FINAL
THREATENED AND ENDANGERED SPECIES EVALUATION

PROJECT DEVELOPMENT AND ENVIRONMENT STUDY
US 19 (SR 55)
FROM SOUTH OF US 98 TO CR 488
CITRUS COUNTY, FLORIDA

Work Program Item Segment No: 405822 1
Federal-Aid Program No: 1852 007 P

The proposed project involves improving US 19 (SR 55) to a six-lane divided facility from US 98 to Turkey Oak Drive, and improvements to the CR 488 intersection in Citrus County. The total length of the project is approximately 18.8 miles.

Prepared for:

Florida Department of Transportation
District Seven
11201 North McKinley Drive
Tampa, Florida 33612-6456

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May 2004

EXECUTIVE SUMMARY

The Florida Department of Transportation (FDOT) has conducted a Project Development and Environment (PD&E) Study for improvement alternatives along US 19 (SR 55) from south of US 98 (mile post 1.730) to CR 488 (mile post 20.742) in Citrus County, Florida. The project is approximately 18.8 miles (mi) in length. The project location map (Figure 1-1) illustrates the location and limits of the PD&E Study.

This Study complies with the requirements of the National Environmental Policy Act (NEPA) and other federal requirements in order to qualify the proposed project for federal-aid funding of future development phases. For the purposes of evaluating improvement alternatives, the project was divided into six segments for this Study. The proposed improvements to US 19 include widening the existing four-lane divided facility. This widening is consistent with the Citrus County Comprehensive Plan 1995-2020[1] which designates US 19 as a six-lane principal arterial. The proposed improvements are also consistent with the City of Crystal River Comprehensive Plan[2]. The improvements are considered necessary due to the current and future projected traffic operations, to improve safety features, and to provide adequate infrastructure for the projected socio-economic growth within the corridor.

The purpose of the Threatened and Endangered Species Evaluation Report is to determine the occurrence or the potential occurrence of state and federally protected species within the study corridor. The report further assesses the area for potential impacts to protected species or their habitats and recommends avoidance, minimization, or mitigation measures as appropriate. The Threatened and Endangered Species Evaluation Report includes literature and field evaluations, mapping, and assessment of all upland habitats and utilizes the Wetland Evaluation Report for its assessment of wetland habitats.

The existing land uses adjacent to the US 19 study corridor consist of residential, commercial, public/semi-public, conservation, and open areas containing upland forests and wetlands in both rural and urban settings. Field surveys were conducted in 2001 and 2002 to determine the types and quality of uplands and wetlands and the possible occurrence of state or federally listed

species within or adjacent to the existing right-of-way (ROW). For the purposes of this evaluation, the immediate ROW and areas approximately 300 feet on either side of the ROW were reviewed.

Based on photo interpreted aerials and field evaluations, sixteen specific upland FLUCFCS categories were identified in the study area. This represents a total of 604.6 acres (ac) of coverage within the study area. The majority of upland coverage (86.9%) was comprised of forested uplands (FLUCFCS Series 400), which were evaluated under the two broad categories of Upland Coniferous Forests and Upland Hardwood Forests. Nine of the FLUCFCS categories identified belong under the general heading of forested uplands. The other FLUCFCS categories are classified under Urban Land (100), Agriculture (200), Rangeland (300), and Utilities (800). Although Urban Lands (100) and Utilities (800) are not typically included under the review of upland habitat, these areas were undeveloped, filled, cleared, or used for extractive purposes and had few to no manmade structures. Thus, for the purposes of this study, some codes within those series were included as uplands.

The proposed roadway improvements are to an existing corridor and are confined primarily to the existing roadway ROW. Little vegetated habitat suitable for protected species was identified in the ROW, which minimizes the potential effects on protected species. However, the adjacent study area did contain suitable habitat for several species and was evaluated to determine the occurrence or the potential occurrence of state and federally protected species.

Field evaluations resulted in direct evidence of four (4) protected species; gopher tortoise, Sherman's fox squirrel, Florida black bear, and pine lily. Existing data was used, in conjunction with field evaluations of habitat quality, to identify other species that are likely to occur in the Study area. Species that are known to occur or may potentially occur in the study area, but will not be affected by the project, include the American alligator, Scott's seaside sparrow, Florida scrub jay, limpkin, Marian's marsh wren, Southern bald eagle, red-cockaded woodpecker, Sherman's fox squirrel, Florida manatee, and all protected plant species.

Sixteen protected species were evaluated and determined to have a may affect, but not likely to adversely affect determination. The FDOT will abide by specific commitments to avoid any adverse impacts on these species as follows.

The Eastern indigo snake, Florida pine snake, and short-tailed snake are likely to be affected by construction activities. Standard protection guidelines for construction (Appendix E) will be implemented for the Eastern indigo snake to avoid adverse impacts to this species. The FDOT will develop an education program for construction workers about the Florida pine snake and short-tailed snake, which shall complement the indigo snake protection guidelines. Adverse impacts to the gopher tortoise and its commensal species (gopher frog and Florida mouse) will be avoided by conducting gopher tortoise surveys during the design phase in areas that will be impacted. If it is determined that tortoises will be affected, coordination with the Florida Fish and Wildlife Conservation Commission (FWC) will occur in an effort to acquire permits, thereby minimizing effects to the tortoise and the animals that share its burrow.

As part of the PD&E Study, the FDOT will survey the construction area for cavity trees of the Southeastern American kestrel, nesting areas of the Florida sandhill crane and burrows of the Florida burrowing owl just prior to construction. If these surveys result in positive findings, the FDOT will coordinate with the FWC to determine appropriate measures or mitigation to eliminate adverse impacts. A number of protected wading birds, including the roseate spoonbill, little blue heron, snowy egret, tricolored heron, and white ibis may utilize wetland areas for foraging. However, the FDOT will mitigate for any impacts to wetlands, and thus the affect to the species will be eliminated. Finally, two wood stork nesting colonies are located within 18.6 mi of the project and, thus, the project is within Core Foraging Areas (CFA) of those colonies. Any impacted wetland supporting hydrology appropriate for forage during the nesting period, which also occurs within a wood stork CFA, shall be mitigated for within that CFA. Since this effort is directed by a recent change to U.S. Fish and Wildlife Service (USFWS) policy, the FDOT commits to coordinating with the USFWS to assure all mitigation measures are followed accordingly.

To guard against the highly unlikely event that manatees attempt to cross under US 19 at the Bicentennial Park culverted ditch, the FDOT will require the construction contractor to implement manatee construction precaution guidelines in this area. Evidence of the Florida black bear was observed in the Study area. Although road mortality data indicate little threat to the bear in the Study area, the FDOT commits to installing bear crossing signage to educate and warn motorists of bears entering the roadway to minimize or eliminate future road mortalities. Because of the low incidence of road mortality, the inability to fence the adjacent roadway, the lack of public lands on both sides of the road, and the high cost of construction, wildlife crossing structures were not considered feasible for this project.

On October 16, 2003, the USFWS responded to this study by concurring that the proposed action is not likely to adversely affect resources protected by the Endangered Species Act of 1973 (Appendix C).

In addition to the protected species, approximately forty (40) different non-protected wildlife species were observed in the study area. Most of these species were migratory birds.

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INTRODUCTION

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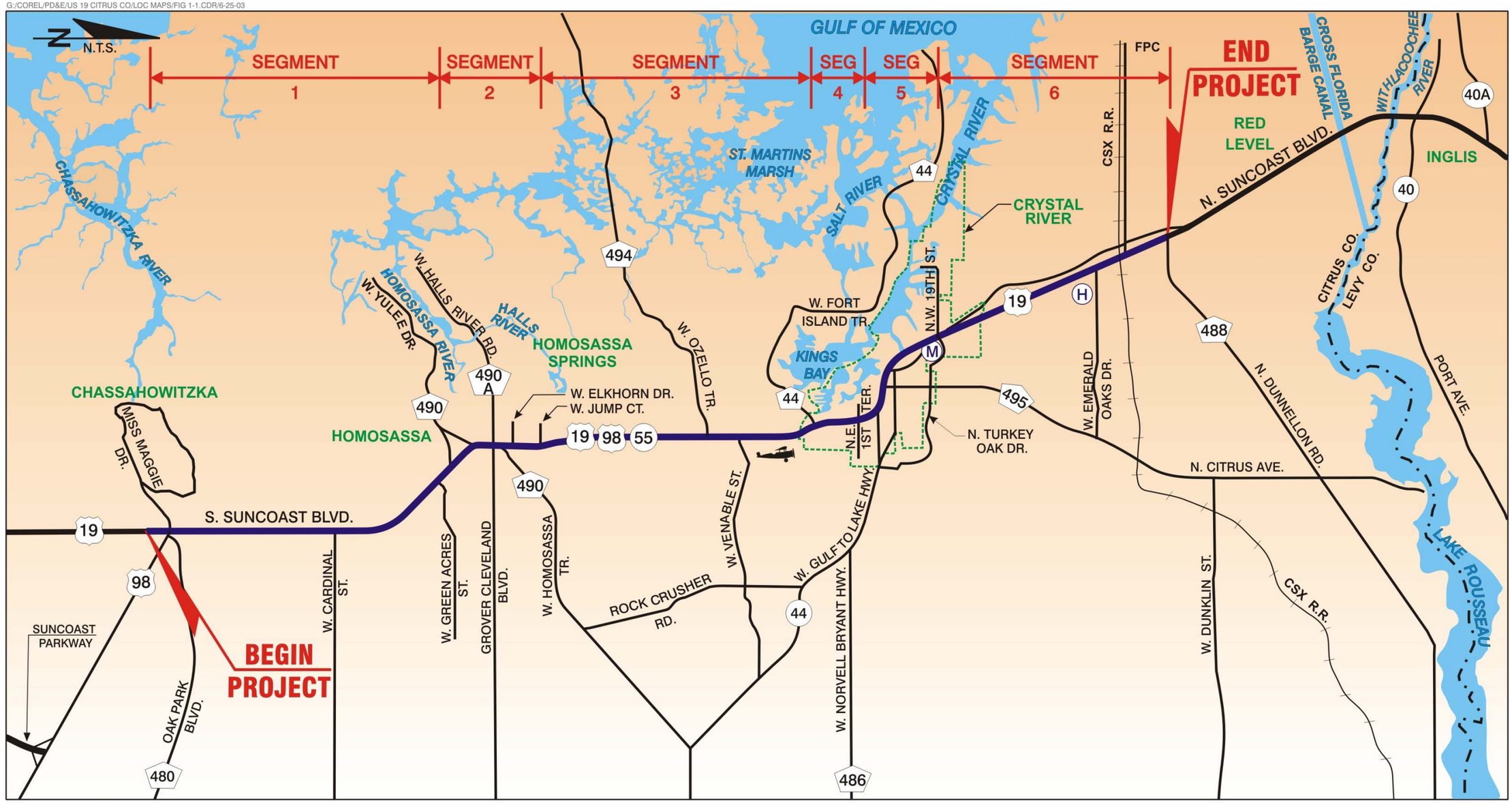
The purpose of the Threatened and Endangered Species Evaluation Report is to determine the occurrence or the potential occurrence of state and federally protected species within the study corridor. The report further assesses the area for potential impacts to protected species or their habitats and recommends avoidance, minimization, or mitigation measures as appropriate. The Threatened and Endangered Species Evaluation Report includes literature and field evaluations, mapping, and assessment of all upland habitats and utilizes the Wetland Evaluation Report for its assessment of wetland habitats.

1.1 PURPOSE

The purpose of the PD&E Study was to provide documented environmental and engineering analyses to assist the FDOT and the Federal Highway Administration (FHWA) in reaching a decision on the type, location and conceptual design of the necessary improvements, in order to accommodate future traffic demand in a safe and efficient manner. The PD&E Study also satisfied the requirements of the National Environmental Policy Act (NEPA) and other Federal requirements in order to qualify the project for federal-aid funding of future development phases of the project.

G:/COREL/PD&E/US 19 CITRUS CO/LOC MAPS/FIG 1-1.CDR/6-25-03



LEGEND

- US 19 Project Limits
- Crystal River Airport
- Crystal River City Limits
- (H) Seven Rivers Community Hospital
- (M) Crystal River Mall

US 19 (SR 55)
PD&E STUDY
From South of US 98 to CR 488
Citrus County, Florida

PROJECT LOCATION MAP

WPI SEG NO: 405822 1
FAP: 1852 007 P

FIGURE 1-1

This Study documents the need for the improvements, and presents the procedures utilized to develop and evaluate various improvement alternatives. Information relating to the engineering and environmental characteristics essential for alternatives and analytical decisions were collected. Design criteria have been established and preliminary alternatives have been developed. The comparison of alternatives was based on a variety of parameters utilizing a matrix format. This process identified the alternative that would have minimal impacts, while providing the necessary improvements. **The design year for the analysis is 2025.**

1.2 PROJECT DESCRIPTION

The PD&E Study limits encompass the portion of US 19 from south of US 98 to North Dunnellon Road (CR 488) in western Citrus County (Sections 1, 12, 13, 24, and 25 of Township 20 South, Range 17 East; Sections 3, 10, 15, 22, 26, 27, 34, and 35 of Township 19 South, Range 17 East; Sections 5, 6, 8, 17, 20, 21, 22, 27, 28, and 34 of Township 18 South, Range 17 East; Sections 30 and 31 of Township 17 South, Range 17 East; and Section 25 of Township 17 South, Range 16 East). The total length of the Study is approximately 18.8 miles (mi). US 19 is primarily a north/south rural principal arterial which follows the West Coast of Florida. Within the project limits, US 19 is part of the National Highway System (NHS) and the Florida Intrastate Highway System (FIHS). The facility serves as a major evacuation route for residents in Citrus County.

For the purposes of evaluating improvement alternatives, the project was divided into six segments based on the existing and future land use, projected traffic volumes for the design year 2025, existing typical sections and available existing ROW. The project segments are as follows:

Segment 1: South of US 98 to West Green Acres Street; 4.86 mi
Segment 2: West Green Acres Street to West Jump Court; 2.07 mi
Segment 3: West Jump Court to West Fort Island Trail (CR 44); 4.65 mi
Segment 4: West Fort Island Trail (CR 44) to NE 1st Terrace; 0.86 mi
Segment 5: NE 1st Terrace to Turkey Oak Drive; 2.05 mi
Segment 6: Turkey Oak Drive to North Dunnellon Road (CR 488); 4.31 mi

1.3 EXISTING ROADWAY CONDITIONS

1.3.1 Functional Classification

US 19 is functionally classified as a rural principal arterial from south of US 98 to North Dunnellon Road (CR 488). US 19 travels through Homosassa, Homosassa Springs, the City of Crystal River, and unincorporated areas of Citrus County. The US 19 corridor contains seven different typical sections within the project limits. The six project segments organize the following discussion of existing typical sections. Existing land use of the surrounding area is provided for each segment.

1.3.2 Existing Typical Sections

1.3.2.1 Segment 1: South of US 98 to West Green Acres Street

The existing land use in this segment is residential, commercial, public/semi-public, conservation, and open areas with upland forests. The two conservation uses in the segment are the Homosassa Tract (Homosassa Wildlife Management Area) of the Withlacoochee State Forest and the Chassahowitzka National Wildlife Refuge Maintenance Facility.

The existing typical section along US 19 within Segment 1 is a divided four-lane rural roadway with a 54-foot (ft) depressed grass median. This section contains two 12-ft travel lanes in each direction with 8-ft grassed shoulders on the inside and 10-ft outside shoulders of which 4-ft is paved. Open drainage ditches parallel both sides of the roadway. The existing ROW width for this section is 246 feet (ft).

1.3.2.2 Segment 2: West Green Acres Street to West Jump Court

The existing land use in this segment is mostly commercial with some residential, public/semi-public, conservation, and open areas containing wetlands or upland forests,

with intensive development expected in the future. Conservation uses include the Homosassa Springs State Wildlife Park Welcome Center.

There are three different existing typical sections within Segment 2 along US 19. The first typical section is from West Green Acres Street to West Yulee Drive (CR 490). This typical section is the same as that described for Segment 1.

The second existing typical section along US 19 is from West Yulee Drive (CR 490) to West Elkhorn Drive and is a five-lane undivided urban roadway with Type F curb and gutter on both sides of the roadway. This section contains one 12-ft travel lane and one 13.5-ft travel lane in each direction separated by a 14-ft two-way left turn lane. A 5-ft sidewalk is provided in each direction separated from the curb by an open drainage ditch. The existing ROW width is 120 ft.

The third existing typical section along US 19 is from West Elkhorn Drive to West Jump Court and is a divided four-lane rural roadway with a 30-ft grass median. This section contains two 12-ft travel lanes in each direction with 8-ft grassed shoulders on the inside and 10-ft outside shoulders of which 4-ft is paved. The existing ROW width is 160 ft.

1.3.2.3 Segment 3: West Jump Court to West Fort Island Trail (CR 44)

The existing land use in this section includes residential, commercial, public/semi-public, transportation (the Crystal River Airport), and isolated industrial uses, with intensive development expected in the future.

The existing typical section along US 19 in Segment 3 is a divided four-lane rural roadway with a 30-ft grass median. This section contains two 12-ft travel lanes in each direction with 8-ft grassed shoulders on the inside and 10-ft outside shoulders of which 4-ft is paved. The existing ROW width is 200 ft.

1.3.2.4 Segment 4: West Fort Island Trail (CR 44) to NE First Terrace

The existing land use in this section is comprised mostly of commercial land use with limited residential and public/semi-public uses, with intensive development expected in the future.

The existing typical section along US 19 in Segment 4 is a seven-lane undivided urban roadway with Type F curb and gutter on both sides of the roadway. This section contains two 12-ft travel lanes and one 14-ft travel lane in each direction separated by a 13-ft two-way left turn lane. A 5-ft sidewalk is provided on both sides of the roadway, separated from the curb by a grass buffer strip. The existing ROW width for this section is 200 ft.

1.3.2.5 Segment 5: NE 1st Terrace to Turkey Oak Drive

The existing land use in this segment includes commercial, public/semi-public, utility, conservation, wetlands or low intensity coastal lakes and limited residential, with intensive development expected in the future. Conservation uses include the Crystal River State Buffer Preserve Property.

There are three different existing typical sections within Segment 5 along US 19. The first typical section is from NE 1st Terrace to SR 44 and is a seven-lane undivided urban roadway with Type F curb and gutter on both sides of the roadway. This section contains two 11-ft travel lanes and one 13-ft travel lane in each direction separated by a 14-ft two-way left turn lane. A 6-ft sidewalk is provided adjacent to the curb intermittently on both sides of the roadway. The existing ROW width for this section is 100 ft.

The second existing typical section along US 19 from SR 44 to the Crystal River Mall (Station 865+00) is a five-lane undivided urban roadway with Type F curb and gutter on both sides of the roadway. This section contains two travel lanes in each direction that vary in width from 11-ft to 12-ft each separated by a 13-ft, two-way left turn lane. No sidewalk is provided in this area. The existing ROW width is 100 ft.

The existing roadway from the Crystal River Mall (Station 865+00) to Turkey Oak Drive is a divided roadway, which transitions from the urban five-lane typical section to a four-lane divided rural roadway with a 40-ft depressed grass median. This section contains two 12-ft travel lanes in each direction and a northbound auxiliary right turn lane. This area contains curb and gutter as well as 4-ft paved shoulders and open drainage ditches. Sidewalk is provided only on the east side of US 19 in this area. The existing ROW width is 200 ft.

1.3.2.6 Segment 6: Turkey Oak Drive to North Dunnellon Road (CR 488)

The existing land use in this section includes residential, public/semi-public, commercial, industrial, transportation, utility, extractive, agricultural, and open land containing upland, wetland or low intensity coastal lakes, with intensive development expected in the future.

The existing typical section along US 19 in Segment 6 is a divided four-lane rural roadway with a 40-ft depressed grass median. This section contains two 12-ft travel lanes in each direction with 8-ft grassed shoulders on the inside and 10-ft outside shoulders of which 4-ft is paved. This section also contains open drainage ditches that parallel both sides of the roadway. No sidewalk is provided in this area. The existing ROW width is 200 ft.

SECTION 2
NEED FOR IMPROVEMENT

2.1 PROJECT NEED

The need for improvement along the US 19 corridor was established based on the evaluation of the following:

- Current quality of traffic operations in the study area;
- The expected future quality of traffic operations along US 19 under the No-Build Alternative;
- Traffic safety statistics for the period between 1995 and 1999;
- Consistency with local government comprehensive plans; and
- The projected socioeconomic growth within the study corridor.

2.2 CONSISTENCY WITH TRANSPORTATION PLANS

The Citrus County Comprehensive Plan 1995-2020 designates US 19 as a six-lane principal arterial. The alternatives under consideration for the US 19 corridor are consistent with this plan. The proposed improvements are also consistent with the Traffic Circulation Element of the City of Crystal River Comprehensive Plan.

SECTION 3
ALTERNATIVE ALIGNMENT ANALYSIS

Included in the following sections are descriptions of the alternative improvement concepts developed for this project and the evaluation methods used to compare the alternatives. These descriptions are preceded by a presentation of the advantages and disadvantages of the No-Build Alternative. Refer to the Final Preliminary Engineering Report for more detailed information.

3.1 NO-BUILD ALTERNATIVE

The No-Build Alternative assumed that the existing mainline laneage is present in the year 2025. The years 2005 and 2025 were analyzed for the Final Traffic Report: Volume 2 - Future Conditions[3] assuming that no additional through lanes would be constructed on US 19 and that cross-street improvements would be constructed as scheduled in local work program plans. US 19 would be maintained in good condition during this period of time and minor traffic systems management projects could be constructed as justified. Certain advantages would be associated with the implementation of the No-Build Alternative, including the following:

- No new construction costs;
- No disruption of traffic or, due to the existing land uses along the corridor, to construction activities;
- No environmental degradation or disruption of natural resources;
- No ROW acquisitions or relocations;

The disadvantages of the No-Build Alternative include:

- Substandard level of service (LOS) for the existing roadway network;
- Increased traffic congestion causing increased road user cost due to travel delay;
- Deterioration of air quality caused by traffic congestion and delays;
- Deterioration of the existing safety deficiencies due to the increase in traffic;
- Potential deterioration in the emergency service response time;

- Increased roadway maintenance costs; and
- No improved stormwater management facilities (SMF) via stormwater attenuation and treatment.

The No-Build Alternative remained under consideration throughout the PD&E Study process.

3.2 TRANSPORTATION SYSTEM MANAGEMENT

The Transportation System Management (TSM) Alternative, which consists of minor capital improvements that maximize the efficiency of the present system, was also considered for this project. The TSM amenities for the proposed project are described as follows:

3.2.1 TSM Alternative 1: Segment 4

A proposed widening typical section was evaluated for Segment 4 under a TSM Alternative. This proposed typical section widens the existing seven-lane roadway 2.5 ft along both sides. Widening of the existing pavement allows for three 12-ft travel lanes and a 4-ft bicycle lane in each direction separated by a 14-ft two-way left turn lane. Sidewalks, 5-ft in width, are provided adjacent to the ROW lines on both sides of the roadway. This typical section can be accommodated within the existing 200 ft of ROW. The proposed design speed for this typical section is 40 miles per hour (mph). Current FIHS standards require that all urban FIHS facilities ultimately provide a raised median. Since this typical section does not provide a raised median and the design speed is below the FIHS required urban design speed of 50 mph, a design variation or exception must be prepared and have the concurrence of the State Highway Engineer.

A centered alignment was evaluated for the TSM Alternative since the widening of US 19 can generally be accommodated within existing ROW for most of this segment. Minimal ROW acquisition of approximately three ft is required along the east side for a small portion of this segment. ROW acquisition is also necessary for SMF.

3.2.2 TSM Alternative 2: Segment 4

TSM Alternative 2 was developed as a refinement of TSM Alternative 1. This alternative includes reconstructing the existing median from a two-way left-turn lane to a 17 ft raised median. In areas where left-turn lanes are proposed, the raised median will be reduced to a 4-ft traffic separator with a single 12-ft exclusive left-turn lane. This alternative also includes milling and resurfacing of the existing roadway to allow for three 12-ft travel lanes in each direction. Multi-use paths, 12 ft in width, are proposed along both sides of the roadway, adjacent to the ROW line to accommodate pedestrians and bicyclists. At SE Kings Bay Drive, bicyclists using the multi-use paths will exit US 19 since no provisions for bicyclists were developed within Segment 5 due to significant ROW impacts that would result. However, alternative bike routes can be accommodated with minor upgrades to SE Kings Bay Drive and SE Cutler Spur, incorporating the proposed pedestrian overpass at the Crystal River bike path. Due to the heavily commercialized land use in this segment and the addition of a narrow raised median, a design speed of 40 mph is proposed for this alternative. Since the reduced design speed does not meet current FIHS standards, a design variation is required for this alternative.

Unlike TSM Alternative 1, TSM Alternative 2 provides a restrictive median, which is consistent with FIHS requirements. Since TSM Alternative 2 introduces a restrictive median into a segment currently classified as Access Class 6, reclassification to Class 3 is required. A Public Hearing for reclassification was held concurrently with the PD&E Study Public Hearing.

3.2.3 TSM Alternative: Segment 5

Results of the Final Traffic Report: Volume 2 - Future Conditions indicate the need for six lanes on US 19 from US 98 to the Turkey Oak Drive in the design year 2025. However, since the downtown Crystal River area, NE 1st Terrace to Turkey Oaks Drive, is heavily developed and contains no available ROW for widening, a TSM Alternative is being considered. The following TSM improvements will not require any additional ROW and may help alleviate congestion:

- Restripe the existing roadway in the downtown Crystal River area, NE 1st Terrace to the Turkey Oak Drive, to include bike lanes;

- Improve sidewalk along US 19 from NE 1st Terrace to the Turkey Oak Drive; and
- Upgrade existing traffic signals to mast arm at Turkey Oak Drive, SR 44, NE 3rd Avenue, North Citrus Avenue (CR 495), and NW 6th Avenue.
- In addition to pedestrian signals and crosswalks at each signalized intersection, a pedestrian overpass is proposed for the Crystal River bike path.

The proposed TSM improvements will help meet current FDOT standards for pedestrian and bicycle facilities but will not meet the established FDOT standard LOS C required through downtown Crystal River. Therefore, to accommodate future travel demand along the US 19 corridor, TSM activities alone are not considered a viable alternative to roadway improvements along that portion of US 19.

3.2.4 TSM Alternative: Segment 6

In the Final Traffic Report: Volume 2 - Future Conditions, the 2025 No-Build Intersection Analyses (with Suncoast Parkway Phase 2) indicate that only minor operational improvements in Segment 6 are justified from Turkey Oak Drive to CR 488 (assuming Suncoast Parkway Phase 2 is in place) to meet an acceptable LOS; therefore, a TSM Alternative is being considered for this segment. The TSM improvements described below can be accommodated within the existing 200 ft of ROW.

- Extend the northbound left and right turn lanes at North Dunnellon Road (CR 488).
- Extend southbound left turn lane at North Dunnellon Road (CR 488).
- Add an exclusive right turn lane along westbound North Dunnellon Road (CR 488).
- The intersection at Seven Rivers Community Hospital is currently controlled by a flashing signal. The TSM Alternative includes replacement of the flashing signal with a full signal, if warranted.
- Signalize the intersection of US 19 and North Dunnellon Road (CR 488) if warranted. Upgrade existing traffic signals to mast arms at Seven Rivers Community Hospital and West Powerline Street. Pedestrian signals and crosswalks will also be included at each signalized intersection.

Crash data was obtained for US 19 within Segment 6. The safety ratios are less than 1.0 for the five year period from 1995 to 1999, indicating a below average crash rate; therefore, there are no safety issues associated with this segment of US 19.

3.3 BUILD ALTERNATIVE ALIGNMENTS EVALUATION

To effectively develop and evaluate all viable improvement alternatives for the project, the following three-step process was applied:

- In Step One, the project was divided into six segments based on the existing typical sections, land use patterns, location of crossover streets, and available ROW width.
- In Step Two, alternative typical cross sections were generated based on roadway design criteria and the results of the traffic analysis. The selection of the type and dimensions of the typical section for each segment also considered socio economic and environmental impacts.
- In Step Three, alternative improvement alignments were generated for each segment based on the typical cross sections (developed in Step Two) and the assumption that the additional ROW can be acquired where necessary along the existing facility.

3.3.1 Proposed Alternatives

The following subsections describe the proposed typical sections and alignments developed for this study. The Final Traffic Report: Volume 2 - Future Conditions indicates the need for six lanes on US 19 from US 98 to the Crystal River Mall in the design year 2025. Since each project segment was unique and required the analysis of different typical sections, the project segments were used to define the proposed alternatives for the corridor analysis. The proposed typical sections are presented graphically in Appendix A.

3.3.1.1 Segment 1: South of US 98 to West Green Acres Street

Alternative 1

The proposed typical section for Segment 1, Alternative 1, includes the widening of the existing four-lane roadway to a six-lane divided rural roadway with a 42-ft depressed grass median. Since the existing roadway is offset to the east within the ROW, both northbound and southbound roadways are widened to the west. This typical section includes the widening of southbound US 19 to the outside to accommodate an additional 12-ft travel lane and an 8-ft shoulder of which 5 ft is paved. An 8-ft paved shoulder will also be added within the median.

This typical section also includes inside widening of northbound US 19 to allow for an additional 12-ft travel lane and an 8-ft paved shoulder. The existing 4-ft paved shoulder on the outside of northbound US 19 will be widened to 5 ft to accommodate bicyclists. A multi-use path, 12 ft in width, is also provided along the existing western ROW line. A 5-ft sidewalk is also proposed on the east side of the northbound roadway. The proposed pavement widening for this segment allows the typical section to remain within existing ROW while meeting all current design criteria.

3.3.1.2 Segment 2: West Green Acres Street to West Jump Court

Alternative 1

The proposed typical section for Segment 2, Alternative 1, is a six-lane divided urban roadway with a 30-ft raised median. This typical section contains three 12-ft travel lanes and a 4-ft bicycle lane in each direction. Typically, sidewalks 5-ft in width are provided within a 12-ft border along both sides of the roadway and are separated from the curb by a grass buffer strip. However, a 12-ft multi-use path is provided along the existing western ROW line in place of the 5-ft sidewalk for a portion of this segment from West Green Acres Street to West Yulee Drive (CR 490). This typical section requires 134 ft of ROW. ROW acquisition is necessary to accommodate the proposed typical section from West Yulee Drive (CR 490) to West Elkhorn

Drive. However, the proposed typical section can be accommodated within the existing 246 ft of ROW from West Green Acres Street to West Yulee Drive (CR 490) and within the existing 160 ft of ROW from West Elkhorn Drive to West Jump Court.

A centered alignment was evaluated from West Green Acres Street to West Yulee Drive (CR 490). This alignment allows for the reconstruction of US 19 to fit within existing ROW. From West Yulee Drive (CR 490) to West Elkhorn Drive, the alignment shifts to the east to avoid impacts to the businesses and the Homosassa Springs State Wildlife Park located along the west side of US 19. The shift in the alignment results in ROW acquisition of approximately 14 ft primarily from the east side of US 19. At West Elkhorn Drive, the alignment transitions back to the center, generally fitting within existing ROW. Additional ROW acquisition is required for exclusive right turn lanes, corner clips, side road tie-ins, and SMF.

Alternative 2

The proposed typical section previously described in Alternative 1, was evaluated for part of Segment 2. In an effort to minimize impacts, a minimized typical section was evaluated for a portion of this segment from West Yulee Drive (CR 490) to West Elkhorn Drive where the existing ROW is reduced. This typical section is a six-lane divided urban roadway with a 20-ft raised median. This typical section contains two 11-ft travel lanes and one 12-ft outside travel lane with a 4-ft bicycle lane in each direction. This typical section can be accommodated within the existing 120 ft of ROW. Design variations are required for the reduced lane and median widths since the standard widths are 12 ft and 22 ft respectively. A centered alignment was evaluated for this segment of US 19. ROW acquisition is required for dual left turn lanes, exclusive right turn lanes, corner clips, side road tie-ins, and SMF.

Alternative 3

The proposed typical section previously described in Alternative 1 was evaluated for part of Segment 2. In an effort to further reduce impacts, a minimized typical section was evaluated for a portion of this segment from West Yulee Drive (CR 490) to West Elkhorn Drive where the

existing ROW width is reduced. This typical section is a seven-lane undivided urban roadway with a 14-ft two-way left turn lane. This typical section contains three 12-ft travel lanes and a 4-ft bicycle lane in each direction. This typical section can be accommodated within the existing 120 ft of ROW. Current (Federal Intrastate Highway System) standards require that all urban FIHS facilities ultimately provide a raised median and have a design speed of 50 mph or greater. This typical section does not provide a raised median and the design speed is below the FIHS required design speed. Therefore, according to the FDOT procedure Development of the Florida Intrastate Highway System[4], a design variation must be prepared and have the concurrence of the State Highway Engineer.

A centered alignment was evaluated for this segment of US 19. ROW acquisition is required for any additional turn lanes, corner clips, side road tie-ins, and SMF.

Alternative 4

The proposed typical section previously described in Alternative 1 was again evaluated for all of Segment 2. This typical section maintains a centered alignment from West Green Acres Street to West Yulee Drive (CR 490), which will allow for the reconstruction of US 19 to fit within existing ROW. Unlike Alternative 1, the Alternative 4 alignment shifts to the west from West Yulee Drive (CR 490) to West Elkhorn Drive to avoid impacts to the established businesses located along the east side of US 19. The shift in the alignment results in ROW acquisition of approximately 14 ft primarily from the west side of US 19. At West Elkhorn Drive, the alignment transitions back to the center, generally fitting within existing ROW. Additional ROW acquisition is required for exclusive right turn lanes, corner clips, side road tie-ins, and SMF.

Alternative 5

In an effort to further reduce impacts to the established businesses, Alternative 5 was developed as a refinement of Alternative 2. This alternative utilizes the six-lane divided urban typical section with a 30-ft raised median from West Green Acres Street to West Yulee Drive (CR 490)

and from West Elkhorn Drive to West Jump Court as described previously in Section 8.3.1.2. Alternative 5 also maintains the same minimized typical section with a 20-ft raised median as described in Alternative 2 from West Yulee Drive (CR 490) to West Elkhorn Drive. However, unlike Alternative 2, a western alignment was utilized for this portion of US 19 to lessen the amount of impacts and costs associated with the established businesses located along the east side of US 19. As a result, the shift in the alignment directly impacts the Homosassa Springs State Wildlife Park located along the west side. The exclusive northbound right-turn lanes at West Grover Cleveland Boulevard/West Halls River Road (CR 490A) and West Homosassa Trail will be accommodated within existing ROW, with exception to corner clips.

The western alignment results in ROW acquisition on average of 16 ft from the west side of US 19. Additional ROW acquisition is required for stormwater management facilities. The ROW cost for Alternative 5 is estimated at $26.15 million. Refined Alternative 5 would substantially reduce the number of impacts to nearby businesses and the costs associated with these impacts. However, Design Variations are required for the reduced lane and median widths from West Yulee Drive (CR 490) to West Elkhorn Drive since the standard widths are 12 ft and 22 ft, respectively. The proposed design speed for Alternative 5 is 50 mph.

Alternative 6

In an effort to eliminate impacts to the Homosassa Springs Wildlife State Park, Alternative 6 was developed as a refinement of Alternative 2. This alternative utilizes the same typical sections described in Alternative 2; a six-lane divided urban typical section with a 30-ft raised median from West Green Acres Street to West Yulee Drive (CR 490) and from West Elkhorn Drive to West Jump Court, and a six-lane divided urban typical section with a 20-ft raised median from West Yulee Drive (CR 490) to West Elkhorn Drive. However, the proposed typical section was modified immediately to the south of West Grover Cleveland Boulevard/West Halls River Road (CR 490A) to accommodate northbound dual left-turn lanes and an exclusive right-turn lane without impacting the Section 4(f) facility. The modifications include:

- Reducing the outside travel lanes in both directions from 12 ft to 11 ft,
- Reducing the bike lanes from 4 ft to 3 ft,
- Replacing the outside Type F curb and gutter with Type D curb, and
- Reducing the 4-ft traffic separator to 1-ft.

Alternative 6 reduces ROW acquisition south of West Grover Cleveland Boulevard/West Halls River Road (CR 490A) from an average of 16 ft in Alternative 5 to an average of 6 ft along the west side of US 19. Additional ROW acquisition is required for stormwater management facilities. The ROW cost for Alternative 6 is estimated at $25.70 million. Alternative 6 would eliminate impacts to the Homosassa Springs Wildlife State Park and the costs associated with these impacts. However, design variations are required for the reduced lane and median widths from West Yulee Drive (CR 490) to West Elkhorn Drive since the standard widths are 12 ft and 22 ft, respectively. The proposed design speed for Alternative 6 is 50 mph.

Alternative 7

Alternative 7 was also developed as a refinement of Alternative 2 to eliminate impacts to the Homosassa Springs Wildlife State Park located along the west side. This alternative utilizes the same typical sections described in Alternative 2; a six-lane divided urban typical section with a 30-ft raised median from West Green Acres Street to West Yulee Drive (CR 490) and from West Elkhorn Drive to West Jump Court, and a six-lane divided urban typical section with a 20-ft raised median from West Yulee Drive (CR 490) to West Elkhorn Drive. This typical section contains two 11-ft travel lanes and one 12-ft outside travel lane in each direction. Alternative 7 also maintains a centered alignment for most of Segment 2. However, unlike Alternative 2, a western alignment was utilized from West Grover Cleveland Boulevard/West Halls River Road (CR 490A) to West Homosassa Trail to accommodate an exclusive northbound right-turn lane at West Homosassa Trail. The alignment begins to shift to the west at the northern end of the Homosassa Springs Wildlife State Park property, avoiding ROW acquisition from the park.

Alternative 7 continues with a western alignment until reaching West Homosassa Trail intersection, where it begins to shift back to a centered alignment.

Alternative 7 reduces ROW acquisition south of West Grover Cleveland Boulevard/West Halls River Road (CR 490A) from an average of 16 ft in Alternative 5 to an average of 10 ft along the west side of US 19. Additional ROW acquisition is required for stormwater management facilities. The ROW cost for Alternative 7 is estimated at $25.72 million. Alternative 7 would eliminate impacts to the Homosassa Springs Wildlife State Park and the costs associated with these impacts. However, design variations are required for the reduced lane and median widths from West Yulee Drive (CR 490) to West Elkhorn Drive since the standard widths are 12 ft and 22 ft, respectively. The proposed design speed for Alternative 7 is 50 mph.

3.3.1.3. Segment 3: West Jump Court to West Fort Island Trail (CR 44)

Alternative 1

The proposed typical section for Segment 3 is a six-lane divided urban roadway with a 30-ft raised median. This typical section contains three 12-ft travel lanes and a 4-ft bicycle lane in each direction. Sidewalks 5-ft in width are provided within a 12-ft border along both sides of the roadway and are separated from the curb by a grass buffer strip. This typical section can be accommodated within the existing 200 ft of ROW. This typical section is consistent with Alternatives 1 and 4 in Segment 2.

A centered alignment was evaluated for Alternative 1 since the reconstruction of US 19 can generally be accommodated within existing ROW. However, ROW acquisition is required for SMF.

Alternative 2

The proposed typical section for Segment 3, Alternative 2 is a six-lane divided rural roadway with a 40-ft depressed median. This typical section contains three 12-ft travel lanes in each

direction with 8-ft inside and outside shoulders. The inside shoulders are paved full width while the outside shoulders contain 5 ft of pavement. Open drainage ditches parallel both sides of the roadway to allow for conveyance of stormwater runoff. Sidewalks 5-ft in width are provided within a 12-ft border along both sides of the roadway and are separated from the curb by a grass buffer strip. This typical section normally would require 208 ft of ROW. However, in an effort to fit within the existing 200 ft of ROW, the back slopes of the drainage ditches were increased from the standard 1:4 slopes to 1:2 slopes. Upon review of the existing cross sections in the as-built plans, it appears the topography is relatively flat such that 1:2 back slopes will be adequate to tie back to existing ground. The substandard border width of 36 ft will allow the proposed roadway to be accommodated within the existing ROW. However, a design variation will be required for the border width since the standard border width is 40 ft. A design variation is also required for the increased side slopes.

A centered alignment was evaluated for Alternative 2 since the reconstruction of US 19 can generally be accommodated within existing ROW. However, ROW acquisition is required for SMF.

3.3.1.4 Segment 4: West Fort Island Trail (CR 44) to NE 1st Terrace

Alternative 1

The proposed typical section for Segment 4, Alternative 1 is a six-lane divided urban roadway with a 30-ft raised median. This typical section contains three 12-ft travel lanes and a 4-ft bicycle lane in each direction. Sidewalks, 5-ft in width, are provided within a 12-ft border along both sides of the roadway and are separated from the curb by a grass buffer strip. This typical section can be accommodated within the existing 200 ft of ROW. This typical section is consistent with Alternatives 1 and 4 in Segment 2 and Alternative 1 in Segment 3.

A centered alignment was evaluated for Alternative 1 since the reconstruction of US 19 can generally be accommodated within existing ROW. However, ROW acquisition is required for SMF.

3.3.1.5 Segment 5: NE 1st Terrace to Turkey Oak Drive (Station 865+00)

The Final Traffic Report: Volume 2 - Future Conditions indicated that improvements were needed by the design year 2025 for the intersection of US 19 and SR 44. Three alternatives were evaluated in Segment 5. Alternatives 1 and 2 both include the same at-grade intersection at SR 44, but have differing alignments farther north. Alternative 3 includes a center turning overpass, which accommodates all left turn movements on the elevated portion of the interchange. In addition to pedestrian signals and crosswalks at each signalized intersection, a pedestrian overpass is proposed for the Crystal River bike path over US 19 for all alternatives. Proposed Alternatives of Segment 5 are described in the following sections.

Alternative 1

A proposed typical section with an at-grade intersection at SR 44 was evaluated for Alternative 1. This typical section contains three 12-ft travel lanes and a 4-ft bicycle lane in each direction separated by a 22-ft raised median. However, the raised median widens to 26 ft to accommodate dual southbound left-turn lanes and a traffic separator at SR 44. Sidewalks, 5-ft in width, are also provided within a 12-ft border along both sides of the roadway and are separated from the curb by a grass buffer strip. This typical section requires 126 ft of ROW.

Improvements along US 19 alone would not be adequate for the facility to operate at an acceptable LOS in the design year 2025. Therefore, minor improvements to the side streets, such as extending existing turn lanes and adding new turn lanes are necessary. The Final Traffic Report: Volume 2 - Future Conditions indicates the need for an additional exclusive right turn lane and the extension of the existing dual left turn lanes along westbound SR 44. Also, Alternative 1 evaluated the intersection of US 19 and SR 44/NE 4th Street assuming NE 4th Street would be limited to right-in and right-out movements only; therefore, eliminating the eastbound left turn movements. The two intersections to the north NE 3rd Avenue and North Citrus Avenue (CR 495) can accommodate the additional left turn and through volumes that were diverted from NE 4th Street. This results in avoidance of significant ROW impacts along NE 4th Street. The

proposed improvements along SR 44/NE 4th Street are shown in the Recommended Alternative Concept Plans in Appendix B.

A western alignment was evaluated for a portion of this segment from NE 1st Terrace to NW Snug Harbor Road. This alignment requires ROW acquisition (typically 26 ft) primarily from the west side of US 19. At NW Snug Harbor Road, the alignment transitions to the east to minimize impacts to the Crystal River State Buffer Preserve located on both sides of US 19. The shift in the alignment results in ROW acquisition of approximately 26 ft, primarily from the east side of US 19. Additional ROW acquisition is required for exclusive right turn lanes, corner clips, side road tie-ins, and SMF. ROW acquisition of approximately 15 ft is also required along the north side of SR 44 to accommodate the proposed improvements.

