation is proposed at 1:1 ratio.

Site C-8F - Consists of a viable wetland community located approximately 150 to 1400 feet north of Anderson Park entrance. Willow shrubs dominate the site. Bald cypress trees dominate the canopy mixed with red maple. The entire

wetland system covers approximately 11 acres, and provides moderate wetland habitat.

The anticipated impact to this site includes approximately 0.16 acres for fill into the wetland area that is dominated by willow shrubs. Mitigation is proposed at a 1:1 ratio.

Site D-1 - Consists of a 15-foot-wide tidal drainage ditch located approximately 1,600 feet south of the Anclote River Bridge. The waterway crosses beneath US 19 via one box culvert. The approximate water depth was 6 inches during field review. The dominant vegetation includes saltgrass, blackrush and cassia east of US 19. Black mangrove, red mangrove, sea purslane, saltgrass and Brazilian pepper occupy the west side of US 19. This is a non-navigable crossing due to its shallow depth. The U.S. Fish and Wildlife Service has not classified this wetland; however, it may be assigned the classification of E2EM1P.

The anticipated impact to this site would include approximately 0.092 acres due to the extension of the culvert. Although the area does not provide a diverse nor significant wildlife habitat, it is part of an estuarine system. Therefore, mitigation is proposed at a 1:1 ratio.

Site D-2 - Consists of a 200-foot-wide navigable waterway (Anclote River) which is tidally influenced at its intersection with US 19. This waterway runs underneath US 19, a 2-lane divided bridge structure. The approximate depth during field inspection was 9 feet below MLW. This waterway and associated wetlands provide a diverse habitat to a variety of wildlife including fish, alligator, wading birds, osprey, manatee and woodstork.

The U.S. Fish and Wildlife Service has classified this site as E2EMIP (Estuarine, Intertidal, Emergent, Persistent, Irregular).

It is anticipated that less than 0.39 acres of impacts would be required for proposed improvements. Some of these impacts would be temporary during construction. Mitigation is proposed at a 1:1 ratio.

Mitigation Summary

The bottomland hardwood forest and cypress wetland communities are anticipated to provide flood control and habitat for a variety of wildlife including marsh birds and mammals. Valuable habitats are limited along the corridor due to the urban nature of the existing facility. Some of these wetlands are dominated by invader species along the edges, i.e., willow shrub and saltbush.

These communities are anticipated to require less mitigation than the more valuable wetlands. All mitigation is proposed at a 1:1 ratio for a total of 4.10 acres.

The existing communities have been impacted by previous road construction, and the minimal acreage required for the proposed improvements is not anticipated to significantly impact these wetlands. To minimize harm to these wetlands, mitigation efforts could include creation of wetlands adjacent to the existing system and/or enhancement of these communities.

Twenty-seven of the forty-seven sites identified involve man-made drainage systems, mainly culvert crossings at ditches having minimal habitat value. No mitigation is proposed for these sites (See Table 4.15). This is due to the small acreage of wetland impacts to each individual culverted ditch, which would not adversely impact the value or function of these ditch systems.

The parallel drainage systems are not anticipated to require mitigation since most of these would be relocated and would re-establish wetland vegetation. These systems would also retain their primary function in stormwater treatment.

Site B-10 (Alligator Creek) could be considered a candidate mitigation area since there appears to be more than 1 acre available for wetland enhancement within the existing right-of-way. This site could be regraded on both the east and west sides of US 19 and planted with herbaceous wetland species.

Sites B-9, C-8A, and C-8B are retention ponds outside of the existing right-of-way which may be impacted. This would require a functional replacement as mitigation for their existing capacity.

The proposed bridge structures along the Cross Bayou Canal (A-5), Allen's Creek (B-4), and the Anclote River (D-2) could be mitigated within their own systems. The following mitigation scenario could be applied to enhance the existing wetland system; Noxious species of Brazilian pepper could be removed, the slopes regraded and replaced with herbaceous salt tolerant species (i.e., Spartina), the areas void of vegetation could be regraded and planted, or the mud flats could be planted with salt tolerant species. Tidal area sites (B-2) and (B-3) could be mitigated within the existing system.

The larger freshwater systems (Sites B-11, C-5A1, C-6A, C-8C, C-8D, C-8E, and C-8F) that include cypress swamps, mixed hardwood systems, scrub-shrub, and herbaceous wetlands could be mitigated by acquiring land outside the existing right-of-way to enhance some of the existing communities. In addition, the

isolated systems could be mitigated along the littoral shelf within the proposed retention areas.

### 4.3.7 WATER QUALITY

The Florida Department of Transportation has coordinated with the Florida Department of Environmental Regulation and the Southwest Florida Water Management District stormwater personnel and provided them with a preliminary coordination package describing the conceptual design of the stormwater management system for this project. As a result of that coordination, the Department is developing a stormwater treatment system for the project in accordance with Chapter 17-25, F.A.C. and Chapter 40D-4, F.A.C. The Department will continue the coordination effort during subsequent project development stages to ensure compliance with Chapter 17-25, F.A.C. and Chapter 40-4, F.A.C. This coordination does not relieve the Department of the necessity to acquire permits under Chapter 17-25, F.A.C., and Chapter 40D-4, F.A.C., nor does the preliminary review ensure a favorable permitting review. Appendix D contains comments from those agencies to whom the coordination package was sent.

In accordance with Section 17-3.161(1) F.A.C. the surface waters of the State of Florida are classified as Class III - Recreation, Propagation and Maintenance of a Healthy, Well-Balanced Population of Fish and Wildlife. Exceptions to Class III waters are designated in Section 17-3.161(2)(C) F.A.C. however none of these occur within the US 19 Corridor. All surface waters located within the US 19 Corridor are designated Class III waters.

The proposed improvements to US 19 will include both open and closed drainage systems for the length of the project corridor. As part of recent improvements to US 19 storm sewers were constructed between Druid Road and SR 590A (Coachman Road) and Lake Street to Live Oak Street in Tarpon Springs. The existing closed drainage system from Lake Street to Live Oak Street includes several easements and detention areas which will continue to function as stormwater detention and treatment facilities.

The remainder of the corridor presently is an open drainage system consisting of roadside ditches and swales, and side drain pipes with scattered inlets. The project may require the redesign or relocation of existing open drainage systems or replacement with curb and gutter inlets and enclosed pipes for stormwater conveyance. Detention/treatment facilities will also be constructed to meet stormwater regulatory criteria. The proposed development of enclosed storm sewers in the corridor should not significantly alter existing drainage patterns.

The Cross Bayou Canal, Allen's Creek, Alligator Creek, Curlew Creek and the Anclote River currently receive stormwater runoff from US 19. These waterbodies would continue to receive stormwater runoff from US 19 following the proposed improvements. However, treatment of US 19 stormwater runoff per chapter 17-25, F.A.C. and Chapter 40D-4, F.A.C. would occur prior to any discharge to these waterbodies.

Because of the "state-of-the-art" in highway stormwater research, it is not possible at this time to determine the impact of this discharge on the Cross Bayou Canal, Allen's Creek, Alligator Creek, Curlew Creek and Anclote River or any other surface water water body in the corridor. The appropriate Best Management Practices will be used during the construction phase for erosion control and water quality considerations. Any additional stormwater treatment measures found necessary, over and above Best Management Practices, in order to obtain Chapter 17-25, F.A.C. compliance will be state funded.

Construction and modification of US 19 is expected to have minimal impact upon groundwater resources within the project area. Two regional aquifers, the surficial and Floridan, underlie the corridor. Separating these aquifers is a semi-confining layer of variable transmissivity which is composed of clays and clayey silty sands. This semi-confining unit tends to prohibit or retard the seepage of groundwater from one aquifer to another. The upper (surficial)

aquifer consists of unconsolidated undifferentiated fine to course grained sands and shelly sands which range in thickness within the study area from a few feet to greater than 50 feet. Groundwater of the surficial aquifer is subject to degraded water quality as a result of organic decay, pesticides and infiltrating urban runoff. Because of the deteriorated nature of background water quality within the surficial aquifer, unconsolidated sands could be used for treating urban stormwater runoff which may result from the construction and modification of US 19. Treatment processes include decay, chemical solutioning, and dilution. The degree to which these processes affect the nature and breakdown of pollutants is dependent upon the lithology, stratigraphy, groundwater movement and type of pollutants involved. As previously mentioned, low permeability clayey sands and sandy clays will limit groundwater seepage from the surficial aquifer to the Floridan aquifer. The Floridan aquifer is a highly permeable water-bearing unit, composed primarily of fractured limestone. Saltwater encroachment of groundwater from the Floridan aquifer, which results from excessive pumping near the coast, has significantly limited the number of drinking water supply wells within the vicinity of the corridor.

The degraded background water quality, which results from salt water encroachment in the Floridan aquifer within the project limits, coupled with limited groundwater seepage from the surficial aquifer, indicates that the

proposed construction and modification of US 19 will create minimal water quality impacts to the Floridan aquifer. Consistent with local or federal regulation, Best Management Practices will be used to dispose of all oil, chemicals, fuel, and other contaminants to prevent contamination to the Floridan aquifer.

National Wild and Scenic River System

No rivers which lie within the study corridor are included in or qualify for the National Wild and Scenic River System as established in the Wild and Scenic Rivers Act (PL-90-542) as amended.

### 4.3.8 FLOODPLAIN

In accordance with Executive Order 11988, "Floodplain Management", the proposed action has been evaluated to determine the extent of potential impacts associated with base floodplain encroachments. A risk evaluation was done for cross drain structures along U.S. 19. The hydraulic improvements to these structures were categorized based on the type of hydraulic structure improvement and estimated flood plain impact using FDOT "Drainage Manual". 1987 - Chapter 3.

