

S.R. 200
PD&E STUDY REEVALUATION

S.R. 200 PD&E Study Reevaluation

From U.S. 41 to N. of the Marion County Line
Citrus County, Florida
WPI Segment No. 257188 1
FAP No. FL62-020R

FINAL PRELIMINARY ENGINEERING MEMORANDUM



Florida Department of Transportation
District 7, Tampa, Florida

November 2002

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Prepared by:



ARCADIS G&M, Inc.

Tampa, Florida

Prepared for:



Florida Department of Transportation

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FINAL
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S.R. 200
PROJECT DEVELOPMENT AND ENVIRONMENT STUDY
REEVALUATION

From U.S. 41 (S.R. 45) to North of the Marion County Line
Citrus County, Florida

WPI Segment Number: 257188-1
Federal Aid Program Number: FL62-020R
County: Citrus

This project studies the expansion of the existing two-lane undivided rural roadway to a four-lane urban type roadway transitioning to a four-lane rural type roadway. The proposed project also includes the replacement of the bridge over the Withlacoochee River to accommodate four-lane improvements. The total length of the project is approximately 6.7 miles.

Prepared for

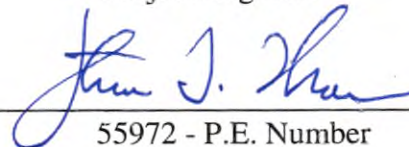
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November 2002

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A Preferred Build Alternative Concept

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SECTION 1 SUMMARY

1.1 Purpose and Objectives

The Florida Department of Transportation (FDOT) has conducted a Project Development and Environment (PD&E) Study Reevaluation for proposed improvements to a 6.7-mile segment of S.R. 200 that extends from U.S. 41 (S.R. 45) in Citrus County to just north of the Marion County Line.

The objective of the PD&E Study Reevaluation was to evaluate proposed changes to the original Federal Highway Administration (FHWA) PD&E Study (approved November 25, 1996) and document their effect. This Reevaluation will help the FHWA reach a decision on the type, design, and location of the necessary improvements along S.R. 200 to accommodate the future traffic demand in a safe and efficient manner. The fundamental goal of the PD&E Study Reevaluation was to identify the most appropriate conceptual design for the upgrading of S.R. 200.

The PD&E Study Reevaluation satisfied the requirements of the *National Environmental Policy Act* (NEPA) in order to qualify the project's design, right-of-way acquisition, and/or construction phase for federal funding.

1.2 Recommendations

This Reevaluation evaluated the engineering and environmental effects associated with an improved S.R. 200. In addition, the existing and Design Year (2025) conditions were addressed, including a No-Build Alternative, in order to determine the most appropriate improvement for this section of S.R. 200. After a detailed and comprehensive analysis, along with coordinating

the effects with the local officials, and the involvement of the general public, the Study Reevaluation concluded that without capacity improvements, S.R. 200 would deteriorate to an unacceptable level.

Thus, a build alternative was deemed appropriate for improvement of S.R. 200. To determine the appropriate build alternative, this project was divided into four segments as follows:

Segment 1 – Project Southern Terminus to East Lake Park Drive

Segment 2 – East Lake Park Drive to North of East Chappell Court

Segment 3 – North of East Chappell Court to North of East Elise Court

Segment 4 – North of East Elise Court to Project Northern Terminus

The Preferred Alternative is summarized below:

- Segment 1: From Project Southern Terminus to East Lake Park Drive

The Preferred Alternative remains a four-lane urban typical section with 12-foot lanes, four-foot bicycle lanes, five-foot sidewalks and 22-foot raised median within a 100-foot right-of-way. The alignment is centered within the existing 100 feet of right-of-way. Additional right-of-way acquisition will be limited to ponds. The alignment and typical section are consistent with the recommendation of the original PD&E Study.

- Segment 2: From East Lake Park Drive to North of East Chappell Court

The new Preferred Alternative is a four-lane suburban typical section with 12-foot lanes, eight-foot (five-foot paved) outside shoulders and 30-foot median (22-foot raised median with 4-foot paved shoulders in each direction) within a proposed 180-foot right-of-way. The alignment is shifted west and maintains the eastern existing right-of-way limit. The alignment is consistent

with the recommendation of the original PD&E Study. However, the original PD&E Study recommended a rural typical section within a proposed 200-foot right-of-way.

- Segment 3: From North of East Chappell Court to North of East Elise Court

The new Preferred Alternative is a four-lane suburban typical section with 12-foot lanes, eight-foot (five-foot paved) outside shoulders, and 30-foot median (22-foot raised median with 4-foot paved shoulders in each direction within a proposed 180-foot right-of-way. The alignment is shifted west and maintains the eastern existing right-of-way limit. The alignment is consistent with the recommendation of the original PD&E Study. However, the original PD&E Study recommended a rural typical section within a proposed 200-foot right-of-way.

- Segment 4: From North of East Elise Court to the Project's Northern Terminus

The Preferred Alternative remains a four-lane rural typical section with 12-foot lanes, 10-foot (5 feet paved) outside shoulders and 40-foot median within a proposed 200-foot right-of-way. The alignment continues the widening to the west before shifting to the east side, just beyond the S.R. 200 / C.R. 491 intersection. The alignment continues with widening to the east, crossing the Withlacoochee River and terminating at the project's northern terminus. The typical section and proposed alignment are consistent with the original PD&E Study. The existing two-lane bridge crossing the Withlacoochee River will be removed and replaced with dual two-lane bridges.

The estimated cost of the Preferred Alternative roadway, bridge and pond improvements are summarized below in Table 1.1 (detailed in Table 9.1 in Section 9).

TABLE 1.1
Preferred Alternative Cost

Cost Component	
Construction Cost	
- Roadway	\$ 16,641,200
- Bridge	\$ 1,785,200
- Ponds	\$ 2,270,337
Engineering Costs	\$ 3,104,511
Construction Inspection Costs	\$ 3,104,511
Contingency Costs	\$ 3,104,511
Right-of-Way Costs ⁽¹⁾	\$ 26,235,100
Utility Relocation	\$ 5,325,235
Total	\$ 61,570,604

⁽¹⁾ Includes right-of-way for roadway and ponds construction

1.3 Commitments

The FDOT is committed to the following measures:

1. **Traffic Signals** – The FDOT will evaluate the need for traffic signals during the design and/or construction phases at the intersections of S.R. 200 with C.R. 491 and C.R. 39. A recommendation for traffic signal installation is conditional upon meeting signal warrants.

2. **Bridges** – The FDOT will provide a minimum clearance of six feet above mean high water (MHW) and a minimum of 30 feet between bents for the bridge crossing over the Withlacoochee River. Pile bents rather than drilled shafts or spread footings will be used for the substructure to minimize impacts to the natural stream bottom.

3. Wetlands Mitigation – The FDOT will mitigate for any wetlands impacts in accordance with F.S. 373.4137(SB 1986) or other options per coordination with regulatory agencies during the final design phase.

4. Protected Species – The FDOT will perform a pre-construction survey for gopher tortoises to prevent adverse impacts. If necessary, a permit will be coordinated through the FFWCC during the final design phase. If construction begins just prior to/or during the Florida sandhill crane nesting season, a pre-construction survey will be conducted to locate any nests.

5. Cultural Resources – The FDOT will perform excavation and artifact recovery at those portions of the Tiger Eye Site (8CI811), Magic Farms Site (8CI820), Stokes Ferry Road Site (8CI821), and Stokes Ferry Site (8CI823) affected by this project in accordance with the 1995 Memorandum of Agreement (MOA, Appendix B).

SECTION 2 INTRODUCTION

2.1 Purpose

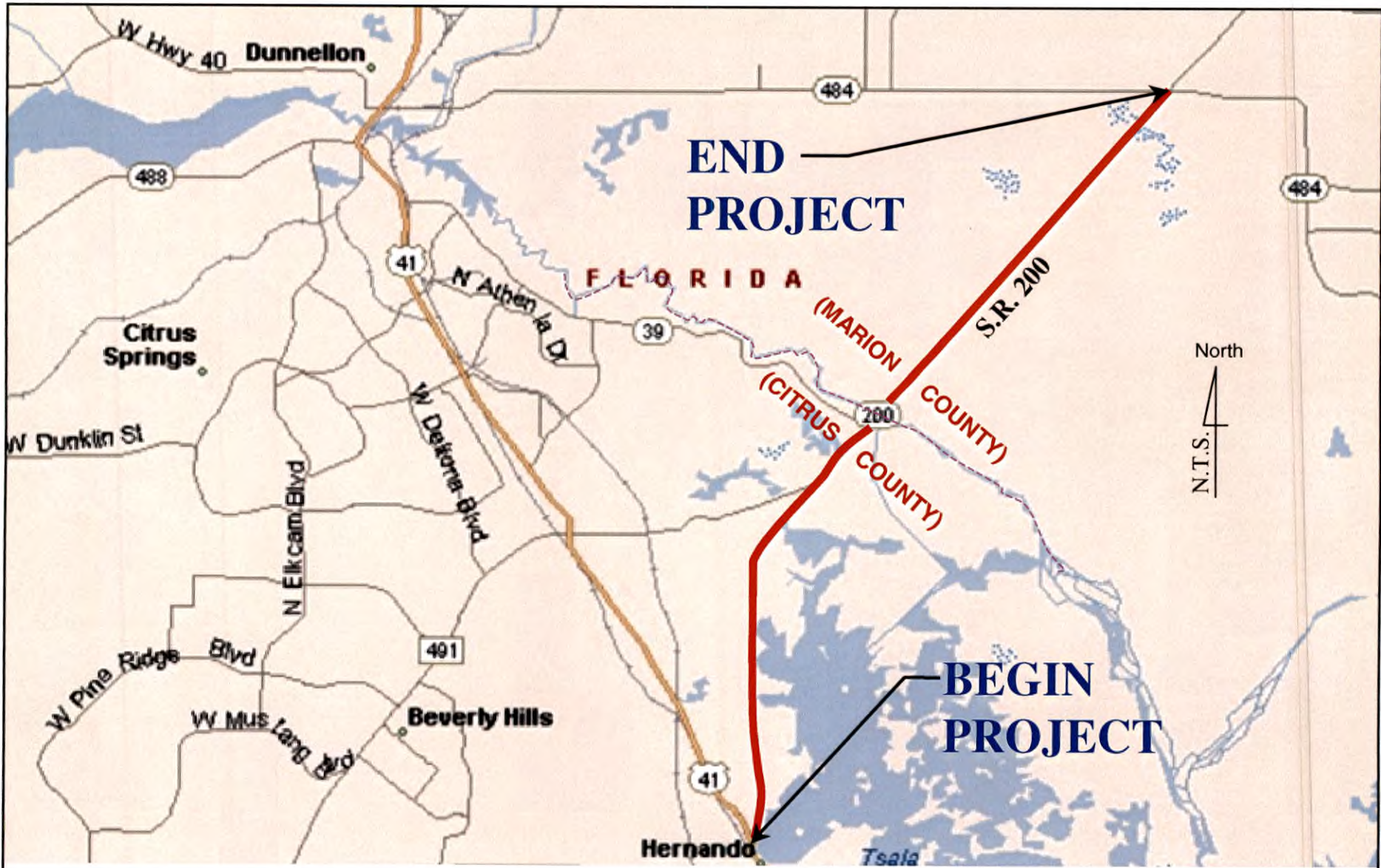
The purpose of this report was to document the engineering analysis performed to support decisions related to project alternatives. In addition, it summarized existing conditions, documented the purpose of, and need for, the project, and documented other engineering, environmental, and social data related to preliminary design concepts. These preliminary design concepts established the functional or conceptual design requirements.

The purpose of this study was to reevaluate the FHWA-approved S.R. 200 Type 2 Categorical Exclusion (CE) completed in November 1996. This Reevaluation used current data and standards to re-assess the proposed preferred alternative and preliminary design from that study.

The purpose of the project was to improve the operational level of service for future traffic.

2.2 Original PD&E Study Project Description

The original project extended from north of U.S. 41 in Citrus County to C.R. 484 in Marion County, a length of approximately 12.8 miles. Figure 2.1 shows the limits of the original PD&E study. After consideration of the future traffic demands, motorist safety and evacuation needs, the recommendation was to widen S.R. 200, within the project limits, to a four-lane divided facility. From U.S. 41 to East Lake Park Drive, a distance of approximately one-mile, the widening was to occur within the existing 100-foot-wide right-of-way by providing an urban typical section. For the remainder of the project, a rural typical section was recommended which required an additional 100 feet to the existing 100-foot wide right-of-way.

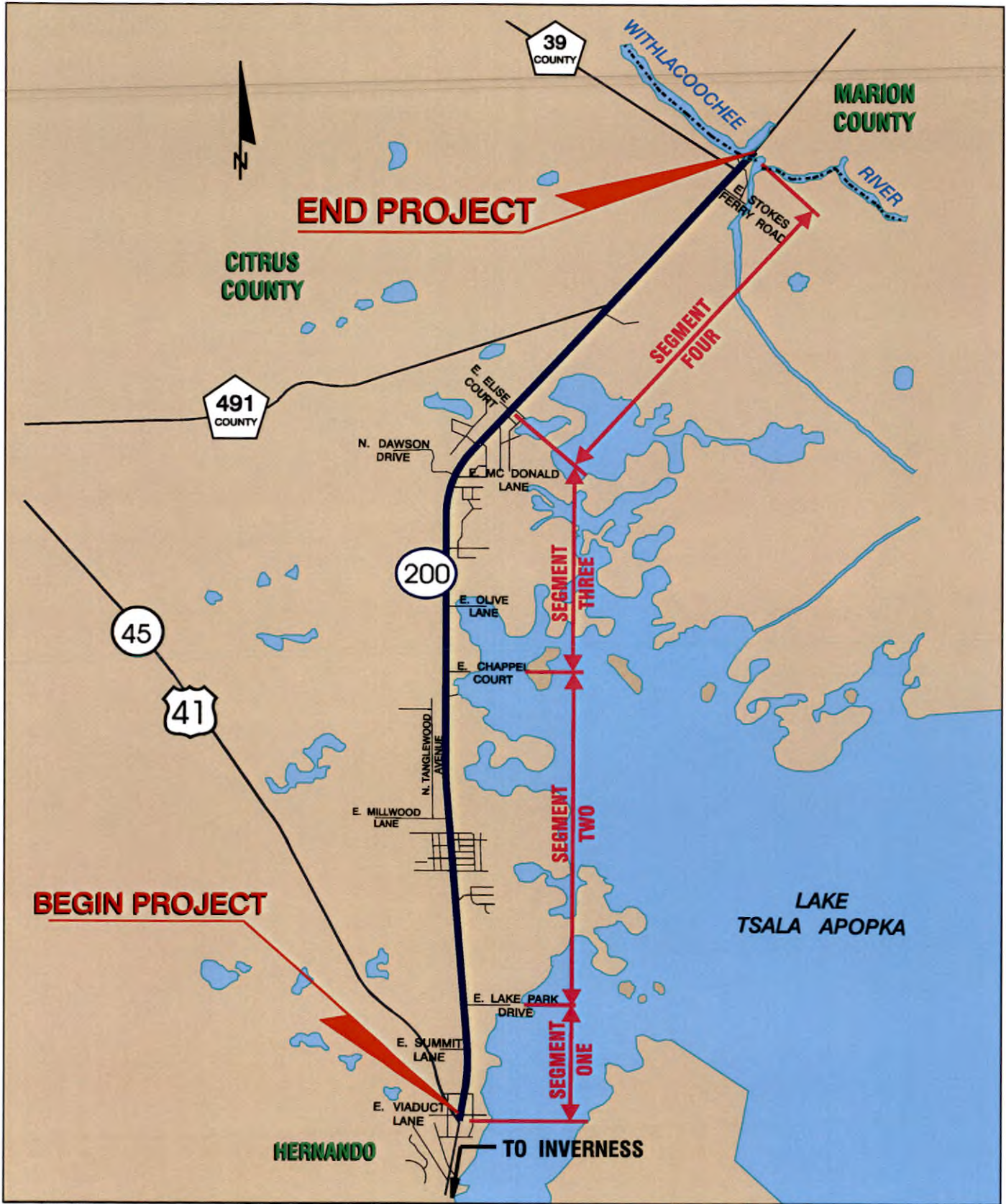


S.R. 200
PD&E STUDY REEVALUATION

ORIGINAL PD&E STUDY LIMITS
 S.R. 200, From S.R. 45 to C.R. 484

S.R. 200 PD&E Study
 Reevaluation
 From U.S. 41 to N. of Marion County Line
 Citrus County
 WPI Seg. No. 257188 1; FAP No. FL62-020R

Figure 2.1



S.R. 200
 PD&E Study Reevaluation

**PROJECT
 LOCATION MAP**

S.R. 200 PD&E Study
 Reevaluation
 From U.S. 41 to N. of Marion County Line
 Citrus County
 WPI Seg. No. 257188 1; FAP No. FL62-020R

FIGURE 2.2

2.3 Reevaluation Study Project Description

In accordance with 23 CFR Part 771.129, FDOT conducted a PD&E Study Reevaluation for the segment of S.R. 200 which extends from U.S. 41 in Citrus County to just north of the Marion County Line, a length of approximately 6.7 miles. This Reevaluation used current data to re-assess the effects of implementing the recommendations of the original PD&E study, and where possible, modified these recommendations to further minimize these effects. Design Year 2025 was used for the various analyses, evaluations, and assessments performed in this Reevaluation. Figure 2.2 shows the limits of the PD&E Study Reevaluation.

Within the limits of the Reevaluation study area, S.R. 200 is a two-lane undivided rural facility centered within 100 feet of right-of-way. The existing typical section, in general, provides two 11-foot wide travel lanes and four-foot wide paved shoulders and open drainage ditches on each side. Adjacent land use is predominately rural and open space. The project includes two bridge structures; a double box culvert over a creek approximately 4.7 miles from the beginning of the project, and a bridge over the Withlacoochee River, just south of the northern project terminus, which is currently rated as "Functionally Obsolete."

Beyond the northern project terminus to C.R. 484 (the remaining segment from the original S.R. 200 PD&E Study), S.R. 200 is currently in the Final Design phase to be widened to a four-lane rural facility by the Department's 5th District.

SECTION 3 NEED FOR IMPROVEMENT

S.R. 200, also known as North Carl G. Rose Highway, is an important link in the regional transportation system. It is a rural principal arterial that begins at U.S. 41 (S.R. 45) in the Town of Hernando in Citrus County, follows a north/north-east direction, and ends in the City of Ocala in Marion County connecting with U.S. 27 and U.S. 301.

Within the study area limits, from U.S. 41 to north of the Marion County line, S.R. 200 accommodates both regional travel as well as local access to numerous commercial establishments, most of them located near its southern terminus, and residential neighborhoods and subdivisions. Thus, it is important that S.R. 200 be maintained as a safe and efficient highway.

3.1 Deficiencies

3.1.1 Capacity

Based on the *Traffic Technical Memorandum* (February 2001) for the S.R. 200 PD&E Study Reevaluation, which was prepared for this project under separate cover, the segment of S.R. 200 north of C.R. 491 operates at LOS E during the morning and evening peak hours and LOS D during the midday peak hour. The segment from C.R. 491 to East Arbor Lakes Drive operates at a LOS C during all three peak periods. The segment of S.R. 200 south of East Arbor Lakes Drive operates at LOS D during all three peak periods of the day. By the design year (2025), all S.R. 200 links and intersections are projected to be operating at LOS E or F.

3.1.2 Functional Obsolescence

FDOT's design standards have been revised since the existing highway was constructed. The typical section and other roadway design features of the existing highway are serviceable, but are of obsolete design. The existing typical sections do not have adequate paved shoulder widths or border widths. The bridge over the Withlacoochee River is also classified as "Functionally Obsolete."

3.2 Safety

The improvement of S.R. 200 will incorporate all the current standards consistent with guidelines and policies developed by the *American Association of State Highway and Transportation Officials* (AASHTO) and the FDOT in order to provide a safe, efficient, controlled access facility. The most significant design features proposed for this project are the expansion to four lanes and the use of access controls. These features increase highway safety in the following ways:

- Reduction of traffic conflicts;
- Reduction of interference from cross streets; and
- Increase of arterial capacity.

A wide median similar to established specifications under FDOT and AASHTO access management guidelines provides safety measures, which include the following:

- Separation of opposing traffic streams;
- Storage for left-turning vehicles;
- Creation of an area for immobilized vehicles; and
- Reduction of headlight glare.

The benefits from these measures are a reduction in head-on, sideswipe, and rear-end collisions.

3.3 Consistency With Local Transportation Plans

3.3.1 Citrus County Comprehensive Plan

The proposed S.R. 200 improvements are consistent with the current Citrus County Comprehensive Plan.

3.3.2 Withlacoochee Regional Planning Council Policy Plan

The proposed S.R. 200 improvements are consistent with the Withlacoochee Regional Planning Council's Policy Plan.

3.4 Social/Economic Demands

The State of Florida, the Suncoast region, and Citrus County have all experienced tremendous population growth within the past 20 years. Growth is anticipated to continue through the year 2020, although at a reduced pace, as may be seen in Table 3.1.

TABLE 3.1
Average Annual Population Growth Rates (AAPGR)

Area	Population 1970	Population 1980	AAGR 1970 - 1980	Population 1990	AAGR 1980 - 1990	Population 2020	AAGR 1990 - 2020
Citrus	19,200	54,700	11.04	93,515	5.51	172,300	1.84
Florida	6,791,400	9,747,000	3.68	12,937,926	2.87	20,263,300	1.57

Source: 1997 *Florida Statistical Abstract* (University of Florida Bureau of Economic and Business Research)

These forecasted increases in population indicate increasing trip demand through Year 2020 and can be assumed to continue through this PD&E design year (2025). The Citrus County population is estimated to total 172,300 persons by 2020.

Tourism is an important sector in Citrus County's economic base, with most residents employed in the services and retail trades. Several regional attractions are located within Citrus County, as well as regional recreation areas/facilities. There were more than 411,850 visitors to the state parks alone within Citrus County in 1995/96 (1997 *Florida Statistical Abstract*). The proposed S.R. 200 widening project would provide increased accessibility to Lake Tsala Apopka and other areas of visitor interest.

Another important economic sector consists of the many services for retirees, the most noticeable of which are the many recently constructed, and currently planned, medical facilities and retirement communities in the County. Widening S.R. 200 would ease the traffic burden for elderly residents who must access regional emergency medical facilities. Police and fire response will also be improved.

SECTION 4 EXISTING CONDITIONS

4.1 Existing Roadway Characteristics

4.1.1 Functional Classification

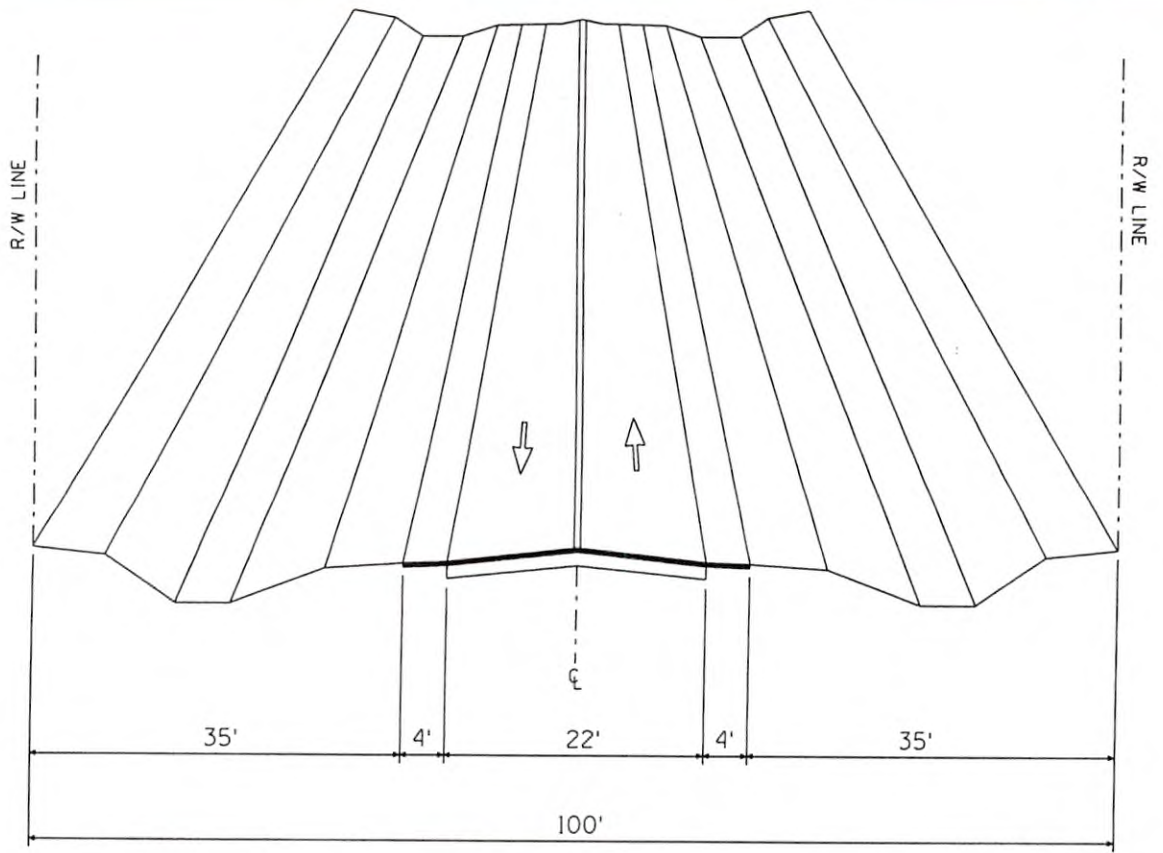
S.R. 200 is classified as a rural arterial within the project limits according to the Citrus County Comprehensive Plan. S.R. 200 is classified by Access Management as a Class 3 facility. The existing posted speed limits vary from 40 to 55 miles per hour (mph).

4.1.2 Typical Sections

Within the limits of the Reevaluation study area, S.R. 200 is a two-lane undivided rural facility centered within 100 feet of right-of-way. The existing roadway cross section (see Figure 4.1), in general, provides two 11-foot wide travel lanes and four-foot wide paved shoulders and drainage ditches on each side. The only variation to this cross section is from south of East Arbor Lakes Drive to north of North Apache Trail, a distance of 0.7 miles, where S.R. 200 has been recently widened to provide two 12-foot wide through lanes, a center 13-foot wide two-way left turn lane, 4-foot wide paved shoulders, and 5-foot wide sidewalks behind the ditches.

4.1.3 Pedestrian and Bicycle Facilities

The only location where sidewalks are provided along S.R. 200 within the project limits is from south of East Arbor Lakes Drive to north of North Apache Trail, a distance of 0.7 miles. Along this section, 5-foot wide sidewalks are located behind the ditches.



NOTE: CONVERSIONS FROM ENGLISH TO METRIC UNITS ARE NOMINAL RATHER THAN EXACT

N.T.S.



EXISTING
TYPICAL SECTION

FIGURE 4.1

S.R. 200 PD&E STUDY
REEVALUATION
FROM U.S. 41 TO N. OF MARION COUNTY LINE
CITRUS COUNTY
WPI SEG. NO. 257188 I ; FAP NO. FL62-020R

4.1.4 Right-of-Way

The existing right-of-way is a constant 100 feet throughout the study limits.

4.1.5 Horizontal Alignment

The existing S.R. 200 alignment runs in a general northerly direction, traversing three horizontal curves along the way. The three curve radii are approximately 1 degree (PI Station 37 + 39), 0.5 degrees (PI Station 126 + 39), and 2 degrees (PI Station 217 + 97). All three horizontal curve radii meet current standards for the existing posted speed limits.

4.1.6 Vertical Alignment

The existing vertical alignment of the roadway is generally flat to gently rolling, following the existing terrain. There are several vertical curves that would require lengthening in order to meet proposed design criteria (see Table 5.1). Table 4.1 lists the existing vertical curve and grades for S.R. 200.

4.1.7 Drainage

A *Location Hydraulics Report* (LHR) and a *Pond Siting Report* (PSR) have been prepared for the S.R. 200 PD&E Study Reevaluation under separate cover. This section presents a summary of findings from the LHR and PSR.

The drainage system for the S.R. 200 improvements will be designed in accordance with the FDOT Drainage Manual and current standards, including Chapter 14-86, where applicable. Stormwater treatment and attenuation is anticipated to be accomplished through the use of detention/retention ponds in accordance with the Southwest Florida Water Management District (SWFWMD)/Florida Department of Environmental Protection (FDEP) Environmental Resource Permit (ERP) rules (Chapters 40D-4, 40D-40, 40D-400). Specific criteria contained in the ERP rules pertaining to water quantity will apply to the portions of the S.R. 200 alignment located within closed drainage basins, where the stormwater management facilities will be required to store the difference in the 100-year event runoff volume between the pre-development and post-development conditions. Per discussion with SWFWMD staff, Lake Tsala Apopka and the Withlacoochee River are considered to be Outstanding Florida Waters (OFW) for which an additional fifty percent treatment volume is necessary. Also, where a proposed stormwater management facility discharges into an existing active sinkhole, double treatment volume will be required. Ground penetrating radar, or other applicable geotechnical investigations, may be performed during the final design phase to identify active sinkhole areas, as necessary. Documentation of this coordination, as well as other input into the pond site location evaluation process and cross drain analyses is included in the PSR and LHR, respectively.