Alternative 2

Alternative 2 also utilizes the proposed typical section with an at-grade intersection at SR 44, as described in Alternative 1. However, in an effort to reduce ROW costs, the proposed alignment transitions from the west to the east at North Citrus Avenue (CR 495), approximately 3,000 ft south of where Alternative 1 transitions to the east. Shifting the alignment at North Citrus Avenue (CR 495) minimizes the overall business damages for this segment. Additional ROW acquisition is still required for exclusive right turn lanes, corner clips, side road tie-ins, and SMF. As described in Alternative 1, additional improvements are necessary along SR 44 and NE 4th Street to allow the intersection to operate at an acceptable LOS in the design year 2025. The proposed improvements are illustrated in the Recommended Alternative Concept Plans in Appendix B.

Alternative 3

Alternative 3 also utilizes the proposed typical section as described in Alternatives 1 and 2. However, unlike Alternatives 1 and 2, Alternative 3 includes a center turning overpass at SR 44. The center turning overpass separates the left turn movements from the through movements by

placing the left turning vehicles on a separate, independently signalized structure above the intersection. The through movements and right turn movements occur at-grade.

The southbound left turning vehicles exit US 19 onto a single-lane ramp in the median, south of NE 3rd Avenue. The ramp typical section contains one 15-ft travel lane with 6-ft paved shoulders on each side. The ramp is constructed on embankment with retaining walls and Type F barrier walls on each side. The proposed design speed for this ramp typical section is 35 mph.

The vehicles continue along the upward sloping ramp until reaching the raised signalized intersection. At the raised intersection, the vehicles turn eastbound over a proposed bridge that spans northbound US 19. The proposed bridge typical section contains one 15-ft travel lane in each direction separated by a 14-ft paved median. Paved shoulders, 6-ft in width, are provided on the outside. The vehicles then continue eastbound onto a single-lane, downward sloping ramp. The ramp contains one 15-ft travel lane with 6-ft paved shoulders on each side. The ramp enters eastbound SR 44 on the inside, matching the existing inside travel lane west of NE 7th Avenue.

The left turning vehicles traveling along westbound SR 44 exit onto a single-lane ramp in the median, west of NE 7th Avenue. The ramp contains one 15-ft travel lane with 6-ft paved shoulders on each side. The ramp is constructed on embankment with an upward sloping grade. The westbound off-ramp and the eastbound on-ramp form a variation of the proposed bridge typical section. However, unlike the bridge typical section, the ramps are separated by a double-sided Type F barrier wall in the median. Retaining walls and Type F barrier walls are provided on the outside of each ramp.

The vehicles continue along the upward sloping ramp until reaching the raised signalized intersection. At the raised intersection, the vehicles turn southbound over the proposed bridge that spans northbound US 19. The vehicles then continue southbound onto a single-lane, downward sloping ramp. The ramp enters southbound US 19 on the inside, north of NE 1st Terrace.

Although the Final US 19 Action Plan Update[5] includes a cul-de-sac on NE 4th Street (west leg of SR 44 intersection), Alternative 3 evaluated the intersection assuming NE 4th Street would be limited to right-in and right-out movements only; therefore, eliminating the left turn movements eastbound and northbound. The right-in and right-out movements occur at-grade. The two signalized intersections to the north, NE 3rd Avenue and North Citrus Avenue (CR 495), can accommodate the additional left turn and through volumes that were diverted from NE 4th Street. This results in avoidance of significant ROW impacts along NE 4th Street.

Since only right turns occur at-grade within the SR 44 intersection, the number of through lanes on US 19 can be reduced. Only two travel lanes along US 19 are required through the intersection to meet an acceptable LOS. This will result in reduced impacts to the businesses near the intersection. However, the left turn movements on the center overpass fail to meet the acceptable LOS, which causes the overall intersection to operate at an undefined LOS. An undefined LOS means that the intersection is so overly saturated with vehicles that the software cannot adequately define a LOS.

Alternative 3 utilizes the same alignment along US 19 as described in Alternative 1. However, ROW acquisition is required along the south side of SR 44, typically 18 ft in width. ROW acquisition of approximately 24 ft is also required along the north side of SR 44 to accommodate the exclusive right turn movement.

Alternative 4

In an effort to reduce impacts to the established businesses, Alternative 4 was developed as a refinement of Alternative 2. The proposed typical section is a six-lane divided urban roadway with a 16-ft raised median from NE 1st Terrace to the Crystal River Mall. North of the mall, the 16-ft median transitions to match the 40-ft median north of Turkey Oak Drive. This typical section contains two 11-ft travel lanes and one 12-ft travel lane in each direction. Sidewalks, 6 ft in width, are provided along both sides of the roadway adjacent to the back of curb. This typical section utilizes a best-fit alignment and is contained within the existing 100 ft of ROW for a portion of this segment.

The Crystal River State Buffer Preserve occupies a small parcel on the east side of US 19 approximately 400 ft north of NW 7th Avenue. The proposed alignment is centered within the existing ROW through this area in order to avoid impacting this parcel. However, due to the curved geometry in this area, tying into existing ground on the west side may not be feasible without acquiring additional ROW. Therefore, a gravity wall may be necessary on the west side through the curved geometry section. In order to accommodate the gravity wall, the median width may need to be reduced to 15 ft.

No provisions for bicyclists were developed with this alternative due to significant ROW impacts that would result. However, alternative bike routes can be accommodated with minor upgrades to existing side streets, incorporating the proposed pedestrian overpass at the Crystal River bike path. Due to the heavily commercialized land use in this segment and the addition of a narrow raised median, a design speed of 40 mph is proposed for this alternative. Since the reduced design speed does not meet current FIHS standards, a design variation is required for this alternative. Also, design variations are needed for the substandard lane widths (11 ft), border width (8 ft), median width (15 ft), and lack of bicycle facilities.

Alternative 4 is consistent with FIHS requirements of a restrictive median, however it does not meet the FIHS requirement of a 50 mph design speed. The ROW cost for Alternative 4 is estimated at $29.28 million, including stormwater management facilities. Alternative 4 would substantially reduce the number of impacts to nearby businesses and the costs associated with these impacts.

3.4 RECOMMENDED ALTERNATIVE

The selection of a Recommended Alternative, a No-Build, TSM, or Build Alternative was based upon the impact evaluation matrix and consideration of the non-quantifiable factors. The following sections explain the rationale behind the selection of the Recommended Alternative for each Segment.

3.4.1 Segment 1 (Alternative 1)

Alternative 1 has been selected as the Recommended Alternative in Segment 1. The proposed typical section is illustrated in Appendix A. This proposed typical section widens the existing 4-lane rural roadway to a 6-lane divided rural roadway with 12-ft travel lanes and 5-ft paved shoulders. A 12-ft multi-use path and 5-ft sidewalk are provided along the existing western and eastern ROW lines, respectively. Additional features include guardrail in the median and a pedestrian overpass over US 19 just south of US 98. The proposed design speed is 70 mph. With the exception of stormwater management facilities, the improvements fit within existing ROW.

3.4.2 Segment 2 (Alternative 7)

Alternative 7 has been selected as the Recommended Alternative in Segment 2. The proposed typical sections are illustrated in Appendix A. The proposed roadway includes three travel lanes, which vary in width from 11-ft to 12-ft, and a 4-ft bicycle lane in each direction. The raised median varies in width from 20-ft to 30-ft. Sidewalks, 5-ft in width are included in each direction; however, a 12-ft multi-use path is included on the west side south of West Yulee Drive. A best-fit alignment was selected to allow the improvements to fit within the existing ROW, with the exception of stormwater management facilities, corner clips, and turn lanes. The proposed design speed is 50 mph.

3.4.3 Segment 3 (Alternative 1)

Alternative 1 has been selected as the Recommended Alternative in Segment 3. The proposed typical section is illustrated in Appendix A. This proposed typical section is a 6-lane divided urban roadway with a 30-ft raised median on a centered alignment. This typical section contains three 12-ft travel lanes, a 4-ft bicycle lane, and 5-ft sidewalks in each direction. With the exception of stormwater management facilities, the improvements fit within existing ROW. The proposed design speed is 50 mph.

3.4.4 Segment 4 (TSM Alternative 2)

TSM Alternative 2 has been selected as the Recommended Alternative for Segment 4. This alternative includes reconstructing the existing median from a two-way, left-turn lane to a 17 ft raised median as shown in Appendix A. In areas where left-turn lanes are proposed, the raised median will be reduced to a 4-ft traffic separator with a single 12-ft exclusive left-turn lane. This alternative also includes milling and resurfacing of the existing roadway to allow for three 12 ft travel lanes in each direction. Multi-use paths, 10 ft in width, are proposed along both sides of the roadway, adjacent to the ROW line to accommodate pedestrians and bicyclists. At SE Kings Bay Drive, bicyclists using the multi-use paths will exit US 19 and travel west until reaching SE Cutler Spur. At SE Cutler Spur, the bicyclists will travel north until connecting with the existing Crystal River Bike Path. Due to the heavily commercialized land use in this Segment and the addition of a narrow raised median, a design speed of 40 mph is proposed for this alternative.

3.4.5 Segment 5 (Alternative 4)

Alternative 4 has been selected as the Recommended Alternative in Segment 5. The proposed typical section is illustrated in Appendix A. This proposed typical section is a 6-lane divided urban roadway with a 16-ft raised median from NE 1st Terrace to Turkey Oak Drive, which utilizes a best-fit alignment. The median width may be reduced to 15 ft to accommodate a gravity wall where needed. This typical section contains two 11-ft travel lanes and one 12-ft outside travel lane, as well as 6-ft sidewalks in each direction. Pedestrian signals and crosswalks are proposed at each signalized intersection. No bike lanes were developed in this segment due to significant ROW impacts that would result, however; a pedestrian overpass is proposed for the Crystal River bike path over US 19. The proposed design speed is 40 mph. Additional ROW will be required for roadway improvements for a portion of this segment, as well as stormwater management facilities.

3.4.6 Segment 6 (TSM Alternative)

The TSM Alternative has been selected as the Recommended Alternative in Segment 6. The TSM improvements include turn lane improvements at the North Dunnellon Road (CR 488) intersection, including adding a signal, if warranted. Signal upgrades are also proposed at Seven Rivers Community Hospital and West Powerline Street.

SECTION 4
METHODOLOGY

4.1 PRELIMINARY DATA COLLECTION

Several data sources were reviewed to determine the occurrence and the potential occurrence of state and federally protected plant and animal species within the study area. For the purposes of this study, the study area was defined as the entirety of the US 19 ROW and three hundred feet beyond the ROW limits. Information sources and databases utilized for this Study included the following:

- Florida Natural Areas Inventory (FNAI)[6]
- State Managed Databases
  - Southwest Florida Water Management District Land Use (GIS)
  - Eagle Nest Locations (GIS)
  - Black bear Strategic Habitat Conservation Areas (GIS)
  - Black bear radio-telemetry data (GIS)
  - Black bear road mortality data (GIS)
  - Breeding Atlas of Herons and Their Allies (GIS)
  - Wood Stork Colony Locations (GIS)
- Natural Resources Conservation Service Soil Survey for Citrus County[7]
- US Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) Maps[8]
- US Geological Survey (USGS), Topographic Quadrangle maps, 7.5-minute series[9]
- Aerial Photographs of the Project Area

A preliminary list of protected species that may occur in the study area was developed utilizing the information in these documents and databases.

4.2 AGENCY COORDINATION

As part of this study, coordination with wildlife agencies is pursued early in the project process. By doing so, the agencies can identify any concerns for protected species and, in a cooperative effort, work to resolve them with the FDOT.

On June 25, 2001, the project Advance Notification (AN) was sent by the FDOT to Federal, State, and local agencies that have jurisdiction or concerns within the study area. Among these agencies, the USFWS, National Marine Fisheries Service (NMFS), and the Florida Fish and Wildlife Conservation Commission (FWC) were included to initiate coordination regarding endangered and threatened species concerns. A copy of the AN is provided in Appendix C. To date, no response to the AN has been received from any of these government agencies.

4.3 HABITAT MAPPING

Following the initial database and document review, qualified biologists mapped and identified all existing natural land in the study area. These areas were described in accordance with the Florida Land Use, Cover and Forms Classification System[10] (FLUCFCS) for all upland and wetland areas. Wetland areas were additionally described utilizing designations from the Classification of Wetlands and Deepwater Habitats of the United States[11]. Detailed information on wetland and surface water systems is presented under separate cover in the Final Wetland Evaluation Report (WER)[12]. Appendix B of this report presents the project Recommended Alternative Concept Plans, which include all natural land use boundaries within the study area. Detailed descriptions of the habitat types are provided in Section 5.0.

4.4 DETERMINATION OF SURVEY METHODOLOGY

In order to verify the occurrence of the protected species which may be within the study area, field surveys were performed as described below.

Since the project corridor is approximately 19 miles in length, vehicle surveys were incorporated wherever appropriate, particularly within the roadway ROW. Pedestrian surveys were conducted in areas not accessible to vehicles. The size of the study area required that existing databases, knowledge of habitat types, and experienced biologists be used to conduct protected species field evaluations. In August and September 2001, and August 2002, PBS&J and FDOT biologists, along with ecologist Dr. Steven Christman, performed species evaluations and evaluated existing habitat types for the potential occurrence of protected species.

In habitat areas where the quality was not considered suitable to support protected species, general surveys were conducted to identify other wildlife usage. In areas where quality or direct evidence (e.g., scat, tracks, foraging refuse, etc.) indicated the potential occurrence of specific species, more thorough evaluations for those species were conducted. As a result, species-specific surveys were performed for the following species:

- Gopher tortoise (*Gopherus polyphemus*)
- Short-tailed snake (*Stilosoma extenuatum*)
- Red-cockaded woodpecker (*Picoides borealis*)
- Florida scrub jay (*Aphelecoma coerulescens coerulescens*)

4.4.1 Species-Specific Survey Methodology

The species-specific survey methodologies utilized were based upon formal criteria developed by the FWC and the USFWS modified to accommodate seasonal and time restraints. As stated above, species-specific surveys were conducted for the gopher tortoise, short-tailed snake, red-cockaded woodpecker and Florida scrub jay. The methodology utilized for each of these species is detailed below.

Gopher Tortoises

In areas that support gopher tortoises, meandering transect surveys were performed to determine the total number of active and inactive burrows. Because tortoise burrows are not permanent in nature, only the total number of burrows observed was recorded, not the location of each burrow. Burrow locations will be recorded and submitted to agencies during the design and permitting phase of the proposed project.

Short-Tailed Snake

The short-tailed snake is difficult to find without rigorous and time-consuming trapping using pit traps and/or funnel trap arrays. Consequently, only pedestrian surveys were conducted in appropriate habitat. These surveys focused on investigating any potential shelters (e.g., logs and discarded plywood and other materials capable of providing shelter) this species is known to utilize. The surveys were also conducted in the fall, when short-tailed snakes are most likely to be above ground.

Red-Cockaded Woodpecker

In appropriate pine forest habitats, surveys were conducted for the red-cockaded woodpecker. Survey efforts focused on locating starter holes or nesting cavities in mature pine trees, typically greater than 6-inches in diameter, and/or pine trees that had crowns exhibiting flat top growth, which is an indication of an older tree.

Florida Scrub Jay

Although very little true xeric scrub habitat occurs in the study area, some of the existing sandhill/high pine communities mimic scrub vegetation due to the removal of nearly all larger trees (e.g., slash pine, longleaf pine, and turkey oak). In these areas, recorded calls of scrub jays were played at several stations, based upon USFWS and FWC Florida scrub jay survey methodology.

4.4.2 Protected Species Locations

In order to accurately identify the areas in which observations or evidence of protected species occurred, specific location information referencing the Recommended Alternative Concept Plans (Appendix B) is provided. In locations where protected species occurrence was confirmed within the study area, either by direct observation or evidential observation, the conceptual plan sheet number, survey station and side of the road (east or west) is provided within the text. Survey stations are presented in the Alternative Design Concept Plans as a continuous series of three-digit numbers located in the centerline of the roadway.

SECTION 5
RESULTS

5.1 NATURAL COMMUNITIES

In order to assess the project area for the potential occurrence of federal and state listed species, upland and wetland vegetative communities within the project study area were evaluated and species composition within each community type was determined using published data and field evaluations as described in Section 4.0.

A comprehensive and detailed list of FLUCFCS codes was developed during the field mapping process to distinguish the various community types (Table 5-1). Mapping efforts are presented on the Recommended Alternative Concept Plans in Appendix B.

Table 5-1
Existing Non-Wetland Land Uses/Habitat Types

FLUCFCS Code	Description
163	Rock quarries
190	Open land
191	Undeveloped land in urban areas
213	Woodland pastureland
310	Herbaceous
320	Shrub and brush
329	Other shrubs and brush
411	Pine flatwoods
412	Longleaf pine-xeric oak
414	Pine-mesic oak
421	Xeric oak
434	Hardwood-coniferous mixed
436	Scrub oak
438	Mixed hardwoods
441	Coniferous plantation
832	Electrical power transmission lines

Existing and proposed roadway ROW lines were superimposed on the mapped areas to determine impacts anticipated from each alternative to each FLUCFCS code. Area impacts were quantified and are presented in Table 5-2.

Table 5-2
FLUCFCS Categories for Uplands Identified in the US 19 Study Corridor

FLUCFCS*	Acreage **	Percentage of Total Upland Coverage	Estimate Impact Acreage Range***
163	2.1	0.3	0.0
190	7.1	1.2	0
191	15.5	2.6	0.6-0.7
213	1.7	0.3	0
310	11.7	1.9	0.04-0.8
320	4.1	0.7	0.3
329	29.6	4.9	0.2-0.3
411	115.1	19.0	0.4-3.1
412	201.1	33.1	0.2-11.0
411/412	8.2	1.4	0.9
414	157.3	26.0	0.001-0.07
421	21.7	3.6	0.02
434	16.9	2.8	0
436	1.6	0.3	0.01
438	1.3	0.2	0
441	0.5	0.1	0
832	9.3	1.5	0
TOTALS	**604.8**	**100**	**2.7-17.2**

*FLUCFCS =Based on Florida Land Use Cover Forms Classification System, third ed. 1999.
**Acreage reflects acreage within the study area.
***Acreage range reflects difference in impacts by Alternative type.

5.1.1 Wetland Communities

FLUCFCS categories that are within the 500 and 600 number series belong to the surface water and wetland land use categories. Wetlands were documented in the Study area and are discussed in detail in the Final WER for this Study. Therefore, references to wetlands within this report will be limited to plant and wildlife utilization. However, a summary of the wetland systems as identified in the Final WER is presented in Appendix D and the boundaries of all wetland communities are presented on the Recommended Alternative Concept Plans in Appendix B.

5.1.2 Upland Communities

A number of upland communities, primarily natural, are located within the study area. Based on photo interpreted aerials and field evaluations, sixteen (16) specific upland FLUCFCS categories (Level 3 classification) were identified in the project corridor. These FLUCFCS categories, their approximate acreage, and the percentage of upland they occupy within the study area are presented in Table 5-2.

Forested uplands within the project corridor comprise 86.9 percent (525.2 ac) of the total upland cover and are represented by habitats within the 200 and 400 series of FLUCFCS codes. Forested uplands are represented by nine distinct FLUCFCS codes which are summarized under two broad categories, Upland Coniferous Forests and Upland Hardwood Forests. The seven categories of non-forested uplands are classified as Urban Land (100 series), Agriculture (200 series), Rangeland (300 series) and Utilities (800 series). Section 5.2 addresses more detailed descriptions of each mapped FLUCFCS code.

5.2 UPLAND DESCRIPTIONS

The following sections describe, in general, the upland communities that were encountered along in the study area.

5.2.1 Urban and Built-Up (FLUCFCS Series 100)

Series 100 codes typically represent developed lands. However, the three mapped categories in the study area are comprised of lands which are undeveloped, filled, cleared, or used for extractive practices (e.g., quarries). These areas are substantially altered but include few to no manmade structures. Therefore, for the purposes of this Study, they are considered upland areas.

The first land use code in this category is 163 (rock quarries), which is assigned to the Red Level limerock mine near the northern terminus of the project. This mine is located

in Segment 6 and will receive no impacts. FLUCFCS code 190 (open land) is comprised of native habitat areas that were cleared of vegetation, except for low groundcover species such as grasses and other herbaceous plants. This category is only within Segment 5 and will receive no impact. Finally, land use code 191 (undeveloped land within urban area) is comprised of cleared, filled, and maintained land such as those within the Crystal River Mall proper. Impacts to this category are proposed only for Segment 5, where it is estimated to receive 0.7 ac. The total maximum impact area for the three codes combined is 0.7 ac.

5.2.2 Agriculture (FLUCFCS Series 200)

Agricultural lands may be defined as those lands which are cultivated to produce food crops and livestock. The only agricultural land within the study area is a small (1.7 ac) woodland pasture (FLUCFCS 213) located within Segment 6. The pasture supports hardwood trees, such has oaks (*Quercus* spp.), interspersed among cleared pasture grasses. Although it appears that this area has been used for cattle grazing, current usage was not confirmed. This land use type will not be impacted by the proposed project.

5.2.3 Rangeland (FLUCFCS Series 300)

Historically, rangeland has been defined as land where the potential natural vegetation is grasses, grass like plants, forbs, or shrubs and is capable of being grazed. Generally, this land is not fertilized, cultivated or irrigated.

The typical vegetation for the herbaceous uplands (310) within the project corridor consists of various broomsedges *(Andropogon* spp.*),* wiregrass *(Aristida stricta),* Bahia grass (*Paspalum notatum),* and saw palmetto (*Serenoa repens*). This community type is usually found interspersed between the forest communities found along the outside edges of the ROW. It is anticipated impacts to this community may range from 0.04 to 0.8 ac.

The shrub and brushland communities (320) within the project corridor are comprised primarily of wax myrtle (*Myrica cerifera*) and saw palmetto, however, other upland shrub

species like rusty lyonia (*Lyonia ferruginea*) occur. Only three small areas totaling 0.7 ac of brushland area were identified, all within Segment 1 of the study area. The potential impact to this community is 0.3 ac.

Other shrubs and brush (329) habitats are represented by areas that have received some disturbance. In particular, tree removal and soil disruption that has created a mix of shrub species indicating no definitive habitat type. These areas may support saw palmetto and wax myrtle interspersed with sabal palm (*Sabal palmetto*), but some areas may also contain young xeric oaks and rusty lyonia. Approximately 0.3 ac of this land use category may be impacted.

5.2.4 Upland Coniferous Forests (FLUCFCS Series 410)

This category represents forested uplands that have canopies at least 66 percent dominated by coniferous species, excluding pine plantation monocultures. Longleaf pine-xeric oak (412) is the dominant upland habitat for this Study, comprising approximately 201 acres of land. As the name suggests, longleaf pine is the dominant species in this habitat, but turkey oak (*Quercus laevis*) is also an important component. Other xeric oaks may also be present (bluejack, myrtle, and sand live). Groundcover is typically a wide variety of forbs, but wiregrass and/or saw palmetto may dominate.

Throughout the study area, longleaf pine–xeric oak (412) was not only common, but was generally considered to be of moderate to excellent ecological value. However, in some areas, there were obvious signs of historic logging that left only xeric oaks. The name given to this system by FLUCFCS is synonymous with the terms high pine, sandhill, and clayhill. For simplicity, the terms high pine/sandhill will be used to describe this habitat throughout the remainder of this report. Clayhill is not used because this descriptor is typically associated with systems in the Florida Panhandle, where the surface soils contain more clay. The approximate acreage impact for high pine/sandhill for the entire project may range from 0.2 to 11.0 ac.

Pine flatwoods (411) are the most extensive terrestrial ecosystem in Florida and the second-most extensive upland system within the study area. Longleaf pine *(Pinus palustris)* is the dominant upper canopy tree, but slash pine may also occur. Midstory may contain fetterbushes (*Lyonia lucida* and *L. fruticosa*), gallberry (*Ilex glabra*), and xeric oak species; while wiregrass, many other forbs and saw palmetto dominate the ground cover. It is estimated that from 0.4 to 3.1 ac of pine flatwoods will be impacted by the project.

The 411 and 412 habitats often transition between each other, sometimes making it difficult to identify system boundaries clearly. In these instances, a designation of 411/412 was given. Total estimated impact from the project to these transitional zones is 0.9 ac.

The pine-mesic oak communities (414) are similar to the pine flatwoods, but have the addition of significant numbers of live oak (*Quercus virginiana*) and/or laurel oak (*Quercus laurifolia*), hickory (*Carya* sp.), southern magnolia (*Magnolia grandiflora*), and sabal palm (*Sabal palmetto*). Wax myrtle and saw palmetto are typical midstory species. This system occupies approximately 157 ac of the study area and may receive up to 0.07 ac impact.

5.2.5 Upland Hardwood Forests (420, 430)

This category represents forested uplands that have canopies at least 66 percent dominated by hardwood species and are naturally generated stands.

Xeric oak (421) communities within the project area generally sustain moderate to poor ecological value. Xeric oaks, such as myrtle oak (*Quercus myrtifolia*), Chapman's oak (*Q. chapmanii*), and sand live oak (*Q. geminata*), dominate this community. Groundcover is typically sparse but is dominated by wiregrass and/or palmetto. In the study area, true xeric oak, or oak scrub as it is referred to in this report, is sparse, indicating that much of the 21.7 ac identified may actually be remnant pine and turkey

oak-harvested sandhill or scrubby flatwoods. However, this determination was difficult to make. Of the total xeric oak area 0.02 ac may be impacted.

The upland scrub, pine and hardwood community (436) represents disturbed upland areas that are not dominated by any tree species. Canopy species include myrtle oak, Chapman oak, and sand live oak. Mid-canopy and groundcover species include staggerbush (*Lyonia fruticosa*), rusty lyonia (*Lyonia ferruginea*), shiny blueberry (*Vaccinium myrsinites*), wiregrass, and saw palmetto, but disturbance has allowed species such as dog fennel (*Eupatorium capillifolium*) to become established. This habitat occurs on well-drained sandy soils, low in nutrients. Approximately 1.6 ac occurs in the study area, with 0.01 ac anticipated to receive impacts.

Miscellaneous Upland Forests

The following forest systems contribute a minimal amount of coverage within the study area. Systems 434 (hardwood-coniferous mixed), 438 (mixed hardwoods), and 441 (coniferous plantation) occur minimally in the study area. System 434 will not receive any impacts from the proposed project, nor will 438 and 441.

5.2.6 Transportation, Communication, and Utilities (FLUCFCS Series 800)

Although not typically considered a natural area, code 832 (electrical power transmission lines) is described here because this area supports non-forested native vegetation and is bordered by less disturbed natural systems such as pine flatwoods and sandhill. In this area, which is part of the Crystal River Energy Complex (Segment 6), proposed roadway improvements are limited to a traffic system management plan, which will not produce impacts to this 9.3 ac area.

5.3 GENERAL FIELD EVALUATIONS

Qualified biologists performed field evaluations for state and federally protected species and other wildlife species in August and September 2001, and August 2002. General

surveys produced direct observation and evidence of only a few state protected species and no federally protected species. A list of protected species that were targeted during the surveys is presented in Table 5-3. The species that were observed during field surveys are indicated with an asterisk*.

Table 5-3
Protected Species Potentially Occurring Within the Study Corridor

Scientific Name	Common Name	Federal Status	State Status
Reptile and Amphibians			
Alligator mississippiensis	American alligator	T(S/A)	SSC
Drymarchon corais coupe	Eastern indigo snake	T	T
**Gopherus polyphemus*	gopher tortoise		SSC
Pituophis melanoleucus mugitus	Florida pine snake		SSC
Rana capito	Florida gopher frog		SSC
Stilosoma extenuatum	short-tailed snake		T
Birds			
Ajaia ajaja	roseate spoonbill		SSC
Ammodramus maritimus peninsulae	Scott's seaside sparrow		SSC
Aphelocoma coerulescens coerulescens	Florida scrub jay	T	T
Aramus guarauna	limpkin		SSC
Cistothorus palustris marianae	Marian's marsh wren		SSC
Egretta caerulea	little blue heron		SSC
Egretta thula	snowy egret		SSC
Egretta tricolor	tricolored heron		SSC
Eudocimus albus	white ibis		SSC
Falco sparverius paulus	Southeastern American kestrel		T
Grus canadensis pratensis	Florida sandhill crane		T
Haliaeetus leucocephalus	Southern bald eagle	T	T
Mycteria americana	wood stork	E	E
Picoides borealis	red-cockaded woodpecker	E	T
Speotyto cunicularia floridana	Florida burrowing owl		SSC
Mammals			
Podomys floridanus	Florida mouse		SSC
**Sciurus niger shermani*	Sherman's fox squirrel		SSC
Trichechus manatus	Florida manatee	E	E
**Ursus americanus floridanus*	Florida black bear		T**

Scientific Name	Common Name	Federal Status	State Status
Plants			
Adiantum tenerum	brittle maidenhair fern		SSC
Asplenium auritum	auricled spleenwort		E
Asplenium pumilum	dwarf spleenwort		E
Blechnum occidentale	sinkhole fern		E
Cheilanthes microphylla	Southern lip fern		E
Chionanthus pygmaeus	pygmy fringe tree		E
Glandularia tampensis	Tampa vervain		E
Lechea cernua	nodding pinweed		T
**Lilium catesbaie*	pine lily		E
Matelea floridana	Florida spiny-pod		E
Monotropsis reynoldsiae	pygmy pipes		E
Peperomia humilis	terrestrial peperomia		E
Pteroglossaspis ecristata	wild coco		T
Spiranthes polyantha	green ladies'-tresses		E
Stylisma abdita	scrub stylisma		E
Thelypteris reptans	creeping fern		E
Trichomanes punctatum	Florida bristle fern		E
Triphora craigheadii	Craighead's nodding-caps		E

FEDERAL STATUS

E Endangered: species in danger of extinction throughout all or a significant portion of its range.

T Threatened: species likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

E(S/A) Endangered due to similarity of appearance to a species which is federally listed such that enforcement personnel have difficulty in attempting to differentiate between the listed and unlisted species.

T(S/A) Threatened due to similarity of appearance (see above).

C Candidate

STATE STATUS

E Endangered: species, subspecies, or isolated population so few or depleted in number or so restricted in range that it is in imminent danger of extinction.

T Threatened: species, subspecies, or isolated population facing a very high risk of extinction in the future.

SSC Species of Special Concern is a species, subspecies, or isolated population that is facing a moderate risk of extinction in the future.

*Species confirmed to occur within study area

**Not applicable in Baker and Columbia counties and Apalachicola National Forest

The following sections discuss species that may occur, and the potential effects the proposed project may have on each species. When applicable, specific avoidance and mitigation measures are discussed for species that otherwise may be affected by the proposed project.

5.3.1 Reptiles and Amphibians

5.3.1.1 American Alligator (*Alligator mississippiensis*)

The American alligator is protected as a threatened species by the USFWS due to its similarity in appearance (S/A) to the American crocodile (*Crocodylus acutus*), which is an endangered species. The FWC protects the alligator as a Species of Special Concern (SSC). Alligators commonly occur in freshwater wetland systems throughout peninsular Florida. However, none were observed during field evaluations.

Although improvements to US 19 may affect freshwater wetland systems, they are unlikely to affect alligator habitat as improvements will mostly occur within the existing roadway ROW. The wetland areas within the existing ROW are primarily temporary or seasonally inundated ditches that are not considered suitable alligator habitat. Consequently, the proposed improvements will have "no effect" on the American alligator.

5.3.1.2 Eastern Indigo Snake (*Drymarchon corais couperi*)

The Eastern indigo snake is protected as a threatened species by the USFWS and FWC. In peninsular Florida, the Eastern indigo snake may be found in habitats ranging from mangrove swamps and wet prairies to xeric pinelands and scrub. The latter two habitats occur in the study area.

Much of the study area adjacent to the US 19 ROW supports natural areas, both wetland and upland. Although many of these areas are fragmented due to development along US 19, some areas are contiguous with other larger publicly owned tracts, such as the

Homosassa Tract of the Withlacoochee State Forest or the Homosassa Springs State Wildlife Park. Nearly all the upland areas and many of the wetland areas, whether fragmented or contiguous with larger tracts, are suitable habitat for the Eastern indigo snake. This conclusion was derived based upon field evaluations and is further supported by the FNAI database for Citrus County, which records three indigo snake observations along the US 19 corridor. Consequently, although no Eastern indigo snakes were observed during field evaluations, it is assumed that they occur within the study area.

To assure the protection of this species during construction, when it is most likely to be affected, the FDOT will require that certain construction guidelines be implemented. Appendix E ("Construction Precautions for the Eastern Indigo Snake") presents construction guidelines that are part of the final project design. Since these standard protection guidelines will be implemented during construction, this project "may affect, but is not likely to adversely affect" the Eastern indigo snake.

5.3.1.3 Gopher Tortoise (*Gopherus polyphemus*)

The gopher tortoise is considered a SSC by the FWC. They can occupy a variety of plant communities, but prefer habitats with well-drained sandy soils, low-density tree cover and suitable herbaceous cover as forage. Throughout most of the study area, suitable habitat for the gopher tortoise was observed.

During field evaluation, gopher tortoises and their burrows were observed within the study area. A total of forty-nine (49) upland areas were identified and evaluated for the occurrence of protected species. Of the forty-nine areas evaluated, tortoises and/or their burrows were observed in thirty-three (33). Many burrows were located within the existing US 19 ROW, typically along its edges.

With such a high frequency of occurrence, the gopher tortoise will be affected by the proposed project. Such unavoidable impacts will require an additional evaluation of tortoise involvement. Upon entering the permitting phase of the project, more comprehensive surveys for tortoise burrows shall be conducted. This information is

needed to acquire an Incidental Take or Relocation Permit from the FWC. Permitting impacts to gopher tortoises will mitigate project effects on this species. An Incidental Take Permit will require that the FDOT pay a fee to an upland mitigation bank, typically one that is managed by the FWC. This money will be used to enhance/restore upland habitat suitable for gopher tortoises or purchase conservation lands specifically for tortoises. A Relocation Permit allows the FDOT to move tortoises away from impacted areas on a temporary or permanent basis, depending upon the type of impact proposed.

Although impacts to the tortoise are unavoidable, the FDOT will make necessary efforts to minimize involvement. In addition, appropriate permits will be acquired as needed. These actions will assure that the proposed project may affect, but is not likely to adversely affect the gopher tortoise.

5.3.1.4 Florida Gopher Frog *(Rana capito)*

The gopher frog is protected by the state as a SSC. Gopher frog habitat is typically associated with tortoise habitat (see Section 5.3.1.3). These frogs rely on the tortoise burrow for shelter; therefore, they are considered a commensal species of the tortoise. Gopher frogs also rely on ephemeral wetlands, lacking carnivorous fish, as optimal breeding habitat.

As discussed in Section 5.3.1.3, during field evaluations, gopher tortoises and their burrows were located throughout the study area. Moreover, although no wetland systems were identified as ephemeral, it is likely that suitable gopher frog breeding habitat occurs within the study area. Therefore, the occurrence of gopher frogs is probable, although the FNAI database has no records in this area. To verify gopher frog occurrence, further investigation would be necessary. Verification would require trapping by using drift-fence arrays and/or funnel traps in tortoise burrows.

Since it is likely that the gopher tortoise will be impacted by the project, it can be assumed that the proposed project will also affect the gopher frog. However, mitigation for impacts to the gopher tortoise, as described previously, will also compensate for

impacts to the gopher frog because of their close association. Therefore, the proposed project will affect, but is not likely to adversely affect the gopher frog.

5.3.1.5 Florida Pine Snake (*Pituophis melanoleucus mugitus)* and Short-Tailed Snake (*Stilosoma extenuatum*)

The Florida pine snake and short-tailed snake are protected by the FWC as a SSC and a threatened species, respectively. They are treated together here because of similarities in the habitat usage, both occurring in xeric upland areas, such as high pine/sandhill and scrub. These habitat types occur throughout much of the study area.

The Florida pine snake is a subspecies of pine/bull snake that occur throughout much of the state. Its primary prey is the pocket gopher. The presence of pocket gophers in any area is readily observable through identification of the soil mounds created when excavating their extensive burrow systems. With the presence of pocket gophers, it can be assumed that the pine snake is also likely to occur. Additionally, the pine snake is known to use gopher tortoise burrows for refuge.

No Florida pine snakes were observed during field evaluations, nor does the FNAI identify any records in the project vicinity. However, pocket gopher and gopher tortoise occurrence is common throughout most of the sandhill habitats within the study area. Consequently, it is assumed that the Florida pine snake is likely to occur in the study area.

The short-tailed snake is a burrowing snake, known to occur only in xeric (dry) upland areas such as high pine/sandhill and sand pine scrub. However, it appears to have a stronger affinity for sandhill habitat type. Little is known of its life history and ecology, except that it is seldom seen above ground. Its known distribution is restricted to the Florida peninsula's northern half, west of the St. John's River, which includes Citrus County.

The FNAI data indicates that this snake has been observed east of the US 19 corridor, approximately one mile north of the US 98 intersection. Species-specific surveys were conducted in appropriate habitat areas. The surveys coincided with the fall, a period when short-tailed snakes are more likely to be observed above ground. No snakes were observed during these surveys. However, because the short-tailed snake has been recorded previously in the area and suitable habitat is present in the study area, it is assumed that the species occurs within the study area.

Although both the Florida pine snake and short-tailed snake are assumed to occur in the project study area, most of the proposed construction activities will be restricted to the existing roadway ROW. Although the appropriate land use type is present in the roadway ROW, none of it is suitable habitat for either snake species due to the lack of vegetative cover. Moreover, the FDOT will implement a construction worker education program to protect not only these snakes, but all snakes within the project area. Because these snake are protected by the state only, the program will be developed to complement the standard protection guidelines that will be used for Eastern indigo snake, as mentioned above. With these efforts, the FDOT believes that the proposed US 19 improvement may affect, but is not likely to adversely affect these snakes.

5.3.2 Birds

5.3.2.1 Florida Scrub Jay (*Aphelocoma coerulescens coerulescens*)

Both the FWC and the USFWS protect the Florida scrub jay as a threatened species. The Florida scrub jay belongs to a disjunct population of scrub jay that occurs only in the Florida peninsula, while other subspecies occur in the western U.S. As its name suggests, its natural habitat is specific to xeric scrub and scrub-like habitats. In Florida it is known from sand pine and oak scrub and scrubby flatwoods. However, suitable scrub jay habitat quality is specific, requiring low scrub vegetation with open tree canopy that experiences periodic fires to maintain these conditions. Jays will abandon scrubs that become dense with vegetation. Contrary to this, scrub jays are also known to occur in residential areas.

However, their persistence is typically due to supplemental feeding by local residents, especially in areas where scrub vegetation has been eradicated.

The FNAI database indicates that five (5) scrub jay locations are known from the project vicinity. Three are located east of US 19, with the closest being approximately one mile from US 19. Two locations are west of US 19 in the Crystal River vicinity, with the closest being approximately one half mile from US 19. In this area, no scrub jay habitat was recorded.

Within the study area xeric oak (421), or scrub oak, habitats were identified. These habitats were often closely associated with high pine and/or pine flatwoods. However, oak scrub contributed little to the overall land use within the study area. In areas where the oak scrub appeared to support suitable scrub jay habitat, species-specific survey methods were applied to determine their occurrence. Scrub jay recordings were played within the suitable habitat, although only two areas were identified as possible scrub jay habitat. These two areas are in the northern end of the project, occurring on opposing sides of US 19 (Plan Sheet 33, station 1010+00, east and west side). Jay calls were played on two consecutive days in September 2001 in these areas. No jays responded to these calls. Moreover, these two areas were considered suitable habitat, but only marginally so.

Since no scrub jays were observed during species-specific surveys and the suitable habitat was considered marginal, it is unlikely that the scrub jay occurs in the study area. Therefore, the FDOT believes that the proposed project will have “no effect” on the Florida scrub jay.

5.3.2.2 Limpkin (*Aramus guarauna*)

The limpkin, which is protected as a SSC by the FWC, is a wading bird that inhabits several freshwater wetland types, which include both forested and non-forested systems. It is a specialized feeder on the apple snail (*Pomacea paludosa*), and therefore, frequently occurs in wetlands that support suitable apple snail populations. The apple snail requires

certain submerged aquatic vegetation (SAV), such as *Vallesneria americana* and *Sagittaria kurziana*, for forage. Areas lacking SAVs may not support the apple snail, and therefore provides unsuitable foraging habitat for the limpkin.

The limpkin is known to occur in Citrus County and some wetland systems along the US 19 corridor should be suitable habitat for apple snails. However, neither limpkins nor apple snails were observed during field evaluations.

As discussed previously, very little additional ROW will be taken for the proposed roadway improvements. Moreover, no suitable limpkin habitat is known within the existing ROW. Therefore, the proposed roadway improvements will likely not impact the limpkin. Wetland systems will be affected, but these effects will be minimized through careful design considerations and by providing mitigation through Chapter 373.4137 FS. Wetland mitigation will not only protect potential limpkin habitat, but also apple snails and other protected wading bird species will benefit from this action. Therefore, the proposed project will have no effect on the limpkin.

5.3.2.3 Red-cockaded Woodpecker (*Picoides borealis*)

The red-cockaded woodpecker (RCW) is protected as endangered by the USFWS and as threatened by the FWC. RCW are endemic to Southeastern United States and have been listed as endangered since 1970. The RCW is unique among woodpecker species in its propensity for using mature, living pines in which it constructs roosting and nesting cavities. Slash pine (*Pinus elliottii*) and longleaf pine (*Pinus palustris*) are typically used throughout peninsular Florida. However, conditions such as dense tree stands or significant vertical structure (i.e., bushes and younger trees) can preclude the occurrence of RCW in a pine forest.

RCW are known to occur near US 19 in Citrus County several miles north of the project's northern terminus (near the Levy County line) and east of the roadway corridor near Homosassa. Because of these known occurrences in proximity to the project, wildlife surveys focused on locating any potential RCW habitat within the study area.

Only one area was identified as being potential habitat. It is located west of US 19 in project Segment 1, between roadway station numbers 192+00 and 220+00 in a part of the Withlacoochee State Forest's Homosassa Tract (Appendix B, Sheets 4 and 5, west side).

This area was surveyed for RCW using methods recommended by the USFWS and FWC. Primarily the survey focused on identifying potential nest trees (> 6 in diameter) and then inspecting them for starter holes and nest cavities. No evidence of RCW occurrence was observed.

Additionally, the FNAI identified two other RCW occurrences east of US 19 near Homosassa. Only one area was investigated due to its proximity to the US 19 corridor. Upon field reviewing the area, it was determined that no RCW habitat occurs there. Therefore, since no evidence of RCW occurrence was reported, the proposed project will have "no effect" on this species.

5.3.2.4 Southeastern American Kestrel *(Falco sparverius paulus)*

The Southeastern American kestrel is protected as a threatened species by the FWC. It occurs in a wide range of habitats, but prefers open areas and is often seen on poles and wires along roadsides where they feed primarily on insects. Kestrels typically nest (March through June) in snags containing abandoned woodpecker holes.

The FWC's Breeding Bird Atlas project identified two kestrel cavity trees in the vicinity of the US 19 corridor, but both are approximately one mile away. The kestrel was not observed within the study area. However, this species is likely to occur due to the abundance of suitable foraging habitat and potential nest sites observed.

