

# **FINAL ENGINEERING AND ENVIRONMENTAL TECHNICAL COMPENDIUM**

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**PROJECT DEVELOPMENT AND ENVIRONMENT STUDY  
SR 52 from East of McKendree Road to East of US 301  
WPI Segment No: 435915-1**

**Pasco County, Florida**



**Florida Department of Transportation  
11201 North McKinley Drive  
Tampa, Florida 33612**

**July 2015**

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**Florida Department of Transportation  
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Tampa, Florida 33612**

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**July 2015**

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## 1.0 INTRODUCTION

The Florida Department of Transportation (FDOT), District Seven, conducted a Project Development and Environment (PD&E) study to determine the engineering and environmental effects of the proposed realignment of State Road (SR) 52 from east of McKendree Road to east of US 301 within Pasco County, Florida.

### 1.1 Purpose

The purpose of the PD&E Study was to provide documented environmental and engineering analyses to assist FDOT in reaching a decision on the type, location and conceptual design of the necessary improvements, in order to accommodate future traffic demand in a safe and efficient manner. The PD&E Study also satisfied the requirements of FDOT and followed the process outlined in the FDOT *Project Development and Environment Manual*<sup>1</sup>. Although no federal involvement has been identified, the proposed project's PD&E Study process was developed in compliance with the National Environmental Policy Act (NEPA), and other applicable federal and state regulations.

This PD&E Study documented the need for the new roadway, and presented the procedures utilized to develop and evaluate the improvement alternative. Information relating to the engineering and environmental characteristics essential for development of alternative alignments and analytical decisions was collected. Design criteria were established and preliminary alternative alignments were developed. The comparison of alternative alignments was based on a variety of parameters utilizing a matrix format. This process was utilized to identify the Recommended Build Alternative that minimizes natural, physical, and socio-economic impacts, while providing the necessary future transportation improvements. The study also solicited input from the community and users of the facility.

### 1.2 Project Description

The realignment of SR 52 is proposed as a new four-lane urban controlled access facility within Pasco County, Florida, that will serve as an additional east-west route in the regional transportation network. The study limits extend from the existing SR 52 intersection with McKendree Road easterly to the Clinton Avenue intersection with US 301, as shown in **Figure 1-1**. The roadway will generally be constructed on new alignment south of the existing SR 52. The existing four-lane portion of Clinton Avenue between Fort King Road and US 301, recently constructed by Pasco County, will also be designated as SR 52, while the existing SR 52 from McKendree Road to US 301 will be transferred to Pasco County for ownership and maintenance purposes.

**FIGURE 1-1: PROJECT LOCATION MAP**



**SR 52 PD&E Study**

From East of McKendree Road to East of US 301  
WPI Segment No: 435915-1

**PROJECT LOCATION MAP**

The total length of the proposed project is approximately 8 miles (mi). The study area is within the following United States Geological Survey (USGS) 1:24,000 scale quadrangle maps: San Antonio and Dade City. **Table 1-1** lists the Townships, Ranges, and Sections covering the study area. The existing SR 52 and CR 52A are both identified as evacuation routes by the State Emergency Response Team (SERT).

**TABLE 1-1: TOWNSHIP, RANGE, AND SECTION**

Township	Range	Sections
25 South	20 East	9, 10, 11, 12,
	21 East	5, 6, 7, 8, 9

**Corridor Analysis**

The Pasco County Engineering Services Department conducted the Clinton Avenue Extension Route Study which established the need for the new roadway and its proposed typical section and alignment. The study included three public workshops, the last of which was held in April 2004.

The Clinton Avenue Extension Final Route Study Report (June 2004)<sup>1</sup> documents the traffic, engineering and environmental analysis, public involvement activities, and the selection of a Recommended Alternative. It serves as the basis for this PD&E Study. The design year is 2025.

**2.0 ENGINEERING EVALUATION**

**2.1 Existing Conditions and Proposed Improvements**

Existing SR 52 is primarily a two-lane undivided rural roadway between its intersection with I-75 (SR 93) and US 301 in Dade City, Florida. Currently, there are limited bicycle and pedestrian facilities within the study area. The current access classification along SR 52 from I-75 to CR 41 (21<sup>st</sup> Street) is Access Class 3 and from CR 41 (21<sup>st</sup> Street) to US 301 it is Access Class 7.