The applicable type of stormwater management facility may vary throughout the project and is generally dependent upon topographic constraints, seasonal high water table depth, and soil types and permeabilities encountered. Geotechnical investigations will be performed during the final design phase to confirm soil characteristics and seasonal high water table elevation at each pond site. Dry detention/retention, and wet detention/retention type stormwater management facilities are generally considered for use in providing water quality treatment, peak discharge attenuation (quantity), and erosion and sediment control. Based on interpretation of limited data, and in concurrence with the LHR prepared for the original PD&E Study, it is anticipated that dry retention will be used in the design of the required stormwater management systems for sub-basins A through G, HS, HN and I. A wet detention/retention facility may be warranted for sub-

TABLE 4.1
Vertical Curve and Grades Existing S.R. 200

PI (Station)	Vertical Curve Length (feet)	Design Speed (mph)	Grade In (percent)	Grade Out (percent)
50 + 00	600	50	2.20	1.80
59 + 00	315	65	1.80	0.30
75 + 20	170	70	0.30	1.40
82 + 10	320	60	1.40	0.00
98 + 60	295	55	0.00	1.60
110 + 20	600	70	1.60	0.00
130 + 60	220	65	0.00	1.35
137 + 30	400	50	1.35	1.65
143 + 50	360	70	1.65	0.00
149 + 75	350	60	0.00	2.40
157 + 55	520	45	2.40	1.75
169 + 25	740	70	1.75	1.30
177 + 45	400	50	1.30	1.65
183 + 60	300	70	1.65	0.25
190 + 70	290	65	0.25	1.25
195 + 05	180	60	1.25	0.00
209 + 25	390	55	0.00	2.85
214 + 30	320	40	2.85	1.20
221 + 50	280	45	1.20	2.30
228 + 30	400	45	2.30	1.00
244 + 55	150	65	1.00	0.60

basin J due to soils and groundwater conditions. Appropriate fencing per FDOT standards for wet ponds will be considered. Floodplain compensating storage will also be provided as per applicable ERP rules.

A sediment and erosion control plan will be prepared and implemented during construction of the S.R. 200 improvements. At a minimum, best management practices outlined in FDEP's Land Development Manual will be used. Examples of these include slope and outfall protection, such as hay bales and staked silt fences, and soil tracking prevention devices. A National Pollutant Discharge Elimination System permit will be required, which will include preparation of a Stormwater Pollution Prevention Plan. These measures will also prohibit undue base floodplain encroachments.

4.1.8 Geotechnical Data

The major physiographic feature in Citrus County consists of the Gulf Coastal Lowlands, the Brooksville Ridge, and the Tsala Apopka Plain. The western portion of Citrus County is poorly drained and includes extensive swamps, marshes, and terraces formed by ancient sea level strands. The central part of the county is characterized by the Brooksville Ridge, while the eastern portion is lower and flatter.

The Gulf Coastal Lowlands extend the entire length of Citrus County and range in elevation from 0 to 100 feet above sea level. The lowlands mostly consist of sand and clayey sand underlain by limestone and dolomite. Due to a lack of a protective clay layer, the Gulf Coastal Lowlands have experienced dissolution of limestone.

The Brooksville Ridge, as stated previously, runs through the central part of Citrus County with elevations ranging from 70 to 200 feet. The southern portion of the ridge is wider and of higher elevation than the northern section. The ridge itself is composed of a limestone core overlain by

clayey sand, sandy clay, clay, and ultimately sand. The clayey soils have protected the limestone ridge from dissolution.

The Tsala Apopka Plain occupies the eastern part of Citrus County and is bounded by the Withlacoochee River to the east and the Brooksville Ridge on the west. Elevations in this region range from 60 to 80 feet. This region has many interconnected lakes, which are separated by peninsulas and islands. In ways similar to the lowlands, significant dissolution of the limestone has resulted in lower elevations.

The major rivers in Citrus County are the Homosassa, Halls, Chassahowitza, Crystal, and Withlacoochee Rivers. It is interesting to note that the Withlacoochee River flows north, one of the few in the northern hemisphere to do so. The Halls, Homosassa, Chassahowitza, and Crystal Rivers originate from springs and are major sources of fresh water.

4.1.9 Crash Data

Crash data analysis is a vital part of traffic analysis and influences the geometric and operational design or redesign of an intersection or road. To evaluate the safety of traffic operations in the study area, the most current traffic crash records were obtained from the Citrus County Traffic Department for the five-year period from 1995 through 1999 and from FDOT District 7 Traffic Operations Department for the five-year period from 1994 through 1998. Comparison of the data received from the two sources revealed that the Citrus County records were more extensive and, therefore, were used in the analyses.

Table 4.2 presents the characteristics of the accidents that occurred in the study area during the five-year period from 1995 through 1999. As shown, a total of 153 accidents occurred during the five-year period, representing an average of approximately 30 accidents per year. Sixty-nine accidents occurred at the many unsignalized intersections of S.R. 200 with the local access

TABLE 4.2
Summary of Traffic Crashes for the Years 1995 through 1999*

Crash Characteristics:	Crashes per Intersection of S.R. 200							Crashes along Segments		Total Crashes
	at E. Arbor Lakes Drive**	at E. Buffalo Lane	at E. Millwood Lane	at Orchid Street	at C.R. 491	at Stokes Ferry Road	at C.R. 39	at other Intersections		
Type of Crash:										
-Angle	0	1	2	1	6	0	5	14	17	48
-Rear End	0	1	1	0	3	0	1	14	22	42
-Head On	0	0	0	1	2	0	0	2	2	7
-Sideswipe	0	1	1	1	2	0	0	2	15	22
-Run-off-road	0	0	0	0	1	0	0	3	17	21
-Other	0	0	0	0	2	0	0	2	11	15
-Total	0	3	4	3	16	0	6	37	84	153
Cause of Crash:										
-Right-of-way Violation	0	2	1	1	6	0	2	10	14	36
-High Speed	0	0	0	0	0	0	0	0	1	1
-Improper Maneuver	0	0	1	1	3	0	2	7	13	27
-Careless driving	0	1	0	0	5	0	0	7	26	39
-Driving under influence	0	0	0	0	0	0	1	1	4	6
-Following too close	0	0	0	0	1	0	1	3	3	8
-Other	0	0	2	1	1	0	0	9	23	36
Crash Severity:										
-Fatalities	0	0	0	0	1	0	0	1	6	8
-Personal Injuries	0	2	1	1	3	0	3	12	33	54
-Property damage only	0	1	3	3	12	0	3	24	45	91
Weather Conditions:										
-Clear	0	2	3	3	8	0	4	24	63	107
-Rain	0	1	0	0	4	0	0	6	6	17
-Cloudy	0	0	0	0	2	0	1	2	7	12
-Other	0	0	1	0	2	0	1	5	8	17
Surface Conditions:										
-Wet	0	1	0	0	6	0	2	8	10	27
-Dry	0	2	3	3	8	0	3	25	67	111
-Other	0	0	1	0	2	0	1	4	7	15
Time of Day:										
-7:00-9:00 am	0	2	0	0	3	0	2	2	12	21
-11:00 am-1:00 pm	0	1	0	0	4	0	1	5	7	18
-4:00-6:00 pm	0	0	2	0	4	0	0	7	10	23
-Other	0	0	2	3	5	0	3	23	55	91
Year:										
-1995	N/A	0	0	2	8	0	2	4	23	39
-1996	N/A	2	0	0	0	0	0	13	19	34
-1997	N/A	0	2	2	1	0	2	5	15	25
-1998	0	1	2	1	4	0	0	3	9	20
-1999	0	0	2	0	3	0	2	12	18	35

* Based on crash records provided by the Citrus County Traffic Department
 ** This Intersection did not exist prior to 1998

roadways, while 84 accidents occurred along S.R. 200 between intersections. Approximately one-third of the accidents involved angle-type collisions, while large numbers of accidents involved rear-end collisions (42 accidents), sideswipes (22 accidents), and run-off the road-type (21 accidents). Most of these accidents were attributed to careless driving (39 accidents), right-of-way violations (36 accidents), and improper maneuver (27 accidents). The weather, time of day and pavement condition (wet or dry) were not major factors in these accidents.

The accident report investigation revealed that during the five-year period there were 91 accidents that caused property damage only, 54 accidents that caused personal injuries and 8 fatal accidents, in which a total of 13 persons lost their lives. Specifically, one fatal accident occurred in 1995, two in 1996, one in 1997, two in 1998, and two in 1999. Two of the fatal accidents were angle-type collisions caused by failure of the drivers to yield right-of-way at intersections, while the remainder was caused by drivers crossing into the opposing path of on-coming traffic along S.R. 200, either due to loss of vehicle control or due to attempting to pass other vehicles. Two fatal accidents occurred within the limits of the 2-degree horizontal curve mentioned earlier.

Table 4.3 summarizes the accident rates for S.R. 200, the rates ratio, and the economic losses incurred for the six-year period from 1994 through 1999. These statistics were obtained from the FDOT District 7 maintained crash records. As shown, an estimated total of \$28,722,000 was lost during the six-year period due to the traffic accidents in the study area. The crash rates ratio exceeded the value of 1.0 only during the years 1995 and 1996, which indicates that during this period accident occurrence along S.R. 200 was above the average expectancy for comparable facilities. During the next two years (1997 and 1998) it dropped to levels below 1.0. The drop in the accident rates could be related to the widening of S.R. 200 to three lanes in 1996, from south of East Arbor Lakes Drive to north of East Millwood Lake.

4.1.10 Intersections and Signalization

Within the project limits, S.R. 200 intersects with numerous local access roadways and two county roads, C.R. 491 (Lecanto Highway) and C.R. 39 (Withlacoochee Trail). All intersections are unsignalized and stop sign controlled for minor streets.

4.1.11 Lighting

There is currently no lighting along S.R. 200 within the project limits.

4.1.12 Utilities

Several utilities exist within and adjacent to the S.R. 200 right-of-way. The utility owners and a description of their utilities include:

- **Time Warner Communication:** Overhead facilities on west side of the road on U.S. 41, crosses over at Luise Lane connecting to S.R. 200. Overhead lines continue north on west side of the road. Just south of VFW Lane, facilities split overhead on west side of road and underground on east side of road. Both facilities continue north to W. Froly Point. Overhead facilities cross to east side of the road and continue underground to E. Brave Lane. Overhead facilities continue to E. Deer Run crosses to the west going underground to Millwood Lane.
- **Sprint Florida:** Buried fiber optic on east and west side of the road and buried telephone lines on the west side of the road. Both lines are throughout the project.

TABLE 4.3
Crash Rates and Economic Losses¹

Year	AADT	Number of Crashes	Accident Severity ²			Accident Rate	Critical Accident Rate	Rate Ratio	Economic Loss (\$)
			F	I	PDO				
1994	8,500	16	0	23	2	0.771	0.947	0.814	3,502,400
1995	9,000	31	1	48	3	1.412	1.003	1.407	6,652,500
1996	9,880	29	1	52	6	1.203	1.023	1.175	6,348,100
1997	9,355	22	1	25	7	0.963	1.016	0.947	4,482,300
1998	9,840	18	6	32	2	0.749	1.062	0.705	3,406,600
1999	9,990	21	4	16	7	0.862	0.977	0.882	4,330,100
							TOTAL LOSS		28,722,000

¹ Based on the FDOT District Seven Accident Statistics
² F: Fatality; I: Personal Injury; PDO: Property Damage Only

-
- **Citrus County Public Utilities:** 6-inch sewer line on the west side of the road. 12-inch water main on east side of the road. Both facilities start at U.S. 41 and S.R. 200, continuing north on S.R. 200 and ending at Camp Fire Court.
 - **Florida Power Corporation:** Overhead distribution on the west side of the road crossing to the east, just south of Campfire Road, and continuing on the east side of the road to E. Deer Run, then crosses back to the west side of the road throughout the project.
 - **Adelphia Cable Company:** Overhead facilities on west side of road starting at Arbor Lakes Drive Facilities travel north to Campfire Court, then cross to the east side of the road a few blocks to E. Deer Run, then crosses back to the west side of the road. Continuing north on the west side of the road, they have facilities crossing over to the east side streets throughout the project. Overhead facilities stop at C.R. 39, and then cross over S.R. 200 underground where they stop at Oak River Way.

Adelphia Cable Company is proposing new facilities. The new facilities start at S.R. 200 and U.S. 41. They cross from U.S. 41 down Viaduct Lane to S.R. 200, continues north on the west side of the road where they tie into existing facilities at Arbor Lakes Drive.

4.1.13 Pavement Conditions

Pavement condition ratings for this section of S.R. 200 were determined using the Florida Department of Transportation All System Pavement Condition Forecast, 2001. Based on this report, S.R. 200 was repaired and resurfaced in 1982. It is forecasted that the distress ratings for cracking, ride and rutting will be above a rating of 6 through future year 2006. Thus, in areas where possible, the existing pavement should be salvaged.

4.2 Existing Structures

Two structures exist along S.R. 200 within the project limits. One is a bridge over the Withlacoochee River and the other is a reinforced concrete double box culvert.

The bridge over the Withlacoochee River, Structure Number 020008, was built in 1935. It is a two-lane bridge consisting of nine equal spans of 33 feet each, for an overall bridge length of 297 feet. The superstructure of the bridge is a cast-in-place slab supported by reinforced concrete T-beams. The substructure is not skewed and consists of intermediate piers and spill through pier abutments supported by timber piles. The bridge is not posted for weight restrictions and has an inventory sufficiency rating of 66. Clear roadway width on the bridge is only 24 feet. In conjunction with the substandard handrail, this makes the bridge functionally obsolete. Vertical clearance above normal water is 11 feet and above high water is approximately three feet. The bridge is rated scour susceptible, high priority. This bridge represents a typical type constructed during the Depression era, and thus, is not considered eligible for listing in the National Register of Historic Places (NRHP).

The box culvert, Structure Number 020021, was constructed in 1954. It is a 30-foot long reinforced concrete double box culvert with 6 ft x 10 ft cells that runs perpendicular to the roadway and has sloping wingwalls. The structure is not posted and has a sufficiency rating of 75.4. This structure contains no unusual features and thus, is not considered eligible for listing in the NRHP.

4.3 Existing Environmental Characteristics

4.3.1 Land Use Data

4.3.1.1 Existing Land Use

The land use along the project is primarily rural and open land. At the southern terminus of the project, in the vicinity of the Town of Hernando, land use is mostly light commercial. In the vicinity of Apache Shores, where S.R. 200 has been widened, land use transitions to low density residential and commercial. An existing land use map is provided in Figure 4.2.

4.3.1.2 Future Land Use

The Citrus County Comprehensive Plan was developed to provide guidance for future planning. The designated land uses from the Generalized Future Land Use Map, Citrus County, Florida (see Figure 4.3) indicates that future land uses will be similar to existing land uses.

4.3.2 Cultural Features and Community Services/Facilities

4.3.2.1 Cultural Features

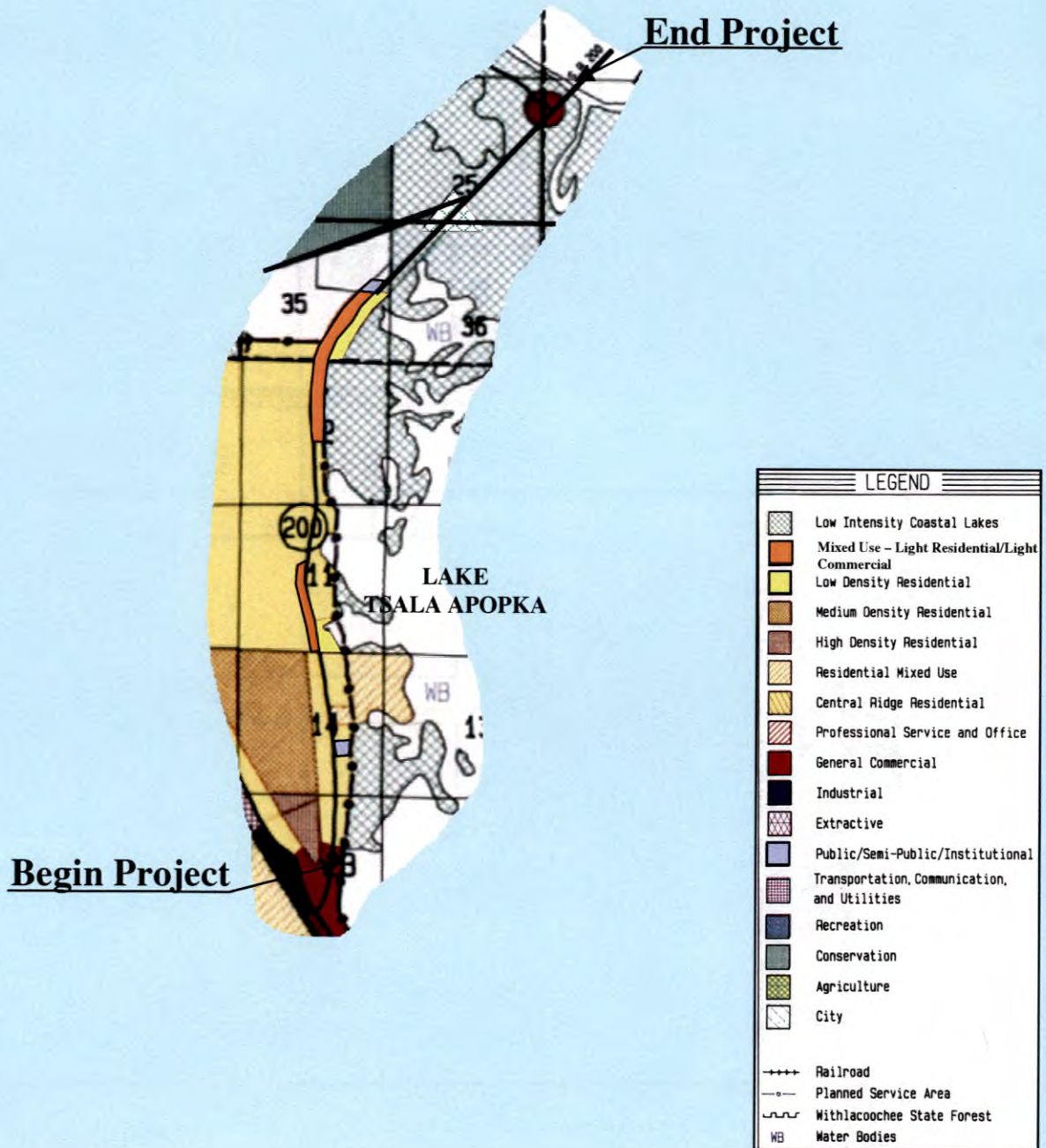
In compliance with Section 106 of the *National Historic Preservation Act of 1996* (as amended), a Cultural Resource Assessment Survey Update Technical Memorandum was prepared for the project. The purpose of the survey was to update a *Cultural Resources Assessment Survey of State Road 200 from U.S. 41 in Citrus County to C.R. 484 in Marion County, Florida*, conducted by Florida Archaeological Services, Inc. dated December 1994. The investigation included an approximate 12.5-mile segment of S.R. 200, as well as 17 water retention areas. As a result of

this previous investigation, 29 archaeological sites and four historic structures were identified and evaluated, of which 19 archaeological sites and three historic resources were located within the limits of the S.R. 200 PD&E Study Reevaluation. Of the 19 archaeological sites, five (8CI807, 8CI811, 8CI820, 8CI821, and 8CI823) were evaluated as potentially eligible for listing in the National Register of Historic Places (NRHP). 8CI807 is located adjacent but outside the project right-of-way. The Florida State Historic Preservation Officer (SHPO) concurred with this evaluation. In 1995, a Memorandum of Agreement (MOA) was executed by the FHWA, FDOT, and Florida SHPO, and accepted by the Advisory Council on Historic Preservation in 1996. This agreement document stipulated that excavation (Phase III) and artifact recovery be carried out at those portions of the Tiger Eye Site (8CI811), Magic Farms Site (8CI820), Stokes Ferry Road Site (8CI821), and Stokes Ferry Site (8CI823) affected by FHWA activities.

In addition to the sites recorded during the previous CRAS of S.R. 200, four other archaeological sites were recorded within the Reevaluation study area. None were determined to be significant. In summary, 26 recorded archaeological sites and historic resources are located within the S.R. 200 Study Reevaluation, including four NRHP-eligible archaeological sites.

No new archaeological sites were discovered as a result of the CRAS survey, performed to update the original CRAS. Seventeen of the previously recorded archaeological sites are located, at least in part, within the proposed right-of-way and/or proposed pond areas. Among these sites, 8CI811, 8CI820, 8CI821, and 8CI823 have been determined NRHP-eligible by the Florida SHPO. Two of these significant sites, 8CI811 and 8CI821, are situated within proposed pond areas D2 and J4 respectively, as well as within the proposed right-of-way.

The historic structures survey verified the location of one previously recorded resource, the bridge over the Withlacoochee River (8CI824), within the Reevaluation study area. The previously recorded cemetery (8CI826) is located outside the proposed right-of-way, and the previously recorded residence at 110 Summit Road (8CI825) is no longer extant. Ten historic



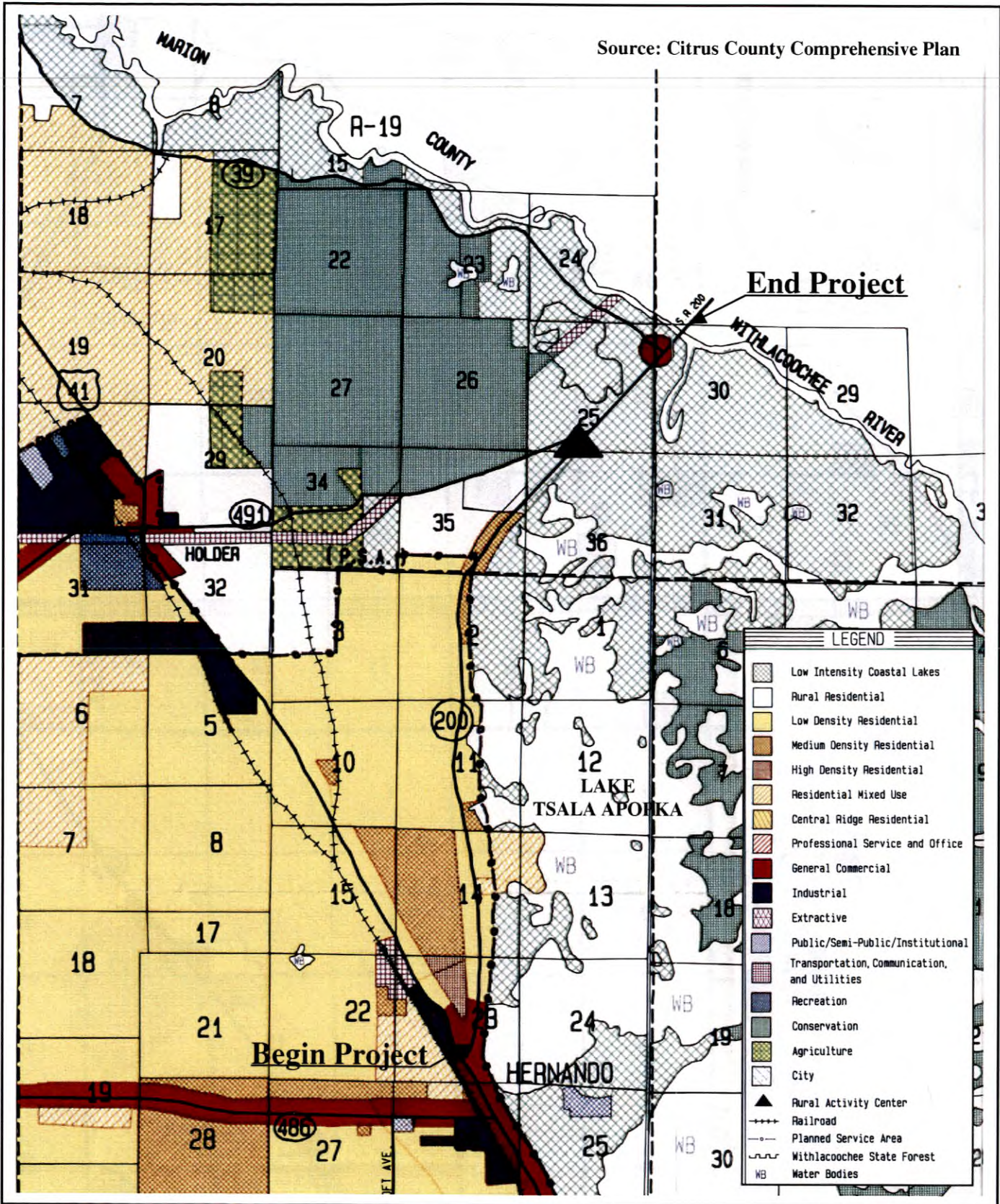
S.R. 200
PD&E STUDY REEVALUATION

**GENERALIZED
EXISTING
LAND USE MAP**

FIGURE 4.2

S.R. 200 PD&E Study
Reevaluation
From U.S. 41 to N. of Marion County Line
Citrus County
WPI Seg. No. 257188 1; FAP No. FL62-020R

Source: Citrus County Comprehensive Plan



S.R. 200
PD&E STUDY REEVALUATION

**GENERALIZED
FUTURE (2020)
LAND USE MAP**

FIGURE 4.3

S.R. 200 PD&E Study
Reevaluation
From U.S. 41 to N. of Marion County Line
Citrus County
WPI Seg. No. 257188 1; FAP No. FL62-020R

structures (8CI1078 through 8CI1086, 8MR3161) were newly identified and assessed; none is considered potentially eligible for listing in the NRHP.

In conclusion, proposed improvements for S.R. 200, including development of proposed Ponds D2 and J4, will affect four NRHP-eligible archaeological sites: the Tiger Eye Site (8CI811), Magic Farms Site (8CI820), Stokes Ferry Road Site (8CI821), and Stokes Ferry Site (8CI823). No significant cultural resources are located within the Withlacoochee River bridge replacement area.

4.3.2.2 Community Services/Facilities

Community services and facilities not only serve the needs of the surrounding areas, but also provide points of cohesion for adjacent neighborhoods and communities. Churches and other religious institutions, public and private schools, parks and other recreational areas, fire stations, police stations, medical facilities, cemeteries, and public buildings are considered to be community services/facilities.

This definition was used in collecting information for the study area. Sources of information that were used included local government contacts and planning documents, road surveys, field surveys, and the Citrus County School Board.

4.3.3 Natural and Biological Features

4.3.3.1. Wetland Existing Conditions

Eight (8) wetlands were identified within the project limits and are shown in Appendix A's Exhibits. Table 4.4 lists these wetlands and summarizes their characteristics. The wetlands described are either within, or adjacent to, the existing and proposed right-of-way. Wetland communities that exist within the project corridor are described in detail in the *Wetland Evaluation Report* prepared for this project under separate cover.

TABLE 4.4
Wetland Characteristics

Wetland No.	USFWS Classification	FLUCFCS Code	Total Area (acres)	Isolated/ Connected
W1	L2EM1	6412	*	Connected
W2	PEM1C	6415	1.66	Isolated
W3	PEM1C	6415	*	Connected
W3.1	PEM1C	6442	*	Connected
W4	PEM1C	6415	*	Connected
W5	PEM1C	6430	*	Connected
W5.1	PEM1C	6415	0.29	Isolated
W6	PFO2J/R2US5	6240	*	Connected

* Connected systems are too large to accurately determine their size.

WSFWFS - United States Fish and Wildlife Services
 FLUCFCS - Florida Land Use, Cover and Forms Classification System
 L2EM1 - Littoral Shelf of Lake Tsala Apopka
 PEM1C - Palustrine emergent marsh
 PFD2 - Palustrine forested wetlands

4.3.3.2 Protected Species Existing Conditions

Pursuant to Section 7(c) of the Endangered Species Act of 1973, as amended, the study area was evaluated for the potential occurrence of threatened and endangered species. No USFWS-designated critical habitat for threatened or endangered species occurs within the study area. General surveys for listed wildlife and plant species were conducted by project biologists on October 17, 18, 24, 25, and 30 of 2000 and January 30, February 1, and March 29 of 2001 to determine the presence of listed species. As a result of data collection and agency coordination, a total of 26 protected animals and 17 protected plants were identified to potentially utilize or inhabit the study area. There was direct observation or signs of seven protected wildlife species during the corridor survey; no listed plant species were observed. Threatened and endangered species studies within the project corridor are described in detail in the *Protected Species Report* prepared for this project under separate cover.

4.3.3.3 Farmlands

Coordination with the U.S. Department of Agriculture, Natural Resource Conservation Service has determined that the project would have no impact on prime or unique farmland.

4.3.4 Contamination/Hazardous Wastes

A *Contamination Screening Evaluation Memo Reevaluation* was prepared for the S.R. 200 PD&E Study Reevaluation under separate cover. Table 4.5 lists the potentially contaminated sites and risk rating.

4.3.5 Air Quality

The project is in an area that has been designated as attainment for all the air quality standards under the criteria provided in the Clean Air Act Amendments of 1990. Therefore, conformity requirements do not apply to this project. The complete air quality analysis and results are described in detail in the *Air Quality Technical Memorandum* prepared for this project under separate cover.

4.3.6 Noise

A noise analysis was conducted to evaluate traffic noise levels at noise sensitive sites and consider noise abatement measures where needed. The study was prepared in accordance with Title 23 CFR, Part 772, Procedures for Abatement of Highway Traffic Noise and Construction Noise using methodology established by the FDOT in the PD&E Manual, Part 2, Chapter 17 (January 2001). The study is described in detail in the *Noise Study Technical Memorandum* prepared for this project under separate cover.