Consideration for the common occurrence of the migratory subspecies (*F. s. sparverius*) should be given. This non-protected subspecies occurs annually in Florida during the period of September through March. The protected non-migratory *F. s. paulus* can only be properly identified from April through August, when the migratory subspecies is not present in Florida. Therefore, if occurrence confirmation for the Southeastern American

kestrel is required, additional species-specific surveys will be performed during the proper period (April-August).

Direct impacts to the kestrel would only occur when the nest site/cavity tree is removed. Since it is assumed that the kestrel does occur in the study corridor, then the removal of any potential cavity tree needs to be addressed. Since the proposed project will maximize the use of existing roadway ROW, which would impact areas that should not support any trees, the probability of direct impacts to this species are extremely low. However, in the few small areas where new ROW area will be taken, additional kestrel surveys will occur to identify potential nesting sites. In the event that a nest site may be removed, the FDOT will attempt to save the tree. If this is not possible, then the FDOT will coordinate with the FWC to determine how to minimize impacts to the kestrel. This survey would occur during the project's Re-evaluation Study, just prior to construction. Therefore, considering the low probability of effect and the commitment to eliminating or minimizing any adverse effects, the proposed project may affect, but is not likely to adversely affect the Southeastern American kestrel.

5.3.2.5 Florida Sandhill Crane (*Grus canadensis pratensis*)

The Florida sandhill crane is protected by the FWC as a threatened species. According to the FWC's Florida Breeding Bird Atlas Project data, as provided by the FNAI, it is known to nest in Citrus County. Sandhill cranes prefer wet prairies, marshy lake margins, low-lying improved cattle pastures, sparsely vegetated marshes, and shallow flooded open areas for foraging and nesting habitat.

Nesting may occur from January to June. They typically nest in shallow water lakes, ponds, and open marshes that contain pickerelweed (*Pontederia cordata*), maidencane (*Panicum hemitomon*), and arrowhead (*Sagittaria* spp.). Cranes do not exhibit nest-site fidelity, but may return to a specific wetland over more than one nesting season.

Abandonment or destruction of an active nest when the young have not fully fledged is considered a direct impact to the crane. Additionally, like all other wetland-dependent

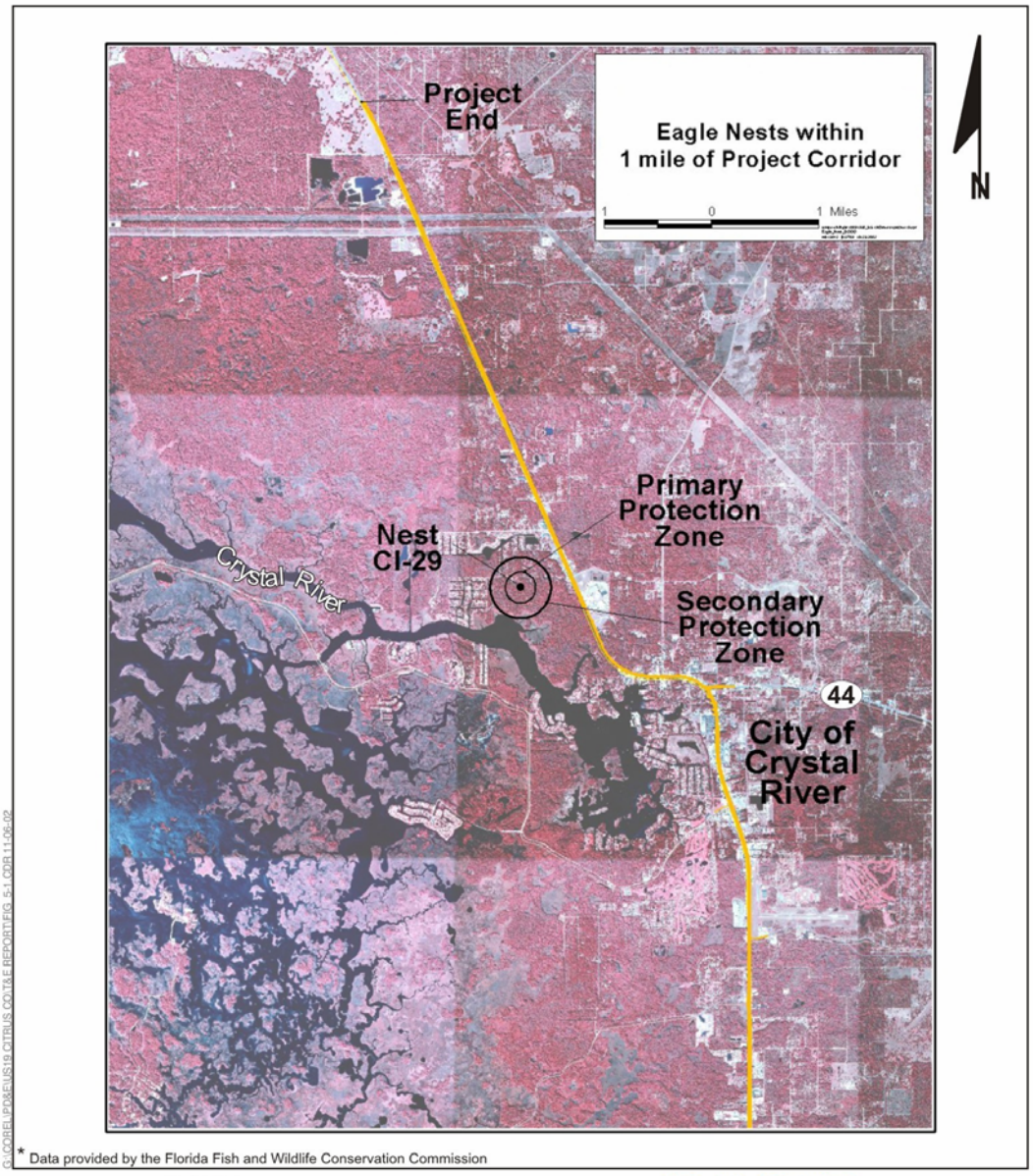
birds, cranes may be affected by the removal of wetland area. Mitigation for wetland impacts, as described in the Draft WER, will protect potential crane nesting and foraging habitat. The FWC's Breeding Bird Atlas project identified a single crane nest approximately one mile east of the US 19 corridor and 0.25 north of SR 480 near the southern end of the project. Within the study area, only one marsh system was identified as potential sandhill crane nesting habitat (Wetland 1-R5, plan sheet 4, Station 212+00, east side).

Although suitable habitat occurs within the study area, no cranes were observed during field evaluations. However, in an effort to prevent adverse affects to the sandhill crane, the FDOT will resurvey the Wetland 1-R5 just prior to construction in that area. This survey would occur during the project's Re-evaluation Study, just prior to construction. If an active nest is observed, the FDOT will cease construction activities in that area only, and contact the FWC for further consultation on appropriate protective measures. This effort will assure that the proposed project may affect, but is not likely to adversely affect, the Florida sandhill crane

5.3.2.6 Southern Bald Eagle (*Haliaeetus leucocephalus*)

The Southern bald eagle is protected as a threatened species by the FWC and the USFWS. Unlike the sandhill crane, the bald eagle exhibits high nest-site fidelity and is known to use the same nest for 10 years or more. According to the most current FNAI and FWC database for nest site locations, only one nest tree has been recorded within 1 mile of US 19 (Figure 5-1). Nest CI-29 is approximately 0.5 miles west (Section 17, Township 18S, Range 17E) of the existing US 19 ROW. During field evaluations, no new nest sites were observed, however, an eagle was seen flying southeast over the US 19 corridor, along the southern half of the project corridor.

To prevent direct impacts to the bald eagle, certain activities are restricted or prohibited within specific distances from an active nest site. The USFWS has identified two nest protection zones (Primary and Secondary), which provide the limits for specific activities. The Primary Protection Zone (PPZ) is a radius measured from the nest tree to


Project End
Eagle Nests within 1 mile of Project Corridor
1 0 1 Miles
N
Primary Protection Zone
Nest CI-29
Crystal River
Secondary Protection Zone
44
City of Crystal River
* Data provided by the Florida Fish and Wildlife Conservation Commission
LEGEND
Nest ID, with Primary and Secondary Limits
Project Corridor
CITRUS COUNTY
US 19 (SR 55)
PD&E STUDY
From South of US 98 to CR 488
Citrus County, Florida
EAGLE NESTS WITHIN 1 MILE OF PROJECT CORRIDOR
WPI SEG NO: 405822 1
FAP: 1852 007 P
FIGURE 5-1

a distance of up to 1,500 feet. In Florida, the PPZ is set at a distance of 750 feet from the nest tree. The Secondary Protection Zone (SPZ) begins at the limits of the PPZ and may extend out, upwards of one mile from the nest tree. In Florida, the SPZ boundary is set at a distance of 1,500 feet from the nest tree. Within the PPZ most construction activities are prohibited, especially the removal of vegetation and the installation of structures. Within the SPZ, construction activities may occur but not during the nesting period (October 15 through May 1). Nest-specific modifications to allow certain activities and to adjust protection zone radii may be made by the USFWS through the implementation of an eagle nest protection plan.

Since nest locations can change over time, the FDOT will resurvey the project corridor during all design/permitting phases of this project and review the most current FNAI and FWC eagle nest-site database. Construction activities will then be modified as necessary to reduce or eliminate any effects to this species. Coordination with the USFWS will be maintained throughout this process to assure no adverse affects to the eagle. However, since the proposed project is not currently within any nest protection zones, the FDOT believes this project will have "no effect" on the Southern bald eagle.

5.3.2.7 Wood Stork (*Mycteria americana*)

The wood stork is protected at the state and federal level as an endangered species. This protection extends to the nest sites (colony) of the species. Wood storks may utilize wetlands and roadside swales/ditches within the existing roadway ROW and other suitable wetland areas, but it was not observed during field evaluations. Most roadside ditches in the study area are upland cut and do not support wetland (foraging) conditions. Like other wading birds, the wood stork uses these habitats on a transient basis. Wood stork nesting colonies are typically located in swamps that are proximal to seasonally isolated wetlands.

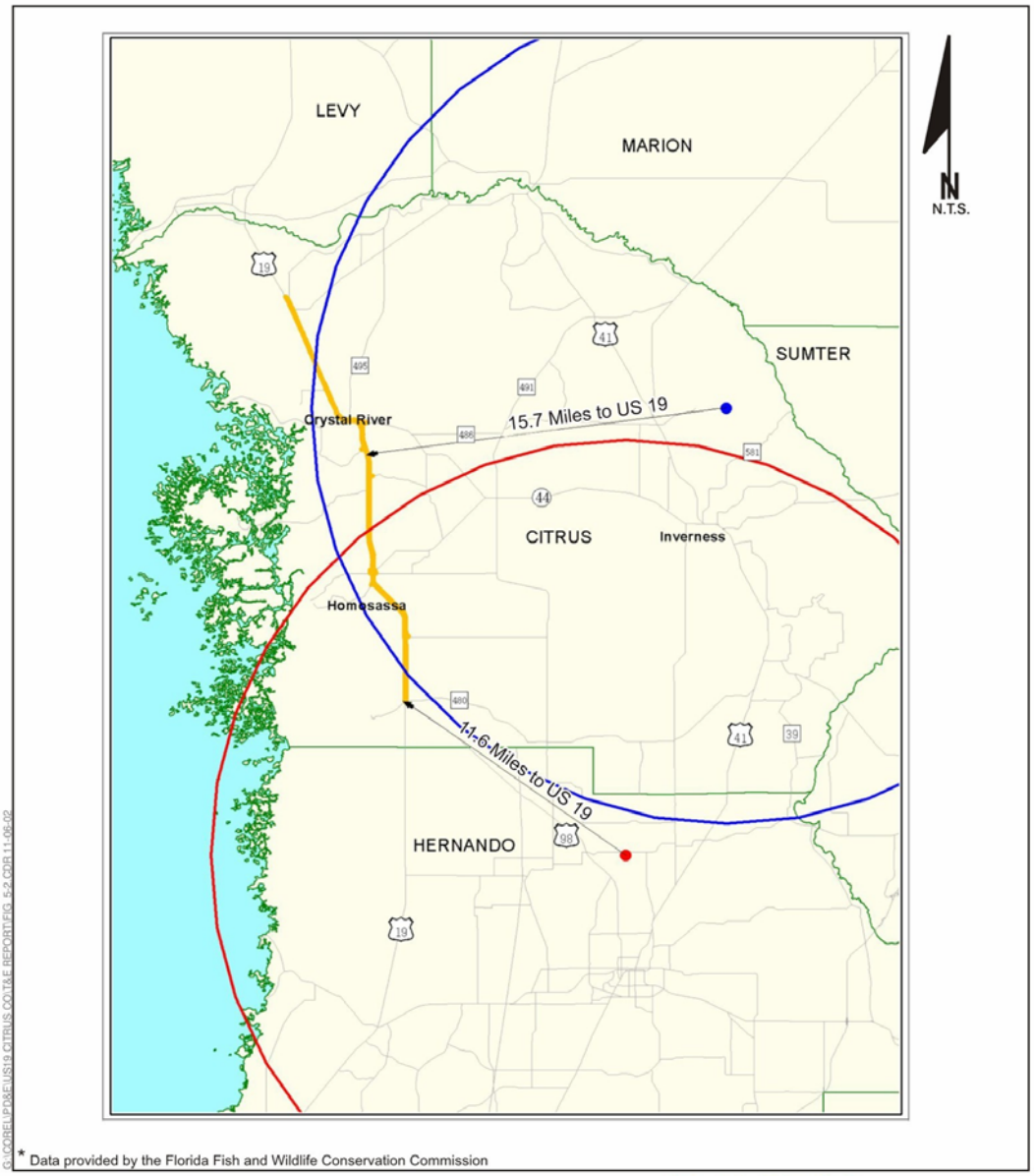
The USFWS has recently implemented changes to its wood stork colony protection guidelines. These new guidelines state that impacts to appropriate wetland systems within an 18.6-mile radius of a colony may directly affect colony productivity. The

radius area, known as the Core Foraging Area (CFA), is defined as the distance storks may fly from the colony to capture prey for their young. Wood storks rely upon wetland systems that provide high concentrations of prey items (e.g., fish and amphibians) during the nesting season. Wetland systems that provide this forage have a specific hydrologic regime. Therefore, not all wetlands within the CFA may qualify as appropriate foraging habitat for nesting purposes. However, appropriate wetlands that are impacted within the CFA must be mitigated for within that same CFA. Prior to this policy change, the USFWS allowed project-related wetland mitigation efforts to compensate for all foraging habitat impacts.

No breeding sites (colonies) or wood stork roosts were identified within the study area during surveys. The FWC maintains a colony location database, which reports two active wood stork colonies within 18.6 miles of the project corridor (Figure 5-2). The colony identification numbers are 611307 and 611305 and are located in Citrus (15.7 miles away in Section 20, Township 18S and Range 20E) and Hernando (11.6 miles away in Section SW27, Township 21S, Range 19E) counties, respectively. Wetlands supporting the proper hydrologic regime for foraging purposes may be affected throughout nearly all of the US 19 study area. The only wetlands within the project corridor that are outside either CFA occur in the northernmost 3.15 miles of the corridor.

Impacts to wood stork foraging habitat (wetlands) may be unavoidable due to the nature of the proposed project. However, impacted wetland area proposed for this project is low (2.8 to 3.0 acres) considering its 19-mile length. Wetland impacts created by FDOT projects are mitigated for under the provisions described in Chapter 373.4137 FS, which includes existing wet roadside ditches that are removed during the proposed construction. Wetland impacts must be mitigated for within the CFA.

During the project's permitting phase, when more specific design information is available, the FDOT will re-evaluate wetlands affected by the project. This investigation will determine if wetlands within the two CFAs will be impacted and if those wetlands


LEVY
MARION
SUMTER
CITRUS
HERNANDO
Crystal River
Inverness
Homosassa
15.7 Miles to US 19
11.6 Miles to US 19
N
N.T.S.
* Data provided by the Florida Fish and Wildlife Conservation Commission
LEGEND
611305 Core Foraging Area Boundary
611307 Core Foraging Area Boundary
Wood Stork Rookery 611305
Wood Stork Rookery 611307
Project Corridor
Major Roads
County Boundary
CITRUS COUNTY
US 19 (SR 55)
PD&E STUDY
From South of US 98 to CR 488
Citrus County, Florida
WOOD STORK CORE FORAGING AREAS IN PROJECT VICINITY
WPI SEG NO: 405822 1
FAP: 1852 007 P
FIGURE 5-2

have suitable hydroperiods for foraging habitat. If such wetlands are impacted, the FDOT will coordinate with the USFWS and propose mitigation to minimize effects to the wood stork and its colonies. With these efforts, the FDOT believes that the proposed project "may affect, but is not likely to adversely affect" the wood stork or its breeding habitat.

5.3.2.8 Florida Burrowing Owl (*Speotyto cunicularia floridana*)

The burrowing owl is protected by the state as a SSC. This owl is unusual among the owls of North America due to its ability to occupy burrows and use them for nesting and shelter. Its North American distribution includes the western U.S. and parts of Canada, but Florida supports its own disjunct population. Florida burrowing owls occupy open (i.e. low tree density), typically xeric, upland habitats such as sandhill/high pine, scrub, and pine flatwoods. But they also occur and thrive in human-altered areas such as airport infields, pastures, and undeveloped, cleared urban areas (i.e. abandoned subdivisions).

The FNAI database did identify the occurrence of the burrowing owl in the project vicinity; more than one mile east of US 19 and a few miles north of CR 480. However, in the *Biota of Florida*[13] (v. 5), the species distribution map shows that burrowing owls are not breeding in coastal Citrus County.

Although no owl or evidence of their occurrence was recorded during field evaluations, suitable habitat is common in the study area. Many appropriate natural areas (e.g. sandhill/high pine, scrub and pine flatwoods) occur. Additionally, many cleared upland areas were observed that could support owls. Considering the abundance of gopher tortoise burrows within the study area, it is possible that some of the inactive or abandoned tortoise burrows may be used by burrowing owls. Therefore, even though no direct evidence of occurrence was recorded, it is assumed the burrowing owl is likely to occur within the study area.

Direct impact to the burrowing owl would occur when a burrow is filled or excavated. In the section addressing the gopher tortoise (Section 5.3.1.3), the FDOT has committed to

re-surveying for tortoise burrows during the project's Re-evaluation Study, just prior to construction. A review of burrowing owl occurrence will coincide with the tortoise re-survey, since they share similar habitat. Although it is unlikely that the owl will be affected by the project, the FDOT will use all precautionary measures to protect it if it does occur. These measures will include establishing buffers from construction for burrows that are proximal to, but not impacted by, construction activities. In the unlikely event that a burrow will be directly impacted, the FDOT will coordinate with the FWC for guidance on mitigation, which may include the acquisition of an Incidental Take Permit. With these commitments to protecting the owl, the FDOT believes that the proposed project may affect, but is unlikely to adversely affect the burrowing owl.

5.3.2.9 Scott's Seaside Sparrow (*Ammodramus maritimus peninsulae*) and Marian's Marsh Wren (*Cistothorus palustris marianae*)

Both of these subspecies of seaside sparrow and marsh wren are protected at the state level only as SSC. They are treated together here because they occupy extremely similar habitat type and share a similar distribution on the Florida's Gulf coast, north of the Tampa Bay area. Coastal marsh systems chiefly comprised of saltmarsh cordgrass (*Spartina alterniflora*) and black needlerush (*Juncus romerianus*) are preferred by both for breeding, but the seaside sparrow is also associated with marshes that support salt grass (*Distichlis spicata*). This habitat type is common along the coast in Citrus County. The Florida Breeding Bird Atlas data for Citrus County indicates that both birds may breed locally. However, successful breeding for either species in Citrus County has not been confirmed.

Impacts to the seaside sparrow and marsh wren occur when coastal marsh habitat is removed or substantially altered. Proposed improvements for US 19 will not affect any coastal marsh systems. Although the study area is proximal to the coast, the wetlands identified in the study area are all freshwater systems. Given this fact, the proposed project will have no effect on Scott's seaside sparrow or Marian's marsh wren.

5.3.2.10 Protected Wading Birds and Colonies

Several species of wading birds potentially occurring in the project area are protected by the FWC as SSC. These include the white ibis (*Eudocimus albus*), little blue heron (*Egretta caerulea*), tricolored heron (*E. tricolor*), snowy egret (*E. thula*), and roseate spoonbill (*Ajaia ajaja*). All five of these birds rely on wetlands, almost exclusively, for foraging purposes and they all may nest in multi-species colonies (colonies).

The FNAI database contains no records of individual birds in the project vicinity. Additionally, the FWC current database of known colonies in Florida identifies the closest one more than one mile from the project corridor. Field evaluation efforts resulted in no observations of any colonies or potential colony sites nor any observations of the five protected wading birds. However, since suitable foraging habitat is within the study area, these birds are assumed to occur.

Impacts to wading birds would occur when foraging habitat is removed. Compensation for these impacts is provided through required wetland mitigation as directed by Chapter 373.4137 FS. Therefore, the FDOT believes that the proposed project may affect, but is not likely to adversely affect protected wading bird species.

5.3.3 Mammals

5.3.3.1 Florida Mouse (*Podomys floridanus*)

The Florida mouse is protected only by the state as a SSC. It is the only mammal species endemic to Florida, occurring in xeric upland habitats (scrub and sandhill) similar to that of the gopher tortoise and gopher frog. Like the gopher frog, it is considered a commensal species of the gopher tortoise, regularly relying upon the tortoise burrow for shelter. Therefore, it has similar habitat requirements as the gopher tortoise, but it may also occur in xeric upland habitat that does not support the tortoise.

The FNAI data does not identify the Florida mouse within the project vicinity, and no individuals were observed during field evaluations. However, to establish occurrence, extensive and systematic trapping efforts must be employed which were not implemented in the surveys. The *Biota of Florida* (Vol. 1)[14] identifies one occurrence along coastal Citrus County, and the species is known to occur in other parts of the county. Additionally, habitat for the gopher tortoise is common within the study corridor. Thus, it will be assumed that the Florida mouse may occur.

Impacts to the Florida mouse come from direct removal of habitat. Also, any impacts to gopher tortoise burrows may affect it. Proposed mitigation for gopher tortoise impacts would also compensate for impacts to the Florida mouse. Therefore, the proposed project may affect, but is not likely to adversely affect the Florida mouse.

5.3.3.2 Sherman's Fox Squirrel (*Sciurus niger shermani*)

The Sherman's fox squirrel is protected only by the state as a SSC and occurs in xeric upland habitats throughout much of the central and north Florida peninsula. Typically, it utilizes natural open habitats such as longleaf pine forests (sandhill and pine flatwoods) where it forages upon pine seeds and acorns, primary components of its diet. Its affinity toward open areas is not limited to natural settings; it also occurs in urban settings such as golf courses and subdivisions that support pine and oak trees.

The FNAI database identifies three fox squirrel records from the project vicinity one occurring near the City of Crystal River and two near the intersection of US 19 and US 98, near the project's southern terminus. During field evaluations, additional evidence of fox squirrel occurrence was noted. Also, in the vicinity of US 98, a road-killed squirrel was recorded. Fox squirrel feeding stations, identified by an abundance of foraged-on longleaf pine cones, were observed in five separate locations within the study area. Suitable squirrel habitat was noted in many areas along the project corridor.

Impacts to the fox squirrel would occur through the removal of suitable habitat and vehicle-related mortality. Since the improvements to the roadway mainline will require

little new ROW, it is unlikely the taking of new ROW will directly impact that suitable fox squirrel habitat. Therefore, the FDOT believes the proposed project will have no effect on the Sherman's fox squirrel.

5.3.3.3 Florida Manatee *(Trichechus manatus)*

The Florida manatee is protected by the FWC and USFWS as an endangered species. It occurs in coastal waters, estuaries, and rivers on both the west and east coasts of Florida. In Citrus County, it is a well-known inhabitant of Crystal River, Kings Bay, and associated tributaries.

The FNAI identifies a manatee aggregation in Kings Bay. A dredged portion of Kings Bay is within the study area, representing the only open water or waterway within the study area. This portion is hydrologically connected by a ditch to a small springhead within a city park (Bicentennial Park), which occurs on the east side of US 19. While the culverted ditch may be impacted, no impacts to Kings Bay are anticipated. However, in January 2003, two manatees, passed over a water control structure and crossed under US 19 to enter Bicentennial Park (Station 815+00) during an unusually high tide. At least one manatee needed assistance returning to King's Bay because of the ensuing low water levels. This may be the first time manatees crossed US 19 at this location.

Due to the conceptual nature of the design, it is not known at this time what types of drainage improvements will be needed at this ditch crossing. But any changes to the culvert should not have any effect on the manatee since the existing waterway under US 19 was not originally intended to be a conveyance for manatees.

The proposed roadway improvements will not directly impact any open water habitat suitable for manatees. However, in the highly unlikely event that manatees attempt to cross US 19 at the Bicentennial Park ditch crossing. the FDOT will require the construction contractor to implement manatee construction precaution guidelines (Appendix E). Therefore, the proposed project will have "no effect" on the Florida manatee.

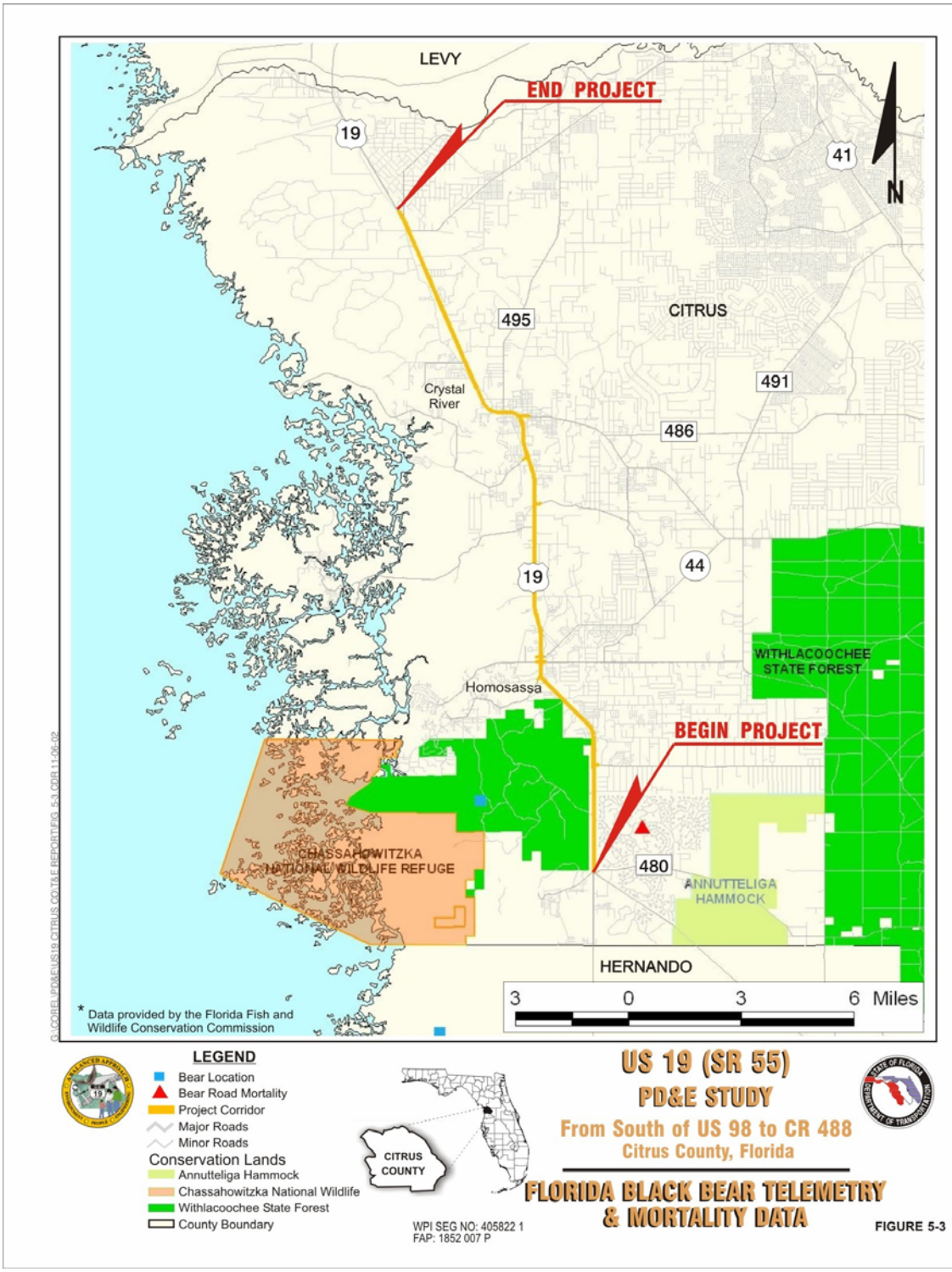
5.3.3.4 Florida Black Bear (*Ursus americanus floridanus*)

The black bear is protected as a threatened species in Florida by the FWC. It occurs in regional and local isolated populations throughout much of the state. The most significant populations occur on public lands in the Apalachicola and Ocala National Forests and the Big Cypress Swamp.

Suitable habitat has been described for the black bear. It utilizes a vast array of natural areas including both upland and wetland habitats. One necessary habitat quality is dense vegetative cover providing opportunities for good cover, especially when denning. Because the black bears utilize such a wide variety of natural areas, the best way to define Florida black bear habitat is not by the vegetative community type but by known occurrences.

A small, isolated population of black bear, known as the Chassowitzka population, occurs in the project area. These bears primarily occur in western Hernando County, but are known to occur in the project's southern end, in western Citrus County as well and part of Pasco County. The FWC has focused efforts during recent years to better understand this small group, which is estimated at 20 individuals. Such a small number of bears suggest that they are especially vulnerable to extirpation. These bears are afforded protection because they utilize conservation lands, which are common throughout their west-central Florida range.

The major threat to the Chassowitzka population is loss of habitat, but road mortalities may also have a substantial effect. However, a review of the road mortality data, provided by the FWC for northern Hernando and southern Citrus Counties, indicates that black bear road mortalities on US 19 are uncommon in the project vicinity. Only one road mortality was reported from southern Citrus County (May 1999) within the Sugarmill Woods subdivision, which has an entrance on US 19. In northern Hernando County, two bears have been killed on US 19, but both were in December 1983 (Figure 5-3).


LEVY
END PROJECT
19
41
N
495
CITRUS
491
Crystal River
486
44
19
WITHLACOOCHEE STATE FOREST
Homosassa
BEGIN PROJECT
CHASSAHOWITZKA NATIONAL WILDLIFE REFUGE
480
ANNUTTELIGA HAMMOCK
HERNANDO
3 0 3 6 Miles
* Data provided by the Florida Fish and Wildlife Conservation Commission
G:\CORE\PD&E\US19 CITRUS CO\T&E REPORT\FIG_5-3.CDR 11-06-02
LEGEND
Bear Location
Bear Road Mortality
Project Corridor
Major Roads
Minor Roads
Conservation Lands
Annutteliga Hammock
Chassahowitzka National Wildlife
Withlacoochee State Forest
County Boundary
CITRUS COUNTY
US 19 (SR 55)
PD&E STUDY
From South of US 98 to CR 488
Citrus County, Florida
FLORIDA BLACK BEAR TELEMETRY & MORTALITY DATA
WPI SEG NO: 405822 1
FAP: 1852 007 P
FIGURE 5-3

The FNAI database lacks bear records in the project vicinity. However, during the field evaluations some bear scat was observed on the Homosassa Tract of the Withlacoochee State Forest (Plan Sheet 4, station 200+00, west side). This evidence, along with the road mortality data, confirms that black bear occurs in the project vicinity.

The project will result in impacts primarily to the existing roadway ROW that does not have significant suitable habitat for the black bear. In addition, large tracts of conservation lands occur in the area. Thus, habitat removal will have little to no effect on the black bear. Conversely, increased roadway width in this area may cause a greater obstacle to bears crossing US 19 safely.

To avoid increasing bear road mortality in this area, the construction of a wildlife crossing bridge was considered. Wildlife Crossing Bridges are designed to prevent wildlife from entering a roadway by using fencing that funnels the wildlife to a roadway underpass, allowing safe passage under the roadway. Such bridges have been constructed for bears in other parts of Florida and have been proven effective. However, in those situations, the bear road mortality rate is higher than the rate occurring in Citrus County. Also, wildlife agencies agree that Wildlife Crossing Bridges are only effective when conservation lands occur on both sides of the road. Although there are many conservation lands throughout this part of Florida, such lands do not exist on either side of US 19 in this area. Moreover, the fencing, which would be needed in association with the crossing, is only effective when used as a uninterrupted barrier along the roadside. US 19 in southern Citrus County is accessed by many small roadways and driveways entering the ROW. These numerous openings would prevent the effective use of fencing. Without fencing, the effectiveness of crossings to reduce mortality is questionable.

Considering the low mortality rate on the existing roadway, a lack of conservation lands on either side of US 19, the inability to utilize fencing, and the great expense of building a wildlife crossing bridge, it is impractical to construct one for the proposed project. However, since the roadway widening poses a potential hazard for bears, the FDOT proposes to install bear crossing signage along US 19 in southern Citrus County. The signs warn motorists that bears may enter the roadway. Such signage has been in place on

US 19 in Hernando County for many years. This effort, along with the minimal acquisition of new roadway ROW, will minimize any project- related effects on the black bear. Therefore, the FDOT believes the proposed project may affect, but is unlikely to adversely affect the Florida black bear.

5.3.4 Protected Plant Species

According to the FNAI database, protected plant species occurring in the project vicinity are limited to state protected plants only. Seventeen species are identified by the FNAI. An additional species was observed during field evaluations. These eighteen species are presented in Table 5-3. Of the seventeen plants from the database, all are protected by the state as endangered species except for the nodding pinweed (*Lechea cernua*) and the wild coco (*Pteroglossaspis ecristata*), which are both protected as threatened species. A third species, brittle maidenhair fern (*Adiantum tenerum*), is protected as a SSC. No federally protected species were identified from the FNAI data.

During field evaluations, none of the protected plants presented in Table 5-3 were observed. However, the pine lily, also known as the Catesby's lily (*Lilium catesbaei*), was identified from two small hydric areas near the eastern ROW limits (Plan Sheet 10, Station 363+00, east side and Plan Sheet 11, Station 397+00, east side). This lily is also protected by the state as an endangered species. A total of nine plants were observed, with eight in the southernmost area (Station 363+00). This lily typically grows in moist open areas that are maintained regularly by fire.

State protected plant species that were not observed will receive no effect from the proposed project. However, the pine lily occurs in an area that may receive impacts. A small portion of the lily area at Station 363+00 is within the existing ROW and impacts may occur there. This area is regularly mowed and maintained by a billboard owner in order to allow an existing billboard to be seen by motorists. This activity provides suitable habitat for the lilies to persist.

Most of this lily area is outside the existing ROW, in an area that will not be impacted by the proposed roadway. Also, the lily observed near Station 397+00 occurs outside the existing ROW, where it will not be impacted. Given the proposed design in these areas, the FDOT believes that the project may affect, but is unlikely to adversely affect the pine lily.

5.3.5 Observed Non-Protected Wildlife

During field evaluations, wildlife species not protected by the federal Endangered Species Act of 1973 or the state Endangered and Threatened Species Act (Chapter 372.072 FS) were observed and recorded. Much of the study area occurs in natural areas that provide suitable habitat for many species, and the field evaluations coincided with the fall bird migration. These two factors resulted in many wildlife observations, primarily of migratory birds. A list of observed species or species that are expected based upon evidence (such as tracks) is presented in Appendix F.

SECTION 6
CONCLUSIONS AND COMMITMENTS

6.1 CONCLUSIONS

This study identified that many natural land uses occur along the US 19 corridor. Natural areas include both wetland and upland communities. Wetland communities are addressed in the Draft WER. Upland communities were comprised primarily of xeric habitats such as high pine/sandhill, pine flatwoods, and mixed forest systems. Other xeric habitats present included oak and scrub. Although the quality of many areas is compromised due to other land use activities such as clearing and earthwork, many of the natural areas sustain good ecological value.

The study area was evaluated to determine the occurrence or the potential occurrence of state and federally protected species. Field evaluations resulted in direct evidence of four (4) species including the gopher tortoise, Sherman's fox squirrel, Florida black bear, and pine lily. Existing data was used, in conjunction with field evaluations of habitat quality, to identify several other species that are likely to occur in the study area. A determination of project effect for each of these species is listed below.

Protected species that will receive no effect from the proposed project are listed below. Species that are protected at both a federal and state level are indicated with an asterisk (*). All others are protected at a state level only.

- American alligator *
- Scott's seaside sparrow
- Florida scrub jay *
- Limpkin
- Marian's marsh wren
- Southern bald eagle *

- Red-cockaded woodpecker*
- Sherman's fox squirrel
- Florida manatee *
- All state and/or federally protected plant species, except pine lily

Protected species receiving a may affect, but not likely to adversely affect determination are as follows. Species that are protected at both a federal and state level are indicated with an asterisk (*). All others are protected at a state level only.

- Eastern indigo snake *
- Florida pine snake
- Gopher frog
- Short-tailed snake
- Gopher tortoise
- Roseate spoonbill
- Little blue heron
- Snowy egret
- Tricolored heron
- White ibis
- Southeastern American kestrel
- Florida sandhill crane
- Wood stork *
- Florida burrowing owl
- Florida mouse
- Florida black bear
- Pine lily

In addition to the protected species, approximately forty (40) different non-protected wildlife species were observed in the study area. Most of these species were migratory birds.

6.2 COMMITMENTS

The FDOT is committing to the conditions given below in an effort to eliminate or minimize potential project effects on the species that may be affected. During the design and construction phase of the project, strategies will be implemented to this end. They include acquiring necessary permits to mitigate affects on some protected species or modifying construction techniques to minimize or avoid impacts. As such, the FDOT commits to the following conditions:

- Eastern indigo snake: The FDOT commits to implementing standard protection guidelines for construction, which are presented in Appendix E.

- Florida pine snake and short-tailed snake: Because there is a possibility that more than one protected snake species may be encountered during construction, the FDOT will develop an education program for construction workers. The program will strongly encourage that no species of snake be killed on the project. This program shall complement the Eastern indigo snake protection guidelines.

- Gopher tortoise: During the design phase, the FDOT will conduct surveys in areas that will be impacted by construction. If it is determined that tortoises will be affected, coordination with the FWC will occur in an effort to acquire permits, thereby minimizing affects to the tortoise.

- Gopher frog: Potential impacts to the gopher frog shall be offset by mitigation efforts for the gopher tortoise.

- Wading birds: Wetland impacts which will result from the construction of this project will be mitigated pursuant to Section 373.4137 FS to satisfy all mitigation requirements of Part IV Chapter 373, FS and 33 United States Code 1344. This mitigation shall be used to offset potential impacts to the roseate spoonbill, little blue heron, snowy egret, tricolored heron, and white ibis.

- Southeastern American kestrel: The FDOT commits to surveying in areas where trees will be removed to determine if kestrel cavities will be affected. This survey would occur during the project's Re-evaluation Study, just prior to construction. If such trees are identified, the FDOT shall coordinate with the FWC to determine the most appropriate mitigation.

- Florida sandhill crane: The FDOT commits to surveying for sandhill crane nests just prior to construction, during the Re-evaluation Study. If a nest(s) is found within an adjacent wetland, the FWC will be contacted immediately to determine appropriate nest protection measures.

- Wood stork: Any impacted wetland supporting hydrology appropriate for forage during the nesting period, which also occurs within a wood stork CFA, shall be mitigated for within that CFA. Since this effort is directed by a recent change to USFWS policy, the FDOT commits to coordinating with the USFWS to assure all mitigation measures are followed accordingly.

- Florida burrowing owl: The FDOT commits to surveying for burrowing owls just prior to construction, during the Re-evaluation Study, in areas that will be impacted by construction. If any burrows are encountered, the FDOT will coordinate with the FWC to minimize or eliminate affects to the owl.

- Florida Manatee: To guard against the highly unlikely event that manatees attempt to cross under US 19 at the Bicentennial Park culverted ditch, the FDOT will require the construction contractor to implement manatee construction precaution guidelines in this area.

- Florida mouse: Potential impacts to the Florida mouse shall be offset by mitigation efforts for the gopher tortoise.

- Florida black bear: Although road mortalities have been minimal in the study area, the FDOT commits to installing bear crossing signage. The intent of the signs is to educate and warn motorists of bears entering the roadway, which may minimize or eliminate future road mortalities.

With these commitments, the FDOT believes that adverse impacts to all protected species associated with the US 19 mainline improvements will be avoided.

SECTION 7

REFERENCES

1. Citrus County Comprehensive Plan 1995-2020; Citrus County Department of Development Services; Lecanto, Florida; revisions through December 14, 1999.
2. City of Crystal River Comprehensive Plan; Crystal River, Florida; Adopted March 1998.
3. Final Traffic Report: Volume 2 - Future Conditions; From South of US 98 to CR 488; PBS&J; Tampa, Florida; May 2004.
4. Development of the Florida Intrastate Highway System; Topic No. 525-030-250-f; FDOT Systems Planning Office; May 16, 2002.
5. US 19 Action Plan Update; FDOT; URS Greiner Woodward Clyde; Citrus County, Florida; July 2000.
6. Species and Natural Community Summaries; Florida Natural Areas Inventory; Citrus County, Florida; 2002.
7. Citrus County Soil Survey; US Department of Agricultural, Natural Resources Conservation Service (NRCS); 1984.
8. National Wetlands Inventory (NWI) Maps, US Fish and Wildlife Service (USFWS)
9. Topographic Quadrangle Maps, 7.5 minute series, US Geological Survey (USGS)
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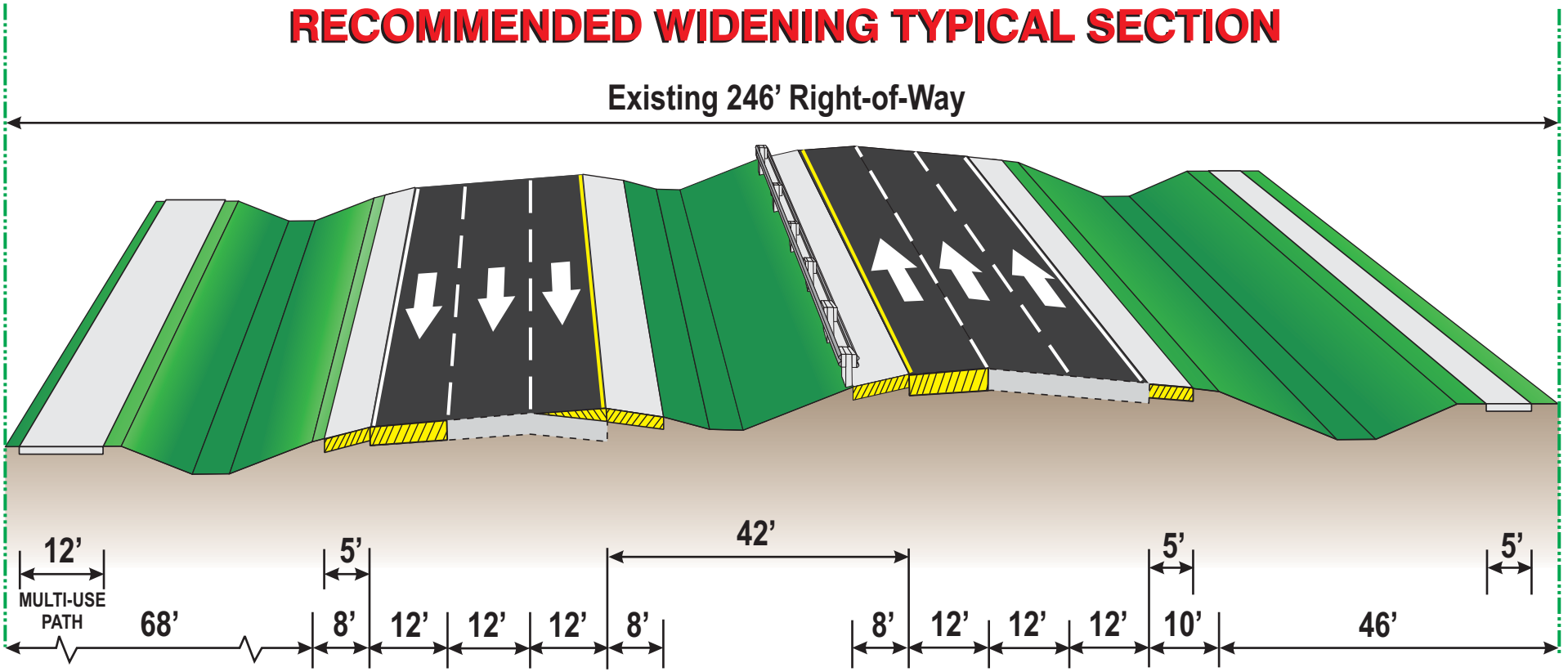
11. Classification of Wetlands and Deepwater Habitats of the United States; L.M. Cowardin, V. Carter, F.C. Goplet, and E.T. LaRoe. 1979. US Department of the Interior, Fish and Wildlife Service, Office of Biological Services. Technical Publication FWS/OBS-79/31. 131 pp.
12. Final Wetland Evaluation Report; PBS&J; Tampa, Florida; May 2004.
13. Rare and Endangered Biota of Florida, Volume V-Birds; J.A. Rodgers, H.W. Kale II, and H.T. Smith. University Press of Florida; Gainesville, Florida.
14. Rare and Endangered Biota of Florida, Volume I-Mammals; S.R. Humphreys (ed.). University Press of Florida; Gainesville, Florida.

