PROJECT DEVELOPMENT SUMMARY REPORT

Palm Coast Parkway Widening

(From Cypress Point Parkway/Boulder Rock Drive to Florida Park Drive)

City of Palm Coast
Flagler County, Florida

Financial Project ID: 415963-1
ETDM Project # 3151

Prepared by:
Ghyabi & Associates
February 2010

Prepared for:
City of Palm Coast, Florida &
FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT 5- Deland

Summary of Environmental Impacts Checklist
For Type 2 Categorical Exclusions

Topical Categories	S	NS	N	NI	Basis for Decision *
A. NATURAL ENVIRONMENT					
1. Air Quality	[ ]	[ ]	[X]	[ ]	See Section 5.4.1
2. Coastal and Marine	[ ]	[ ]	[X]	[ ]	See Section 5.1.1
3. Contaminated Sites	[ ]	[X]	[ ]	[ ]	See Section 5.4.4
4. Farmlands	[ ]	[ ]	[X]	[ ]	See Section 5.1.2
5. Floodplains	[ ]	[X]	[ ]	[ ]	See Section 5.1.6
6. Infrastructure	[ ]	[ ]	[X]	[ ]	See Section 5.3.3
7. Navigation	[ ]	[ ]	[X]	[ ]	See Section 5.4.5
8. Special Designations	[ ]	[ ]	[ ]	[X]	
9. Water Quality/Quantity	[ ]	[ ]	[X]	[ ]	See Section 5.1.5
10. Wetlands	[ ]	[X]	[ ]	[ ]	See Section 5.1.4
11. Wildlife and Habitat	[ ]	[X]	[ ]	[ ]	See Section 5.1.3
B. CULTURAL IMPACTS					
1. Historic /Archaeological	[ ]	[ ]	[X]	[ ]	See Section 5.2.1
2. Recreation Areas	[ ]	[ ]	[X]	[ ]	See Section 5.3.1
3. Section 4(f) Potential	[ ]	[ ]	[X]	[ ]	See Section 5.2.2
C. COMMUNITY IMPACTS					
1. Aesthetics	[ ]	[ ]	[X]	[ ]	See Section 5.3.4
2. Economic	[ ]	[ ]	[X]	[ ]	See Section 5.3.6
3. Land Use Mobility	[ ]	[ ]	[X]	[ ]	See Section 5.3.5
4. Relocation	[ ]	[ ]	[X]	[ ]	See Section 5.3.7
5. Social	[ ]	[ ]	[X]	[ ]	See Section 5.3
D. OTHER IMPACTS					
1. Noise	[ ]	[ ]	[X]	[ ]	See Section 5.4.1
2. Construction	[ ]	[ ]	[X]	[ ]	See Section 5.4.3

* S = Significant; NS = Not Significant; N = None; NI = No Involvement. Basis of decision will be a reference to the Programming Summary Report, or summary following this checklist that is included in the Project Development Summary Report.

Prepared By:

Walter Kloss, PE, Ghyabi & Associates_____ Date:_____

Reviewed BY:

Signature: _____ Date: _____

District Environmental Administrator

December XX, 2009

Division Administrator
Federal Highway Administration
545 John Knox Road, Suite 200
Tallahassee, Florida 32303

Attention: Chad Thompson, District 5 Transportation Engineer

Dear Mr.

Subject: Palm Coast Parkway
Type 2 Categorical Exclusion with Project Location
And Design Concepts
Financial Project No. 425963-1
Federal-Aid Project No. X-XXX-(X)-X
SR-XXX, from A to B
Flagler County, Florida

Enclosed are copies of the Project Development Summary Report, which includes the Summary of Environmental Impacts Checklist for type 2 Categorical Exclusions, and a transcript of the public hearing held for this project. Upon your review and acceptance of these documents, we request your concurrence that this project is properly classified as a categorical exclusion as described in 23 CFR 771.115 and 771.117, and that the general project location and design concepts described in these documents are acceptable as allowable in 23 CFR 771.113. Please acknowledge your concurrence with these findings by signing and dating this request in the space below, and then returning a signed copy for the project files.

Sincerely,

_____

Concurrence by FHWA:

_____ ___ / ___ / _____
FHWA Division Administrator

TABLE OF CONTENTS

FIGURES

TABLES

1.0 SUMMARY

This section summarizes the City of Palm Coast, FL and the Florida Department of Transportation's commitments to minimize impacts on the human environment as a result of the proposed action and describes the preferred alternative, which is being recommended for Location and Design Concept Acceptance. The preferred alternative was developed through the Project Development and Environment Study conducted for this corridor.

1.1 Commitments

1.1.1 Wildlife

1.1.1.1 Gopher Tortoise

During permitting, all potential gopher tortoise habitat that could be impacted by the project will be systematically surveyed according to the current guidelines published by the Florida Fish and Wildlife Conservation Commission (FWC). If gopher tortoise burrows are found, all practicable design measures will be employed to avoid impacts to the burrows. For burrows which cannot be avoided, a permit will be obtained from FWC for relocation of gopher tortoises and commensals, and relocation will be performed at a time as close as practicable to the start of construction activities at the site of the burrows.

1.1.1.2 Indigo Snake

The U.S. Fish and Wildlife Service Standard Protection Measures for the Eastern Indigo Snake (Appendix C), which specify education of the construction contractor concerning avoidance of indigo snakes and post-construction reporting, will be implemented during the construction phase.

1.1.1.3 Sherman's Fox Squirrel

During permitting, all potential Sherman's fox squirrel habitat that could be impacted by the project will be systematically surveyed according to the current guidelines provided by the Florida Fish and Wildlife Conservation Commission (FWC). If Sherman's fox squirrels are observed nesting or denning within the project area, all practicable design measures will be employed to avoid impacts to the species or their nesting habitat. For nesting or denning habitat which cannot be avoided FDOT will initiate coordination with FWC to minimize and mitigate impacts at a time as close as practicable to the start of construction activities at the site of the fox squirrel habitat.

1.1.2 Contamination

As part of the Contamination Screening evaluation, two sites on or near the road Corridor were assigned a "Medium" ranking which may warrant further investigation prior to construction and may exhibit evidence of potential soil

and/or groundwater impacts. The two sites are the inactive retail gasoline convenience store (Exxon Station) consisting of abandoned monitoring wells adjacent and north of the Corridor located at 220 Palm Coast Parkway and, the Shell Station, Former Boulder Rock BP, located at 2 Boulder Rock Drive (Potential Contamination Site No. 2 & 3) is listed as a LUST facility adjacent and north of the Corridor.

Several other potential contaminated sites are located in the vicinity of the road widening Corridor. However, based on site observations, the FDEP Geographic Information Systems website and the Environmental Database Review (EDR), these facilities were not considered to pose potential environmental concerns for the Corridor at this time.

Sites classified as having a Medium or High risk of contamination should be subject to further review into the Public Record, particularly with regard to any Contamination Assessment or Remedial Action Plans which may be generated in the interim period between the date of the preparation of the CSER and the date of final design. A preliminary soils screening evaluation involving auger borings and Organic Vapor Analyzer (OVA) analysis and laboratory testing of soils, and installation and sampling of groundwater monitoring wells, may be recommended to detect the presence of contaminants in the soil and/or groundwater. The steps are necessary to 1) avoid contaminated sites, 2) have contamination remediated prior to any construction, and/or 3) ensure that construction efforts do not exacerbate any known contamination.

1.2 Recommendations

The preferred alternative widens Palm Coast Parkway from a four lane facility to a six lane facility, from Cypress Point Parkway to Florida Park Drive. The recommended build alternative is a six lane divided urban roadway based on a 45 mph design speed. The existing raised median and the existing travel lanes will be maintained to the greatest extent possible. The typical section will utilize the existing raised median and will provide three travel lanes and shared use paths (8' minimum) in each direction. At the elevated approaches to the existing bridge over S.R. 9 / Interstate – 95 and areas where drainage canals run adjacent to the mainline, concrete barrier wall is introduced.

It is anticipated that the stormwater management facilities and permitting will be based on the newly proposed Statewide Stormwater Treatment Rule. The Florida Department of Environmental Protection (FDEP) web site indicates that this new rule will be adopted in July 2010 and will be "effective - October 1, 2010 or January 1, 2011." This new rule will require that applicants match a pre-developed pollutant loading that is based on native conditions or an 85% overall pollutant reduction, whichever is less.

A series of Best Management Practices (BMP), will be required to meet the required 85% overall efficiency. A standard wet detention pond with 14-day residence time will only provide about a 61.4% pollutant reduction. Therefore, to meet the new rule, a series of BMP's have been located along the project. The project has been divided into 10 sub-basins and one or more BMP's have been identified in these areas. Location of the recommended stormwater treatment facilities are shown on the Concept Plans (Appendix A). More detailed information on these BMP's is provided in the Pond Siting Report prepared for this project.

Permits needed for this project will include an ERP from the SJRWMD for stormwater and drainage impacts and a Nationwide permit from the U.S. Army Corps of Engineers for wetland impacts. In addition, prior to construction a Notice of Intent will need to be submitted to the FDEP for a generic NPDES (Erosion Control) permit. A signed and sealed Stormwater Pollution Prevention Plan and Erosion Control Plan will be needed for the contractor to complete this permit application procedure. If dewatering is necessary for construction, the contractor will also be required to obtain a permit for these activities through the FDEP.

Specific components of the recommended Preferred Alternative are described in Section 4.0 of this report. Conceptual design plans for the recommended Preferred Alternative are provided in Appendix A.

2.0 LOCATION AND NEEDS SUMMARY

The City of Palm Coast through a Local Agency Program (LAP) agreement with the Florida Department of Transportation, District 5, is conducting a Project Development and Environment (PD&E) Study to consider alternatives for widening Palm Coast Parkway from Cypress Point Parkway / Boulder Rock Drive to Florida Park Drive, in Flagler County, Florida (see Project Location Map, Figure 2-1). The project is approximately 1.23 miles long, and includes an interchange with Interstate 95 (SR 9).

2.1 Purpose

The purposes of the PD&E Study are to develop engineering and environmental data, and to document information which will aid in determining the type, design, and location of the proposed improvements, and associated impacts, if any. A No-Build Alternative is included as an option.

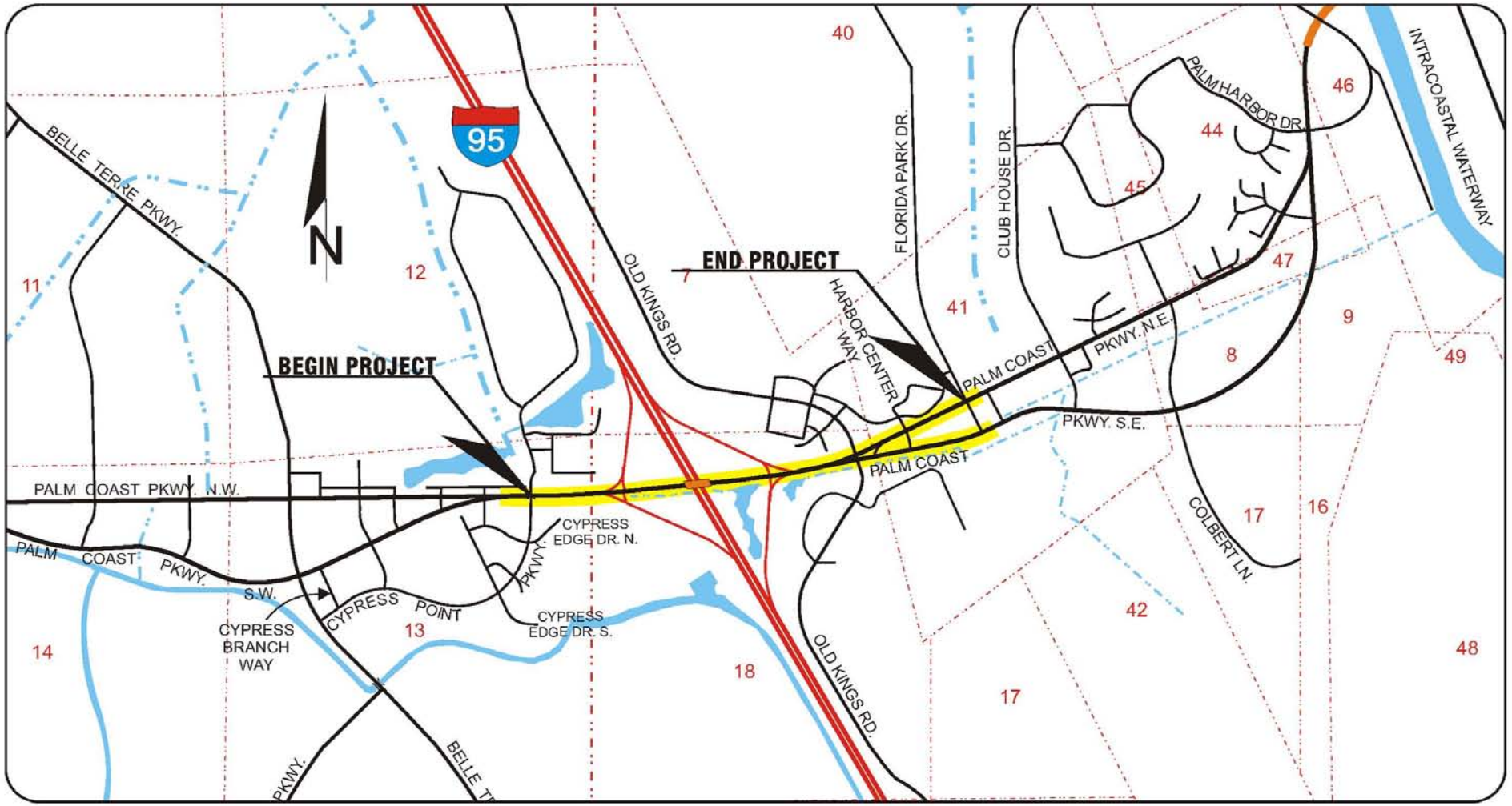
This Project Development Summary Report (PDSR) documents the need for this project, the alternatives that were developed and evaluated, the process of selecting the preferred alternative, and the preliminary design analysis for the preferred alternative. This PDSR summarizes the potential environmental impacts, the public involvement process associated with the project, and outlines the need for mitigation and permits. This report will aid the City of Palm Coast, Florida Department of Transportation (FDOT) and Federal Highway Administration (FHWA) in determining a preferred alternative. It serves as the document of record for subsequent engineering decisions as related to design and construction.

2.2 Project Description

Palm Coast Parkway is an arterial roadway facility within the city limits of Palm Coast. This *PDSR* examines the section of Palm Coast Parkway from Cypress Point Parkway / Boulder Rock Drive to Florida Park Drive (a distance of approximately 1.23 miles). The project is located in Section 13 of Township 11 South, Range 30 East; and Sections 7, 18 and 41 of Township 11 South, Range 31 East.

The existing land use along Palm Coast Parkway is predominantly commercial with isolated areas of residential and institutional applications. The proposed project is consistent with future land use plans.

The section of the Palm Coast Parkway from Cypress Point Parkway/Boulder Rock Drive to Old Kings Road has a variable right-of-way. The typical section is four lane divided with two 12-foot lanes in each direction. The section from Old Kings Road to Florida Park Drive has a 4-lane, divided bifurcated urban typical section. Through the project limits, the posted speed limit varies from 30 mph to 45 mph.



CITY OF PALM COAST

PALM COAST PARKWAY

PD & E STUDY

Flagler County, Florida

LOCATION MAP

Figure 2-1

The existing posted speed limit along Palm Coast Parkway varies between 30 miles per hour (mph) and 45 mph.

Bridge 730057, westbound Palm Coast Parkway E. over I-95 was constructed in 1981. It consists of four spans of AASHTO girders supported by column piers on driven piles, with an overall length of approximately 286 feet. Initially, this bridge carried both eastbound and westbound traffic. In 1994, Bridge No. 730060 was constructed to accommodate eastbound traffic and Bridge 730057 remained to carry westbound traffic only. The inside traffic railing barrier of Bridge 730057 was removed and a raised median was constructed on the new Bridge 730060. An open joint adjacent to the median barrier separates the two bridge decks. Review of the as-built plans, inspection reports, and existing conditions for Bridges 730057 and 730060 indicates that the bridges were built to accommodate a future third 12-foot travel lane each while providing an outside 10-foot shoulder and a raised median (total of 40 feet between travel lanes). To accommodate pedestrian and bicycle facilities across this structure, a typical section, different from what was originally intended is required.

2.3 Project Need

2.3.1 Capacity : Existing and Future Levels of Service

City of Palm Coast Level of Service (LOS) standards require that a (LOS) D or better be provided on the Palm Coast Parkway.

During weekday peak hours, all of the roadway segments along the corridor operate at LOS D or better, except for the segment between Old Kings Road and Harbor Center Way, which operates at LOS F during the PM Peak hour. During weekday peak hours all but two of the signalized intersections along the corridor operate at LOS D or better. The two exceptions are Palm Coast Parkway at Cypress Point Parkway / Boulder Rock Drive and Palm Coast Parkway at Old Kings Road.

An analysis of the existing and future operational conditions of the No-Build and Build scenarios was completed based on the traffic forecasts developed. This analysis showed that the Palm Coast Parkway corridor, in its existing configuration, is unable to meet LOS standards through the design year (2031). Table 2.3.1-1 summarizes roadway segments for the analysis years for the No-Build Condition, and illustrates the segments that fail.

Table 2.3.1-1: Roadway Segment/Ramp Merge-Diverge Level of Service Summary – No-Build Condition

Roadway Segment along Palm Coast Parkway	No. of Lanes (in each direction)	AM Peak						PM Peak					
		2011		2021		2031		2011		2021		2031	
		Speed (mph)	LOS	Speed (mph)	LOS	Speed (mph)	LOS	Speed (mph)	LOS	Speed (mph)	LOS	Speed (mph)	LOS
Cypress Point Parkway/Boulder Rock Drive to I-95 SB Ramps	2	21.7	D	19.3	D	14.6	E	20.8	D	21.6	D	21.0	D
I-95 SB Ramps to I-95 NB Ramps	2	32.2	B	29.0	B	21.0	D	30.0	B	16.8	E	12.6	F
I-95 NB Ramps to Old Kings Road	2	16.1	E	16.4	E	16.7	E	23.3	C	10.3	F	7.2	F
Old Kings Road to Harbor Center Way	2	29.3	B	28.7	B	28.4	B	7.7	F	4.9	F	4.5	F
Harbor Center Way to Florida Park Drive	2	29.3	B	28.7	B	28.4	B	20.7	D	19.3	D	15.6	E

I-95 Ramps	Design Hour					
	2011		2021		2031	
	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
I-95 NB Off Ramp to Palm Coast Parkway	23.7	C	26.8	C	28.2	D
I-95 NB On Ramp from Palm Coast Parkway	18.6	B	20.9	C	22.2	C
I-95 SB Off Ramp to Palm Coast Parkway	19.8	B	22.2	C	23.5	C
I-95 SB On Ramp from Palm Coast Parkway	22.8	C	26.0	C	27.5	C

Exceeds LOS "D" Standard

Intersection Analysis

Existing intersection signal timings and phasing obtained from the Palm Coast Parkway Corridor Traffic Signal Retiming Study, Flagler County, Florida, July, 2006 (Buckholz Traffic) were used and optimized in analyzing signalized intersections for the future No-Build conditions. Table 2.3.1-2 summarizes the intersection LOS during the AM and PM peak periods over the analysis years for the No-Build Condition.

Table 2.3.1-2: Intersection Level of Service Summary – No Build Condition

Intersection	Intersection Control	Time Period	Synchro Version 7 Analysis					
			Opening Year 2011		Mid-Design Year 2021		Design Year 2031	
			LOS	Delay	LOS	Delay	LOS	Delay
Palm Coast Parkway @ Cypress Point Parkway/Boulder Rock Drive	Signalized	AM	D	48.6	D	54.2	E	63.2
		PM	D	36.7	D	38.9	D	46.6
Palm Coast Parkway @ I-95 SB Ramps	Signalized	AM	B	16.9	B	19.2	C	28.5
		PM	B	15.1	D	36.1	D	53.6
Palm Coast Parkway @ I-95 NB Ramps	Signalized	AM	C	22.3	D	50.7	F	85.5
		PM	C	30.4	E	56.3	E	74.6
Palm Coast Parkway @ Old Kings Road	Signalized	AM	E	59.2	F	85.7	F	104.5
		PM	E	59.1	F	84.8	F	95.8
Palm Coast Parkway WB @ Harbor Center Way	Signalized	AM	B	12.7	B	17.7	C	26.8
		PM	B	16.9	B	17.1	C	24.8
Palm Coast Parkway WB @ Florida Park Drive	Signalized	AM	C	22.1	C	28.4	D	39.0
		PM	B	18.5	C	22.7	C	26.7
Palm Coast Parkway EB @ Harbor Center Way	Stop Controlled*	AM	F	313.2	F	508.9	F	788.8
		PM	D	35.0	E	43.9	F	59.0
Palm Coast Parkway EB @ Florida Park Drive	Signalized	AM	B	10.6	B	11.5	B	11.7
		PM	A	8.5	A	8.1	A	8.1

*The Delay/LOS for the Stop Controlled Intersection is for the worst approach.

Note: Intersection signals in Synchro Version 7 were optimized for the future conditions.

Exceeds LOS "D" Standard

2.3.2 Safety

In order to evaluate the safety of the traffic operations along the Palm Coast Parkway within the limits of the project corridor, crash records for the five-year period from 2002 through 2006 were obtained from the Flagler County Police Department.

These crash records indicated that a total of 643 crashes were reported within the project corridor for the five-year period from 2002 to 2006. During the five-year period, the number of accidents reported steadily increased at a rate between 26.2% and 75.4% with the exception of 2006, which experienced a 23.8% decrease in the number of reported accidents. The majority of the crashes were classified as rear-end type crashes. This type of crash is typical for areas with heavy congestion, large turning volumes or excessive driving speeds.

The anticipated growth for this area will continue to increase the traffic demand for the roadway network within the project corridor. As these traffic volumes increase, the congestion, delay and number of crashes can be expected to increase. Improvements that are being considered as part of this Preliminary Engineering Study include widening the existing roadway (additional through and turn lanes) and installation of traffic signals. These improvements will greatly enhance the project corridor's safety and reduce the potential for crashes.