Table 4.5
LIST OF POTENTIALLY CONTAMINATED SITES AND RISK RATINGS
SR 200 CONTAMINATION SCREENING EVALUATION REPORT

SITE NO.	PROPERTY DESCRIPTION	PERMIT OR ID NUMBER	STANDARD INDUSTRIAL CODE	STORAGE TANKS	DISTANCE FROM ROW (feet)	CONTAMINATION CONCERN	CONTAMINATION EVALUATION	SITE CODE
1	Ogle, William H. Jr. 2656 N. Florida Ave.	9200411	8811	Removed	Unknown	Petroleum	Medium	1-P-M
2	Armstrong, Mary L. 2700 N. Florida Ave.	9200412	8811	Removed	Unknown	Petroleum	Medium	2-P-M
3	Cumberland Farms 2805 N. Florida Ave.	8626536	5541	Yes	25	Petroleum	Medium	3-P-M
4	Absolute Quality Paint and Body 3515 E. Louise Lane	NA	7532	NA	NA	HM/HW	Low	4-HWM/HW-L
5	Don's Front End Service 3044 N. Carl G. Rose Hwy.	NA	7538	NA	NA	HM/HW	Low	5-HWM/HW-L
6	Foreign Automotive Services 3115 N. Carl G. Rose Hwy.	NA	7538	NA	NA	HM/HW	Low	6-HWM/HW-L
7	B and D Lawnmowers and Power Sports 3127 N. Carl G. Rose Hwy.	NA	5571	NA	NA	HM/HW	Low	7-HWM/HW-L
8	Scott's Complete Auto Repairs 3253 N. Carl G. Rose Hwy.	NA	7538	NA	NA	HM/HW	Low	8-HWM/HW-L
9	Easy Wheels 3314 N. Carl G. Rose Hwy.	NA	7538	NA	NA	HM/HW	Low	9-HWM/HW-L
10	Robert's Automotive 3315 N. Carl G. Rose Hwy.	NA	7538	NA	NA	HM/HW	Low	10-HWM/HW-L
11	Hernando Hwy. 200 Dump NA	39872	9999	No	Adjacent	HM/HW	High	11-HWM/HW-H
12	Dinkins Property, C L 4473 N. Carl G. Rose Hwy.	8942997	5541	Removed	40	Petroleum	Medium	12-P-M

Footnotes on Page 2

Table 4.5
LIST OF POTENTIALLY CONTAMINATED SITES AND RISK RATINGS
SR 200 CONTAMINATION SCREENING EVALUATION REPORT

SITE NO	PROPERTY DESCRIPTION	PERMIT OR ID NUMBER	STANDARD INDUSTRIAL CODE	STORAGE TANKS	DISTANCE FROM ROW (feet)	CONTAMINATION CONCERN	CONTAMINATION EVALUATION	SITE CODE
13	Professional Pest Control 6083 N. Carl G. Rose Hwy.	NA	7342	NA	NA	HM/HW	Low	13-HM/HW-L
14	Hernando Veterinary Clinic 6605 N. Carl G. Rose Hwy.	NA	742	NA	NA	HM/HW	Low	14-HM/HW-L
15	Gary and Carol's Wildlife Art 6659 N. Carl G. Rose Hwy.	NA	8412	NA	NA	HM/HW	Low	15-HM/HW-L
16	Kwik Stop - Patel and Patel 6695 N. Carl G. Rose Hwy.	8503172	5541	Yes	15	Petroleum	Medium	16-P-M
17	Auto Menders Inc. 6809 N. Hwy. 200	NA	7538	No	Adjacent	HM/HW	Low	17-HM/HW-L
18	Genie Wall Units 6878 N. Carl G. Rose Hwy.	NA	2542	NA	NA	HM/HW	Low	18-HM/HW-L
19	C&M Paint and Body Shop 7040 N. Carl G. Rose Hwy.	NA	7532	NA	NA	HM/HW	Low	19-HM/HW-L
20	Handy Way Food Store 8486 N. Carl G. Rose Hwy.	9063811	5541	Yes	100	Petroleum	Medium	20-HM/HW-M
21	Food Mart 8520 N. Carl G. Rose Hwy.	8503152	5541	Yes	50	Petroleum	Medium	21-HM/HW-M

FOOTNOTES:

NA = Not Available

HM/HW = Hazardous Material/Hazardous Waste

ROW = Right-Of-Way

SECTION 5 DESIGN CRITERIA

The proposed geometric design criteria to be used for the design of S.R. 200 are defined in Table 5.1. This design criteria is based on specific design standards per the FDOT Plans Preparation Manual, January 2000. Based on this geometric design criteria and the following criteria, the typical section recommendations were developed:

- consideration of the future traffic demand,
- adjacent existing land use,
- proposed land use plan,
- commitments/recommendations made during the original PD&E Study,
- design assumptions for the segment of S.R. 200 north of the Marion County Line.

5.1 Typical Section Recommendations of the Original PD&E Study

The original PD&E Study recommended a four-lane urban divided highway, a four-lane rural divided highway, and a bridge four-lane typical section. This is consistent with the results of the traffic analyses where future conditions point to the need for widening S.R. 200 to a four-lane divided facility.

Figure 5.1 illustrates the urban, four-lane typical section that was recommended for the southern end of the project from U.S. 41 to East Lake Park Drive. The proposed design speed for this segment was 45 mph. This typical section is proposed to be fitted within the existing 100-foot wide right-of-way.

Figure 5.2 illustrates the rural, four-lane typical section that was recommended for the remainder of the project. The proposed design speed for this segment was 55 mph. The right-of-way requirement for this typical section was 200 feet. Since the existing right-of-way is 100 feet wide, this typical section requires the acquisition of an additional 100 feet of right-of-way.

Figure 5.3 illustrates the typical section recommendation of the original PD&E Study for the bridge over the Withlacoochee River. The proposed design speed for this typical section was 55 mph.

5.2 Recommended Typical Sections

The typical sections that were evaluated during this Reevaluation are as follows:

Urban, Four-Lane Divided

Figure 5.4 illustrates the proposed urban typical section for this Reevaluation. Similar to the urban typical section recommended by the original PD&E Study (Figure 5.1), this typical section maintains the same design speed (45 mph) and fits within the existing 100-foot wide right-of-way. However, this proposed typical section differs from the original typical section in that the sidewalk is proposed to be contiguous to the curb instead of the right-of-way line. This change allows for easier transition to the natural ground and for placement of utility poles further away from the travel lanes.

Consistent with the original PD&E Study, the urban typical section is recommended for the segment of S.R. 200 from U.S. 41 to north of East Lake Park Drive (Figure 2.2), a distance of approximately 1.1 miles. As shown in Figure 4.2, land use along this section of S.R. 200 is designated as general commercial and residential.

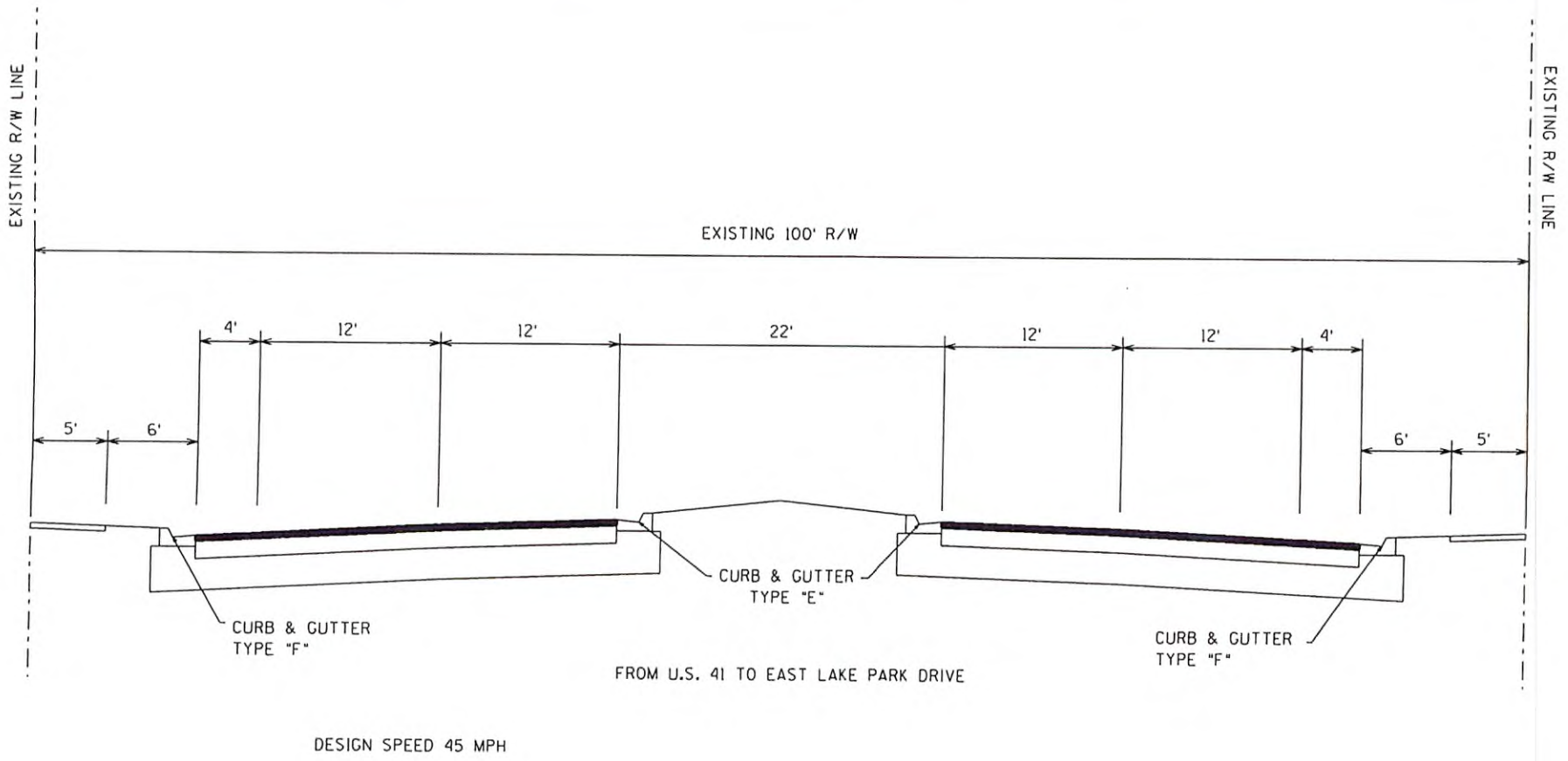
**TABLE 5.1
Proposed Geometric Design Criteria**

DESIGN ELEMENT	MAIN LINE	CROSSROADS
Design Speed	45 mph urban 60 mph suburban 70 mph rural	30 mph Local 35-40 mph Urban 50 mph Rural Collector 60 mph Rural Arterial
Horizontal Alignment - Min Curv Radius (ft) - Min Curv Length (ft) where V=Design Speed - Max. Superelevation (ft/ft)	1635 Rural 1090 Suburban 695 Urban 15xV but not less than 400 0.10 Rural 0.05 Urban	231 Local 532 Urban (40 mph) 695 Rural Collector 1090 Rural Arterial 15xV but not less than 400 0.10 Rural 0.05 Urban
Vertical Alignment - Maximum Grade - Stopping Sight Distance (ft) - Vertical Curve Length (ft)	3% Rural 6% Suburban 7% Urban 700 Rural 550 Suburban 350 Urban In accordance with Section 2.8.2, FDOT Design Criteria and Process-English (2001)	7% Local 9% Urban 6% Rural Collector 3% Rural Arterial 200 Local 275 Urban 400 Rural Collector 550 Rural Arterial
Clear Zone (ft)	36 Rural 4 Minimum Urban 36 Suburban	4 Minimum Urban 6.0-7.5 (20-24), Rural Collector 9.0-11.0 (30-36), Rural Arterial
Vertical Clearance (ft) - Over Roadway - Over Withlacoochee River - Overhead Signs	N/A To Be Determined. Minimum 6-foot clearance above Mean High water N/A	N/A N/A N/A

**TABLE 5.1
Proposed Geometric Design Criteria (Continued)**

DESIGN ELEMENT	MAIN LINE	CROSSROADS
<u>Access Classification</u> - Urban Type 3 Driveway Connection Minimum Median Opening Spacing Directional Full - Rural/Suburban Type 3 Driveway Connection Minimum Median Opening Spacing Directional Full	Restrictive w/660 ft. connection spacing 1320 ft. 2640 ft. Restrictive w/440 ft. connection spacing 1320 ft. 2640 ft.	As Appropriate N/A N/A
<u>Border Width (ft.)</u>	40 Rural 11 Urban*	12 Urban 33 Rural Collector, Local 40 Rural Arterial
<u>Cross Section (ft.)</u> - Lane Width - Bike Lane - Shoulder Width Outside - Inside (median) - Median Width	12 4 Urban 5 Suburban (paved shoulder) 5 Rural (paved shoulder) 5 (full depth paved); 3 (unpaved) Suburban 5 (full depth paved); 5 (unpaved) Rural 5 (full depth paved); 3 (unpaved) Rural 22 Urban 22 Suburban 40 Rural	12 8 to 12

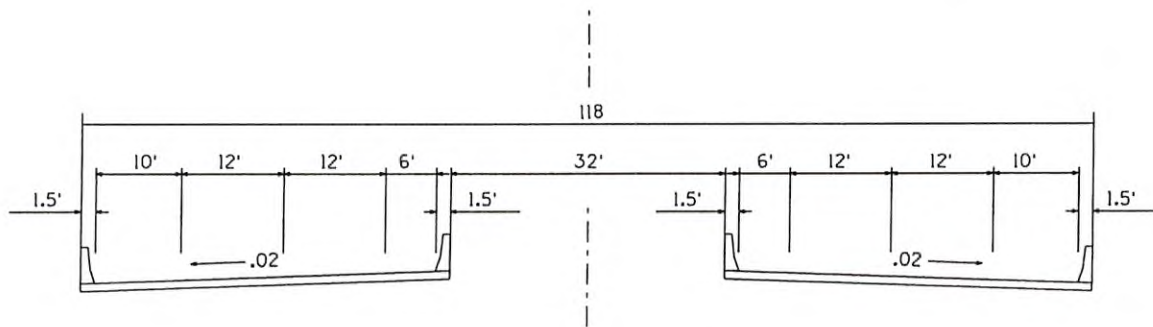
* Design Exception submitted with Typical Section Memorandum
 Sources: AASHTO "Policy on Geometric Design of Highways and Streets" (1994)
 FDOT Roadway Plans Preparation Manual - Metric (1998)
 FDOT "Roadway and Traffic Design Standards" (1996)
 FDOT Access Management and Classification System (1990)
 FDOT Structures Design Guidelines (1997)



ORIGINAL PD&E STUDY
RECOMMENDATION FOR
URBAN TYPICAL SECTION

S.R. 200 PD&E STUDY
REEVALUATION
FROM U.S. 41 TO N. OF MARION COUNTY LINE
CITRUS COUNTY
WPI SEG. NO. 257188 1 ; FAP NO. FL62-020R

FIGURE 5.1



BRIDGE OVER
WITHLACOOCHEE RIVER

DESIGN SPEED 55 MPH

N.T.S.



ORIGINAL PD&E STUDY
RECOMMENDATION FOR
BRIDGE TYPICAL SECTION

FIGURE 5.3

S.R. 200 PD&E STUDY
REEVALUATION
FROM U.S. 41 TO N. OF MARION COUNTY LINE
CITRUS COUNTY
WPI SEG. NO. 257188 1 ; FAP NO. FL62-020R

Suburban, Four-Lane Divided

Figure 5.5 illustrates the recommended suburban typical section to be used as an option for this Reevaluation from north of East Lake Park Drive to north of East Elise Court (Figure 2.2). As shown in Figure 4.2, land uses along this segment include low and medium density residential, mixed use residential, and low-density coastal lake lots. This typical section allows for future widening to a six-lane urban typical whenever it is needed without acquisition of additional right-of-way.

Rural, Four-Lane Divided

Figure 5.6 illustrates the recommended rural typical section. In comparison to the rural typical section recommended in the original PD&E Study (Figure 5.2), this typical section:

- Continues to require 200 feet of right-of-way; and
- Allows for a design speed of 70 mph.

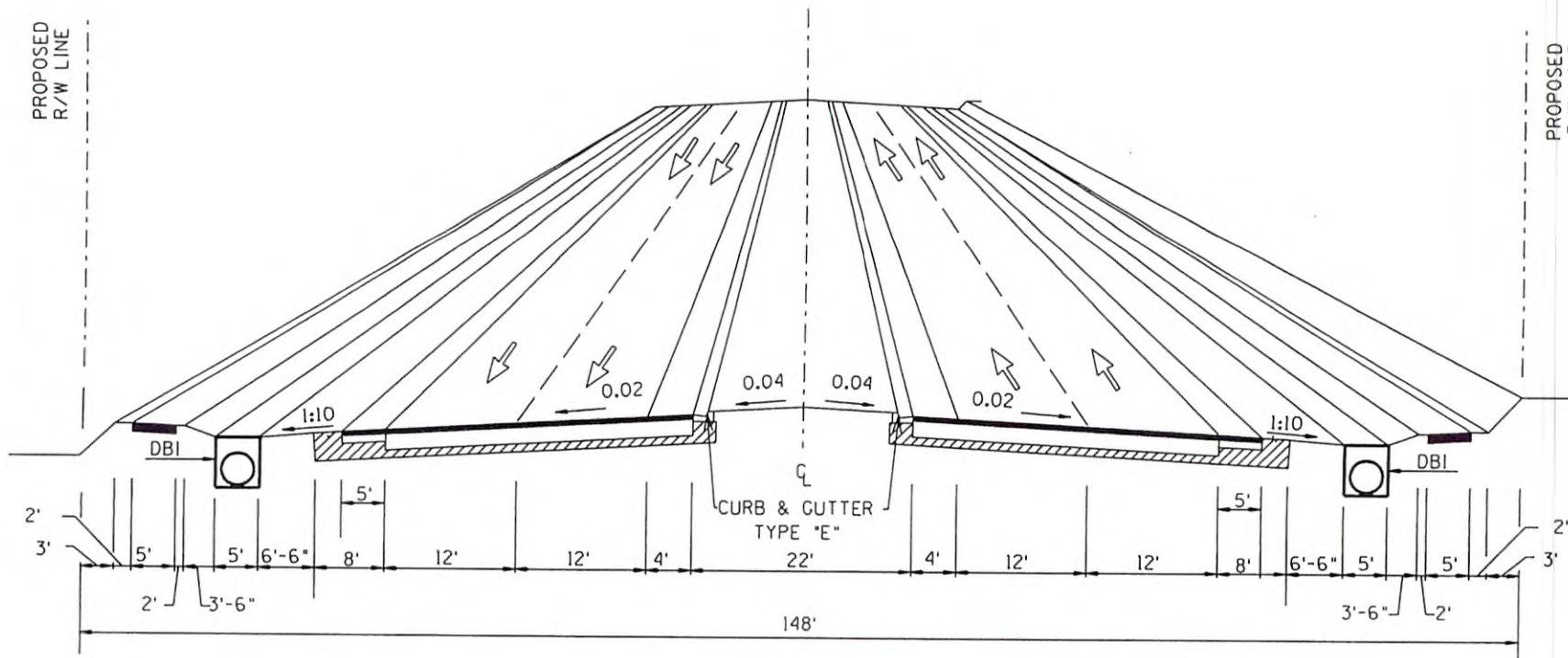
This typical section is recommended for the segment of S.R. 200 to be used as an option for this Reevaluation from north of East Elise Court to the northern terminus of the project. This typical section allows for future widening to a six-lane suburban typical whenever it is needed without acquisition of additional right-of-way.

Bridge Typical Section

Figure 5.7 illustrates the recommended four-lane divided typical section for the bridge over the Withlacoochee River. This typical section will match the rural, four-lane typical section (Figure 5.6) that will be provided along the sections of S.R. 200 south and north of the bridge. The design speed for this section is 70 mph.

PROPOSED
R/W LINE

PROPOSED
R/W LINE



DESIGN SPEED 60 MPH

N.T.S.

S.R. 200
PD&E STUDY REEVALUATION

**PROPOSED FOUR-LANE
SUBURBAN TYPICAL SECTION**

FROM NORTH OF EAST LAKE PARK DRIVE
TO NORTH OF EAST ELISE COURT

FIGURE 5.5

**S.R. 200 PD&E STUDY
REEVALUATION**

FROM U.S. 41 TO N. OF MARION COUNTY LINE

CITRUS COUNTY

WPI SEG. NO. 257188 1 ; FAP NO. FL62-020R

- Five-day machine traffic volume counts at five locations:
 - S.R. 200 just north of U.S. 41
 - S.R. 200 just north of C.R. 491
 - S.R. 200 just north of C.R. 39
 - C.R. 491 west of S.R. 200, and
 - C.R. 39 west of S.R. 200

- Six-hour (morning, midday, and evening peak period) turning volume traffic counts at seven locations:
 - S.R. 200 at East Arbor Lakes Drive
 - S.R. 200 at East Buffalo Lane
 - S.R. 200 at East Millwood Lane
 - S.R. 200 at Orchid Street
 - S.R. 200 at C.R. 491
 - S.R. 200 at Stokes Ferry Road, and
 - S.R. 200 at C.R. 39

Based on this inventory as well as Year 1999 classification traffic count data supplied by FDOT District 7 an understanding of the “K”, “D” and “T” factors along S.R. 200 in the study area was developed and is as follows:

- S.R. 200 is traveled more extensively during the evening peak hour. The evening peak hour volume ranged from 8.21 to 8.29 percent of the respective daily volumes.

- The directional distribution of the traffic north of C.R. 491 is 33 percent northbound and 67 percent southbound, while close to U.S. 41 it tends to be more balanced at 47 and 53 percent, respectively.

- The presence of trucks along S.R. 200 is also more pronounced north of C.R. 491, where, during the evening peak hour, truck volumes amount to 5.5 percent of the hourly volume. In the vicinity of U.S. 41, truck traffic during the same peak hour amounts to 4.2 percent of the hourly volume.

The Design Year 2025 “K”, “D” and “T” factors were supplied by the FDOT District 7 Planning Department and are shown as:

<u>Factor</u>	<u>Percent</u>
“K” ¹	9.95
“D” ²	53.49
Design Hour “T” ³	3.00
Daily “T” ⁴	6.00

- 1 Percent of daily volume during the design hour.
- 2 Percent of daily hour volume in the peak flow direction.
- 3 Percent of trucks in the design hour volume.
- 4 Percent of trucks in the design daily volume.

6.4 Existing Traffic Volumes

The collected daily traffic volume data were adjusted for seasonal variation using the 1999 seasonal adjustment factors for Citrus County supplied by FDOT District 7 Planning Department and are as follows:

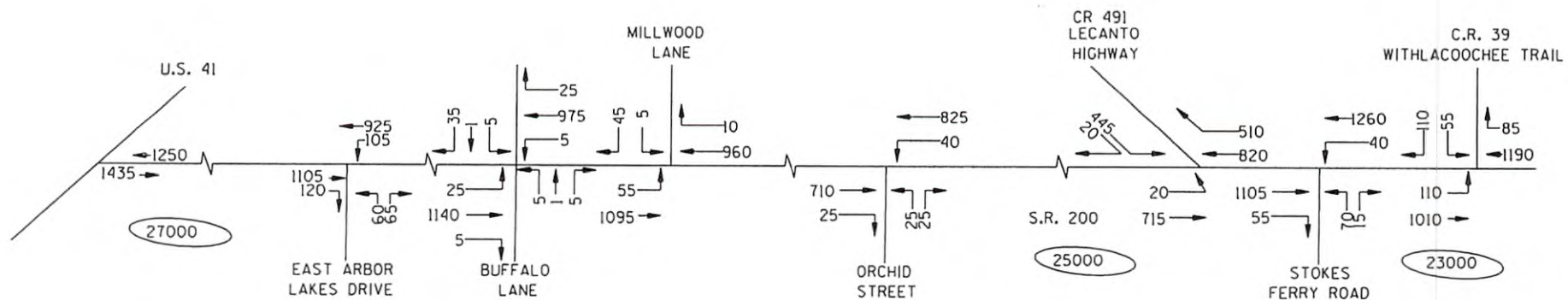
<u>Location</u>	<u>Daily Volume (vpd)</u>
S.R. 200 north of U.S. 41	10,600
S.R. 200 north of C.R. 491	11,000
S.R. 200 north of C.R. 39	10,100
C.R. 491 west of S.R. 200	5,500
C.R. 39 west of S.R. 200	2,000

6.5 Traffic Volume Projections

Year 2025 travel forecasts for S.R. 200 within the study area were estimated using:

- Historical traffic volume data and socio-economic growth trends were reviewed and analyzed.
- The validated Tampa Bay Regional Planning Model (TBRPM) output for the Year 1995 was checked.
- The results of the TBRPM output for the Year 2020 corresponding to the latest adopted 2020 Long Range Transportation Plan (LRTP) network and socio-economic data were reviewed.
- The Year 2020 model volumes were smoothed and adjusted to AADT volumes.
- Year 2010 and 2015 AADT volumes were calculated by interpolating between the corresponding Year 1999 and 2020 volumes.
- Design Year 2025 AADT volumes were calculated by extrapolating from the corresponding Year 2020 and 2010 volumes.

Figure 6.1 depicts the estimated AADT volumes for the Design Year 2025. As shown, the Design Year daily volumes along S.R. 200 should be expected to range from 23,000 vpd at the northern project terminus to 27,000 vpd at the southern end. These volumes represent an increase of 130 to 184 percent, respectively, over the Year 1999 volumes or annual traffic growth rates from 5.20 to 7.37 percent.



** ESTIMATED DDHV
 ** ESTIMATED AADT

S.R. 200
PD&E STUDY REEVALUATION

PROJECTED DESIGN YEAR
 (2025) VOLUMES

**S.R. 200 PD&E STUDY
 REEVALUATION**
 FROM U.S. 41 TO N. OF MARION COUNTY LINE
 CITRUS COUNTY
 WPI SEG. NO. 257188 I ; FAP NO. FL62-020R

FIGURE 6.1

Also shown on Figure 6.1 is the DDHV for various roadway segments in the study area. These volumes were calculated with the application of the “K” and “D” factors shown in Section 6.3.

6.6 Level of Service

Capacity and level of service calculations were performed for the existing condition and future design year Build and No-Build Scenarios along S.R. 200 and at critical intersections in the study area using the procedures set forth in the 1997 Highway Capacity Manual (HCM) and the Highway Capacity Software program.

6.6.1 Existing Level of Service (Year 2000)

Intersection Level of Service

The intersection level of service analysis was conducted at study area intersections utilizing the adjusted peak hour counts and the HCM signalized and unsignalized intersection analyses procedures. As shown in Figure 6.2, at all intersections, the left turns from S.R. 200 to the minor roadways operate at Levels-of-Service (LOS A) at all hours. The minor street approaches operate at LOS B or better except:

- The eastbound approach of C.R. 491, which operates at LOS C during the morning and evening peak hours,
- The westbound approach of Stokes Ferry Road, which operates at LOS C during the evening peak hour, and
- The eastbound approach of C.R. 39, which operates at LOS C during the evening peak hour.

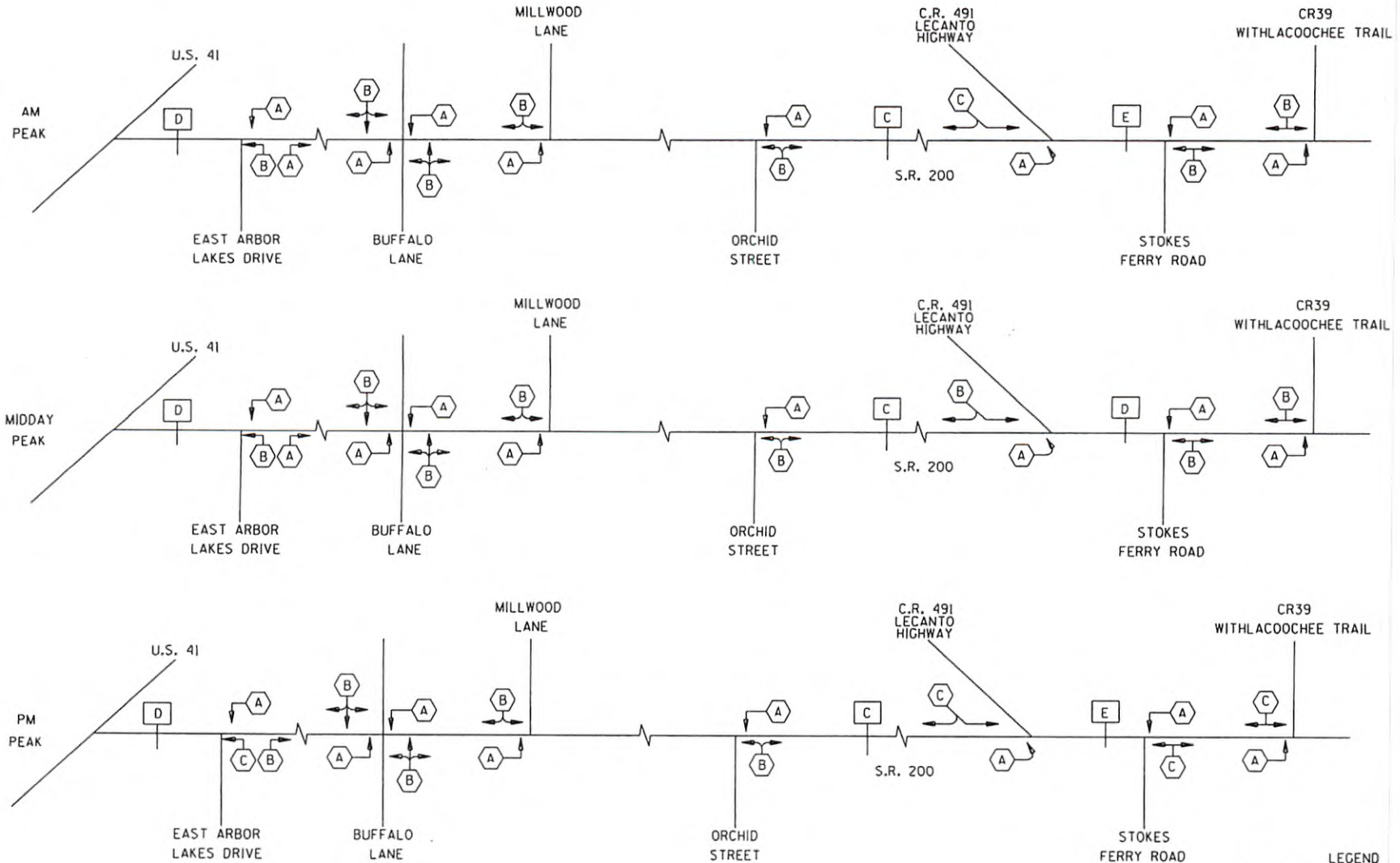
Mainline Level of Service

The mainline capacity analysis utilizing the two-lane rural highway module indicates that currently the segment of S.R. 200 south of East Arbor Lakes Drive operates at LOS D during peak periods of the day; the segments of S.R. 200 from East Arbor Lake Drive to C.R. 491 operates at a LOS C during peak periods; and the segment of S.R. 200 north of C.R. 491 operates at LOS E during the morning and evening peak hours and LOS D during the midday peak hour.