APPENDIX A

Proposed Typical Sections

RECOMMENDED WIDENING TYPICAL SECTION

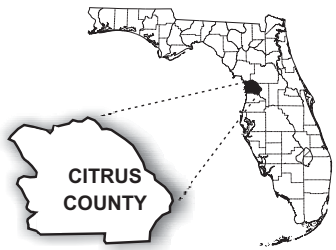


SEGMENT 1
NORTH OF US 98 TO WEST GREEN ACRES STREET
DESIGN SPEED 70 MPH

Notes: Widen Northbound to Median
Widen Southbound to Outside

LEGEND

- Proposed Widening
- Asphalt Overbuild
- Existing Pavement

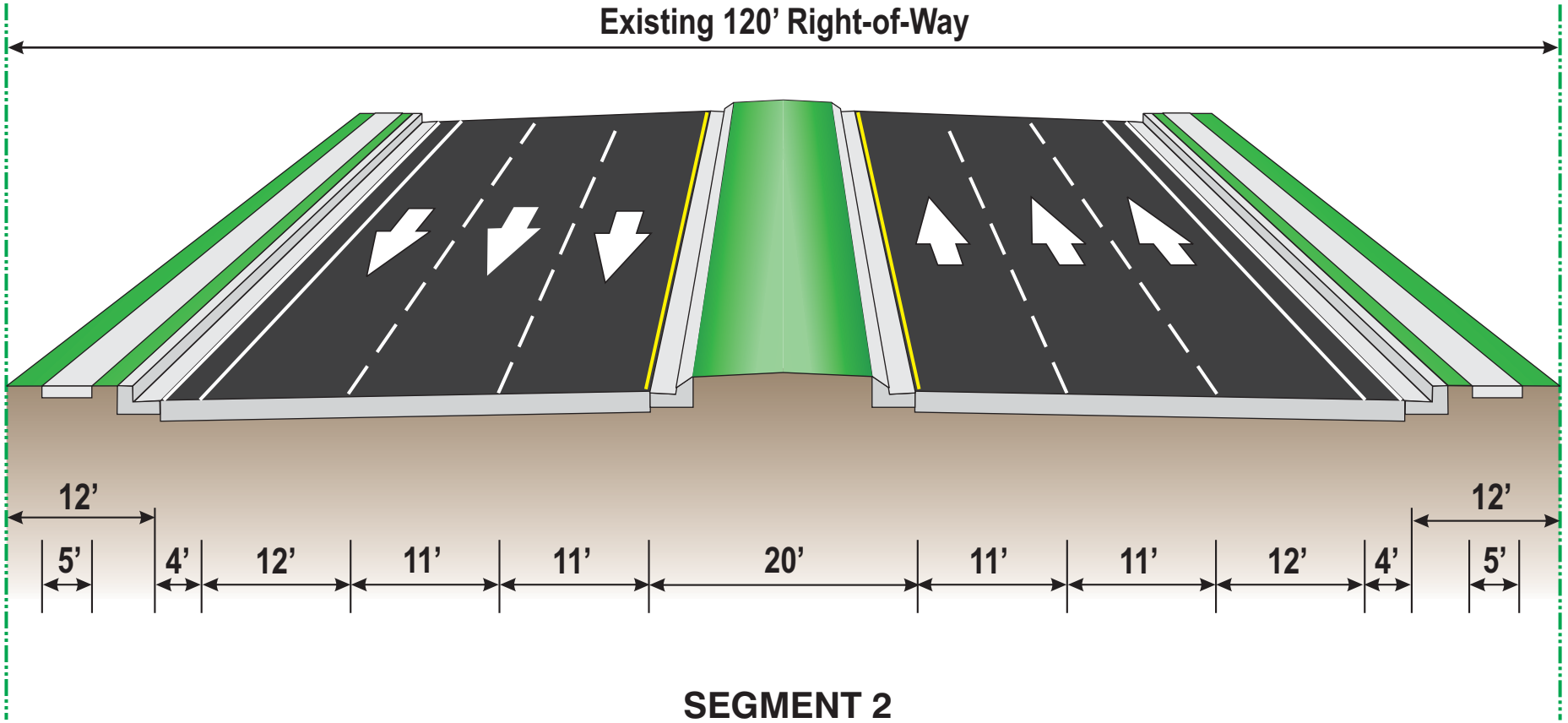


US 19 (SR 55)
PD&E STUDY
From South of US 98 to CR 488
Citrus County, Florida

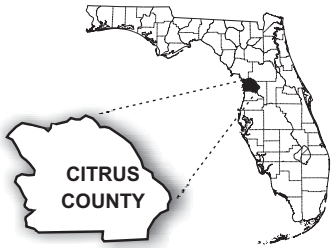
RECOMMENDED WIDENING TYPICAL SECTION

WPI SEG NO: 405822 1
FAP: 1852 007 P

RECOMMENDED TYPICAL SECTION



SEGMENT 2
WEST YULEE DRIVE (CR 490) TO WEST ELKHORN DRIVE (PORTION OF SEGMENT 2)
DESIGN SPEED 50 MPH

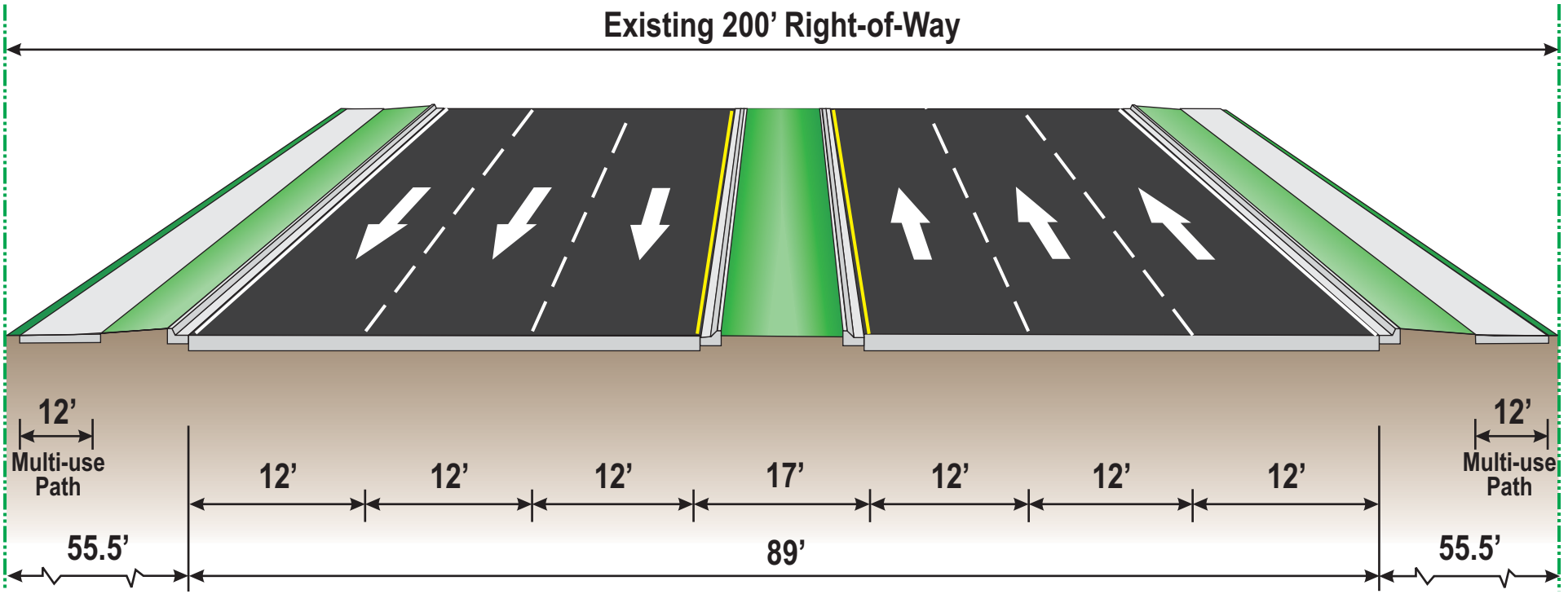


US 19 (SR 55)
PD&E STUDY
From South of US 98 to CR 488
Citrus County, Florida

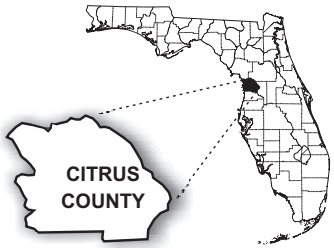
RECOMMENDED TYPICAL SECTION

WPI SEG NO: 405822 1
FAP: 1852 007 P

RECOMMENDED TYPICAL SECTION



SEGMENT 4
WEST FORT ISLAND TRAIL (CR 44) TO NE 1ST TERRACE
DESIGN SPEED 40 MPH

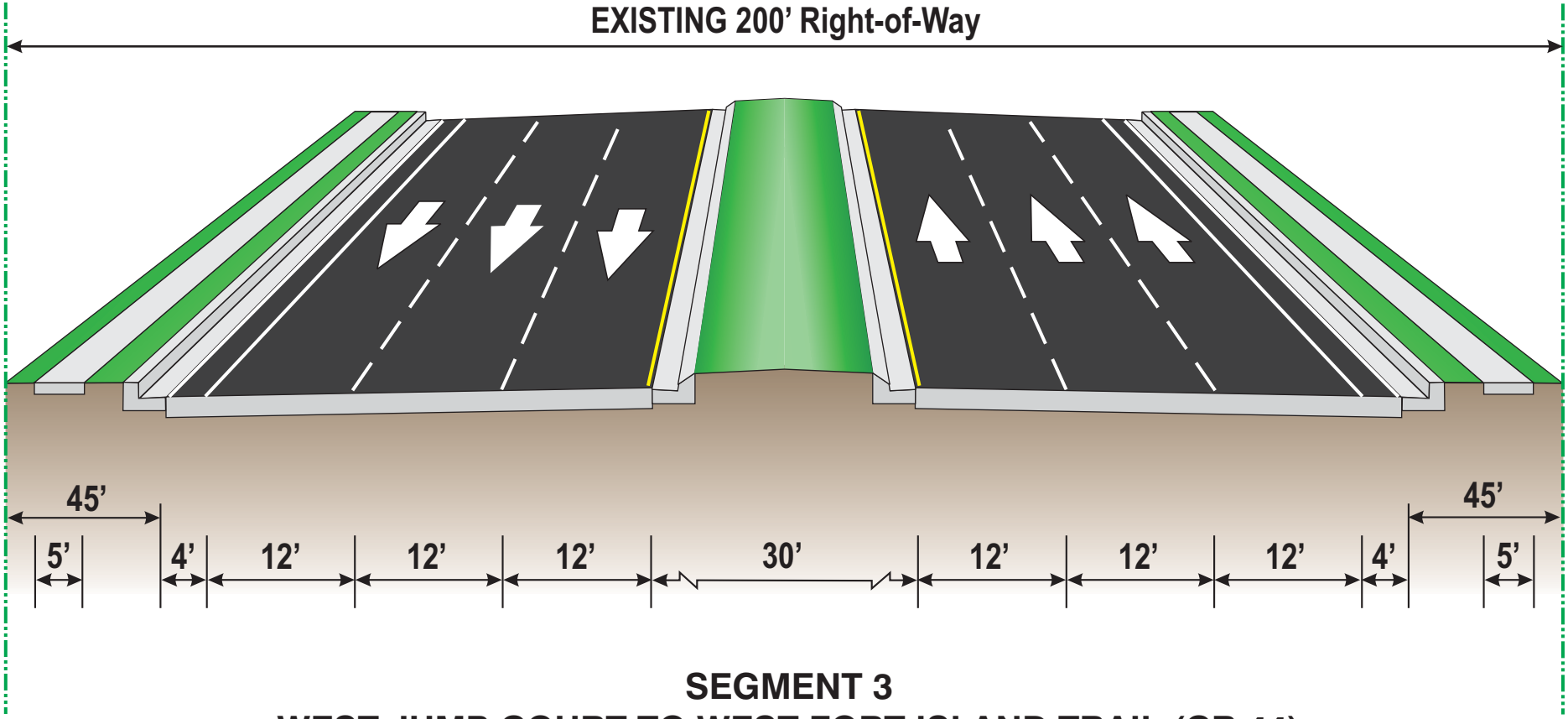


US 19 (SR 55)
PD&E STUDY
From South of US 98 to CR 488
Citrus County, Florida

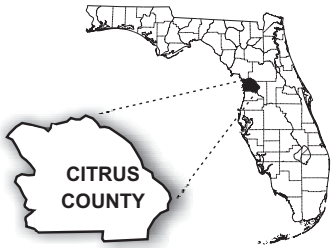
RECOMMENDED TYPICAL SECTION

WPI SEG NO: 405822 1
FAP: 1852 007 P

RECOMMENDED TYPICAL SECTION



SEGMENT 3
WEST JUMP COURT TO WEST FORT ISLAND TRAIL (CR 44)
DESIGN SPEED 50 MPH



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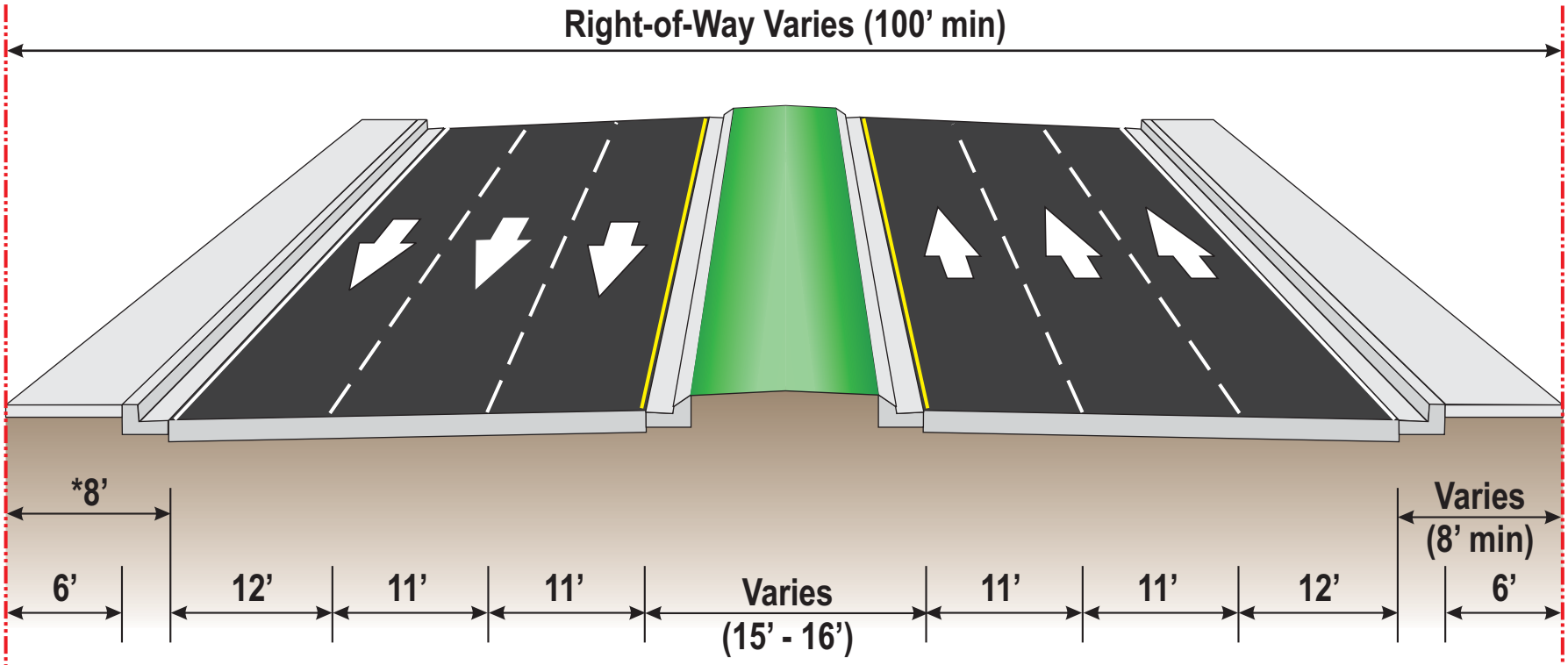
Citrus County, Florida

RECOMMENDED TYPICAL SECTION

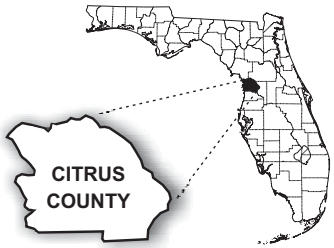
WPI SEG NO: 405822 1
FAP: 1852 007 P

RECOMMENDED TYPICAL SECTION



SEGMENT 5
NE 1st TERRACE TO TURKEY OAK DRIVE
DESIGN SPEED 40 MPH

*Border width varies to accommodate gravity wall.



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RECOMMENDED TYPICAL SECTION

WPI SEG NO: 405822 1
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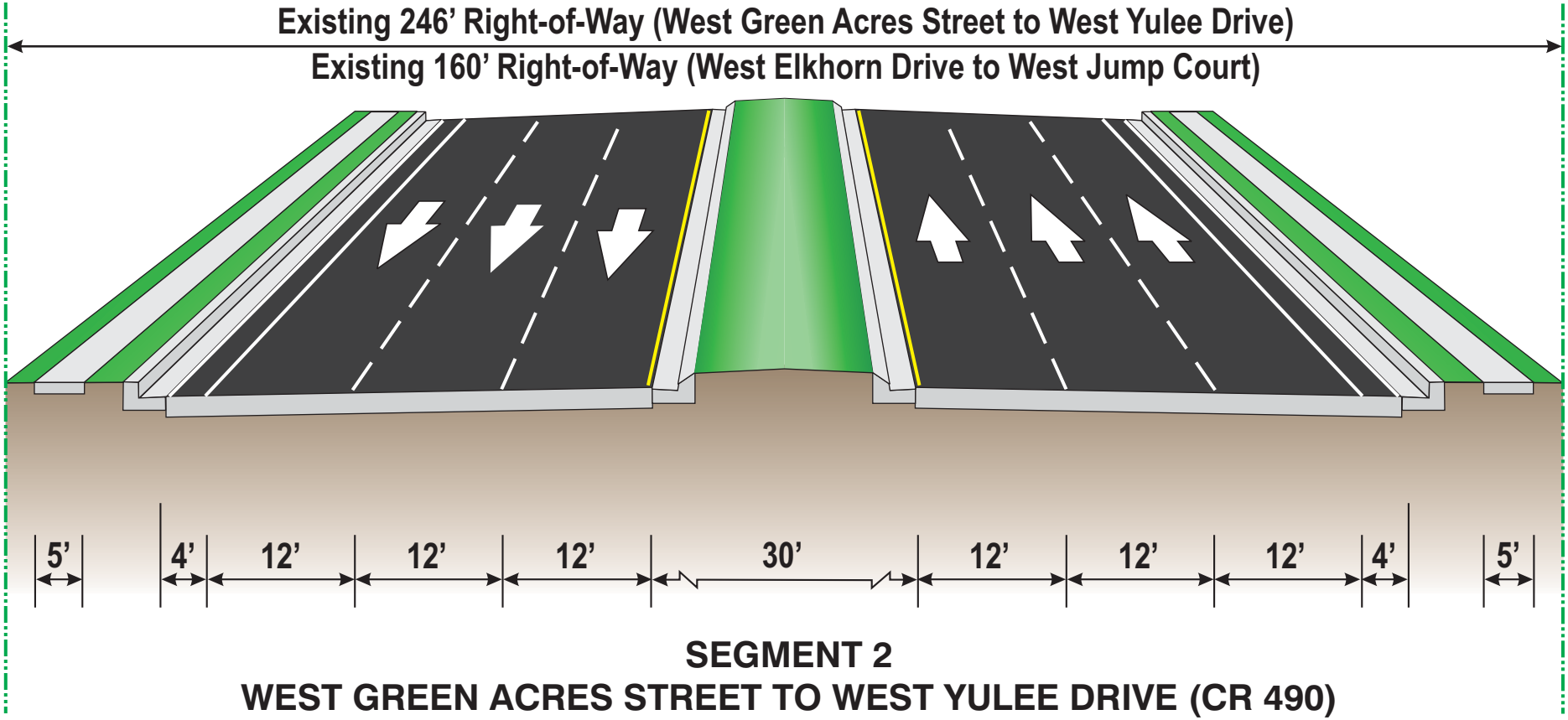
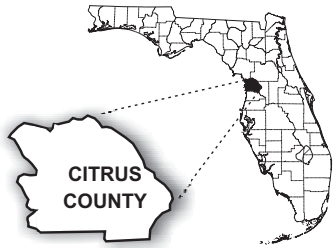
RECOMMENDED TYPICAL SECTION



SEGMENT 2
WEST GREEN ACRES STREET TO WEST YULEE DRIVE (CR 490)
AND WEST ELKHORN DRIVE TO WEST JUMP COURT
DESIGN SPEED 50 MPH



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PD&E STUDY
From South of US 98 to CR 488
Citrus County, Florida

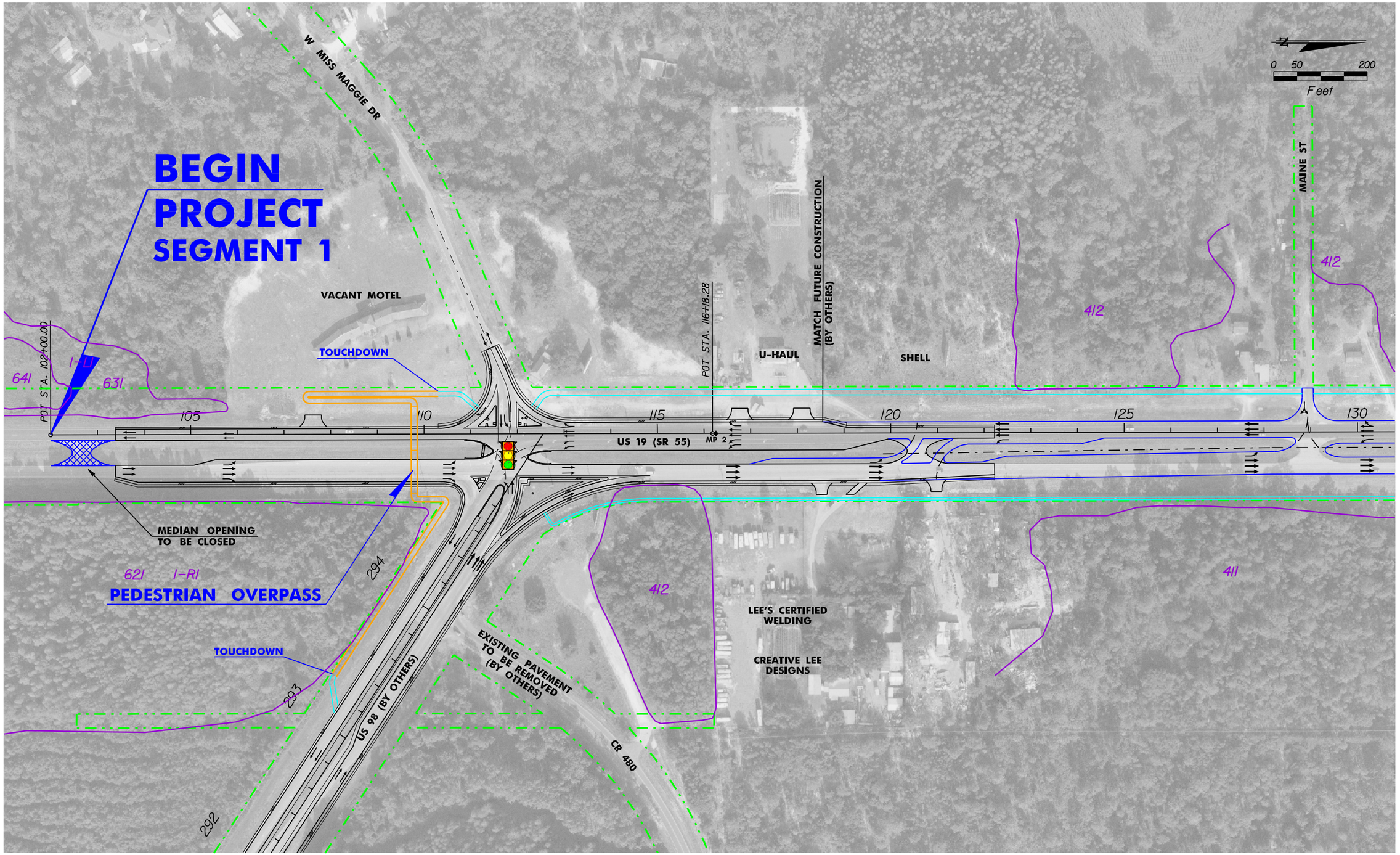
RECOMMENDED TYPICAL SECTION

WPI SEG NO: 405822 1
FAP: 1852 007 P

APPENDIX B

Recommended Alternative Concept Plans

FLIGHT DATE : JUNE 11, 2001



SEGMENT 1 RECOMMENDED ALTERNATIVE

EXISTING RIGHT OF WAY OR EASEMENT
CENTERLINE OF CONSTRUCTION
PROPOSED RIGHT OF WAY
WETLANDS WITHIN STUDY AREA
PROPOSED PAVEMENT / CURB
120 BASELINE SURVEY
MP 3 MILEPOST
PROPOSED SIDEWALK OR MULTI-USE PATH

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CITRUS COUNTY, FLORIDA

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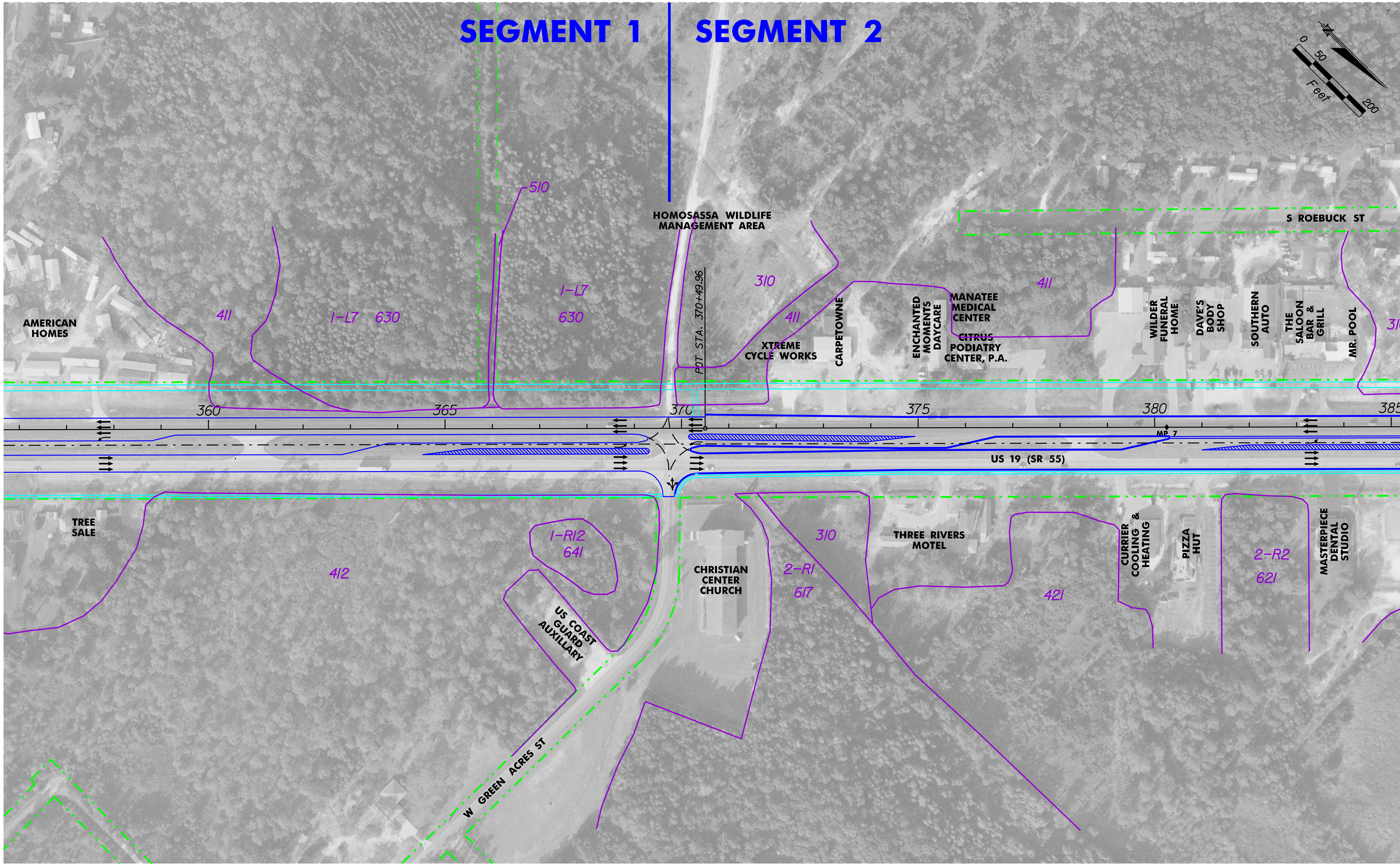

SEGMENT 1
SEGMENT 2
0 50 Feet 200
510
HOMOSASSA WILDLIFE MANAGEMENT AREA
S ROEBUCK ST
AMERICAN HOMES
411
I-L7 630
I-L7
630
310
411
POT STA. 370+49.96
XTREME CYCLE WORKS
CARPETOWNE
ENCHANTED MOMENTS DAYCARE
MANATEE MEDICAL CENTER
CITRUS PODIATRY CENTER, P.A.
411
WILDER FUNERAL HOME
DAVE'S BODY SHOP
SOUTHERN AUTO
THE SALOON BAR & GRILL
MR. POOL
310
360
365
370
375
380
385
MP 7
US 19 (SR 55)
TREE SALE
412
I-R12
641
US COAST GUARD AUXILARY
CHRISTIAN CENTER CHURCH
310
2-R1
617
THREE RIVERS MOTEL
421
CURRIER COOLING & HEATING
PIZZA HUT
2-R2
621
MASTERPIECE DENTAL STUDIO
W GREEN ACRES ST

SEGMENT 1 RECOMMENDED ALTERNATIVE

EXISTING RIGHT OF WAY OR EASEMENT
CENTERLINE OF CONSTRUCTION
PROPOSED RIGHT OF WAY
WETLANDS WITHIN STUDY AREA
PROPOSED PAVEMENT / CURB
120 MP 3 BASELINE SURVEY MILEPOST
PROPOSED SIDEWALK OR MULTI-USE PATH

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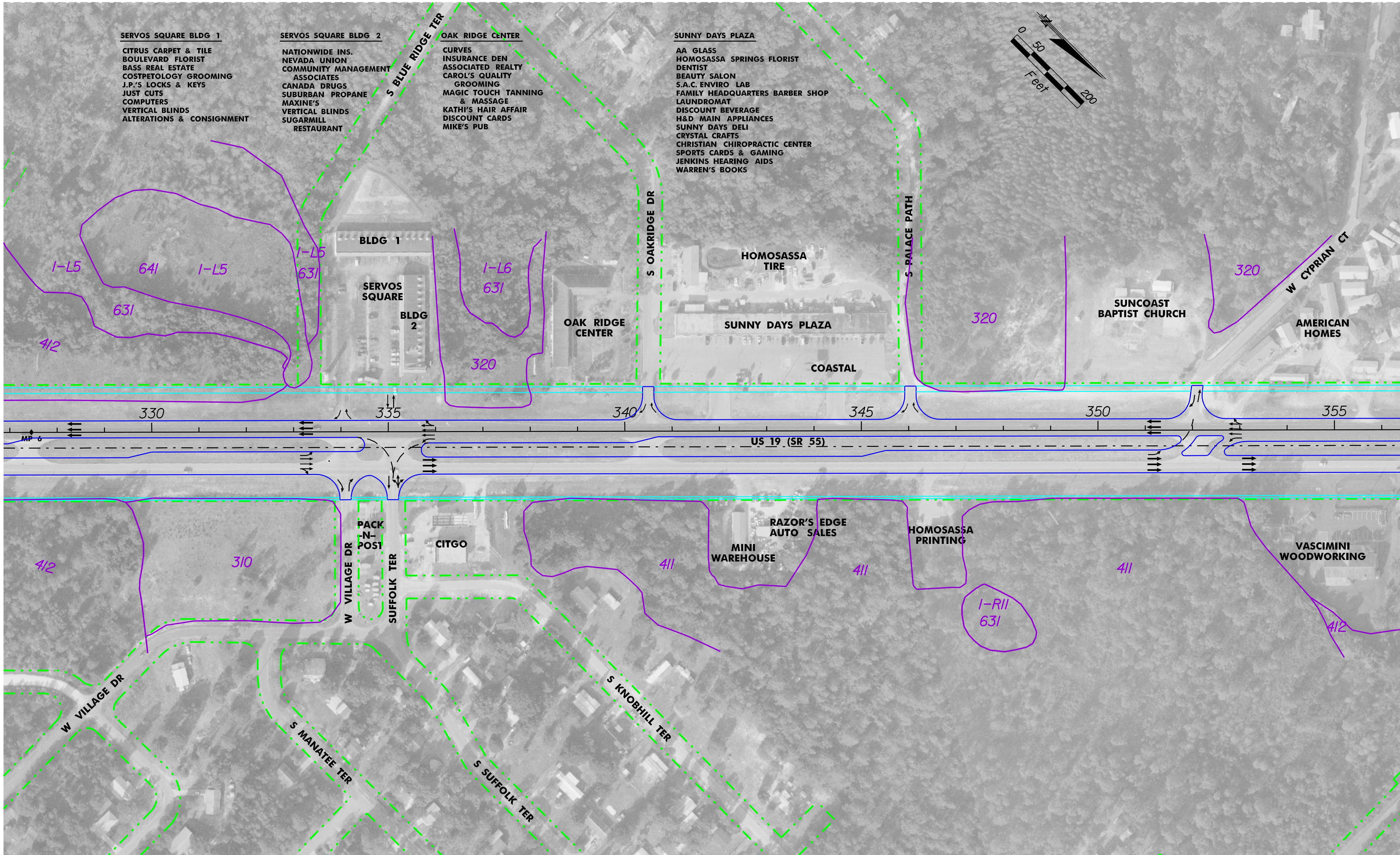
FLIGHT DATE : JUNE 11, 2001



SERVOS SQUARE BLDG 1
CITRUS CARPET & TILE
BOULEVARD FLORIST
BASS REAL ESTATE
COSTPETOLOGY GROOMING
J.P.'S LOCKS & KEYS
JUST CUTS
COMPUTERS
VERTICAL BLINDS
ALTERATIONS & CONSIGNMENT
SERVOS SQUARE BLDG 2
NATIONWIDE INS.
NEVADA UNION
COMMUNITY MANAGEMENT ASSOCIATES
CANADA DRUGS
SUBURBAN PROPANE
MAXINE'S
VERTICAL BLINDS
SUGARMILL RESTAURANT
OAK RIDGE CENTER
CURVES
INSURANCE DEN
ASSOCIATED REALTY
CAROL'S QUALITY GROOMING
MAGIC TOUCH TANNING & MASSAGE
KATHI'S HAIR AFFAIR
DISCOUNT CARDS
MIKE'S PUB
SUNNY DAYS PLAZA
AA GLASS
HOMOSASSA SPRINGS FLORIST
DENTIST
BEAUTY SALON
S.A.C. ENVIRO LAB
FAMILY HEADQUARTERS BARBER SHOP
LAUNDROMAT
DISCOUNT BEVERAGE
H&D MAIN APPLIANCES
SUNNY DAYS DELI
CRYSTAL CRAFTS
CHRISTIAN CHIROPRACTIC CENTER
SPORTS CARDS & GAMING
JENKINS HEARING AIDS
WARREN'S BOOKS
0 50 200 Feet
S BLUE RIDGE TER
S OAKRIDGE DR
S PALACE PATH
W CYPRIAN CT
BLDG 1
SERVOS SQUARE
BLDG 2
OAK RIDGE CENTER
HOMOSASSA TIRE
SUNNY DAYS PLAZA
COASTAL
SUNCOAST BAPTIST CHURCH
AMERICAN HOMES
I-L5
641
I-L5
631
I-L5
631
412
I-L6
631
320
320
320
330
335
340
345
350
355
MP 6
US 19 (SR 55)
PACK -N- POST
CITGO
RAZOR'S EDGE AUTO SALES
MINI WAREHOUSE
HOMOSASSA PRINTING
VASCIMINI WOODWORKING
412
310
411
411
411
I-R11
631
412
W VILLAGE DR
S SUFFOLK TER
W VILLAGE DR
S MANATEE TER
S SUFFOLK TER
S KNOBHILL TER

SEGMENT 1 RECOMMENDED ALTERNATIVE

Legend	
EXISTING RIGHT OF WAY OR EASEMENT	CENTERLINE OF CONSTRUCTION
PROPOSED RIGHT OF WAY	WETLANDS WITHIN STUDY AREA
PROPOSED PAVEMENT / CURB	PROPOSED SIDEWALK OR MULTI-USE PATH
120 MP 3 BASELINE SURVEY MILEPOST	

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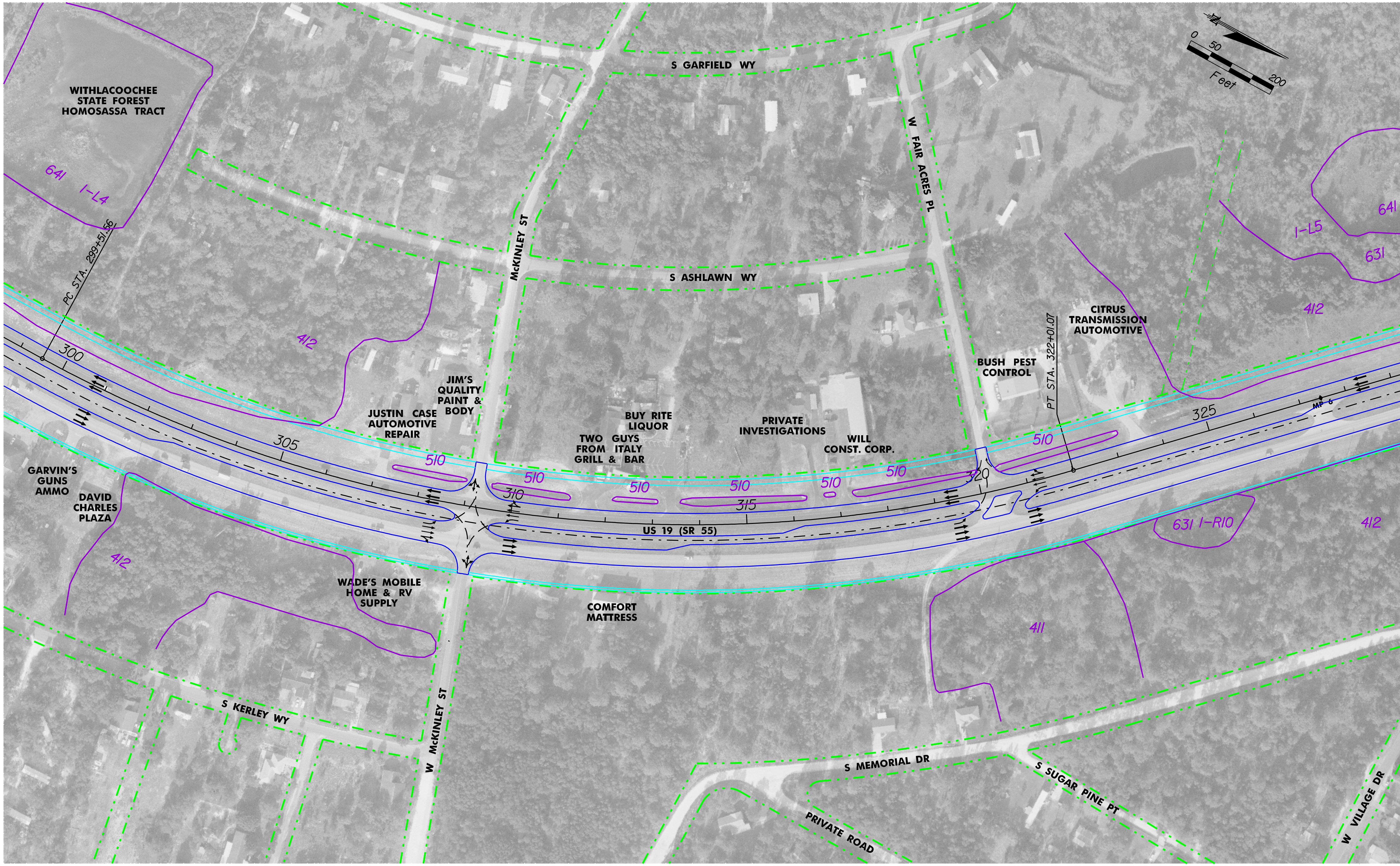
FLIGHT DATE : JUNE 11, 2001



SEGMENT 1 RECOMMENDED ALTERNATIVE

EXISTING RIGHT OF WAY OR EASEMENT
CENTERLINE OF CONSTRUCTION
PROPOSED PAVEMENT / CURB
PROPOSED RIGHT OF WAY
PROPOSED SIDEWALK OR MULTI-USE PATH
WETLANDS WITHIN STUDY AREA
120 MP 3 BASELINE SURVEY MILEPOST