Category 3 hydraulic structures where widening is recommended meet the following criteria.

> "The modifications to drainage structures included in this portion of the project will result in insignificant change in their capacity to carry floodwater. This change will cause minimal increase in flood heights and flood limits. These minimal increases will not result in any significant adverse impacts on the natural and beneficial floodplain values or any significant change in flood risk or damage. There will not be a significant change in the potential for interruption or termination of emergency service or emergency evacuation routes. Therefore, it has been determined that this encroachment is not significant". (FDOT, Drainage Manual 1987).

Category 5 structures which will be replaced meet the following criteria.

> "Replacement drainage structures for the portion of this project are limited to hydraulically equivalent structures. The limitations to the hydraulic equivalency being proposed are basically due to restrictions imposed by the geometrics of

design, existing development, cost, feasibility, or practicability. An alternative encroachment location is not considered in this category since it defeats the project purpose or is economically unfeasible. Since flooding conditions in the project area are inherent in the topography or are a result of other outside contributing sources (tidal surge), and since there is no practical alternative to totally eradicate flood impacts or even reduce them in any significant amount, existing flooding will continue, but not be increased.

The proposed structures will be hydraulically equivalent to or greater than the existing structures and backwater surface elevations are not expected to increase. As a result, this project will not affect existing flood heights or floodplain limits. This project will not result in any new or increased adverse environmental impacts, and there will be no significant change in the potential for interruption or termination of emergency service or emergency evacuation routes. Therefore, it has been determined that this encroachment is not significant." (FDOT, Drainage Manual, 1987.)"

Category 5 structures which involve the replacement of drainage structures in heavily urbanized flood plains on existing alignments are S-8, S-12, S-22, the bridge over the Cross Bayou Canal, the bridge over Allens Creek, and the bridge over the Anclote River. All other structures were determined to be Category 3, projects involving modifications to existing drainage structures. Detailed information can be found in the Location Hydrauloic Report, August 1987.

The project will not promote or accelerate development of adjacent base floodplains since the area is presently highly urbanized.

### 4.3.9 AQUATIC PRESERVE

The proposed action has been evaluated to determine the extent of potential impacts associated with encroachment within aquatic preserves. Aquatic Preserve, as defined in Section 258.37 Florida Statutes, means an exceptional area of submerged lands and its associated waters, set aside for being maintained essentially in its natural or existing condition.

The Pinellas County Aquatic Preserve (PCAP) is the only designated aquatic preserve within the vicinity of the study corridor. Chapter 72-663, Laws of Florida, excludes privately held submerged lands lying landward of established

bulkhead lines from the PCAP. Correspondence has been forwarded to the Florida Department of Natural Resources (FDNR) Title and Lands Record Section through the "Advance Notification" package to determine potential involvement within the PCAP. (See Appendix D.)

Although the aquatic preserve designation includes all of the waters within Pinellas County, most of the waterbodies located along the study corridor are man-made or altered ditches that are not considered to be in their natural condition nor offer "exceptional areas of submerged lands".

Within the project study limits only two waterbodies, which approximate their natural conditions, would receive encroachment. They are Allen's Creek and the Anclote River. It should be noted that both sites have existing bridge crossings.

Allen's Creek is tidally influenced at its intersection with US Highway 19 where it is bordered by a vegetative community of marine species, including sea purslane, saltgrass, red and white mangroves. Construction of the proposed bridge would impact approximately 0.4 acres of submerged bottom and intertidal wetlands, some of which will be temporary during construction.

The Anclote River consists of a 200-foot-wide navigable waterway which is tidally influenced at its intersection with US Highway 19. The area is sparsely vegetated with marine species including red, white, and black mangroves and saltmarsh cordgrass. Brazilian pepper and wax myrtle are also common in the transitional zones. Construction of the bridge would impact approximately 0.4 acres of submerged bottom and intertidal wetlands, some of which will be temporary during construction.

All practicable alternatives have been evaluated (See Section 2.0). Since the aquatic preserve encompasses all of Pinellas County, there is no practicable alternative to locating the encroachment outside the preserve.

Measures will be taken to minimize harm to the preserve, including the use of Best Management Practices during construction to minimize impacts on water quality. Such measures may include, but not be limited to straw bales, sodding side slopes to prevent erosion and the use of staked or floating siltation barriers (turbidity curtains).

Minimal impact to the aquatic preserve is anticipated from the construction of US Highway 19 since these areas currently receive stormwater runoff from US Highway 19 and the proposed project would provide treatment in accordance with applicable sections of Chapter 17-25 F.A.C. and Chapter 40D-4, F.A.C. prior to discharge into the preserves.

Permits required would include the Florida Department of Natural Resources, Florida Department of Environmental Regulation, U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Coast Guard and the Southwest Florida Water Management District.

### 4.3.10 OUTSTANDING FLORIDA WATERS

Florida Statutes, Chapter 403, Section 403.061, Subsection (27), grant powers to the Florida Department of Environmental Regulation (DER) to establish rules which provide for a special category of waterbodies within the state, to be referred to as Outstanding Florida Waters. The waters of Pinellas County are located within the Pinellas County Aquatic Preserve and therefore would be considered as outstanding Florida Waters.

Chapter 17-25 F.A.C. requires that projects discharging directly into Outstanding Florida Waters (OFW) shall be required to provide stormwater treatment for a volume 50 percent more than normally required.

### 4.3.11 COASTAL ZONE CONSISTENCY

The proposed project has been determined to be consistent with the State of Florida's Coastal Management Program. Correspondence regarding the project's coastal zone consistency is in Appendix D.

### 4.3.12 THREATENED AND ENDANGERED SPECIES

The project area has been evaluated for impacts on threatened and endangered species. A literature review was conducted to determine those possible threatened and endangered species which may inhabit the project area. Consultation with the U.S. Fish and Wildlife Service (USFWS) was initiated requesting their identification of endangered and threatened species along the project corridor. Furthermore, the potential for impacts to critical habitat was assessed as to the relationship of the project to the USFWS designated "Critical Habitat".

The literature review resulted in a determination that the occurrence of endangered and threatened species within the project corridor would be limited due to the lack of appropriate habitat. The literature review also provided a determination that there is no designated critical habitat for endangered or threatened species within the vicinity of this project. A field review in

August 1986 and March 1988 did not result in the sighting of any endangered or threatened species or other positive indicators of their presence (i.e., nests, burrows, etc.)

The USFWS response letter (see Appendix D) indicated that the West Indian Manatee, Bald Eagle, Wood Stork (endangered species - Federal List), and the Eastern Indigo Snake (Threatened species - Federal list) may be found in Pinellas and Pasco Counties.

The West Indian Manatee (Trichechus Manatus), is known to frequent both salt and freshwater habitats along the coastline and connecting inland water bodies of peninsular Florida. They may be found in canals, rivers, estuaries, and saltwater habitats of sufficient depth (1.5 meters or more). Manatees normally feed on submerged grasses and other aquatic vegetation. The study corridor does not contain habitat with the required depth for manatee migration/movement. Allen's Creek and the Anclote River provide suitable habitat for the manatees.

Mitigation measures that will be implemented to ensure the protection of manatees are outlined below. These shall be included as special provisions of the contract.

1. Construction personnel shall be advised as to the potential presence of the manatee and their endangered status and of the need to avoid any action that would jeopardize the existence of the species.

2. Construction personnel shall be advised of the civil and criminal penalties for harming, harassing or killing manatees.

   a. The Florida Manatee Act states: It shall be unlawful for any person at any time, by any means, or in any manner intentionally or negligently to annoy, molest, harass, or disturb any manatee; capture or collect any manatee; or possess literally or constructively, any manatee or any part of any manatee. Any person violating the provisions of this paragraph shall be guilty of a misdemeanor of the first degree.

   b. Additional penalties and fines up to $20,000 and one year imprisonment, or both, are provided for under the Federal Endangered Species Act of 1978, as amended, and the Marine Mammal Protection Act of 1972. The contractor shall be held responsible for any manatees harassed or killed as a result of the project's construction.

3. Appropriate work shift personnel shall be instructed in the appearance, habits, biology, migratory patterns and preservation of the manatee. At least one of these trained personnel will be present on-site during construction activities to maintain a constant surveillance for manatees and to assure the cessation of activities that may endanger the animals (such as dredging, excessive turbidity and construction barge activity) and assure that uninhibited passage for the animals is provided.

4. Signs shall be posted on-site warning of the presence of manatees, their endangered status and precautions needed.

5. The manatee hot-line number (800/342-1821) shall be posted at an on-site telephone to be used as a source of information or help in dealing with any problems involving the manatee. Telephone reports must be made in the event of any injury, collision with or killing of manatees.

6. Operators of watercraft will be responsible for any collisions with manatees. Vessels associated with the project shall operate at slow (no wake) speed while in shallow water, especially where the draft of the boat provides less than three feet of clearance with the bottom.

Work boats shall load and off-load at designated sites. Vessels used to transport personnel shall be shallow-draft vessels of the light displacement category and shall follow routes of deep water to the maximum extent possible, where navigation safety permits.

7. Turbidity from construction activities will be adequately controlled to prevent degradation of the quality and transparency of the water. When manatees are present, turbidity curtains of appropriate dimensions will be used to restrict the animals access to work areas. Pollution booms and turbidity curtains should use tangle resistant or hemp rope when anchoring or employ safe anchors, to prevent entangling manatees. Continuous surveillance will be maintained in order to free animals which may become trapped in silt or turbidity barriers.