6.6.2 Projected Level of Service

The quality of traffic operations (levels-of-service), expected to be provided along S.R. 200 during the design hour of the 2025 Design Year was evaluated for the following scenarios, gradually progressing from minimum improvement efforts to more expensive solutions.

- **No-Build Alternative:** Maintain the existing roadway and intersection geometry and traffic controls throughout the Year 2025.
- **Build without signalization:** Enhance S.R. 200 to a four-lane divided facility and attempt by geometric enhancements (lane additions) to improve operations at the unsignalized intersections that would fail if their current geometry was maintained through Year 2025.
- **Build with signalization:** Enhance S.R. 200 to a four-lane divided facility, improve the geometry of those unsignalized intersections that can be brought to LOS D or better by those improvements and, where these improvements fail to reestablish LOS D or better, introduce signalization.



- LEGEND**
- X LINK LEVEL OF SERVICE
 - ⬡ UNSIGNALIZED INTERSECTION LEVEL OF SERVICE



EXISTING (YEAR 2000)
PEAK HOUR
LEVELS OF SERVICE

FIGURE 6.2

**S.R. 200 PD&E STUDY
REEVALUATION**
FROM U.S. 41 TO N. OF MARION COUNTY LINE
CITRUS COUNTY
WPI SEG. NO. 257188 1 ; FAP NO. FL62-020R

No-Build Alternative

Two-lane highway and unsignalized intersection capacity analyses were performed as part of this alternative.

Figure 6.3 depicts graphically the link and intersection levels of service. As shown, without improvements, the entire length of S.R. 200 should be expected to operate at LOS E or worse during the Design Year peak hours.

The STOP-signed controlled approaches of all unsignalized intersections considered in the analyses should be expected to operate also at LOS E or worse.

Build Alternative without Signalization

The following improvements were assumed under this alternative:

- Widening of S.R. 200 to a four-lane divided facility for its entire length. Northbound and southbound left-turn bays were assumed to be provided at select intersections as shown on Figure 6.4.
- Widening of the C.R. 491 eastbound approach to provide exclusive lanes for the left-turn and right-turn movements.
- Widening of the Stokes Ferry Road westbound approach to provide exclusive left-turn and right-turn lanes.
- Widening of the C.R. 39 eastbound approach to provide exclusive left-turn and right-turn lanes.

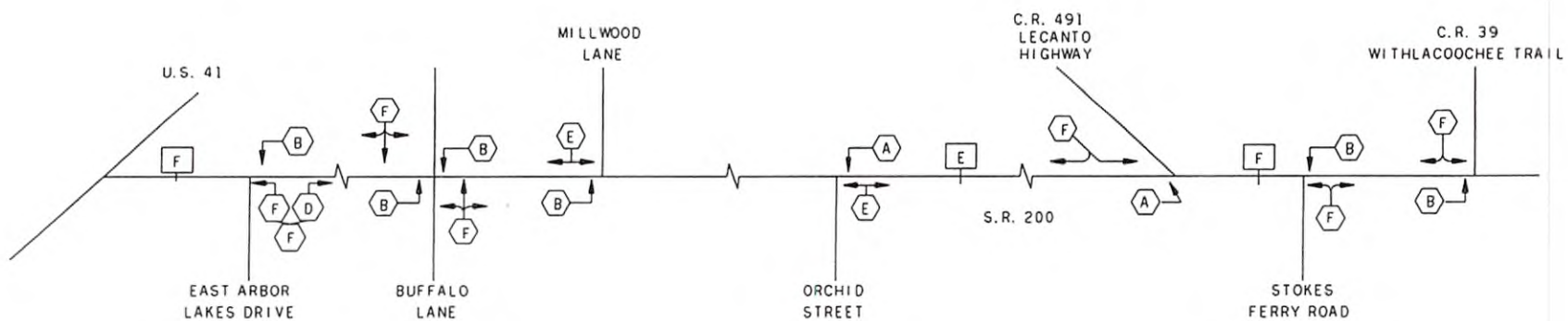
Figure 6.4 depicts graphically the results of the link and intersection analyses. As shown, the widening of S.R. 200 to a four-lane divided facility will help improve operations at the intersections with East Buffalo Lane, East Millwood Lane, and Orchid Street. The widening of S.R. 200 will also help operations at the intersections with C.R. 491, Stokes Ferry Road, and C.R. 39; however, the left turns exiting the minor approaches will continue to operate at LOS E or F.

The widening of S.R. 200 will improve drastically operations along the roadway. The expected LOS along S.R. 200 will range from LOS A to C.

Build Alternative with Signalization

This alternative assumed that in addition to the assumptions presented under the Build Alternative without Signalization:

- The intersection of S.R. 200 with C.R. 491 will be signalized while the eastbound C.R. 491 approach will be widened to provide an exclusive left-turn and a shared left/right-turn lane.
- The intersection of S.R. 200 with C.R. 39 will also be signalized.
- No evaluation for signalization was performed for the S.R. 200 and Stokes Ferry Road intersection due to its proximity with C.R. 39. After consideration of the median opening spacing criteria for Class 3 facilities, such as S.R. 200, it is apparent that due to the proximity of Stokes Ferry Road to C.R. 39 (620 feet), no median opening is expected to be provided at this location. In the event that the left turns out of Stokes Ferry Road are permitted by way of a median opening, the traffic gaps generated by the two signals at C.R. 491 and C.R. 39 should help the operations at this intersection.



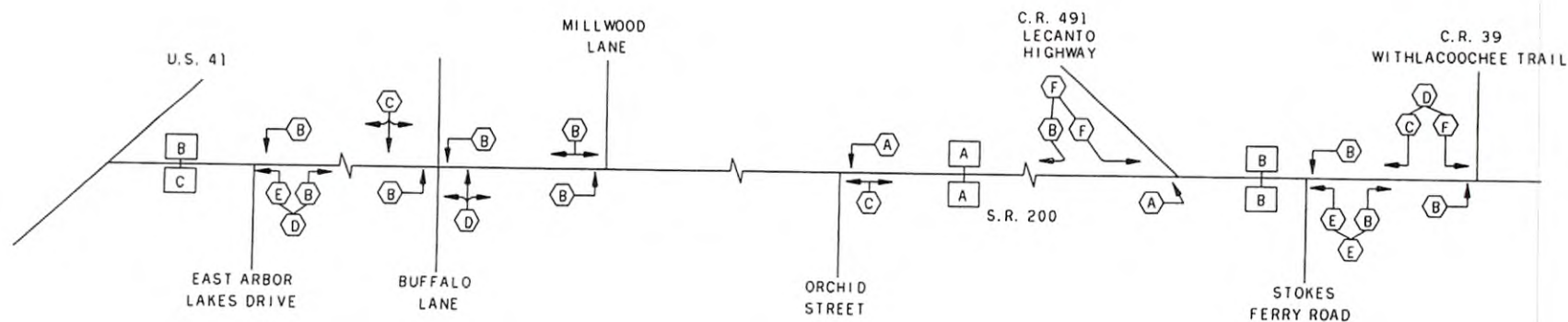
LEGEND
 [X] LINK LEVEL OF SERVICE
 (X) UNSIGNALIZED INTERSECTION LEVEL OF SERVICE



NO BUILD ALTERNATIVE-
 PROJECTED DESIGN YEAR
 (2025) PEAK HOUR
 LEVELS OF SERVICE

**S.R. 200 PD&E STUDY
 REEVALUATION**
 FROM U.S. 41 TO N. OF MARION COUNTY LINE
 CITRUS COUNTY
 WPI SEG. NO. 257188 1 ; FAP NO. FL62-020R

FIGURE 6.3



LEGEND
 [X] LINK LEVEL OF SERVICE
 [X] UNSIGNALIZED INTERSECTION INTERSECTION MOVEMENT LEVELS OF SERVICE

S.R. 200
PD&E STUDY REEVALUATION

BUILD ALTERNATIVE
 WITHOUT SIGNALIZATION-
 PROJECTED DESIGN YEAR
 (2025) PEAK HOUR
 LEVELS OF SERVICE

FIGURE 6.4

**S.R. 200 PD&E STUDY
 REEVALUATION**
 FROM U.S. 41 TO N. OF MARION COUNTY LINE
 CITRUS COUNTY
 WPI SEG. NO. 257188 1 ; FAP NO. FL62-020R

TABLE 6.1
Minimum Queue Length

Turning Movement	Turning Volume (Vch/Ne)	Cycle Length (Sec)	G/C	Number of Lanes	Per Lane Volume (vphpc)	Percent Trucks	Arrival Factor	Minimum Queue Length (ft)
S.R. 200 with CR 491								
EBL	290	70	0.257	1	445	3	3	225
EBLR	175	70	0.257	1	20	3	3	150
NBL	20	70	0.257	1	20	3	3	25
S.R. 200 with CR 39								
EBL	55	70	0.186	1	55	3	3	50
EBR	110	70	0.186	1	110	3	3	100
NBL	110	70	0.643	1	110	3	3	50

$L = [(vph/cph) (2.0) (1-g(c) (25 \text{ ft per vehicle})/N$

Both intersections should be expected to operate at satisfactory levels of service. Arterial analysis performed for the segment of S.R. 200 between the two signalized intersections indicates that both directions should operate at LOS B.

The required storage lengths for the individual movements at the proposed signalized intersections of S.R. 200 with C.R. 491 and S.R. 200 with C.R. 39 were calculated using the results of the signalized intersection analysis. Table 6.1 shows the recommended storage length of each approach lane rounded to the next highest 25-foot interval.

SECTION 7 CORRIDOR ANALYSIS

S.R. 200 within the design reevaluation limits is situated between the Tsala Apopka chain of lakes to the east and U.S. 41 to the west. There are no suitable existing transportation facilities that could be widened to accommodate the traffic volumes projected for the S.R. 200 corridor. Due to environmental constraints posed by the Tsala Apopka lakes and social constraints that occur due to existing development, it would not be possible to site a new transportation facility in the area that would accommodate the projected traffic without a substantial increase in impacts and costs.

SECTION 8 ALTERNATIVE ALIGNMENT ANALYSIS

Three options were analyzed as part of this Reevaluation. These options include the No Project Alternative (No Build), Transportation System Management and the Study Alternatives (Build Alternatives). A presentation of the advantages and disadvantages of each option are included with the description of each alternative.

8.1 No Build Alternative

Under the No Build Alternative, no action would be taken with respect to improving S.R. 200. The advantages of the No Build Alternative include:

- No right-of-way acquisition,
- No construction costs,
- No relocations,
- No inconveniences to the motoring public due to construction, and
- No inconveniences to the adjacent property owners due to construction.

The disadvantages of the No Project Alternative include:

- No provisions to accommodate the anticipated growth in traffic volumes,
- Current unacceptable peak hours level of service would continue to deteriorate,
- Traffic delays would be extended and the potential for higher accident rates would be increased, and
- Both air pollution and road user costs would be increased.

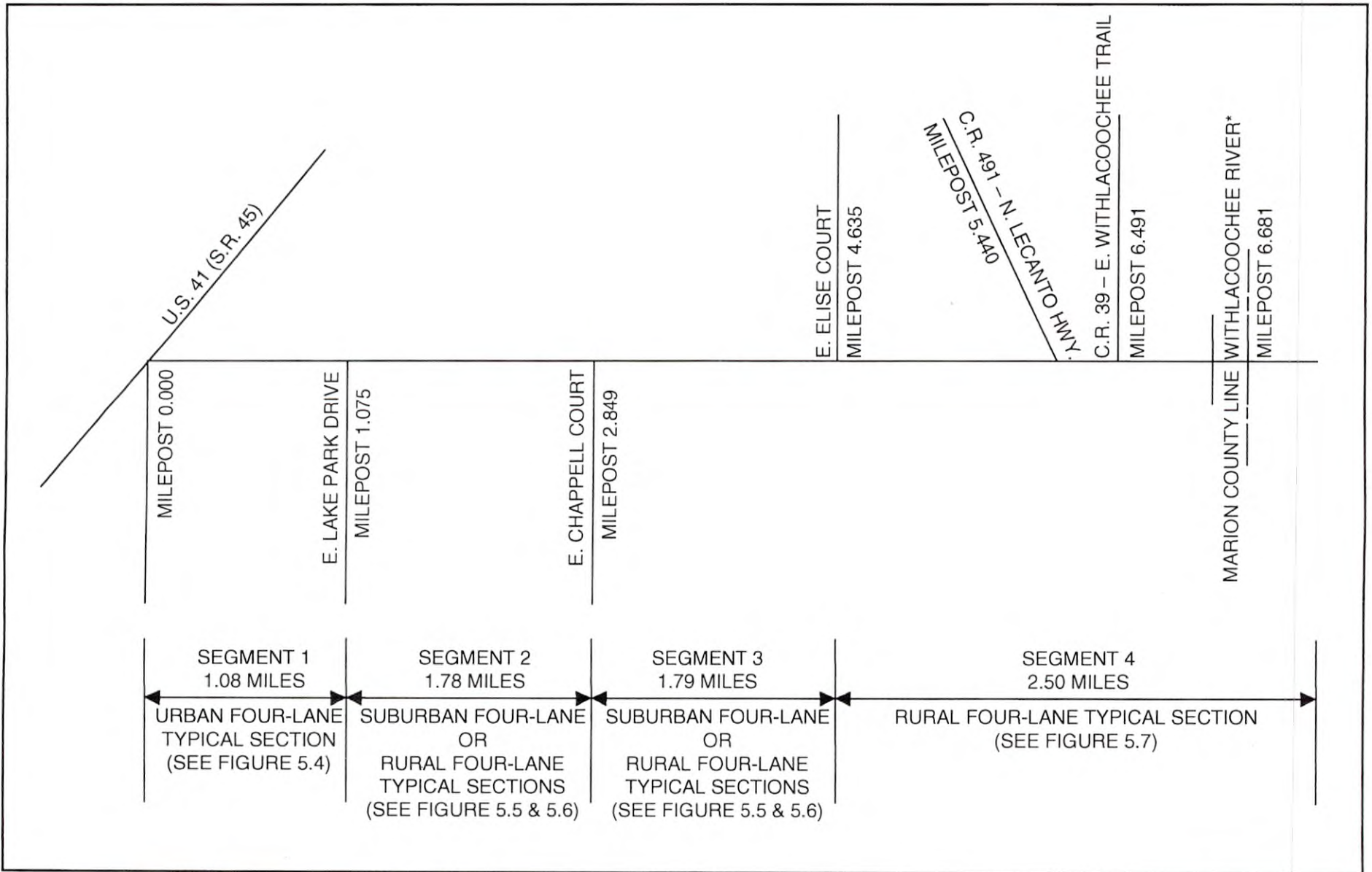
Though the No Build Alternative has major deficiencies, it will remain under consideration until the final Reevaluation recommendation will be made to the FHWA.

8.2 Transportation Systems Management

Transportation System Management (TSM) involves minor intersection improvements, increased turn lane storage, improvement of existing lane configuration marking and signalization sequencing as a means of improving level of service on a particular facility. The unacceptable levels of service anticipated to occur on the existing facility in the Year 2025 justify the need to provide additional through lanes on S.R. 200. Therefore, the TSM alternative is not considered viable for this project.

8.3 Study Alternatives

Minimization of impacts was considered in the development of study alternatives. These considerations include various typical sections throughout the study limits and shifting of the roadway alignment within critical stretches. As shown in Figure 8.1, the project limits were divided into four segments where options for different typical sections or shifting of the alignment was considered. See Section 5.2 for description of typical sections as discussed in the following sections. An evaluation matrix is provided in Table 8.1 for each segment and alternatives contained within.



TYPICAL SECTION ALTERNATIVES UNDER CONSIDERATION

FIGURE 8.1

S.R. 200 PD&E Study
 Reevaluation
 From U.S. 41 to N. of Marion County Line
 Citrus County
 WPI Seg. No. 257188 1; FAP No. FL62-020R

TABLE 8.1
Alternatives
Costs and Impacts

EVALUATION FACTORS	SEGMENT							
	1	2		3				4
	Urban	Sub	R	Sub (W)	Sub (E)	R (W)	R (E)	R
I. ENGINEERING FACTORS								
Length (feet)	3900	9600		11700				11200
Cost Estimates								
- Preliminary Engineering Design (15%)	\$333,705	\$765,669	\$599,919	\$998,204	\$998,204	\$773,024	\$773,024	\$1,006,933
- Construction								
Roadway	\$1,978,200	\$4,631,100	\$3,526,100	\$5,513,700	\$5,513,700	\$4,012,500	\$4,012,500	\$4,518,200
Bridge Structure	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,785,200
Ponds	\$246,500	\$473,360	\$473,360	\$1,140,990	\$1,140,990	\$1,140,990	\$1,140,990	\$409,487
- Right of Way								
Roadway	\$0	\$7,303,400	\$8,166,500	\$7,889,600	\$11,796,300	\$10,660,300	\$15,491,500	\$6,960,700
Pond Sites	\$194,800	\$281,300	\$281,300	\$1,207,500	\$1,207,500	\$1,207,500	\$1,207,500	\$347,300
- Construction Inspection (15%)	\$333,705	\$765,669	\$599,919	\$998,204	\$998,204	\$773,024	\$773,024	\$1,006,933
- Contingency (15%)	\$333,705	\$765,669	\$599,919	\$998,204	\$998,204	\$773,024	\$773,024	\$1,006,933
TOTAL COSTS	\$3,420,615	\$14,986,167	\$14,247,017	\$18,746,401	\$22,653,101	\$19,340,361	\$24,171,561	\$17,041,686
II. ENVIRONMENTAL FACTORS								
Wetlands (acres)	0	0	0	1.26	1.26	2.29	2.29	1.84
100 Year Floodplains (acres)	0	0	0	1.71	1.71	3.43	3.43	5.52
Contamination Sites (Total)	3	1	1	3	6	3	6	2
- Hazardous Material w/ Risk Rating								
Low	3	0	0	2	5	2	5	0
Medium	0	0	0	0	0	0	0	0
High	0	0	0	0	0	0	0	0
- UST (Petroleum) w/ Risk Rating								
Low	0	0	0	0	0	0	0	0
Medium	0	1	1	1	1	1	1	2
High	0	0	0	0	0	0	0	0
Threatened and Endangered								
- Federal (Suitable Habitat Present)	0	1	1	1	1	1	1	1
- State (Suitable Habitat Present)	0	6	6	6	6	6	6	6
Noise Impacts ⁽¹⁾	0	23	15	14	13	6	8	0
Significant Archaeological Sites ⁽²⁾	0	1	1	0	0	0	0	3
Significant Historical Sites	0	0	0	0	0	0	0	0
Section 4(f) Sites Impacted	0	0	0	0	0	0	0	0
III. COMMUNITY IMPACTS								
Relocations								
- Parcels involved	0	49	49	35	46	35	49	23
- Residential	0	11	18	2	3	12	12	2
- Commercial	0	1	1	1	2	5	6	1
- Public Facilities	0	0	0	1	1	1	1	0
- Fire Stations	0	0	0	1	1	1	1	0
- Churches	0	0	0	0	0	0	0	0
- Nursing Homes	0	0	0	0	0	0	0	0
- Cemeteries	0	0	0	0	0	0	0	0
Community Cohesion Impacts	Low	Low	Low	Low	Low	Low	Low	Low

(W) Widening to the west

(E) Widening to the east

⁽¹⁾ Within 66 dBA contour and not relocated

⁽²⁾ These sites are considered to have a low research potential, and thus, are not considered NRHP.

8.3.1 Segment 1 – Project Southern Terminus to East Lake Park Drive

Within this segment, improvements to S.R. 200 involve utilizing a four-lane divided urban typical section. This typical section is proposed to be fitted within the existing 100-foot wide right-of-way. This typical section is proposed for this segment because it:

- Meets the project design criteria;
- Matches the typical section proposed for S.R. 200 improvements south of this project (U.S. 41 (S.R. 45) PD&E Reevaluation – WPI No. 25716501); and
- Minimizes impacts by containing most construction within existing right-of-way. New right-of-way acquisition will be required for ponds. The estimated impacts associated with Segment 1 are shown in Table 8.1.

8.3.2 Segment 2 – East Lake Park Drive to north of East Chappell Court

Two alternatives were initially developed for Segment 2. These include:

- Four-lane divided rural typical section widened to the west; and
- Four-lane divided suburban typical section widened to the west.

With both alternatives the impacts are associated with the west side only, as the existing right-of-way along the east side of S.R. 200 is maintained. Table 8.1 documents the estimated impacts associated with both alternatives in Segment 2.

8.3.3 Segment 3 – North of East Chappell Court to north of East Elise Court

Four alternatives were initially developed for Segment 3. These include:

- Four-lane divided rural typical section widened to the west;
- Four-lane divided rural typical section widened to the west from north of East Chappell Court to East Delight Street, transitioning to a widening to the east to North Charles Terrace, and then transitioning to a widening to the west to north of East Elise Court;
- Four-lane divided suburban typical section widened to the west; and
- Four-lane divided suburban typical section widened to the west from north of East Chappell Court to East Delight Street, transitioning to a widening to the east to North Charles Terrace, and then transitioning to a widening to the west to north of East Elise Court.

Table 8.1 documents the estimated impacts associated with all four alternatives in Segment 3. Due to a greater concentration of development along the east side, those alternatives that widen to the east have greater impacts.

8.3.4 Segment 4 – North of East Elise Court to Project Northern Terminus

Within this segment, improvements to S.R. 200 involve utilizing a four-lane rural typical section. Section 4 is the least developed area along the project and is dominated by undeveloped land with scattered residential/commercial development. The estimated impacts associated with Segment 4 are shown in Table 8.1.

8.4 Selection of a Preferred Alternative

The selection of a preferred alternative by segment was made after consideration of the estimated impacts for each alternative, estimated costs of each alternative, and input from both local and state officials. A discussion by segment of the preferred alternative follows.

8.4.1 Segment 1 – Project Southern Terminus to East Lake Park Drive

There was only one alternative considered for this segment – a four-lane divided urban typical section. As shown in Table 8.1, the impacts and costs associated with this typical section are minimal as right-of-way is contained within the existing 100 feet of right-of-way. This alternative is consistent with the recommendation of the original PD&E Study.

8.4.2 Segment 2 – East Lake Park Drive to North of East Chappell Court

The four-lane divided suburban typical section is the preferred alternative within this corridor. The suburban typical section's total costs are within 10 percent of the four-lane rural typical section, while its potential relocations are estimated to be seven residential relocations less than the rural typical section. The suburban typical section provides for those amenities, bikeway and sidewalks, that are considered compatible with the density of development along Segment 2. The original PD&E Study recommended a four-lane rural typical section with widening to the west side.

8.4.3 Segment 3 – North of East Chappell Court to North of East Elise Court

For the reasons stated in Segment 2, the four-lane suburban typical section is the preferred alternative. The suburban typical section with widening to the west side versus the suburban typical sections widening to the east side is the preferred alternatives due to the following reasons:

- Significant decrease in right-of-way costs (\$7,889,600 versus \$11,796,300);
- Fewer potential impacts to contamination sites (three versus six); and
- Fewer relocation impact parcels (35 versus 46).

The original PD&E Study recommended a four-lane divided rural typical section.

8.4.4 Segment 4 – North of the East Elise Court to Project Northern Terminus

There was only one alternative considered for this segment – a four-lane divided rural typical section. The typical section and proposed alignment are consistent with the original PD&E Study.

8.5 Stormwater Management Facilities

A Preliminary Pond Siting Report was prepared for this project to address stormwater management facilities (SMF) and includes an alternative analysis for selection of preferred pond sites. The report provides pond site locations that are hydraulically functional and environmentally permissible based on the best available information. The pond site locations were analyzed and evaluated for Section 4(f) properties, cultural resources such as historic structures and archaeological sites; environmental impacts including wetlands, upland habitat,

and protected species involvement; petroleum and hazardous materials contamination; acquisition of right-of-way; and hydrology [soil types and seasonal high water table (SHWT)] and hydraulics. Recommended pond sites are depicted on the concept plans in Appendix A's Exhibits.

Stormwater ponds were sized by estimating the runoff volumes using the SCS runoff volume methodology. The drainage system for the S.R. 200 improvements are designed in accordance with the FDOT Drainage Manual and current standards, including Chapter 14-86 when applicable. Stormwater treatment and attenuation is anticipated to be accomplished through the use of detention/retention ponds in accordance with SWFWMD and the FDEP ERP rules (Chapters 40D-4, 40D-40, and 40D-400). Specific criteria contained in the ERP rules pertaining to water quantity will apply to the portions of the S.R. 200 alignment located within closed drainage sub-basins, where the stormwater management facilities will be required to store the difference in the 100-year event runoff volume between the pre-development and post-development conditions. Lake Tsala Apopka is considered to be Outstanding Florida Waters (OFW) for which an additional fifty percent treatment volume is necessary. Also, where a proposed stormwater management facility discharges into an existing active sinkhole, double treatment volume will be required. In the SWFWMD pre-application meeting, dated February 29, 2000, SWFWMD agreed to exempt the FDOT stormwater management facilities that outfall directly to Lake Tsala Apopka from applicable attenuation requirements.

Pond site alternatives were identified by utilizing a combination of SWFWMD and quadrangle maps in analyzing the hydraulics and minimizing potential impacts. The estimated right-of-way cost was estimated in determining the preferred alternatives. The preferred pond sites were evaluated in further detail based on any wetland impacts, hazardous materials impacts, protected species involvement, and cultural resource evaluation. Table 8.2 presents the matrix analysis and identifies the recommendations for the preferred pond sites.