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FROM SOUTH OF US 98 TO CR 488
CITRUS COUNTY, FLORIDA

SHEET NO.
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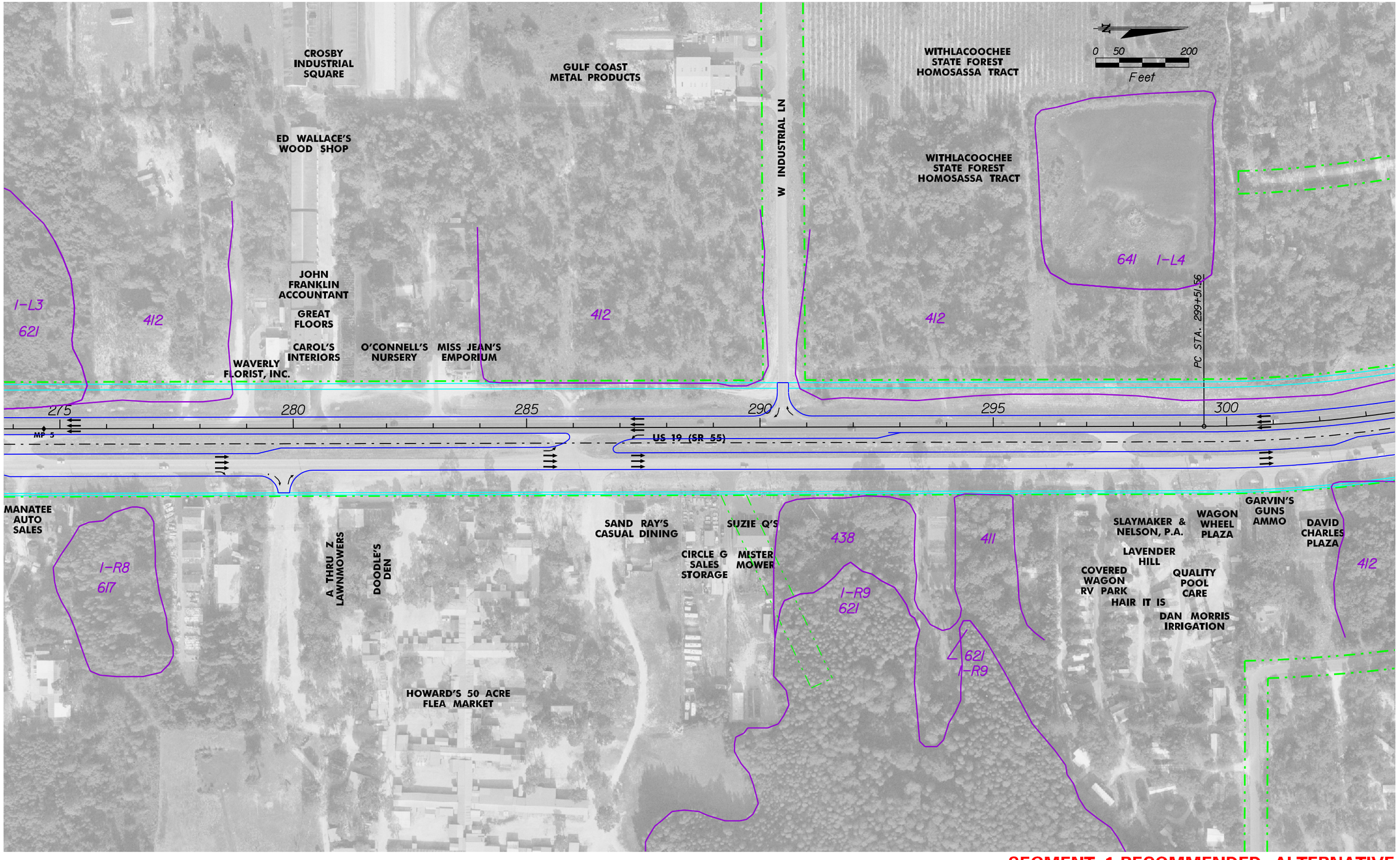
FLIGHT DATE : JUNE 11, 2001



SEGMENT 1 RECOMMENDED ALTERNATIVE

EXISTING RIGHT OF WAY OR EASEMENT
CENTERLINE OF CONSTRUCTION
PROPOSED RIGHT OF WAY
WETLANDS WITHIN STUDY AREA
PROPOSED PAVEMENT / CURB
120 MP 3 BASELINE SURVEY MILEPOST
PROPOSED SIDEWALK OR MULTI-USE PATH

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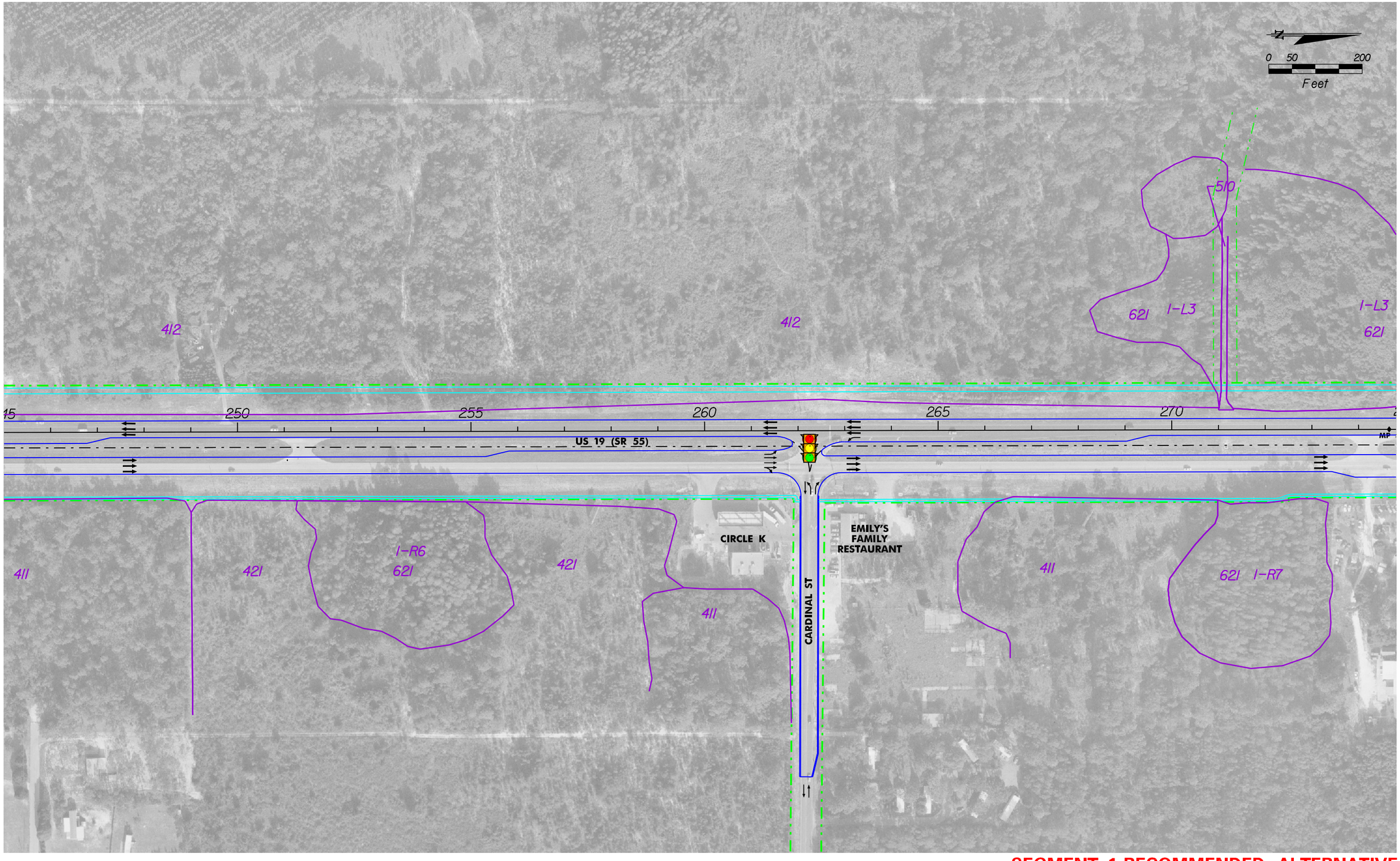

SEGMENT 1 RECOMMENDED ALTERNATIVE

EXISTING RIGHT OF WAY OR EASEMENT
CENTERLINE OF CONSTRUCTION
PROPOSED RIGHT OF WAY
WETLANDS WITHIN STUDY AREA
PROPOSED PAVEMENT / CURB
120 MP 3 BASELINE SURVEY MILEPOST
PROPOSED SIDEWALK OR MULTI-USE PATH

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CITRUS COUNTY, FLORIDA

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FLIGHT DATE : JUNE 11, 2001

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EXISTING RIGHT OF WAY OR EASEMENT

CENTERLINE OF CONSTRUCTION

PROPOSED PAVEMENT / CURB

PROPOSED RIGHT OF WAY

PROPOSED SIDEWALK OR MULTI-USE PATH

WETLANDS WITHIN STUDY AREA

120 MP 3 BASELINE SURVEY MILEPOST

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CITRUS COUNTY, FLORIDA

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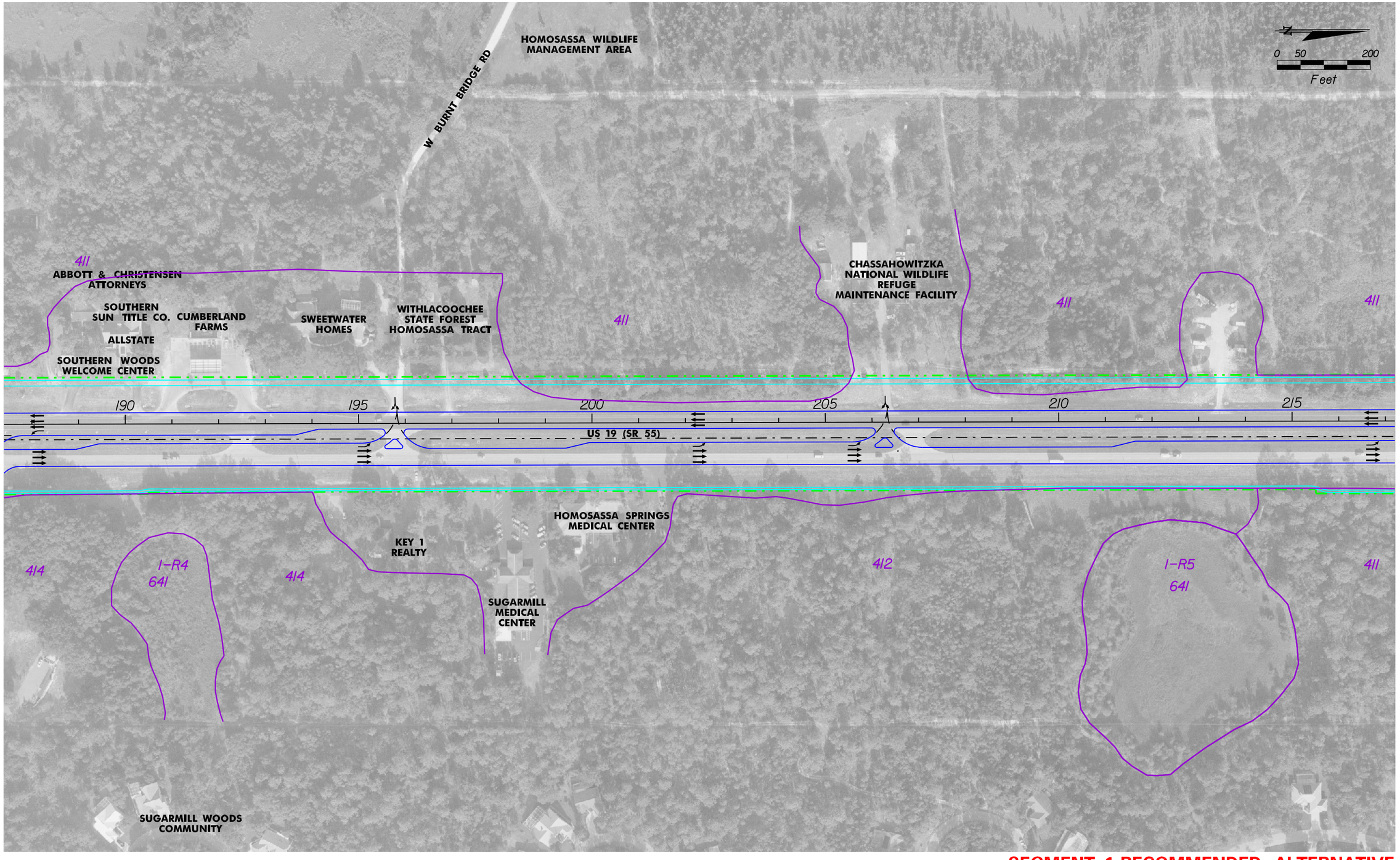

SEGMENT 1 RECOMMENDED ALTERNATIVE

EXISTING RIGHT OF WAY OR EASEMENT
CENTERLINE OF CONSTRUCTION
PROPOSED RIGHT OF WAY
WETLANDS WITHIN STUDY AREA
PROPOSED PAVEMENT / CURB
120 MP 3 BASELINE SURVEY MILEPOST
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CITRUS COUNTY, FLORIDA

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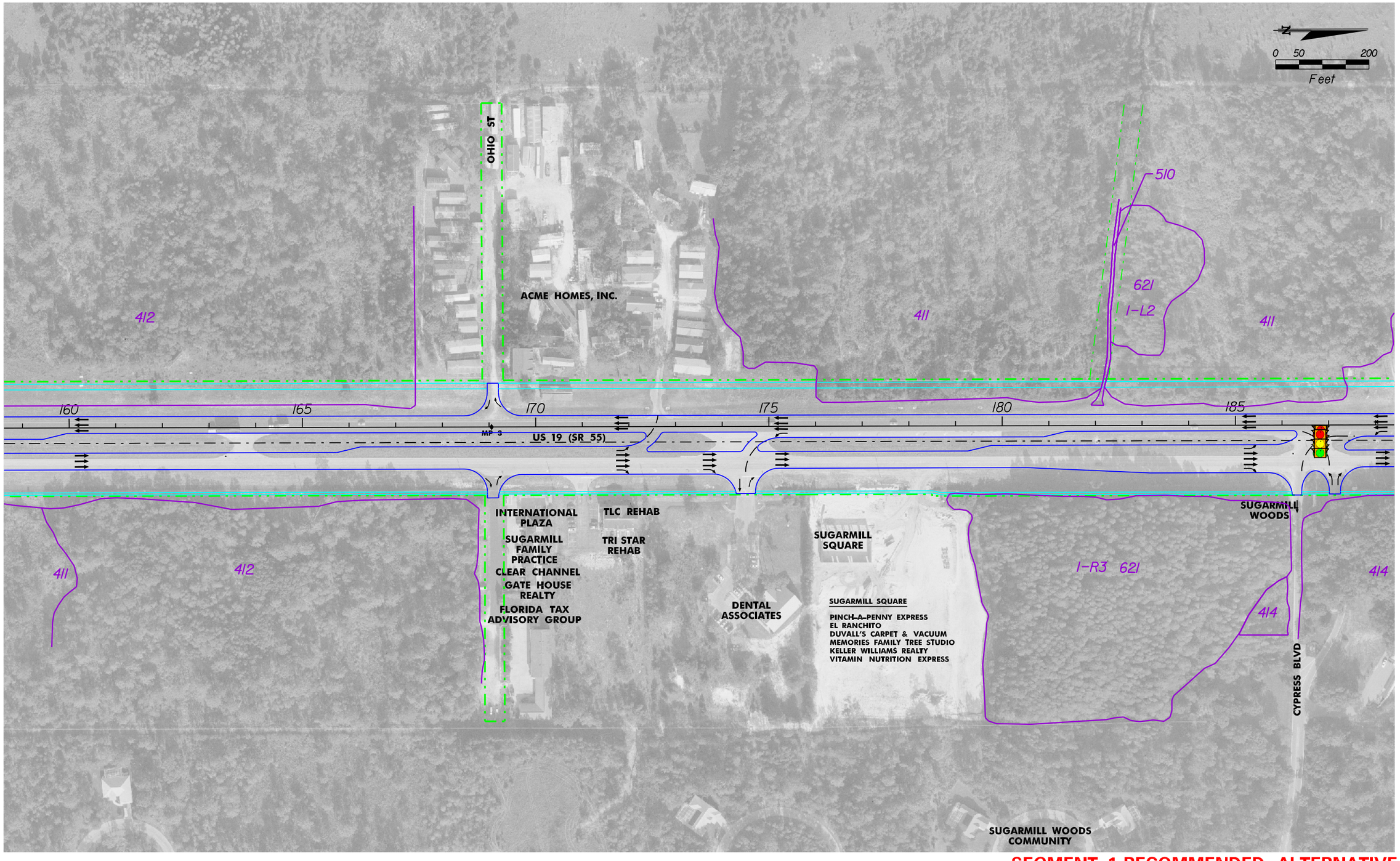

SEGMENT 1 RECOMMENDED ALTERNATIVE

EXISTING RIGHT OF WAY OR EASEMENT
CENTERLINE OF CONSTRUCTION
PROPOSED RIGHT OF WAY
WETLANDS WITHIN STUDY AREA
PROPOSED PAVEMENT / CURB
120 BASELINE SURVEY
MP 3 MILEPOST
PROPOSED SIDEWALK OR MULTI-USE PATH

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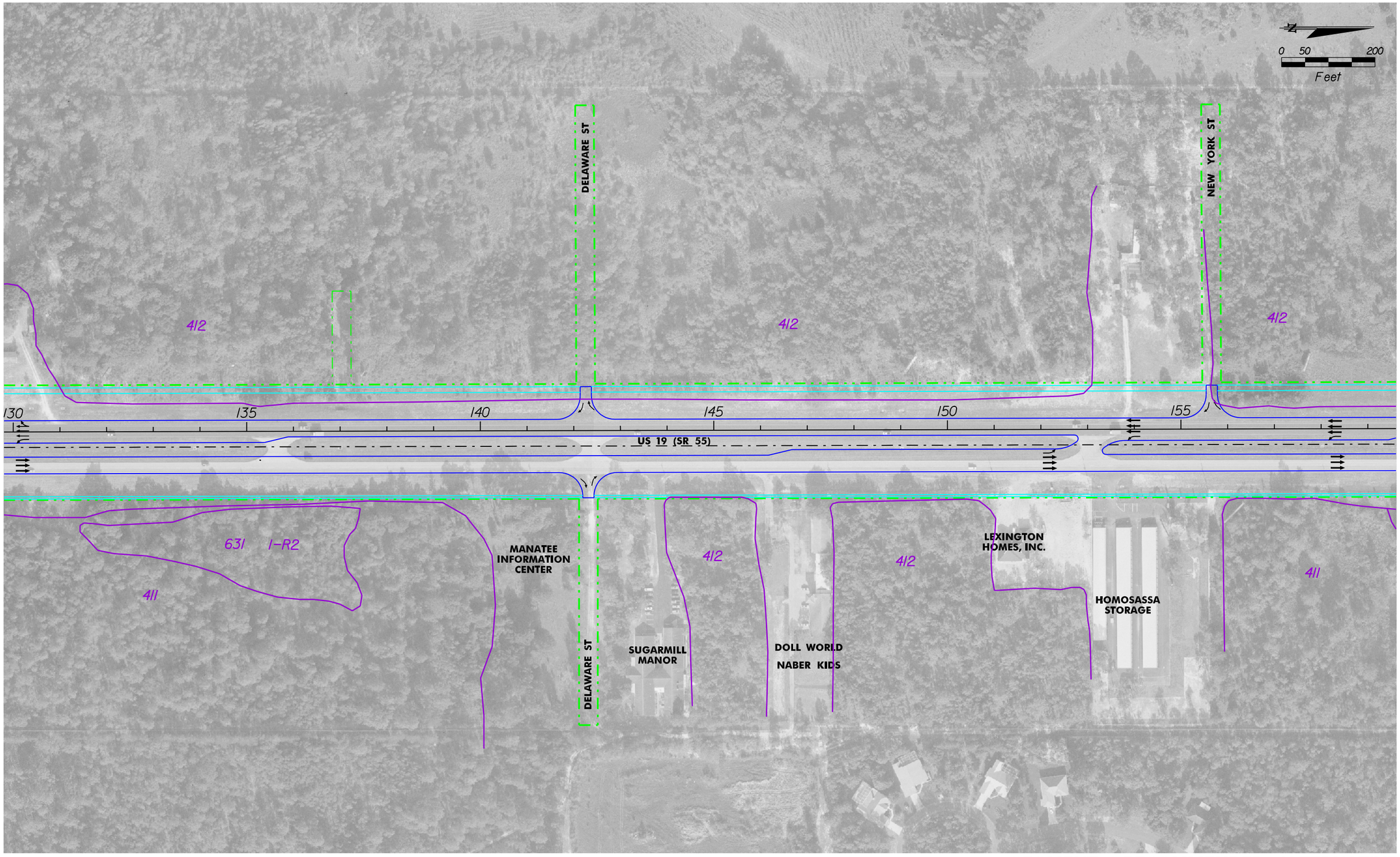

SEGMENT 1 RECOMMENDED ALTERNATIVE

EXISTING RIGHT OF WAY OR EASEMENT
CENTERLINE OF CONSTRUCTION
PROPOSED RIGHT OF WAY
WETLANDS WITHIN STUDY AREA
PROPOSED PAVEMENT / CURB
120 / MP 3 BASELINE SURVEY MILEPOST
PROPOSED SIDEWALK OR MULTI-USE PATH

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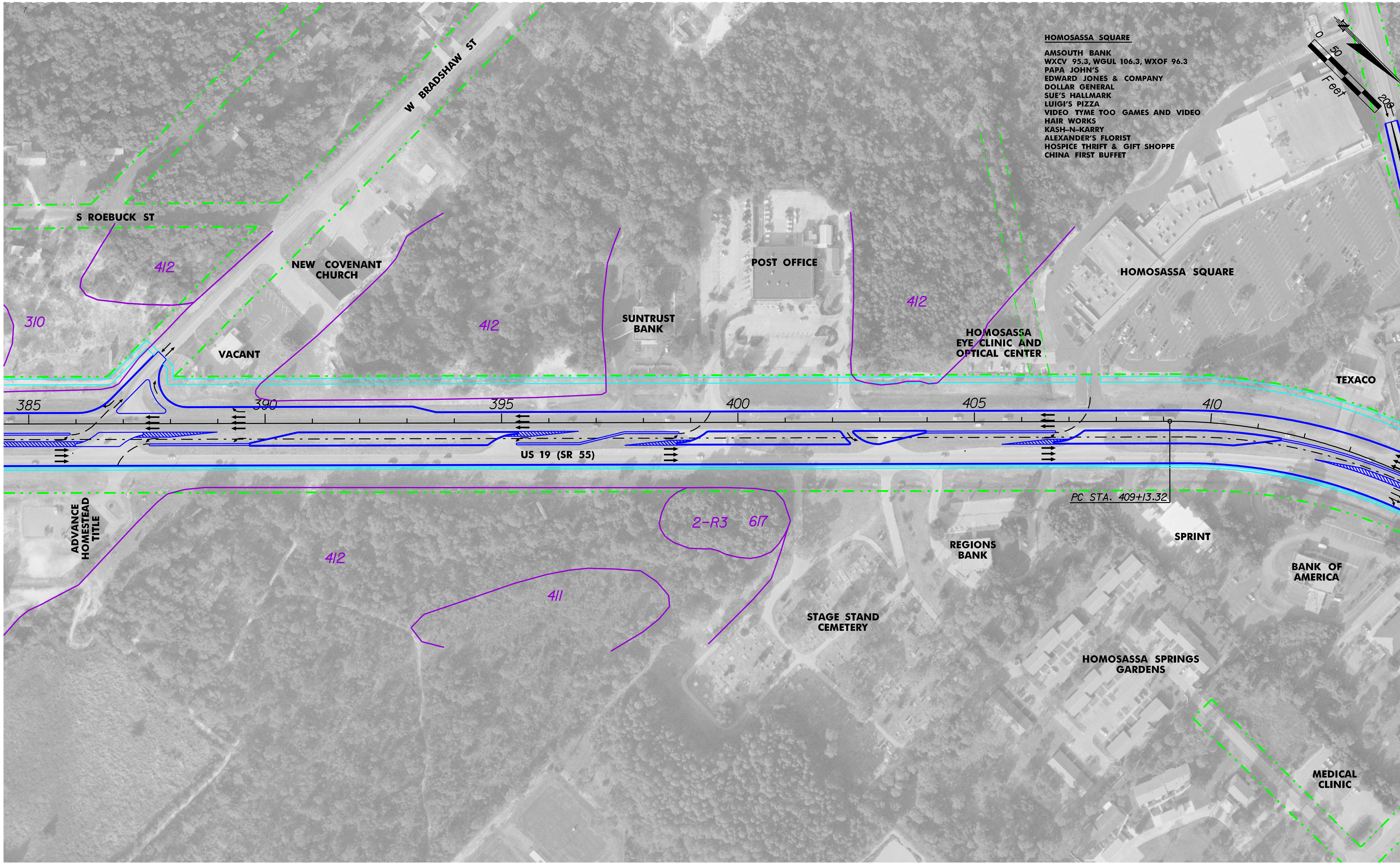

SEGMENT 2 RECOMMENDED ALTERNATIVE

EXISTING RIGHT OF WAY OR EASEMENT
CENTERLINE OF CONSTRUCTION
PROPOSED RIGHT OF WAY
WETLANDS WITHIN STUDY AREA
PROPOSED PAVEMENT / CURB
120 MP 3 BASELINE SURVEY MILEPOST
PROPOSED SIDEWALK OR MULTI-USE PATH

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CITRUS COUNTY, FLORIDA

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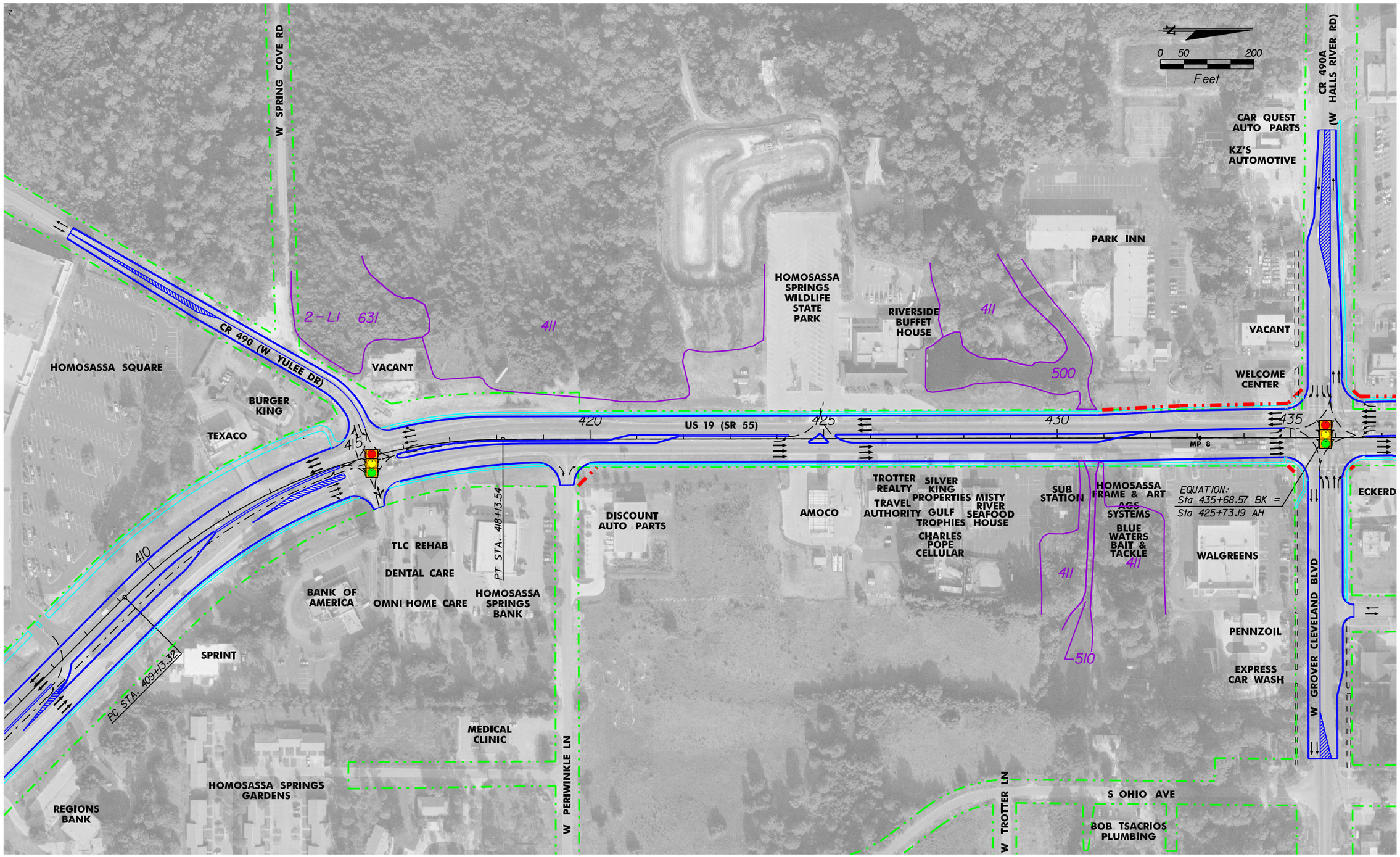

SEGMENT 2 RECOMMENDED ALTERNATIVE

EXISTING RIGHT OF WAY OR EASEMENT
CENTERLINE OF CONSTRUCTION
PROPOSED RIGHT OF WAY
WETLANDS WITHIN STUDY AREA
PROPOSED PAVEMENT / CURB
120 BASELINE SURVEY
MP 3 MILEPOST
PROPOSED SIDEWALK OR MULTI-USE PATH

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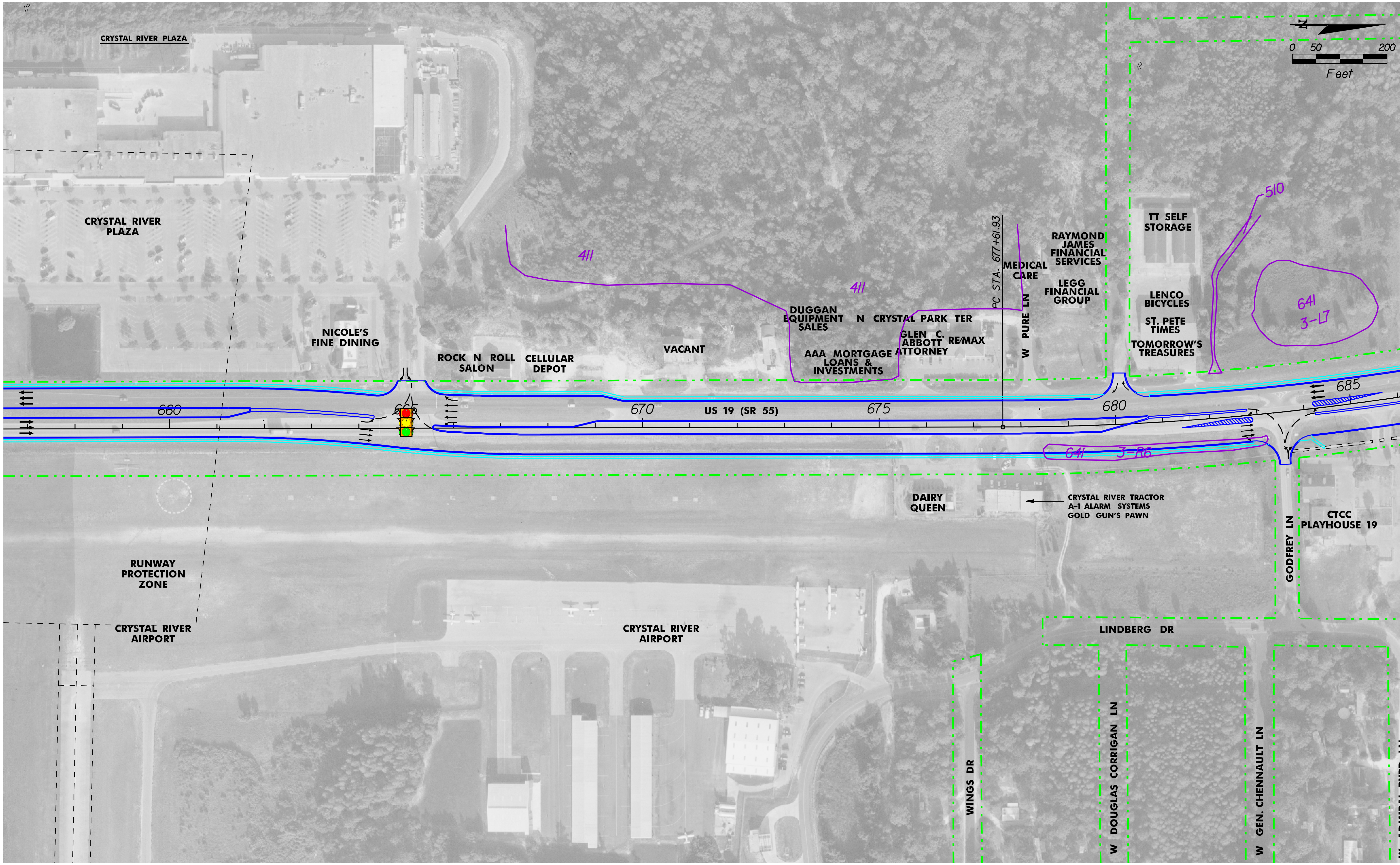

SEGMENT 3 RECOMMENDED ALTERNATIVE

EXISTING RIGHT OF WAY OR EASEMENT
CENTERLINE OF CONSTRUCTION
PROPOSED RIGHT OF WAY
WETLANDS WITHIN STUDY AREA
PROPOSED PAVEMENT / CURB
120 MP 3 BASELINE SURVEY MILEPOST
PROPOSED SIDEWALK OR MULTI-USE PATH

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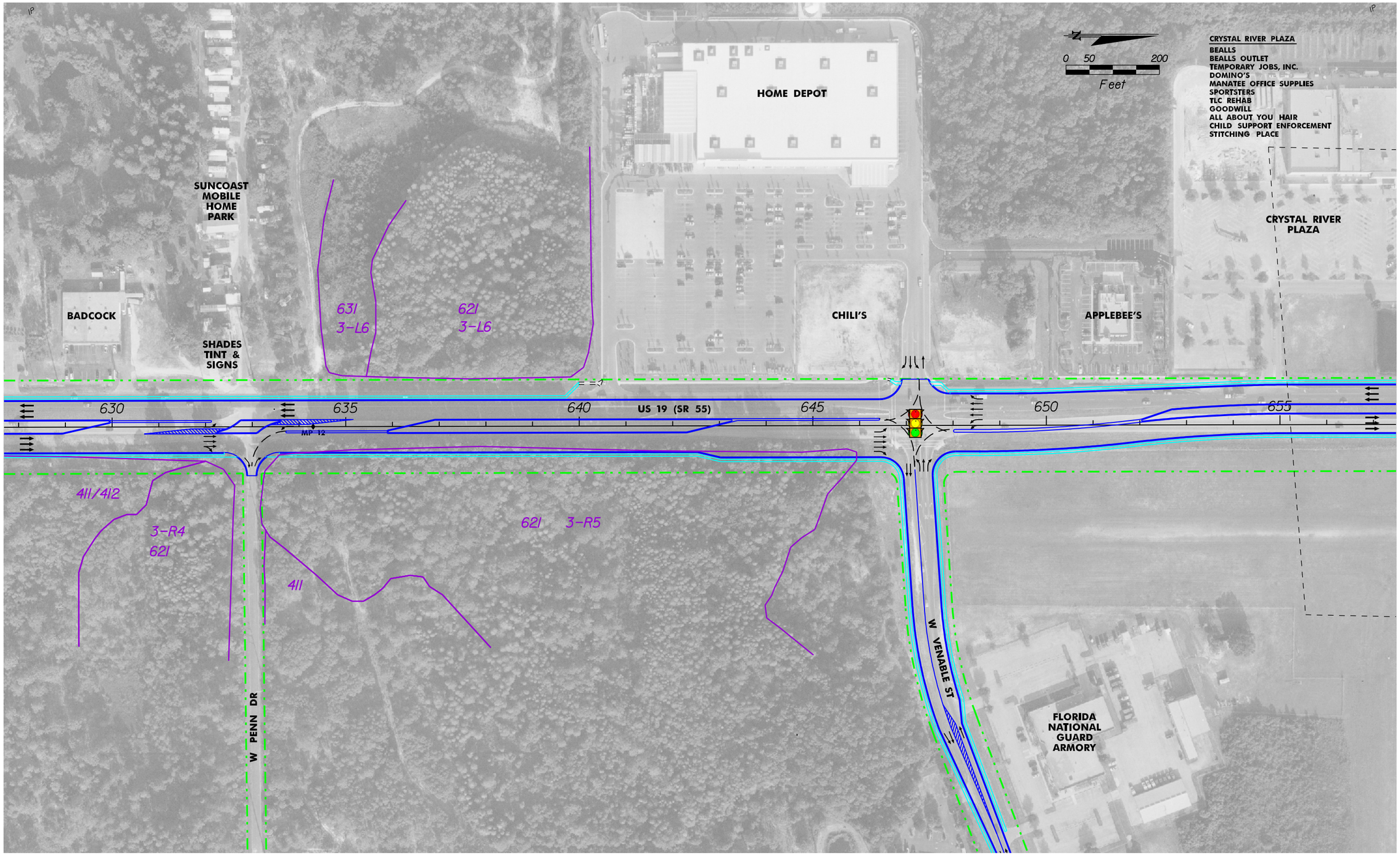

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EXISTING RIGHT OF WAY OR EASEMENT
CENTERLINE OF CONSTRUCTION
PROPOSED RIGHT OF WAY
WETLANDS WITHIN STUDY AREA
PROPOSED PAVEMENT / CURB
120 MP 3 BASELINE SURVEY MILEPOST
PROPOSED SIDEWALK OR MULTI-USE PATH

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	CITRUS	405822-1-22-01

US 19 (SR 55) PD&E STUDY
FROM SOUTH OF US 98 TO CR 488
CITRUS COUNTY, FLORIDA

SHEET NO. 20

FLIGHT DATE : JUNE 11, 2001

SEGMENT 3 RECOMMENDED ALTERNATIVE

EXISTING RIGHT OF WAY OR EASEMENT
CENTERLINE OF CONSTRUCTION
PROPOSED RIGHT OF WAY
WETLANDS WITHIN STUDY AREA
PROPOSED PAVEMENT / CURB
120 MP 3 BASELINE SURVEY MILEPOST
PROPOSED SIDEWALK OR MULTI-USE PATH

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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	CITRUS	405822-1-22-01

US 19 (SR 55) PD&E STUDY
FROM SOUTH OF US 98 TO CR 488
CITRUS COUNTY, FLORIDA

SHEET NO. 19

23-DEC-2004 11:10
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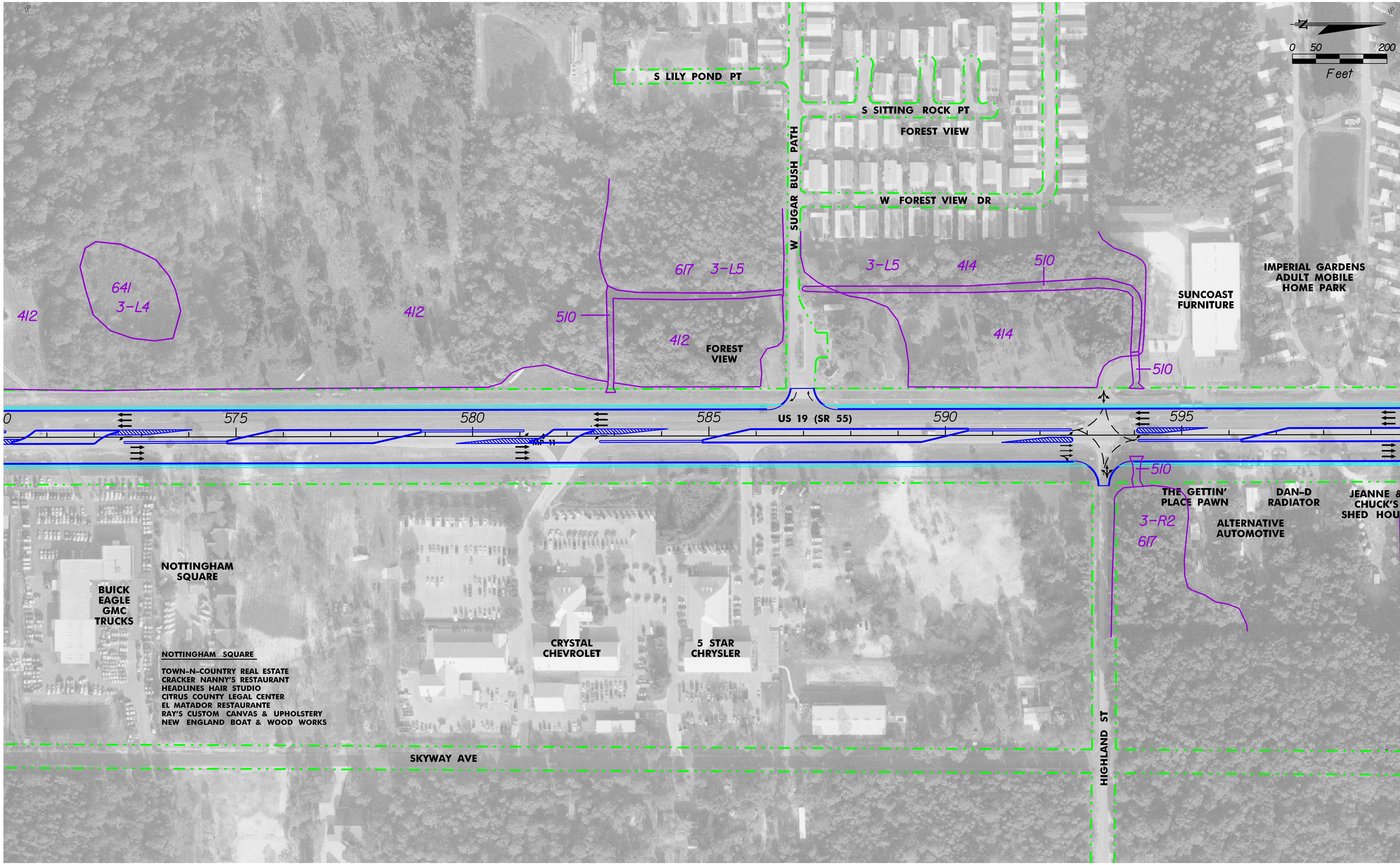
FLIGHT DATE : JUNE 11, 2001



SEGMENT 3 RECOMMENDED ALTERNATIVE

EXISTING RIGHT OF WAY OR EASEMENT
CENTERLINE OF CONSTRUCTION
PROPOSED RIGHT OF WAY
WETLANDS WITHIN STUDY AREA
PROPOSED PAVEMENT / CURB
120 MP 3 BASELINE SURVEY MILEPOST
PROPOSED SIDEWALK OR MULTI-USE PATH