8. Construction debris shall not be discarded into the water.

9. The contractor shall keep a log detailing all sightings, injuries or killings of manatees occurring during the contract period. Following project completion, a report summarizing these incidents shall be submitted to the U.S. Fish and Wildlife Service.

10. Blasting probably will be used for the removal of the existing bridge piers and associated footings. If blasting is used, a danger zone will be established within an arc defined by a radius equal to $(26000w^{1/3})/64.7$, where W=weight of the explosive charge in pounds. Prior to blasting, the zone would be surveyed by boat for the presence of manatees. No blasting would occur until the zone is clear. As long as the above precautions are observed, no effects on the manatee are anticipated.

The Bald Eagle (Haliaceetus leucocephalus) is generally found throughout the continental United States. The bald eagle is normally found near bodies of water (coasts, rivers, lakes, etc.) where they feed and nest. Preferred nesting sites are in the tops of tall trees, but are also dependent upon other factors including distance from the water, a clear flight path to the water and an open view of the surrounding area.

Bald eagles could nest in tall living or dead trees within wetland forest, or in one of the individual pine trees scattered through the project area. However, surface waters located within the project corridor are of limited size and are used primarily as stormwater conveyance systems. It is unlikely that these drainage systems would provide a sufficient food source for this species.

Due to the lack of suitable habitat adjacent to the study area and the minimal impact to possible nesting sites, this project should have no impacts on the endangered bald eagle.

The wood stork (Mycteria americana) is normally an inhabitant of freshwater and brackish wetlands and feeds in freshwater marshes, flooded pastures and flooded ditches. This species primarily nests in cypress or mangrove swamps. Especially attractive feeding sites are low-lying areas in marshes or swamps where seasonal low water levels create high concentrations of fish. Wood storks could possibly utilize permanently wet roadside ditches, Allen's Creek, the Anclote River and associated tidal flats. The lack of preferred feeding grounds and the absence of typical nesting areas along the study corridor is expected to limit the wood storks occurrence to potential infrequent visits during migratory periods. The proposed construction of detention ponds, for stormwater treatment, along the improved roadway should provide more attractive feeding/wading areas for this species and possibly increase the chances for their presence within the study area. This could provide a positive impact on this species.

The Eastern Indigo Snake (drymarchon corais couperi) seems to be strongly associated with high, dry, well-drained sandy soils, which closely parallel the sandhill habitat preferred by the gopher tortoise. However, this species

is also known to frequent streams and swamps, and occasionally flatwoods, during warmer months. Once again this species is not likely to be present within the study area due to the absence of its preferred habitat. It is possible that individuals may migrate to the area's wetland forest and drainage canal during summer months. However, the impact to these areas would be minimal and should have no significant impact on this species.

### 4.3.13 FARMLANDS

Prime and unique farmlands as defined in the Farmland Protection Policy Act (PL 97-98) are determined not to be present within the study corridor by the Soil Conservation Service. Additionally, no lands of significant local farmland value were identified in Pinellas and Pasco Counties by the State of Florida Department of Agriculture.

### 4.3.14 ENERGY

The Build Alternative is expected to result in less total energy utilization than the existing facility. Initially, construction of the facility would require energy and resources not necessary if the project were not developed. The additional energy utilization would be attributed to construction activities and the temporary reduction of the operating efficiency of the

roadway during construction. However, once the facility is completed, the additional energy lost during construction would be more than compensated for by increased efficiency of the new facility.

Increased energy efficiency on the improved facility would be attributed to its limited access features and would result in:

- decreased vehicle delays;
- more efficient vehicle operating speeds; and
- the diversion of traffic away from less convenient and efficient roadways.

The project is considered consistent with the Federal Energy Policy and Conservation Act.

### 4.3.15 HAZARDOUS WASTE

The disruption of hazardous waste sites can have a detrimental effect on the environment and can thereby impede roadway construction. However, these impacts and delays can be minimized or avoided when the sites are identified and investigated prior to roadway construction and site disturbance.

In order to determine the existence and location of potential hazardous waste sites within the US 19 project corridor, a survey of potential waste sites was

conducted. The results of the inventory are summarized in Section 3.12 of this document.

The information collected during this survey has identified 86 known or suspected hazardous waste sites along the project corridor. Predominant among these sites are existing and former automobile service stations which contain underground tanks for the storage of common petroleum products. Other sites include either businesses and industries that store small quantities of hazardous materials, or disposal areas that contain construction debris and solid wastes. One wastewater treatment facility was also identified.

Of the 86 potential hazardous waste sites identified during the inventory, only 52 are registered with DER. Among these registered sites 12 are reported by DER as containing soil and/or groundwater contamination. Based upon FDOT criteria, these 12 sites have been designated a rating of "medium" from the standpoint of potential impact to the US 19 project and may require additional investigation (see table 3.10).

None of the remaining 34 identified sites is registered with DER. Therefore, there is no record of compliance or enforcement action at any of these sites. Right-of-way acquisition in the vicinity of these sites may increase the risk of encountering undetected contamination. Therefore, many of these sites

may also require further investigation to establish the absence or presence of soil and/or groundwater contamination. As such, 25 of these sites have also been rated "medium" in terms of potential impact to the project (see table 3.10).

Detailed information about each of the identified sites is contained in the US 19 Hazardous Waste Site Inventory Report published separately [12].

Although DER does not currently require permits or prior approval for the abandonment of underground fuel storage tanks, Chapter 17-61 of the Florida Administrative Code mandates that these tanks be removed following guidelines developed by the American Petroleum Institute. [13] These guidelines provide practical operating procedures for the abandonment, removal, storage, and transport of underground tanks which have contained petroleum products.

In some cases, the distance between hazardous waste sites and the existing US 19 right-of-way will preclude any direct site involvement during roadway construction. However, leaky underground storage tanks or the prolonged unmitigated land disposal of hazardous materials can sometimes result in contaminated soils at considerable distances down-gradient from the site. In these cases, roadway construction could expose these contaminated soils, resulting in unanticipated environmental hazards and construction delays.

Soil sampling and groundwater monitoring can serve as effective preventative measures in these areas.

As a result of the Florida Water Quality Assurance Act passed in 1983, the long term land disposal of hazardous waste is now prohibited in Florida. This land disposal ban makes the creation of new hazardous waste sites within the state unlawful. However, old, abandoned, or illegally operated dump sites are still common throughout Florida. Furthermore, illegal dump sites are often difficult to locate because there is seldom enough surficial evidence to determine their existence. In addition, illegal dumping practices usually proceed un-noticed, and therefore unreported.

Finally, the DER Stationery Tank Registration Program (Chapter 17-61 F.A.C.) requires the registration of all active and inactive aboveground and underground storage tanks. However, DER records show that many current and former tank owners fail to comply with this regulation.

Due to the existence of illegal dumps and the lack of compliance with the DER tank registration program, the occurrence of potential hazardous waste sites may extend beyond those identified in this survey of the project corridor. Therefore, the US 19 hazardous waste site survey is not meant to replace those technical studies which deal with geology, hydrology, or sampling and analysis

of site contents. Rather, this information can be used to identify areas along the project corridor where these technical investigations, if required, can determine the extent of the site involvement prior to roadway construction.

The State of Florida has evaluated the proposed right-of-way and has identified potential hazardous waste sites for the various proposed alternatives. Results of this evaluation will be utilized in the selection of a preferred alternative. When a specific alternative is selected for implementation, a site assessment will be preformed to the degree necessary to determine levels of contamination and, if necessary, evaluate the options to remediate along with the associated costs. Resolution of problems associated with hazardous materials will be coordinated with appropriate regulatory agencies and, prior to right-of-way acquisition, action will be taken where applicable.

### 4.3.16 CONSTRUCTION IMPACTS

The major short term impact which would occur during construction is the temporary disruption of local traffic and pedestrian circulation and access patterns. The Florida Department of Transportation will require traffic in the corridor be maintained throughout the construction phase. With the

exception of short-term diversion, two and three lanes of traffic would be maintained in both directions of US 19. This should reduce adverse impacts on both businesses and the traveling public due to construction activities.

Impacts to the aquifer from construction related activities, such as location of borrow pits, cannot be addressed at this time since these are site specific and will be determined by the Contractor. Any potential impacts to ground or surface waters will be minimized through local and state permitting procedures.

Water quality could be adversely affected during construction by increases in stormwater run-off and increased turbidity. Measures such as grassing, baled hay or straw dams, flow diversions and sediment checks will be used to mitigate impacts.

Wetland vegetation and the associated wildlife will be affected during the construction of interchanges, overpasses, drainage culverts, and waterway crossings. The proposed improvements have been designed to cause minimum disruption of viable habitats.

Noise levels from construction equipment will temporarily increase during construction. Construction noise will be controlled on this project by

adherence to the controls listed in the Supplemental Specifications to the 1986 Edition of the Florida Department of Transportation Standard Specifications.

Air pollution may be temporarily increased from additional particulate matter (dust) from clearing and grading operations. In order to avoid wind blow dust and dirt during dry periods of construction, water will be applied when necessary and permanent seeding and mulching will be established as soon as possible after the completion of final grading.

The short term impacts of construction of the proposed improvements will be mitigated by the phased scheduling improvements, maintenance of traffic during construction and adherence to the Florida Department of Transportation Standard Construction Specifications.

## REFERENCES


[1] Air Quality Guidelines - Guidelines for Microscale Analysis of Air Quality Near Highways in Florida, Florida Department of Transportation, Bureau of Environment, November 1985.