In addition, the reduced congestion improves mobility for emergency services vehicles and improves Palm Coast Parkway as a westward hurricane evacuation route for evacuees that are located east of Interstate-95.

2.3.3 Consistency with Transportation Plans

The City of Palm Coast's 2020 Comprehensive Plan identifies the need for the proposed improvements along Palm Coast Parkway. The project corridor is included in the Florida Department of Transportation's (FDOT) 5-Year Tentative Work Program for capacity improvements.

2.4 Projected Traffic Volumes

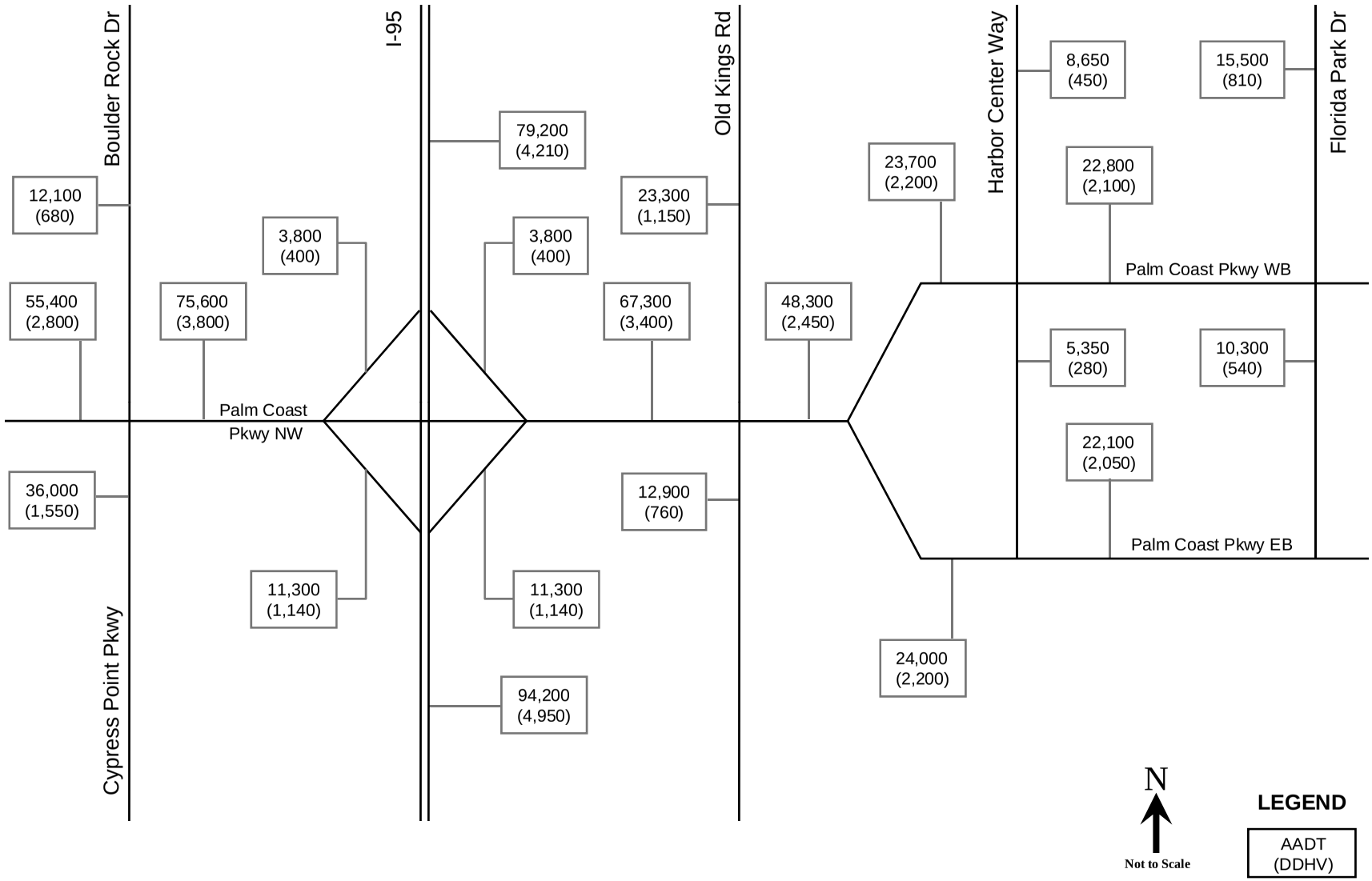
Figure No. 2.4 – 1 indicates average daily traffic volumes in Design Year 2031 for each segment along Palm Coast Parkway through the project limits. As shown, average daily traffic volumes range from 44,900 vehicles per day between Harbor Center Way to Florida Park Drive and 75,600 vehicles per day between Cypress Point Parkway/Boulder Rock Drive to Interstate – 95. Additional details on the development of these volumes

are provided in the Districtwide Design Traffic for PD&E and Design, Final Technical Memorandum (dated April 2008) prepared for this project.

The estimated 2007 Adjusted Average Daily Traffic (AADT) ranges from 30,900 to 52,000 vehicles per day (vpd). This is projected to increase by approximately 45 percent to volumes ranging from 44,900 to 75,600 vehicles per day in the design year 2031.

Current City of Palm Coast standards require that a Level of Service (LOS) D or better should be provided along the project corridor. All of the roadway segments along the project corridor currently operate at LOS D or better during the weekday peak hours except the segment of Palm Coast Parkway between Old Kings Road and Harbor Center Way, which operates at LOS F during the PM Peak hour. All of the signalized intersections along the project corridor currently operate at LOS D or better during the weekday peak hours, with two exceptions. (Palm Coast Parkway at Cypress Point Parkway / Boulder Rock Drive and Palm Coast Parkway at Old Kings Road.

An analysis to evaluate the existing and future operational conditions of the No-Build and Build scenarios was completed based on the traffic forecasts developed. This analysis showed that the Palm Coast Parkway corridor in its existing configuration would be unable to accommodate traffic through the design year (2031).



Design Year (2031) Annual Average Daily Traffic Volumes(AADT)
Palm Coast Parkway PD&E Study
From Cypress Point Parkway/Boulder Rock Drive to Florida Park Drive

Figure 2.4-1

2.5 Roadway Design Criteria

The design criteria applicable to the development of the design alternatives for this project include those necessary to develop roadway typical sections, horizontal and vertical alignments and clearances, within the established AASHTO, FHWA and FDOT design criteria. Table 2.5-1 summarizes the criteria utilized to develop the alternatives for this project. These standards are based on Chapter 2 of the Florida Department of Transportation's Plans Preparation Manual, Volume I – Design Criteria and Process (English) 13 unless otherwise specified.

Table 2.5-1: Summary of Design Standards Criteria

Functional Classification		
Arterial		
Design Speed		
Urban Typical Section		45 mph
SuburbanTypical Section		50 mph
Access Management Classification		
5 (Restrictive)		
Access Management Criteria	**Urban (45 mph)**	**High-Speed Suburban (50 mph)**
Minimum Connection Spacing	245 ft.	440 ft.
Minimum Median Opening Spacing (Directional / Full)	660 ft. / 1320 ft.	660 ft. / 2640 ft.
Minimum Signal Spacing	1320 ft.	2640 ft.
Horizontal Alignment		
Minimum Radius	694 ft. ($D_{max.}$ = 8°15'00")	882 ft. ($D_{max.}$ = 6°30'00")
Clear Zone	4 ft. (from curb face)	30 ft. median / 24 ft. Outside
Border Width (With / Without Bicycle Lane)	12 ft. / 14 ft.	29 ft.
Maximum Superelevation	0.05	E = 0.05 (Based on e max. = 0.10)
Maximum Deflection (Without Horizontal Curve)	1°00'00"	0°45'00"
Minimum Horizontal Curve Length	675 ft. (No Less Than 400 ft.)	750 ft. (No Less Than 400 ft.)
Minimum Radius for Curves (Without Superelevation)	2083 ft. ($D_{min.}$ = 2°45'00")	11,459 ft. ($D_{min.}$ = 0°30'00")
Vertical Alignment		
Minimum Curve Length (Sag)	135 ft.	200 ft.
Minimum "K" Value (Sag)	79	96
Minimum Curve Length (Crest)	135 ft.	300 ft.
Minimum "K" Value (Crest)	98	136
Maximum Grade (Flat Terrain / Rolling Terrain)	6.0% / 7.0%	5.0%
Maximum Change in Grade without Vertical Curve	0.7%	0.6%
Minimum Grade	0.3%	0.3%
Sight Distance		
Stopping - Minimum	360 ft.	425 ft.
Roadway Elements		
Through Lane Width (Desirable / Minimum)	12 ft. / 11 ft.	12 ft.
Median Width (Desirable / Minimum)	22 ft. / 19.5 ft.	30 ft.
Shoulder Width (Full Width / Paved Width)	N/A	12 ft. / 5 ft.
Sidewalk Width	5 ft. (2 ft. Buffer) or 6 ft. (Without Buffer)	5 ft.

3.0 ALTERNATIVES CONSIDERED

This section of the report describes the alternatives for proposed improvements along Palm Coast Parkway, which include the No-Build Alternative, the Transportation System Management (TSM) Alternative and several Build Alternatives.

3.1 No-Build Alternative

A No-Build Alternative proposes no roadway improvements other than routine maintenance. Advantages include no improvement costs, no right-of-way requirements, and no impacts to traffic, adjacent properties or the environment. Major disadvantages include increased traffic volumes, increased congestion, degrading level of service, increased travel times, decreased operating speeds, increased potential for accidents, degraded air quality and negative impacts to emergency service and hurricane evacuation operations.

3.2 Transportation System Management

The Transportation Systems Management (TSM) alternative includes activities that maximize the use of the existing transportation system. It is a limited construction approach that would use minor improvements to improve the capacity of this section of Palm Coast Parkway. It can include such items as separate turn lanes, intersection improvements, traffic signal timing optimization, and improvements to signing, marking and roadway lighting. The advantage of TSM is the limited cost to relieve congestion and lesser construction impacts to the surrounding community. While some increased efficiency might be realized, maintaining the existing roadway configuration will not provide the required LOS to support the projected traffic demands. Therefore, a TSM alternative was dismissed as a viable long-term improvement alternative.

3.3 Build Alternatives

Since the No-Build and TSM Alternatives do not provide an acceptable LOS in the 2031 design year, the study alternatives for the Palm Coast Parkway PD&E Study are construction alternatives. The traffic analysis completed for the project identified the need for a divided 6-lane typical section along the Palm Coast Parkway from Cypress Point Parkway / Boulder Rock Drive eastward to Florida Park Drive.

3.3.1 Design Speed

Traffic volumes, high truck percentage, pedestrian and bicycle safety, and adjacent land use indicate that design speeds greater than 55 mph or less than 45 mph are not considered appropriate for this project. Two design speeds were

considered for this project, a 45 mph design speed utilizing the urban typical section and a 50 mph design speed utilizing the high speed suburban typical section.

3.3.2 Horizontal Alignment

Horizontal alignment alternatives for this project were not developed based on a left, right or centered alignments approach. The proposed alignments will follow the existing horizontal alignment and be centered within the existing right-of-way. Maximum use of the existing horizontal and vertical alignments will minimize roadway reconstruction by maintaining the existing lanes and allowing proposed lanes to be constructed adjacent to the existing pavement. This approach will match the alignments of the existing bridge and the major intersections to minimize the impacts to the major at-grade intersections, adjacent properties and to existing drainage facilities.

3.3.3 Vertical Alignment

The existing vertical alignment can be maintained almost exclusively through the project limits, however minor adjustments to longitudinal grades may be required to meet FDOT Design Standards. A minimum longitudinal grade of 0.3% is required for curb and gutter roadways. The existing profile just east of the Palm Coast Parkway at Cypress Point Parkway intersection is relatively flat.

The existing Palm Coast Parkway Bridge was constructed along a 1200-foot long vertical curve with approach grades of 4.65% in each direction. For the existing algebraic grade difference of 9.3%, the minimum length of a crest vertical curve to provide the required safe stopping sight distance is 911.4 feet for 45 mph and 1264.8 feet for 50 mph based on FDOT criteria and 567.3 feet for 45 mph and 781.2 feet based on AASHTO design criteria. A design variation for vertical alignment and stopping sight distance would be required for a 50 mph design speed.

3.3.4 Typical Section Alternatives

Existing Palm Coast Parkway has a raised median through the project limits, a high speed suburban typical section utilizing a design speed of 50 mph and an urban typical section utilizing a 45 mph design were developed and evaluated for the following five roadway segments.

Segment 1 - Cypress Point Parkway/Boulder Rock Drive to I-95 SB Ramps

Segment 2 - I-95 SB Ramps to I-95 NB Ramps
Segment 3 - Palm Coast Parkway Bridge over Interstate 95
Segment 4 - I-95 NB Ramps to Old Kings Road
Segment 5 - Old Kings Road to Florida Park Drive

Segment 1 - Cypress Point Parkway/Boulder Rock Drive to the I-95 SB Ramps

The existing typical section within this segment consists of a variable width (29.5' – 32'), raised median, two 12-foot travel lanes with 12-foot shoulder (5 feet paved) in the westbound direction and two 12-foot travel lanes, one 12-foot continuous right turn lane with 12-foot shoulders (5 feet paved) in the eastbound direction. There are existing roadway ditches on both sides of the roadway and an 8-foot path along the northerly right-of-way line.

Suburban Alternative

The full standard FDOT six-lane divided suburban typical with a design speed of 50 mph can be constructed within the existing right-of-way for this segment. The median would require modification to establish the 30-foot inside clear zone and median configuration. Outside of the travel lanes, the border would contain a potential 12-foot turn lane and 12-foot outside shoulders (with 5-foot paved) adjacent to the travel lanes. Bicycle traffic could be accommodated on the paved shoulder. There is an existing ditch in each direction and 8-foot wide concrete path outside of the ditch along the northerly right-of-lane through this segment. The proposed construction will include an 8-foot concrete path along the southerly right-of-way line.

Urban Alternative

The existing median and the existing travel lanes can be maintained through this segment. New pavement construction will include widening to the north side to add the additional westbound 12-foot travel lane and the proposed right turn lane to Boulder Rock Drive. The south side widening will construct the right turn lane accessing the I-95 southbound ramp entrance. The westbound border will have curb and gutter and a 4-foot grassed area between the curb and the existing roadside ditch. There is an existing 8-foot concrete sidewalk along the northerly right-of-way line that will remain. The eastbound border will be curbed and the existing roadside ditch will remain. There will be an 8-foot shared use path constructed along the southerly right-of-way line.

Segment 2 - I-95 SB Ramps to the I-95 NB Ramps

This segment contains the approaches to the existing Palm Coast Parkway Bridge over I-95. The existing typical section within this segment, excluding the bridge structure, consists of a 22-foot raised concrete median, two 12-foot travel lanes, paved shoulders, shoulder gutter and guardrail in each direction.

Suburban Alternative

This suburban typical section would require reconstruction to provide the standard suburban median configuration and three 12-foot travel lanes in each direction. Adjacent to the outside travel lane there will be an 8-foot paved shoulder, 3'-6" shoulder gutter, guardrail and additional embankment to accommodate an 8-foot concrete shared use path with 2-feet clear space on either side.

Urban Alternative

The existing median and the existing pavement can be maintained through this segment. The inside lanes in each direction will be reduced in width to 11 feet. The widening on both sides will include construction of an 11–foot lane and a paved shoulder in each direction due to the proposed barrier wall. In the areas with Type F curb and gutter, the paved shoulder will be three feet wide. On the approaches to the bridge, where the fill slope height increases, a concrete barrier wall is required and the paved shoulder becomes 4' – 6" wide. In addition, 10-foot shared use paths with pedestrian/bicycle picket railing will be constructed in both directions. A 10-foot wide path is utilized in this segment to provide additional space between the concrete barrier wall and picket rail.

Segment 3 - Existing Palm Coast Parkway Bridge over I-95

The existing structure has an overall width of 117 feet – 1½ inches, which includes a 22-foot raised concrete median, 2 – 12-foot travel lanes and 22-foot shoulders in each direction. The outside shoulders were configured to accommodate an additional 12-foot travel lane and 10-foot shoulder in each direction.

Suburban Alternative

The standard high-speed suburban median configuration would require extensive reconstruction and widening of the existing bridge. This alternative was eliminated from consideration due to the significant cost of reconstruction.

Urban Alternative

The proposed bridge typical section for urban alternatives will maintain the existing 22-foot raised concrete median and have three 11-foot travel lanes in each direction. On each side there will be a 4.5-foot flush shoulder, concrete barrier wall, and a 7'-9" westbound and 7'-8½" eastbound Bike/Pedestrian pathway and a 9½" bicycle / pedestrian rail.

Segment 4 - I-95 NB Ramps to Old Kings Road

The existing typical section within this segment consists of a 22-foot raised median, with two 12-foot travel lanes in each direction. On the westbound side, the border consists of a 12-foot shoulder (5-foot paved), and sidewalk located outside of the clear zone. On the eastbound side, the border consists of a 12-foot paved shoulder, guardrail and a graded embankment to the St. Joe Canal.

Suburban Alternative

The full standard FDOT six-lane divided suburban typical with a design speed of 50 mph can be constructed within the existing right-of-way for this segment. The median would require modification to establish the 30-foot inside clear zone and median configuration. The border adjacent to the westbound lanes would contain 12-foot outside shoulders (with 5-foot paved) adjacent to the travel lanes. Bicycle traffic could be accommodated on the paved shoulder. The shared use path would be located outside of the 24-foot clear zone. On the eastbound side in the area of the adjacent drainage canal, a 60-foot clear zone from the outside pavement edge to the top of bank for the canal is required for a 50 mph design speed. Where this 60-foot separation is available, the shared use path can be located outside of the clear zone adjacent to the canal. Where the separation is not available, guardrail will be required outside of a 12-foot paved shoulder.

Segment 4 – Adjacent Canal

Urban Alternative

The existing median and the existing travel lanes can be maintained through this segment. In each direction, proposed construction will include a 12-foot travel lane, Type F curb and gutter, a 4-foot utility strip measured from the back of curb, and an 8-foot shared use path.

Through this segment a canal runs parallel to the Parkway on the south side. In the area of the EB turn lane to SB Old Kings Road, the canal is closer to the roadway than the allowed 40-foot clear zone. To avoid the need for construction of a retaining wall to maintain the ditch in its current location, the section of the ditch along the turn lane will be piped. Above the proposed culvert extension, a shallow swale will be graded.

Segment 5 – Old Kings Road to Florida Park Drive

Palm Coast Parkway from Old Kings Road to Florida Park Drive is a divided, four lane roadway. The separation between each direction widens to accommodate development and creates one way lane pairs in each direction.

WB Palm Coast Parkway

The westbound roadway section is a two lane roadway with 12-foot travel lanes with a grassed shoulder along the northerly side and a combination of rural (Old Kings Road to Harbor Center Way) and urban (Harbor Center Way to Florida Park Drive) configurations along the southerly side. There is an existing sidewalk on both sides of the roadway.

EB Palm Coast Parkway

The eastbound roadway section is a two lane, urban roadway with 12-foot travel lanes, curb and gutter on both sides of the roadway and a sidewalk along the northerly side.

Suburban Alternative

The high-speed suburban typical section was immediately eliminated as an alternative for this segment as this section is not characteristic of the increased urban nature of this corridor. In addition, the reconstruction of the median and the increased footprint of the suburban typical section would cause extensive impacts to developments, existing drainage patterns, and to landscaping adjacent to Palm Coast Parkway through this segment.

Urban Alternative

The six-laning of this segment of Palm Coast Parkway can be accomplished for the most part by maintaining the existing travel lanes and constructing the third travel lane to the outside in each direction. The existing, median side border with curb and gutter and sidewalk will remain. The outside border on each side will contain Type F curb and gutter, a 4-foot utility strip measured from the back of

curb, an 8-foot shared use path and 2-foot back-of-sidewalk areas and 4:1 front slopes.

3.4 Preferred Alternative Evaluation

Through this study phase, several project alternatives were developed and examined. The following sections discuss the evaluation of these alternatives and the identification of the recommended, preferred alternative. The alternatives developed will utilize the same alignments and for the most part be constructed within the existing right-of-way. Based on this concept, there is no appreciable difference in the amount of impacts to the adjacent properties, the environment and off-site stormwater pond land and construction costs. The two study alternatives were based on two typical section alternatives. The high-speed, 6-lane divided suburban and 6-lane, divided urban were evaluated by comparing the two in terms of operation, safety, compatibility with existing features and stormwater management.

Roadside Safety

The suburban typical section supports a higher (50 mph) design speed and improved mobility, but to maintain a safe corridor at the higher speeds, the existing median will require construction of inside shoulders to provide the required separation between the travel lanes and the raised portion of the median. Also, the required shoulder widths and horizontal clear zone for this flush outside shoulder configuration are wider, which increases the overall footprint of this alternative. This increases the grading limits and earthwork volumes, to provide the required safe recovery areas, increases the separation to the shared use paths, and will have a greater effect on existing features such as the existing roadway lighting fixtures and roadside drainage swales.

At the slightly slower design speed, 45 mph, the urban typical section provides an acceptable level of service and does not require reconstruction of the existing median.

Traffic Operations and Safety

One feature improving mobility of the higher speed suburban alternative is the use of free flowing entrance and exit terminals at the Interstate–95 ramps. These ramp entrances have a minimum required radius of 310 feet which accommodates higher safe travel speeds and provides a free flow access to the ramp operating independent of the traffic signal.

For the urban alternative, access to the ramps will be accomplished by constructing a right turn lane that becomes part of the signalized intersection. This urban configuration creates a more direct and safer signalized crossing for pedestrians and bicyclists by eliminating the need to cross at two separate locations, and also provides safer traffic operations due to the yield control and fewer required merges on the entrance ramps.

Compatibility with Existing Features

The existing Palm Coast Parkway over I-95 Bridge was constructed wide enough to accommodate six lanes of traffic in the future. The six lane configuration for the existing bridge has a 22-foot wide raised median, 2 – 12-foot travel lanes, 20-foot wide shoulders and a concrete barrier wall in each direction for an overall width of 117 feet – 1½ inches and was constructed along a 1200-foot long vertical curve with approach grades of 4.65% in each direction. A design variation for vertical alignment and stopping sight distance would be required a 50 mph design speed.