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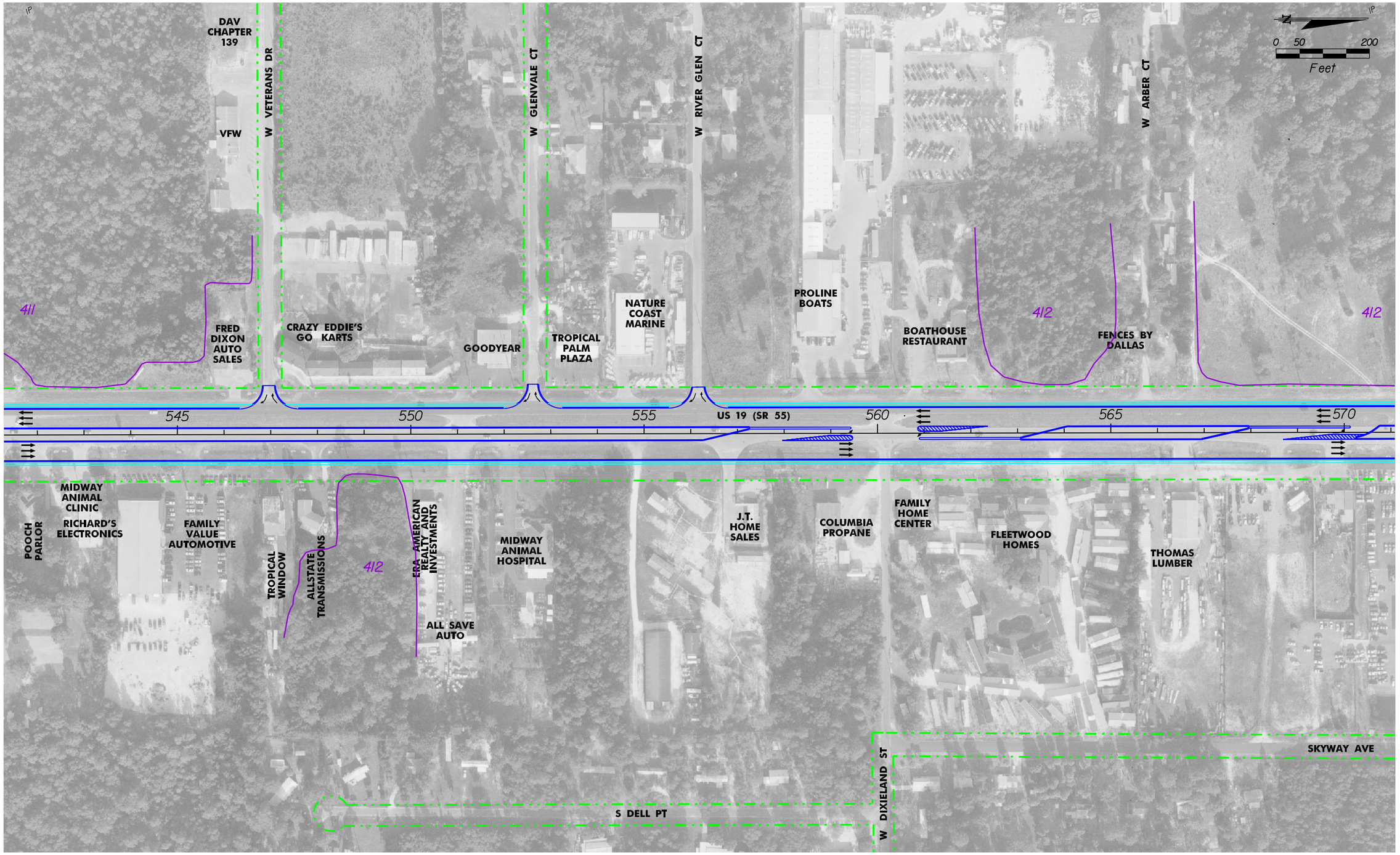
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	CITRUS	405822-1-22-01

US 19 (SR 55) PD&E STUDY
FROM SOUTH OF US 98 TO CR 488
CITRUS COUNTY, FLORIDA

SHEET NO.
18

FLIGHT DATE : JUNE 11, 2001



SEGMENT 3 RECOMMENDED ALTERNATIVE

EXISTING RIGHT OF WAY OR EASEMENT
CENTERLINE OF CONSTRUCTION
PROPOSED RIGHT OF WAY
WETLANDS WITHIN STUDY AREA
PROPOSED PAVEMENT / CURB
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SR 55	CITRUS	405822-1-22-01

US 19 (SR 55) PD&E STUDY
FROM SOUTH OF US 98 TO CR 488
CITRUS COUNTY, FLORIDA

SHEET NO. 17

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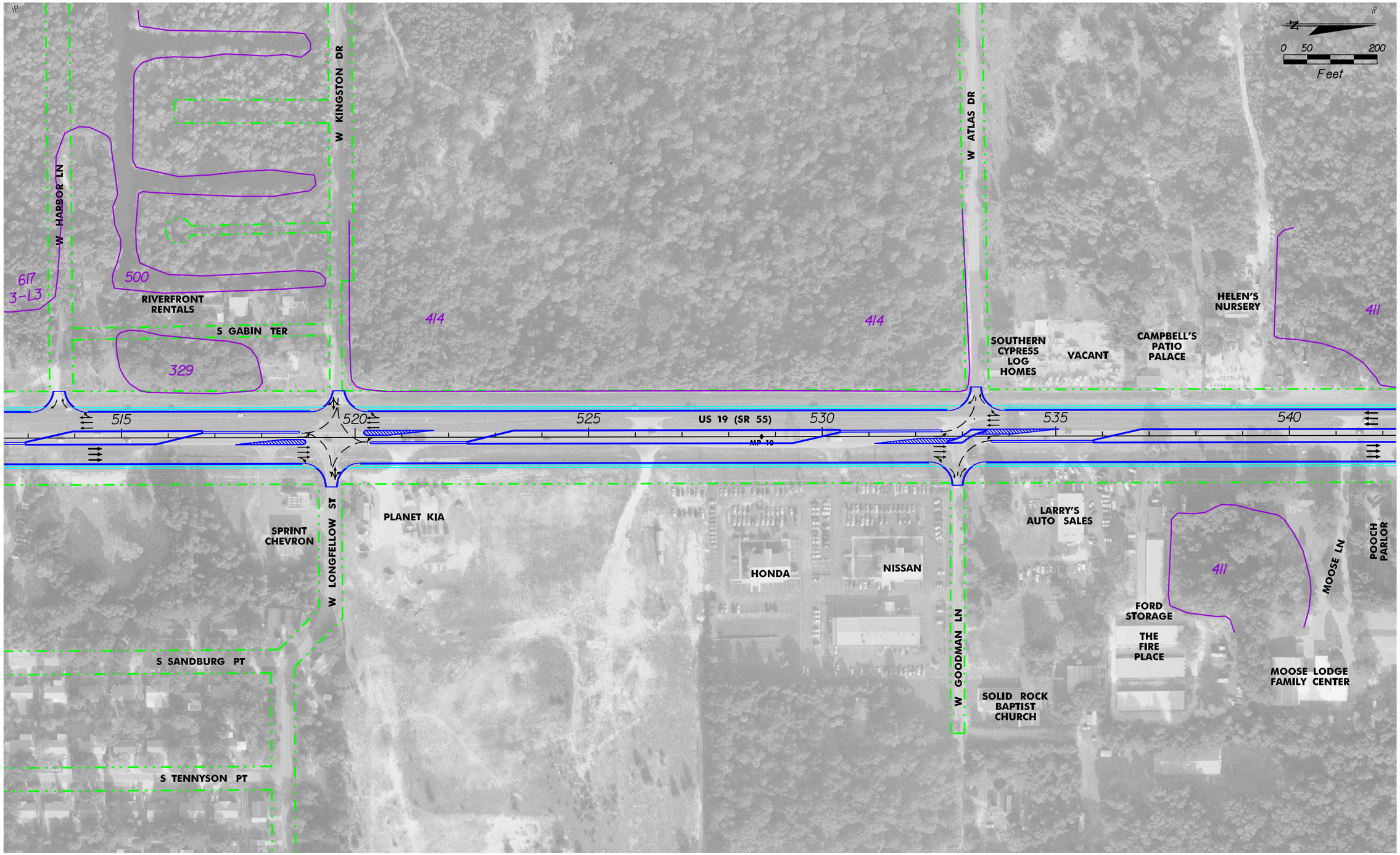
FLIGHT DATE : JUNE 11, 2001



SEGMENT 3 RECOMMENDED ALTERNATIVE

EXISTING RIGHT OF WAY OR EASEMENT
CENTERLINE OF CONSTRUCTION
PROPOSED RIGHT OF WAY
WETLANDS WITHIN STUDY AREA
PROPOSED PAVEMENT / CURB
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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	CITRUS	405822-1-22-01

US 19 (SR 55) PD&E STUDY
FROM SOUTH OF US 98 TO CR 488
CITRUS COUNTY, FLORIDA

SHEET NO. 16

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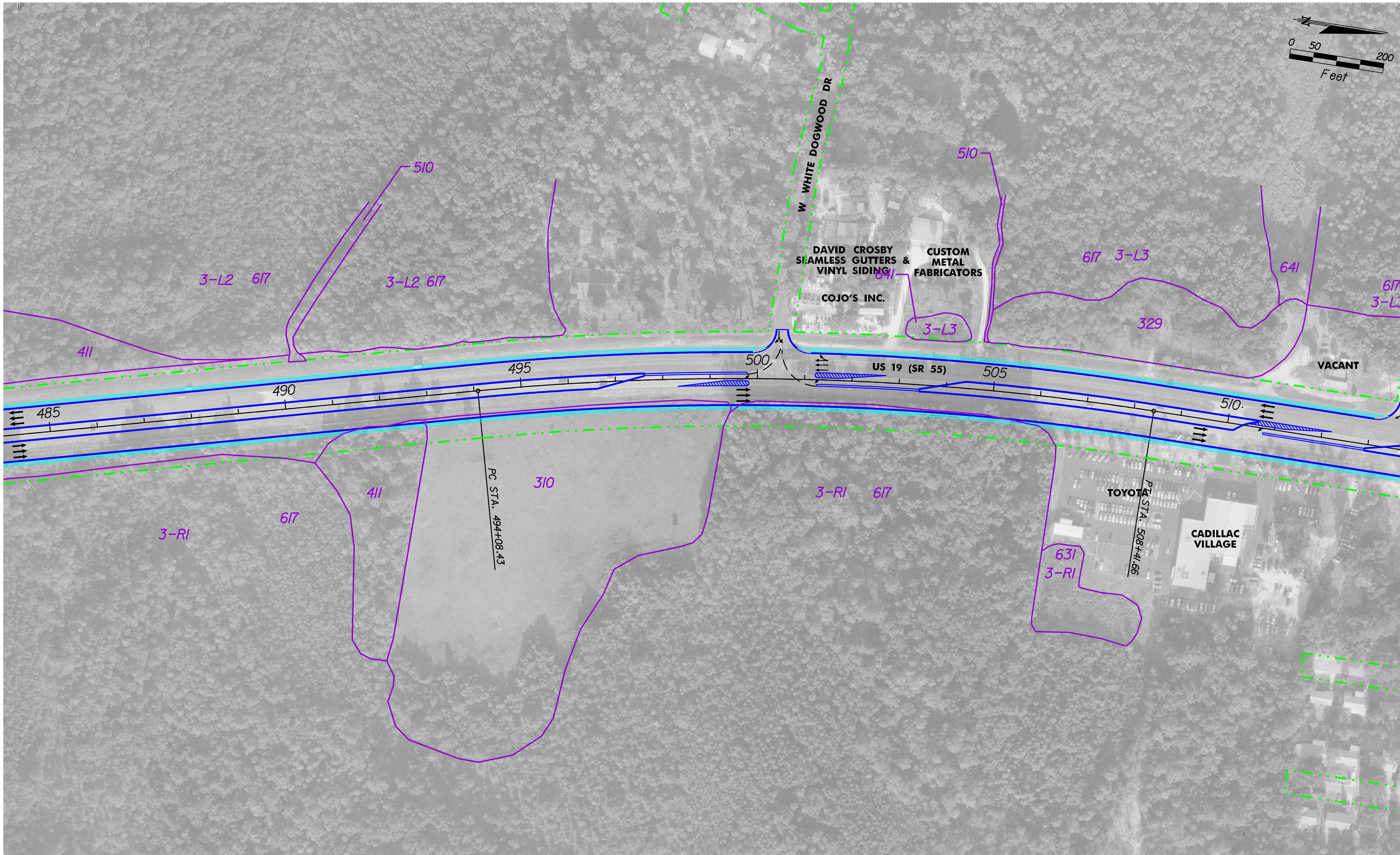
FLIGHT DATE : JUNE 11, 2001



SEGMENT 3 RECOMMENDED ALTERNATIVE

EXISTING RIGHT OF WAY OR EASEMENT
CENTERLINE OF CONSTRUCTION
PROPOSED RIGHT OF WAY
WETLANDS WITHIN STUDY AREA
PROPOSED PAVEMENT / CURB
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US 19 (SR 55) PD&E STUDY
FROM SOUTH OF US 98 TO CR 488
CITRUS COUNTY, FLORIDA

SHEET NO.
15

FLIGHT DATE : JUNE 11, 2001

SEGMENT 2 | SEGMENT 3

N

0 50 200
Feet

BELL VILLA MOBILE HOMES

BELL VILLA HOTEL

HOMOSASSA INDUSTRIAL PARK

W TRADEWAYS CT

W JUMP CT

VACANT

PC STA. 459+12.41

PT STA. 473+44.64

US 19 (SR 55)

JIM'S CLUB 19

THE SHED STORE

GOLDEN EAGLE PLAZA

W IVY PL

W IVY PLACE

S CANADIAN WAY

COLONEL FROG'S TENNESSEE BAR-B-QUE

S STONE BROOK DR

S MICHIGAN BLVD

14TH ST

15TH ST

GOLDEN EAGLE PLAZA

BEAU GESTE BEAUTY SALON
AZ DISCOUNT BEVERAGES
CITRUS ONLINE
DSK GROUP, INC.
DR. BYTE'S COMPUTERS
HEALTH FOOD
PROPERTY MANAGEMENT
STIXX BILLIARDS
BARRIER FREE AMERICA
DOODLEBUG'S
NOIZY TOYZ
DININ' IN THE PAST

CITRUS OLDSMOBILE PONTIAC

510 411 3-LI 617 3-L2617 329 617 3-RI

455 460 465 470 475 480

SEGMENT 2 RECOMMENDED ALTERNATIVE

EXISTING RIGHT OF WAY OR EASEMENT
CENTERLINE OF CONSTRUCTION
PROPOSED RIGHT OF WAY
WETLANDS WITHIN STUDY AREA
PROPOSED PAVEMENT / CURB
120 MP 3 BASELINE SURVEY MILEPOST
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SR 55	CITRUS	405822-1-22-01

US 19 (SR 55) PD&E STUDY
FROM SOUTH OF US 98 TO CR 488
CITRUS COUNTY, FLORIDA

SHEET NO. 14

23-DEC-2004 11:09
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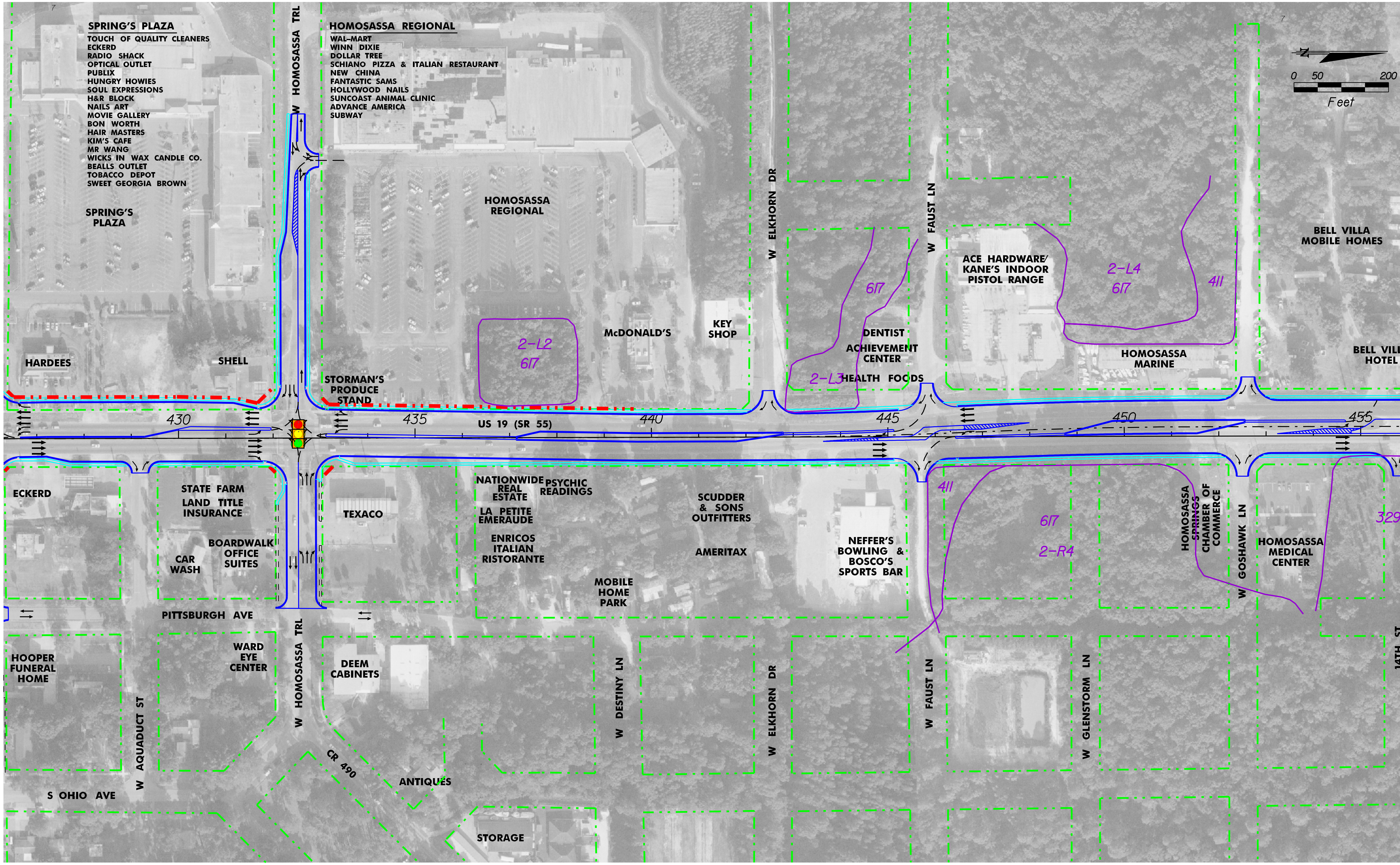
FLIGHT DATE : JUNE 11, 2001



SPRING'S PLAZA
TOUCH OF QUALITY CLEANERS
ECKERD
RADIO SHACK
OPTICAL OUTLET
PUBLIX
HUNGRY HOWIES
SOUL EXPRESSIONS
H&R BLOCK
NAILS ART
MOVIE GALLERY
BON WORTH
HAIR MASTERS
KIM'S CAFE
MR WANG
WICKS IN WAX CANDLE CO.
BEALLS OUTLET
TOBACCO DEPOT
SWEET GEORGIA BROWN
SPRING'S PLAZA
HOMOSASSA REGIONAL
WAL-MART
WINN DIXIE
DOLLAR TREE
SCHIANO PIZZA & ITALIAN RESTAURANT
NEW CHINA
FANTASTIC SAMS
HOLLYWOOD NAILS
SUNCOAST ANIMAL CLINIC
ADVANCE AMERICA
SUBWAY
HOMOSASSA REGIONAL
W HOMOSASSA TRL
W ELKHORN DR
W FAUST LN
0 50 200
Feet
BELL VILLA MOBILE HOMES
ACE HARDWARE/ KANE'S INDOOR PISTOL RANGE
2-L4
617
411
617
2-L2
617
McDONALD'S
KEY SHOP
DENTIST
ACHIEVEMENT CENTER
HEALTH FOODS
2-L3
HOMOSASSA MARINE
BELL VILLA HOTEL
HARDEES
SHELL
STORMAN'S PRODUCE STAND
430
435
US 19 (SR 55)
440
445
450
455
ECKERD
STATE FARM
LAND TITLE INSURANCE
BOARDWALK OFFICE SUITES
CAR WASH
TEXACO
NATIONWIDE REAL ESTATE
PSYCHIC READINGS
LA PETITE EMERAUDE
ENRICOS ITALIAN RISTORANTE
SCUDDER & SONS OUTFITTERS
AMERITAX
NEFFER'S BOWLING & BOSCO'S SPORTS BAR
411
617
2-R4
HOMOSASSA SPRINGS CHAMBER OF COMMERCE
W GOSHAWK LN
HOMOSASSA MEDICAL CENTER
329
MOBILE HOME PARK
PITTSBURGH AVE
HOOPER FUNERAL HOME
WARD EYE CENTER
DEEM CABINETS
W DESTINY LN
W ELKHORN DR
W FAUST LN
W GLENSTORM LN
14TH ST
W AQUADUCT ST
S OHIO AVE
CR 490
ANTIQUES
STORAGE

SEGMENT 2 RECOMMENDED ALTERNATIVE

EXISTING RIGHT OF WAY OR EASEMENT

CENTERLINE OF CONSTRUCTION

PROPOSED RIGHT OF WAY

WETLANDS WITHIN STUDY AREA

PROPOSED PAVEMENT / CURB

PROPOSED SIDEWALK OR MULTI-USE PATH

120 MP 3 BASELINE SURVEY MILEPOST

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STATE OF FLORIDA
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SR 55	CITRUS	405822-1-22-01

US 19 (SR 55) PD&E STUDY
FROM SOUTH OF US 98 TO CR 488
CITRUS COUNTY, FLORIDA

SHEET NO.
13

FLIGHT DATE : JUNE 11, 2001

SEGMENT 3

SOUTH SQUARE

CASTLE DENTAL CENTER
CHRISTINE C. ECK, CPA
EXIT REALTY
AAA-1 MINI STORAGE
AMERICAN BLIND CREATIONS
AN MIAN MEDICAL PRACTICE
SHERMAN CHIROPRACTIC
ACCENT BEAUTY SALON
FIRST FINANCIAL OF CITRUS COUNTY, INC.
JMJ ORIENTAL FOOD MART
FIRST TITLE CO., INC.QUEHUONG PHAM, M.D., P.A.

N LA JOLLA PT
W SUE LN
0 50 200 Feet
510
641
3-L7
SOUTH SQUARE
CRYSTAL RIVER MARINE
CRYSTAL RIVER FIRESTONE
THREE RIVERS MARINE
ST. TIMOTHY LUTHERAN CHURCH
PT STA. 696+44.98
CRYSTAL EYE CENTER & OPTICAL
JOHN D. HORNER DENTISTRY
AMERICA'S CHOICE MORTGAGE
NANCY ARGENZIANO STATE SENATOR
REGIONS BANK
CRYSTAL RIVER ANIMAL HOSPITAL
WELCH CABINETS & APPLIANCES
FLORIDA PEST CONTROL
TRIPLE TOWERS
ABC PIZZA
BRIDAL
CYNTHIAS SALON
JOHN T. CONROY REAL ESTATE
BRAND SOURCE
JOHNSON'S KIA
685
690
MP 13
695
700
US 19 (SR 55)
705
710
CTCC PLAYHOUSE 19
AIRPORT PLAZA
AIRPORT PLAZA
SCISSOR & COMB BARBER BEAUTY
PAY-DAY
A-WHITE SEW & VAC
ED'S BAIT & TACKLE
COAST RV PARTS
DISCOUNT CUGARETTE OUTLET
SOUPS SALADS PASTA
WINDOWS & SIDING UNLIMITED
KID'S EXCHANGE
EWELL INDUSTRIES, INC.
U-LOCK-IT
THE HAGAR GROUP INSURANCE
RAYMOND JAMES & ASSOC., INC.
PEKING GARDEN RESTAURANT
W MAYO DR
CRYSTAL INN
RAY'S REAL PIT BAR-B-Q
CRAZY DAVE'S A-1 PAWN & JEWELRY
STRICKLAND FUNERAL HOME
FAMILY DENTISTRY
HARLEY DAVIDSON MOTORCYCLES
SE 8TH AVE
CRYSTAL LANDING
SE 21ST ST
CRYSTALWOOD COURT MOBILE HOME PARK
N TRUDEL PT
W ADMIRAL BYRD LN
N COLIN KELLY PT

SEGMENT 3 RECOMMENDED ALTERNATIVE

EXISTING RIGHT OF WAY OR EASEMENT
CENTERLINE OF CONSTRUCTION
PROPOSED RIGHT OF WAY
WETLANDS WITHIN STUDY AREA
PROPOSED PAVEMENT / CURB
120 MP 3 BASELINE SURVEY MILEPOST
PROPOSED SIDEWALK OR MULTI-USE PATH

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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	CITRUS	405822-1-22-01

US 19 (SR 55) PD&E STUDY
FROM SOUTH OF US 98 TO CR 488
CITRUS COUNTY, FLORIDA

SHEET NO. 22

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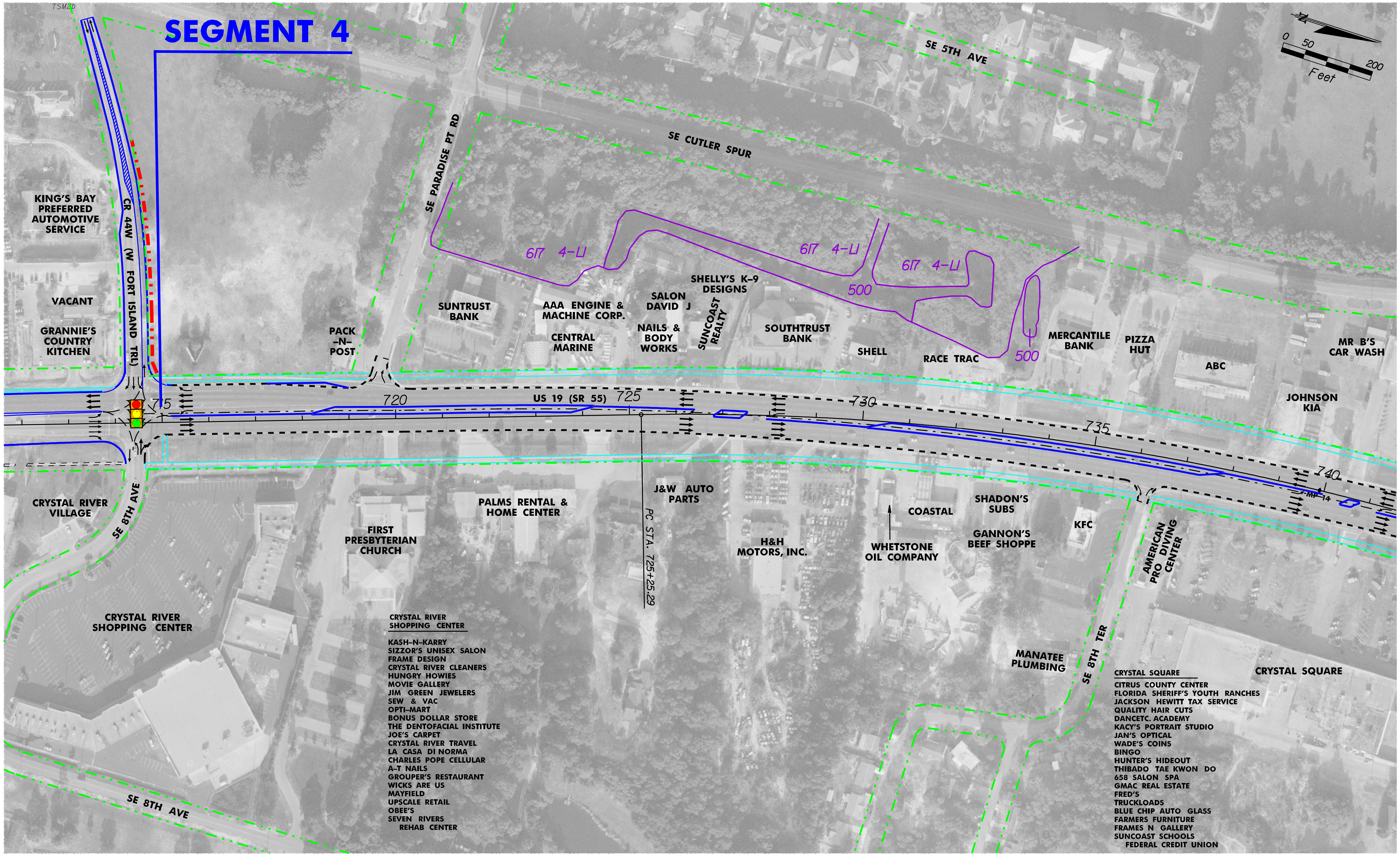
FLIGHT DATE : JUNE 11, 2001



SEGMENT 4
0 50 200 Feet
SE 5TH AVE
SE CUTLER SPUR
SE PARADISE PT RD
CR 44W (W FORT ISLAND TRL)
KING'S BAY PREFERRED AUTOMOTIVE SERVICE
VACANT
GRANNIE'S COUNTRY KITCHEN
PACK -N- POST
SUNTRUST BANK
AAA ENGINE & MACHINE CORP.
CENTRAL MARINE
SALON DAVID J
NAILS & BODY WORKS
SHELLY'S K-9 DESIGNS
SUNCOAST REALTY
SOUTHTRUST BANK
SHELL
RACE TRAC
MERCANTILE BANK
PIZZA HUT
ABC
MR B'S CAR WASH
JOHNSON KIA
617 4-U
500
US 19 (SR 55)
715
720
725
730
735
740
MP 14
CRYSTAL RIVER VILLAGE
SE 8TH AVE
FIRST PRESBYTERIAN CHURCH
PALMS RENTAL & HOME CENTER
PC STA. 725+25.29
J&W AUTO PARTS
H&H MOTORS, INC.
COASTAL
WHETSTONE OIL COMPANY
SHADON'S SUBS
GANNON'S BEEF SHOPPE
KFC
AMERICAN PRO DIVING CENTER
SE 8TH TER
MANATEE PLUMBING
CRYSTAL RIVER SHOPPING CENTER
CRYSTAL RIVER SHOPPING CENTER
KASH-N-KARRY
SIZZOR'S UNISEX SALON
FRAME DESIGN
CRYSTAL RIVER CLEANERS
HUNGRY HOWIES
MOVIE GALLERY
JIM GREEN JEWELERS
SEW & VAC
OPTI-MART
BONUS DOLLAR STORE
THE DENTOFACIAL INSTITUTE
JOE'S CARPET
CRYSTAL RIVER TRAVEL
LA CASA DI NORMA
CHARLES POPE CELLULAR
A-T NAILS
GROUPER'S RESTAURANT
WICKS ARE US
MAYFIELD
UPSCALE RETAIL
OBEE'S
SEVEN RIVERS REHAB CENTER
CRYSTAL SQUARE
CRYSTAL SQUARE
CITRUS COUNTY CENTER
FLORIDA SHERIFF'S YOUTH RANCHES
JACKSON HEWITT TAX SERVICE
QUALITY HAIR CUTS
DANCETC. ACADEMY
KACY'S PORTRAIT STUDIO
JAN'S OPTICAL
WADE'S COINS
BINGO
HUNTER'S HIDEOUT
THIBADO TAE KWON DO
658 SALON SPA
GMAC REAL ESTATE
FRED'S
TRUCKLOADS
BLUE CHIP AUTO GLASS
FARMERS FURNITURE
FRAMES N GALLERY
SUNCOAST SCHOOLS FEDERAL CREDIT UNION

SEGMENT 4 RECOMMENDED ALTERNATIVE

EXISTING RIGHT OF WAY OR EASEMENT

CENTERLINE OF CONSTRUCTION

PROPOSED PAVEMENT / CURB

PROPOSED RIGHT OF WAY

PROPOSED SIDEWALK OR MULTI-USE PATH

WETLANDS WITHIN STUDY AREA

120 MP 3 BASELINE SURVEY MILEPOST

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STATE OF FLORIDA
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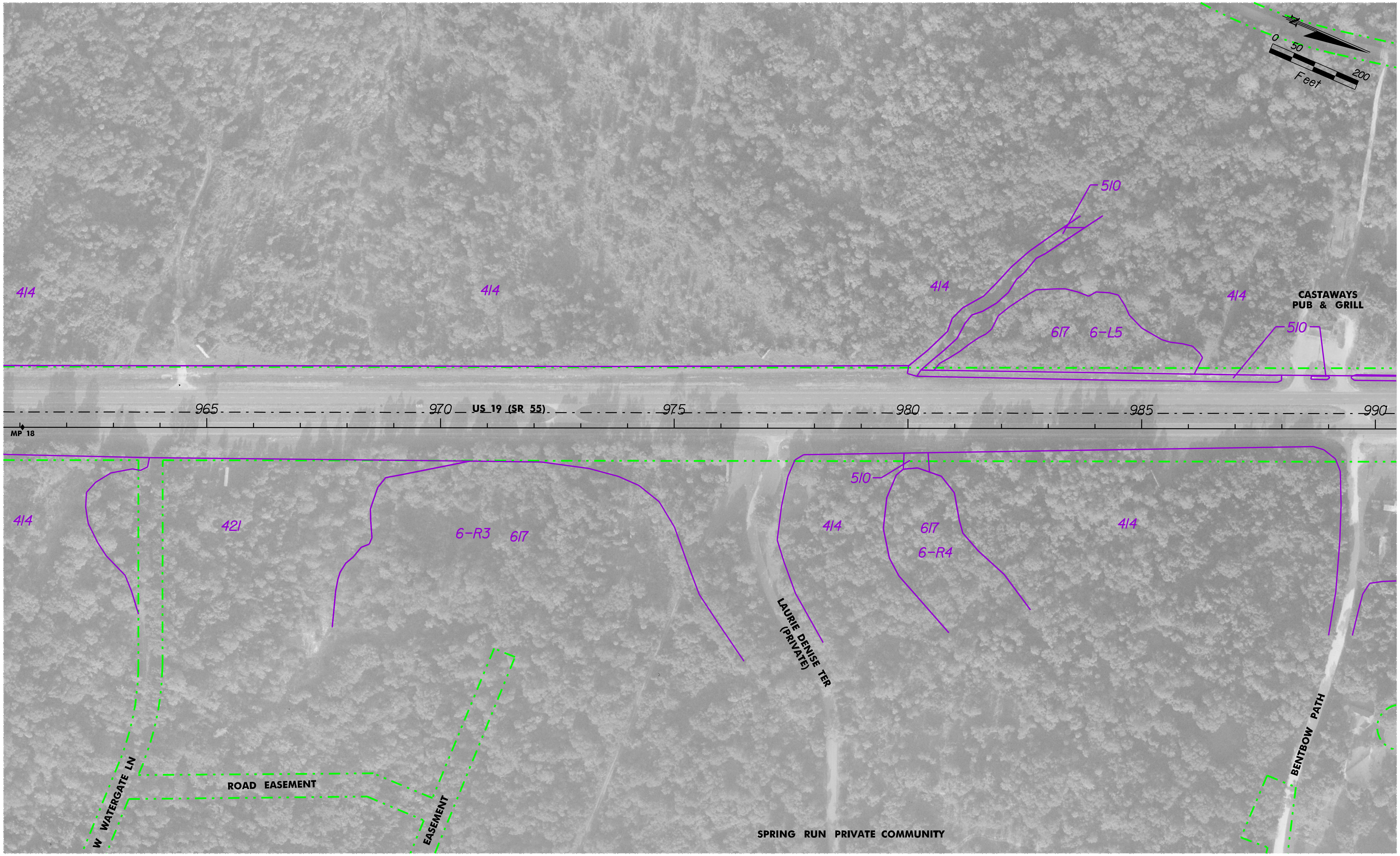
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	CITRUS	405822-1-22-01

US 19 (SR 55) PD&E STUDY
FROM SOUTH OF US 98 TO CR 488
CITRUS COUNTY, FLORIDA

SHEET NO.
23

FLIGHT DATE : JUNE 11, 2001



SEGMENT 6 RECOMMENDED ALTERNATIVE

EXISTING RIGHT OF WAY OR EASEMENT
CENTERLINE OF CONSTRUCTION
PROPOSED RIGHT OF WAY
WETLANDS WITHIN STUDY AREA
PROPOSED PAVEMENT / CURB
PROPOSED SIDEWALK OR MULTI-USE PATH
120 MP 3 BASELINE SURVEY MILEPOST

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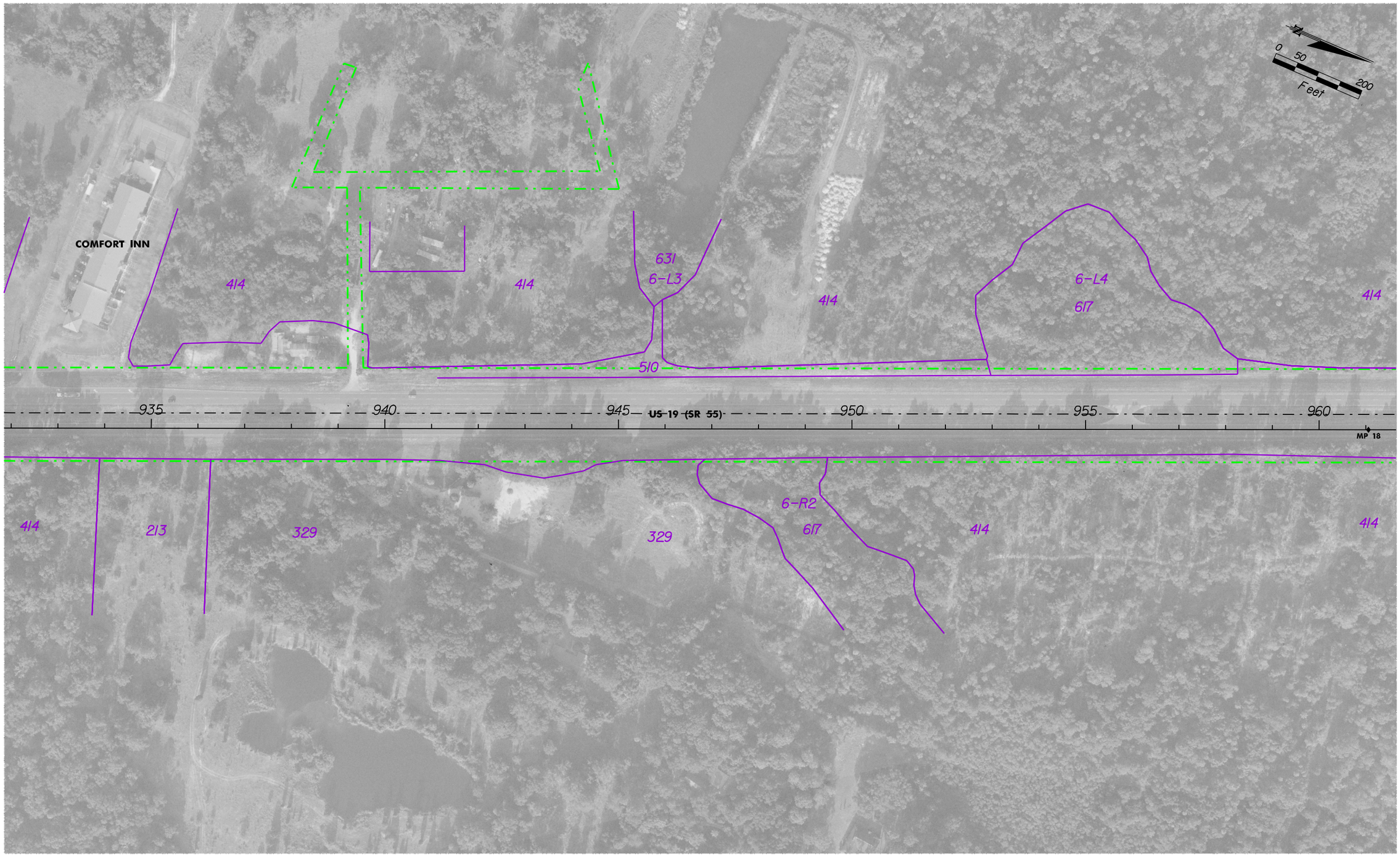
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	CITRUS	405822-1-22-01

US 19 (SR 55) PD&E STUDY
FROM SOUTH OF US 98 TO CR 488
CITRUS COUNTY, FLORIDA

SHEET NO.