[2] Design Alternatives Report - U.S. 19 Project Development and Environmental Studies. Pinellas and Pasco Counties, Florida, State Project No. 15150-1565, Prepared for the Florida Department of Transportation. Prepared by Greiner Engineering, Inc., April 1986.

[3] Mobile Source Emissions Model (MOBILE3), U.S. Environmental Protection Agency, June, 1984.

[4] CALINE3 - A Versatile Dispersion Model for Predicting Air Pollutant Levels Near Highways and Arterial Streets, Federal Highway Administration, November, 1979.

[5] Florida Department of Transportation, US 19 Noise Report, US 19 Project Development and Environmental Studies, State Project Number 15150-1565, June, 1988.

[6] United States Department of Transportation, Federal Highway Administration's Fundamentals and Abatement of Highway Traffic Noise, 1984.

[7] United States Department of Transportation, Federal Highway Administration, Sound Procedures for Measuring Highway Noise, 1981.

[8] Florida Department of Transportation, U.S. 19 Traffic Report, U.S. 19 Project Development and Environmental Studies, State Project Number 15150-1565, 1985.

[9] United States Department of Transportation, FHWA Procedures for the Abatement of Highway Noise, Title 23 CFR Part 772, 1982.

[10] Federal Highway Administration, Report of Field Review--Highway Traffic Noise Impact Identification and Mitigation Decision-Making Processes, 1982.

[11] U.S. 19 Project Development and Environmental Studies, Location Hydraulic Report, prepared by Greiner Engineering Sciences, Inc, July 1987.

[12] Hazardous Waste Site Inventory Report, US 19 Project Development and Environmental Studies, Pinellas and Pasco Counties, Florida (State Project Number 15150-1565); prepared for the Florida Department of Transportation, prepared by Greiner Engineering Sciences, Inc., June 1987.

[13] Recommended Practice for Abandonment or Removal of Used Underground Service Station Tanks; American Petroleum Institute, Bulletin 1604, First Edition, March 1981.

# SECTION 5

## 5.0 LIST OF PREPARERS

This document was prepared by the U.S. Department of Transportation, Federal Highway Administration and the Florida Department of Transportation with assistance from Greiner Engineering Sciences, Inc.

**FEDERAL HIGHWAY ADMINISTRATION**

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| Mr. Dennis B. Luhrs<br>District Engineer | B.S. Degree in Civil Engineering and 11 years experience in highway engineering. Supervisory Highway Engineer responsible for the administration of the Federal-Aid Highway program for the Bartow District. |
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| Mr. George E. Rice<br>Environmental Coordinator | B.S. degree in Civil Engineering and 16 years experience in highway engineering. Highway engineer responsible for the coordination of environmental studies for Federal-Aid highway projects throughout the State of Florida. |

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| Mr. C. L. Irwin<br>Environmental Administrator | M.A. degree in Botany and 14 years experience in preparation and review of environmental documents. Document preparation and review. |
| Mr. Benito Cunill, III<br>Public Transportation Specialist | M.S. degree in Public Administration and 10 years experience in preparation and review of environmental documents. |
| Mr. W.D. Browning<br>Archeologist | M.S. degree in Anthropology and 13 years experience in archeological review. Archeological site survey and document review. |
| Mr. C. Wayne Lasseter<br>District Project Development Engineer | FDOT In-Service Training Program for Highway Engineers; ICS Degree in Highway Engineering Technology; 25 years experience in highway engineering. Overall supervision of document preparation and document review. |
| Mr. T. Franklin Black<br>Senior Project Manager | A.S. degree in Horticulture and 21 years experience in highway engineering. Document preparation and review. |

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| Mr. Raymond L. Nottingham<br>District Environmental<br>Administrator | B.A. degree in Biological Science and 3 years experience in environmental monitoring and 8 years experience in project development. Preparation of environmental portion of document. |
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**GREINER ENGINEERING SCIENCES, INC.**

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| Mr. Ronald W. Gregory, AICP<br>Project Manager | M.A. degree in Urban Geography and 13 years experience in environmental analysis in environmental document preparation. |
| Sharon Phillips, AICP<br>Project Coordinator | M.A. degree in Urban Planning and 12 years experience in Urban and Transportation Planning. |
| Mike Kenney<br>Air Quality Scientist | M.S. degree in Environmental Engineering; and 9 years experience in pollution assessment. |
| Jerry Roberts<br>Noise Specialist | M.S. degree in environmental Engineering and 6 years experience in Environmental Transportation. |
| Laddie Irion<br>Environmental Planner | B.A. degree in Biology and 7 years experience in environmental planning and permitting. |
| George Feher<br>Biologist | B.S. degree in Biology and 12 years experience in environmental planning and permitting. |
| Mike Falini<br>Concept Design Engineer | 9 years engineering experience in roadway and traffic engineering. |
| Steve McGucken, P.E.<br>Transportation Engineer | B.S. degree in civil engineering and 16 years experience in traffic design and traffic engineering. |
| Steve Morris<br>Costing Engineer | B.S. degree in building construction and 12 years experience in costing and estimating. |

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|---|---|
| C. Lynn Miller, P.E.<br>Senior Water Resources Engineer | M.S. degree in civil and structural engineering and 15 years experience in environmental analysis civil and structural engineering. |

# SECTION 6

## 6.0 LIST OF AGENCIES, ORGANIZATIONS AND OFFICIALS TO WHOM COPIES OF DRAFT EIS WERE SENT

## 6.1 FEDERAL AGENCIES

1. Chief, EIS Branch
   Environmental Protection Agency, Region IV

2. Director, Environmental Project Review
   Department of Interior

3. Region IV Environmental Officer
   Department of Housing and Urban Development

4. Regional Environmental Officer
   Department of Health and Human Services, Region IV

5. Office of the Secretary
   Department of Agriculture

6. Regional Forester
   U.S. Forest Service

7. District Engineer
   Army Corps of Engineer, Jacksonville District

8. Commander (OAN), Seventh Coast Guard District U.S. Coast Guard

9. Regional Director
   Federal Railroad Administration

10. Food and Drug Administration

11. National Marine Fisheries Service

12. Assistant Director for Administration
    U.S. Atomic Energy Commission

13. Division of NEPA Affairs
    Department of Energy

14. State Conservationist
    Department of Agriculture

15. Chief, Airports District Office
    Federal Aviation Administration

16. Special Assistant to the Secretary of State/Environmental Affairs
    Department of State

17. NOAA - National Weather Service

18. Deputy Chief, Programs and Legislation
    U.S. Forest Service

19. Office of Deputy Assistant Secretary for Environmental Affairs
    Department of Commerce

20. Honorable L.A. Skip Bafalis
    U.S. House of Representatives

21. Director, Office of Federal Activities
    Environmental Protection Agency

22. Documents Librarian
    The Libraries - Colorado State University

23. Environmental Affairs Groups, Health and Human Services

24. Environmental Health Services Division
    Center for Disease Control

25. Federal Emergency Management Administration

## 6.2 STATE AGENCIES

1. Deputy Director, Policy Coordination
   State Planning and Develoment Clearing House of the Governor

2. Structural Materials Research Engineer
   Florida Department of Transportation

3. Florida Game and Freshwater Fish Commission

4. Florida Department of Environmental Regulation

5. Florida Division of Forestry

6. Florida Department of Natural Resources

7. Florida Department of Health and Rehabilitation Services

8. Florida Department of Community Affairs

## 6.3 LOCAL AND REGIONAL AGENCIES

1. Pasco County Commissioners

2. Pinellas County Commissioners

3. City of Clearwater

4. City of Dunedin

5. City of Pinellas Park

6. City of Tarpon Springs

7. Tampa Bay Regional Planning Council

8. Southwest Florida Water Management District

# SECTION 7

## 7.0 COMMENTS AND COORDINATION

### 7.1 PUBLIC PARTICIPATION PROGRAM

A Public Participation Program consistent with the requirements of Florida's Action Plan is being carried out as an integral part of the project development and environmental studies for the proposed improvements to US 19. The purpose of this program is to maintain communication with individuals and agencies concerned with the project and includes both a public involvement and agency coordination effort.

### 7.2 ADVANCE NOTIFICATION

The Florida Department of Transportation through the Advance Notification Process informed a number of federal, state and local agencies of the existence of this project and its scope. The Florida Department of Transportation initiated early project notification on March 16, 1983.

The correspondence responding to this review is found in Appendix D. The National Marine Fisheries and Florida Department of Environmental Regulation

noted concern for potential wetland impacts. The Florida Department of Community Affairs identified potential flood hazard areas. The Florida Department of Natural Resources assumes the project lies within the existing right-of-way. The Department of State determined the project will have no effect on any historic site resources. The Game and Fresh Water Fish Commission had no comment. The Tampa Bay Regional Planning Council found no local or regional concerns during its review. The project was found to be consistent with the Coastal Zone Management Plan.

## 7.3 INTERAGENCY COORDINATION AND COMMENTS

During the evaluation of alternatives and the preparation of the Draft Environmental additional federal and state agency contacts were initiated for data gathering and review and comments. A list of agencies contacted the purpose of the contact is contained below. Responses are contained in Appendix D.

| | | |
|---|---|---|
| * | U.S. Fish and Wildlife Service | Presence and Distribution of Endangered and Threatened Species. |

| | | |
|---|---|---|
| * | Southwest Florida Water Management District | Review of Conceptual Design |
| * | Florida Department of Environmental Regulation | Review of Conceptual Design |

## 7.4 COORDINATION WITH ELECTED OFFICIALS AND LOCAL PUBLIC AGENCIES

Informational presentations were made to local governing bodies at the initiation of the study. A presentation was made to the Pinellas County Metropolitan Planning Organization on September 24, 1984. Presentations were also made to the Dunedin City Council on September 24, 1984; the Pinellas County Commission on October 2, 1984; the Cargo City Commission on October 2, 1984; and the Pinellas Park City Council on September 13, 1984.