TABLE 8.2

ALTERNATIVES POND SITE EVALUATION MATRIX

	ALTERNATE POND SITES																																			
	SUB-BASIN A			SUB-BASIN B			SUB-BASIN C			SUB-BASIN D			SUB-BASIN E			SUB-BASIN F			SUB-BASIN G			SUB-BASIN HS			SUB-BASIN HN			SUB-BASIN I			SUB-BASIN J					
	A1 (Falt)	A3 (F)	A4	B2 (A)	B3	B4 (Aalt)	C	C1	C2	D2	D3 (G)	D4 (Galt)	E1	E2	E3 (H)	F1 (Halt)	F2 (Calt)	F3 (C)	G1	G2	G3	H1	H2 (D)	FP1	FP2	H3	H4 (Dalt)	I1	I2	J1 (D)	FP3	FP4	J4 (Jalt)	J5 (K)		
LOCATION (Station)	24+30	34+00	41+50	59+00	73+50	80+50	112+00	124+75	130+25	149+50	156+00	156+50	159+50	164+50	175+25	181+50	191+50	208+00	217+00	221+00	225+50	243+50	248+00	250+50	265+25	268+50	275+50	290+75	297+50	303+75	331+25	331+25	333+00	339+00		
SIDE (L.T. RT)	LT	LT	RT	RT	RT	RT	LT	LT	RT	LT	LT	RT	RT	LT	LT	RT	RT	LT	RT	LT	LT	LT	LT	LT	LT	LT	LT	LT	RT	RT	LT	LT	LT	LT		
POND AREA (ac)	1.15	2.87	1.41	4.91	5.17	3.67	1.12	1.03	0.80	1.32	3.10	2.07	1.47	2.42	1.33	5.17	2.27	2.01	2.63	2.63	4.02	0.80	0.80	1.52	1.52	2.07	2.07	0.92	0.92	5.45	0.22	0.22	1.61	1.61		
EST. GROUND ELEVATION (ft)	50.00	60.00	52.50	50.00	40.00	45.00	50.00	50.00	40.00	46.00	55.00	53.00	48.00	55.00	52.50	47.00	40.00	40.00	42.50	42.50	52.50	47.00	45.00	40.00	40.00	45.00	45.00	55.00	55.00	52.00	40.00	40.00	43.00	43.00		
EST. SHW TABLE DEPTH (ft)	> 6.00	> 6.00	> 6.00	> 6.00	> 6.00	> 6.00	> 6.00	> 6.00	3.5 - 6.0	3.5 - 6.0	> 6.00	> 6.00	> 6.00	> 6.00	> 6.00	3.5 - 6.0	3.5 - 6.0	> 6.00	> 6.00	> 6.00	> 6.00	3.5 - 6.0	3.5 - 6.0	0.0 - 1.0	0.0 - 1.0	2.0 - 3.5	> 6.00	> 6.00	> 6.00	3.5 - 6.0	3.5 - 6.0	3.5 - 6.0	3.5 - 6.0			
SOILS NAME	Udorthents	Lake	Arredondo	Udorthents	Udorthents	Lake	Candler	Lake	Tavares	Tavares	Lake	Lake	Lake	Lake	Lake	Tavares	Tavares	Candler	Candler	Candler	Candler	Candler	Tavares	Tavares	Basinger	Basinger	Adamsville	Candler	Candler	Candler	Tavares	Tavares	Tavares	Tavares		
HYDROLOGICAL SOIL GROUP	N/A	A	A	N/A	N/A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	B/D	B/D	C	A	A	A	A	A	A	A		
LAND USE	Open sink	Forested	Open Field	Forested	Forested	Forested	Open Field	Forested	Forested	Frstd/Field	Forested	Forested	Forested	Pine Plantation	Forested	Frstd/Field	Frstd/Resid.	Forested	Residential	Frstd/Resid.	Residential	Residential	Forested	Forested	Forested	Forested	Forested	Forested	Frstd/Field	Pasture	Pasture	Pasture	Pasture	Pasture		
ARCHAEOLOGICAL POTENTIAL	Low	High	High	Low	Low	Low	N/A	High	Medium	High	High	High	High	High	Medium	Medium	High	High	Medium	Medium	High	High	Medium	Medium	Low	Low	High	Medium	Medium	High	High	High	High	High		
HISTORICAL RESOURCES	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	Unrecorded	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None
CONTAMINATION RISK	High	Low	None	None	None	None	N/A	None	None	None	None	None	None	None	None	Low	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None
T & E SPECIES	None	Yes	None	None	Potential	Yes	None	None	Yes	Yes	Yes	None	None	None	None	None	None	Yes	None	None	None	None	Yes	Yes	None	None	Yes	Potential	None	None	None	None	Potential	None		
WETLANDS	None	None	None	None	None	None	None	None	None	None	None	None	Possibly	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	
WETLAND MITIGATION COST ¹	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
PROXIMITY TO OUTFALL (ft) ²	900.00	300.00	1100.00	400.00	475.00	550.00	0.00	150.00	80.00	130.00	600.00	75.00	450.00	450.00	450.00	520.00	800.00	700.00	600.00	720.00	150.00	100.00	575.00	0.00	0.00	420.00	60.00	60.00	475.00	375.00	0.00	0.00	575.00	575.00		
PIPE COST ESTIMATE ³	\$42,300	\$14,100	\$51,700	\$18,800	\$22,325	\$25,850	\$0	\$7,050	\$3,760	\$6,110	\$28,200	\$3,525	\$21,150	\$21,150	\$21,150	\$24,440	\$37,600	\$32,900	\$28,200	\$33,840	\$7,050	\$4,700	\$27,025	\$0	\$0	\$19,740	\$2,820	\$2,820	\$22,325	\$17,625	\$0	\$0	\$27,025	\$27,025		
LINER COST ESTIMATE ⁴	\$0	\$24,204	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$35,201	\$0	\$0	\$0	\$0	\$51,352	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$28,110	\$29,522	\$0	\$0	\$68,328	\$0	\$0	\$0	\$0		
ROW COST ESTIMATE	\$320,900	\$505,000	\$194,800	\$181,300	\$232,500	\$181,300	\$193,200	\$100,000	\$309,300	\$159,100	\$190,400	\$711,700	\$626,700	\$51,800	\$39,000	\$1,158,400	\$401,600	\$64,700	\$1,580,900	\$661,100	\$1,211,400	\$133,300	\$126,200	\$150,300	\$859,600	\$909,500	\$122,000	\$130,500	\$273,500	\$408,400	\$40,500	\$41,600	\$114,000	\$44,400		
TOTAL ESTIMATED COSTS	\$363,200	\$543,304	\$246,500	\$200,100	\$254,825	\$207,150	\$193,200	\$107,050	\$313,060	\$165,210	\$253,801	\$715,225	\$647,850	\$72,950	\$60,150	\$1,234,192	\$439,200	\$97,600	\$1,609,100	\$694,940	\$1,218,450	\$138,000	\$183,225	\$150,300	\$859,600	\$957,350	\$155,242	\$142,320	\$295,825	\$494,353	\$40,500	\$41,600	\$141,025	\$71,425		

NOTE:

The shaded columns indicate the recommended pond and floodplain compensation sites
 A1 (F alt) - "F alt" is the original FDOT 5 PD&E study
 N/A - Not Available
 FPx - Floodplain x
 The estimated ground elevations are based on the USGS and SWFWMD maps.
 The estimated SHW table depth are based on the SCS Soil Survey of Citrus County

The sites with marginal wetland impacts could be moved a sufficient amount with minor adjustments to avoid jurisdictional wetlands, with no loss of treatment capacity.
¹ Wetland mitigation cost equivalent to \$80,000/acre
² Pipe lengths estimated from ROW to pond and to outfall
³ Assume 36" Class II concrete pipe @ \$47/lf
⁴ 30 mil HDPE pond liner

SECTION 9 PRELIMINARY DESIGN ANALYSIS

This section of the Preliminary Engineering Memorandum presents the results of preliminary design analyses conducted for the preferred alternative.

9.1 Design Traffic Volumes

Within the limits of the Reevaluation study area, S.R. 200 will be experiencing projected AADT volumes ranging from 23,000 between C.R. 39 and the project's northern terminus to 27,000 between C.R. 491 and the project's southern terminus. Analyses discussed in Section 6.0 of this report indicate that the projected design hour traffic volumes would be accommodated at LOS C or better by providing two through lanes for each direction of travel.

Complete details of the projected traffic volumes and analyses are provided in the Traffic Technical Memorandum. This information is also presented in summary form in Section 6.0 of this report.

9.2 Alignment and Right-of-Way Needs

9.2.1 Alignment

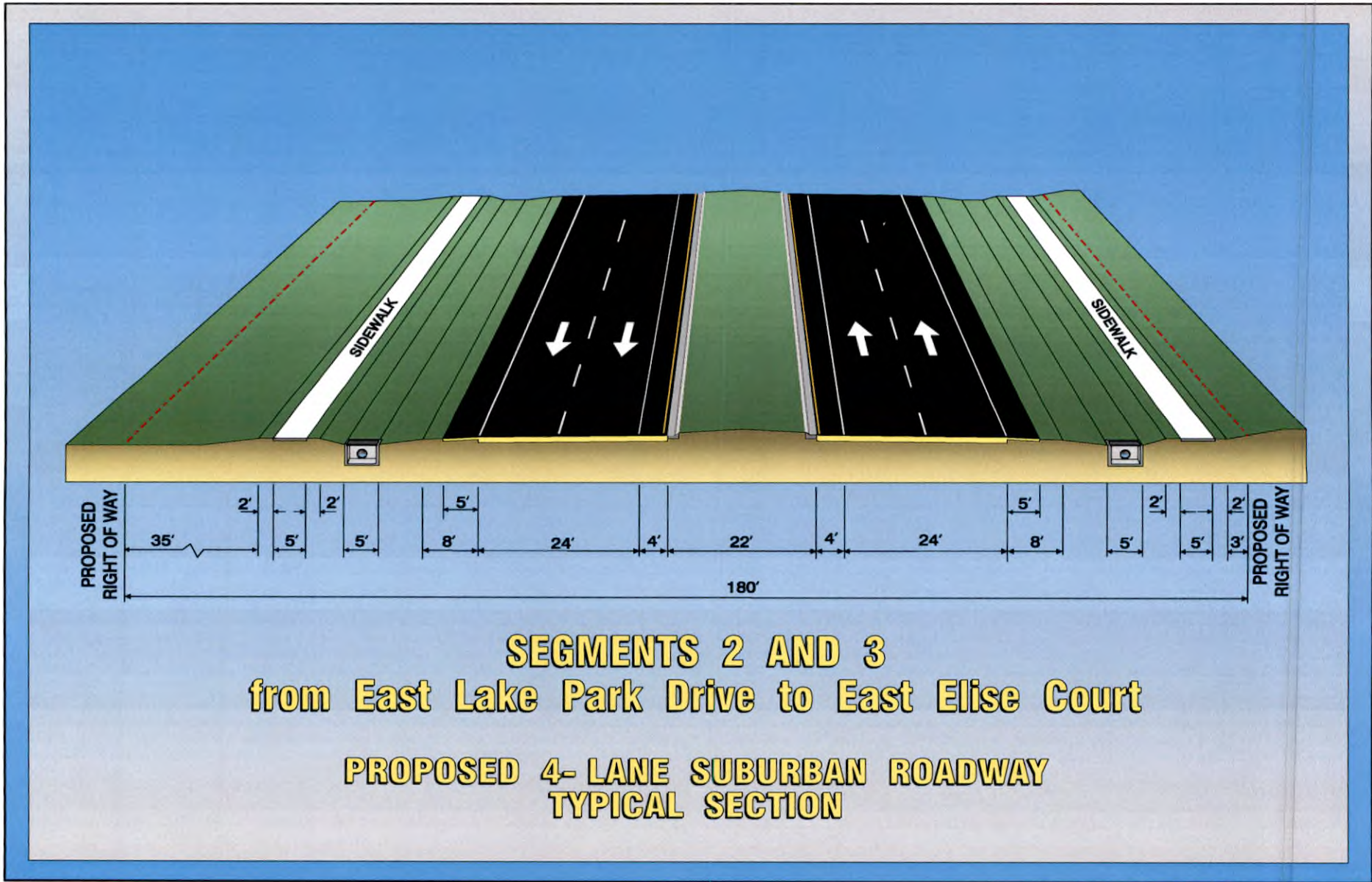
The alignment for the preferred alternative was developed to avoid or minimize impacts to the human and natural environment.

The alignment is as follows:

- In Segment 1, with the use of the urban typical section, the proposed roadway is centered about the existing roadway.
- In Segments 2 and 3, the roadway utilizes a suburban typical section with the proposed alignment widening to the west throughout Segments 2 and 3.
- In Segment 4, the roadway utilizes a rural typical section. The alignment continues the widening to the west before shifting to the east side, just north of the S.R. 200/C.R. 491 intersection. The alignment continues with widening to the east, crossing the Withlacoochee River and terminating at the project northern terminus.

9.2.2 Right-of-Way

After selection of the preferred alternative, the design factors (e.g. vertical profile, cross sections and construction limits) were studied in greater detail. A preliminary vertical design profile was established that met the proposed geometric design criteria. Based on this design profile along with the proposed roadway typical sections (see Figure 5.4 through 5.6), an analysis was made to determine the adequacy of the proposed right-of-way to contain the preferred alternative construction. It was determined that only Sections 2 and 3, with the 4-lane suburban typical section, involved areas requiring additional right-of-way beyond that initially proposed for the suburban typical section. In order to contain the construction limits within the right-of-way, the proposed right-of-way for the suburban typical section would need to be expanded from 148 feet to 180 feet as shown in Figure 9.1.



SEGMENTS 2 AND 3
from East Lake Park Drive to East Elise Court

PROPOSED 4-LANE SUBURBAN ROADWAY
TYPICAL SECTION

S.R. 200
 PD&E Study Reevaluation

PROPOSED FOUR-LANE
 SUBURBAN TYPICAL SECTION
 FROM EAST LAKE PARK DRIVE TO
 EAST ELISE COURT

FIGURE 9.1

S.R. 200 PD&E STUDY
 REEVALUATION
 FROM U.S. 41 TO N. OF MARION COUNTY LINE
 CITRUS COUNTY
 WPI SEG. NO. 257188 1; FAP NO. FL62-020R

An additional engineering analysis was conducted to determine if the use of retaining walls to contain the construction limits within the initially proposed 148-foot right-of-way would be more cost-effective than expanding the right-of-way to 180 feet. It was determined that the use of retaining walls as opposed to expanding the right-of-way from 148 feet to 180 feet throughout Sections 2 and 3 would cost approximately an additional \$1.1 million.

Thus, for Sections 2 and 3, which utilize the 4-lane suburban typical section, the proposed right-of-way is recommended to be a total of 180 feet, as shown in Figure 9.1.

9.3 Intersection Concepts And Signal Analysis

The traffic analysis summarized in Section 6.0 indicates the need for four lanes on U.S. 41 throughout the project limits. Without the two-lane additions, the entire length of S.R. 200 should be expected to operate at LOS E or worse during the Design Year (2025) peak hours. In addition, without lane additions on S.R. 200, the side street STOP-signed controlled approaches of all unsignalized intersections considered in the analysis, would be expected to operate at LOS E or worse. The widening of S.R. 200 to a four-lane divided roadway, as described in Section 5.2, will improve operations along the roadway to LOS C or better during Design Year (2025) peak hours.

The intersection of S.R. 200 and C.R. 491 is currently skewed at an approximately 60-degree angle. As shown in Appendix A's Exhibits, this intersection is realigned, as well as widened to provide an exclusive left turn lane and a shared left/right turn lane.

Due to the projected Design Year 2025 traffic projections (Figure 6.1), the intersections of S.R. 200 with C.R. 491 and C.R. 39 are assumed to be signalized in the near future. A final determination of signalization will be made if the intersections meet the requirements of signal

warrant analysis. With signalization, both intersections are projected to operate at a LOS C or better.

9.4 Typical Sections

The proposed improvements will be designed utilizing a four-lane urban, four-lane suburban and four-lane rural typical section. In accordance with the established design criteria, the typical cross-sections for the proposed improvements have been developed to provide adequate capacity to meet future demand plus the highest level of safety, while attempting to minimize potential impacts to the natural and built environments. Typical sections for the project are shown in Exhibits 5.4 through 5.6.

9.4.1 Roadway

Three roadway typical sections will be used for the preferred alternative. Segment 1 – Project Southern Terminus to East Lake Park Drive – will utilize the four-lane urban typical section; Segments 2 and 3 – East Lake Park Drive to North of East Elise Court will utilize the four-lane suburban typical section; and Segment 4 – North of East Elise Court to Project Terminus will utilize the four-lane rural typical section.

The four-lane urban typical section will provide two 12-foot lanes in each direction, separated by a 22-foot raised median. The typical section includes a four-foot bicycle lane on each side of the roadway and six-foot sidewalks located along the back of curb in each direction. All features of this typical section are contained within the existing 100-foot right-of-way. See Figure 5.4 for typical section.

The four-lane suburban typical section will provide two 12-foot lanes in each direction, separated by a 30-foot median (22-foot raised median with 4-foot paved shoulders in each direction). The

typical section includes a 5-foot paved outside shoulder/bike lane on each side of the roadway and a four-foot sidewalk located near the right-of-way line. Proposed right-of-way is 180 feet. See Figure 5.5 for typical section.

The four-lane rural typical section will provide two 12-foot lanes in each direction separated by a 40-foot median. The proposed right-of-way is 200 feet. See Figure 5.6 for typical section.

9.4.2 Bridges

Due to the age of the existing bridge over the Withlacoochee River, its functional obsolescence, and its minimal remaining expected service life, bridge replacement is recommended. Bridge replacement rather than widening is also indicated for a major widening when the existing structures constitute only a minor portion of the total improvements.

Two new bridges, a northbound bridge and a southbound bridge, will replace the existing single bridge. Dual bridges are preferred over a single structure as they provide for more natural light to get through, provide for simpler maintenance of traffic during construction, and are more cost-effective. A single bridge may be unmanageably wide for inspection and maintenance purposes. The bridge typical section is shown in Figure 5.7.

The future bridge typical section will match the roadway with two 12-foot travel lanes and a 10-foot outside shoulder. The future bridge typical section will require a 10-foot inside shoulder. The existing bridge will remain in place during construction until a wide enough portion of the proposed bridge is constructed to handle both northbound and southbound traffic. Traffic must be maintained as S.R. 200 is on a national defense critical route.

The new bridges will provide a minimum 6-foot clearance above Mean High Water. Allowance will be made for the cross slope of a future widening. The proposed clearance will require a

slight raise in the profile of the bridge. This will be verified during final design based on more detailed analyses. The existing horizontal clearance of 30 feet between bents will be maintained or increased, and the length of the bridge will increase slightly to accommodate the higher profile. It was determined that it is not feasible to lengthen the bridge to span the entire floodplain.

The surrounding location of the bridge is considered a sensitive wetland. Pile bents rather than drilled shafts or spread footings will be used for the substructure, to minimize impact to the natural stream bottom. Examination of the available boring data indicates that such a foundation is feasible and, by all indications, economical. As for the superstructure, pre-stressed concrete beams such as AASHTO Types II and III, as well as the shallower inverted T-beams and cast-in-place concrete slab bridges are all viable superstructure types and lend themselves to future widening.

9.5 Relocations

A detailed relocation study was conducted for the preferred alternative and is prepared under separate cover and is titled *Conceptual Stage Relocation Plan*. The results of this study is discussed below and shown in Table 9.1

The preferred alternative would displace a total of 32 residences and 7 businesses. The original Conceptual Stage Relocation Plan has been updated for the project and was utilized in further assessing impacts during the reevaluation effort. This plan has been developed in accordance with Florida Statutes 339.09, the Uniform Relocation Assistance and Real Property Acquisition Act of 1970 (Public Law 91-646) as amended, and the PD&E Manual developed by the FDOT.

TABLE 9.1

Preferred Alternative Costs and Impacts

EVALUATION FACTORS	SEGMENT				TOTAL
	1	2	3	4	
Typical Section	Urban	Suburban	Suburban (W)	Rural	
I. ENGINEERING FACTORS					
Length (feet)	3900	9600	11700	11200	36400
Cost Estimates					
- Preliminary Engineering Design (15%)	\$333,705	\$765,669	\$998,204	\$1,006,933	\$3,104,511
- Construction					
Roadway	\$1,978,200	\$4,631,100	\$5,513,700	\$4,518,200	\$16,641,200
Bridge Structure	\$0	\$0	\$0	\$1,785,200	\$1,785,200
Ponds	\$246,500	\$473,360	\$1,140,990	\$409,487	\$2,270,337
- Right-of-Way ⁽¹⁾					
Roadway	\$0	\$8,102,700	\$9,140,800	\$6,960,700	\$24,204,200
Pond Sites	\$194,800	\$281,300	\$1,207,500	\$347,300	\$2,030,900
- Construction Inspection (15%)	\$333,705	\$765,669	\$998,204	\$1,006,933	\$3,104,511
- Contingency (15%)	\$333,705	\$765,669	\$998,204	\$1,006,933	\$3,104,511
- Utilities ⁽²⁾	-	-	-	-	\$5,325,235
TOTAL COSTS	\$3,420,615	\$15,785,467	\$19,997,601	\$17,041,686	\$61,570,604
II. ENVIRONMENTAL FACTORS					
Wetlands (acres)	0	0	1.01	3.97	4.98
100 Year Floodplains (acres)	0	0	1.71	5.52	7.23
Contamination Sites (Total)	3	1	3	2	9
- Hazardous Material w/ Risk Rating					
Low	3	0	2	0	5
Medium	0	0	0	0	0
High	0	0	0	0	0
- UST (Petroleum) w/ Risk Rating					
Low	0	0	0	0	0
Medium	0	1	1	2	4
High	0	0	0	0	0
Threatened and Endangered					
- Federal (Suitable Habitat Present)	0	1	1	1	3
- State (Suitable Habitat Present)	0	6	6	6	18
Noise Impacts ⁽³⁾	1	19	33	0	53
Significant Archaeological Sites ⁽⁴⁾	0	1	0	3	4
Significant Historical Sites	0	0	0	0	0
Section 4(f) Sites Impacted	0	0	0	0	0
III. COMMUNITY IMPACTS					
Relocations					
- Parcels involved	0	49	35	23	107
- Residential	0	18	12	2	32
- Commercial	0	1	5	1	7
- Public Facilities	0	0	1	0	1
- Fire Stations	0	0	1	0	1
- Churches	0	0	0	0	0
- Nursing Homes	0	0	0	0	0
- Cemeteries	0	0	0	0	0
Community Cohesion Impacts	Low	Low	Low	Low	Low

(w) Widening to the west

⁽¹⁾ For Sections 2 and 3, the Suburban Typical Section right of way cost estimate is based on a minimum right of way width of 180 ft.

⁽²⁾ Utility relocation costs were computed for the entire project and not by individual segments

⁽³⁾ Approach or exceed the Noise Abatement Criteria

⁽⁴⁾ These sites are considered to have a low research potential, and thus, are not considered NRHP.

9.6 Right-of-Way Costs

The cost of the right-of-way required for the preferred alternative is estimated at \$26.2 million. This cost includes right-of-way, administrative and support costs, improvement costs, severance and business damages, accountant and attorney fees, and relocation costs for all right-of-way including mainline and ponds.

9.7 Construction Costs

The total construction cost for the preferred alternative is estimated at \$20.7 million. This includes \$16.6 million for roadway construction, \$1.8 million for bridge construction, and \$2.3 million for pond construction.

9.8 Engineering Costs

Preliminary engineering design costs for the proposed improvements are estimated at 15 percent of the construction costs or \$3.1 million. Construction engineering costs were also estimated at 15 percent of the construction costs, or \$3.1 million. A contingency cost of 15 percent of the construction costs is also assumed, or \$3.1 million. This contingency cost is to account for items not analyzed due to the preliminary nature of this study.

9.9 Construction Phasing

The four segments of the preferred alternative were recombined into three construction segments based on typical sections and logical construction limits. The three construction segments are:

- Segment 1: From Project Southern Terminus to North of East Millwood Lane;

- Segment 2: From North of East Millwood Lane to South of C.R. 491; and
- Segment 3: From South of C.R. 491 to Project Northern Terminus.

Estimated right-of-way and construction costs (includes roadway, bridge and pond) are summarized by construction segment in Table 9.2 below:

TABLE 9.2
Construction Segment Costs

Segment	Right-of-Way	Construction Cost
1	\$ 7.8 M	\$7.4 M
2	\$10.4 M	\$8.6 M
3	\$ 7.9 M	\$6.5 M

9.10 Recycling of Salvageable Material

Salvaging the existing roadway has been recommended for the preferred alternative. This was due to the good condition of the existing pavement.

9.11 User Benefits

Widening of the existing roadway would benefit motorists, pedestrians, bicyclists, businesses, and emergency services. The two additional lanes and the median would provide safer ingress and egress. Intersection improvements would also increase the safety of the roadway. Due to the increased capacity of the roadway, congestion will be reduced resulting in decreased travel times and improved air quality. Pedestrians and bicyclists would benefit from the safety and convenience of the bicycle lanes and sidewalks provided from Segments 1 to 3.

Businesses along the facility would benefit from the increased capacity by exposure to a greater number of potential customers and by safer access to their establishments. Businesses which use S.R. 200 for the transport of their goods and services would benefit from reduced transport and delivery times.

Due to reduced congestion and improved traffic flow, response times for emergency vehicles should be reduced.

9.12 Pedestrian and Bicycle Facilities

Pedestrian and bicycle facilities would be provided from the project's southern terminus to approximately East Elise Court (Segments 1, 2 and 3), a distance of approximately 4.8 miles. Six-foot wide sidewalks would be provided along the urban typical section through Segment 1 and five-foot wide along the suburban typical section through Segments 2 and 3. Bicycle paths 4 feet wide will also be provided along both sides of the roadway through Segment 1. Through Segments 2 and 3, the paved outside shoulder will be utilized as a bicycle lane.

9.13 Safety

The proposed roadway improvements would improve safety due to the implementation of the latest design standards and access management techniques. Increasing the capacity and improving the design of the roadway would result in more efficient traffic flow and less congestion. Access management will limit turning movements and thereby reduce conflict points. Specific improvements that will enhance safety include the provisions of pedestrian and bicycle facilities throughout Segments 1, 2, and 3 and the provision of medians throughout the project limits.

9.14 Economic and Community Development

The State of Florida, the Suncoast region, and Citrus County have all experienced tremendous population growth within the past 20 years. Growth is anticipated to continue through the year 2025, although at a reduced pace.

These forecasted increases in population indicate increasing trip demand throughout the study period. The Citrus County population is estimated to grow to 172,300 persons by 2020, when utilizing the 2.26 percent average annual growth rate anticipated for 2010-2020. The current roadway network will be inadequate to service trip demand on several key facilities within Citrus County, including S.R. 200.

Another important economic sector consists of the many services for retirees, the most noticeable of which are the many recently constructed, and currently planned, medical facilities and retirement communities in the County. S.R. 200 will assist in the provision of needed services for northeastern Citrus County residents. Residents living in the rural areas of these counties will be provided a more direct route to regional emergency medical facilities, and police and fire response will also be assisted.

9.15 Environmental Impacts

9.15.1 Air Quality

An Air Quality Assessment was performed to determine the direct effects the project would have on the air environment. Citrus County is designated as an air attainment area, which means all air quality standards are being met. A screening test was used to determine if projected traffic

volumes and speeds would produce carbon monoxide levels that could impact sensitive use areas. The results of the evaluation indicated that no long-term air quality impacts to sensitive land uses would occur as a result of the project. Construction activities could cause minor short-term air quality impacts, particularly related to dust during grading operations. The project is considered to be in conformance with the State Implementation Plan.

9.15.2 Noise

In accordance with 23 CFR 772, "Procedures for Abatement of Highway Traffic Noise and Construction Noise," an assessment of traffic noise impacts was conducted for this project. The FHWA has established guidelines for the relationship between land use and design year noise levels. Residences, churches, motels, hospitals, parks and recreation areas are in Category B with a Noise Abatement Criteria (NAC) level of 67 decibels on the A-weighted scale (dBA). Noise impacts were identified for locations on this project predicted to "approach" this level by 1 dBA, or a NAC of 66 dBA, as specified in the FDOT PD&E Manual.

The noise study was conducted utilizing the FHWA Traffic Noise Model (TNM) version 1.06. Traffic data used to establish existing noise levels are documented in the *Traffic Technical Memorandum*.

For the Build Alternative year 2025 traffic conditions, 53 residences are predicted to experience noise levels that approach or exceed the NAC. Noise abatement measures were evaluated for affected noise sensitive sites. Abatement measures considered include traffic system management, alignment modifications, property acquisition, land use controls, and noise barriers. An evaluation of traffic system management techniques, alignment modifications, and property acquisition indicated that these abatement measures were not feasible or reasonable. Land use controls can be used by local planning officials to minimize development or

redevelopment of noise sensitive land uses in proximity to S.R. 200. A copy of the final Noise Study Technical Memorandum will be furnished to local officials to assist them in the development of compatible land uses for future development.

A noise barrier evaluation was also performed. Within the project limits, S.R. 200 is characterized by numerous access drives and intersecting side streets. At some locations, the need to accommodate access to S.R. 200 precluded the construction of a noise barrier, while at most other locations, access requirements for driveways and intersecting streets severely limited the length of a noise barrier. Consequently, noise barriers could not provide a minimum 5 dBA reduction at many locations. At some locations, a 5 dBA reduction could be achieved, but the number of benefited residences was small because of the numerous gaps in the barriers to accommodate access to S.R. 200. Because of the small number of benefited residences, noise barriers were not cost reasonable at locations where a 5 dBA reduction could be achieved. Therefore, noise barriers were determined to not be a feasible and cost reasonable abatement measure for the 53 residences with predicted noise levels that approach or exceed the NAC.

9.15.3 Contamination

As shown in Table 9.1, the preferred alternative has a total of nine potentially contaminated sites within or adjacent to the preferred alternative. Of the nine sites identified, five are low risk hazardous material sites (5-HMHW-L, 6-HMHW-L, 7-HMHW-L, 18-HMHW-L and 19-HMHW-L) and four are associated with petroleum storage tanks and are ranked as medium, due to the propensity of fuel underground storage tanks (UST's) to leak. It must be noted that the list of these sites is not all-inclusive as contamination may be encountered anywhere along the study length of S.R. 200.

For the proposed build alternative, it is recommended that each of the low risk sites be revisited prior to right-of-way acquisition to determine if higher quantities or new types of hazardous materials have been introduced to them or if recent incidents indicate a higher potential for encountering contamination. A field review of the entire area is also recommended to identify new potential contamination sites prior to right-of-way acquisition. For the medium risk sites, additional investigation is recommended prior to right-of-way acquisition, including site visits, interviews with property owners, and soil testing as warranted. If testing verifies the presence of contamination, coordination with the property owner and the appropriate regulatory agency is recommended to accomplish the necessary remediation in a timely manner relative to the project schedule.

Prior to right-of-way acquisition, further site assessment will be performed to the degree necessary to determine levels of contamination and, if warranted, options and associated costs will be evaluated to remediate. Resolution of problems associated with contamination will be coordinated with appropriate regulatory agencies and, prior to construction, appropriate action will be taken, where applicable.

9.15.4 Water Quality

9.15.4.1 Surface Water

The preferred alternative traverses through eleven sub-basins. The drainage system for the S.R. 200 improvements will be designed in accordance with the FDOT Drainage Manual and current standards, including Chapter 14-86, where applicable. Stormwater treatment and attenuation is anticipated to be accomplished through the use of detention/retention ponds in accordance with SWFWMD/FDEP ERP rules (Chapters 40D-4, 40D-40, 40D-400).

The preferred alternative crosses two defined drainage conveyance systems within the project limits including the Withlacoochee River. In addition to these direct crossings, the preferred alternative's detention/retention ponds discharge into Lake Tsala Apopka and the Withlacoochee River. Per discussions with SWFWMD staff, Lake Tsala Apopka is considered to be an Outstanding Florida Water (OFW) for which an additional fifty percent treatment volume is necessary. However, in the SWFWMD pre-application meeting, dated February 29, 2000, SWFWMD agreed to exempt the FDOT stormwater management facilities that outfall directly to Lake Tsala Apopka and the Withlacoochee River from applicable attenuation requirements.

Appendix A's Exhibits show the proposed location of detention/retention ponds for each sub-basin.