Stormwater Management

Whereas both typical section alternatives contain existing roadside ditches that can be used for runoff collection and conveyance, the urban typical section provides the added flexibility of collection and conveyance of the runoff in a longitudinal piped system. In areas similar to the Segment 3, I-95 NB Ramps to Old Kings Road, runoff from existing Palm Coast Parkway runs directly into the wetland on the northerly side or into the St. Joe Canal on the southerly side. In this instance, stormwater can be collected and conveyed to a stormwater management system providing water quality treatment for runoff not currently receiving treatment. In areas such as Segments 1 and 4, the existing roadside ditches can be used for stormwater conveyance and pre-treatment.

3.5 Selection of Preferred Alternative

Following the development, evaluation and comparison of the project alternatives, the urban typical section alternative was identified as the recommended preferred alternative for the Palm Coast Parkway improvements.

4.0 PREFERRED ALTERNATIVE

The preferred alternative is a six-lane divided urban roadway constructed along the existing horizontal and vertical alignments. New construction includes:

- Construction of an additional travel lane in each direction through the project limits,
- Construct right turn lane from EB Palm Coast Parkway onto SB Cypress Point Parkway,
- Construct right turn lane from WB Palm Coast Parkway onto NB Boulder Rock Drive,
- Construct right turn lane from EB Palm Coast Parkway onto SB Old Kings Road,
- Construct Shared use paths through the project limits as indicated on the Preferred Alternative Concept Plans in Appendix A, and
- Reconstruct/lengthen existing turn lanes as indicated on the Preferred Alternative Concept Plans in Appendix A.

4.1 Horizontal Alignment

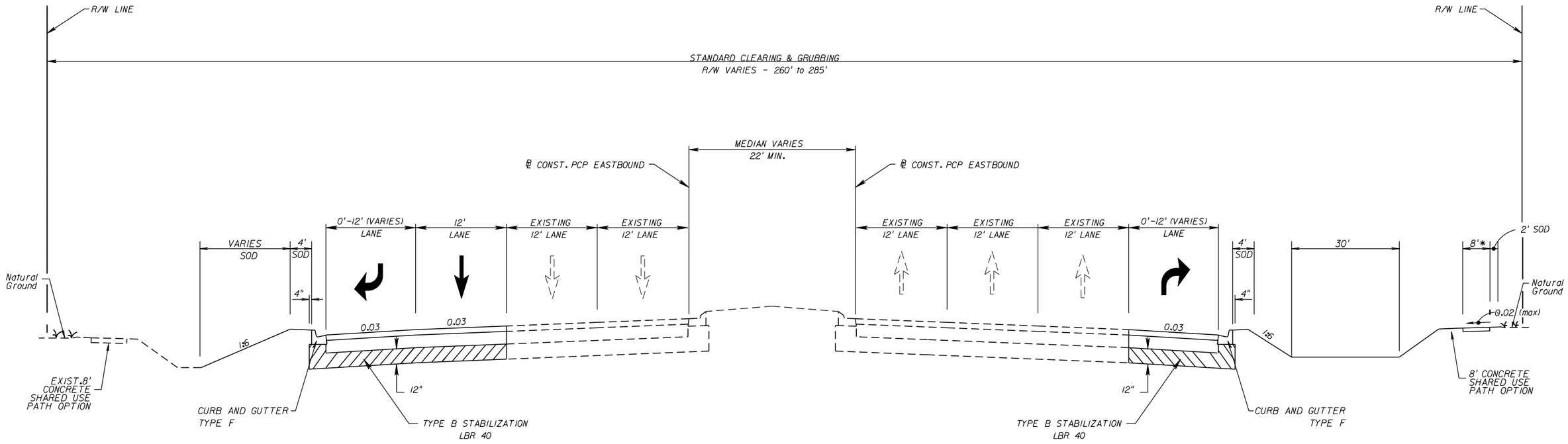
The proposed alignment will follow the existing horizontal alignment and be centered within the existing right-of-way. Use of the existing horizontal and vertical alignments will minimize the overall construction cost by minimizing roadway reconstruction by maintaining the existing lanes, and also matching the alignments of the existing bridge and the major intersections, which eliminates the need to widen the existing bridge and will minimize the impacts to the major at-grade intersections, adjacent properties and to the existing drainage facilities.

4.2 Vertical Alignment

The existing vertical alignment can be maintained almost exclusively through the project limits, however minor adjustments to longitudinal grades may be required to meet FDOT Design Standards. A minimum longitudinal grade of 0.3% is required for curb and gutter roadways. The existing profile just east of the Palm Coast Parkway at Cypress Point Pkwy intersection is relatively flat. The proposed design should consider a variable sloped outside lane and/or slotted drains, in lieu of reconstruction.

4.3 Typical Section

Figures 4.3-1 through 4.3-5 show the proposed typical section for each roadway segment within the project limits.



TYPICAL SECTION-URBAN
STA. 197+50.00 (BEGIN PROJECT) TO STA. 211+50.00

TRAFFIC DATA

CURRENT YEAR = 2007 AADT = 52,000
ESTIMATED OPENING YEAR = 2011 AADT = 58,000
ESTIMATED DESIGN YEAR = 2031 AADT = 75,000
K = 9.2% D = 54.7% T = 6.95% (24 HOUR)
DESIGN SPEED = 45 MPH

SEGMENT 1 - URBAN

CYPRESS POINT PARKWAY/BOULDER ROCK DRIVE TO I-95 SB RAMPS

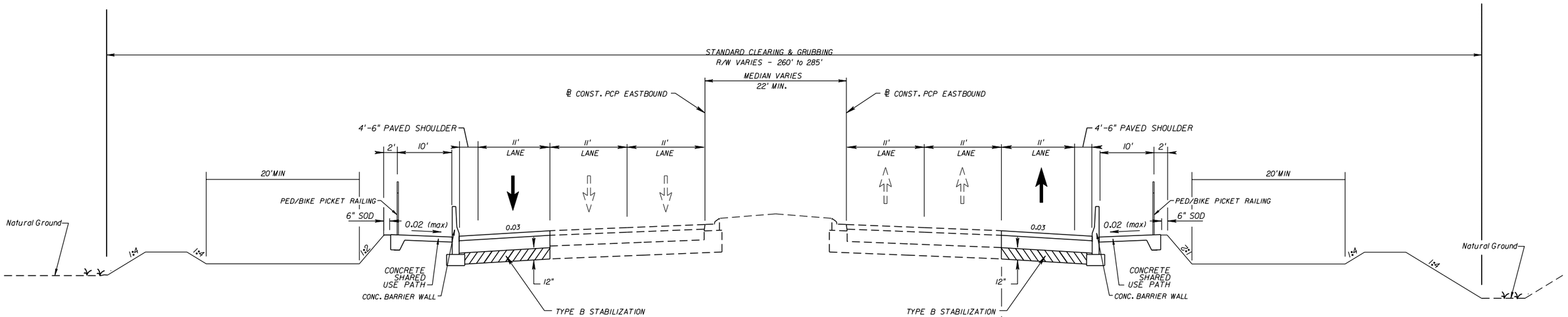
Ghyabi & Associates, Inc.
1660 Prudential Drive, Suite 202
Jacksonville, FL 32207

CITY OF PALM COAST, FLORIDA

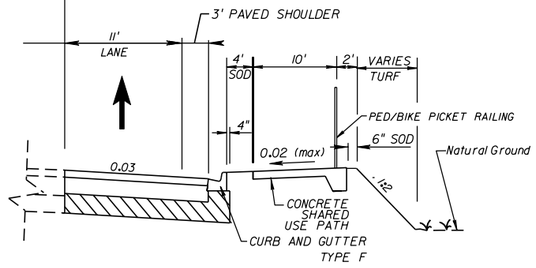
PALM COAST PARKWAY IMPROVEMENTS

FIGURE NO. 4.3-1

mleggett 3/2/2010 8:54:08 AM N:\2974-004\2974001\III\roadway\segment1_urban.dgn



TYPICAL SECTION-URBAN
STA. 211+50 TO STA. 232+00.00



TYPICAL (CURB & GUTTER)
SAME CONFIGURATION FOR
BOTH DIRECTIONS

SEGMENT 2 - URBAN

I-95 SB RAMPS TO I-95 NB RAMP

TRAFFIC DATA

CURRENT YEAR = 2007 AADT = 52,000
ESTIMATED OPENING YEAR = 2011 AADT = 58,000
ESTIMATED DESIGN YEAR = 2031 AADT = 75,000
K = 9.2% D = 54.7% T = 6.95% (24 HOUR)
DESIGN SPEED = 45 MPH

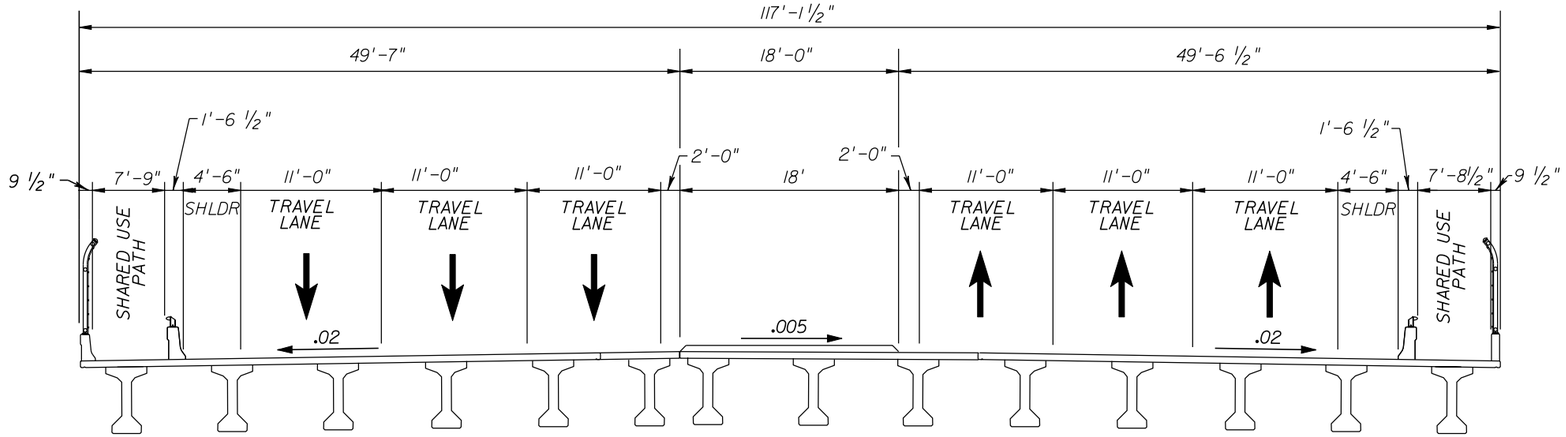
Ghyabi & Associates, Inc.
1660 Prudential Drive, Suite 202
Jacksonville, FL 32207

CITY OF PALM COAST, FLORIDA

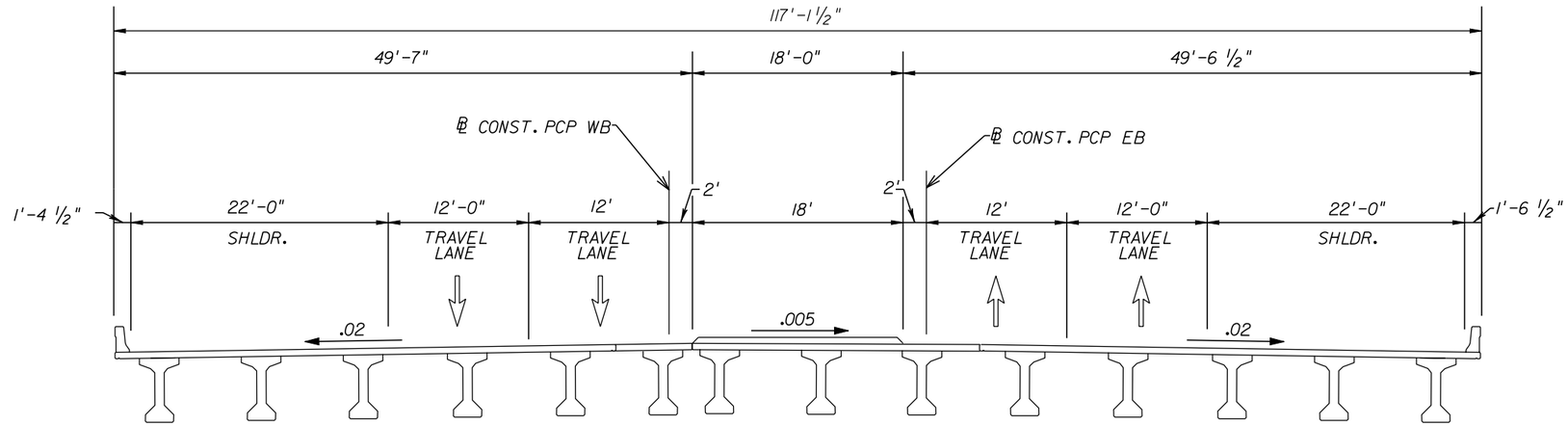
PALM COAST PARKWAY IMPROVEMENTS

FIGURE NO. 4.3-2

mleggett 3/2/2010 8:54:12 AM N:\2974-004\297400!!!!\roadway\segment2_urban.dgn



PROPOSED BRIDGE TYPICAL - PALM COAST PKWY OVER I-95
WITH BIKE AND PEDESTRIAN FACILITIES



EXISTING BRIDGE TYPICAL - PALM COAST PKWY OVER I-95

SEGMENT 3 - URBAN

BRIDGE OVER I-95

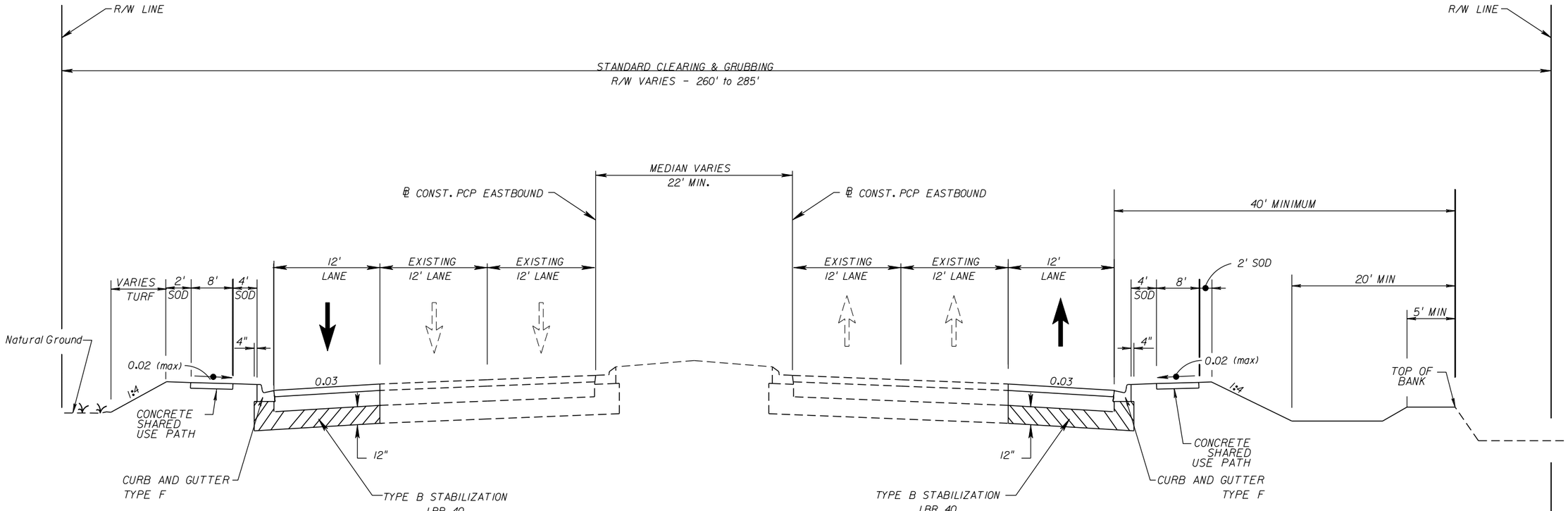
Ghyabi & Associates, Inc.
1660 Prudential Drive, Suite 202
Jacksonville, FL 32207

CITY OF PALM COAST, FLORIDA

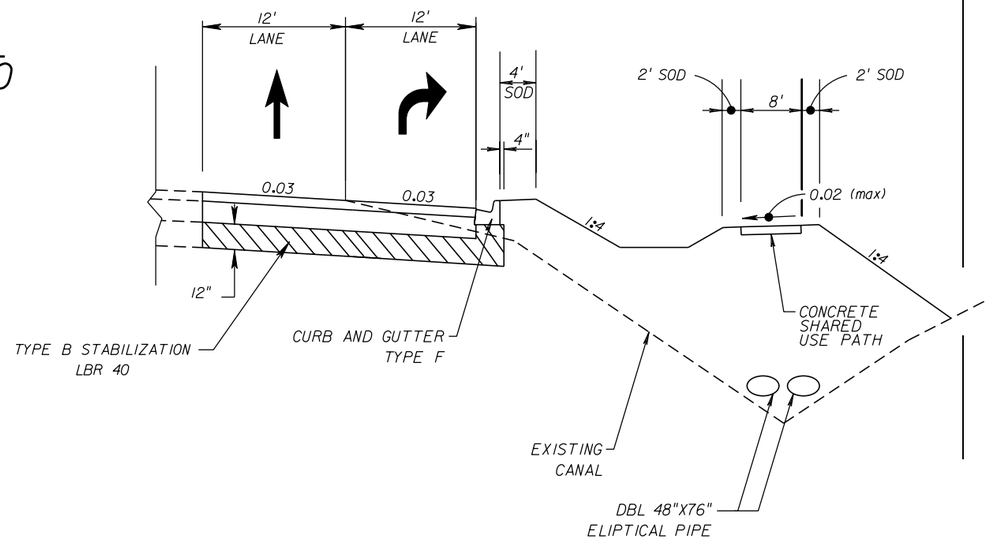
PALM COAST PARKWAY IMPROVEMENTS

FIGURE NO.
4.3-3

mleggett 3/2/2010 8:54:16 AM N:\2974-004\297400IIIII\roadway\typsec03_NOBIKE.dgn



TYPICAL SECTION-URBAN
STA. 232+00.00 TO STA. 244+50.00



TRAFFIC DATA

CURRENT YEAR = 2007 AADT = 52,000
ESTIMATED OPENING YEAR = 2011 AADT = 58,000
ESTIMATED DESIGN YEAR = 2031 AADT = 75,000
K = 9.3% D = 54.7% T = 6.95% (24 HOUR)
DESIGN SPEED = 45 MPH

SEGMENT 4 - URBAN

I-95 NB RAMPS TO OLD KINGS ROAD

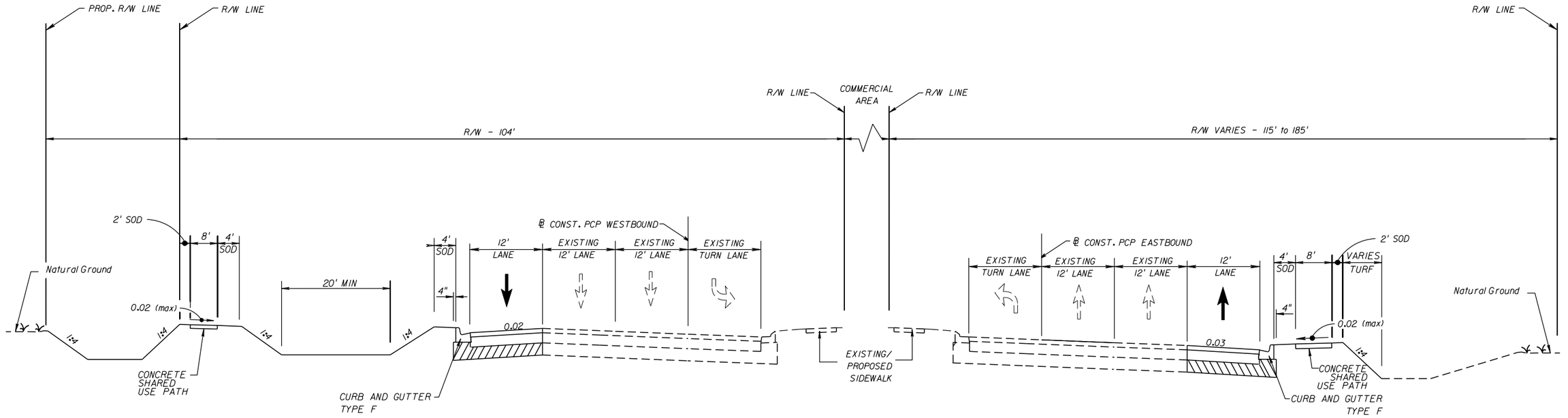
Ghyabi & Associates, Inc.
1660 Prudential Drive, Suite 202
Jacksonville, FL 32207

CITY OF PALM COAST, FLORIDA

PALM COAST PARKWAY IMPROVEMENTS

FIGURE NO. 4.3-4

mleggett 3/2/2010 8:54:19 AM N:\2974-004\297400!!!!\roadway\segment3_urban.dgn



TYPICAL SECTION-URBAN PCP NE
FROM STA. 243+00 TO 262+00 (END PROJECT)

TYPICAL SECTION-URBAN PCP SE
FROM STA. 243+00 TO 262+00 (END PROJECT)

TRAFFIC DATA

CURRENT YEAR = 2007 AADT = 52,000
ESTIMATED OPENING YEAR = 2011 AADT = 58,000
ESTIMATED DESIGN YEAR = 2031 AADT = 75,000
K = 9.2% D = 54.7% T = 6.95% (24 HOUR)
DESIGN SPEED = 45 MPH

SEGMENT 5 - URBAN

OLD KINGS ROAD TO FLORIDA PARK DRIVE

Ghyabi & Associates, Inc.
1660 Prudential Drive, Suite 202
Jacksonville, FL 32207

CITY OF PALM COAST, FLORIDA

PALM COAST PARKWAY IMPROVEMENTS

FIGURE NO. 4.3-5

mleggett 3/2/2010 8:54:27 AM N:\2974-004\297400!!!!\roadway\segment4_urban.dgn

4.4 Drainage

4.4.1 Drainage Basins:

The stormwater runoff within the project corridor is encompassed by three major drainage basins, the Lehigh Basin (SW quadrant of the Palm Coast Parkway interchange with Interstate – 95), the Clubhouse Basin (the area north of Palm Coast Parkway) and the St. Joe Basin (includes Palm Coast Parkway east of I-95 and the area surrounding the St. Joe Canal). According to information reviewed in the SJRWMD handbook and our review of recently approved Environment Resource Permit (ERP) applications, it appears that the subject project discharges to Class III receiving waters.