The Florida Department of Transportation held US 19 Improvement Coordination meetings with local engineering, public works and planning staffs on September 27, 1984. Staff from the following municipalities attended the briefings: Clearwater, Dunedin, Largo, New Port Richey, Pinellas Park, Tarpon Springs, Port Richey; and Pasco and Pinellas Counties and the Tampa Bay Regional Planning Council. The staff attending this and subsequent meetings were added to the computerized mailing list and notified of public workshops.

As the study progressed, coordination meetings were held with Pinellas Park City staff on November 30, 1984 and the Tarpon Springs City staff on December 18, 1984. On February 12 and 25, 1985 presentations were made to the Pinellas County MPO.

Upon approval of the Design Alternatives Report and development of recommended alternatives a Public Information Workshop was held on July 1, 1986. This was followed by Public Information Center Open House for six consecutive Tuesdays. All elected officials and participating local staffs received notification of the availability of aerial photos with recommended alternatives displayed for review.

Comments received at the Public Workshop and the Public Information Center included responses from several local governments. These comments are included in summary form in Appendix B and in Section 7.4. Because of the comments and concerns received from local staffs and elected officials during the public comment phases, another series of meetings with local governments were held. These meetings are listed here.

| Date | Locality | Agency |
|---|---|---|
| 8-13-86 | Tarpon Springs | City Manager, staff |
| 8-28-86 | Pinellas Park | Mayor, City Manager, staff |
| 8-28-86 | Clearwater | Public Works staff |
| 8-28-86 | Dunedin | City Manager, staff |
| 8-29-86 | Tarpon Springs | City Manager, staff |

| | | |
|---|---|---|
| 9-03-86 | Clearwater | Asst. City Manager, staff |
| 9-03-86 | Pinellas County | Public Works staff |
| 9-04-86 | FDOT | FDOT/FHWA staff |
| 9-17-86 | Pinellas County | Transportation Coordinating Committee |
| 10-31-86 | Pinellas County | Public Works staff |
| 9-23-87 | Clearwater | Public Works staff |

The meetings with local governments resulted in a number of issues being discussed and resolved through refinement of the alternatives presented to the public at the Public Workshop and Public Information Center. Summaries of those meetings are found in Appendix B.

The August 28, 1986 meeting with the City of Pinellas Park resulted in the refinement of Alternative A-1 to A-1A. This provides for an at-grade intersection at 78th Avenue, and the relocation of an overpass from 82nd Avenue to 86th Avenue.

Meetings on August 28, 1986, September 3, 1986 and September 23, 1987 with the City of Clearwater focused on the provision of an interchange or overpass at Enterprise Road. As a result of the initial discussions, the study was expanded to include a re-examination of the traffic patterns at Enterprise Road and Countryside Drive. The issue was resolved through the development of Alternative B-8D. This Alternative provides for an interchange at Enterprise Road and an overpass at the proposed 3rd Avenue South.

The August 28, 1986 meeting with the City of Dunedin resulted in the refinement of Alternative C-2 to C-2A with the relocation of an overpass from Republic Drive to the proposed extension of Michigan Boulevard. The Northside Drive Overpass was included as proposed in C-2.

Meetings with Pinellas County on September 3 and October 31 resulted in the addition of an off ramp south of 118th Avenue in Design Segment A, and the relocation of a parallel access road north of Drew Street in Design Segment B. The access road change resulted in better access for the county's highway maintenance garage and refinement of Alternative B-8 to B-8C.

Tarpon Springs access issues were first addressed in the Phase I US 19 Environmental Impact Statement. The request for additional study by the City resulted in a supplement to the Phase II contract and the extension of the project limits of Design Segments C and D. Meetings with local staff and completion of additional analysis provided for overpasses at the Meres Avenue Extension and Live Oak Street, and improved U-turn capability north of SCL Railroad.

As the recommended alternatives were refined to meet the issues ad concerns by local staffs, presentations were made to the following local governments.

| Date | Locality | Governing Body |
|---|---|---|
| 9-09-86 | Tarpon Springs | City Council |
| 10-09-86 | Pinellas Park | City Council |
| 11-13-86 | Dunedin | City Council |

Resolutions supporting the refined alternatives described in the "Proposed Action" were adopted by the following local governing bodies.

| Date | Governmental Unit |
|---|---|
| September 9, 1986 | City of Tarpon Springs |
| September 26, 1986 | Pinellas County MPO |
| October 9, 1986 | City of Pinellas Park |
| November 13, 1986 | City of Dunedin |
| February 5, 1987 | City of Clearwater |
| April 9, 1987 | Pinellas County |

Copies of these resolutions are attached in Appendix A.

## 7.5 PUBLIC INFORMATION WORKSHOP AND CENTER

On July 1, 1986 a Public Information Workshop was conducted at Ruth Eckerd Hall in Clearwater. One inch to 100 feet aerial photographs of the entire corridor were displayed with the recommended alternatives. Typical interchange and roadway sections, maps, and charts presenting other pertinent information were also displayed. Consultant and Department of Transportation representatives were present to respond to questions and receive comments. Approximately 200 persons attended the workshop. A summary of the comments received is contained in Appendix B. The major issues identified at the Public Workshop are:

* An additional interchange or overpass at US 19 and Enterprise Road
* Relocation of the 82nd Avenue Overpass to 86th Avenue extension
* Addition of an overpass at 78th Avenue
* Additional access to the City of Tarpon Springs
* Two-way frontage roads
* Alternative corridors
* Access to corner property owners at proposed interchange and overpass locations.

Following the Workshop, a Project Information Center was established at the Florida Department of Transportation Construction Office in Clearwater. The center was open six consecutive Tuesdays from July 22nd until August 26th, 1986. This enable individuals unable to attend the workshop to be able to obtain information about the proposed improvements. The center was staffed by consultant for 4 hours one day a weeks. No additional major issues were identified during the Public Information Center. The public comments received addressed the same issues as identified during the Public Workshop. A summary of comments received during each Public Information Center is contained in Appendix B.

## 7.6 PROPERTY OWNER AND INTERESTED CITIZEN MAILING LIST

All property owners within 300 feet of the centerline of US 19 and other interested persons were compiled in a computerized mailing list. This list also contained elected officials and local governing staffs. Letters were sent to elected officials, property owners and interested citizens notifying them of the Public Workshop and Public Information Center. This list contained approximately 2,360 persons as of October 1986.

## 7.7 CONTINUING PUBLIC INVOLVEMENT

In addition to the public involvement activities noted above, informal meetings were held with property owners, developers and realtors whenever requested by the Florida Department of Transportation. These meetings generally concern specific properties within the corridor and the impact of alternatives on these properties.

### 7.7.1 RESPONSES TO ELECTED OFFICIALS, GOVERNING BODY STAFF AND INTERESTED CITIZENS

Sections 7.1, 7.2 and the Appendices B and C contain summaries of the issues and concerns identified during the public involvement process. Resolution of the issues identified during the public review phase of the recommended

alignments resulted in major refinements to each design segment. Those refinements are discussed in detail in the alternative section. The revisions can be summarized in examination of the differences between Alternative A-1 and Alternative A-1A in Design Segment A, Alternative B-8 and Alternative B-*C in Design Segment B, Alternative C-2 and Alternative C-2A in Design Segment C, and Alternative D-2 and Alternative D-2B in Design Segment D. The second or refined alternative in each design segment resolves the issues identified during the public involvement process. Public support of the refinements is indicated by the resolutions supporting the refined recommended Alternatives A-1A, B-8D, C-2A, and D-2B.

### 7.7.2 COORDINATION WITH PUBLIC AND PRIVATE EMERGENCY, SOLID WASTE, AND COMMUNITY SERVICES

Twice during the study process, information was requested to analyze a limited access roadway on public and private services. The first letter was sent in November 1984 and the second in August 1986. A list of the firms and agencies contacted is found in Appendix D. A utility coordination meeting was held with the various public and private utility companies operating in the US 19 corridor on December 12, 1984. Comments on the US 19 project were solicited from the utilities and coordination established. A list of attendees at the utility coordination meeting is found in Appendix D.

All comments received were included in the evaluation and recommended design process. The Proposed Action does not conflict with any responses received.

The department will not make a final decision on the proposed or any alternative until a public hearing has been held on this project and all comments received have been taken into consideration.