9.15.4.2 Ground Water

The main source of freshwater in Citrus County is the Upper Floridan Aquifer, which is not considered a sole source aquifer in Citrus County. The thickness of the potable water-bearing portion of the Upper Floridan Aquifer ranges from zero at the coast to 1,500 feet in the eastern part of the county. Flow in the Upper Floridan Aquifer system is generally towards the coast. The Upper Floridan Aquifer is recharged directly by rainfall in areas where a confining layer does not exist, through sinkholes or by downward leakage from the surficial aquifer system where present. Most of the project corridor lies within an area of low to moderate generalized recharge to the Floridan Aquifer.

9.15.5 Aquatic Preserves

There is no involvement with Aquatic Preserves.

9.15.6 Section 4(f) Lands

In accordance with Section 4(f) of the DOT Act of 1966 (Title 49, U.S.C., Section 1653(f), amended and recodified in Title 49, U.S.C., Section 303, in 1983), the project was examined for possible involvement with Section 4(f) properties. No Section 4(f) resources are located within or immediately adjacent to the proposed project. Therefore, this project does not involve, nor will affect, any Section 4(f) properties.

9.15.7 Outstanding Florida Waters

Lake Tsala Apopka and Withlacoochee River have been designated as Outstanding Florida Waters (OFW). This designation extends to all of the tributaries, including the following the Tsala Apopka Outfall Canal.

9.15.8 Floodplains

A *Location Hydraulics Report* was completed in 1993 for the S.R. 200 PD&E Study. Floodplain involvement was classified within the report and the classifications are still valid for this Reevaluation. The culvert analysis within the report is sufficient to determine that the improvements will not increase or significantly change the flood elevations and/or limits. Therefore the proposed improvements were classified as having minimal encroachments on a floodplain.

The proposed improvements can be categorized as Category 4: projects on existing alignment involving replacement of existing drainage structures with no record of drainage problems. Replacement or modification of drainage structures for this project were analyzed for the design flows based on a velocity of 6.0 feet per second (fps) for the 25-year storm event as discussed in the FDOT Drainage Manual. The analyses were determined for the 50, 100, and 500 or the

overtopping year storm events. The proposed structures will be hydraulically equivalent to or greater than the existing structure, and backwater surface elevations are not expected to increase. As a result, the project will not affect existing flood heights or floodplain limits. This project will not result in any new or increased adverse environmental impacts. There will be no change in the potential for interruption or termination of emergency services or emergency evacuation routes.

The project has been delineated into eleven sub-basins, identified as sub-basins A through G, HS, HN, I and J. Within the immediate vicinity of S.R. 200, wetlands are very sparse and predominantly consist of isolated depressions. These wetlands are generally divided by low ridges over-topped in periods of excess rainfall. The overland flow eventually meanders through the wetlands, until it reaches a low area where it flows under S.R. 200 through cross drain culverts. Most of the stormwater runoff travels from west to east through commercial, residential, wetlands, and open land. Drainage along the project corridor is accomplished with a combination of roadside ditches and side drain pipes that are located under driveways and roadways. The runoff is conveyed through cross drain culverts that outfall to Lake Tsala Apopka and the Withlacoochee River. The existing drainage systems within the project limits appear to function adequately with no known flooding problems. A telephone conversation with Mr. Don Higginbotham and Mr. Jerry Sanford of the FDOT Lecanto City Maintenance Office, and a meeting with Mr. Curtis Karr, Citrus County Public Works Director, have indicated that there are no known flooding problems at the existing cross drains and conveyance systems along S.R. 200 between U.S. 41 and the Withlacoochee River at the Marion County Line.

The proposed improvements will include the reconstruction of the existing roadside ditch for Segment 4, and new storm sewer systems for Segments 1, 2, and 3 utilizing urban and suburban typical sections. In addition, the proposed improvements will include adequately sized stormwater runoff retention/detention ponds.

9.15.9 Wetland Impact and Mitigation

Impacts

In accordance with Executive Order 11990, "Protection of Wetlands," dated May 23, 1977, a wetland study was conducted to identify, characterize, and evaluate wetland systems that traverse or parallel the project. The details of the study are presented in the *Wetland Evaluation Report* prepared for this project under separate cover.

The wetlands are graphically shown in Appendix A's Exhibits.

Total direct wetland impacts for the preferred alternative are estimated at 4.98 acres and indirect impacts to the Withlacoochee River totaling 0.78 acres will result from the new bridge crossing. Impacts to individual wetlands range from 0.11 (Wetland 3) to 1.88 (Wetland 6) acres in size. The project limits are divided into 4 segments (1, 2, 3, and 4) with impacts by segment as follows:

Segment 1

Improvements within Segment 1 include a 4-lane urban typical section within the existing 100-foot right-of-way. Construction of this preferred alternative will not result in impacts to wetlands.

Segment 2

There are no wetland areas affected by the project in this segment; therefore, there are no wetland impacts associated with either alternative.

Segment 3

Since a majority of the wetlands located within this segment consist of large contiguous systems, potential impacts relative to total wetland size are negligible. In this segment, impacts to three (3) wetland systems (Wetlands 2, 3, and 3.1) will recur. Total potential impacts resulting from the preferred alternative will result in 1.01 acres of wetland impacts.

Segment 4

Improvements within Segment 4 for the preferred alternative will result in 4.75 acres of potential wetland impact (3.97 acres direct impacts/0.78 acre indirect impacts). Included in this impact is 1.88 acres of potential direct impact associated with bridge approaches to the Withlacoochee River, in addition to 0.78 acres of indirect impact associated with shading from the proposed bridge.

With the exception of the Withlacoochee River, the areas potentially impacted are classified as low quality, presumably due to roadside disturbances, roadway construction, and the dominant presence of nuisance vegetation. Bridge layout over the river will be designed to minimize impacts within the system by minimizing piers and spanning the river. Direct impacts to the river system are caused by the placement of fill within the floodplain to accommodate bridge approaches. An indirect shading of a 0.78-acre area associated beneath the bridge structure will result. Due to the proposed height of the bridge, it is not anticipated that this shading will have negative effects on the wetland systems.

Mitigation

The potential wetland impacts associated with this project will have a negligible effect on the regional wildlife habitat and hydrologic functions. The project team has studied various options to reduce wetland impacts to the maximum extent practicable. Options considered include various typical section alternatives, alignment alternatives, and minimization of additional right-of-way acquisition.

Mitigation policies have been established by the USACOE and the SWFWMD. Options for mitigating the loss of wetlands include mitigation banking, upland and/or wetland preservation, wetland restoration, enhancement, and creation. Also, in accordance with recently passed legislation (F.S. 373.4137), another mitigation option is available to the Department. Mitigation in the form of a transfer of funds to the FDEP at \$82,281.00 per acre of impact is also available. These funds are to be used to finance mitigation programs. This mitigation policy is acceptable to the State of Florida and the Federal Agency (USACOE).

Based on these considerations, it is recommended that mitigation, if necessary, be accomplished in accordance with F.S. 373.4137. These and other mitigation options will be explored further during the final design phase of the project. At that time, all appropriate regulatory agencies will be contacted to discuss the required mitigation criterion and to perform on-site investigations, if necessary.

9.15.10 Threatened and Endangered Species

A total of 25 protected animals and 17 protected plants were identified that potentially utilize or inhabit the study area. There was direct observation or signs of three (3) federal and eight (8) state-listed protected species during the corridor survey.

Protected Species – With Both Federal and State Designations

The American alligator (*Alligator mississippiensis*), a protected reptile, was observed in a wetland within the project study area, however, due to the nature of the wetland impacts and abundance of similar habitats within the project area, the proposed project is not likely to adversely affect the alligator.

The project study area contains suitable habitat for the Eastern Indigo snake (*Drymarchon corais couperi*). Although the Eastern Indigo snake was not observed in the project study area, suitable habitat exists and therefore, it could potentially occur. Construction precautions should be used to protect the Eastern Indigo snake during construction; therefore, this project is not likely to adversely affect this species.

Protected avian species observed within the project study area include the wood stork (*Mycteria Americana*) and the bald eagle (*Haliaeetus leucocephalus*). The proposed project is not likely to adversely affect the wood stork due to their high mobility, the limited extent of anticipated impacts to wetland habitats utilized by these species and the fact that no known rookeries for these species exist within close proximity to the project.

There is a documented bald eagle nest within the southern extent of Lake Tsala Apopka, approximately 2.75 miles east of the project study area, identified as Nest No. C1031. Due to the distance from the eagle's nest to the proposed road improvements and the relative isolation of the nest location within the back reaches of Lake Tsala Apopka, the proposed action is not likely to adversely affect the bald eagle.

9.16 Utility Impacts

The following utilities may be impacted by the recommended alternative:

- Florida Power Corporation
- Adelphia Cable Company
- Time Warner Communications
- Sprint Florida
- Citrus County Public Utilities

FDOT will coordinate with all affected utilities during the project design phase in order to determine the actual magnitude of impact upon local utilities and relocation costs.

A preliminary estimate of utility relocation costs are as follows:

- Florida Power Corporation: \$590,000
- Adelphia Cable Company: \$100,000
- Time Warner Communications: \$102,350
- Sprint Florida: \$1,800,000
- Citrus County Public Utilities: Water - \$980,400 and Sewer - \$1,752,485

9.17 Traffic Control Plan

The proposed improvements will be constructed over the existing facility. Maintenance of traffic during construction will be accomplished by allowing traffic to remain on the existing roadway while construction of new adjacent pavement is completed. Upon completion of the new section, traffic will be diverted from the existing roadway onto the new section. Methods similar to

Index Numbers 600, 640, and 641 of FDOT's Roadway and Traffic Design Standards will be applied. In this manner, traffic disruptions would be held to a minimum, and all intersecting streets within the project limits could remain open during construction. Access will be maintained at all times to all residences and businesses during construction activities.

9.18 Results of Public Involvement Program

9.18.1 Kickoff Letter

To announce the beginning of the Reevaluation, a project kickoff letter was distributed to local and regional elected officials, agency representatives, and interested individuals. The letter was mailed October 9, 2000. The letter explained the need for the project, the purpose of the Reevaluation, the project schedule, and its public involvement opportunities. A project location map and comment form were also enclosed with the letter.

9.18.2 Advance Notification

The FDOT, through the Advance Notification (AN) Process, informed federal, state, regional, and local agencies of this project and its scope of anticipated activities. The AN Package was distributed to the Florida State Clearinghouse on August 28, 2000. The AN Package contained a cover letter, an Advance Notification Fact Sheet, project location map, and a copy of the Application for Federal Assistance. Of the 27 packets sent, the following responses were received:

State of Florida, Department of Community Affairs

Comment: The Department has determined that the project is consistent, to the maximum extent feasible, with the applicable comprehensive plan.

Response: *No response required.*

Florida Fish and Wildlife Conservation Commission

Comment: The study should include a complete accounting by acres of all upland and wetland habitats impacted as a result of the project, and a compensatory mitigation plan should be formulated for habitat replacement.

Response: *Impacts to habitats (both upland and wetland) are discussed in the Protected Species Report, attached under separate cover. Additionally, impacts to wetlands are further discussed in the Wetland Assessment Report, attached under separate cover. Potential mitigation for these impacts are discussed in each report.*

Comment: The study should include field surveys for the gopher tortoise and all species listed by our agency as endangered, threatened, or species of special concern. The mitigation plan should also include measures to avoid, minimize, or mitigate those impacts.

Response: *The project was surveyed for the occurrence of protected species. Species-specific surveys were conducted for the Florida scrub jay. These surveys, along with potential mitigation options, are discussed in the Protected Species Report, attached under separate cover.*

Comment: The issue of habitat connectivity should be addressed by the study, and the roadway design should include a longer bridge over the Withlacoochee River and floodplain and/or an upland underpass in this area.

Response: *Neither established wildlife corridors nor public lands contiguous to S.R. 200's crossing of the Withlacoochee River are present. Due to lack of a potential wildlife corridor, it was decided not to provide a longer bridge structure than required. A meeting in the field to review this request was made on March 7, 2001. Officials from both SWFWMD and Florida Fish and Wildlife Commission were in attendance.*

Comment: Drainage retention areas, borrow sites, and equipment staging areas should be sited to avoid or minimize impacts to listed species and their habitats.

Response: *Listed species and their habitats were considered in the pond siting analysis.*

Florida Department of Environmental Protection

Comment: The EA should include as a project alternative, the bridging of all wetland systems along the 6.7-mile project length.

Response: *Appendix A's Exhibits show the location of all wetlands. As shown, the wetlands are adjacent to the existing roadway. Measures will be taken to minimize impacts including the use of 2:1 slopes for the roadway, and location of retention/detention ponds, and other structures outside of the wetlands. The*

bridging of wetlands would be impractical due to the location of the wetland, and the cost associated with it.

Withlacoochee Regional Planning Council

Comment: The staff at the Withlacoochee River Planning Council reviewed the above referenced project and finds it to be consistent with the goals and policies of the WRPC's adopted Strategic Regional Policy Plan for the Withlacoochee Region.

Response: *No response required.*

United States Department of the Interior – Fish and Wildlife Service

Comment: During the reevaluation of the project, a scrub jay survey must be completed following the Florida Game and Freshwater Fish Commission protocol. The reevaluation should also address the federally listed Red-headed Woodpecker, Eastern Indigo Snake, and any federally listed plants.

Response: *The project was surveyed for the occurrence of protected species. Species specific surveys were conducted for the Florida scrub jay. These surveys, along with potential mitigation options, are discussed in the Protected Species Report, attached under separate cover.*

Southwest Florida Water Management District

Comment: The significance of this corridor has also been identified by the University of Florida GeoPlan Center in contractual work conducted for the Florida Department

of Transportation. This study identifies the need for a wildlife crossing at the S.R. 200/Withlacoochee River juncture.

Response: Neither established wildlife corridors nor public lands contiguous to S.R. 200's crossing of the Withlacoochee River are present. Due to lack of a potential wildlife corridor, it was decided not to provide a longer bridge structure than required. A meeting in the field to review this request was made on March 7, 2001. Officials from both SWFWMD and Florida Fish and Wildlife Commission were in attendance.

Comment: In order to mitigate additional fragmentation caused by higher traffic volumes and an expanded roadway, the existing bridge should be expanded 50 to 60 feet on both sides so that the flood plain and adjacent uplands are spanned. At minimum, the northern portion of the bridge should span adjacent uplands a distance of 100 feet.

Response: See above response.

Florida Department of State – Division of Cultural Resources

Comment: We have reviewed the referenced project for possible impact to historic properties listed, or eligible for listing, in the *National Register of Historic Places*, or otherwise of historic or architectural value...we have reviewed the Advance Notification for the Florida Department of Transportation (FDOT) project reference above. We note that FDOT will have a cultural resource survey performed. We look forward to receiving and reviewing the resulting survey report, and to coordinating with the FDOT on this project. If the above conditions

are met, the project will be consistent with the historic preservation aspects of Florida's Coastal Management Program.

Response: A Cultural Resource Assessment Survey (CRAS) was performed to locate and identify any cultural resources within the project impact zone and to assess their significance in terms of eligibility for listing in the NRHP. The results of this assessment are documented in the CRAS Report.

9.18.3 Public Workshop

The Public Workshop for the Reevaluation took place on Thursday, April 25, 2002, from 4:30 p.m. to 7:30 p.m. at the Inverness Middle School, Inverness, Florida. The Workshop was held to inform the public of the results of the Reevaluation and to give the public an opportunity to express their views regarding specific location, design, socioeconomic effects, and environmental impacts of the proposed alternatives. Approximately 32 people attended the Workshop.

Notification letters were mailed to elected officials and agency representatives at least 25-30 days prior to the Workshop. Property owners whose property lies in whole or in part within 300 feet from the centerline of the proposed project were notified of the Workshop 21 days in advance, in accordance with Florida Statutes and the PD&E Manual. Interested citizens were also notified by letter of the Workshop.

A legal display advertisement for the Workshop was published on April 20, 2002, in the Citrus Times section of the St. Petersburg Times.

The meeting format was open and informal. Project brochures were available for all attendees. A brief continuous running video presentation about the project, aerial photographs, concept plans, and project information was available for public viewing.

The Department and its consultants were on hand before, during, and after the official workshop hours to informally discuss the project with the public, to answer questions, and to receive written comments. A court reporter was present to take down official public comments.

Persons were able to make comments as part of the Official Public Workshop Record by (1) completing the Comment Form and dropping it into the Comment Box; (2) completing and mailing the Comment Form to the FDOT District 7; and (3) making an oral statement to the court reporter in a one-to-one setting.

Copies of the legal display advertisements, notification letters, and the Workshop brochure are included in the *Comments and Coordination Report* prepared for this study under separate cover. Copies of the Workshop brochure, attendance rosters, and display graphics are included in the Project Scrapbook, also prepared under separate cover.

9.19 Value Engineering

A value engineering review was held for the above referenced project in the District 7 office and completed on March 12, 2002. The Value Engineering team decided to endorse the current concept design without savings.

9.20 Drainage

The project has been delineated into eleven sub-basins, identified as sub-basins A through G, HS, HN, I, and J. Within the immediate vicinity of S.R. 200, wetlands are very sparse and

predominantly consist of isolated depressions. These wetlands are generally divided by low ridges over-topped in periods of excess rainfall. The overland flow eventually meanders through the wetlands, until it reaches a low area where it flows under S.R. 200 through cross drain culverts. Most of the stormwater runoff travels from west to east through commercial, residential, wetlands and open land. Drainage along the project corridor is accomplished with a combination of roadside ditches and side drain pipes that are located under driveways and roadways. The runoff is conveyed through cross drain culverts that outfall to Lake Tsala Apopka and the Withlacoochee River. The existing drainage systems within the project limits appear to function adequately with no known flooding problems. A telephone conversation with Mr. Don Higginbotham and Mr. Jerry Sanford of the FDOT Lecanto City Maintenance Office, and a meeting with Mr. Curtis Karr, Citrus County Public Works Director, have indicated that there are no known flooding problems at the existing cross drains and conveyance systems along S.R. 200 between U.S. 41 and the Withlacoochee River at the Marion County Line.

The proposed improvements will include the reconstruction of the existing roadside canal/ditch for Segment 4, and new storm sewer systems for Segments 1, 2, and 3 utilizing urban and suburban typical sections. In addition, the proposed improvements will include adequately sized stormwater runoff retention/detention ponds.

9.21 Access Management

Minimum spacing requirements for access points have been established by FDOT for the State Highway System to prevent a driver from encountering more than one conflict at a time. These requirements are stated in Rule 14-97 (Chapter 14.97 F.A.C.), which takes into account the design speed of the highway, the type of median, and the existing and potential intensity of development on the property adjacent to the roadway facility.

Within the study limits, S.R. 200 has an Access Management Classification of 3. Required spacing for Class 3 would be 0.5 miles between signalized intersections as well as full median openings, and 0.25 miles spacing between directional median openings. Connections would be spaced 0.125 miles apart.

A meeting was held with FDOT District 7 personnel on September 19, 2001 to discuss access median opening locations. Table 9.3 and Appendix A's Exhibits shows the median opening recommendations.

9.22 Aesthetics and Landscaping

The median and border area on each side of the proposed typical section will provide opportunities for landscaping. Landscaping must be consistent with FDOT Rule Chapters 14-40 and 14-110, as well as with Indices 546 and 700 of the FDOT Roadway and Traffic Design Standards, for safety and maintenance considerations.

TABLE 9.3

Recommended Access Locations

Access Point	Station	Type
U.S. 41	14 + 00	Full
Viaduct Lane	23 + 00	Full
Wood Knoll	49 + 00	Directional
E. Lake Park	57 + 00	Full
U-Turn	73 + 00	Directional
Arbor Lakes Drive	89 + 00	Full
E. Campfire Road	98 + 00	Directional
Buffalo Lake	109 + 20	Full
Sapphire Lane	125 + 60	Directional
Ruby Lane	135 + 00	Directional
Chappell Court	151 + 00	Full
U-Turn	165 + 00	Directional
Olive Lane	179 + 00	Directional
Delight Street	195 + 50	Full
Orchid	210 + 00	Directional
E. Hill Top/N. Charles Terr.	231 + 00	Directional
Birch Street	239 + 00	Full
U-Turn	262 + 00	Directional
Lecanto Highway	286 + 00	Full
U-Turn	313 + 00	Full
CR 30	343 + 00	Full

APPENDIX A

PREFERRED BUILD ALTERNATIVE CONCEPT



- PROPERTY LINES
- |— CENTERLINE
- - - EXISTING RIGHT-OF-WAY
- - - PROPOSED RIGHT-OF-WAY
- ▭ PROPOSED EDGE OF PAVEMENT
- ▭▭▭▭ POTENTIAL POND LOCATIONS
- - - WETLANDS
- IMPROVEMENTS FOR S.R. 45 (US 41)
(PD&E STUDY-WPI NO. 257165-1)

BEGIN PROJECT
 STA. (17+67.66) MATCH U.S. 41 (S.R. 45)
 PD&E STUDY (W.P.I. NO.257165-1)
 RECOMMENDED IMPROVEMENTS



ALTERNATIVE

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 200	CITRUS	257188-1-22-01

S.R. 200 (N. CARL G. ROSE HWY)
 FROM US 41/S.R. 45 TO NORTH
 OF THE MARION COUNTY LINE
 CITRUS COUNTY, FLORIDA

SHEET
 NO.
2



- PROPERTY LINES
- |— CENTERLINE
- - - EXISTING RIGHT-OF-WAY
- - - PROPOSED RIGHT-OF-WAY
- ▬▬▬▬▬▬ PROPOSED EDGE OF PAVEMENT
- ▬▬▬▬▬▬ POTENTIAL POND LOCATIONS
- ▬▬▬▬▬▬ WETLANDS
- IMPROVEMENTS FOR S.R. 45 (US 41)
(PD&E STUDY-WPI NO. 257165-1)

SEGMENT 1
URBAN

SEGMENT 2
SUBURBAN







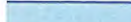



URBAN TO SUBURBAN ALTERNATIVE

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 200	CITRUS	257188-1-22-01

S.R. 200 (N. CARL G. ROSE HWY)
FROM US 41/S.R. 45 TO NORTH
OF THE MARION COUNTY LINE
CITRUS COUNTY, FLORIDA

SHEET
NO.
3



-  PROPERTY LINES
-  CENTERLINE
-  EXISTING RIGHT-OF-WAY
-  PROPOSED RIGHT-OF-WAY
-  PROPOSED EDGE OF PAVEMENT
-  POTENTIAL POND LOCATIONS
-  WETLANDS
-  IMPROVEMENTS FOR S.R. 45 (US 41)
(PD&E STUDY-WPI NO. 257165-1)



URBAN TO SUBURBAN ALTERNATIVE

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 200	CITRUS	257188-1-22-01

S.R. 200 (N. CARL G. ROSE HWY)
FROM US 41/S.R. 45 TO NORTH
OF THE MARION COUNTY LINE
CITRUS COUNTY, FLORIDA

SHEET
NO.
4



- PROPERTY LINES
- CENTERLINE
- - - EXISTING RIGHT-OF-WAY
- - - PROPOSED RIGHT-OF-WAY
- PROPOSED EDGE OF PAVEMENT
- ▨ POTENTIAL POND LOCATIONS
- ▨ WETLANDS
- IMPROVEMENTS FOR S.R. 45 (US 41) (PD&E STUDY-WPI NO. 257165-1)



SUBURBAN ALTERNATIVE

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 200	CITRUS	257188-1-22-01

S.R. 200 (N. CARL G. ROSE HWY)
FROM US 41/S.R. 45 TO NORTH
OF THE MARION COUNTY LINE
CITRUS COUNTY, FLORIDA

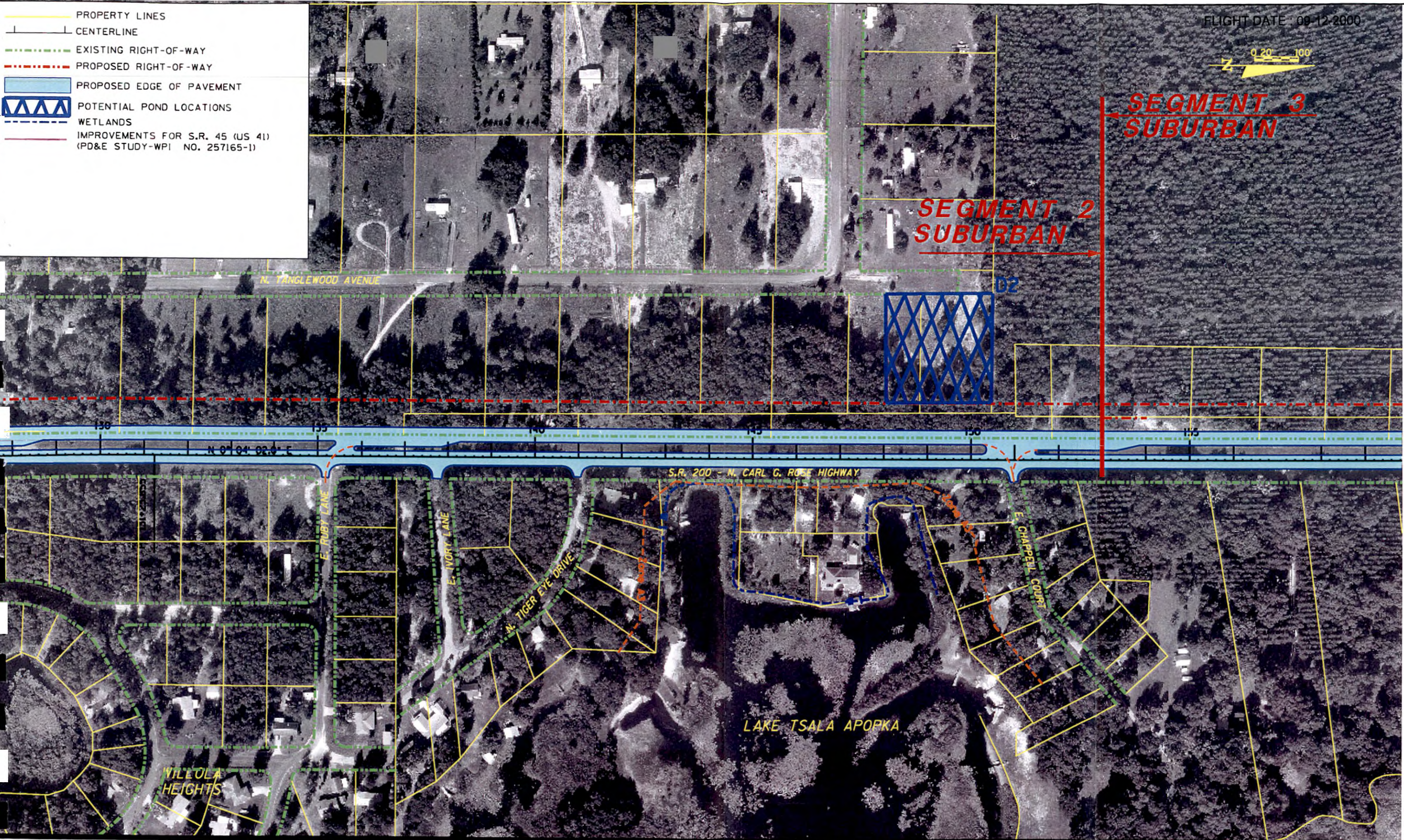
SHEET NO.
5



- PROPERTY LINES
- |— CENTERLINE
- - - EXISTING RIGHT-OF-WAY
- - - PROPOSED RIGHT-OF-WAY
- PROPOSED EDGE OF PAVEMENT
- ▤▤▤▤ POTENTIAL POND LOCATIONS
- - - WETLANDS
- IMPROVEMENTS FOR S.R. 45 (US 41)
(PD&E STUDY-WPI NO. 257165-1)

**SEGMENT 3
SUBURBAN**

**SEGMENT 2
SUBURBAN**



SUBURBAN ALTERNATIVE

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 200	CITRUS	257188-1-22-01

S.R. 200 (N. CARL G. ROSE HWY)
FROM US 41/S.R. 45 TO NORTH
OF THE MARION COUNTY LINE
CITRUS COUNTY, FLORIDA

SHEET
NO.
6



- PROPERTY LINES
- |— CENTERLINE
- - - EXISTING RIGHT-OF-WAY
- - - PROPOSED RIGHT-OF-WAY
- ▭ PROPOSED EDGE OF PAVEMENT
- ▭ POTENTIAL POND LOCATIONS
- ▭ WETLANDS
- IMPROVEMENTS FOR S.R. 45 (US 41)
(PD&E STUDY-WPI NO. 257165-1)



SUBURBAN ALTERNATIVE

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 200	CITRUS	257188-1-22-01

S.R. 200 (N. CARL G. ROSE HWY)
FROM US 41/S.R. 45 TO NORTH
OF THE MARION COUNTY LINE
CITRUS COUNTY, FLORIDA

SHEET NO.
7



- PROPERTY LINES
- CENTERLINE
- - - EXISTING RIGHT-OF-WAY
- - - PROPOSED RIGHT-OF-WAY
- ▭ PROPOSED EDGE OF PAVEMENT
- ▭ POTENTIAL POND LOCATIONS
- ▭ WETLANDS
- IMPROVEMENTS FOR S.R. 45 (US 41)
(PD&E STUDY-WPI NO. 257165-1)