4.4.2 Permits Requirement:

Permits needed for this project will include an Environmental Resource Permit from the SJRWMD for stormwater and drainage impacts and a Nationwide permit from the U.S. Army Corps of Engineers for wetland impacts.

As a result of the timing of this project, it is anticipated that the ERP will be based on the newly proposed Statewide Stormwater Treatment Rule. The Florida Department of Environmental Protection (FDEP) web site indicates that this new rule will be adopted in July 2010 and will be "effective - October 1, 2010 or January 1, 2011." This new rule will require that applicants match a pre-developed pollutant loading that is based on native conditions or an 85% overall pollutant reduction, whichever is less.

Prior to construction a Notice of Intent will need to be submitted to the FDEP for a generic NPDES (Erosion Control) permit. A signed and sealed Stormwater Pollution Prevention Plan and Erosion Control Plan will be needed for the contractor to complete this permit application procedure.

If dewatering is necessary for construction, the contractor will also be required to obtain a permit for these activities through the FDEP.

4.4.3 Proposed Best Management Practice Sites:

As a result of the timing of this project, it is anticipated that permitting of the proposed stormwater management facilities will be completed under the newly proposed Statewide Stormwater Treatment Rule. The Florida Department of Environmental Protection (FDEP) web site indicates that the new rule will be adopted in July 2010 and will be "effective - October 1, 2010 or January 1, 2011."

It is important to note that under this new rule, wet detention ponds alone will not be able to achieve the desired phosphorous removal. This is a significant departure from the previous criteria, where a single stormwater management facility would satisfy treatment requirements. Under the new rule, a series of treatment systems (a.k.a. Treatment Train) will often be needed to meet the new rule.

Therefore, to meet the new rule, a series of BMP's have been evaluated along the project. The project has been divided into 10 sub-basins and one or more BMP's have been identified in these areas. Location of the recommended stormwater treatment facilities are shown on the Concept Plans (Appendix A). More detailed information on these BMP's is provided in the Pond Siting Report prepared for this project.

4.5 Design Traffic Volumes

Average daily traffic volumes range from 44,900 vehicles per day between Harbor Center Way to Florida Park Drive and 75,600 vehicles per day between Cypress Point Parkway/Boulder Rock Drive to Interstate – 95. Additional details on the development of these volumes are provided in the Districtwide Design Traffic for PD&E and Design, Final Technical Memorandum (dated April 2008) prepared for this project. The recommended design traffic characteristics for this project are as follows:

Table 4.5-1 Design Traffic Table

Average Annual Daily Traffic	
AADT Current Year (2007)	52,000
AADT Opening Year (2011)	58,000
AADT Design Year (2031)	75,000
Roadway Characteristics	
K	9.20 %
D	54.70 %
T	6.95 %

4.6 Intersection Concepts and Signal Analysis

The initial traffic analysis indicated a need for triple left turn lanes for the westbound Palm Coast Parkway at Cypress Point Parkway and eastbound Palm Coast Parkway at Old Kings Road. Based on discussions with City staff, the final decision is to keep the dual left turn lanes and lengthen them to provide additional storage for turning vehicles.

This decision will avoid impeding through traffic on the Parkway and will avoid significant right-of-way, construction and drainage impacts.

The locations of the existing signalized intersections along the Palm Coast Parkway within the project limits are shown below in Table 4.6-1. Along the project corridor, there are 8 intersections, all of which are signalized with the exception of the intersection of the Palm Coast Parkway SE and Harbor Center Way. In addition, two of the eight intersections are on and off-ramps that are part of the I-95 interchange. All of the signals are span wire with the exception of the intersection of the EB Palm Coast Parkway and Florida Park Drive, which has mast arms that were recently constructed. The City of Palm Coast is responsible for maintenance of the traffic signals along the Palm Coast Parkway between Cypress Point Parkway / Boulder Rock Drive and Florida Park Drive.

Table 4.6-1: Existing Signalized Intersection Data

Signalized Intersection	Crosswalk (Approaches)	Pedestrian Push Button
Palm Coast Pkwy., Cypress Point Pkwy. / Boulder Rock Dr.	All Four	All Four Approaches
Palm Coast Parkway, I-95 Southbound On and Off Ramps	None	None
Palm Coast Pkwy., I-95 Northbound On and Off Ramps	None	None
Palm Coast Pkwy., Old Kings Road	North and West	NW, NE & SW Quads.
Palm Coast Pkwy. SE, Harbor Center Way	None	None
Palm Coast Pkwy. NE, Harbor Center Way	East	NE & SE Quads.
Palm Coast Pkwy. SE, Florida Park Dr.	West	NW Quadrant
Palm Coast Pkwy. NE, Florida Park Dr.	North and West	NE, NW & SW Quads.

There are no new traffic signal locations proposed as part of this project. All existing signal configurations will be modified to accommodate the following:

- Additional travel lane in each direction,
- New right turn lanes proposed for the following locations:

i. EB Palm Coast Parkway at Cypress Point Parkway,
ii. WB Palm Coast Parkway at Boulder Rock Drive, and
iii. EB Palm Coast Parkway at Old Kings Road.

- Revised Ramp terminal intersections as shown in Appendix A – Concept Plans,

4.7 Access Management

Access Management Guidelines (Florida Administrative Rule 14-97) will be applied to this project. Palm Coast Parkway from Cypress Point Parkway/Boulder Rock Drive to Florida Park Drive will utilize Access Management Class 5 (Restrictive). Table 4.7-1 indicates minimum spacing for connections, median openings and signals for Access Class 5.

Table 4.7-1 Arterial Access Management - Class 5 Restrictive

	Urban (45 mph)
Minimum Connection Spacing	245 ft.
Minimum Median Opening Spacing (Directional)	660 ft.
Minimum Median Opening Spacing (Full)	1320 ft.
Minimum Signal Spacing	1320 ft.

The proposed median openings are listed in Table 4.7-2.

Table 4.7-2 Proposed Median Openings

Median Opening Location	Station	Distance to Next Opening (ft)	Type
Cypress Point Pkwy / Boulder Rock Dr.	197+50		Full
		1450	
I-95 SB Ramps	212+00		Directional
		1980	
I-95 NB Ramps	231+80		Directional
		1290	
Old Kings Road	244+70		Full
		780	
Harbor Center Way	252+50		Full
		930	
Florida Park Drive	261+80		Full

It is recommended that the classification not be changed as part of the improvements. Median openings will be provided at appropriate locations that meet FDOT standards and accommodate existing conditions.

4.8 Pedestrian and Bicycle Facilities

Continuous pedestrian and bicycle facilities throughout the project limits will be provided as a result of this project. This includes carrying these facilities across the existing bridge over Interstate - 95. Currently there are no designated or un-designated bicycle lanes on Palm Coast Parkway or any crossing roadway. The City of Palm Coast has a pedestrian / bicycle facilities plan that includes the installation of shared use paths along roadway corridors, in lieu of bike lanes. A minimum 8-foot wide path will be provided on both sides of the roadway.

Pedestrian and Bicycle Facilities

The proposed improvements include a minimum 8-foot wide shared use pathway in each direction through the project limits, from Cypress Point Parkway / Boulder Rock Drive to Florida Park Drive.

Handicap Facilities

Handicapped ramps will be provided at all intersecting roadways and driveway connections, as appropriate.

4.9 Right-of-Way Requirements

The available right of way is generally sufficient to construct the improvements proposed for the preferred alternative with a few exceptions. A small corner clip will be needed in the southwestern quadrant of the Cypress Point Parkway / Palm Coast Parkway intersection to accommodate the required turning radius for the dedicated right turn lane to Palm Coast Parkway at that intersection. This Cypress Point Parkway parcel contains an existing detention pond.

Right-of-way is also needed in the northeastern quadrant of the Old Kings Road / Palm Coast Parkway intersection. Two parcels are affected at this location. The westerly Old Kings Road parcel is currently undeveloped (future ABC Liquors) and the easterly parcel is the Wachovia Bank site. These parcels are required to accommodate construction of the dedicated right turn lane to northbound Old Kings Road.

There is additional right-of-way required for the proposed stormwater management facilities between Old Kings Road and Florida Park Drive on both sides of Palm Coast Parkway.

The total right-of-way cost anticipated is $ 334,000, as indicated in the table below.

Table 4.9-1 Right-of-Way Cost

Description	Area of Acquisition	Cost
SW Quadrant – Palm Coast Pkwy @ Cypress Point Parkway	0.01 acres	$ 8,700
NE Quadrant – Palm Coast Pkwy @ Old Kings Road Westerly Undeveloped Parcel	0.15 acres	$ 93,500
NE Quadrant – Palm Coast Pkwy @ Old Kings Road Wachovia Bank Site	0.022 acres	$ 20,200
Stormwater Areas – Old Kings Road to Florida Park Drive		
- Sub-Basin 9C	0.350 acres	$ 162,300
- Sub-Basin 10A	1.720 acres	$ 49,300
TOTAL	**2.252 acres**	**$ 334,000**

4.10 Roadway Lighting

The overhead street lighting provided along segments of the Palm Coast Parkway within the project corridor is summarized below.

- North and south sides of Palm Coast Parkway from west of Cypress Point Parkway / Boulder Rock Drive to Old Kings Road
- North side of Palm Coast Parkway to the south side of WB Palm Coast Parkway from Old Kings Road to east of Florida Park Drive

In addition, overhead street lighting is provided at the following locations: NE quadrant of EB Palm Coast Parkway at Harbor Center Way; NE quadrant of WB Palm Coast Parkway at Harbor Center Way; NW quadrant of EB Palm Coast Parkway at Florida Park Drive; and the west and east sides of Cypress Point Parkway / Boulder Rock Drive. Additional lighting along Palm Coast Parkway is associated with private or commercial properties (service provided by Florida Power & Light).

Existing roadway light standards are located at varying offsets (15 to 20 feet) from the edge of travel way. The preferred urban typical section provides the best opportunity to salvage the light pole locations that are a minimum of 17.5 feet from the existing edge of pavement.

4.11 Landscaping

Landscaping will be provided, as determined through coordination with the City of Palm Coast staff and in accordance with local landscaping ordinances.

4.12 Preliminary Traffic Management

The maintenance of traffic and sequence of construction will be planned and scheduled to minimize traffic delays throughout the project. Access to all businesses and residences will be maintained to the extent practical through controlled construction scheduling. During final design, a Traffic Control Plan will be developed and approved for use, in accordance with the most current FDOT Roadway and Traffic Standards, Index No. 600 and Manual of Traffic Control Devices.

As conceived, the proposed improvements can be constructed while maintaining two lanes of traffic in each direction. The proposed urban typical section maintains the existing median configuration, such that the additional travel lane and required turn lanes can be added to the outside on both sides of the existing roadway, while maintaining traffic on the existing lanes. Traffic would then be shifted to the outer two lanes to allow reconstruction of median turn lanes and revised traffic signal systems.

4.13 Preliminary Engineering Costs

Costs for the project are listed in the in the following table – Table 4.13-1. Construction costs were estimated using the FDOT LRE System.

Table 4.13-1: Estimated Project Costs

Estimated Project Costs	Preferred Alternative
Construction	$ 7,490,000
Right-of-Way	$ 344,000
Design (12% of Construction)	$ 898,800
CEI (12% of Construction)	$ 898,800
Project Total	**$ 9,631,600**

5.0 SUMMARY OF ENVIRONMENTAL IMPACTS

5.1 Natural Environment

5.1.1 Coastal and Marine

The Florida Department of Environmental Protection has determined this project is consistent with the Florida Coastal Management Program (FCMP) as stated in the Advance Notification response dated November 17, 2006. Final FCMP approval will be issued at the time of environmental resource permit approval.

5.1.2 Farmlands

Through coordination with the Natural Resources Conservation Service, it has been determined that there is no unique farmland in the project area. Therefore, the provisions of the Farmland Protection Policy Act (FPPA) of 1984 do not apply.

5.1.3 Wildlife and Habitat

The Endangered Species Biological Assessment (ESBA) was conducted to identify listed species and critical habitats present within the project corridor. The ESBA report involved literature reviews, methods employed during the assessment, results, and conclusion of potential impacts to listed species and critical habitat.

A literature review was conducted to identify those species classified by USFWS and FWC as being endangered, threatened or species of special concern (collectively recognized as “listed species”), within the project corridor. In addition to the literature review, inquiries were conducted with USFWS and FWC personnel familiar with this portion of Flagler County concerning the listed species most likely to occur within the corridor. Information on state listed species within Flagler County was obtained through FNAI and FWC sources.

Florida Natural Areas Inventory (FNAI) species occurrence reports suggest that portions of the study area are located within the vicinity of rare species and/or natural communities. Potential habitat is defined as areas that may offer suitable habitat for one or more rare species based on land cover type, which may occur in the vicinity of the project. Several federally listed wildlife species have the potential to occur within the project limits.

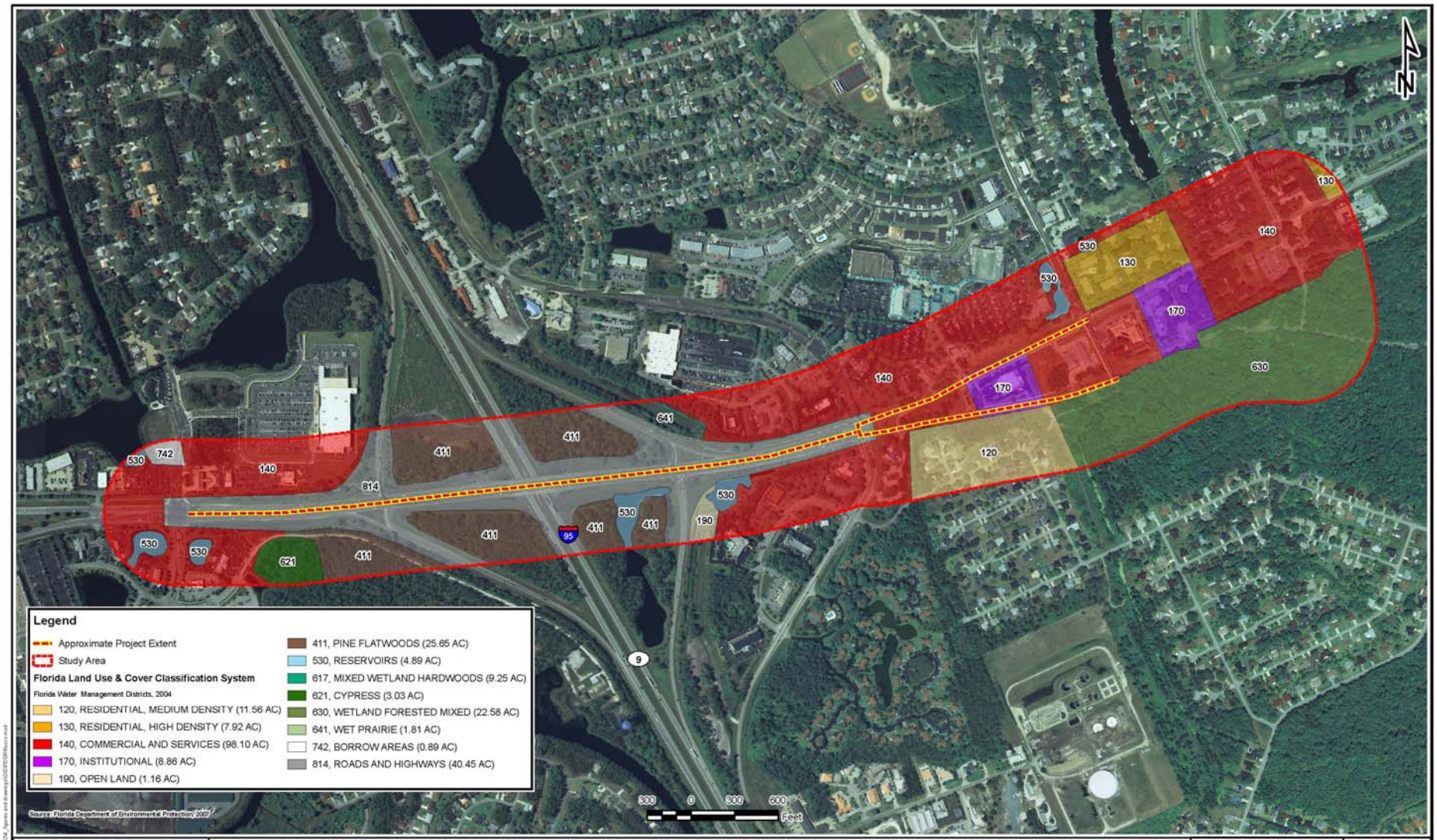
Wildlife observations were conducted during each field reconnaissance through direct observations and recognition of tracts, scat, calls and other visual

observations. The purpose of the reconnaissance was to evaluate the existing lands for the presence of flora and fauna listed by USFWS as endangered and/or threatened, and those listed by the FWC as endangered, threatened, or species of special concern. The available habitat, habitat preferences, or critical habitat, if applicable, for these species was also evaluated throughout the corridor. No listed species were observed during the field reconnaissance.

The habitat communities within the limits of the study area were classified using the State of Florida Department of Transportation Florida Land Use, Cover and Forms Classification System (FLUCFCS). Typically the corridor is composed of residential, commercial and services, pine flatwoods (Figure 5.1-1). Commercial and services composes the majority of the corridor. The upland communities throughout the corridor can be described as fragmented pine flatwoods. The remaining corridor consists primarily of cypress, wetland forested mixed communities. Field surveys revealed no significant upland native upland communities within the corridor are large enough to maintain viable wildlife populations.

Public lands in the vicinity of the project study area include Graham Swamp to the south and Flagler County Blueway. The northern extent of the Graham Swamp Conservation Area is located approximately 1 mile south of the project corridor. Adjacent to the Graham Swamp Conservation Area is managed lands within the Flagler County Blueway, Florida Forever Project. These managed lands are located approximately 1,600 feet to the southeast of the project corridor. It is not anticipated that the project will have any impacts to these managed lands.

There are no significant habitat and linkages within the vicinity of the project. Therefore, no direct impacts to strategic habitat, critical linkages, Florida Forever projects, essential fish habitat, or public lands are expected as a result of this project. No adverse impacts to individual species or regional populations of federal or state protected species or their habitat are anticipated as a result of this project.



E Sciences, Incorporated
FL Engineering Lic. #8691
34 East Pine Street
Orlando, Florida, 32801
www.esciencesinc.com
Phone: 407-481-9006
Fax: 407-481-9627

DRAWN BY: TH | CHECKED BY: | PROJECT NUMBER: 1-1262-002

Palm Coast Parkway PD&E

Palm Coast Parkway from Cypress Point Parkway to Florida Park Drive
Sections 13, 18, & 41
Township 11S, Ranges 30 & 31E
City of Palm Coast, Flagler County, Florida

Land Use Map

SCALE: 1 " equals 600 ' | DATE: 10/06/2009

Figure 5.1-1

5.1.4 Wetlands

The Wetland Evaluation Report (WER) was prepared to examine the landward extent of wetlands and other surface waters within the project corridor, provide a classification of each wetland system found, provide a baseline characterization and functional assessment for wetlands involved in the project area including size, contiguity, vegetative diversity, wildlife habitat value, hydrologic functions, edge relationships, and use. The WER also addresses practicable measures that may minimize or avoid impact or harm to wetlands and identify the projects potential contribution to direct, indirect, and cumulative impacts. Documentation of consultation with federal, state, and local agencies is also provided to address concerns and resolutions related to potential wetland impacts, practicable measures to reduce harm, and to discuss acceptable mitigation options when necessary.

Wetlands within the corridor were identified through interpretation of aerial photography, the NRCS Soil Survey of Flagler County, National Wetland Inventory (NWI) data, and Florida Land Use Cover and Forms Classification System (FLUCFCS) data (Figure 5.1-1). Further delineation and field ground-truthing of the landward extent of wetlands in the corridor was performed utilizing the United State Army Corps of Engineers' (USACOE) Federal Manual for Identifying and Delineating Jurisdictional Wetlands and Chapter 62-340 F.A.C., Delineation of the Landward Extent of Wetlands and Surface Waters. Wetlands were also classified according to the United States Fish and Wildlife Services National Wetlands Inventory (NWI) methodology.