# SECTION 8

## 8.0 INDEX

# SECTION 9

## 9.0 APPENDICES

Appendix A - Resolutions of Support

Appendix B - Public Comment Summary

Appendix C - Local Government Comments

Appendix D - Agency and Public Services Coordination

# APPENDIX A

# APPENDIX A

## RESOLUTIONS IN SUPPORT OF THE PROPOSED ACTION

1. Metropolitan Planning Organization
2. City of Dunedin
3. City of Pinellas Park
4. City of Tarpon Springs
5. City of Clearwater
6. Pinellas County

86-19

A RESOLUTION OF THE PINELLAS COUNTY METROPOLITAN PLANNING ORGANIZATION REGARDING U.S. 19 CONCEPTUAL PLANS

WHEREAS, the adopted Year 2010 Long Range Highway Plan depicts U.S. 19 as a limited access Freeway/Expressway with interchanges or overpasses at all major cross streets; and

WHEREAS, a "Phase I" study of needed U.S. 19 improvements identified the need for interchanges/overpasses at Ulmerton Road, East Bay Drive, Countryside/SR 580 and Tarpon Avenue; and

WHEREAS, a Phase II study now underway has identified twenty five additional locations where interchanges or overpasses will be required in order to fully implement the Long Range Highway Plan; and

WHEREAS, the location and design of each of the interchanges and overpasses has been refined over the past few months through direct coordination with affected jurisdictions and the Technical Coordinating Committee; and

WHEREAS, it is recognized that ongoing discussions are occuring with affected jurisdictions to resolve minor design issues, and that any decisions arising from these discussions will be coordinated through the Pinellas County Metropolitan Planning Organization; and

WHEREAS, the "refined design alternatives" developed by the Florida Department of Transportation are in basic conformance to the MPO's adopted Year 2010 Long Range Highway Plan.

NOW, THEREFORE, BE IT RESOLVED, that the Pinellas County Metropolitan Planning Organization in regular session this 26th day of September, 1986, endorses the planning process being utilized by the Florida Department of Transportation in the development of design alternatives for Phase II improvements to U.S. 19 between Gandy Boulevard in Pinellas County and Alternate U.S. 19 in Pasco County.

BE IT FURTHER RESOLVED, that the Pinellas County Metropolitan Planning Organization will continue to coordinate with FDOT, its Consultant, and all affected jurisdictions as to any changes or modifications to the U.S. 19 design alternatives that may become necessary.

Chairman
Pinellas County
Metropolitan Planning Organization

ATTEST:

Executive Director
Pinellas County
Metropolitan Planning Organization

RESOLUTION NO. 86-23

A RESOLUTION ENDORSING U.S. 19 PHASE II PROPOSED IMPROVEMENTS PLAN REGARDING INTERCHANGES AND OVERPASSES AT CURLEW ROAD, NORTHSIDE DRIVE AND MICHIGAN BOULEVARD EXTENSION; AND MAINTAINING CONTINUED COORDINATION WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION AND OTHER AGENCIES IN THE U.S. 19 PLANNING PROCESS.

WHEREAS, the Pinellas County Metropolitan Planning Organization's Year 2010 Long Range Highway Plan depicts U.S. 19 as a limited access Freeway/Expressway with interchanges or overpasses at major cross streets; and

WHEREAS, a Phase I study for U.S. 19 improvements, identified the need for an interchange at Countryside/S.R. 580; and

WHEREAS, a Phase II study now underway has further identified the need for an interchange at Curlew Road (S.R. 586) and overpasses at Northside Drive and Michigan Boulevard extension; and

WHEREAS, Florida Department of Transportation and its Consultant have discussed the location and design of each of the interchanges and overpasses with the City of Dunedin; and

WHEREAS, the location and design of the interchanges and overpasses are consistent with and furthers the Dunedin 2000 Comprehensive Plan.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF DUNEDIN, FLORIDA, IN SESSION DULY AND REGULARLY ASSEMBLED:

Section 1. That the City Commission endorses the concept of interchanges and overpasses at Curlew Road, Northside Drive, and Michigan Boulevard extension as illustrated by Alternative C-2A of the U.S. 19 Phase II Proposed Improvements, as per Exhibit A attached.

Section 2. That the City of Dunedin continue to be part of further coordination among the Florida Department of Transportation, its Consultant, and the Pinellas County Metropolitan Planning Organization as to any changes or modifications to the U.S. 19 design alternatives as they affect the City of Dunedin.

OFFICE OF
THE CITY ATTORNEY
CITY OF DUNEDIN
750 Milwaukee Avenue
Dunedin, FL 33528

Section 3. This Resolution shall become effective immediately upon passage and adoption.

PASSED AND ADOPTED BY THE CITY OF DUNEDIN, FLORIDA, THIS 13th DAY OF NOVEMBER, 1986.

Mary Bonner
Mayor/Commissioner

ATTEST:

Joan Dickey
City Clerk

I DO HEREBY CERTIFY THAT THIS IS A TRUE AND CORRECT COPY OF Resolution 86-23 PASSED AND ADOPTED BY THE CITY COMMISSION OF THE CITY OF DUNEDIN 13 November 1986

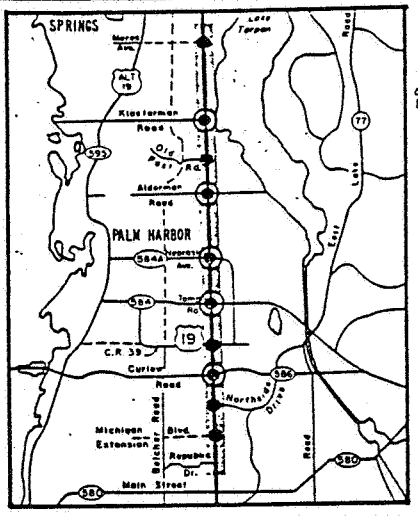
Joan Dickey
CITY CLERK

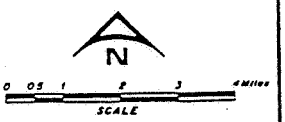
OFFICE OF
THE CITY ATTORNEY
CITY OF DUNEDIN
750 Milwaukee Avenue
Dunedin, FL 33528

# U.S. 19 PHASE II PROPOSED IMPROVEMENTS
## Pinellas and Pasco Counties, Florida
## State Project No. 15150-1565
## REFINED RECOMMENDED ALTERNATIVES

ALT. D-2B


ALT. C-2A



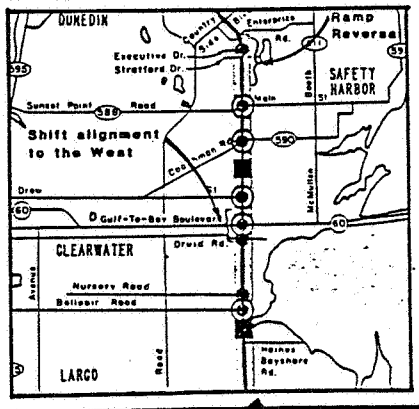




**LEGEND**

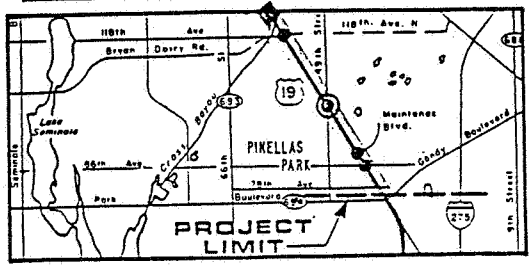
- INTERCHANGE
- OVERPASS (MINOR INTERCHANGE)
- GRADE SEPARATION
- EXPRESSWAY AND FRONTAGE ROADS AT GRADE

**NOTE:**
Previously Programed Interchange Areas Are Not Shown

ALT. B-8C




ALT. A-1A




FLORIDA DEPARTMENT OF TRANSPORTATION

87-139

A RESOLUTION OF THE BOARD OF COUNTY COMMISSIONERS
REGARDING U.S. 19 CONCEPTUAL PLANS

WHEREAS, the adopted Sector Plan Traffic Corridors Plan depicts U.S. 19 as a principal arterial with interchanges or overpasses at all major cross streets; and

WHEREAS, a "Phase I" study of needed U.S. 19 improvements identified the need for interchanges/overpasses at Ulmerton Road, East Bay Drive, Countryside/SR 580 and Tarpon Avenue; and

WHEREAS, a Phase II study now nearing completion has identified twenty-five additional locations where interchanges or overpasses will be required in order to fully implement adopted plans; and

WHEREAS, the location and design of each of the interchanges and overpasses has been refined by the consultant through direct coordination with affected jurisdictions. To date, the Pinellas County Metropolitan Planning Organization and the cities of Pinellas Park, Clearwater, Dunedin, and Tarpon Springs have adopted resolutions endorsing the U.S. 19 conceptual plans; and

WHEREAS, the "refined design alternatives" developed by the Florida Department of Transportation are in basic conformance to the Board's Sector Plan Traffic Corridors Plan.

NOW, THEREFORE, BE IT RESOLVED, that the Pinellas County Board of County Commissioners in regular session duly assembled this 7th day of April, 1987, endorses the planning process being utilized by the Florida Department of Transportation in the development of design alternatives for Phase II improvements to U.S. 19 between Gandy Boulevard in Pinellas County and Alternate U.S. 19 in Pasco County.

BE IT FURTHER RESOLVED, that the Pinellas County Board of County Commissioners will continue to coordinate with FDOT, its consultant, and all affected jurisdictions as to any changes or modifications to the U.S. 19 design alternatives that may become necessary.

Commissioner Todd offered the foregoing resolution and moved its adoption, which was seconded by Commissioner Tyndall, and upon roll call, the vote was:

Ayes: Greer, Rainey, Tyndall and Todd.

Nays: None.

Absent and not voting: Chesnut.