32

FLIGHT DATE : JUNE 11, 2001



SEGMENT 6 RECOMMENDED ALTERNATIVE

EXISTING RIGHT OF WAY OR EASEMENT
CENTERLINE OF CONSTRUCTION
PROPOSED RIGHT OF WAY
WETLANDS WITHIN STUDY AREA
PROPOSED PAVEMENT / CURB
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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	CITRUS	405822-1-22-01

US 19 (SR 55) PD&E STUDY
FROM SOUTH OF US 98 TO CR 488
CITRUS COUNTY, FLORIDA

SHEET NO. 31

23-DEC-2004 11:13
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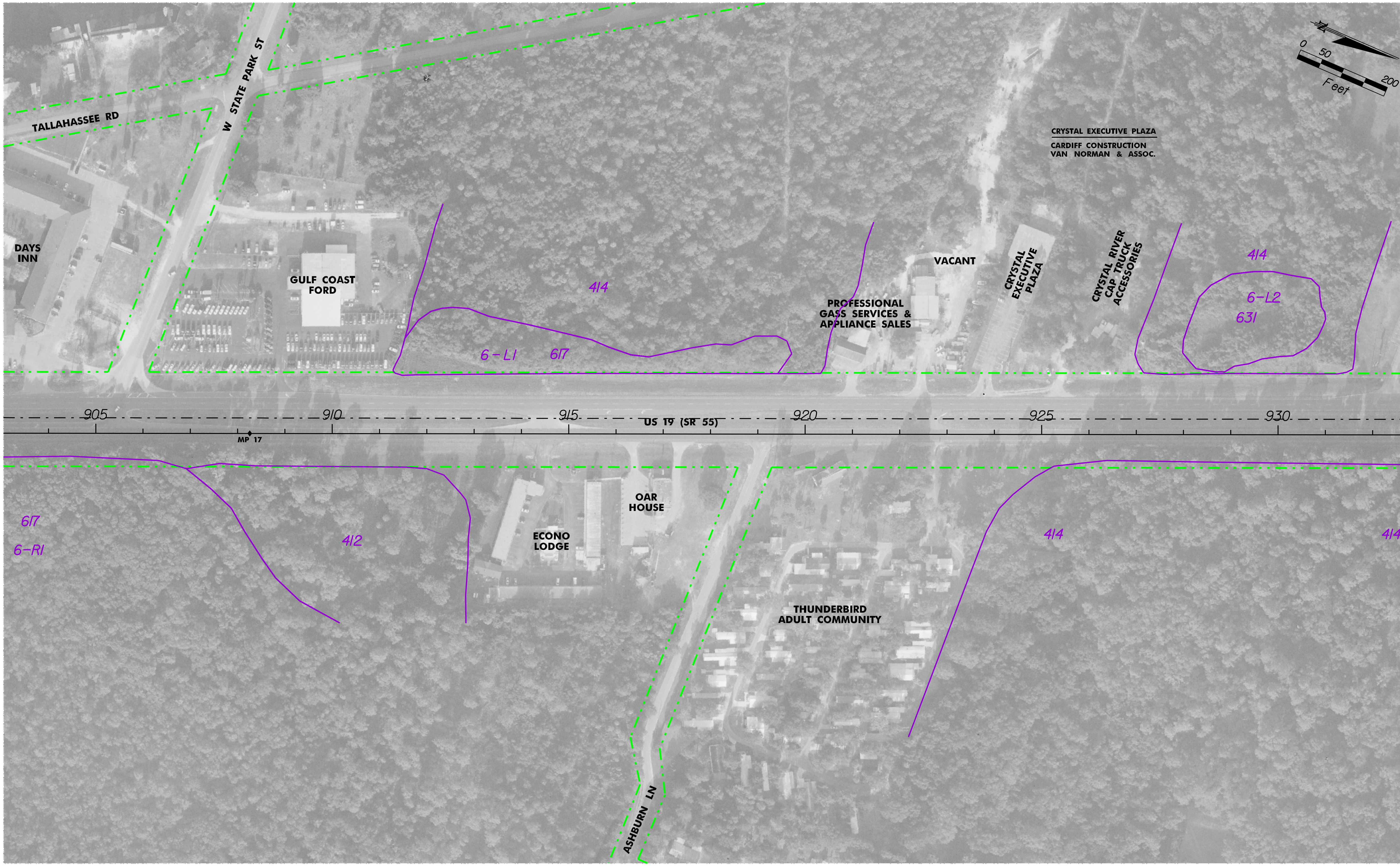
FLIGHT DATE : JUNE 11, 2001



SEGMENT 6 RECOMMENDED ALTERNATIVE

EXISTING RIGHT OF WAY OR EASEMENT
CENTERLINE OF CONSTRUCTION
PROPOSED PAVEMENT / CURB
PROPOSED RIGHT OF WAY
PROPOSED SIDEWALK OR MULTI-USE PATH
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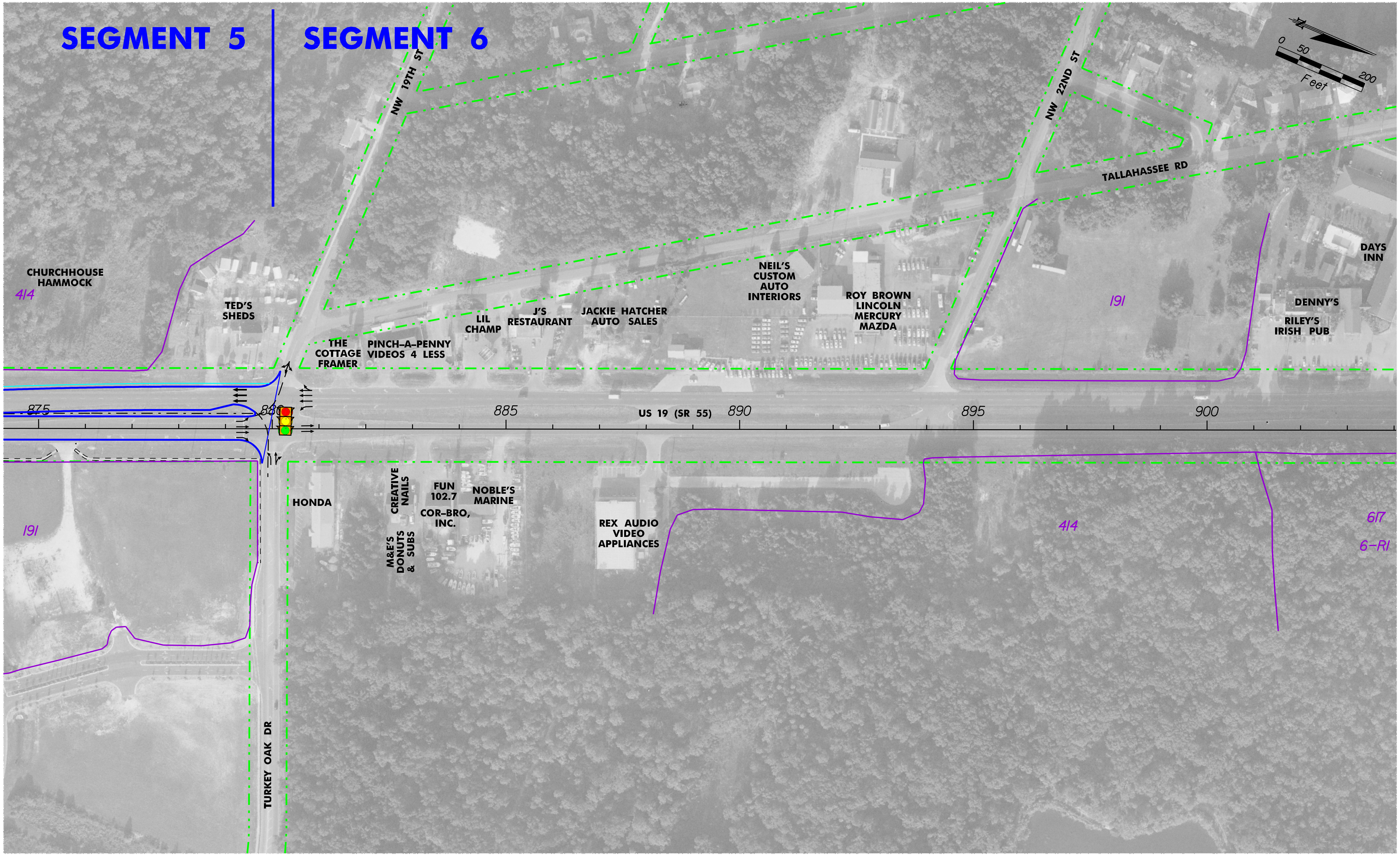
US 19 (SR 55) PD&E STUDY
FROM SOUTH OF US 98 TO CR 488
CITRUS COUNTY, FLORIDA

SHEET NO.
30

FLIGHT DATE : JUNE 11, 2001



SEGMENT 6 RECOMMENDED ALTERNATIVE

EXISTING RIGHT OF WAY OR EASEMENT
CENTERLINE OF CONSTRUCTION
PROPOSED RIGHT OF WAY
WETLANDS WITHIN STUDY AREA
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PROPOSED SIDEWALK OR MULTI-USE PATH
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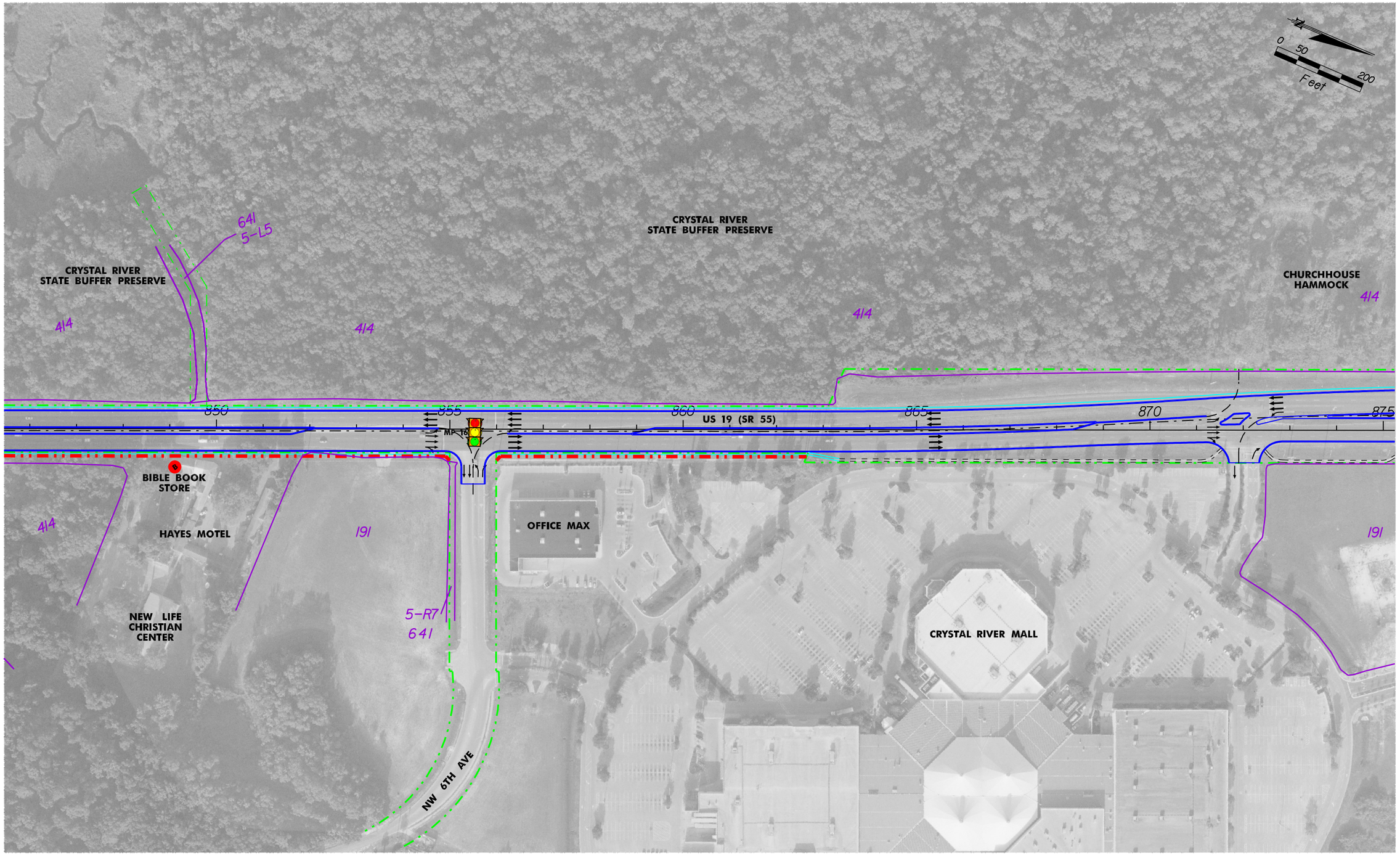
US 19 (SR 55) PD&E STUDY
FROM SOUTH OF US 98 TO CR 488
CITRUS COUNTY, FLORIDA

SHEET NO.
29

FLIGHT DATE : JUNE 11, 2001



SEGMENT 5 RECOMMENDED ALTERNATIVE

EXISTING RIGHT OF WAY OR EASEMENT
CENTERLINE OF CONSTRUCTION
PROPOSED RIGHT OF WAY
WETLANDS WITHIN STUDY AREA
PROPOSED PAVEMENT / CURB
120 MP 3 BASELINE SURVEY MILEPOST
PROPOSED SIDEWALK OR MULTI-USE PATH

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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	CITRUS	405822-1-22-01

US 19 (SR 55) PD&E STUDY FROM SOUTH OF US 98 TO CR 488 CITRUS COUNTY, FLORIDA

SHEET NO. 28

23-DEC-2004 11:12
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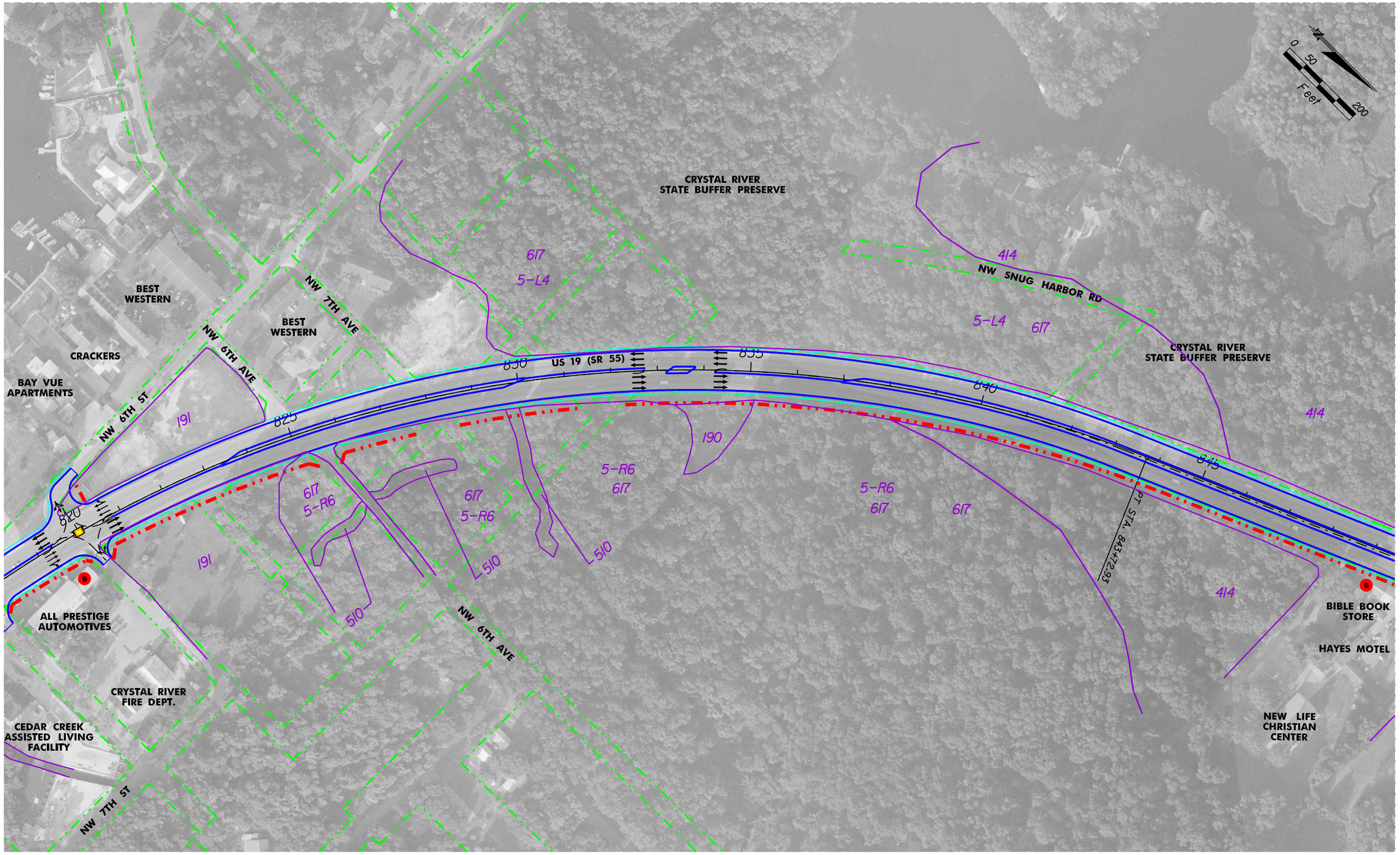
FLIGHT DATE : JUNE 11, 2001



SEGMENT 5 RECOMMENDED ALTERNATIVE

EXISTING RIGHT OF WAY OR EASEMENT
CENTERLINE OF CONSTRUCTION
PROPOSED RIGHT OF WAY
WETLANDS WITHIN STUDY AREA
PROPOSED PAVEMENT / CURB
120 MP 3 BASELINE SURVEY MILEPOST
PROPOSED SIDEWALK OR MULTI-USE PATH

PBS&J
5300 W. Cypress St.
Suite 300
Tampa, Fl. 33607
Phone: 813.282.7275
www.PBSJ.com

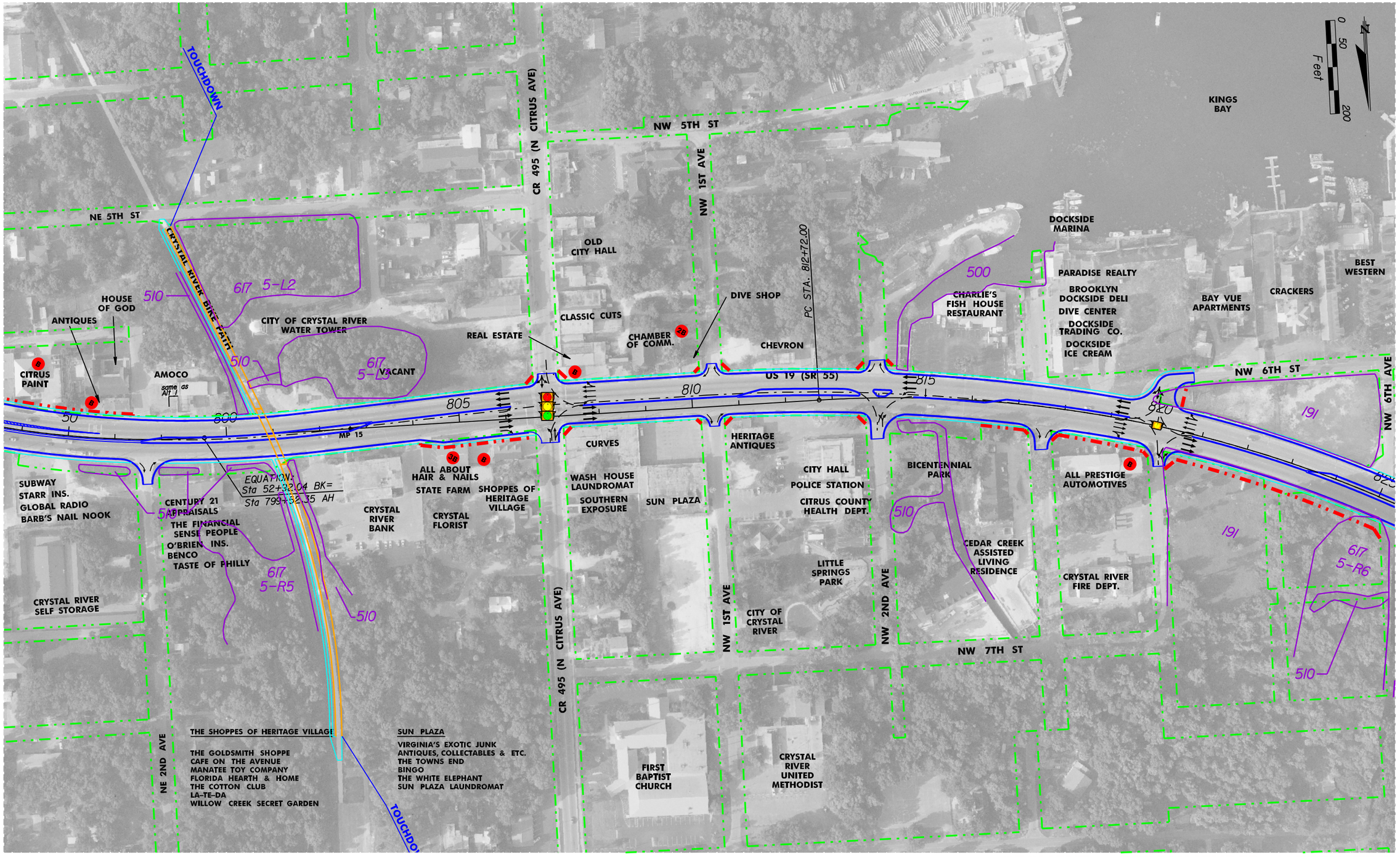
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	CITRUS	405822-1-22-01

US 19 (SR 55) PD&E STUDY
FROM SOUTH OF US 98 TO CR 488
CITRUS COUNTY, FLORIDA

SHEET NO. 27

FLIGHT DATE : JUNE 11, 2001



SEGMENT 5 RECOMMENDED ALTERNATIVE

EXISTING RIGHT OF WAY OR EASEMENT
CENTERLINE OF CONSTRUCTION
PROPOSED RIGHT OF WAY
WETLANDS WITHIN STUDY AREA
PROPOSED PAVEMENT / CURB
120 MP 3 BASELINE SURVEY MILEPOST
PROPOSED SIDEWALK OR MULTI-USE PATH

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

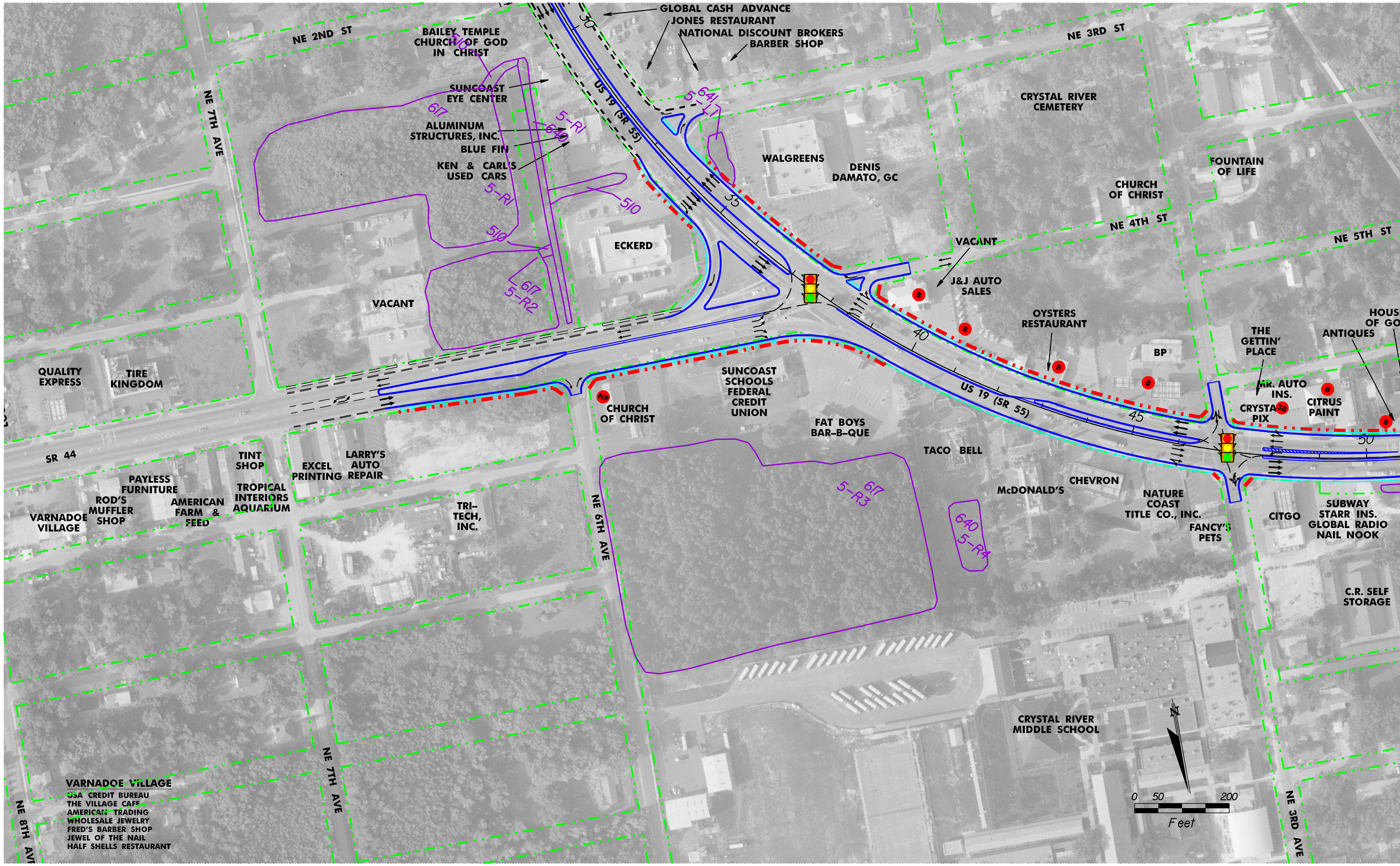
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	CITRUS	405822-1-22-01

US 19 (SR 55) PD&E STUDY
FROM SOUTH OF US 98 TO CR 488
CITRUS COUNTY, FLORIDA

SHEET NO. 26

23-DEC-2004 11:12
P:\Projects\US19CitrusPDE\CADD\PlanSheets\RecommendedWetlands\plan05.dgn

FLIGHT DATE : JUNE 11, 2001



SEGMENT 5 RECOMMENDED ALTERNATIVE

Legend	
EXISTING RIGHT OF WAY OR EASEMENT	CENTERLINE OF CONSTRUCTION
PROPOSED PAVEMENT / CURB	PROPOSED RIGHT OF WAY
PROPOSED SIDEWALK OR MULTI-USE PATH	WETLANDS WITHIN STUDY AREA
120 MP 3 BASELINE SURVEY MILEPOST	

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	CITRUS	405822-1-22-01

US 19 (SR 55) PD&E STUDY
FROM SOUTH OF US 98 TO CR 488
CITRUS COUNTY, FLORIDA

SHEET NO.
25

FLIGHT DATE : JUNE 11, 2001

TSM2b

SEGMENT 4

SEGMENT 5

KINGS BAY PLAZA
DUDS N SUDS
RENDEZVOUS BEAUTY SALON
BELTONE HEARING AID CENTER
LITTLE CAESARS
VIDEO
CHINA BRIDGE RESTAURANT
WEST MARINE
BIG LOTS
SPORTING HEALTH CLUB

POST OFFICE

0 50 200 Feet

SE CUTLER SPUR
HUFFMAN'S HERITAGE WHOLE FOODS
SE KINGS BAY DR
NE 1ST TER
NE 1ST ST
NE 2ND ST
CRYSTAL PAINT & DECORATING
ST. PETERSBURG TIMES
KINGS BAY PLAZA
CRYSTAL TERRACE
ULTIMATE AUTO DETAIL
GLOBAL CASH ADVANCE
510
MOJOS
DOLLAR GENERAL STORE
AMERICAN SPEEDY PRINTING
TEASERS HAIR & NAIL
SAVE-A-LOT
CRYSTAL CENTER LAUNDROMAT
CHINA FIRST BUFFET
SHERWIN WILLIAMS
WINE & CHEESE CO.
MR B'S CAR WASH
SPECIALTY GEMS
WESTON PROPERTIES
VAL'S BOUTIQUE & SPA
BANK OF AMERICA
VACANT
WENDY'S
NEWCEL COMM.
TOUCH OF QUALITY CLEANERS
JOHNSON KIA
CIRCLE K
PT STA. 23+05.16
740
745
10
15
US 19 (SR 55)
20
25
30
MP 14
TRAVEL TOWN
BUMPER TO BUMPER
BURGER KING
EQUATION:
Sta 746+51.03 BK =
Sta 9+86.12 AH
4-RI
617
A+ HEALTHCARE
TEXACO
CHECKERS
CODY'S ORIGINAL ROADHOUSE
YANGER & SMITH ATTORNEYS
GYPSY'S DEN
CAPITAL CITY BANK
ENTERPRISE
A-1 TRUCK REPAIR
329
ACE BAIL BONDS
NAILS 2000
DILLON'S INN
OPHTHALMOLOGY
PT STA. 743+29.69
CRYSTAL SQUARE
CRYSTAL SQUARE
CITRUS COUNTY CENTER
FLORIDA SHERIFF'S YOUTH RANCHES
JACKSON HEWITT TAX SERVICE
QUALITY HAIR CUTS
DANCETC. ACADEMY
KACY'S PORTRAIT STUDIO
JAN'S OPTICAL
WADE'S COINS
BINGO
HUNTER'S HIDEOUT
THIBADO TAE KWON DO
658 SALON SPA
GMAC REAL ESTATE
FRED'S
TRUCKLOADS
BLUE CHIP AUTO GLASS
FARMERS FURNITURE
FRAMES N GALLERY
SUNCOAST SCHOOLS FEDERAL CREDIT UNION
AETNA WEST COAST INSURERS
C.H.I.P.S. ALLSTATE
LAB CORP.
SE 7TH AVE
SUNCOAST CLINICAL LABORATORIES
SE 5TH TER
BOYS & GIRLS CLUB OF CITRUS COUNTY
PROFESSIONAL PARK

SEGMENT 4 RECOMMENDED ALTERNATIVE

EXISTING RIGHT OF WAY OR EASEMENT
CENTERLINE OF CONSTRUCTION
PROPOSED RIGHT OF WAY
WETLANDS WITHIN STUDY AREA
PROPOSED PAVEMENT / CURB
120 MP 3 BASELINE SURVEY MILEPOST
PROPOSED SIDEWALK OR MULTI-USE PATH

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	CITRUS	405822-1-22-01

US 19 (SR 55) PD&E STUDY
FROM SOUTH OF US 98 TO CR 488
CITRUS COUNTY, FLORIDA

SHEET NO. 24

23-DEC-2004 11:11
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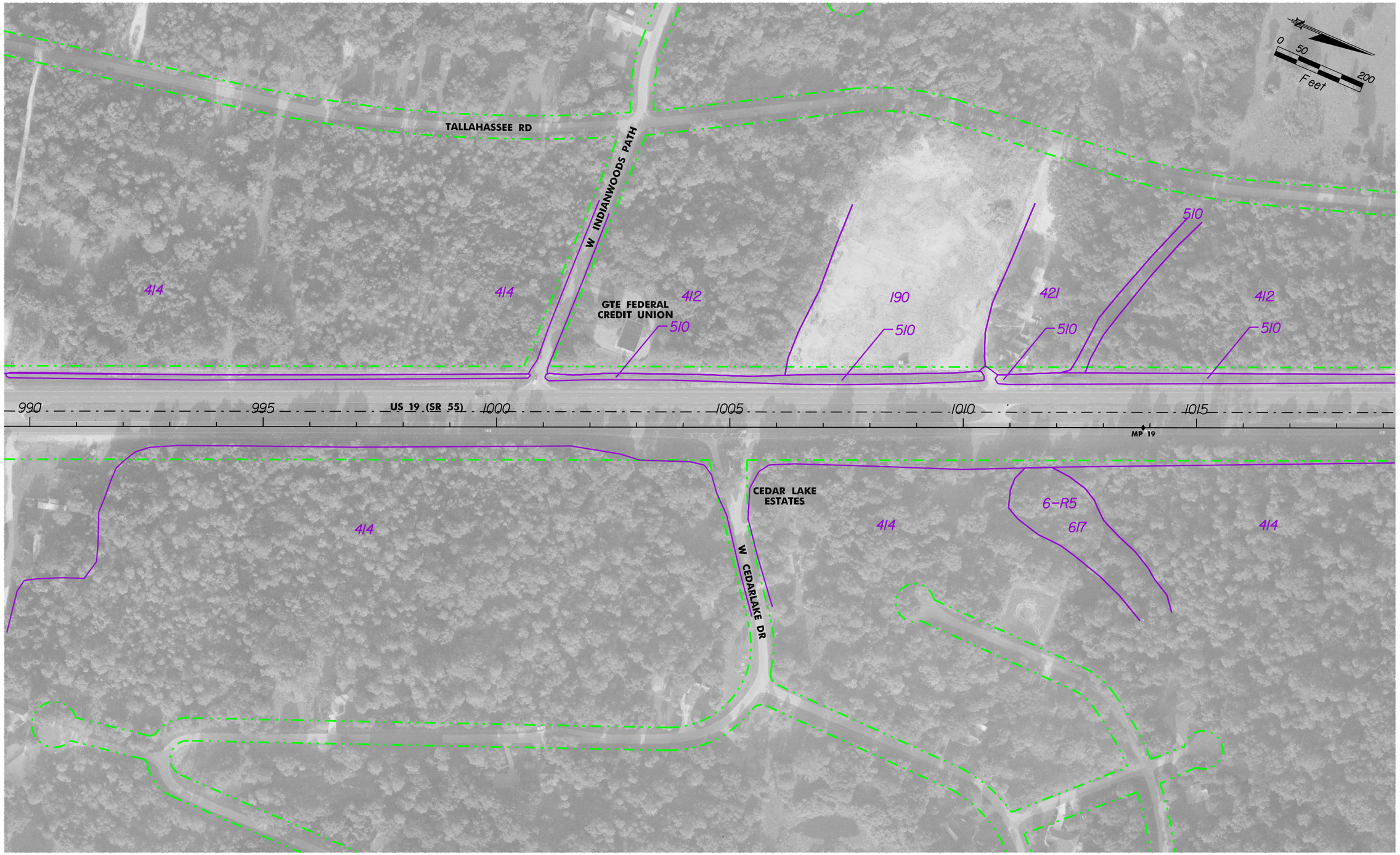
FLIGHT DATE : JUNE 11, 2001



SEGMENT 6 RECOMMENDED ALTERNATIVE

EXISTING RIGHT OF WAY OR EASEMENT
CENTERLINE OF CONSTRUCTION
PROPOSED RIGHT OF WAY
WETLANDS WITHIN STUDY AREA
PROPOSED PAVEMENT / CURB
120 MP 3 BASELINE SURVEY MILEPOST
PROPOSED SIDEWALK OR MULTI-USE PATH

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STATE OF FLORIDA
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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	CITRUS	405822-1-22-01

US 19 (SR 55) PD&E STUDY
FROM SOUTH OF US 98 TO CR 488
CITRUS COUNTY, FLORIDA

SHEET NO. 33

23-DEC-2004 11:14
P:\Projects\US19\11rus\PDE\CADD\PlanSheets\RecommendedAlternate\plan33.dgn

FLIGHT DATE : JUNE 11, 2001

SEGMENT 6 RECOMMENDED ALTERNATIVE

EXISTING RIGHT OF WAY OR EASEMENT
CENTERLINE OF CONSTRUCTION
PROPOSED RIGHT OF WAY
WETLANDS WITHIN STUDY AREA
PROPOSED PAVEMENT / CURB
120 MP 3 BASELINE SURVEY MILEPOST
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	CITRUS	405822-1-22-01

US 19 (SR 55) PD&E STUDY
FROM SOUTH OF US 98 TO CR 488
CITRUS COUNTY, FLORIDA

SHEET NO. 34

23-DEC-2004 11:14
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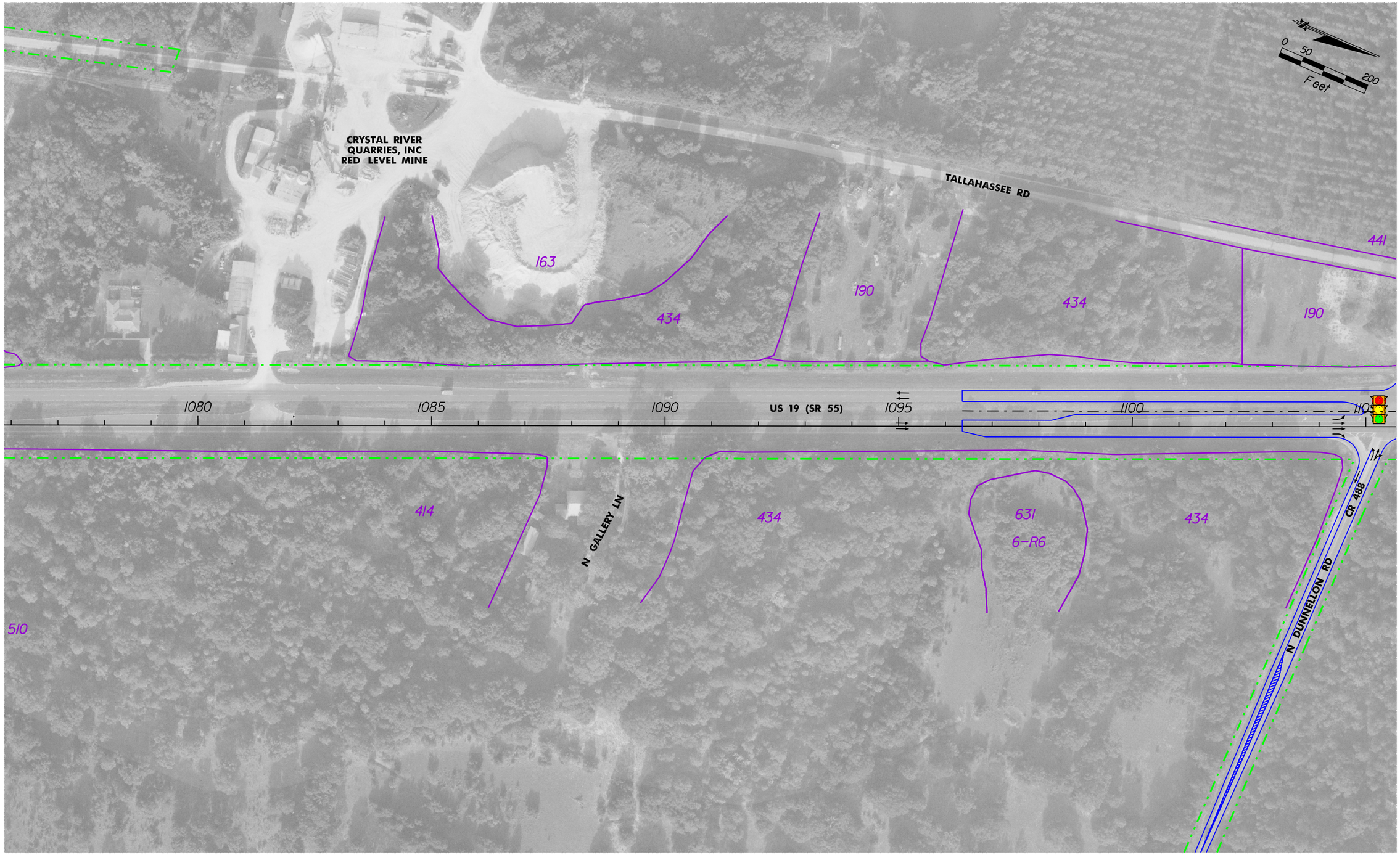
FLIGHT DATE : JUNE 11, 2001



SEGMENT 6 RECOMMENDED ALTERNATIVE

EXISTING RIGHT OF WAY OR EASEMENT
CENTERLINE OF CONSTRUCTION
PROPOSED RIGHT OF WAY
WETLANDS WITHIN STUDY AREA
PROPOSED PAVEMENT / CURB
120 MP 3 BASELINE SURVEY MILEPOST
PROPOSED SIDEWALK OR MULTI-USE PATH

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Suite 300
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	CITRUS	405822-1-22-01

US 19 (SR 55) PD&E STUDY
FROM SOUTH OF US 98 TO CR 488
CITRUS COUNTY, FLORIDA

SHEET NO. 36

23-DEC-2004 11:14
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FLIGHT DATE : JUNE 11, 2001

SEGMENT 6 RECOMMENDED ALTERNATIVE

EXISTING RIGHT OF WAY OR EASEMENT
CENTERLINE OF CONSTRUCTION
PROPOSED RIGHT OF WAY
WETLANDS WITHIN STUDY AREA
PROPOSED PAVEMENT / CURB
PROPOSED SIDEWALK OR MULTI-USE PATH
120 MP 3 BASELINE SURVEY MILEPOST

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Tampa, Fl. 33607
Phone: 813.282.7275
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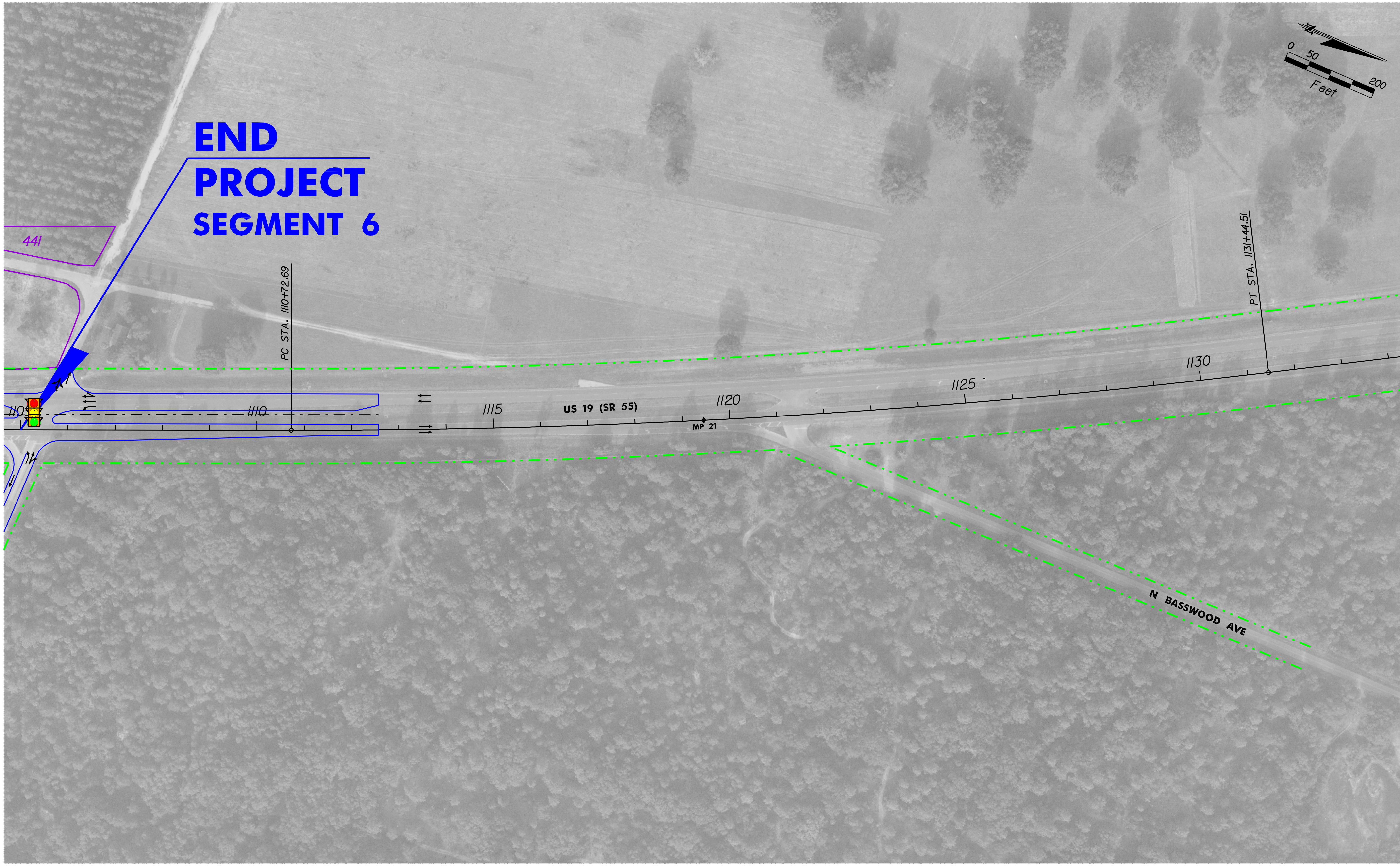
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	CITRUS	405822-1-22-01

US 19 (SR 55) PD&E STUDY
FROM SOUTH OF US 98 TO CR 488
CITRUS COUNTY, FLORIDA

SHEET NO.
35

FLIGHT DATE : JUNE 11, 2001



SEGMENT 6 RECOMMENDED ALTERNATIVE

EXISTING RIGHT OF WAY OR EASEMENT
CENTERLINE OF CONSTRUCTION
PROPOSED RIGHT OF WAY
WETLANDS WITHIN STUDY AREA
PROPOSED PAVEMENT / CURB
120 MP 3 BASELINE SURVEY MILEPOST
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Tampa, Fl. 33607
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	CITRUS	405822-1-22-01

US 19 (SR 55) PD&E STUDY
FROM SOUTH OF US 98 TO CR 488
CITRUS COUNTY, FLORIDA

SHEET NO.
37

APPENDIX C

Agency Coordination

Florida Department of Transportation

11201 N. McKinley Drive • Tampa, FL 33612-6456 • Phone (813) 975-6000 • 1-800-226-7220

JEB BUSH
GOVERNOR

ENVIRONMENTAL MANAGEMENT OFFICE * 7-500 * (813) 975-6457

JOSE ABREU
SECRETARY

April 8, 2003

Mr. Peter J. Benjamin
U.S. Fish and Wildlife Service
6620 Southpoint Drive South, Suite 310
Jacksonville, FL 32216

RE WPI Seg. No. 405822 1/FAP No. 1852 007 P
U.S. 19 (S.R. 55), from South of U.S. 98 to C.R. 488, Citrus County

Dear Mr. Benjamin:

The Florida Department of Transportation is conducting a Project Development and Environment (PD&E) Study for improvement alternatives along U.S. 19 (S.R. 55) between milepost 1.730 to milepost 20.742 in Citrus County. The 18.8 mile study will evaluate the proposed widening of the existing four-lane dividing facility to a six-lane principal arterial to satisfy the current and future projected traffic demands. As part of the National Environmental Policy Act (NEPA) the Department is initiating informal consultation with the U.S. Fish and Wildlife Service. A *Threatened and Endangered Species Evaluation* has been prepared for your agency's review.