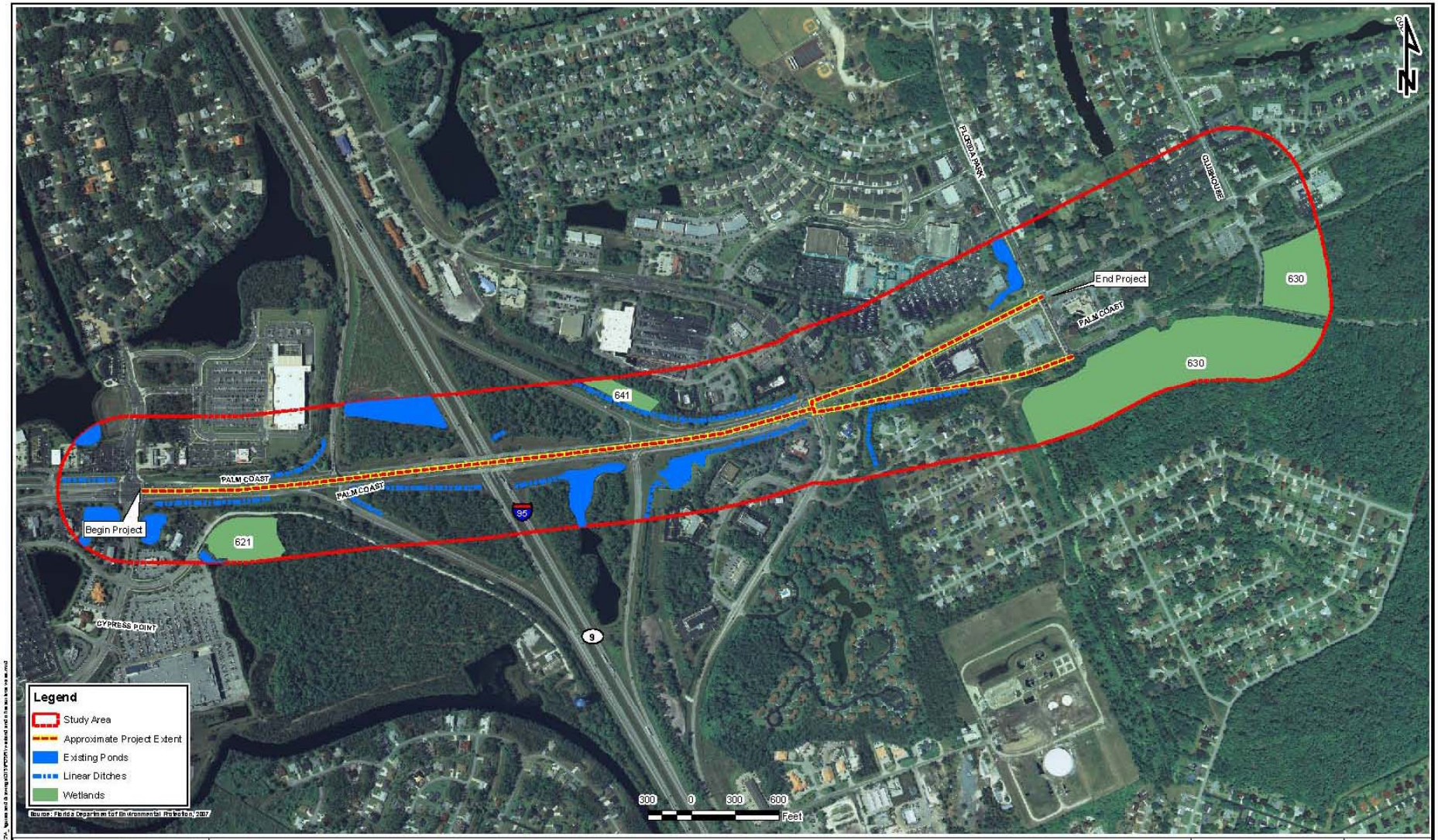
Four wetland systems and 18 surface water features were identified along the project corridor (Figure 5.1-2). All of the wetland systems identified in the WER are classified under the NWI as palustrine, forested, deciduous, seasonally flooded (PFO6C) wetlands with FLUCFCS designations of Cypress (621), Wetland Forested Mixed (630), and Wet Prairie (643). The cypress wetland system is dominated by bald cypress (Taxodium distichum), whereas the wetland forested mixed wetlands are dominated by red maple (Acer rubrum), bald cypress (Taxodium distichum), Carolina willow (Salix caroliniana), and sabal palm (Sabal palmetto). The wet prairie wetland exists in an area used for power transmission lines and was likely excavated from an upland or low lying area allowing for the recruitment of wetland vegetation including chalky bluestem (Andropogon glomeratus), cinnamon fern (Osmunda cinnemomea), red maple (Acer rubrum), and dahoon holly (Ilex cassine). All of the wetland systems were determined to be of fair to good quality based upon a Unified Mitigation Assessment Method (UMAM) functional evaluation.

Surface waters encountered within the project corridor consist mainly of open ponds and linear ditches of varying sizes. Each of the ponds serves to collect

and treat stormwater runoff associated with the roadway or adjacent development. The dominant vegetation consists of duck potato (Sagittaria lancifolia), cattails (Typha latifolia), water primrose (Ludwigia peruviana), Carolina willow (Salix caroliniana), and torpedo grass (Panicum repens). pickerelweed (Pontederia cordata), and alligator weed (Alternanthera philoxeroides). Each of these surface waters appears to have little or no significant wildlife value other than occasionally foraging by transient wading birds. However, several surface water features appear to have been historically excavated from wetlands and therefore may be treated as historical wetlands for regulatory jurisdiction purposes.

Impacts to wetlands or other surface waters are expected to be limited to minor impacts for the construction of portions of the proposed surface water management system. The potential impacts are associated with the construction of pond sites proposed in areas that are existing wetlands or linear ditches that were historically excavated in wetlands. These areas include the linear ditch located on the south side of Palm Coast Parkway extending from the intersection of Cypress Point Parkway to the I-95 southbound on ramp, and the wetlands associated the power transmission area along the I-95 northbound on ramp. Any secondary or indirect impacts from either the proposed roadway modification or pond site construction may be avoided by following existing St. Johns River Water Management District design criteria for stormwater management systems and by utilizing best management practices to manage and maintain sediment and erosion controls.

Mitigation for wetland or other surface water impacts may be obtained through the purchase of mitigation bank credits, offsite wetland restoration and enhancement, or through the provisions of Florida Statute 373.4137 (Senate Bill 1987). By utilizing other proposed pond site alternatives and by terminating the project limits at Florida Park Drive, thereby avoiding potential wetland impacts at the eastern segment of the project, no wetland impacts are expected. Existing surface waters excavated in uplands within the project limits do not provide significant wildlife habitat and therefore, construction of new ponds adjacent to those systems, or minor modification of those surface waters is not expected to result in any adverse impacts that would require mitigation.



E Sciences, Incorporated
FL Engineering Lic. #8691
34 East Pine Street
Orlando, Florida, 32801
www.esciencesfl.com
Phone: 407-481-9006
Fax: 407-481-9627

DRAWN BY: TH | CHECKED BY: | PROJECT NUMBER: 1-1252-002

Palm Coast Parkway PD&E

Palm Coast Parkway from Cypress Point Parkway to Florida Park Drive
Sections 13, 18, & 41
Township 11S, Ranges 30 & 31E
City of Palm Coast, Flagler County, Florida

Wetlands and Other Surface Waters

SCALE: 1" equals 600' | DATE: 12/08/2009

Figure 5.1-2

5.1.5 Water Quality

Stormwater management facilities will be constructed to meet water quality and quantity regulatory criteria. Potential stormwater management facility sites will be identified during the project development phase and further refined during design.

5.1.6 Floodplains

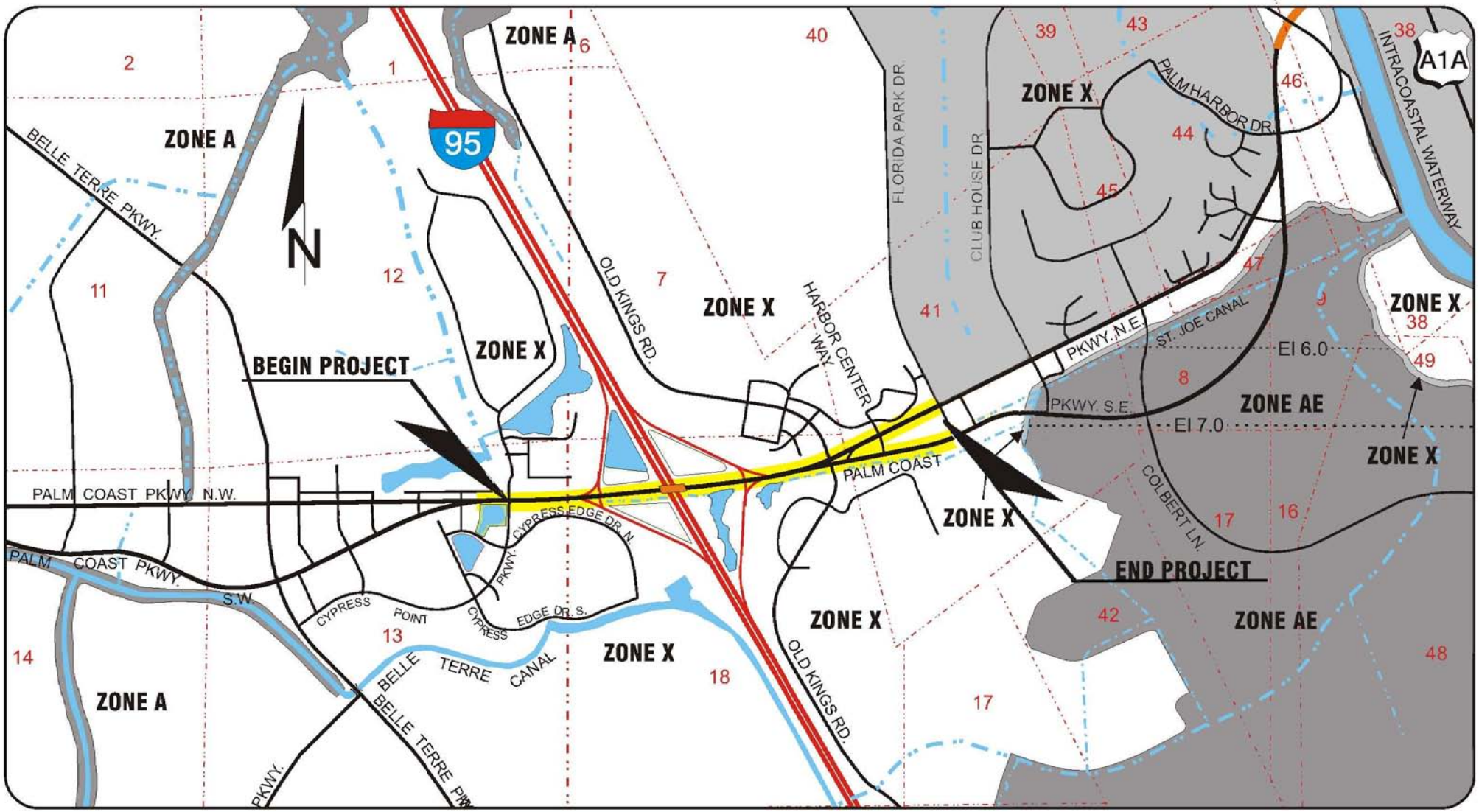
Base Floodplains

Figure 5.1-3 illustrates the existing floodplains within the project corridor, as derived from the Federal Emergency Management Agency's Flood Insurance Rate Maps (FIRMs) that include Panels 120085 0040 B and 120085 0045 B, which were effective February 5, 1986. The FIRMs are a valuable resource, which are utilized as the basis for floodplain management, mitigation and insurance activities for the National Flood Insurance Program (NFIP).

The majority of the project corridor is located within Zone C, which are areas with minimal flooding. There is one floodplain, Zone A, within the project corridor that is located in the vicinity of the St. Joe Canal at the eastern end of the project. This floodplain is identified as Zone A with areas of 100-year flood where base flood elevations and flood hazard factors have been determined. The remaining portion of the project corridor is located within Zone B that consists of areas between limits of the 100-year flood and 500-year floor; or certain areas subject to 100-year flooding with average depths less than one foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood.

Regulated Floodways

According to the FEMA flood boundary and floodway maps, regulated floodways do not exist within the project corridor.



Reference FIRM maps July 17, 2006
12035C0-110D; -120D; -128D; -129D;
-133D; -136D; -137D; -141D

LEGEND

- Project Study Limits
- Streams and Waterways
- Existing Ponds
- Zone AE 1% annual chance flood (100-year flood) base flood elevations determined
- Zone A 1% annual chance flood (100-year flood) No base flood elevations determined
- Zone X Areas of 0.2% annual chance flood outside (100-year flood)
- Zone X Areas to be outside the 0.2% annual chance (500-year flood)

CITY OF PALM COAST

PALM COAST PARKWAY

From Cypress Point Pkwy. / Boulder Rock Dr.
to Florida Park Drive

PD & E STUDY

Flagler County, Florida

FLOOD PLAINS MAP

Figure 5.1-3

5.2 Cultural Impacts

5.2.1 Historic/Archaeological

Archaeological: Background research, including a review of previous cultural resource assessment surveys in the vicinity, the Florida Master Site File (FMSF), and the NRHP, indicated that two previously recorded archaeological sites, 8FL134-St. Joseph Still and 8FL281-St. Joe Canal, are located adjacent to the proposed pond sites; a recorded third site, 8FL186-Old King's Road, is located within the eastern interchange proposed pond sites. A review of relevant site locational information for environmentally similar areas within Flagler County and the surrounding region indicated a generally low to moderate probability for the occurrence of new prehistoric sites in the project APE.

During the PD&E Study, no new archaeological sites were found; however one archaeological occurrence (Herty cup fragment) was documented and additional information was recorded for two previously recorded archaeological sites, 8FL134-Old King's Road and 8FL186-St. Joe Canal. No evidence of 8FL134-St. Joseph Still was discovered within the project APE. That portion of site 8FL186-Old King Road contained within the project boundaries is not considered eligible for listing in the NRHP due to a lack of integrity. Subsurface testing by ACI found no evidence of the historic roadway, whose exact location is unknown. As a result of field survey (ACI 2007), the boundaries of 8FL186-St. Joe Canal were extended. The site was not considered eligible for listing in the NRHP. The historic canal passes under the Palm Coast Parkway, and thus, will not be physically impacted by the project.

Historical: Background research and a review of the FMSF indicated that no historic structures (50 years of age or greater) were recorded within or adjacent to the project APE for the PD&E Study or proposed pond sites. No historic resources were identified as a result of field survey during the PD&E Study and non are anticipated during the field survey for the proposed pond sites.

Based on the results of the CRAS in 2007, the Palm Coast Parkway PD&E Study project was considered to have no involvement with any archaeological sites or historic resources which are listed, determined eligible, or considered potentially eligible for listing in the NRHP. It is anticipated that there will also be no involvement with any archaeological sites or historic resources which are listed, determined eligible, or considered potentially eligible for listing in the NRHP as a result of the proposed pond study.

5.2.2 Section 4(f) Potential

The proposed widening of Palm Coast Parkway will not impact any public parks and recreation lands or wildlife and waterfowl refuges.

5.3 Social Environment

5.3.1 Cultural Features

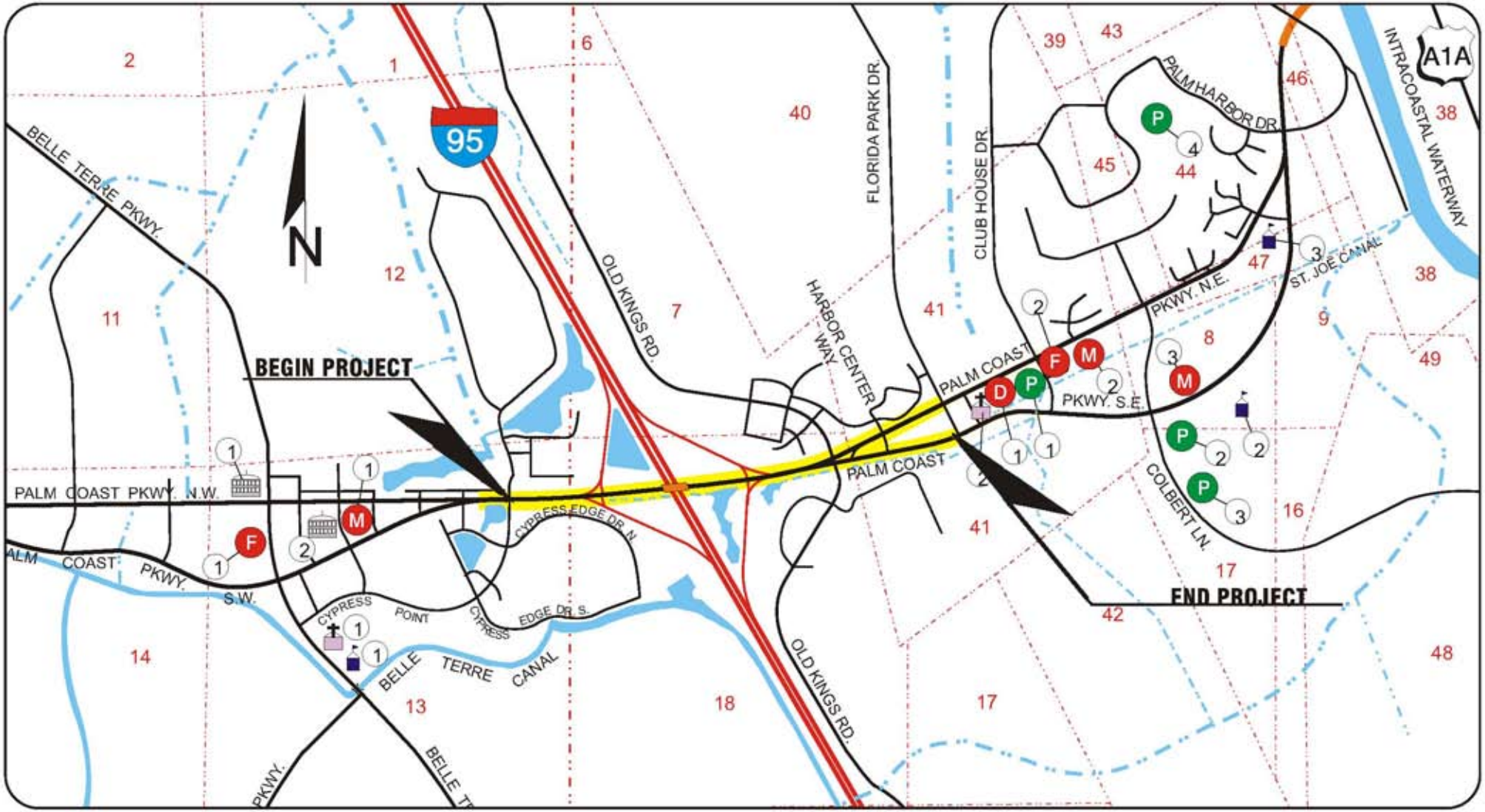
A Cultural Resource Assessment Survey was conducted within the Area of Potential Effect (APE) along the Palm Coast Parkway from Cypress Point Parkway / Boulder Rock Drive to Florida Park Drive, which consisted of a literature review and field reconnaissance to locate and identify any cultural resources within the APE as well as assess their significance in terms of eligibility for listing in the National Register of Historic Places (NRHP).

5.3.2 Community Facilities

Community 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 and emergency treatment facilities, cemeteries, and public buildings and facilities are considered to be community facilities. Information for mapping the community facilities within the general vicinity of the project corridor was based on a literature review as well as a field review. The following Table 5.3-1 and Figure 5.3-1 provide a listing as well as the location of these community facilities, respectively.

Table 5.3-1 Summary of Community Facilities

Symbol	Name	Location
Schools		
1	St. Elizabeth Ann Seton Catholic School	Belle Terre Pkwy – South of Palm Coast Pkwy
2	Daytona Beach Community College, Flagler / Palm Coast Campus	Palm Coast Pkwy SE – SE quadrant of the Colbert Lane Intersection
3	Federal Aviation Authority Management Training Center	Palm Coast Pkwy NE – SE quadrant of the Fairway Oaks Lane Intersection
Churches		
1	St. Elizabeth Ann Seton Catholic Church	Belle Terre Pkwy – South of Palm Coast Pkwy
2	St. Mary's By The Sea Lutheran Church	Palm Coast Parkway NE – East of Florida Park Drive
Public Facilities		
1	Flagler County Public Library	Palm Coast Parkway SW – NW quadrant of the Belle Terre Parkway Intersection
2	United States Post Office	Palm Coast Parkway SW – NW quadrant of the Pine Cone Drive Intersection
Parks and Recreational Areas		
1	Palm Coast Recreation Park and Community Center	Palm Coast Parkway NE – NW quadrant of the Club House Drive Intersection
2	Tom Gabrielle Amphitheater	Colbert Lane – South of Palm Coast Pkwy SE
3	Seagate Park	Colbert Lane – South of Palm Coast Pkwy SE
4	Palm Harbor Golf Club	Club House Drive–North of Palm Coast Pkwy NE
Fire Department		
1	Fire Station #23	Belle Terre Parkway – South of Palm Coast Parkway NW
2	Fire Station #22 / Emergency Services	Palm Coast Parkway NE – NE quadrant of the Club House Drive Intersection
Medical Facilities		
1	Palm Coast Medical Center	Palm Coast Pkwy – NE quadrant of the Pine Cone Drive Intersection
2	Preferred Medical Center	Palm Coast Pkwy NE – East of Club House Drive
3	Grand Oaks Rehabilitation Center	Colbert Lane – North of Palm Coast Pkwy SW
Day Care Facilities		
1	St. Mary's Christian Day School	Palm Coast Pkwy NE – East of Florida Park Drive



LEGEND

- Project Study Limits
- Schools
- Public Facilities
- Recreation
- Fire Stations
- Medical Facilities
- Church
- Cemetery
- Parks
- Day Care Facilities
- Streams and Waterways
- Existing Ponds

CITY OF PALM COAST

PALM COAST PARKWAY

From Cypress Point Pkwy. / Boulder Rock Dr.
to Florida Park Drive

PD & E STUDY

Flagler County, Florida

COMMUNITY FACILITIES

Figure 5.3-1

5.3.3 Utilities

The ownership, type and approximate location of the existing utilities within the project corridor are summarized in Table 5.3-2. This utility information is based on information obtained during field reviews as well as information provided by the utility companies. It should be noted that not all of the utility companies have responded at this time and their existing facilities are described as shown in the SR 9 / I-95 Interchange Modifications at Palm Coast Parkway (WPI: 5142670), which will be updated as the information is received from the utility companies.

As shown in Table 5.3-2, utilities are prevalent throughout the project corridor and are located within and adjacent to the Palm Coast Parkway right-of-way. The City of Palm Coast's project ITB-U-06-08, Old Kings Road North Reclaimed Water Main Construction, proposes the construction of 400 feet of a 30-inch steel casing via a bore and jack operation across the Palm Coast Parkway from the South to North side.

This proposed reclaimed water main extends from south to north of the Palm Coast Parkway along Old Kings Road as well as the I-95 northbound on and off ramps. The City of Palm Coast's project ITB-U-07-03, Old Kings Road South Reclaimed Water Main Construction, sets forth he design of 12-inch and 20-inch reclaimed water mains that extend from Oak Trails Boulevard south along Old Kings Road, a distance of approximately 16,235 feet. In addition, it should be noted that utility adjustments may be required if Cypress Point Parkway is widened (Alternative 2), south of Palm Coast Parkway.