(7021P/0193P)

I, KARLEEN F. De BLAKER, Clerk of the Circuit Court and Clerk Ex-Officio, Board of County Commissioners, do hereby certify that the above and foregoing is a true and correct copy of the original as it appears in the official files of the Board of County Commissioners of Pinellas County, Florida.
Witness my hand and seal of said County this 9th day of April, A.D. 19 87
KARLEEN F. De BLAKER, Clerk of the Circuit Court Ex-Officio Clerk to the Board of County Commissioners, Pinellas County, Florida.
By: .....
Deputy Clerk

# APPENDIX B

# APPENDIX B

## PUBLIC COMMENT SUMMARY

1. Public workshop, July 1, 1986

2. Public Information Centers

July 22, 29, 1986
August 5, 12, 19, 26, 1986

# 1. JULY 1, 1986 PUBLIC WORKSHOP COMMENTS SUMMARY

## JULY 1, 1986 PUBLIC WORKSHOP SUMMARY

On July 1, 1986 a public meeting was held from 3:00 to 8:00 p.m. to present the preferred design alternatives for US 19 Phase II to elected officials, public agency staff, property owners and interested parties. The meeting was held at Ruth Eckerd Hall in the Margarete Heye Great Room. Aerial photos at 1'=100' were displayed with right-of-way requirements for the proposed design alternatives. Also on display were typical roadway segments and typical interchange designs as well as copies of the US 19 Design Alternatives Report. FDOT and Greiner staff were on hand to explain the proposal and answer questions. Visitors were requested to register and over 200 persons attended the meeting.

Comment cards were provided and over 100 cards were received. The majority of persons filling out cards (66 persons) requested only to be added to the mailing list.

Comments received verbally by Greiner and FDOT staffs and on the cards provided, are summarized below.

- Enterprise Road

  A number of persons working near or owning property on Enterprise expressed dissatisfaction with the fact that no interchange or

overpass was proposed at Enterprise Road and US 19. The proposed design for this area of US 19 requires drivers wishing to continue on Enterprise Road across US 19 to make a right turn onto the frontage road and go to the Countryside Boulevard interchange and cross over to the parallel frontage road on the other side via a free-flow U-turn. Drivers then go to Enterprise Road and make another right turn to continue their trip. The nearest interchanges to Enterprise Road are Countryside Boulevard, approximately 1500 feet north of and Executive Center Drive approximately 2100 feet south.

- Access to Property Owners Along US 19

A number of persons expressed concern about access to property they owned or leased along US 19. Most provided services such as food or gasoline, and felt they would lose business because drivers on US 19 could not directly access their establishments. Several property owners expressed concern because the combination of the interchange and intersection design resulted in their only access being from right turns off the cross street.

- Move 82nd Avenue Overpass to 86th Avenue

The City of Pinellas Park staff requested the proposed design be changed to have an interchange at 86th Avenue rather than 82nd Avenue. The change would allow better traffic movement within the

City of Pinellas Park, and provide needed access to a large DRI on 86th Avenue.

- Add Interchange at 78th Avenue

  The City of Pinellas Park also requested an interchange or overpass be added at 78th Avenue. Access to the frontage road with an overpass would be a sufficient design.

- Provision of U-Turn at SCL RR (Southbound to Northbound)

  A request was made to evaluate an additional U-turn movement (southbound to northbound) near the SCL RR. The proposed design has a long segment of roadway through this area without interchanges because of topography and wetlands.

- Additional Interchanges in Tarpon Springs Area

  Several persons expressed a desire for interchanges near Tarpon Springs in addition to the one proposed at Tarpon Avenue under Phase I of US 19 Improvements. The areas of most concern were near the railroad bridge and both sides of the Anclote River.

- Phase I - Requests for Information and ROW Concerns

  A large number of persons attending the public meeting requested information about Phase I proposals. Requests were made for primarily the names of DOT staff handling right-of-way acquisition

and for information on the Countryside area construction schedules. Several people noted the heavy congestion near Klosterman Road in Tarpon Springs and proposed construction of the area through Tarpon Springs should begin immediately.

o Proposed Scheduling and Cost

Most of the persons attending the meeting said US 19 was very congested and that improvements should begin immediately.

Several persons noted the high cost of the proposal and some expressed the opinion that it was so expensive that it could never be done.

o Alternative Reliever Routes to US 19

The opinion that a new road parallel to US 19 should be built was suggested. The use of McMullen-Booth Road as an alternative was also expressed by several persons.

o Two Way Frontage Roads

Concern was expressed by persons concerned about the trip length required because of one way frontage roads. They felt if frontage roads ran in both directions on both sides of US 19, less gasoline would be consumed.

## 2. JULY AND AUGUST, 1986 PUBLIC INFORMATION CENTER COMMENTS SUMMARY

JULY 22, 1986 PUBLIC INFORMATION CENTER

COMMENTS SUMMARY

Michigan Avenue - Add Interchange, Remove Republic & Northside

- City of Dunedin, Robert Brotherton - Need interchange at Michigan Avenue. It is the major thoroughfare while Northside Drive & Republic Drive are residential streets. Republic Drive currently has neighborhood through traffic problems and a system of deterrents has been implemented.

Enterprise Road - Add Overpass

- Major business center with much traffic from one side to the other. Need to be able to cross from one side to other. Funneling traffic through Countryside Boulevard will add to congestion at that area.

JULY 29, 1986 PUBLIC INFORMATION CENTER

COMMENTS SUMMARY

- Provide public transportation for workers (7:00 - 10 a.m. and 3:00 - 6:00 p.m.) from south to north on US 19. Points of origin and termination should be determined by survey.

- Enterprise Road - Connect two sides in Phase II. Provide light during Phase I. Important to be able to cross over US 19.

- Pinellas County Highway Department - Parallel access road north of Drew Street cannot be built because of wetlands and two new office buildings. If no access to US 19 via Drew Street, construction equipment has no access to U.S. 19. Need long acceleration lane for cement haulers and 80 foot trucks.

AUGUST 5, 1986 PUBLIC INFORMATION CENTER

COMMENTS SUMMARY

Phase I

- Most questions were directed toward Phase I of the project. The Department of Transportation supplied these people with sketches of the Eastbay Interchange which will begin in September, 1986.

General

- The remainder of the people located their property of interest but had no comments concerning proposed improvements.

AUGUST 12, 1986 PUBLIC INFORMATION CENTER

COMMENTS SUMMARY

Phase I Design and Construction Schedule

Six of the eight visitors were interested in the design or timing of Phase I construction. They were provided with the information currently available from the Florida Department of Transportation and referred to Department of Transportation personnel where applicable.

Enterprise Road

Two persons commented on the absence of an interchange at Enterprise Road. Both indicated they felt there was a need for connectivity between the portions of the road.

Michigan Avenue Extension

Two Dunedin City staff visited to obtain general information about the portion of the project crossing the City. Discussion about a Michigan Avenue interchange versus Republic and Northside interchanges indicated there was no consensus at this time about the likelihood of Michigan Avenue construction. City staff will contact Greiner when this issue is resolved.

AUGUST 19, 1986 PUBLIC INFORMATION CENTER

COMMENTS SUMMARY

Enterprise Road

The only person having a comment on the US 19, Phase II project objected to the proposal for Enterprise Road. The party felt an overpass should be provided to allow for vehicles to travel from east Enterprise Road to West Enterprise Road across US 19.

Other persons visiting the center requested a detailed description of the project.

## AUGUST 26, 1986 PUBLIC INFORMATION CENTER

**COMMENTS SUMMARY**

Two persons visited the center to receive more detailed information about property access to U.S. 19 under the recommended alignments.

No specific comments were made.

# APPENDIX C

# APPENDIX C

## LOCAL GOVERNMENT COMMENTS ON THE ALTERNATIVES RECOMMENDED AT THE JULY 1, 1986 PUBLIC WORKSHOP

Meeting Summary

August 28, 1986

City of Pinellas Park

Staff and the Mayor of the City of Pinellas Park met with FDOT and Greiner staff to discuss changes to the recommended alternatives for US 19, Phase II. The issues and discussion are summarized below:

- 78th Avenue

  Two alternative designs (A-1A and A-1B) were presented by Greiner staff for an additional access at 78th Avenue. It was agreed that an at-grade intersection (Alt. A-1A) at 78th Avenue and US 19 would meet the city's objectives to provide better access to the central business district, the highway patrol station, and the proposed Gateway project.

  The at-grade 78th Avenue intersection will allow all movements to US 19. As a result, the one-way frontage road system will begin north of 78th Avenue. Two additional changes to the design of the at-grade intersection will be evaluated, and if possible made to the design: 1) The southbound frontage road on US 19 will be moved a short distance north; 2) and the right turn lane radius from the south bound frontage road will be tightened.

o 86th Avenue

A design, prepared by Greiner, for an overpass at 86th Avenue was presented to city officials and staff. It was agreed that an overpass met the city's objectives for better access for the Gateway project and other proposed developments east of US 19. It was determined that the exact design, location and angle of the overpass were dependent on a proposed development on the property at 86th Avenue east of US 19. The city is currently negotiating with the developer about that property. In addition, the city wishes to have the 86th Avenue extension west of US 19 removed from the adopted MPO Transportation Plan. It was agreed the City of Pinellas Park would furnish to FDOT and Greiner within the next week:

1) R.O.W. to be dedicated for 86th Avenue east of US 19.
2) A letter to MPO stating they wish the segment of 86th Avenue West to be deleted from the MPO Long Range Transportation Plan.

Greiner will then redesign the 86th Avenue overpass. The redesign is to be accomplished by the September 17th TCC meeting.

o 82nd Avenue

The City of Pinellas Park concurred with Greiner and FDOT that if the overpass at 86th Avenue, and the intersection at 78th Avenue are provided, the overpass at 82nd Avenue will be removed from the recommended design alternatives.

Meeting Summary

August 28, 1986

City of Dunedin

Staff from the City of Dunedin met with Greiner and FDOT staff to discuss changes to the recommended alternatives for US 19, Phase II. The meeting was the result of a July 25, 1986 letter from John Lawrence, Dunedin City Manager. A summary of the issues addressed at the meeting is presented below.