In order to fulfill the requirements of the NEPA process, the Department solicits comments from federal, state, and local agencies. All comments received by the Department will be addressed in the support documents and made available at the public hearing during the public involvement phase.

This proposed project has been evaluated for impacts on federally protected threatened and endangered species. Based on the results of the literature review and field surveys conducted, the Department has concluded with implementation of the special provisions included in the evaluation that no federally listed threatened or endangered species will be affected by the proposed improvements. Furthermore, the proposed project is not located in an area designated as Critical Habitat by the U.S. Department of Interior. Therefore, the Department on behalf of the Federal Highway Administration has determined that the proposed actions will have "No Effect" with any federally protected threatened or endangered species.

If your office concurs with this determination, please respond to the Department in writing at your earliest convenience. If your agency would like a site review or any additional information, please feel free to call me at (813) 975-6457.

Sincerely,

Mr. Todd Mecklenborg
Biologist

FWS Log No. 04-174

The proposed action is not likely to adversely affect resources protected by the Endagered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.) This finding flfills the requirements of the Act.

Don Palmer 10/16/03

for Peter M Benjamin
Assistant Field Supervisor

Date

405822 8

STATE OF FLORIDA

DEPARTMENT OF COMMUNITY AFFAIRS

"Dedicated to making Florida a better place to call home"

JEB BUSH
Governor

STEVEN M. SEIBERT
Secretary

September 26, 2001

Mr. Jeraldo Comellas, Jr., P.E.
District EMO Engineer
Florida Department of Transportation
11201 North McKinley Drive, M.S. 7-500
Tampa, Florida 33612-6456

RE U.S. Department of Transportation - Highway Planning and Construction - Advance Notification - US 19 (SR 55) PD&E Study - WPI Seg. No. 405822 - FAP No. 1852 007 P - City of Crystal River, Citrus County, Florida
SAI: FL 200107020578C

Dear Mr. Comellas:

The Florida State Clearinghouse, pursuant to Executive Order 12372, Gubernatorial Executive Order 95-359, the Coastal Zone Management Act, 16 U.S.C. §§ 1451-1464, as amended, and the National Environmental Policy Act, 14 U.S.C. §§ 4321, 4331-4335, 4341-4347, as amended, has coordinated the review of the above-referenced project.

The Department of Environmental Protection (DEP) notes that the funding for the Federal Aid action and Project Development and Environmental Study is consistent with the DEP's authorities in the Coastal Management Program; however, detailed project information is not yet available, therefore, the DEP cannot determine the consistency of the road improvements project at this time. In addition, information is required regarding the anticipated roadway width, design, impacts, construction, and mitigation for any proposed wetland impacts. Please refer to the enclosed DEP comments.

The Withlacoochee Regional Planning Council (WRPC) notes that the proposed project is consistent with the goals and policies of the WRPC's adopted Strategic Regional Policy Plan for the Withlacoochee Region. Please refer to the enclosed WRPC comments.

2555 SHUMARD OAK BOULEVARD • TALLAHASSEE, FLORIDA 32399-2100
Phone: 850.488.8466/Suncom 278.8466 FAX: 850.921.0781/Suncom 291.0781
Internet address: http://www.dca.state.fl.us

Based on the information contained in the referenced application and the enclosed comments provided by our reviewing agencies, the state has determined that, at this stage of project development, the referenced project is consistent with the Florida Coastal Management Program. In addition, the applicant is required to provide the Florida State Clearinghouse with the detailed project information requested by the DEP as soon as the information becomes available.

Please attach a copy of this letter and any enclosures to your application facesheet or cover form and forward to the federal funding agency. (If applicable, enter the State Application Identifier (SAI) number, shown above, in box 3A of Standard Form 424 or where appropriate on other cover form.) This action will assure the federal agency of your compliance with Florida's review requirements and reduce the chance of unnecessary delays in processing your application.

Thank you for the opportunity to review this project. Should questions arise regarding this letter, please call Ms. Jasmin Raffington at (850) 922-5438.

Sincerely,

Shirley W. Collins, Acting Administrator
Florida Coastal Management Program

SWC:jj

Enclosures

cc Lauren P. Milligan, Department of Environmental Protection
Vivian A. Whittier, Withlacoochee Regional Planning Council

Florida Department of Transportation
11201 N. McKinley Drive • Tampa, FL 33612-6456 • (813) 975-6077 • 1-800-226-7220
Environmental Management Office (EMO) • MS 7-500

JEB BUSH
GOVERNOR

THOMAS F. BARRY, JR
SECRETARY

June 25, 2001

Ms. Jasmin Raffington, Coordinator
Florida State Clearinghouse
Department of Community Affairs
2555 Shumard Oak Boulevard
Tallahassee, Florida 32399-2100

2001

State of Florida Clearinghouse

RE: WPI Seg. No. 405822 1 / FAP No. 1852 007 P
US 19 (SR 55) PD&E Study / Citrus County / Advance Notification

Dear Ms. Raffington:

The attached Advance Notification package is for a Project Development and Environment (PD&E) Study on US 19 from south of US 98 to CR 488 in Citrus County. This information is forwarded to your office for processing through the appropriate state agencies in accordance with Executive Order 95-359. Distribution to local and federal agencies is being made as noted.

Although more specific comments will be solicited during the permit coordination process, we request that permitting and permit reviewing agencies review the attached information and furnish us with whatever comments they consider pertinent at this time.

This is a Federal-aid action and the Florida Department of Transportation, in consultation with the Federal Highway Administration, will determine what degree of environmental documentation will be necessary. The determination will be based upon in-house environmental evaluations and comments received through coordination with other agencies. Please provide a consistency review for this project in accordance with the State's Coastal Zone Management Program.

In addition, please review this improvement's consistency, to the maximum extent feasible, with the approved Comprehensive Plan of the local government jurisdiction(s) pursuant to Chapter 163, Florida Statutes.

We are looking forward to receiving your comments on the project within 45 days. Should additional review time be required, a written request for an extension of time must be submitted to our office within the initial 45-day comment period. Your comments should be addressed to:

Jeraldo Comellas, Jr., P.E.
District Environmental Management Engineer
Florida Department of Transportation
11201 N. McKinley Drive/MS 7-500
Tampa, FL 33612-6456

Your expeditious handling of this notice will be appreciated.

Sincerely,

Jeraldo Comellas, Jr., P.E.
District EMO Engineer

JC/WGL
Attachment

MAILING LIST:

Federal Highway Administration, Division Administrator

Federal Emergency Management Agency – Mitigation Division, Chief

Federal Aviation Administration - Airports District Office

U.S. Army Corps of Engineers - Regulatory Branch, District Engineer

U.S. Department of Agriculture – Southern Region, Regional Forester

U.S. Department of Commerce – National Marine Fisheries Service – Habitat Conservation Division

U.S. Department of Health & Human Services - Center for Environmental Health and Injury Control

U.S. Department of Housing and Urban Development, Regional Environmental Officer

U.S. Department of Interior – Bureau of Indian Affairs – Office of Trust Responsibilities

U.S. Department of Interior - Bureau of Land Management, Eastern States Office

U.S. Department of Interior – National Park Service – Southeast Regional Office

U.S. Department of Interior - U.S. Geological Survey, Chief

U.S. Department of Interior - Fish and Wildlife Service, Field Supervisor

U.S. Environmental Protection Agency - Region IV, Regional Administrator

Florida Department of Environmental Protection - District Office

Florida Fish and Wildlife Conservation Commission - Office of Environmental Services, Director

Florida Fish and Wildlife Conservation Commission - Regional Director

Environmental Management Office, Manager (MS 37)

Federal-Aid Program Coordinator (MS 35)

Withlacoochee Regional Planning Council, Executive Director

Southwest Florida Water Management District, Executive Director

OMB Approval No. 0348-0043

APPLICATION FOR FEDERAL ASSISTANCE

2. DATE SUBMITTED: June 25, 2001	Applicant Identifier: 405822 1
3. DATE RECEIVED BY STATE:	State Application Identifier:
4. DATE RECEIVED BY FEDERAL AGENCY:	Federal Identifier:

1. TYPE OF SUBMISSION:

Application	Preapplication
[■] Construction	[ ] Construction
[ ] Non-Construction	[ ] Non-Construction

5. APPLICANT INFORMATION

Legal Name: Florida Department of Transportation

Organizational Unit: Office of Design

Address (*give city, county, state, and zip code*):
605 Suwannee Street
Tallahassee, Leon, Florida 32399-0450

Name and telephone number of the person to be contacted on matters involving this application (*give area code*)
Jeraldo Comellas, Jr., P.E.
District VII Environmental Management Engineer
813-975-6077

6. EMPLOYER IDENTIFICATION NUMBER (EIN): 5 9 — 6 0 0 1 8 7 4

7. TYPE OF APPLICANT: (*enter appropriate letter in box*) [A]

A. State
B. County
C. Municipal
D. Township
E. Interstate
F. Intermunicipal
G. Special District
H. Independent School Dist.
I. State Controlled Institution of Higher Learning
J. Private University
K. Indian Tribe
L. Individual
M. Profit Organization
N. Other (Specify):

8. TYPE OF APPLICATION:

[■] New [ ] Continuation [ ] Revision

If Revision, enter appropriate letter(s) in box(es): [ ] [ ]

A. Increase Award B. Decrease Award C. Increase Duration
D. Decrease Duration Other (*specify*):

9. NAME OF FEDERAL AGENCY:
U.S. Department of Transportation

10. CATALOG OF FEDERAL DOMESTIC ASSISTANCE NUMBER: 2 0 . 2 0 5

TITLE: Highway Planning and Construction

11. DESCRIPTIVE TITLE OF APPLICANT'S PROJECT:
US 19 (SR 55) PD&E Study

FPN: 405822-1-22-01

12. AREAS AFFECTED BY PROJECT (*cities, counties, states, etc.*):
Citrus County and City of Crystal River

13. PROPOSED PROJECT:

Start Date	Ending Date
05/2001	05/2003

14. CONGRESSIONAL DISTRICTS OF:

a. Applicant	b. Project
	Congressional District #5

15. ESTIMATED FUNDING:

a. Federal	$ 1,515,000 .00
b. Applicant	$ .00
c. State	$ .00
d. Local	$ .00
e. Other	$ .00
f. Program Income	$ .00
g. TOTAL	$ 1,515,000 .00

16. IS APPLICATION SUBJECT TO REVIEW BY STATE EXECUTIVE ORDER 12372 PROCESS?

a. YES. THIS PREAPPLICATION/APPLICATION WAS MADE AVAILABLE TO THE STATE EXECUTIVE ORDER 12372 PROCESS FOR REVIEW ON:
DATE June 25, 2001

b NO. [ ] PROGRAM IS NOT COVERED BY E.O. 12372

[ ] OR PROGRAM HAS NOT BEEN SELECTED BY STATE FOR REVIEW

17. IS THE APPLICANT DELINQUENT ON ANY FEDERAL DEBT?

[ ] Yes If "Yes," attach an explanation. [■] No

18. TO THE BEST OF MY KNOWLEDGE AND BELIEF, ALL DATA IN THIS APPLICATION/PREAPPLICATION ARE TRUE AND CORRECT. THE DOCUMENT HAS BEEN DULY AUTHORIZED BY THE GOVERNING BODY OF THE APPLICANT AND THE APPLICANT WILL COMPLY WITH THE ATTACHED ASSURANCES IF THE ASSISTANCE IS AWARDED

a. Typed Name of Authorized Representative	b. Title	c. Telephone number
Jeraldo Comellas, Jr., P.E.	District VII EMO Engineer	813-975-6077

d. Signature of Authorized Representative: Jeraldo Comellas Jr.

e. Date Signed: 6/25/0

Previous Editions Not Usable

Standard Form 424 (REV 4-88)
Prescribed by OMB Circular A-102

Department of
Environmental Protection

Jeb Bush
Governor

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

David B. Struhs
Secretary

August 7, 2001

Ms. Jasmin Raffington
Florida State Clearinghouse
Department of Community Affairs
2555 Shumard Oak Boulevard
Tallahassee, Florida 32399-2100

RE: USDOT – Advance Notification – U.S. 19 (S.R. 55) PD&E Study, City of Crystal River, Citrus County, SAI # FL200107020578C

Dear Ms. Raffington:

The Department has reviewed the above referenced Advance Notification from the Florida Department of Transportation and Federal Highway Administration (USDOT) to conduct a study of U.S. 19 capacity and design improvements. Funding for the Federal aid action and PD&E study is consistent with the Department's authorities in the Florida Coastal Management Program. However, as detailed project information is not yet available, the Department cannot determine the consistency of the road improvements project at this time. Additional information is required concerning the anticipated roadway width, design, impacts, construction, and mitigation for any proposed wetland impacts. Further evaluation(s) of the project will be conducted during the environmental documentation and permitting stages. Future consistency will be based in part on adequate consideration of comments offered in this and subsequent reviews. Department staff offer the following comments and recommendations:

- As noted on the Advance Notification Fact Sheet, roadway construction activities will require issuance of an Environmental Resource Permit (ERP) by the Southwest Florida Water Management District (SWFWMD), pursuant to Part IV of Chapter 373, *Florida Statutes* (*F.S.*), and Rules 62-113, 40D-4, and 40D-40, *Florida Administrative Code* (*F.A.C.*). We recommend that a wetland jurisdictional determination, per Rule 62-340, *F.A.C.*, be obtained for the highway corridor prior to further planning. Early coordination of project plans with the SWFWMD may help prevent future permitting problems.

- The permit applicant will be required to eliminate or reduce any proposed wetland resource impacts to the greatest extent practicable:

  - Minimization should emphasize avoidance-oriented corridor alignments, wetland fill reductions via steep or vertically retained side slopes, and median width reductions within safety limits.

- Wetlands should not be displaced by the installation of stormwater conveyance and treatment swales; compensatory treatment in adjacent uplands is the preferred alternative.
- After avoidance and minimization have been exhausted, mitigation must be proposed to offset the adverse impacts of the project to existing wetland functions and values. Significant attention is given to forested wetland systems, which are difficult to mitigate.
- The cumulative impacts of concurrent and future road improvement projects in the vicinity of the subject project should also be addressed.

♦ In addition to the six Outstanding Florida Waters (OFWs) listed on the Fact Sheet, an aquatic preserve, state buffer preserve, state greenway, state park, and national wildlife refuge are also located in the vicinity of the project - St. Martins Marsh Aquatic Preserve, Crystal River State Buffer Preserve, Florida Springs Coastal Greenway (formerly Crystal River, St. Martins, and Homosassa Reserve CARL Projects), Homosassa Springs State Wildlife Park, and Chassahowitzka National Wildlife Refuge. All waterbodies within the boundaries of these public lands are designated OFWs under section 62-302.700(9), *F.A.C.* Pursuant to section 373.414(1), *F.S.*, any impacts to these waterbodies and associated wetlands must be demonstrated to be "clearly in the public interest" as part of the Environmental Resource Permitting process.

Please note: The Homosassa Springs State Wildlife Park Visitor Center, parking lot, and transportation boat basin are located adjacent to the U.S. 19 right-of-way south of C.R. 490A. For additional information, please contact Mr. Mark Latch, Environmental Administrator, DEP Division of Recreation and Parks at (850) 488-8666. For information regarding the Florida Springs Coastal Greenway parcels adjoining U.S. 19, please contact Mr. Matt Clemons, Manager, DEP Crystal River State Buffer Preserve at (352) 563-1136.

♦ Every effort should be made to maximize the treatment of stormwater runoff from the proposed highway improvements project, as the neighboring OFWs are afforded a high level of protection under sections 62-4.242(2) and 62-302.700, *F.A.C.* We recommend that the study include an evaluation of existing stormwater treatment adequacy and details on the future stormwater treatment facilities, which must be designed to prevent the water quality degradation of receiving waters in the OFWs. The permit applicant must demonstrate that the proposed stormwater system meets the design and performance criteria established for the treatment/attenuation of discharges to OFWs, pursuant to Rule 40D-4, *F.A.C.*, and the SWFWMD Basis of Review for ERP Applications.

Please note: Protection of surface water and groundwater quality within the recharge basins of the area's first magnitude springs – Crystal River Springs, Homosassa Springs, and Chassahowitzka Spring – is of significant interest to the Department. Based upon the work and findings of the multi-agency Florida Springs Task Force, the Department has assigned a high priority to the protection and restoration of Florida's springs – among the most valuable ecological and economic resources of the state. We welcome the Department of

Transportation's input and cooperation in developing strategies to improve existing stormwater treatment in the vicinity of the springs (*e.g.*, rerouting and treating stormwater runoff discharging directly into sinkholes). For further information, please contact Mr. Gregg Jones, Director, SWFWMD Resource Conservation and Development Department at (352) 796-7211, ext. 4215.

- The Department recommends that future environmental documentation provide information regarding the Best Management Practices to be utilized during construction activities to prevent erosion, sedimentation, and turbid discharges to waters of the state.

We appreciate the opportunity to comment on the Advance Notification and would like to request that copies of the Environmental Assessment be sent through the State Clearinghouse for review. Please feel free to call me at (850) 487-2231 if you have any questions or need additional information.

Sincerely,

Lauren P. Milligan

Lauren P. Milligan
Environmental Specialist
Office of Intergovernmental Programs

/lpm

cc Mark Latch, DEP, DRP
Craig Parenteau, DEP, DRP District 2
Tom Linley, DEP, Homosassa Springs S.W.P.
Anna Marie Hartman, DEP, OCAMA
Matt Clemons, DEP, Crystal River S.B.P.
Gregg Jones, SWFWMD, RCDD
Lori Collins, DEP, Southwest District

MICHAEL R. MOEHLMAN
EXECUTIVE DIRECTOR

1241 S.W. 10th Street
OCALA, FLORIDA 34474-2798

Telephone 352/732-1315
Suncom 667-1315
FAX 732-1319
email: mailbox@wrpc.cc

WITHLACOOCHEE REGIONAL PLANNING COUNCIL
SERVING LEVY, CITRUS, MARION, SUMTER AND HERNANDO COUNTIES

July 18, 2001

Ms. Jasmin Raffington
Florida State Clearinghouse
Department of Community Affairs
2555 Shumard Oak Blvd.
Tallahassee, FL 32399-2100

SUBJECT: **SAI #: 200107020578C**
U. S. Department of Transportation
Advance Notification - PD&E Study
WPI Seg. No. 405822 1 - FAP No. 1852 007 P
US 19 (SR 55)
Crystal River, Citrus County, FL
WRPC ICR #: 42-C6-01-DOT

Dear Ms. Raffington:

Pursuant to the provisions of Presidential Executive Order 12372, Governor's Executive Order 95-359, and WRPC Rules Chapter 29E-6, *FAC*, the staff of the Withlacoochee Regional Planning Council reviewed the above-referenced project and find it to be consistent with the goals and policies of the WRPC's adopted *Strategic Regional Policy Plan for the Withlacoochee Region* and, in particular, with:

Policy 2.4.13: Plan and design transportation facilities that provide maximum access to jobs and markets.

Policy 2.12.1: Coordinate with the Florida Department of Transportation (FDOT) in the development of policies that maintain adequate regional transportation facilities for continued economic development.

Policy 4.10.5: Confer with the Florida Natural Areas Inventory, the Florida Game and Freshwater Fish Commission [Florida Fish and Wildlife Conservation Commission], and the U. S. Fish and Wildlife Service when revising land use plans that might affect the habitat of threatened or endangered species of plants and animals.

Goal 5.5: Provide transportation facilities to ensure that the regionally significant roadways operate at acceptable levels of service.

Policy 5.5.2: Perform timely maintenance, expansion, and repair of roads and bridges to minimize costly reconstruction and to enhance safety.

In addition, the applicant should be aware of the followings goals and policies which may be pertinent to this project:

Policy 4.3.3: Require new development to locate and construct impervious surfaces, buildings, lawns, and sewage facilities so that they do not adversely affect the quality of nearby surface waters.

Policy 4.3.10: Require protective devices to prevent construction activity from causing increased sediment in surface waters or wetlands.

Policy 4.4.1: Utilize natural drainage and floodplain functions in new development and redevelopment; prohibit significant interference of floodplain functions.

Policy 4.4.11: Limit dredging to maintenance of existing channels, and retention and detention ponds. Do not dispose of dredged material in wetlands unless it is for the purpose of restoring an altered system, or in sensitive vegetative communities. Require restoration or mitigation where dredge and fill regulations have been violated.

Policy 4.6.2: Design and build new local, state, and private roads, bridges, and causeways so as not to interfere with surface water flows, and with appropriate protective measures to avoid degrading water quality.

Goal 4.8: Avoid adverse impacts to the natural functions of the region's wetlands or surface water systems from development and redevelopment.

Policy 4.8.18: Design new public and private roads so as not to impede the natural flow of water.

Policy 4.9.2: Design roads and bridges to incorporate design features that facilitate the free passage of wildlife so as to avoid vehicle and animal collisions.

We appreciate the opportunity to comment on this proposal.

Sincerely,

Vivian A. Whittier
ICR Procedural Coordinator

/vaw

Enc.

FLORIDA STATE CLEARINGHOUSE

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RPC INTERGOVERNMENTAL COORDINATION AND RESPONSE SHEET

42-C6-01-DOT

SAI#: FL200107020578C DATE: 6/25/01

COMMENTS DUE TO CLEARINGHOUSE: 7/2/01

AREA OF PROPOSED ACTIVITY: COUNTY: CITRUS CITY: Crystal River

FEDERAL ASSISTANCE ___ DIRECT FEDERAL ACTIVITY FEDERAL LICENSE OR PERMIT ___ OCS

PROJECT DESCRIPTION

U.S. Department of Transportation - Highway Planning and Construction - Advance Notification - US 19 (SR 55) PD&E Study WPI Seg. No. 405822 1 - FAP No. 1852 007 P - City of Crystal River, Citrus County, Florida.

ROUTING

RPC

X WITHLACOOCHEE RPC

JUL 19 2001

State of Florida Clearinghouse

PLEASE CHECK ALL THE LOCAL GOVERNMENTS BELOW FROM WHICH COMMENTS HAVE BEEN RECEIVED; ALL COMMENTS RECEIVED SHOULD BE INCLUDED IN THE RPC'S CLEARINGHOUSE RESPONSE PACKAGE. IF NO COMMENTS WERE RECEIVED, PLEASE CHECK "NO COMMENT" BOX AND RETURN TO CLEARINGHOUSE.

COMMENTS DUE TO RPC: **7/2/01**

NO COMMENTS: ___

(IF THE RPC DOES NOT RECEIVE COMMENTS BY THE DEADLINE DATE, THE RPC SHOULD CONTACT THE LOCAL GOVERNMENT TO DETERMINE THE STATUS OF THE PROJECT REVIEW PRIOR TO FORWARDING THE RESPONSE PACKAGE TO THE CLEARINGHOUSE.)

NOTES: 7/18/01:
See WRPC comments attached.

ALL CONCERNS OR COMMENTS REGARDING THE ATTACHED PROJECT (INCLUDING ANY RPC COMMENTS) SHOULD BE SENT IN WRITING BY THE DUE DATE TO THE CLEARINGHOUSE. PLEASE ATTACH THIS RESPONSE FORM AND REFER TO THE SAI # IN ALL CORRESPONDENCE.

IF YOU HAVE ANY QUESTIONS REGARDING THE ATTACHED PROJECT, PLEASE CONTACT THE STATE CLEARINGHOUSE AT (850) 414-6580 OR SUNCOM 994-6580

DUNTY: CITRUS

DATE: 6/25/01

COMMENTS D. DATE: 8/1/01

CLEARANCE DUE DATE: 8/24/01

lessage:

SAI#: FL200107020578C

STATE AGENCIES	WATER MNGMNT. DISTRICTS	OPB POLICY UNITS
AGRICULTURE OTTED COMMUNITY AFFAIRS FISH & WILDLIFE CONSERV. COMM STATE ENVIRONMENTAL PROTECTION	SOUTHWEST FLORIDA WMD	ENVIRONMENTAL POLICY/C & ED

attached document requires a Coastal Zone Management Act/Florida stal Management Program consistency evalutation and is categorized one of the following:

- Federal Assistance to State or Local Government (15 CFR 930, Subpart F). Agencies are required to evaluate the consistency of the activity.
- Direct Federal Activity (15 CFR 930, Subpart C). Federal Agencies are required to furnish a consistency determination for the State's concurrence or objection.
- Outer Continental Shelf Exploration, Development or Production Activities (15 CFR 930, Subpart E). Operators are required to provide a consistency certification for state concurrence/objection.
- Federal Licensing or Permitting Activity (15 CFR 930, Subpart D). Such projects will only be evaluated for consistency when there is not an analogous state license or permit.

Project Description:

U.S. Department of Transportation - Highway Planning and Construction - Advance Notification - US 19 (SR 55) PD&E Study - WPI Seg. No. 405822 1 - FAP No. 1852 007 P - City of Crystal River, Citrus County, Florida.

o: **Florida State Clearinghouse**
AGENCY CONTACT AND COORDINATOR (SCH)
2555 SHUMARD OAK BLVD
TALLAHASSEE, FLORIDA 32399-2100
(850) 414-6580 (SC 994-6580)
(850) 414-0479

EO. 12372/NEPA

- [x] No Comment
- [ ] Comment Attached
- [ ] Not Applicable

Federal Consistency

- [x] No Comment/Consistent
- [ ] Consistent/Comments Attached
- [ ] Inconsistent/Comments Attached
- [ ] Not Applicable

From:

Jack P. Dodd, Planner
Division of Forestry
Forest Resource Planning &
Support Services Bureau
3125 Conner Blvd. Mail Stop C23
Tallahassee, FL 32399-1650

Division/Bureau: ...

Reviewer: ...

Date: 8-1-01

COUNTY: CITRUS

DATE: 6/25/01
COMMENTS DUE DATE: 8/1/01
CLEARANCE DUE DATE: 8/24/01
SAI#: FL200107020578C

Message:

STATE AGENCIES	WATER MNGMNT. DISTRICTS	OPB POLICY UNITS
AGRICULTURE OTTED COMMUNITY AFFAIRS FISH & WILDLIFE CONSERV. COMM X STATE ENVIRONMENTAL PROTECTION	SOUTHWEST FLORIDA WMD	ENVIRONMENTAL POLICY/C & ED

Citrus
SAI-DOT1-FN
2001-6716

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AUG 14 2001

State of Florida Clearinghouse

The attached document requires a Coastal Zone Management Act/Florida Coastal Management Program consistency evalutation and is categorized one of the following:

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Direct Federal Activity (15 CFR 930, Subpart C). Federal Agencies are required to furnish a consistency determination for the State's concurrence or objection.

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Federal Licensing or Permitting Activity (15 CFR 930, Subpart D). Such projects will only be evaluated for consistency when there is not an analogous state license or permit.

Project Description:

U.S. Department of Transportation - Highway Planning and Construction - Advance Notification US 19 (SR 55) PD&E Study - WPI Seg. No. 405822 1 - FAP No. 1852 007 P - City of Crystal River, Citrus County, Florida.

To: **Florida State Clearinghouse**
AGENCY CONTACT AND COORDINATOR (SCH)
2555 SHUMARD OAK BLVD
TALLAHASSEE, FLORIDA 32399-2100
(850) 414-6580 (SC 994-6580)
(850) 414-0479

EO. 12372/NEPA
- ☑ No Comment
- ☐ Comment Attached
- ☐ Not Applicable

Federal Consistency
- ☑ No Comment/Consistent
- ☐ Consistent/Comments Attached
- ☐ Inconsistent/Comments Attached
- ☐ Not Applicable

From:
Division/Bureau: Historical Resources / Historic Preservation
Reviewer: Laura A. Kammerer
Date: 7-26-2001

8-1-2001

OUNTY: CITRUS

DATE: 6/25/01
COMMENTS DUE DATE: 8/1/01
CLEARANCE DUE DATE: 8/24/01
SAI#: FL200107020578C

Message:

STATE AGENCIES	WATER MNGMNT. DISTRICTS	OPB POLICY UNITS
AGRICULTURE X OTTED COMMUNITY AFFAIRS FISH & WILDLIFE CONSERV. COMM STATE ENVIRONMENTAL PROTECTION	SOUTHWEST FLORIDA WMD	ENVIRONMENTAL POLICY/C & ED

The attached document requires a Coastal Zone Management Act/Florida Coastal Management Program consistency evalutation and is categorized as one of the following:

X Federal Assistance to State or Local Government (15 CFR 930, Subpart F). Agencies are required to evaluate the consistency of the activity.

Direct Federal Activity (15 CFR 930, Subpart C). Federal Agencies are required to furnish a consistency determination for the State's concurrence or objection.

Outer Continental Shelf Exploration, Development or Production Activities (15 CFR 930, Subpart E). Operators are required to provide a consistency certification for state concurrence/objection.

Federal Licensing or Permitting Activity (15 CFR 930, Subpart D). Such projects will only be evaluated for consistency when there is not an analogous state license or permit.

Project Description:

U.S. Department of Transportation - Highway Planning and Construction - Advance Notification - US 19 (SR 55) PD&E Study - WPI Seg. No. 405822 1 - FAP No. 1852 007 P - City of Crystal River, Citrus County, Florida.

To: Florida State Clearinghouse
AGENCY CONTACT AND COORDINATOR (SCH)
2555 SHUMARD OAK BLVD
TALLAHASSEE, FLORIDA 32399-2100
(850) 414-6580 (SC 994-6580)
(850) 414-0479

EO. 12372/NEPA

☒ No Comment
☐ Comment Attached
☐ Not Applicable

Federal Consistency

☒ No Comment/~~Consistent~~
☐ Consistent/Comments Attached
☐ Inconsistent/Comments Attached
☐ Not Applicable

From:

Division/Bureau: OTTED

Reviewer: M Blakeslee

Date: 7/11/01

SAI Routing Sheet

COUNTY: Citrus

DATE: 07/02/2001

Message:

SAI#: FL200107020578C

PROJECT TO BE REVIEWED BY: (Div/Program)	ASSIGNED REVIEWERS (Print Last Name)	IS PROJECT LOCATED IN APPROVED DRI? (Circle Yes/No) YES: Is Project Consistent with DO?	YES	NO: Is Project DRI Scale?	NO	Is Project CONSISTENT w/ COMP PLAN?		Is Project CONSISTENT w/ FCMP?		Do you have any COMMENTS on project?		DATE REVIEW COMPLETED	RVWR/ SUPV INIT.
	RWD	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO	7/15/01	
7/13/01 Date/Rec'd			Monitoring Letter? YES	NO	Monitoring Letter? YES	NO							
Complete and forward to Div/Prog Below no later than: 8/1/01													
CMP	Vinson	Wetlands? YES	NO	Stormwater? YES	NO						X	7/14	
7/16/01 Date Rec'd													
Complete and forward to ACC Coordinator no later than: 8/1/01													

UNIT COORDINATORS for Intergovernmental Coordination and Review:

CMP	COASTAL MANAGEMENT PROGRAM	MS. VANESSA HOLMES	2555 SHUMARD OAK BLVD	(850) 414-6563
DCP	COMMUNITY PLANNING		2555 SHUMARD OAK BLVD	(850) 488-2356

The attached document requires a Coastal Zone Management Act/Florida Coastal Management Program consistency evalutation and is categorized as one of the following:

X Federal Assistance to State or Local Government (15 CFR 930, Subpart F). Agencies are required to evaluate the consistency of the activity.

— Direct Federal Activity (15 CFR 930, Subpart C). Federal Agencies are required to furnish a consistency determination for the State's concurrence or objection.

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Project Description:

U.S. Department of Transportation - Highway Planning and Construction - Advance Notification - US 19 (SR 55) PD&E Study - WPI Seg. No. 405822 1 - FAP No. 1852 007 P - City of Crystal River, Citrus County, Florida.

EO. 12372/NEPA	☐ No Comment	☐ Comments Attached	☐ Not Applicable	
ederal Consistency	☐ No Comment/Consistent	☐ Consistent/Comments Attached	☐ Inconsistent/Comments Attached	☐ N/A

INSTRUCTIONS:

1. UNIT COORDINATORS are responsible for logging in, logging out, and hand-carrying/mailing project packages to the next reviewing unit on this form, or to the ACC if all review requirements have been met. Failure to meet internal suspense dates may result in loss of opportunity to comment on critical issues.
2. Requests for EXTENSIONS should be made prior to due date, especially if COMMENTS will be submitted. Contact your UNIT COORDINATOR, who will request the EXTENSION from the ACC.
3. Agency COMMENTS on SAIs will be sent to the State Clearinghouse (SCH) and should be prepared in LETTER format for the Secretary's signature. Forward the project package to the next review unit while your COMMENTS are being drafted. Coordinate your comments with other reviewers prior to finalizing.

APPENDIX D

Wetland Data

FLUCFCS Categories and Corresponding USFWS Codes for Wetlands Identified in the US 19 Citrus County Study Corridor

FLUCFCS*	Description	USFWS Code**	Description
500	Open Water	R1UBV PUBHx	Riverine, Unconsolidated Bottom, Permanent-Tidal Palustrine, Unconsolidated Bottom, Permanently Flooded, Excavated
510	Streams and Waterways	R2UBHx	Riverine, Unconsolidated Bottom, Permanently Flooded, Excavated
617	Mixed Wetland Hardwoods	PFO1C	Palustrine, Forested, Broad-Leaved Deciduous, Seasonally Flooded
621	Cypress	PFO2C/PFO2Cd	Palustrine, Forested, Needle-Leaved Deciduous, Seasonally Flooded (ditched)
630	Pine, Oak, Cabbage Palm, Hydric	PFO4/1/3C	Palustrine, Forested, Needle-Leaved Evergreen/Broad-Leaved Deciduous/Broad-Leaved Evergreen, Seasonally Flooded
631	Hydric Shrub and Brush	PSS3/1C	Palustrine, Scrub-Shrub. Broad-Leaved Evergreen/Broad-Leaved Deciduous, Seasonally Flooded
640	Vegetated, Non-forested Wetlands	PSS3F	Palustrine, Scrub-Shrub, Broad-Leaved Evergreen, Semi-Permanently Flooded
641	Freshwater Marsh	PEM1F	Palustrine, Emergent, Persistent, Semi-Permanently Flooded

*FLUCFCS =Based on Florida Land Use Cover Forms Classification System, third ed. 1999[8].
**USFWS = Based on US Fish and Wildlife Service Classification of Wetlands and Deepwater Habitats of the United States, 1979[9].

Wetland and Surface Water Impact Acreage by Segment and Alternative

SEGMENT	ALT	WETLAND FLUCFCS CODE								TOTAL	ACREAGE W/O
NUMBER	NO.	500	510	617	621	630	631	640	641	ACRES	500 0R 510
1	**1**	0.00	**0.43**	0.00	**0.59**	**0.97**	**0.001**	0.00	**0.003**	**1.99**	**1.56**
2	**1**	0.00	**0.02**	**0.19**	**0.01**	0.00	0.00	0.00	0.00	**0.23**	**0.20**
2	**2**	0.00	**0.02**	**0.20**	**0.01**	0.00	0.00	0.00	0.00	**0.23**	**0.20**
2	**3**	0.00	**0.02**	**0.19**	**0.01**	0.00	0.00	0.00	0.00	**0.22**	**0.20**
2	**4**	0.00	**0.02**	**0.22**	**0.01**	0.00	0.00	0.00	0.00	**0.25**	**0.23**
3	**1**	0.00	**0.03**	**0.96**	**1.45**	0.00	0.00	0.00	**0.28**	**2.72**	**2.69**
3	**2**	0.00	**0.03**	**0.96**	**1.45**	0.00	0.00	0.00	**0.28**	**2.72**	**2.69**
4	**1**	0.00	**0.08**	**0.11**	0.00	0.00	0.00	0.00	0.00	**0.20**	**0.11**
4	**2**	0.00	**0.08**	**0.11**	0.00	0.00	0.00	0.00	0.00	**0.19**	**0.11**
5	**1**	0.00	**0.18**	**0.41**	0.00	0.00	0.00	0.00	**0.06**	**0.64**	**0.47**
5	**2**	0.00	**0.18**	**0.62**	0.00	0.00	0.00	0.00	**0.06**	**0.85**	**0.67**
5	**3**	0.00	**0.18**	**0.42**	0.00	0.00	0.00	0.00	**0.08**	**0.67**	**0.49**
6	**1**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**
6	**TSM**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**

APPENDIX E

Construction Precautions for the Eastern Indigo Snake and Florida Manatee

Eastern Indigo Snake (*Drymarchon corais couperi*) Provisions

The Eastern indigo snake frequents diverse habitats such as pine flatwoods, scrubby flatwoods, sand pine and xeric sandhill communities, orange groves, pasture land, and various types of wetlands; with a higher population concentration in sandhill/pineland regions in north and central Florida.

Given its extensive movements, the male Eastern indigo snake has a large home range encompassing as much as 553.0 acres (224 hectares) in the winter and 390.0 acres (158 hectares) in the summer months (Moler 1986).

In xeric habitats, this species is highly dependent on the activities of the gopher tortoise (*Gopherus polyphemus*). The Eastern indigo snake is highly susceptible to desiccation (Bogert and Cowles 1947). The gopher tortoise burrow provides a humid refuge during dry conditions, and warmth during the winter months.

Special Provisions:

To minimize impacts to individual Eastern indigo snakes encountered during construction, a special provision will be included in the construction contract to advise the contractor of the potential presence of this species and its' protected status:

* If an Eastern indigo snake is sighted during construction, the contractor will be required to cease all operation(s) which may cause harm to the snake,

* If the snake does not move away from the construction area, the contractor will contact a state or federal biologist to capture and relocate the snake to suitable habitat, either adjacent to the project corridor or off site to an acceptable donor site,

* If an Eastern indigo snake is killed or found dead within the construction area, the snake should be frozen and the Jacksonville U.S. Fish and Wildlife Service Field Office (904) 232-2580 via the FDOT Project Development & Environment Department will be notified immediately at (813) 975-6457,

* In addition, educational signs with pictures shall be posted throughout the project prior to initiation of construction.

Literature Cited

Bogert, C. M. and R. B. Cowles, 1947. Moisture Loss in Relation to Habitat Selection in Some Florida Reptiles. American Museum Novitiates 1358; 21-55.

Moler, P. E., 1986. Home Range and Seasonal Activity of the Eastern Indigo Snake, Drymarchon corais couperi, in North Florida. Final Performance Report, Study E-1-06, III-A-5 to FGFWFC, 17 pp.

Florida Manatee Construction Precaution Guidelines

Suitable habitat for the manatee is located within the limits of this project and the water management district permit contains specific conditions in regard to manatee protection. The Contractor will be held responsible for any manatees harmed, harassed, or killed as a result of project construction.

Take the following precautions to protect the manatee:

(1) Advise construction personnel of the manatees, of its endangered status, and of the need to any actions that would jeopardize the existence of manatees.

(2) Advise all work crews that there are 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 or attempt to capture or collect any manatee; pursue, hurt, would, or kill any manatee. Any person violating the provisions of this paragraph shall be guilty of a misdemeanor of the first degree.

(b) Additional penalties of fines up to $20,000 and one year imprisonment, or both, are provided for under the Federal Endangered Species Act of 1973, as amended, and the Marine Mammal Protection Act of 1972.

(3) Instruct appropriate work shift personnel in the appearance, habits, biology, migratory patterns, and preservation of the manatee. At least one of these trained personnel shall be present on-site during construction activities to maintain a constant surveillance for manatees, assure the cessation of activities (such as dredging, excessive turbidity, and construction barge activity), that may endanger manatees cease, and assure that uninhibited passage for the animal is provided. Instruct all work crews associated with the project of manatees and the need to avoid collisions with manatees.

(4) Post signs in the waterway to safeguard manatees in the project area. Specific warning sign and design placement is a condition of the Water Management District.

The Contractor shall abide by the following permit conditions:

(1) Reporting of manatee activity is required:

(a) Post the Manatee Hotline Number (1-800-342-5367) at on-site telephones to be used for information or help in dealing with manatee problems. Telephone reports must be made immediately to the Florida Marine Patrol (Manatee Hotline Number) and the United States Fish and Wildlife Service (Vero Beach – South Florida Field Office: 561-562-3909) in the event of any injury collision with, or killing of manatees.

(b) Keep a log detailing sightings, collisions or other contact with manatees as events occur during construction. When work is completed, forward this data to Florida Department of Environmental Protection, Marine Research Institute, Office of Protected Species Research, 100 Eighth Ave., S.E., St. Petersburg, FL 33701-5095; and the United States Fish and Wildlife Service, 6620 South Point Drive, South, Suite 310, Jacksonville, FL 32216-0758 Attn: Bob Turner.

(2) Operate all vessels associated with the project at “no wake/idle” speed at all times.

(3) Cease all construction activity in open water when a manatee is sighted within 300 ft [90 m] of the project area. Construction may not resume until the manatee has departed the area.

(4) No construction debris shall be disposed of into the water.

APPENDIX F

Observed Non-Protected Species

Non-Protected Wildlife Species Observed

SCIENTIFIC NAME	COMMON NAME
Retiles and Amphibians	
Hyla sp.	Tree frog
Bufo quercicus	Oak toad
Scincella lateralis	Ground skink
Eumeces inexpectatus	Southeastern five-lined skink
Anolis caroliniana	Green anole
Anolis sagrei	Brown anole
Cnemidophorus sexlineatus	Six-lined racerunner
Agkistrodon piscivorus	Water moccasin
Coluber constrictor	Black racer
Birds	
Meleagris gallopavo	Wild turkey
Cyanocitta cristata	Blue jay
Troglodytes troglodytes	Carolina wren
Melanerpes carolinus	Red-bellied woodpecker
Melanerpes erythrocephalus	Red-headed woodpecker
Picoides pubescens	Downy woodpecker
Pipilo erythrophthalmus	Eastern towhee
Zenaida macroura	Mourning dove
Mimus polyglottos	Northern mockingbird
Toxostoma rufum	Brown thrasher
Piranga sp.	Tanager species
Cardinalis cardinalis	Northern cardinal
Polioptila caerulea	Blue-gray gnatcatcher
Poecile carolinensis	Carolina chickadee

Non-Protected Wildlife Species Observed (Cont.)

SCIENTIFIC NAME	COMMON NAME
Baeolophus bicolor	Tufted titmouse
Geothlypis trichas	Common yellowthroat
Dendroica pinus	Pine warbler
Dendroica pensylvanica	Chestnut-sided warbler
Mniotiltavaria	Black and white warbler
Dendroica coronata	Yellow-rumped warbler
Vermivora celata	Orange crowned warbler
Seiurus aurocapillus	Ovenbird
Setophaga ruticilla	American redstart
Vireo griseus	White-eyed vireo
Mammals	
Sus scrofa	Wild hog
Odocoelius virginianus	White-tailed deer
Sylvilagus floridana	Eastern cottontail
Procyon lotor	Raccoon
Felis rufus	Bobcat
Geomys pinetis	Pocket gopher