Table 5.3-2: Existing Utilities

Utility Owner	Utility Type	Aerial (A) Buried (B)	Side	Approximate Location
Bellsouth Communications	Telephone - Cable	B	North	Palm Coast Parkway – NE quadrant of Cypress Point Parkway / Boulder Rock Drive to east of Cypress Point Parkway / Boulder Rock Drive
	Telephone - Conduit	B	North	Palm Coast Parkway – NW quadrant of Cypress Point Parkway / Boulder Rock Drive extends to east of Florida Park Drive along the Palm Coast Parkway NE
	Telephone - Cable	B	North	Palm Coast Parkway – NW to NE quadrant of Old Kings Road where a pair of cables extend to the North
	Telephone - Cable	B	North	Palm Coast Parkway – NW quadrant of Old Kings Road where cable extends to the North
	Telephone - Cable	B	North / South	Palm Coast Parkway – extends from the NW corner of Old Kings Road to the NE corner of Old Kings Road, where a set of 3 cables continues North underneath the existing pavement
	Telephone – Cable	B	North	Palm Coast Parkway NE – NW quadrant of Old Kings Road to East of Florida Park Drive
	Telephone – Cable	B	North / South	Palm Coast Parkway NE – NW quadrant of Old Kings Road to East of Old Kings Road where it crosses to the South side and extends to East of Florida Park Drive
Bright House Networks	Cable TV – Direct Bury Coax	B	North	Palm Coast Parkway – West of Cypress Point Parkway / Boulder Rock Drive to the NW corner of Cypress Point Parkway / Boulder Rock Drive where it continues North along the West side of Cypress Point Parkway / Boulder Rock Drive
	Cable TV – (3) 1 ¼" Conduit	B	East	Cypress Point Parkway / Boulder Rock Drive – extends from the NE corner of the Palm Coast Parkway to the North
	Cable TV – (3) 1 ¼" Conduit	B	North	Palm Coast Parkway – extends from the NE corner of Cypress Point Parkway / Boulder Rock Drive to West of the I-95 southbound off-ramp

Utility Owner	Utility Type	Aerial (A) Buried (B)	Side	Approximate Location
	Cable TV – (7) 1 ¼" Conduit and (2) 2" Conduit	B	North / South	Palm Coast Parkway – extends from the west to the I-95 southbound off-ramp to west of the I-95 southbound on-ramp where it parallels the limited access right-of-way along the I-95 southbound on-ramp
	Cable TV – (5) 1 ¼" Conduit and (1) 2" Conduit	B	North	Palm Coast Parkway – extends from west of the I-95 southbound off-ramp to the NW corner of Old Kings Road
	Cable TV – (6) 1 ¼" Conduit	B	North	Palm Coast Parkway NE – extends from the NW corner of Old Kings Road to east of Florida Park Drive
	Cable TV – (1) 2" Conduit	B	East	Old Kings Road – extends from the SE corner of the Palm Coast Parkway SE to the South
	Cable TV – (1) 2" Conduit	B	South	Palm Coast Parkway SE – extends from the SE corner of Old Kings Road to East of Florida Park Drive
	Cable TV – Direct Bury	B	North	Palm Coast Parkway NE – NW corner of Florida Park Drive that extends to the northwest for a service connection at Blockbuster
City of Palm Coast Utilities Department – Sewer	Sanitary Sewer – 8 inch PVC	B	North	Palm Coast Parkway – extends from west of Cypress Point Parkway / Boulder Rock Drive to the centerline of Cypress Point Parkway / Boulder Rock Drive
City of Palm Coast Utilities Department – Sewer (Continued)	Sanitary Sewer – 8 inch PVC	B	North / South	Cypress Point Parkway / Boulder Rock Drive – extends along the centerline from South to North of Palm Coast Parkway
	Sanitary Sewer (Dashed Line) – 12 inch DIP	B	West / East	Palm Coast Parkway – West of Cypress Point Parkway / Boulder Rock Drive to West of I-95 Southbound On-ramp
	Sanitary Sewer – 10 inch PVC	B	East	Old Kings Road – North of Palm Coast Parkway NE extending to the North
	Sanitary Sewer – 8 inch PVC	B	North	Palm Coast Parkway NE – West of Harbor Center Way to centerline of Florida Park Drive

Utility Owner	Utility Type	Aerial (A) Buried (B)	Side	Approximate Location
	Sanitary Sewer – 8 inch PVC	B	West / East	Harbor Center Way – extends from the West to East side of Harbor Center Way to the NE quadrant of the Palm Coast Parkway NE where it continues along the North side until it crosses to the south side
	Sanitary Sewer (Dashed Line) – 6 inch PVC (2)	B	North / South	Palm Coast Parkway NE & SE – extends from the South side of Palm Coast Parkway SE to the South side of Palm Coast Parkway NE where it turns and continues along the South side of Palm Coast Parkway NE and terminates at Florida Park Drive
	Sanitary Sewer (Dashed Line) – 12 inch PVC	B	North / South	Palm Coast Parkway NE & SE – extends from the North side of the Palm Coast Parkway SE to the South side of the Palm Coast Parkway NE
	Sanitary Sewer (Dashed Line) – 12 inch Unknown	B	North / South	Palm Coast Parkway NE & SE – extends from the North side of Palm Coast Parkway SE to the South side of Palm Coast Parkway NE where it parallels Palm Coast Parkway NE for approximately 40 feet
	Sanitary Sewer (Dashed Line) – 8 inch PVC	B	North / South	Palm Coast Parkway NE – SW quadrant of Florida Park Drive, which extends to the North
	Sanitary Sewer (Dashed Line) – 6 inch PVC	B	South	Palm Coast Parkway NE – SW quadrant of Florida Park Drive to East of Florida Park Drive
	Sanitary Sewer – 8 inch Unknown	B	North / South	Florida Park Drive – extends along the West side of Florida Park Drive where it crosses Palm Coast Parkway NE to the centerline of Florida Park Drive where it extends along the south side of Palm Coast Parkway NE for approximately 250 feet
	Sanitary Sewer – 6 inch PVC	B	West	Florida Park Drive – extends to the south from the SW quadrant of Florida Park Drive and Palm Coast Parkway NE for approximately 180 feet where it ties in for a service connection at the Race Track
City of Palm Coast Utilities Department – Water	Water Main – 12 inch DIP	B	East	Cypress Point Parkway / Boulder Rock Drive – on the East side extending from the South side of the Palm Coast Parkway to the NE quadrant
	Water Main – 10 inch DIP	B	East	Cypress Point Parkway / Boulder Rock Drive – NE quadrant of the Palm Coast Parkway extending to the North

Utility Owner	Utility Type	Aerial (A) Buried (B)	Side	Approximate Location
	Water Main – 8 and 10 inch Unknown	B	West / East	Cypress Point Parkway / Boulder Rock Drive (North Leg) – extends from the East to West to East sides
	Water Main – 10 inch CIP	B	North	Palm Coast Parkway – extends from West of Cypress Point Parkway / Boulder Rock Drive to West of Old Kings Road
City of Palm Coast Utilities Department – Water (Continued)	Water Main – 12 inch DIP	B	South	Palm Coast Parkway – extends from the SE quadrant of Cypress Point Parkway / Boulder Rock Drive to West of the I-95 Southbound On-ramp
	Water Main – 12 inch CIP	B	North	Palm Coast Parkway – extends from north side of the Palm Coast Parkway to the North, between the I-95 Northbound On-ramp and Old Kings Road
	Water Main – 16 inch CIP	B	North	Palm Coast Parkway – West of Old Kings Road to NE quadrant of Florida Park Drive and Palm Coast Parkway NE
	Water Main – 12 inch DIP	B	North / South	Old Kings Road – South to North of Palm Coast Parkway along the centerline of Old Kings Road
	Water Main - Unknown	B	East	Old Kings Road (North Leg) – extends from the centerline to the NE quadrant
	Water Main – 6 inch CIP	B	North	Palm Coast Parkway NE – extends from the North side for approximately 30 feet continuing to the North
	Water Main – 8 inch Unknown	B	East	Harbor Center Way – extends along the East side to the NE quadrant of the Palm Coast Parkway NE intersection
	Water Main – 6 inch Unknown	B	South	Palm Coast Parkway NE – East of Harbor Center Way, extends approximately 50 feet to the East to connection with 12-inch WM
	Water Main – 1.5 inch Unknown	B	South	Palm Coast Parkway NE – East of Harbor Center Way, extends approximately 50 feet to the East

Utility Owner	Utility Type	Aerial (A) Buried (B)	Side	Approximate Location
	Water Main – 12 inch Unknown	B	North / South	Palm Coast Parkway NE & SE – East of Harbor Center Way, from south of the Palm Coast Parkway SE to South of the Palm Coast Parkway NE that turns to the East for approximately 50 feet prior to tying into the 16-inch CIP on the North side
	Water Main – 6 inch Unknown	B	North / South	Palm Coast Parkway NE – Connects where the 12-inch Unknown pipe crosses the Palm Coast Parkway NE, where it continues east for approximately 80 feet
	Water Main – 12 inch CIP	B	East	Florida Park Drive – NE quadrant of Palm Coast Parkway NE (ties into the 16-inch CIP WM), which continues to the North
	Water Main – 12 inch CIP	B	North	Palm Coast Parkway NE – NE quadrant of Florida Park Drive (ties into the 16-inch & 12-inch CIP WM), which continues to the East
	Water Main – 6 inch DIP	B	North	Palm Coast Parkway NE – East of Florida Park Drive, extends from the North to the South side of the Palm Coast Parkway NE
Florida Power & Light	Electric	A	North	Palm Coast Parkway – extends from West of Cypress Point Parkway / Boulder Rock Drive to West of I-95 Southbound Off-ramp
	Electric – 23 KV Feeder	B	North / South	Palm Coast Parkway – SE to NE quadrant of Cypress Point Parkway / Boulder Rock Drive extends to the East along Cypress Point Parkway / Boulder Rock Drive
	Electric – 23 KV Pole Line	A	North / South	Palm Coast Parkway – SE to NE quadrant of Old Kings Road extending to the North and South along Old Kings Road
	Electric – 23 KV	B	North	Palm Coast Parkway – NW to NE quadrant of Old Kings Road, which extends to the North on the west side of Old Kings Road
Florida Power & Light (Continued)	Electric – 23 KV	B	North	Palm Coast Parkway NE – NE quadrant of Old King Road to East of Florida Park Drive
	Electric – 23 KV	B	North / South	Palm Coast Parkway – North side of Palm Coast Parkway NE to Palm Coast Parkway SE

Utility Owner	Utility Type	Aerial (A) Buried (B)	Side	Approximate Location
	Electric – 23 KV	B	North	Palm Coast Parkway SE – East of Old Kings Road to West of Florida Park Drive
	Electric – 23 KV	B	North / South	Palm Coast Parkway SE – Between Harbor Center Drive and Florida Park Drive
	Electric – 23 KV	B	South	Palm Coast Parkway SE – Between Harbor Center Drive and Florida Park Drive
	Electric – 23 KV	B	North / South	Palm Coast Parkway SE – Between Harbor Center Drive and Florida Park Drive
	Electric – 23 KV	B	North / South	Palm Coast Parkway SE – Between Harbor Center Drive and Florida Park Drive
	Electric – 23 KV	B	North / South	Palm Coast Parkway SE – Between Harbor Center Drive and Florida Park Drive
	Electric – 23 KV	B	South	Palm Coast Parkway SE – Between Harbor Center Drive and Florida Park Drive
	Electric – 23 KV	B	North / South	Palm Coast Parkway SE – Between Harbor Center Drive and Florida Park Drive

5.3.4 Aesthetics

It is anticipated that the widening of Palm Coast Parkway will have little or no aesthetic or livability impacts overall, as this is largely a built environment. Furthermore, the widening of this facility from four lanes to six lanes will occur entirely within the existing right-of-way with the exception of water retention areas and corner clips.

5.3.5 Land Use

Existing development patterns, as well as those anticipated for the future, were considered before alternative typical sections were developed for the Palm Coast Parkway. This section presents the existing land use and the future land use designations within the project area.

5.3.5.1 Existing Land Use

Generally, the existing land uses adjacent to the Palm Coast Parkway corridor consist primarily of commercial use such as restaurants, shopping centers, retail sales, automotive repair / service centers and financial institutions with isolated areas of institutional (e.g. I-95) and residential development. The existing land use within the vicinity of the project corridor can be characterized as generally urbanized in nature. The existing land use within the project corridor is depicted in Figure 5.1-1.

5.3.5.2 Future Land Use

The City of Palm Coast has developed its Comprehensive Plan Map to provide guidance for future land use planning. The designated land uses within the project area indicate that future land uses will follow the established trends of the existing land uses within the limits of the project corridor as shown in Figure 5.3-2.

LEGEND

- Residential
- Institutional
- Mixed Use
- Green Belt
- Conservation
- DRI-Urban Core
- DRI-Residential
- Neighborhood Scale Village Center

CITY OF PALM COAST

PALM COAST PARKWAY

From Cypress Point Pkwy. / Boulder Rock Dr.
to Florida Park Drive

PD & E STUDY

Flagler County, Florida

FUTURE LAND USE

Figure 5.3-2

5.3.6 Economic

Because of the extensive, existing development within the project corridor, it is not anticipated that any of the improvements proposed will have an impact on the economic conditions. It is possible that the improved capacity, safety and mobility provided by these improvements could result in some economic prosperity or development within the community.

5.3.7 Relocation Potential

The existing right of way is generally sufficient to construct the improvements proposed for the preferred alternative. The improvements proposed should not cause the displacement of any residents or businesses.

5.4 Physical Impacts

5.4.1 Air Quality

The CO Florida 2004 model was run using the default receptors contained within the program. These receptors are located at varying distances 10 to 150 feet from the edge of the roadway. Results from the screening test indicate that the highest project-related CO 1-hour and CO 8-hour levels are not predicted to meet or exceed the NAAQS for this pollutant under any of the analyzed alternatives. As such, the project passes the screening model for all alternatives under consideration.

5.4.2 Noise

After analyzing the No-Build scenario and the two proposed Build Alternatives, it is clear that the traffic noise related to the proposed project will not be noticeable to the surrounding community. With an average noise change of <1.0 dBA, experience has shown there should be no noticeable community reaction to the project's noise level.

5.4.3 Construction

Construction activities for the project will result in minimal, temporary, yet unavoidable air, noise, water quality, and wetland impacts in the immediate vicinity of the project. All noise, air and water quality impacts will be minimized by the Contractor's adherence to the FDOT Standard Specifications for Road and Bridge Construction and the technical special provisions in the construction contract. Visual impacts associated with the storage of construction materials

and establishment of temporary construction facilities will occur, but are not considered substantial. Construction impacts from the project will be minimal.

5.4.4 Contaminated Sites

As part of the Contamination Screening evaluation, a physical site investigation of the Palm Coast Parkway Widening Corridor (Corridor) was performed as well as a review of aerial photographs, available city directories, available environmental databases and interviews with select regulatory personnel. The Contamination Screening Evaluation Report (CSER) is a professional opinion of the possibility of contamination impacts to the Corridor resulting from direct visual observation and review of readily available file information compiled by others. The report is limited to conditions that existed at the time of the investigation.

Based on area reconnaissance, review of aerial photography, city directory review, and regulatory databases, two sites on or near the road Corridor were assigned a “Medium” ranking which may warrant further investigation prior to construction and may exhibit evidence of potential soil and/or groundwater impacts. Specifically, an inactive retail gasoline convenience store (Exxon Station) consisting of abandoned monitoring wells adjacent and north of the Corridor (Potential Contamination Site No. 6) located at 220 Palm Coast Parkway and, a Shell Station, Former Boulder Rock BP, located at 2 Boulder Rock Drive (Potential Contamination Site No. 2 & 3) is listed as a LUST facility adjacent and north of the Corridor (Figure 5.4-1).

Several other potential contaminated sites are located in the vicinity of the road widening Corridor. However, based on site observations, the FDEP Geographic Information Systems website and the Environmental Database Review (EDR), these facilities were not considered to pose potential environmental concerns for the Corridor at this time.

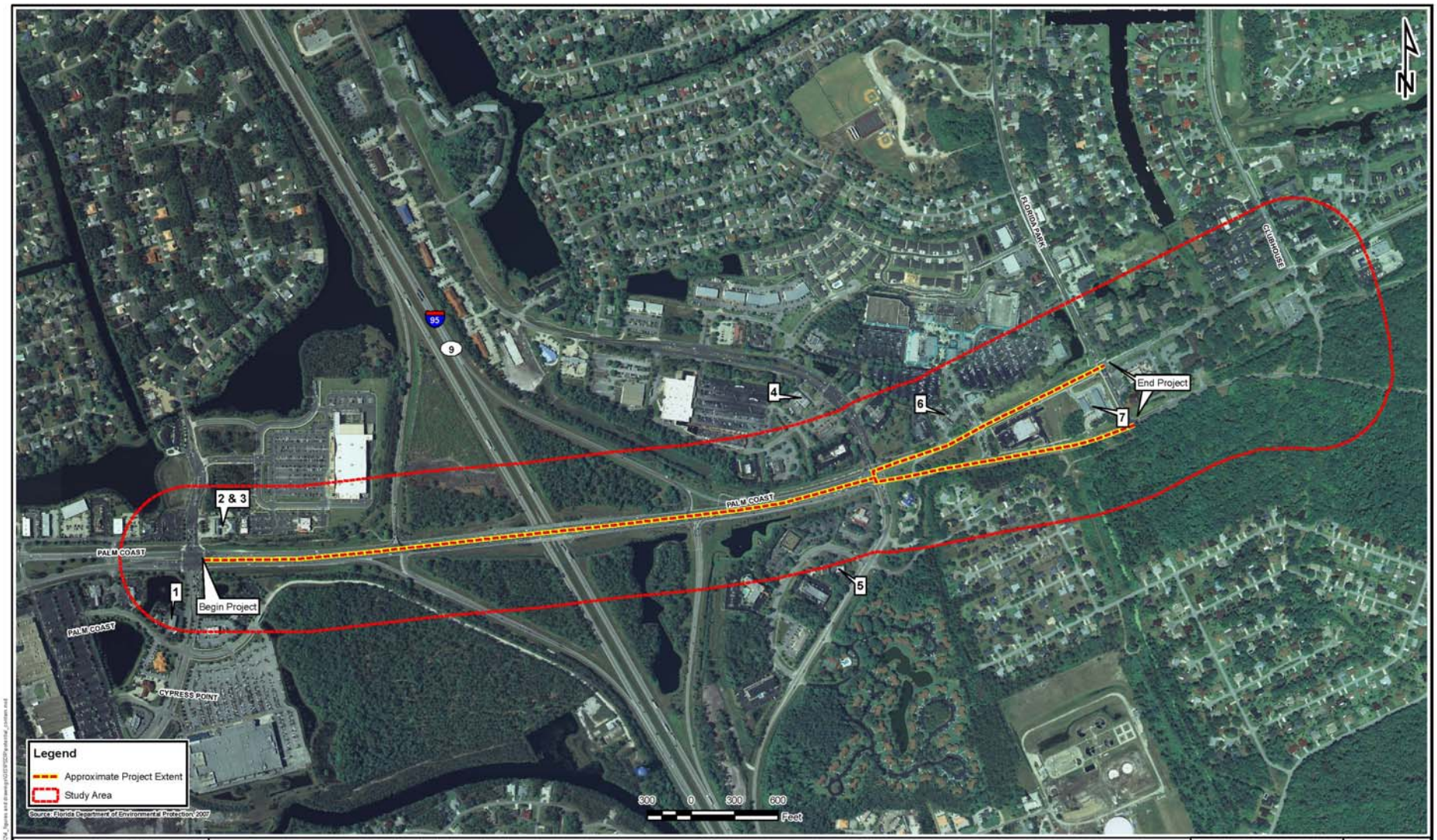
Sites classified as having a Medium or High risk of contamination should be subject to further review into the Public Record, particularly with regard to any Contamination Assessment or Remedial Action Plans which may be generated in the interim period between the date of the preparation of the CSER and the date of final design. A preliminary soils screening evaluation involving auger borings and Organic Vapor Analyzer (OVA) analysis and laboratory testing of soils, and installation and sampling of groundwater monitoring wells, may be recommended to detect the presence of contaminants in the soil and/or groundwater. The steps are necessary to 1) avoid contaminated sites, 2) have contamination remediated prior to any construction, and/or 3) ensure that construction efforts do not exacerbate any known contamination.

Initially, construction of a stormwater pond was proposed on the Exxon property. In the event that this property is used as a stormwater pond site, additional soil and groundwater sampling and UST removal is recommended prior to construction of a stormwater pond. In addition, a continued file review is recommended to obtain the most recent regulatory information available for the site prior to construction.

Several other facilities with potential contamination issues were identified near to the Corridor. However, based on site observations and the regulatory review, these facilities were not considered to pose potential environmental concerns for the Corridor at this time.

5.4.5 Navigation

A Summary Degree of Effect of None was assigned, as there are no anticipated impacts to navigation as a result of this project.