- Michigan Avenue

  The City had requested Greiner evaluate the removal of overpasses at Northside and Republic Drives and replace them with an interchange at Michigan Boulevard extension. Greiner presented this as Alternative C-2B and also provided Alternative C-2A with an overpass at Michigan Boulevard Extension and an overpass at Northside Drive.

  The Greiner staff analysis recommended Alternative C-2A because it provided access to the North Pinellas County Service Center at Northside Drive. The alternative (C-2A) removes the overpass at Republic Drive.

  Dunedin staff concurred their objectives were met by Alternative C-2A. It was agreed to further evaluate the Michigan Boulevard Extension interchange geometry to determine if it could be reduced

to achieve a more consistent LOS with the Curlew Road Interchange. Concept plans were sent to the city after the evaluation.

Meeting Summary

August 28, 1986

City of Clearwater

The City of Clearwater staff reviewed and commented favorably on Alternative C-2A. Alternatives to segment B-8 were also presented to the Clearwater staff. The refined alternatives revise the location of the Local Access Road in the Northeast quadrant of the Drew/US 19 interchange. Alternative B-8C was recommended by Greiner staff. It provides an access road parallel to US 19 at the eastern edge of now vacant property. Alternative B-8B, which provided access via Fairwood Avenue, was not recommended because of conflict with Moccasin Lake Park and abutting residential land uses. Clearwater staff will respond with comments September 5.

**Meeting Summary**

**September 3, 1986**

**City of Clearwater**

On September 3, 1986, Greiner staff met with the City of Clearwater staff to identify City owned property and proposed future use within the Drew Street area.

City Owner Property

Greiner staff had requested City staff provide maps and discuss city owned property and proposed future uses within the US 19 corridor. The city showed street name maps which indicated US 19 property lines, R.O.W. easements, and Cliff Stevens Park and Moccasin Lake Park within the Drew Street area. The city agreed to send utility maps indicating this type of information to Greiner at a later date.

Alternative C-2A

Greiner discussed the addition of a Michigan Boulevard interchange, retention of the Northside Drive overpass, and removal of the Republic Drive overpass. City staff concurred the refined alternatives provided adequate access to Clearwater residents. Discussion focused on provision of an interchange instead of an overpass at Northside Drive. However, it was agreed that because of ramp spacing problems resulting from close proximity to Curlew Road, an overpass was the feasible alternative.

Alternative B-8A, B-8B and B-8C

Greiner staff presented Alternative B-8A, B-8B and B-8C which revises the local access road to the Pinellas County Highway Department maintenance building. Alternative B-8A is the same as the original B-8 design alternatives. Alternative B-8C moves the access road paralleling US 19 to the east. City staff concurred this was more feasible than access via Fairwood Avenue (Alternative B-8B). Alternative B-8B would disrupt a residential area and access to Moccasin Lake Park.

Executive Drive

The City of Clearwater noted their concerns had been addressed in a letter dated August 4, 1986 and delivered to the Clearwater Project Public Information Office on SR 60. Sharon Phillips had not received the letter and expressed regret at the lack of time to develop a response from Greiner. Discussion then focused on alternative locations for the overpass at Enterprise Road instead of Executive Drive. Greiner staff agreed to review the alternative locations and evaluate changes to Executive Drive if required by the Florida Department of Transportation. The City was advised that the issue of Enterprise Road will need to be resolved before any additional study of Executive Drive. The proximity and potential impact of changes to the Countryside Interchange were noted. The City staff stated delay to the Countryside construction was not desirable.

Property in Northwest Quadrant of Drew Street

A proposed development in the Northwest quadrant of Drew Street was also discussed. The City staff indicated the property has received DER permit approval, but has not received site plan approval from the City. The City was requested to forward the property boundary survey and the site plan to Greiner so the US 19 proposed R.O.W. can be drawn on the survey map.

Greiner staff stressed the importance of not allowing any environmental mitigation to occur within the proposed R.O.W. The City staff indicated that they felt the US 19 R.O.W. would fall within the City's required 40 foot easement.

**Meeting Summary**

**September 3, 1986**

**Pinellas County**

On September 3, 1986, Ron Gregory and Sharon Phillips of Greiner met with Doug Mullis, Bob Powell, Peter Turgeon and Israel Castro of Pinellas County Department of Public Works to discuss Alternatives B-8A, B-8B, and B-8C.

The Public Works Department has responsibility for the County Highway Department maintenance building located northeast of Drew street along US 19. Recent construction and environmental mitigation areas will prevent the construction of a local access maintenance facility. The road was the sole access point for traffic from the facility on to US 19.

County staff concurred that refined Alternative B-8C was the only reasonable location of the local access road. It is parallel and to the east of the previously recommended location (B-8A). Because of the heavy equipment, Alternative B-8B it was agreed, would cause complaints from the residential area along Fairwood Avenue. Further, it was agreed that the B-8C roadway would have 14 foot travel lanes and turning radii suitable for C-50 trucks.

Meeting Summary

August 29, 1986

City of Tarpon Springs

Staff from the City of Tarpon Springs and from the Pinellas County MPO met with FDOT and Greiner staff to discuss the Tarpon Avenue area. The supplement calls for an analysis of additional access to the City of Tarpon Springs.

Greiner staff presented three alternative overpass and ramp configurations for Meres Avenue. Alternative C-2A provides northbound access to Meres Avenue by using the northbound off-ramps south of Klosterman Avenue and traveling along the frontage road until Meres Avenue. This alternative provides southbound access onto US 19 by traveling the frontage road until the on ramp south of Klosterman Avenue. Alternative C-2B provides an additional northbound off ramp and an additional southbound on ramp between Klosterman and Meres Avenue. This enlarges the required R.O.W. and extends it east into Anderson Park. Alternative C-2C provides the same ramp configuration as C-2B but shifts the alignment west. This enlarges the required R.O.W. and extends it west a significant distance beyond the existing R.O.W.

The City of Tarpon Springs staff concurred Alternative C-2A met their objective of providing additional access to the area west of US 19 to the City of Tarpon Springs without significant requirements for additional R.O.W.

Alternative D-2A and D-2B were presented to the City staff. It provides for an overpass at Live Oak Street, and additional U-turn capability from the southbound and northbound frontage roads. Alternative D-2B provides the same access as D-2A plus an additional northbound off ramp just north of the SCL railroad, and moves the northbound on ramp north of the Anclote River. It was agreed that the Greiner Staff will present Alternative C-2A and D-2B to the City at a later date. These two alternatives best met their objectives for additional access in the area.

Meeting Summary

June 24, 1986

City of Tarpon Springs

The staff of the City of Tarpon Springs, Greiner staff and staff from the Florida Department of Transportation met to discuss revisions to the Phase I study of Tarpon Avenue. A summary of the discussion at that meeting is presented below:

- Tarpon Springs has taken actions to make the City's transportation element compatible with the MPO plan.

- The CSX Transportation Railroad is expected to proceed with R.O.W. abandonment in October 1986. No final determination has been made about use of the RR R.O.W. for the Pinellas Guideway system. However, design alternative plans should provide grade separation for transit with a park and ride lot on US 19 Gannett-Fleming is now conducting a Guideway study; however, specific R.O.W. locations will not be provided.

- The City of Tarpon Springs feels strongly that another entrance to the City in addition to Tarpon Avenue is necessary. Lake Street provides the only direct access to Alternate US 19 until Klosterman Road. City is not planning to widen Tarpon Avenue beyond two (2) lanes because of existing historic development.

- The exact alignment of Live Oak to the sponge dock area remains to be determined. The City Manager is proposing the City Commission hire a consultant to determine an alignment. Environmental problems may occur along the railroad R.O.W. because of wetlands. The consultant study would not conclude before October. Live Oak is proposed as only a two (2) lane road.

- Future traffic volumes will be needed for Live Oak and Lake Streets. The MPO can provide system traffic. Greiner will produce specific street volumes.

- Consensus was reached to evaluate:

  - overpass at Live Oak.
  - overpass at Lake Street or Meres Avenue.
  - grade separation.

**MEETING SUMMARY**

**September 23, 1987**

**City of Clearwater**

The staff of the City of Clearwater, the Florida Department of Transportation, Greiner Inc and Tampa Bay Engineering met to coordinate the Florida Department of Transportation and City of Clearwater plans for reconstruction of Countryside Boulevard. This involves consultant contracts with both the City and Florida Department of Transportation.

After a brief review of the history of previous U.S. 19 studies, a description of current projects was given. The City is committed to reconstructing Countryside Boulevard to an ultimate 6-lane divided section, east and west of U.S.19. The Florida Department of Transportation is committed to the reconstruction of U.S. 19 at S.R. 580 and Countryside Boulevard to provide interchanges. The Department is also seeking FHWA approval of the revised plan which will provide an additional overpass at Enterprise Road. The City staff concurs with this revised plan.

The City will proceed with their Countryside Boulevard reconstructions and the Florida Department of Transportation will tie into the City typical later. The City's consultant, Tampa Bay Engineering, will provide a typical section

to the Department. The Department will calculate the transition length east and west of U.S. 19 and provide this to Mr. Terry Jennings, City of Clearwater Public Works. This will establish limits of City construction.

Jan Everett, Greiner, will establish restrained 2010 traffic volumes for Countryside Boulevard and provide these to the Department for submission to the FHWA. If approved, the Department will proceed to revise its design plans for U.S.19.

# APPENDIX D