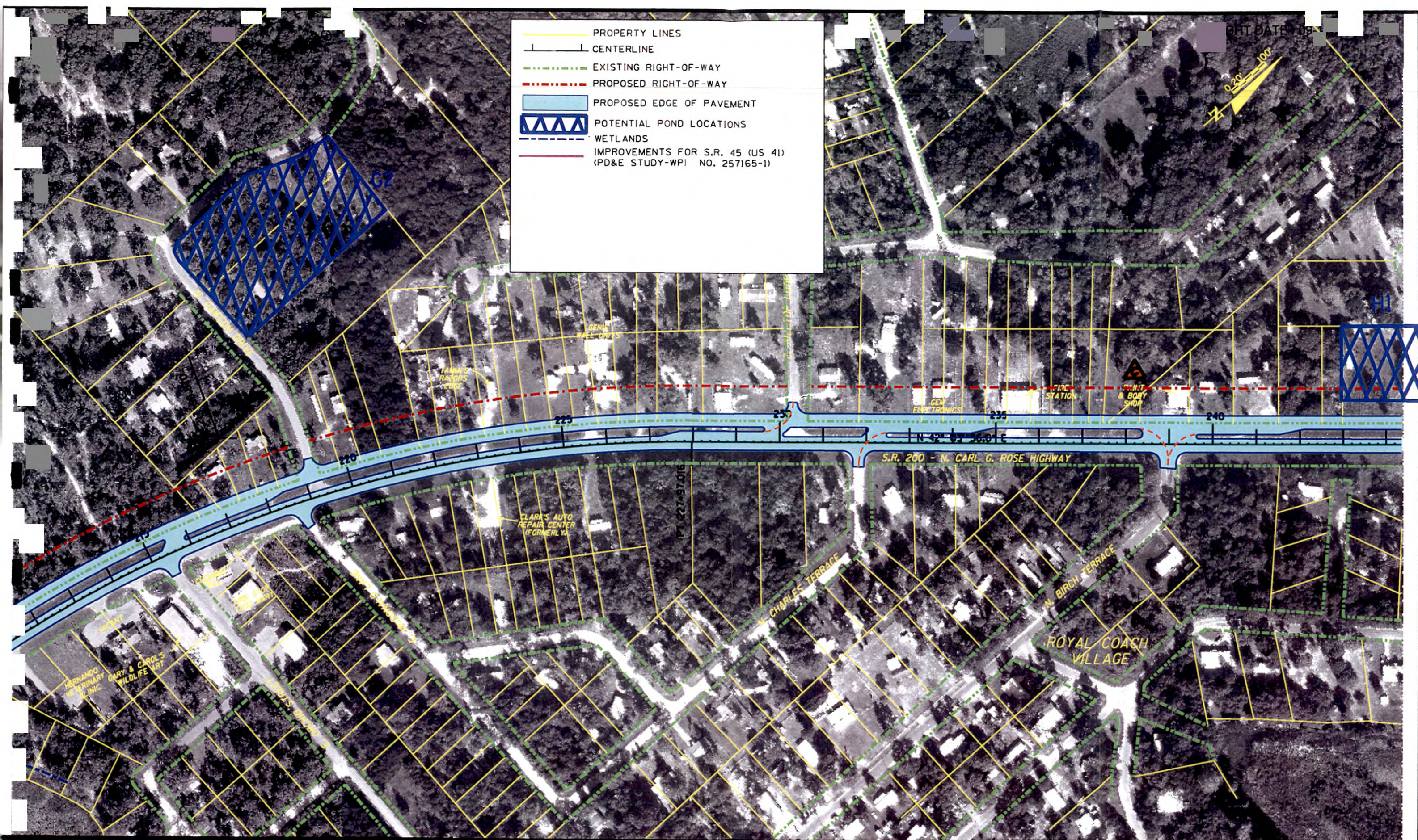
**UBURBAN ALTERNATIVE
(WIDENING WEST)**

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 200	CITRUS	257188-1-22-01

S.R. 200 (N. CARL G. ROSE HWY)
FROM US 41/S.R. 45 TO NORTH
OF THE MARION COUNTY LINE
CITRUS COUNTY, FLORIDA

SHEET NO.
8

 PROPERTY LINES
 CENTERLINE
 EXISTING RIGHT-OF-WAY
 PROPOSED RIGHT-OF-WAY
 PROPOSED EDGE OF PAVEMENT
 POTENTIAL POND LOCATIONS
 WETLANDS
 IMPROVEMENTS FOR S.R. 45 (US 41)
 (PD&E STUDY-WPI NO. 257165-1)



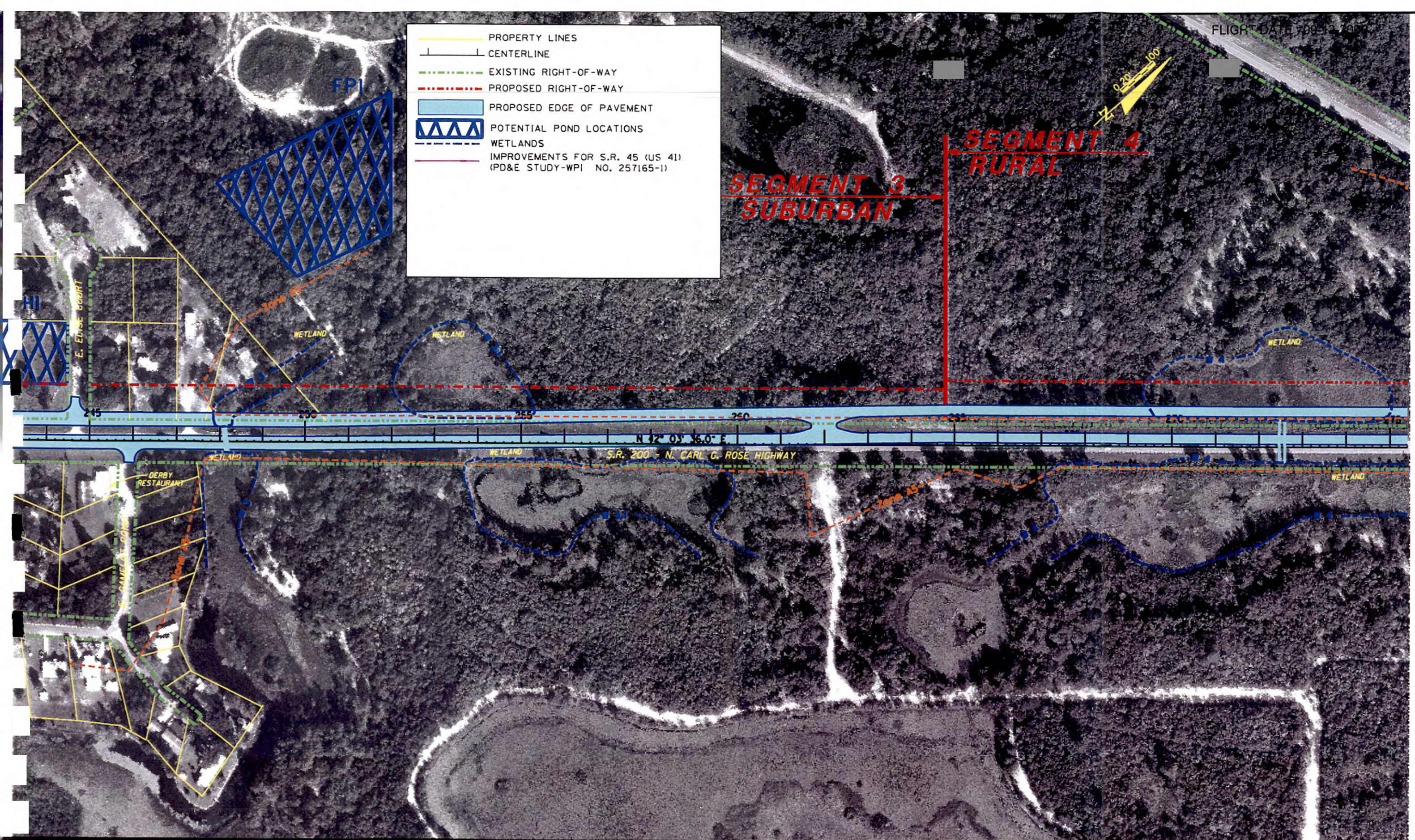
**SUBURBAN ALTERNATIVE
(WIDENING WEST)**

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 200	CITRUS	257188-1-22-01

S.R. 200 (N. CARL G. ROSE HWY)
FROM US 41/S.R. 45 TO NORTH
OF THE MARION COUNTY LINE
CITRUS COUNTY, FLORIDA

SHEET
NO.
9

— PROPERTY LINES
| CENTERLINE
- - - EXISTING RIGHT-OF-WAY
- - - PROPOSED RIGHT-OF-WAY
▭ PROPOSED EDGE OF PAVEMENT
▭ POTENTIAL POND LOCATIONS
▭ WETLANDS
— IMPROVEMENTS FOR S.R. 45 (US 41)
 (PD&E STUDY-WPI NO. 257165-1)



SUBURBAN TO RURAL ALTERNATIVE

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 200	CITRUS	257188-1-22-01

S.R. 200 (N. CARL G. ROSE HWY)
FROM US 41/S.R. 45 TO NORTH
OF THE MARION COUNTY LINE
CITRUS COUNTY, FLORIDA

SHEET NO.
10

— PROPERTY LINES
—|— CENTERLINE
- - - EXISTING RIGHT-OF-WAY
- - - PROPOSED RIGHT-OF-WAY
 PROPOSED EDGE OF PAVEMENT
 POTENTIAL POND LOCATIONS
 WETLANDS
— IMPROVEMENTS FOR S.R. 45 (US 41)
 (PD&E STUDY-WPI NO. 257165-1)



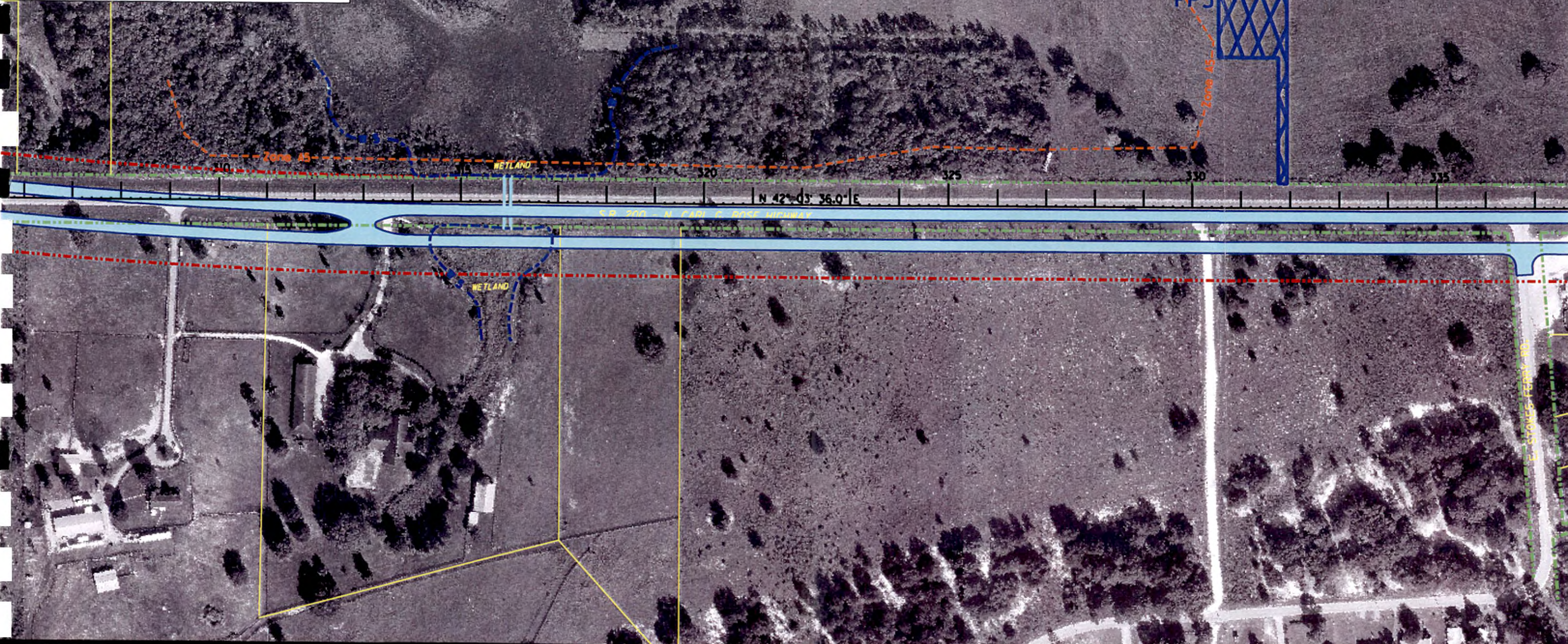
RURAL ALTERNATIVE

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 200	CITRUS	257188-1-22-01

S.R. 200 (N. CARL G. ROSE HWY)
FROM US 41/S.R. 45 TO NORTH
OF THE MARION COUNTY LINE
CITRUS COUNTY, FLORIDA

SHEET NO.
11

— PROPERTY LINES
—|— CENTERLINE
- - - EXISTING RIGHT-OF-WAY
- - - PROPOSED RIGHT-OF-WAY
▬▬▬ PROPOSED EDGE OF PAVEMENT
▬▬▬▬▬ POTENTIAL POND LOCATIONS
- - - WETLANDS
— IMPROVEMENTS FOR S.R. 45 (US 41)
 (PD&E STUDY-WPI NO. 257165-1)







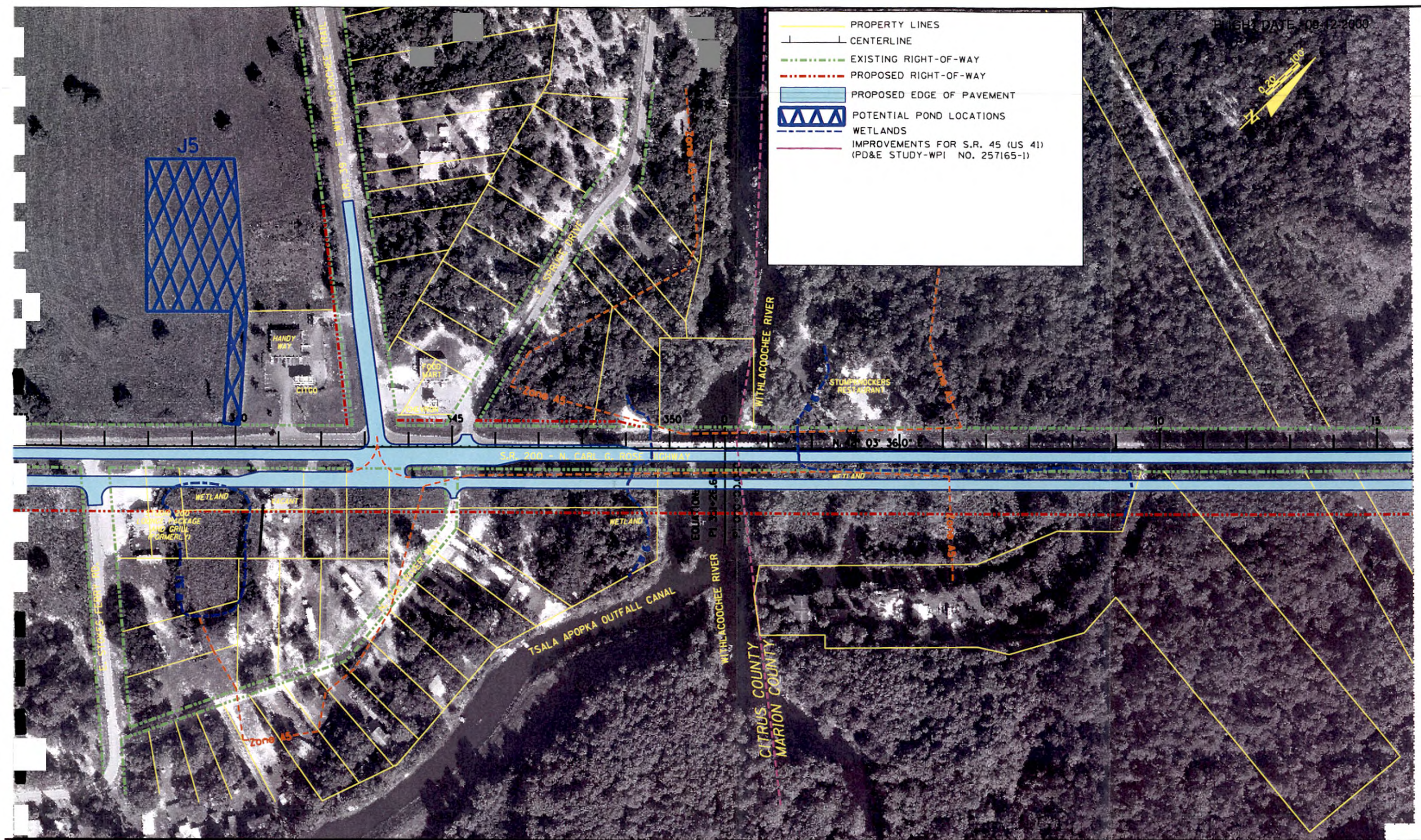
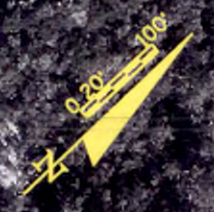
URAL ALTERNATIVE

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 200	CITRUS	257188-1-22-01

S.R. 200 (N. CARL G. ROSE HWY)
 FROM US 41/S.R. 45 TO NORTH
 OF THE MARION COUNTY LINE
 CITRUS COUNTY, FLORIDA

SHEET
 NO.
12

———— PROPERTY LINES
 ———— CENTERLINE
 - - - - EXISTING RIGHT-OF-WAY
 - - - - PROPOSED RIGHT-OF-WAY
 PROPOSED EDGE OF PAVEMENT
 POTENTIAL POND LOCATIONS
 WETLANDS
 IMPROVEMENTS FOR S.R. 45 (US 41)
 (PD&E STUDY-WPI NO. 257165-1)











RURAL ALTERNATIVE

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 200	CITRUS	257188-1-22-01

S.R. 200 (N. CARL G. ROSE HWY)
 FROM US 41/S.R. 45 TO NORTH
 OF THE MARION COUNTY LINE
 CITRUS COUNTY, FLORIDA

SHEET NO.
13

-  PROPERTY LINES
-  CENTERLINE
-  EXISTING RIGHT-OF-WAY
-  PROPOSED RIGHT-OF-WAY
-  PROPOSED EDGE OF PAVEMENT
-  POTENTIAL POND LOCATIONS
-  WETLANDS
-  IMPROVEMENTS FOR S.R. 45 (US 41)
(PD&E STUDY-WPI NO. 257165-1)



END PROJECT
 STA. (25+10.00)
 END S.R. 200 PD&E STUDY REEVALUATION-
 MATCH FOOT DISTRICT 5 ROADWAY DESIGN

20
 N 42° 03' 36.0\"/>

RURAL ALTERNATIVE

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 200	CITRUS	257188-1-22-01

S.R. 200 (N. CARL G. ROSE HWY)
 FROM US 41/S.R. 45 TO NORTH
 OF THE MARION COUNTY LINE
 CITRUS COUNTY, FLORIDA

SHEET
 NO.
14

APPENDIX B

CORRESPONDENCE



FWS Log No: 02-1384

Florida Department of

11201 N. MCKINLEY DRIVE • TAMPA, FL 33612-6

ENVIRONMENTAL MANAGEMENT

JEB BUSH
GOVERNOR

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

Don Palmer
for Peter M. Benjamin
Assistant Field Supervisor

8/28/02
Date

June 6, 2002

Mr. Don Palmer
US Fish and Wildlife Service
6620 Southpoint Drive South, Suite 310
Jacksonville, FL 32216

RECEIVED
1 JUN 11 2002
U.S. FISH AND WILDLIFE SERVICE
JACKSONVILLE, FLORIDA

RE: FWS Log No: 4-1-95-461F
WPI Seg. No. 257188 1 / FAP No. FL62-020R
SR 200, from US 41 to the Marion County Line, Citrus & Marion Counties

Dear Mr. Palmer:

The Florida Department of Transportation District 7 (FDOT) is conducting a reevaluation on a previously approved Project Development & Environment (PD&E) study. The original PD&E effort was completed in 1996 under the guidance of the FDOT District 5 (Deland Office). The geographical areas within the various FDOT Districts were reorganized during that same time period. As a result of the reorganization, Citrus County was transferred to District 7 (Tampa Office). The US Fish and Wildlife Service concurred with determination that the conceptual design concepts would not likely adversely affect federally protected resources along the corridor but requested the Department to resurvey the corridor for *Aphelocoma coerulescens coerulescens* and *Neoseps reynoldsi* (letter attached).

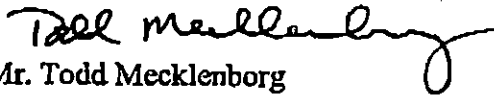
Coordination was reinitiated with the Service in October of 2000 to clarify the methodologies that would be conducted under the supervision of District 7. The methodology letter is also included with this correspondence. District 7 resurveyed the project corridor during the months of October 2000, January 2001, February 2001, and March 2001. The findings of this effort are summarized in a "Biological Assessment". A copy of this report is included with this correspondence for your review.

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 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 US 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.

Mr. Palmer
June 6, 2002
Page Two

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

DIVISIONS OF FLORIDA DEPARTMENT OF STATE
 Office of the Secretary
 Office of International Relations
 Division of Elections
 Division of Corporations
 Division of Cultural Affairs
 Division of Historical Resources
 Division of Library and Information Services
 Division of Licensing
 Division of Administrative Services



MEMBER OF THE FLORIDA CABINET
 State Board of Education
 Trustees of the Internal Improvement Trust Fund
 Administration Commission
 Florida Land and Water Adjudicatory Commission
 Siting Board
 Division of Bond Finance
 Department of Revenue
 Department of Law Enforcement
 Department of Highway Safety and Motor Vehicles
 Department of Veterans' Affairs

FLORIDA DEPARTMENT OF STATE
 Katherine Harris
 Secretary of State
 DIVISION OF HISTORICAL RESOURCES

Mr. James E. St. John
 U.S. Department of Transportation
 Federal Highway Administration, Florida Division
 227 N. Bronough Street, Suite 2015
 Tallahassee, Florida 32301

November 13, 2001

Re: DHR No. 2001-10059 / Date Received by DHR: November 2, 2001
 Additional Information Received November 13, 2001
 FAP No. FL62-020R
 Cultural Resource Assessment Survey Update Technical Memorandum, State Road
 (S.R. 200 from the S.R. 200/U.S. 41 (S.R. 45) Intersection to North of the
 Marion County Line, Project Development and Environment (PD&E) Study
 Reevaluation, Citrus and Marion Counties, Florida

2001 NOV 19 AM 7:10
 RECEIVED
 DIVISION OF HISTORICAL RESOURCES

Dear Mr. St. John:

Our office has received the referenced project in accordance with Section 106 of the *National Historic Preservation Act of 1966* (Public Law 89-665), as amended in 1992, and *36 C.F.R., Part 800:1* *Protection of Historic Properties*, Chapters 267, *Florida Statutes*, and implementing state regulations, for possible impact to historic properties listed, or eligible for listing, in the *National Register of Historic Places*, or otherwise of historical, architectural or archaeological value. The State Historic Preservation Officer is to advise and assist state and federal agencies when identifying historic properties, assessing effects upon them, and considering alternatives to avoid or minimize adverse effects.

Results of the survey indicate that a total of eleven previously recorded archaeological sites (8CI808 - 8CI812, 8CI818, 8CI820 - 8CI823, 8MR2347) were investigated and evaluated. Seven previously recorded cultural resources (8CI806, 8CI807, 8CI813, 8CI816, 8CI817, 8CI819, 8CI824) located within the area of potential effect for this project but outside proposed pond areas were noted. In addition, ten previously unrecorded historic structures (8CI1078 - 8CI1086, 8MR3161) and three archaeological occurrences (AO #1-3) were identified and evaluated. Finds AO #1-3 were determined not to meet the eligibility criteria for listing in the *National Register of Historic Places*. All of the historic structures recorded during this survey are considered ineligible for listing in the *National Register* due to their common design, non-historic alterations, and lack of significant historical association. Archaeological sites 8CI811, 8CI820, 8CI821, and 8CI823 have been determined eligible for listing in the *National Register* (FMSF Survey #4379). Due to their limited artifact assemblages, absence of intact cultural deposits, and lack of substantive research potential, none of the remaining resources are considered eligible for listing in the *National Register*. Based on the information provided, this office concurs with these determinations and finds the submitted report complete and sufficient.

The 1995 Memorandum of Agreement (MOA) for sites 8CI811, 8CI820, 8CI821, and 8CI823 states that archaeological excavation and artifact recovery (Phase III) will take place at the portions of these sites affected by FHWA activities. A data recovery plan for this undertaking, as specified in the MOA, should be developed in consultation with this office.

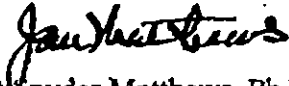
500 S. Bronough Street • Tallahassee, FL 32399-0250 • <http://www.flheritage.com>

- Director's Office (850) 245-6300 • FAX: 245-6435
- Archaeological Research (850) 245-6444 • FAX: 245-6436
- Historic Preservation (850) 245-6333 • FAX: 245-6437
- Historical Museums (850) 245-6400 • FAX: 245-6433
- Palm Beach Regional Office (561) 279-1475 • FAX: 279-1476
- St. Augustine Regional Office (904) 825-5045 • FAX: 825-5044
- Tampa Regional Office (813) 272-3843 • FAX: 272-2340

Mr. St. John
November 13, 2001
Page 2

If you have any questions concerning our comments, please contact Mary Beth Fitts, Historic Sites Specialist, at mbfitts@mail.dos.state.fl.us or (850) 245-6333. Your interest in protecting Florida's historic properties is appreciated.

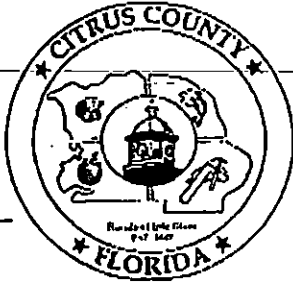
Sincerely,



Janet Snyder Matthews, Ph.D., Director, and
State Historic Preservation Officer

Xc: Mr. C.L. Irwin, FDOT - CEMO
Mr. Jerry Comella, FDOT - District 7 EMO

G.I.a



Board of County Commissioners

DEPARTMENT OF DEVELOPMENT SERVICES

Web Address: <http://www.bocc.citrus.fl.us> • Toll Free (352) 489-2120
3600 W. Sovereign Path, Lecanto, FL 34461-8070

In reply, refer to: PL3-00-240

October 24, 2000

Mark E. Clasgens
EMO Project Manager
FDOT District 7
11202 North McKinley Drive
Tampa, Florida 33612-6456

RE: SR-200/Comprehensive Plan Amendment to the Traffic Circulation Element

Dear Mr. Clasgens:

As requested, staff has initiated an amendment application to adjust the text to reflect the widening of SR-200. This will be reviewed early next year as part of our 2001 First Cycle Comprehensive Plan Amendments. The application number is CPA-01-03.

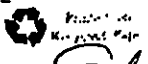
If you have any questions, please contact me at (352) 527-5242 or email at kevin.smith@bocc.citrus.fl.us.

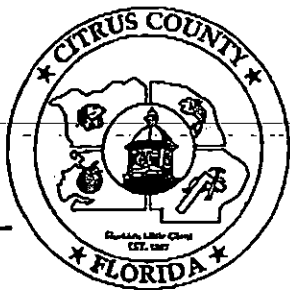
Sincerely,

Kevin A. Smith, AICP
Planning Manager
Community Development Division

KAS/sl

CC: Ian McDonald, AICP, Senior Planner, Community Development Division
Charles S. Dixon, AICP, Director, Community Development Division
Gary W. Maidhof, Director, Department of Development Services





Board of County Commissioners

DEPARTMENT OF DEVELOPMENT SERVICES

Web Address: <http://www.bocc.citrus.fl.us> • Toll Free (352) 489-2120
3600 W. Sovereign Path, Lecanto, FL 34461-8070

In reply, refer to:

PL3-01-128

*Updated to be consistent
with FDOT work log*

July 20, 2001

Ms. Carol M. Collins
Florida Department of Transportation
District Seven
11201 North McKinley Avenue
Mail Station 7-340
Tampa, Florida 33612

RE: CITRUS COUNTY COMPREHENSIVE PLAN AMENDMENTS FIRST CYCLE, 2001

Dear Ms. Collins:

The Citrus County Board of County Commissioners adopted amendments to the Citrus County Comprehensive Plan at a duly advertised public hearing on July 10, 2001. A copy of the adopted amendments is enclosed.

The local government contact person for the amendment is Kevin A. Smith, AICP, Assistant Director, Division of Community Development, 3600 West Sovereign Path, Suite 140, Lecanto, Florida 34461 (352) 527-5239

If you have any questions, please advise.

Sincerely,

Kevin A. Smith, AICP
Assistant Director

KAS/crm

Enclosure

ORDINANCE NO. 2001- 219

AN ORDINANCE OF CITRUS COUNTY, FLORIDA, AMENDING THE CITRUS COUNTY COMPREHENSIVE PLAN, ORDINANCE NO. 89-04, AS AMENDED BY REVISION TO THE GENERALIZED FUTURE LAND USE MAP (GFLUM); CHAPTER TWELVE: CAPITAL IMPROVEMENTS ELEMENT; AND CHAPTER SIX: TRAFFIC CIRCULATION ELEMENT AS PRESENTED HEREIN BELOW; PROVIDING FOR SEVERABILITY; PROVIDING FOR INCLUSION AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, the Citrus County Board of County Commissioners recognizes the need to plan for orderly growth and development while protecting Citrus County's abundant natural resources; and

WHEREAS, the Board of County Commissioners adopted the Citrus County Comprehensive Plan, Ordinance No. 89-04, on April 18, 1989, and subsequent amendments; and

WHEREAS Chapter 163, Florida Statutes and Chapter 9J-5, Florida Administrative Code provide for the amendment of the Comprehensive Plan.

BE IT ORDAINED BY THE BOARD OF COUNTY COMMISSIONERS OF CITRUS COUNTY, FLORIDA AS FOLLOWS:

SECTION 1. SHORT TITLE

This Ordinance shall be known as, cited as, and referred to as the "Citrus County Comprehensive Plan 2001 First Cycle Amendments", and shall be effective within the unincorporated areas of Citrus County, Florida.