E Sciences

E Sciences, Incorporated
FL Engineering Lic. #8691
34 East Pine Street
Orlando, Florida, 32801
www.esciencesinc.com
Phone: 407-481-9006
Fax: 407-481-9627

DRAWN BY:	CHECKED BY:	PROJECT NUMBER:
TH		1-1262-002

Palm Coast Parkway PD&E

Palm Coast Parkway from Cypress Point Parkway to Florida Park Drive
Sections 13, 18, & 41
Township 11S, Ranges 30 & 31E
City of Palm Coast, Flagler County, Florida

Potential Contamination
Site Map

SCALE:	DATE:
1 " equals 600 '	10/06/2009

Figure 5.4-1

APPENDIX A

CONCEPT PLANS

EXIST. WET DETENTION

BOULDER ROCK DR

BEGIN PROJECT

RECONSTRUCT MEDIAN

CLUBHOUSE BASIN

LEHIGH BASIN

PALM COAST PKWY

PROP R/W

EXIST. WET DETENTION

CYPRESS POINT PKWY

EXIST. WET DETENTION

N

0 20 100

1B

2A

195 200 205

MATCHLINE STA. 206+50.07

LEGEND

- WET DETENTION
- DRY RETENTION
- SWALE
- (#) BASIN NUMBER
- WETLANDS

Ghyabi & Associates, Inc.
1660 Prudential Drive, Suite 202
Jacksonville, FL 32207

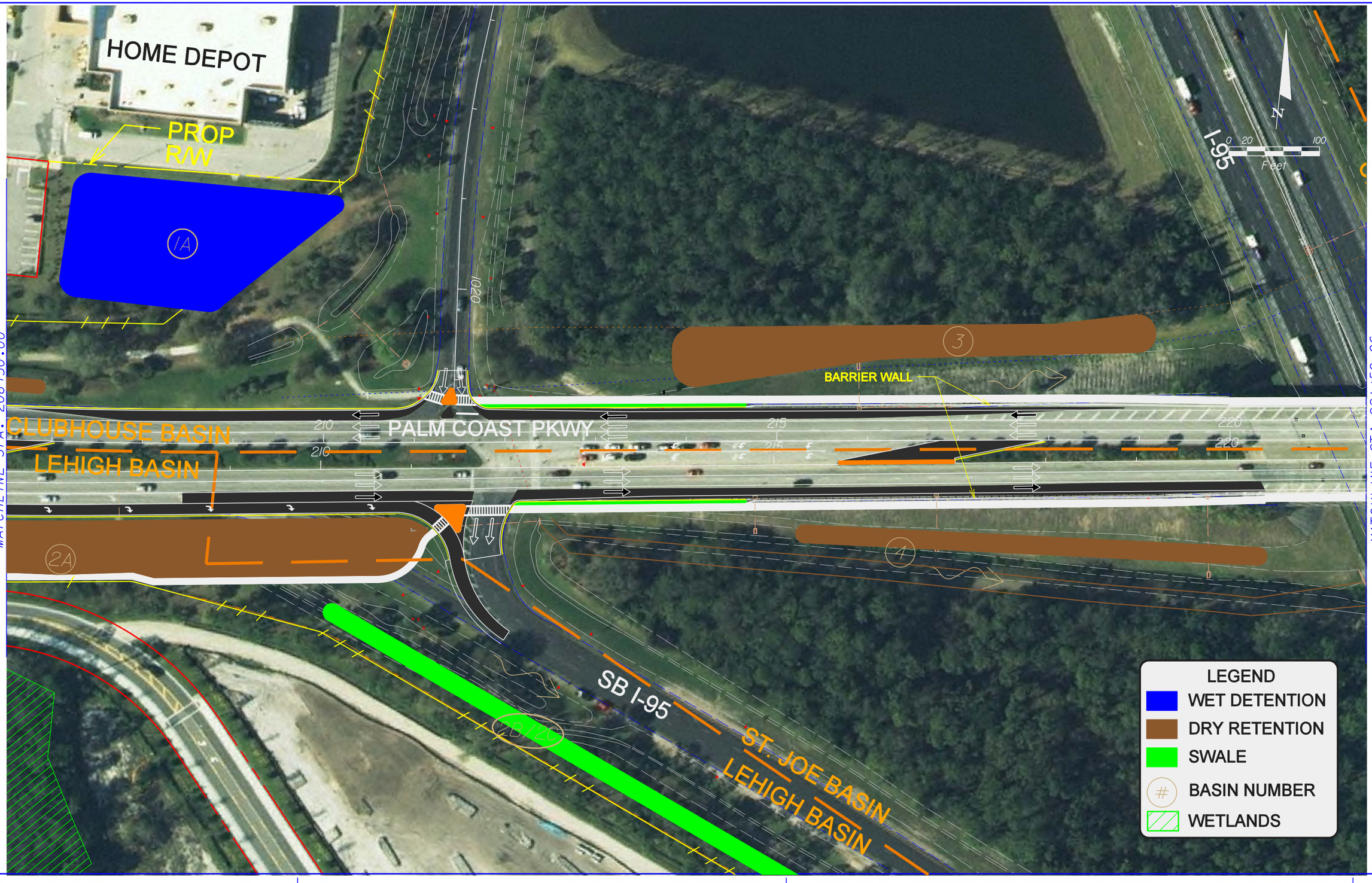
CITY OF PALM COAST, FLORIDA

PALM COAST PARKWAY IMPROVEMENTS

SHEET NO.

/

mleggett 2/19/2010 10:37:59 AM N:\2974-004\297400IIIII\roadway\planrd004.dgn



Ghyabi & Associates, Inc.
1660 Prudential Drive, Suite 202
Jacksonville, FL 32207

CITY OF PALM COAST, FLORIDA

PALM COAST PARKWAY IMPROVEMENTS

SHEET NO.
2

mleggett 2/19/2010 10:38:11 AM N:\2974-004\297400\III\roadway\planrd005.dgn

Ghyabi & Associates, Inc.
1660 Prudential Drive, Suite 202
Jacksonville, FL 32207

CITY OF PALM COAST, FLORIDA

PALM COAST PARKWAY IMPROVEMENTS

SHEET NO. 3

mleggett 2/19/2010 10:38:19 AM N:\2974-004\297400\III\roadway\planrd006.dgn

MATCHLINE STA. 236+50.00

MATCHLINE STA. 251+53.23

OLD KINGS ROAD

PALM COAST PKWY

PROP R/W

PROP R/W

PROP R/W

54" DIA RCP

EXIST. DBL (48" X76")

DBL (48" X76") RCP

DBL (48" X76") RCP

EXIST. DBL (48" X76")

54" DIA RCP

9A

9B

10A

7

8

240

245

250

0 20 100

Feet

N

LEGEND

WET DETENTION

DRY RETENTION

SWALE

BASIN NUMBER

WETLANDS

Ghyabi & Associates, Inc.
1660 Prudential Drive, Suite 202
Jacksonville, FL 32207

CITY OF PALM COAST, FLORIDA

PALM COAST PARKWAY IMPROVEMENTS

SHEET NO. 4

mleggett 2/19/2010 10:38:43 AM N:\2974-004\297400\III\roadway\planrd007.dgn

Ghyabi & Associates, Inc.
1660 Prudential Drive, Suite 202
Jacksonville, FL 32207

CITY OF PALM COAST, FLORIDA

PALM COAST PARKWAY POND SITING

SHEET NO. 5

mleggett 3/2/2010 9:53:44 AM N:\2974-004\297400\III\roadway\planrd008.dgn

APPENDIX B

FDOT Long Range Estimate

Date: 12/28/2009 2:07:03 PM

FDOT Long Range Estimating System - Production

R3: Project Details by Sequence Report

Project: 415963-1-52-01 **Letting Date:** 07/2008

Description: Palm Coast Parkway from Boulder Rock Dr to Florida Park Dr

District: 05 **County:** 73 FLAGLER **Market Area:** 07 **Units:** English
Contract Class: 5 **Lump Sum Project:** N **Design/Build:** N **Project Length:** 1.300 MI

Project Manager: AMS-PPM-VV

Version 4 Project Grand Total **$7,487,316.38**
Description: PALM COAST PKWY (Ghyabi's Version) FROM BOULDER ROCK DR TO FLORIDA PARK DR (Urban Section)

Sequence: 1 WDU - Widen/Resurface, Divided, Urban **Net Length:** 0.390 MI
Description: Cypress Point Parkway/Boulder Rock Drive to I-95 SB Ramps. Construct 12' westbound lane, 12' eastbound/westbound turn lane with type F curb and gutter. Construct 8' shared eastbound.

EARTHWORK COMPONENT

User Input Data

Description	Value
Standard Clearing and Grubbing Limits L/R	40.00 / 50.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.390
Top of Structural Course For Begin Section	102.00
Top of Structural Course For End Section	102.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Existing Front Slope L/R	6 to 1 / 6 to 1
Existing Median Shoulder Cross Slope L/R	2.00 % / 2.00 %
Existing Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Front Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	0.00 % / 2.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	4.25	AC	$12,000.00	$51,000.00
120-2-2	BORROW EXCAVATION, TRUCK MEASURE	1,821.25	CY	$12.00	$21,855.00
	Earthwork Component Total				$72,855.00

ROADWAY COMPONENT

User Input Data

Description	Value
Number of Lanes	6
Existing Roadway Pavement Width L/R	24.00 / 36.00

Structural Spread Rate	165
Friction Course Spread Rate	80
Widened Outside Pavement Width L/R	12.00 / 12.00
Widened Inside Pavement Width L/R	0.00 / 0.00
Widened Structural Spread Rate	330
Widened Friction Course Spread Rate	80

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	6,671.81	SY	$4.00	$26,687.24
285-709	OPTIONAL BASE,BASE GROUP 09	5,642.21	SY	$16.00	$90,275.36
327-70-8	MILLING EXIST ASPH PAVT,2 1/2" AVG DEPTH	13,728.00	SY	$2.50	$34,320.00
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	1,132.56	TN	$92.00	$104,195.52
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	906.05	TN	$92.00	$83,356.60
337-7-33	ASPH CONC FC,TRAFFIC C,FC-12.5,RUBBER	549.12	TN	$110.00	$60,403.20
337-7-33	ASPH CONC FC,TRAFFIC C,FC-12.5,RUBBER	219.65	TN	$110.00	$24,161.50

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-70	CONCRETE TRAFFIC SEPARATOR, SP- VAR WIDT	95.30	SY	$40.49	$3,858.70

Pavement Marking Subcomponent

Description	Value
Solid Stripe No. of Stripes	4
Solid Stripe No. of Applications	2
Skip Stripe No. of Stripes	4
Skip Stripe No. of Applications	2
Top Layer Thermoplastic	N

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	263.00	EA	$4.01	$1,054.63
710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	3.12	NM	$1,053.76	$3,287.73
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	3.12	GM	$449.87	$1,403.59
	Roadway Component Total				$433,004.08

SHOULDER COMPONENT

User Input Data

Description	Value
Existing Total Outside Shoulder Width L/R	0.00 / 0.00
New Total Outside Shoulder Width L/R	0.00 / 0.00
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 0.00
Sidewalk Width L/R	0.00 / 0.00

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	4,118.40	LF	$16.75	$68,983.20
522-1	SIDEWALK CONC, 4" THICK	1,830.40	SY	$34.70	$63,514.88

Erosion Control

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-4	MOWING	0.74	AC	$274.90	$203.43
104-11	FLOATING TURBIDITY BARRIER	39.00	LF	$8.72	$340.08
104-12	STAKED TURBIDITY BARRIER-NYL REINF PVC	39.00	LF	$4.86	$189.54
104-13-1	STAKED SILT FENCE, TYPE III	4,118.40	LF	$0.91	$3,747.74
104-15	SOIL TRACKING PREVENTION DEVICE	1.00	EA	$2,484.43	$2,484.43
104-16	ROCK BAG	206.00	EA	$5.72	$1,178.32
	Shoulder Component Total				$140,641.62

MEDIAN COMPONENT

User Input Data

Description	Value
Total Median Width	22.00
Performance Turf Width	2.00

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
570-1-1	PERFORMANCE TURF	457.60	SY	$1.38	$631.49

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	1,492.00	LF	$11.24	$16,770.08
570-1-1	PERFORMANCE TURF	95.30	SY	$1.38	$131.51
	Median Component Total				$17,533.08

DRAINAGE COMPONENT

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	7.02	CY	$850.00	$5,967.00
425-1-351	INLETS, CURB, TYPE P-5, <10'	15.00	EA	$3,243.08	$48,646.20
425-1-451	INLETS, CURB, TYPE J-5, <10'	4.00	EA	$4,682.85	$18,731.40
430-171-101	PIPE CULV OPT MATL, ROUND, 0-24", SS	216.00	LF	$57.72	$12,467.52
430-172-102	PIPE CULV OPT MATL, ROUND, 25-36", CD	64.00	LF	$92.39	$5,912.96
570-1-1	PERFORMANCE TURF	118.56	SY	$1.38	$163.61

EX-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
120-1	BMP EXCAVATION	4,173.00	CY	$3.57	$14,897.61
425-8	BMP MISC DRAINAGE	2.00	EA	$1,000.00	$2,000.00
	Drainage Component Total				$108,786.30

SIGNING COMPONENT

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-20-11	SINGLE POST SIGN, F&I, LESS THAN 12 SF	9.00	AS	$275.96	$2,483.64
700-20-12	SINGLE POST SIGN, F&I, 12-20 SF	1.00	AS	$746.43	$746.43
700-20-40	SINGLE POST SIGN, RELOCATE	1.00	AS	$141.47	$141.47
700-20-60	SINGLE POST SIGN, REMOVE	9.00	AS	$24.23	$218.07
700-21-11	MULTI- POST SIGN, F&I, 50 OR <	1.00	AS	$3,385.32	$3,385.32
700-21-60	MULTI- POST SIGN, REMOVE	1.00	AS	$489.48	$489.48
	Signing Component Total				$7,464.41

SIGNALIZATIONS COMPONENT

Signalization 1

Description	Value
Type	6 Lane Mast Arm
Multiplier	1

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-1-12	CONDUIT-SIGNALS, F& I, UNDERGROUND	200.00	LF	$5.67	$1,134.00
630-1-14	CONDUIT-SIGNALS,F& I, UG JACKED	80.00	LF	$13.72	$1,097.60
632-7-1	CABLE, SIGNAL, FURNISH & INSTALL	1.00	PI	$4,227.40	$4,227.40
635-1-11	PULL & JUNCTION BOXES, F&I, PULL BOX	5.00	EA	$299.71	$1,498.55
639-1-22	SIGNAL,ELECT POWER SERV,UG,PUR CONT	1.00	AS	$1,155.70	$1,155.70
639-2-1	SIGNAL,ELECTRICAL SERVICE WIRE	60.00	LF	$1.41	$84.60
649-31-105	M/ARM,F&I, WS-150,SINGLE ARM,W/0 LUM-78	1.00	EA	$34,903.59	$34,903.59
650-51-311	TRAFFIC SIGNAL, F&I, 3 SECT, 1 WAY, STD	10.00	AS	$872.06	$8,720.60
653-191	PEDESTRIAN SIGNAL, F&I, LED-COUNT DWN, 1	2.00	AS	$695.38	$1,390.76
659-101	SGNL HEAD AUXIL, F&I, BACK PLT 3 SECT	10.00	EA	$103.98	$1,039.80
659-108	SGNL HEAD AUXILIARIES,F&I,STEEL PEDESTAL	4.00	EA	$1,005.62	$4,022.48
659-109	SGNL HEAD AUXIL, F&I, CONC	1.00	EA	$927.59	$927.59

	PED TYP II			
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	20.00 EA	$172.38	$3,447.60
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	20.00 AS	$790.36	$15,807.20
665-11	PED DET, F&I, DET STA POLE OR CAB MTD	8.00 EA	$152.36	$1,218.88
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	1.00 AS	$15,417.84	$15,417.84
700-48-19	SIGN PANELS, F & I, 16 - 100	4.00 EA	$969.47	$3,877.88
	Signalizations Component Total			$99,972.07

LIGHTING COMPONENT

Conventional Lighting Subcomponent

Description	**Value**
Spacing	MIN

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	7,520.76	LF	$1.89	$14,214.24
715-2-11	LIGHTING-CONDUIT, F&I, UNDERGROUND	2,059.20	LF	$3.42	$7,042.46
715-2-12	LIGHTING-CONDUIT, F&I, UNDER EXIST PVMT	408.72	LF	$11.21	$4,581.75
715-14-11	LIGHTING - PULL BOX,F&I,ROADSIDE-MOULDED	14.00	EA	$313.31	$4,386.34
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	14.00	EA	$713.95	$9,995.30
715-511-140	LIGHT POLE COMP,F&I,SGL ARM SM, AL,40'	14.00	EA	$5,847.59	$81,866.26
	Subcomponent Total				$122,086.35

Lighting Component Total	$122,086.35

Sequence 1 Total	$1,002,342.91

Sequence: 2 WDU - Widen/Resurface, Divided, Urban **Net Length:** 0.380 MI
Description: I-95 SB Ramps to I-95 NB Ramps. Construct 15.5' of eastbound/westbound through with concrete barrier wall, concrete shared use path and picket railing.

EARTHWORK COMPONENT

User Input Data

Description	Value
Standard Clearing and Grubbing Limits L/R	30.00 / 30.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.380
Top of Structural Course For Begin Section	102.00
Top of Structural Course For End Section	102.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Existing Front Slope L/R	6 to 1 / 6 to 1
Existing Median Shoulder Cross Slope L/R	2.00 % / 2.00 %
Existing Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Front Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	2.00 % / 2.00 %
Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	2.76	AC	$12,000.00	$33,120.00
120-2-2	BORROW EXCAVATION, TRUCK MEASURE	2,116.38	CY	$12.00	$25,396.56
	Earthwork Component Total				$58,516.56

ROADWAY COMPONENT

User Input Data

Description	Value
Number of Lanes	6
Existing Roadway Pavement Width L/R	24.00 / 24.00
Structural Spread Rate	165
Friction Course Spread Rate	80
Widened Outside Pavement Width L/R	15.50 / 15.50
Widened Inside Pavement Width L/R	0.00 / 0.00
Widened Structural Spread Rate	330
Widened Friction Course Spread Rate	80

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	8,061.27	SY	$4.00	$32,245.08
285-709	OPTIONAL BASE,BASE GROUP 09	7,058.07	SY	$16.00	$112,929.12
327-70-8	MILLING EXIST ASPH PAVT,2 1/2" AVG DEPTH	10,700.80	SY	$2.50	$26,752.00
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	882.82	TN	$92.00	$81,219.44
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	1,140.30	TN	$92.00	$104,907.60

337-7-33	ASPH CONC FC,TRAFFIC C,FC-12.5,RUBBER	428.03 TN	$110.00	$47,083.30
337-7-33	ASPH CONC FC,TRAFFIC C,FC-12.5,RUBBER	276.44 TN	$110.00	$30,408.40

X-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
536-73	GUARDRAIL REMOVAL	2,400.00 LF	$1.66	$3,984.00
550-10-325	FENCING, TYPE R, 5.1-6.0', VERTICAL	600.00 LF	$51.75	$31,050.00

Pavement Marking Subcomponent

Description	Value
Solid Stripe No. of Stripes	4
Solid Stripe No. of Applications	2
Skip Stripe No. of Stripes	4
Skip Stripe No. of Applications	2
Top Layer Thermoplastic	N

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	256.00 EA	$4.01	$1,026.56
710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	3.04 NM	$1,053.76	$3,203.43
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	3.04 GM	$449.87	$1,367.60
	Roadway Component Total			$476,176.54

SHOULDER COMPONENT

User Input Data

Description	Value
Existing Total Outside Shoulder Width L/R	0.00 / 0.00
New Total Outside Shoulder Width L/R	0.00 / 0.00
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 0.00
Sidewalk Width L/R	0.00 / 0.00

X-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
515-2-101	PED/BICYCLE RAILING,NS,42"PICKET RAIL	2,650.00 LF	$38.11	$100,991.50
520-1-10	CONCRETE CURB & GUTTER, TYPE F	4,012.00 LF	$16.75	$67,201.00
521-72-5	SHLDR CONC BARRIER WALL,RIGID C&C	2,650.00 LF	$108.41	$287,286.50
522-1	SIDEWALK CONC, 4" THICK	4,459.00 SY	$34.70	$154,727.30
570-1-1	PERFORMANCE TURF	6,688.00 SY	$1.38	$9,229.44

EX-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
0521-73	CONCRETE BARRIER WALL - REMOVAL (BRIDGE)	600.00 LF	$120.00	$72,000.00

Erosion Control

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-4	MOWING	0.72	AC	$274.90	$197.93
104-11	FLOATING TURBIDITY BARRIER	38.00	LF	$8.72	$331.36
104-12	STAKED TURBIDITY BARRIER-NYL REINF PVC	38.00	LF	$4.86	$184.68
104-13-1	STAKED SILT FENCE, TYPE III	4,012.80	LF	$0.91	$3,651.65
104-15	SOIL TRACKING PREVENTION DEVICE	1.00	EA	$2,484.43	$2,484.43
104-16	ROCK BAG	201.00	EA	$5.72	$1,149.72
	Shoulder Component Total				$699,435.51

MEDIAN COMPONENT

User Input Data

Description	Value
Total Median Width	22.00
Performance Turf Width	0.00

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-5-11	TRAF SEP CONC-TYPE I, 4' WIDE	128.00	LF	$23.81	$3,047.68

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	102.00	LF	$11.24	$1,146.48
	Median Component Total				$4,194.16

DRAINAGE COMPONENT

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	6.84	CY	$850.00	$5,814.00
425-1-351	INLETS, CURB, TYPE P-5, <10'	14.00	EA	$3,243.08	$45,403.12
425-1-451	INLETS, CURB, TYPE J-5, <10'	4.00	EA	$4,682.85	$18,731.40
430-171-101	PIPE CULV OPT MATL, ROUND, 0-24", SS	192.00	LF	$57.72	$11,082.24
430-172-102	PIPE CULV OPT MATL, ROUND, 25-36", CD	64.00	LF	$92.39	$5,912.96
570-1-1	PERFORMANCE TURF	115.52	SY	$1.38	$159.42

EX-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
120-1	BMP EXCAVATION	8,424.00	CY	$3.57	$30,073.68
425-8	BMP MISC DRAINAGE	4.00	EA	$1,000.00	$4,000.00
	Drainage Component Total				$121,176.82

SIGNING COMPONENT

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-20-11	SINGLE POST SIGN, F&I, LESS THAN 12 SF	9.00	AS	$275.96	$2,483.64
700-20-12	SINGLE POST SIGN, F&I, 12-20 SF	1.00	AS	$746.43	$746.43
700-20-40	SINGLE POST SIGN, RELOCATE	1.00	AS	$141.47	$141.47
700-20-60	SINGLE POST SIGN, REMOVE	9.00	AS	$24.23	$218.07
700-21-11	MULTI- POST SIGN, F&I, 50 OR <	1.00	AS	$3,385.32	$3,385.32
700-21-60	MULTI- POST SIGN, REMOVE	1.00	AS	$489.48	$489.48
	Signing Component Total				$7,464.41

SIGNALIZATIONS COMPONENT

Signalization 1

Description	Value
Type	Miscellaneous
Multiplier	1

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
555-1-2	DIRECTIONAL BORE, 6" TO < 12"	260.00	LF	$20.04	$5,210.40
630-1-12	CONDUIT-SIGNALS, F& I, UNDERGROUND	260.00	LF	$5.67	$1,474.20
632-6-1	CABLE - SIGNAL, FURNISH & INSTALL	260.00	LF	$3.19	$829.40
635-1-11	PULL & JUNCTION BOXES, F&I, PULL BOX	8.00	EA	$299.71	$2,397.68
653-191	PEDESTRIAN SIGNAL, F&I, LED-COUNT DWN, 1	8.00	AS	$695.38	$5,563.04
659-107	SGNL HEAD AUXILIARIES, F&I, ALUMINUM PED	8.00	EA	$835.92	$6,687.36
665-11	PED DET, F&I, DET STA POLE OR CAB MTD	8.00	EA	$152.36	$1,218.88
670-5-410	TRAF CNTL ASSEM, MOD, NEMA	2.00	AS	$419.62	$839.24
	Signalizations Component Total				$24,220.20

LIGHTING COMPONENT

Conventional Lighting Subcomponent

Description	Value
Spacing	MIN

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	7,327.92	LF	$1.89	$13,849.77
715-2-11	LIGHTING-CONDUIT, F&I, UNDERGROUND	2,006.40	LF	$3.42	$6,861.89
715-2-12	LIGHTING-CONDUIT, F&I,	398.24	LF	$11.21	$4,464.27

	UNDER EXIST PVMT			
715-14-11	LIGHTING - PULL BOX,F&I,ROADSIDE-MOULDED	14.00 EA	$313.31	$4,386.34
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	14.00 EA	$713.95	$9,995.30
715-511-140	LIGHT POLE COMP,F&I,SGL ARM SM, AL,40'	14.00 EA	$5,847.59	$81,866.26
	Subcomponent Total			$121,423.83
Lighting Component Total				$121,423.83
Sequence 2 Total				$1,512,608.03

Sequence: 3 WDU - Widen/Resurface, Divided, Urban **Net Length:** 0.240 MI

Description: I-95 NB Ramps to Old Kings Road Construct 12' eastbound/westbound lane, type F curb and gutter and 8' shared use path.

Special Conditions: 600' section of turn lane right side of roadway with barrier wall, shared use path and picket railing.

EARTHWORK COMPONENT

User Input Data

Description	Value
Standard Clearing and Grubbing Limits L/R	40.00 / 40.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.240
Top of Structural Course For Begin Section	102.00
Top of Structural Course For End Section	102.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Existing Front Slope L/R	6 to 1 / 6 to 1
Existing Median Shoulder Cross Slope L/R	4.00 % / 4.00 %
Existing Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Front Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	4.00 % / 4.00 %
Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	2.33	AC	$12,000.00	$27,960.00
120-2-2	BORROW EXCAVATION, TRUCK MEASURE	1,096.36	CY	$12.00	$13,156.32
	Earthwork Component Total				$41,116.32

ROADWAY COMPONENT

User Input Data

Description	Value
Number of Lanes	6
Existing Roadway Pavement Width L/R	24.00 / 36.00
Structural Spread Rate	165
Friction Course Spread Rate	80
Widened Outside Pavement Width L/R	12.00 / 12.00
Widened Inside Pavement Width L/R	0.00 / 0.00
Widened Structural Spread Rate	330
Widened Friction Course Spread Rate	80

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	4,105.73	SY	$4.00	$16,422.92
285-709	OPTIONAL BASE,BASE GROUP 09	3,472.13	SY	$16.00	$55,554.08
327-70-8	MILLING EXIST ASPH PAVT,2 1/2" AVG DEPTH	8,448.00	SY	$2.50	$21,120.00
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	696.96	TN	$92.00	$64,120.32

334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	557.57 TN	$92.00	$51,296.44
337-7-33	ASPH CONC FC,TRAFFIC C,FC-12.5,RUBBER	337.92 TN	$110.00	$37,171.20
337-7-33	ASPH CONC FC,TRAFFIC C,FC-12.5,RUBBER	135.17 TN	$110.00	$14,868.70

X-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-70	CONCRETE TRAFFIC SEPARATOR, SP- VAR WIDT	150.00 SY	$40.49	$6,073.50
536-73	GUARDRAIL REMOVAL	1,100.00 LF	$1.66	$1,826.00

Pavement Marking Subcomponent

Description	Value
Solid Stripe No. of Stripes	4
Solid Stripe No. of Applications	2
Skip Stripe No. of Stripes	4
Skip Stripe No. of Applications	2
Top Layer Thermoplastic	N

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	162.00 EA	$4.01	$649.62
710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	1.92 NM	$1,053.76	$2,023.22
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	1.92 GM	$449.87	$863.75
	Roadway Component Total			$271,989.75

SHOULDER COMPONENT

User Input Data

Description	Value
Existing Total Outside Shoulder Width L/R	0.00 / 0.00
New Total Outside Shoulder Width L/R	0.00 / 0.00
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 0.00
Sidewalk Width L/R	0.00 / 0.00

X-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
515-2-102	PED/BICYCLE RAILING,NS,54"PICKET RAIL	600.00 LF	$59.42	$35,652.00
520-1-10	CONCRETE CURB & GUTTER, TYPE F	2,534.00 LF	$16.75	$42,444.50
522-1	SIDEWALK CONC, 4" THICK	2,253.00 SY	$34.70	$78,179.10
570-1-1	PERFORMANCE TURF	2,816.00 SY	$1.38	$3,886.08

Erosion Control

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-4	MOWING	0.46 AC	$274.90	$126.45

104-11	FLOATING TURBIDITY BARRIER	24.00 LF	$8.72	$209.28
104-12	STAKED TURBIDITY BARRIER-NYL REINF PVC	24.00 LF	$4.86	$116.64
104-13-1	STAKED SILT FENCE, TYPE III	2,534.40 LF	$0.91	$2,306.30
104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	$2,484.43	$2,484.43
104-16	ROCK BAG	127.00 EA	$5.72	$726.44
	Shoulder Component Total			$166,131.23

MEDIAN COMPONENT

User Input Data

Description	Value
Total Median Width	22.00
Performance Turf Width	0.00

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-5-11	TRAF SEP CONC-TYPE I, 4' WIDE	680.00 LF	$23.81	$16,190.80

X-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	102.00 LF	$11.24	$1,146.48
	Median Component Total			$17,337.28

DRAINAGE COMPONENT

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	4.32 CY	$850.00	$3,672.00
425-1-351	INLETS, CURB, TYPE P-5, <10'	9.00 EA	$3,243.08	$29,187.72
425-1-451	INLETS, CURB, TYPE J-5, <10'	3.00 EA	$4,682.85	$14,048.55
430-171-101	PIPE CULV OPT MATL, ROUND, 0-24", SS	136.00 LF	$57.72	$7,849.92
430-172-102	PIPE CULV OPT MATL, ROUND, 25-36", CD	40.00 LF	$92.39	$3,695.60
570-1-1	PERFORMANCE TURF	72.96 SY	$1.38	$100.68

X-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-4-2	CONC CLASS IV, ENDWALLS	23.45 CY	$896.57	$21,024.57
425-3-82	JUNCTION BOX, DRAINAGE, SPECIAL, > 10'	4.00 EA	$8,000.00	$32,000.00
430-174-104	PIPE CULV, OPT MATL, ROUND,49-60"SD	288.00 LF	$206.32	$59,420.16
430-174-204	PIPE CULV, OPT MATL, OTHER, 49-60"SD	1,072.00 LF	$189.00	$202,608.00

EX-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount

120-1	BMP EXCAVATION	4,394.00 CY	$3.57	$15,686.58
425-8	BMP MISC DRAINAGE	2.00 EA	$1,000.00	$2,000.00
	Drainage Component Total			$391,293.78

SIGNING COMPONENT

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-20-11	SINGLE POST SIGN, F&I, LESS THAN 12 SF	6.00 AS	$275.96	$1,655.76
700-20-12	SINGLE POST SIGN, F&I, 12-20 SF	1.00 AS	$746.43	$746.43
700-20-40	SINGLE POST SIGN, RELOCATE	1.00 AS	$141.47	$141.47
700-20-60	SINGLE POST SIGN, REMOVE	6.00 AS	$24.23	$145.38
700-21-11	MULTI- POST SIGN, F&I, 50 OR <	1.00 AS	$3,385.32	$3,385.32
700-21-60	MULTI- POST SIGN, REMOVE	1.00 AS	$489.48	$489.48
	Signing Component Total			$6,563.84

SIGNALIZATIONS COMPONENT

Signalization 1

Description	Value
Type	6 Lane Mast Arm
Multiplier	1

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-1-12	CONDUIT-SIGNALS, F& I, UNDERGROUND	700.00 LF	$5.67	$3,969.00
630-1-14	CONDUIT-SIGNALS,F& I, UG JACKED	300.00 LF	$13.72	$4,116.00
632-7-1	CABLE, SIGNAL, FURNISH & INSTALL	1.00 PI	$4,227.40	$4,227.40
635-1-11	PULL & JUNCTION BOXES, F&I, PULL BOX	22.00 EA	$299.71	$6,593.62
639-1-22	SIGNAL,ELECT POWER SERV,UG,PUR CONT	1.00 AS	$1,155.70	$1,155.70
639-2-1	SIGNAL,ELECTRICAL SERVICE WIRE	60.00 LF	$1.41	$84.60
649-31-105	M/ARM,F&I, WS-150,SINGLE ARM,W/0 LUM-78	4.00 EA	$34,903.59	$139,614.36
650-51-311	TRAFFIC SIGNAL, F&I, 3 SECT, 1 WAY, STD	20.00 AS	$872.06	$17,441.20
653-191	PEDESTRIAN SIGNAL, F&I, LED-COUNT DWN, 1	8.00 AS	$695.38	$5,563.04
659-101	SGNL HEAD AUXIL, F&I, BACK PLT 3 SECT	20.00 EA	$103.98	$2,079.60
659-108	SGNL HEAD AUXILIARIES,F&I,STEEL PEDESTAL	4.00 EA	$1,005.62	$4,022.48
659-109	SGNL HEAD AUXIL, F&I, CONC PED TYP II	1.00 EA	$927.59	$927.59
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	20.00 EA	$172.38	$3,447.60

660-2-106	LOOP ASSEMBLY, F&I, TYPE F	20.00 AS	$790.36	$15,807.20
665-11	PED DET, F&I, DET STA POLE OR CAB MTD	8.00 EA	$152.36	$1,218.88
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	1.00 AS	$15,417.84	$15,417.84
700-48-19	SIGN PANELS, F & I, 16 - 100	4.00 EA	$969.47	$3,877.88
	Signalizations Component Total			$229,563.99

LIGHTING COMPONENT

Conventional Lighting Subcomponent

Description	**Value**
Spacing	MIN

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	4,628.16	LF	$1.89	$8,747.22
715-2-11	LIGHTING-CONDUIT, F&I, UNDERGROUND	1,267.20	LF	$3.42	$4,333.82
715-2-12	LIGHTING-CONDUIT, F&I, UNDER EXIST PVMT	251.52	LF	$11.21	$2,819.54
715-14-11	LIGHTING - PULL BOX,F&I,ROADSIDE-MOULDED	9.00	EA	$313.31	$2,819.79
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	9.00	EA	$713.95	$6,425.55
715-511-140	LIGHT POLE COMP,F&I,SGL ARM SM, AL,40'	9.00	EA	$5,847.59	$52,628.31
	Subcomponent Total				$77,774.24
	Lighting Component Total				$77,774.23

Sequence 3 Total $1,201,770.42

Sequence: 4 WDU - Widen/Resurface, Divided, Urban **Net Length:** 0.420 MI

Description: Old Kings Road to Florida Park Drive. Construct 12' of eastbound/westbound through with concrete shared use path.

Special Conditions: Construct 12' westbound turn lane, east of Florida Park Drive

EARTHWORK COMPONENT

User Input Data

Description	Value
Standard Clearing and Grubbing Limits L/R	40.00 / 40.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.420
Top of Structural Course For Begin Section	102.00
Top of Structural Course For End Section	102.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Existing Front Slope L/R	2 to 1 / 2 to 1
Existing Median Shoulder Cross Slope L/R	0.00 % / 0.00 %
Existing Outside Shoulder Cross Slope L/R	0.00 % / 0.00 %
Front Slope L/R	2 to 1 / 2 to 1
Median Shoulder Cross Slope L/R	0.00 % / 0.00 %
Outside Shoulder Cross Slope L/R	0.00 % / 0.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	4.07	AC	$12,000.00	$48,840.00
120-2-2	BORROW EXCAVATION, TRUCK MEASURE	2,647.98	CY	$12.00	$31,775.76
	Earthwork Component Total				$80,615.76

ROADWAY COMPONENT

User Input Data

Description	Value
Number of Lanes	6
Existing Roadway Pavement Width L/R	36.00 / 36.00
Structural Spread Rate	165
Friction Course Spread Rate	80
Widened Outside Pavement Width L/R	12.00 / 12.00
Widened Inside Pavement Width L/R	0.00 / 0.00
Widened Structural Spread Rate	330
Widened Friction Course Spread Rate	80

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	7,185.02	SY	$4.00	$28,740.08
285-709	OPTIONAL BASE,BASE GROUP 09	6,076.22	SY	$16.00	$97,219.52
327-70-8	MILLING EXIST ASPH PAVT,2 1/2" AVG DEPTH	17,740.80	SY	$2.50	$44,352.00
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	1,463.62	TN	$92.00	$134,653.04

334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	975.74 TN	$92.00	$89,768.08
337-7-33	ASPH CONC FC,TRAFFIC C,FC-12.5,RUBBER	709.63 TN	$110.00	$78,059.30
337-7-33	ASPH CONC FC,TRAFFIC C,FC-12.5,RUBBER	236.54 TN	$110.00	$26,019.40

X-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-70	CONCRETE TRAFFIC SEPARATOR, SP- VAR WIDT	56.00 SY	$40.49	$2,267.44

Pavement Marking Subcomponent

Description	Value
Solid Stripe No. of Stripes	4
Solid Stripe No. of Applications	2
Skip Stripe No. of Stripes	4
Skip Stripe No. of Applications	2
Top Layer Thermoplastic	N

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	284.00 EA	$4.01	$1,138.84
710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	3.36 NM	$1,053.76	$3,540.63
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	3.36 GM	$449.87	$1,511.56
	Roadway Component Total			$507,269.90

SHOULDER COMPONENT

User Input Data

Description	Value
Existing Total Outside Shoulder Width L/R	0.00 / 0.00
New Total Outside Shoulder Width L/R	0.00 / 0.00
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 0.00
Sidewalk Width L/R	0.00 / 0.00

X-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	4,434.00 LF	$16.75	$74,269.50
522-1	SIDEWALK CONC, 4" THICK	4,565.00 SY	$34.70	$158,405.50
570-1-1	PERFORMANCE TURF	4,928.00 SY	$1.38	$6,800.64

Erosion Control

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-4	MOWING	0.80 AC	$274.90	$219.92
104-11	FLOATING TURBIDITY BARRIER	42.00 LF	$8.72	$366.24
104-12	STAKED TURBIDITY BARRIER-NYL REINF PVC	42.00 LF	$4.86	$204.12

104-13-1	STAKED SILT FENCE, TYPE III	4,435.20 LF	$0.91	$4,036.03
104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	$2,484.43	$2,484.43
104-16	ROCK BAG	222.00 EA	$5.72	$1,269.84
	Shoulder Component Total			$248,056.22

DRAINAGE COMPONENT

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	7.56 CY	$850.00	$6,426.00
425-1-351	INLETS, CURB, TYPE P-5, <10'	16.00 EA	$3,243.08	$51,889.28
425-1-451	INLETS, CURB, TYPE J-5, <10'	5.00 EA	$4,682.85	$23,414.25
430-171-101	PIPE CULV OPT MATL, ROUND, 0-24", SS	232.00 LF	$57.72	$13,391.04
430-172-102	PIPE CULV OPT MATL, ROUND, 25-36", CD	72.00 LF	$92.39	$6,652.08
570-1-1	PERFORMANCE TURF	127.68 SY	$1.38	$176.20

EX-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
120-1	BMP EXCAVATION	13,502.00 CY	$3.57	$48,202.14
425-8	BMP MISC DRAINAGE	2.00 EA	$1,000.00	$2,000.00
	Drainage Component Total			$152,150.99

SIGNING COMPONENT

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-20-11	SINGLE POST SIGN, F&I, LESS THAN 12 SF	10.00 AS	$275.96	$2,759.60
700-20-12	SINGLE POST SIGN, F&I, 12-20 SF	1.00 AS	$746.43	$746.43
700-20-40	SINGLE POST SIGN, RELOCATE	1.00 AS	$141.47	$141.47
700-20-60	SINGLE POST SIGN, REMOVE	10.00 AS	$24.23	$242.30
700-21-11	MULTI- POST SIGN, F&I, 50 OR <	1.00 AS	$3,385.32	$3,385.32
700-21-60	MULTI- POST SIGN, REMOVE	1.00 AS	$489.48	$489.48
	Signing Component Total			$7,764.60

SIGNALIZATIONS COMPONENT

Signalization 1

Description	Value
Type	4 Lane Mast Arm
Multiplier	1

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-1-12	CONDUIT-SIGNALS, F& I, UNDERGROUND	750.00 LF	$5.67	$4,252.50

630-1-14	CONDUIT-SIGNALS,F& I, UG JACKED	250.00 LF	$13.72	$3,430.00
632-7-1	CABLE, SIGNAL, FURNISH & INSTALL	1.00 PI	$4,227.40	$4,227.40
635-1-11	PULL & JUNCTION BOXES, F&I, PULL BOX	16.00 EA	$299.71	$4,795.36
639-1-22	SIGNAL,ELECT POWER SERV,UG,PUR CONT	1.00 AS	$1,155.70	$1,155.70
639-2-1	SIGNAL,ELECTRICAL SERVICE WIRE	60.00 LF	$1.41	$84.60
653-191	PEDESTRIAN SIGNAL, F&I, LED-COUNT DWN, 1	8.00 AS	$695.38	$5,563.04
659-101	SGNL HEAD AUXIL, F&I, BACK PLT 3 SECT	12.00 EA	$103.98	$1,247.76
659-109	SGNL HEAD AUXIL, F&I, CONC PED TYP II	1.00 EA	$927.59	$927.59
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	12.00 EA	$172.38	$2,068.56
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	12.00 AS	$790.36	$9,484.32
665-11	PED DET, F&I, DET STA POLE OR CAB MTD	8.00 EA	$152.36	$1,218.88
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	1.00 AS	$15,417.84	$15,417.84
700-48-19	SIGN PANELS, F & I, 16 - 100	4.00 EA	$969.47	$3,877.88
	Signalizations Component Total			$57,751.43

LIGHTING COMPONENT

Conventional Lighting Subcomponent

Description	**Value**
Spacing	MIN

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	8,099.28	LF	$1.89	$15,307.64
715-2-11	LIGHTING-CONDUIT, F&I, UNDERGROUND	2,217.60	LF	$3.42	$7,584.19
715-2-12	LIGHTING-CONDUIT, F&I, UNDER EXIST PVMT	440.16	LF	$11.21	$4,934.19
715-14-11	LIGHTING - PULL BOX,F&I,ROADSIDE-MOULDED	15.00	EA	$313.31	$4,699.65
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	15.00	EA	$713.95	$10,709.25
715-511-140	LIGHT POLE COMP,F&I,SGL ARM SM, AL,40'	15.00	EA	$5,847.59	$87,713.85
	Subcomponent Total				$130,948.77
	Lighting Component Total				$130,948.77

Sequence 4 Total $1,184,557.67

Date: 12/28/2009 2:07:04 PM

FDOT Long Range Estimating System - Production

R3: Project Details by Sequence Report

Project: 415963-1-52-01 **Letting Date:** 07/2008

Description: Palm Coast Parkway from Boulder Rock Dr to Florida Park Dr

District: 05 **County:** 73 FLAGLER **Market Area:** 07 **Units:** English

Contract Class: 5 **Lump Sum Project:** N **Design/Build:** N **Project Length:** 1.300 MI

Project Manager: AMS-PPM-VV

Version 4 Project Grand Total **$7,487,316.38**

Description: PALM COAST PKWY (Ghyabi's Version) FROM BOULDER ROCK DR TO FLORIDA PARK DR (Urban Section)

Project Sequences Subtotal			**$4,901,279.03**
102-1	Maintenance of Traffic	10.00 %	$490,127.90
101-1	Mobilization	10.00 %	$539,140.69
Project Sequences Total			**$5,930,547.62**
Project Unknowns		25.00 %	$1,482,636.91
Design/Build		0.00 %	$0.00

Non-Bid Components:

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
999-25	INITIAL CONTINGENCY AMOUNT (DO NOT BID)		LS	$74,131.85	$74,131.85
Project Non-Bid Subtotal					**$74,131.85**
Version 4 Project Grand Total					**$7,487,316.38**

APPENDIX C

The U.S. Fish and Wildlife Service Standard Protection Measures for the Eastern Indigo Snake

STANDARD PROTECTION MEASURES FOR THE EASTERN INDIGO SNAKE

1. An eastern indigo snake protection/education plan shall be developed by the applicant or requestor for all construction personnel to follow. The plan shall be provided to the Service for review and approval at least 30 days prior to any clearing activities. The educational materials for the plan may consist of a combination of posters, videos, pamphlets, and lectures (*e.g.*, an observer trained to identify eastern indigo snakes could use the protection/education plan to instruct construction personnel before any clearing activities occur). Informational signs should be posted throughout the construction site and along any proposed access road to contain the following information:

    a. a description of the eastern indigo snake, its habits, and protection under Federal Law;
    b. instructions not to injure, harm, harass or kill this species;
    c. directions to cease clearing activities and allow the eastern indigo snake sufficient time to move away from the site on its own before resuming clearing; and,
    d. telephone numbers of pertinent agencies to be contacted if a dead eastern indigo snake is encountered. The dead specimen should be thoroughly soaked in water and then frozen.

2. If not currently authorized through an Incidental Take Statement in association with a Biological Opinion, only individuals who have been either authorized by a section 10(a)(1)(A) permit issued by the Service, or by the State of Florida through the Florida Fish Wildlife Conservation Commission (FWC) for such activities, are permitted to come in contact with an eastern indigo snake.

3. An eastern indigo snake monitoring report must be submitted to the appropriate Florida Field Office within 60 days of the conclusion of clearing phases. The report should be submitted whether or not eastern indigo snakes are observed. The report should contain the following information:

    a. any sightings of eastern indigo snakes and
    b. other obligations required by the Florida Fish and Wildlife Conservation Commission, as stipulated in the permit.

Revised February 12, 2004