SECTION 2. AUTHORITY

This "Citrus County Comprehensive Plan 2001 First Cycle Amendments" is adopted pursuant to Chapter 163, Florida Statutes.

SECTION 3. REVISIONS AND ADDITIONS TO THE GENERALIZED FUTURE LAND USE MAP (GFLUM)

CPA/AA-01-01 (DDS)

Redesignation from residential to conservation on certain parcels of land acquired by Citrus County under the "El Nino" buy out program located in the Arrowhead area, northeast Citrus County, as presented in application CPA/AA-01-01, as further fully described in Exhibit "A" attached hereto and incorporated herein by reference.

CERTIFIED TO BE A TRUE COPY
BETTY STRIFLER
CLERK OF CIRCUIT COURT
By: *Shereese Ste Max, D.C.*
This 13 Day of July AD2001

ORDINANCE NO. 2001-A19

**SECTION 4. REVISIONS AND ADDITIONS TO CHAPTER TWELVE:
CAPITAL IMPROVEMENTS ELEMENT****CPA-01-02 (DDS)**

Revisions to Chapter Twelve: Capital Improvements Element to update the text consistent with the adopted Capital Improvements Program, as presented in application CPA-01-02, as further fully described in Exhibit "B" attached hereto and incorporated herein by reference.

**SECTION 5. REVISIONS AND ADDITIONS TO CHAPTER SIX: TRAFFIC
CIRCULATION ELEMENT****CPA-01-03 (DDS)**

Revisions to Chapter Six: Traffic Circulation Element to update the text consistent with the FDOT District 7 work program as presented in application CPA-01-03, as further fully described in Exhibit "C" attached hereto and incorporated herein by reference.

SECTION 6. SEVERABILITY

If any section, subsection, sentence, clause or phrase of this ordinance is for any reason held illegal, invalid or unconstitutional by the decision of any court or regulatory body of competent jurisdiction, such decision shall not affect the validity of the remaining portions hereof. The Board of County Commissioners hereby declares that it would have passed this ordinance and each section, subsection, sentence, clause or phrase hereof, irrespective of the fact that any one or more section, subsections, sentences, clauses, or phrases be declared illegal, invalid or unconstitutional and all ordinances and parts of ordinances in conflict with the provisions of the ordinance are hereby repealed.

SECTION 7. INCLUSION IN THE COMPREHENSIVE PLAN

It is the intention of the Board of County Commissioners of Citrus County, Florida, and it is hereby provided that the provisions of this Ordinance shall become and be made a part of the Citrus County Comprehensive Plan (Citrus County Ordinance No. 89-04). To this end, the sections of this Ordinance may be renumbered or relettered to accomplish such intention, and that the word "ordinance" may be changed to "section", "article", "policy" or other appropriate designation.

SECTION 8. EFFECTIVE DATE

The effective date of this plan amendment shall be the date a final order is issued by the Department of Community Affairs or Administration Commission finding the amendment in compliance in accordance with Section 163.3184(1)(b), Florida Statutes, whichever occurs

ORDINANCE NO. 2001-A19

earlier. No development orders, development permits, or land uses dependent on this amendment may be issued or commence before it has become effective. If a final order of non-compliance is issued by the Administration Commission, this amendment may nevertheless be made effective by adoption of a resolution affirming its effective status, a copy of which resolution shall be sent to the Department of Community Affairs, Division of Resource and Planning Management, Plan Processing Team.

DONE AND ADOPTED in regular meeting of the Board of County Commissioners of Citrus County Florida, this 10 day of July 2001.

ATTEST:

BETTY STRIFLER, CLERK

BOARD OF COUNTY COMMISSIONERS
OF CITRUS COUNTY, FLORIDA

BY: 
ROGER O. BATCHELOR, CHAIRMAN

APPROVED AS TO FORM
AND CORRECTNESS:


ROBERT B. BATTISTA
COUNTY ATTORNEY

Traffic Circulation Element
Revised October 26, 2000

Table 6-8

CAPITAL REQUIREMENTS FOR INDICATED IMPROVEMENT (1)

Roadway	Location	Indicated Improvement	Length Miles	Cost Estimation (000)	Jurisdiction
Existing Deficiencies					
SR-44	CR-486 to Inver CL	4LD	14.1	28,500	FDOT
US-41	SR-200 to CR-486	4LD	0.3	350	FDOT
US-41	CR-486 to Inver CL	4LD	4.9	9,800	FDOT
US-41	Inver CL to CR-39A	4LD	4.0	8,000	FDOT
US-41	CR-39A to CR-48	4LD	2.3	4,600	FDOT
CR-491	Tru Blvd to Gr. Cle.	4LD	3.0	25,900	CC
US-41	CR-39 to Cty Line	4LD	1.3	2,600	FDOT
2000 - 2010					
CR-486	SR-44 to CR-491	4LD	4.0	2,500	CC
CR-486	CR-491 to US-41	4LD	7.4	13,800	CC
SR-44	East of Inverness	4LD	6.8	28,000	FDOT
US-98	West of US-19	4LD	3.4	6,800	FDOT
CR-490	West of US-19	4LD	3.3	6,400	CC
SR-200	SR-41 to Marion Cty L.	4LD	6.7	13,400	FDOT
2010 - 2020					
US-41	CR-39 to SR-200	4LD	10.3	20,600	FDOT
CR-488	US-19 to CR-495	4LD	4.9	9,800	CC
CR-488	CR-495 to US-41	4LD	7.3	14,600	CC
CR-490A	West of US-19	4LD	3.1	6,200	CC
CR-581	SR-44 to Anna Jo	4LD	5.7	11,400	CC
Grover Cleve	US-19 to CR-491	4LD	5.3	10,600	CC
US-19	CR-488 to C. Riv.	4LD	5.7	11,400	FDOT
US-19	CR CL to Hern Cty Line	4LD	SB 11.8	22,600	FDOT
2020 - Beyond					
CR-495	US-19 to CR-488	4LD	7.8	15,600	CC
CR-480	US-98 to CR-491	4LD	7.4	14,800	CC
SR-44	CR-490 to CR-491	4LD	1.0	2,000	FDOT
SR-44	CR-486 to CR-490	4LD	4.5	9,000	FDOT
SR-44	CR-491 to Inv C.L.	4LD	9.1	18,000	FDOT
CR-581	US-41 to County Line	4LD	7.1	14,200	CC

1) The improvement projects listed in this table represent a summary of the major roadway improvements required to address the existing and projected needs identified in Section V of this element. For a more detailed listing of transportation related improvements and cost figures, refer to the Capital Improvements Element.

Source: Citrus County Department of Public Works and Division of Planning 1996

**EXECUTIVE SUMMARY
2001 FIRST CYCLE
COMPREHENSIVE PLAN AMENDMENTS**

CPA-01-01 (Tolle) - *This application was withdrawn by the applicant on May 23, 2001.*

Request is for redesignation of four parcels from Rural Residential (RUR) to Low Density Residential (LDR) on the Generalized Future Land Use Map (GFLUM). Subject properties are located generally north of the City of Crystal River in Sections 3 and 5 of Township 18 South, Range 17 East. Applicant is Hugh E. Tolle representing Gerrits-Citrus, Southern Heritage, Kay Tolle, and Ed/Kay Tolle. Total acreage under this application is 357 acres.

CPA-01-02 (DDS)

Update to Chapter Twelve: Capital Improvements Element. Adjustments to update the text consistent with the adopted Capital Improvements Program and Rule 9J-5 FAC.

CPA-01-03 (DDS)

Update to Chapter Six: Traffic Circulation Element. Adjustment to update the text consistent with the FDOT District 7 Work Program.

CPA/AA-01-01 (DDS)

Redesignation from residential to conservation on certain parcels of land acquired by Citrus County under the "El Nino" buy out program located in the Arrowhead area, northeast Citrus County. All are in public ownership and cannot be developed for residential purposes. Total acreage under this application is 10.6 acres.

PM3-01-78
May 29, 2001






ORDINANCE NO. 2001-A19

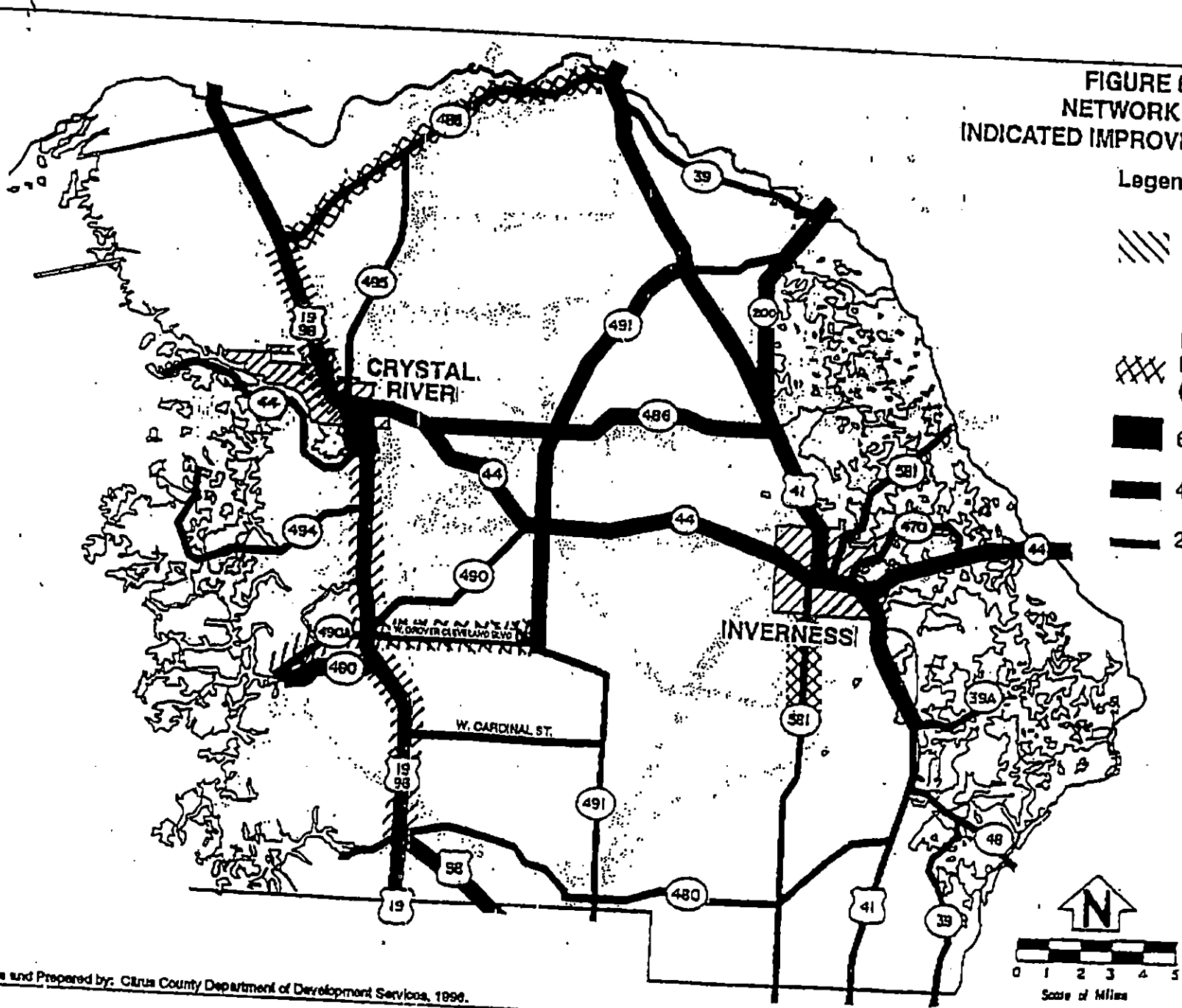
EXHIBIT "A"
CPA/AA-01-01 (DDS) "El Nino"

Property	S-T-R	Location
1	30-17-20	5777 E.River Rd., Hernando River Road Unrec Sub, Lot 77 in OR Bk 608 P 1215, Bk802 P 1953, Bk896 P800
2	30-17-20	5805 E. River Road, Hernando River Road Unrec Sub, Lots 78 & 79 in OR Bk 622 P 878
3	30-17-20	7908 N. Brush Ter., Hernando Parcel 3D000 005C in OR Bk 510 P 606, Bk 559 P 2076, Bk 896 P 1090
4	32-17-20	6525 E. Turkey Trail, Hernando Parcel 24120 as described in OR Bk 1166 Pg 164
5	32-17-20	6281 Gina Lynn Path, Hernando; Live Oak Estates Unrec Sub, Lots 9, 10 & 11 in OR Bk 1199 Pgs 1 & 6
6	6-18-20	6510 N. Morton Pt., Hernando; Morton's Unrec Sub, Lots 19 & 20 in OR Bk 1095 Pg 392
7	8-19-21	12293 E. Ash Ct., Inverness; Riverside Gardens, Lot 10 Blk A in OR Bk 764 P 167

FIGURE 6 - 6
NETWORK WITH
INDICATED IMPROVEMENTS - 2010

Legend:






-  Proposed Improvements (6 Lane Divided)
-  Proposed Improvements (4 Lane Divided)
-  6 Lane Divided
-  4 Lane Divided
-  2 Lane Undivided



Drawn and Prepared by: Citrus County Department of Development Services, 1996.

FIGURE 6-7
NETWORK WITH
INDICATED IMPROVEMENTS - 2020

Legend:

-  Proposed Improvements (6 Lane Divided)
-  Proposed Improvements (4 Lane Divided)
-  6 Lane Divided
-  4 Lane Divided
-  2 Lane Undivided

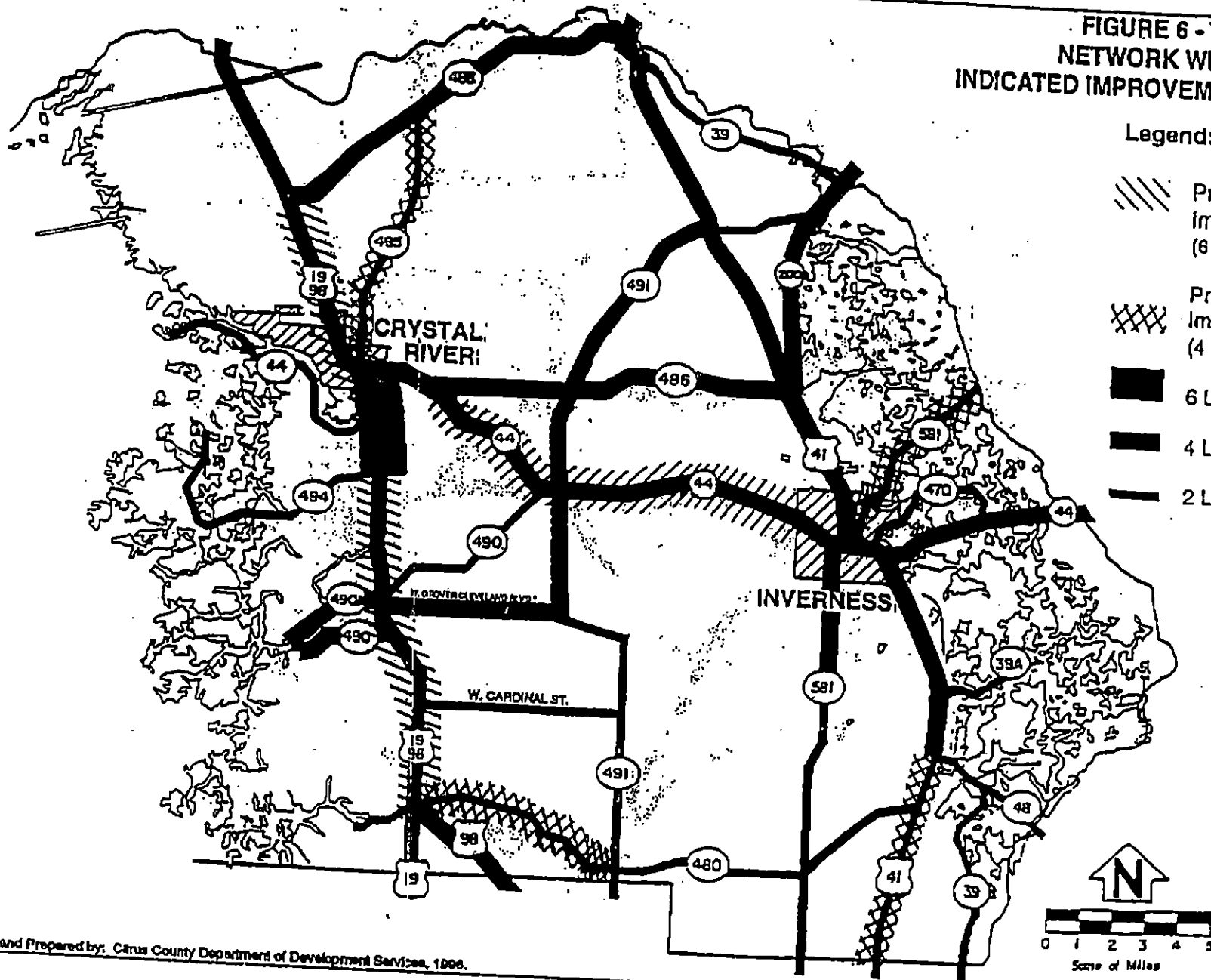



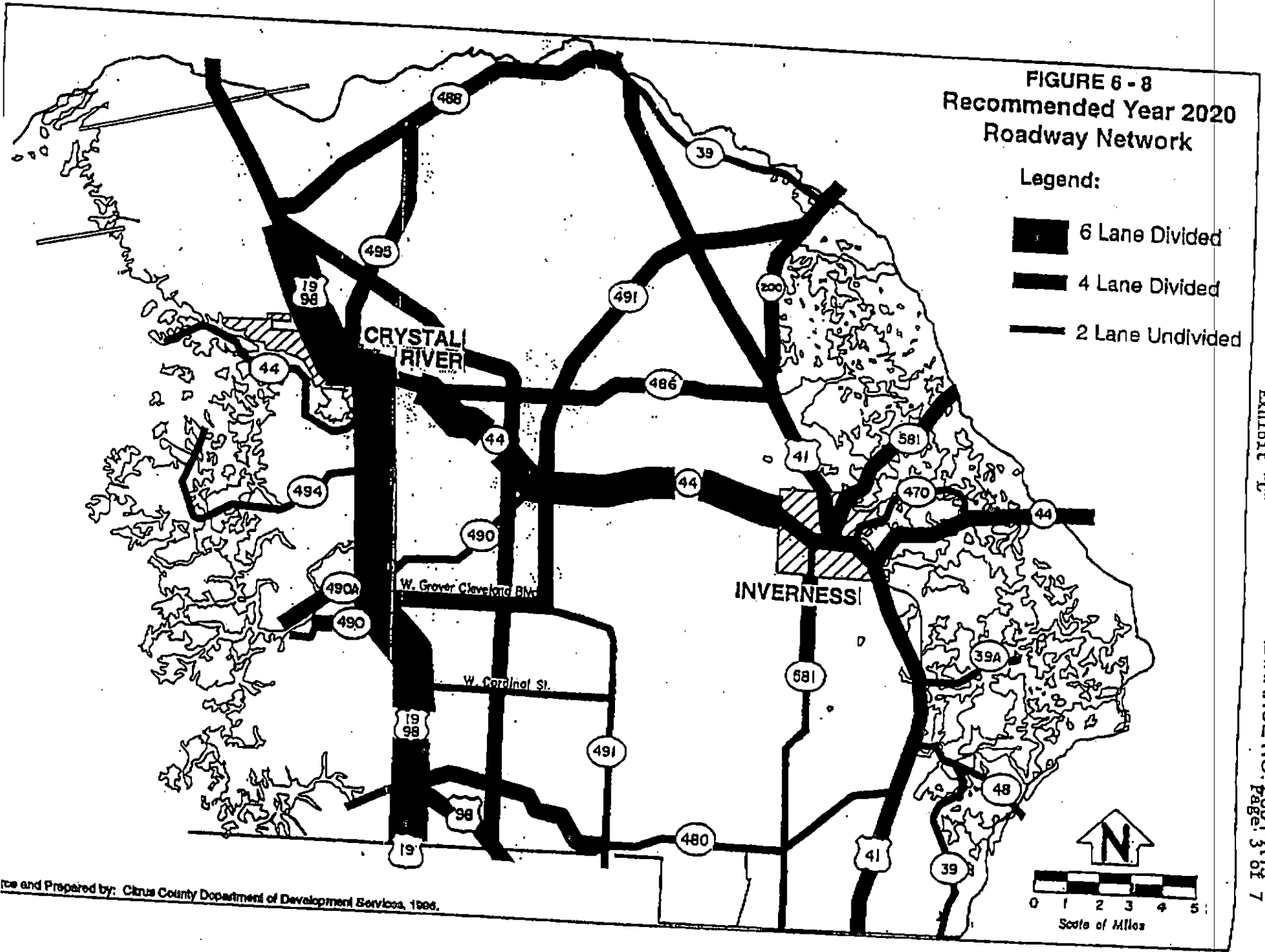


FIGURE 6 - 8
Recommended Year 2020
Roadway Network

Legend:

-  6 Lane Divided
-  4 Lane Divided
-  2 Lane Undivided



Map and Prepared by: Citrus County Department of Development Services, 1998.

Exhibit "C"

ORDINANCE NO. 2001-A19

B. 2010 Analysis of Projected Needs

The indicated improvements needed to correct year 2010 roadway deficiencies were determined by the capacity analysis technique based on level of service C in the peak hour. Table 6-5 shows the analysis for 2010. Figure 6-6 represents the existing number of roadway lanes plus the indicated improvements.

The following summarizes the table and these figures:

- US-41 (State) from CR-39 to SR-200 requires improvements to become a four-lane divided roadway.
- CR-490A (County) from US-19 west requires two additional lanes to become a four-lane divided roadway.
- Grover Cleveland from US-19 to CR-491 requires improvement to become a four-lane divided major collector.
- CR-488 (County) from US-19 to CR-495 requires two additional lanes to become four-lane divided.
- CR-488 (County) from CR-495 to US-41 requires two additional lanes to become four-lane divided.
- CR-581 (County) from SR-44 to Anna Jo Drive requires two additional lanes to become a four-lane major collector.

It should be noted that the FDOT 2020 Florida Transportation Plan indicates US-19 and SR-44 will be a study areas and under consideration for six-laning portions of the highway by the year 2020 and that the FDOT District Seven's Five Year Adopted Work Program July 1, 2000 through June 30, indicates that S.R. 200 is recommended for widening to a four-lane divided facility in 2003.

C. 2020 Analysis of Projected Needs

The indicated improvements needed to correct year 2020 roadway deficiencies were determined by the capacity analysis technique based on level of service C in the peak hour. Table 6-6 shows the analysis for the year 2020. Figure 6-7 represents the roadway lanes of the existing number of roadway lanes plus the indicated improvements.

The following summarizes the table and these figures:

- CR-480 (County) from US-98 to CR-491 requires improvements to become a four-lane divided major collector.
- CR-495 (County) from US-19 to CR-488 requires two additional lanes to become four lanes divided.
- CR-581 (County) from US-41 North to the County Line requires improvements to become four-lane divided.
- SR-44 (State) from CR-486 to Inverness city limits requires two additional lanes to become six-lanes divided.
- US-41 (State) from CR-48 to County line requires improvement to become four-lane divided.

Table 6-8

CAPITAL REQUIREMENTS FOR INDICATED IMPROVEMENT (1)

Roadway	Location	Indicated Improvement	Length Miles	Cost Estimation (000)	Jurisdiction
Existing Deficiencies					
SR-44	CR-486 to Inver CL	4LD	14.1	28,500	FDOT
US-41	SR-200 to CR-486	4LD	0.3	350	FDOT
US-41	CR-486 to Inver CL	4LD	4.9	9,800	FDOT
US-41	Inver CL to CR-39A	4LD	4.0	8,000	FDOT
US-41	CR-39A to CR-48	4LD	2.3	4,600	FDOT
CR-491	Tru Blvd to Gr. Cle.	4LD	3.0	25,900	CC
US-41	CR-39 to Cty Line	4LD	1.3	2,600	FDOT
2000 - 2010					
CR-486	SR-44 to CR-491	4LD	4.0	2,500	CC
CR-486	CR-491 to US-41	4LD	7.4	13,800	CC
SR-44	East of Inverness	4LD	6.8	28,000	FDOT
US-98	West of US-19	4LD	3.4	6,800	FDOT
CR-490	West of US-19	4LD	3.3	6,400	CC
SR-200	SR-41 to Marion Cty L.	4LD	6.7	13,400	FDOT
2010 - 2020					
US-41	CR-39 to SR-200	4LD	10.3	20,600	FDOT
CR-488	US-19 to CR-495	4LD	4.9	9,800	CC
CR-488	CR-495 to US-41	4LD	7.3	14,600	CC
CR-490A	West of US-19	4LD	3.1	6,200	CC
CR-581	SR-44 to Anna Jo	4LD	5.7	11,400	CC
Grover Cleve	US-19 to CR-491	4LD	5.3	10,600	CC
US-19	CR-488 to C. Riv.	4LD	5.7	11,400	FDOT
US-19	CR CL to Hern Cty Line	4LD	SB 11.8	22,600	FDOT
2020 - Beyond					
CR-495	US-19 to CR-488	4LD	7.8	15,600	CC
CR-480	US-98 to CR-491	4LD	7.4	14,800	CC
SR-44	CR-490 to CR-491	4LD	1.0	2,000	FDOT
SR-44	CR-486 to CR-490	4LD	4.5	9,000	FDOT
SR-44	CR-491 to Inv C.L.	4LD	9.1	18,000	FDOT
CR-581	US-41 to County Line	4LD	7.1	14,200	CC

1) The improvement projects listed in this table represent a summary of the major roadway improvements required to address the existing and projected needs identified in Section V of this element. For a more detailed listing of transportation related improvements and cost figures, refer to the Capital Improvements Element.

Source: Citrus County Department of Public Works and Division of Planning 1996

TABLE 6-6
CAPACITY ANALYSIS OF 2020 ROADWAY NETWORK
CITRUS COUNTY TRAFFIC CIRCULATION ELEMENT

Page 2 of 2

State	City	Segment	Class	Lanes	Type	Signals Per Light	Link Miles	Signals Per Mile	Volume Peak Hour	Capacity Peak Hour	LOS	W/O Indicated Improvements**	Indicated Improvements
SR-44	State	Crystal River to CR-489	Arterial (P)	4L	Divided	1.0	1.4	0.7	2,854	3,150	C		
SR-44	State	CR-486 to CR-490	Arterial (P)	4L	Divided	0.5	4.5	0.1	3,258	3,150	C		
SR-44	State	CR-490 to CR-491	Arterial (P)	4L	Divided	0.5	0.5	1.0	3,853	3,150	C		6LD
SR-44	State	CR-491 to Inverness	Arterial (P)	4L	Divided	2.0	9.1	0.2	3,318	3,150	C		6LD
SR-44	State	East of Inverness	Arterial (P)	4L	Divided	0.5	6.8	0.1	2,821	3,150	C		6LD
CR-470	County	US-41 to SR-44	Collector	2L	Undivided	0.5	6.4	0.1	830	870	C		
CR-591	County	US-41 to County Line	Collector	2L	Undivided	0.0	7.1	0.0	1,308	870	E		
CR-581	County	SR-44 to Anna Jo Dr.	Collector	4L	Divided	0.5	4.8	0.1	2,057	3,859	C		4LD
CR-581	County	Anna Jo Dr to CR-490	Collector	2L	Undivided	0.0	8.7	0.0	761	1,010	C		
CR-581	County	South of CR-480	Collector	2L	Undivided	0.0	2.3	0.0	333	1,010	C		
SR-200	State	US-41 to CR-491	Arterial (M)	2L 4L	Divided	0.0	6.3	0.0	1,001	4,580	C		
SR-200	State	CR-481 to County Line	Arterial (M)	2L 4L	Divided	0.0	1.2	0.0	1,403	4,580	C		
CR-39	County	SR-200 to US-41	Collector	2L	Undivided	0.0	7.8	0.0	329	840	C		
CR-39	County	South of CR-48	Collector	2L	Undivided	0.0	6.1	0.0	53	840	C		
CR-491	County	SR-200 to US-41	Arterial (M)	2L	Undivided	0.0	3.1	0.0	829	1270	C		
CR-491	County	US-41 to CR-486	Arterial (M)	4L	Divided	3.0	7.2	0.4	2096	2620	C		
CR-481	County	CR-486 to SR-44	Arterial (M)	4L	Divided	1.0	3.0	0.3	1485	4610	C		
CR-481	County	SR-44 to G.Cleveland Blvd	Arterial (M)	4L	Divided	0.5	3.2	0.2	1810	4810	C		
CR-491	County	G.Cleveland Blvd to CR-480	Arterial (M)	2L	Undivided	0.0	8.7	0.0	1073	1410	C		
CR-39A	County	South of CR-480	Arterial (M)	2L	Undivided	0.0	0.3	0.0	415	1410	D		
CR-46	County	East of US-41	Collector	2L	Undivided	0.0	7.0	0.0	928	970	C		
W.Cleveland St.	County	East of US-41	Collector	2L	Undivided	0.0	4.0	0.0	815	970	C		
Gravel Cleveland	County	US-19 to CR-491	Collector	2L	Undivided	0.5	8.5	0.1	820	860	C		
Class:		US-19 to CR-491	Collector	4L	Divided	0.0	5.3	0.0	1010	1330	C		

*An Improvement planned by FDOT
 **LOS C = LOS C or better
 *** = Analysis based on FDOT Table F
 4LD = 4 Lane Divided
 6LD = 6 Lane Divided