Traffic analyses documented the need to provide increased capacity within the SR 52 corridor beyond those that could be achieved solely with transportation management and operation measures such as mass transit and ride-sharing. However, as identified in the Clinton Avenue Extension Route Study Report (June 2004)<sup>1</sup>, portions of SR 52 through downtown Dade City cannot be widened without significant cost and social impact to the land uses adjacent to this section of SR 52. The Clinton Avenue Extension Route Study evaluated the costs, engineering and environmental issues associated with the potential construction of four new alignment alternatives. The study ultimately recommended the proposed alignment alternative being evaluated in this Engineering and Environmental Technical Compendium (EETC) and the *State Environmental Impact Report (SEIR)*<sup>2</sup>. Preliminary Concept Plans are included in **Appendix A**.

The proposed improvement includes the realignment and construction of SR 52 on a new route which will allow multiple lanes to be constructed without creating substantial impacts to the communities adjacent to the existing roadway. The proposed project begins on SR 52 at McKendree Road and it follows existing SR 52 for approximately 4,400 ft where it continues eastward on new alignment to CR 577 (Curley Road). At CR 577 (Curley Road), the project continues east along McCabe Road for approximately 1.25 mi, then travels northeast avoiding Williams Cemetery before tying into the existing Clinton Avenue roadway. The project follows existing Clinton Avenue from CR 579 (Prospect Road) to US 301. The total project length is approximately eight miles.

### **2.1.1 No-Build Alternative**

For capacity improvements to SR 52 between McKendree Road and US 301 Road, two alternatives were evaluated: the No-Build Alternative and the Build Alternative. The No-Build Alternative would not make any construction improvements in the SR 52 corridor beyond any currently planned. There are no planned roadway improvements to the segment of SR 52 between McKendree Road and US 301. Although there would be no costs associated with the No-Build Alternative, traffic congestion and travel delays would increase. Therefore, the No-Build Alternative would not meet the purpose and need for the project. It was, however, included for comparison with the Build Alternative.

### **2.1.2 Build Alternative**

Under the Build Alternative, described above, it is anticipated that as much as 60 percent of the projected traffic for SR 52 would shift to the proposed re-aligned SR 52. With this shift in traffic, existing SR 52 would operate at LOS C and LOS D and the re-aligned SR 52 would operate at LOS B. Therefore, the Build Alternative would meet the project's purpose and need, but could not do so without incurring cost and environmental impacts.

There are no cultural centers, parks, recreational facilities, fire stations, schools, or medical facilities in the vicinity of the Build Alternative. It is estimated that the proposed new alignment alternative would require acquisition of right-of-way (ROW) from 177 parcels and result in five residential relocations and no business relocations. The total estimated project cost which includes design, ROW acquisition, construction, compensation for impacted wetlands, and construction engineering inspection is \$103,977,813.

### **2.1.3 Traffic**

The Clinton Avenue Extension Final Route Study Report documents the traffic analysis. The design year 2025 FSUTMS model output is included in **Appendix B**. Since the roadway does not exist, there is no existing traffic. Two-way AADT volume projections for Design Year 2025 range from 10,325 vpd just east of CR 577 (Curley Road) to 32,535 vpd along existing SR 52 east of McKendree Road, west of the split of the old SR 52 and the proposed SR 52.

## 2.1.4 Design Criteria

In order for the proposed roadway improvements to fulfill the objective of accommodating motorized vehicles, and where appropriate, pedestrians and bicyclists in a safe and efficient manner, the proposed typical sections must adhere to specific design standards. The FDOT *Plans Preparation Manual*<sup>3</sup>, AASHTO – *A Policy on Geometric Design of Highway Streets*<sup>4</sup>, the FDOT *Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways* (Commonly known as the “Florida Greenbook”)<sup>5</sup>, and the District Seven Straight Line Diagrams (SLD’s) were used as references in the development of proposed design criteria for this project. **Table 2-1** presents the minimum design criteria used for this effort and their respective values or designations.

## 2.1.5 Proposed Typical Sections

There are three proposed typical sections as shown in **Figure 2-1**. The first, from McKendree Road to CR 577 (Curley Road) is a four-lane suburban typical section with a 44-ft depressed grass median expandable to an ultimate six-lane urban roadway with a 22-ft raised median. There is a 5-ft sidewalk on the south side and a 10-ft shared use path on the north side. The second typical section, from CR 577 (Curley Road) to CR 579 (Prospect Road), is the same as the first, except the sidewalks are 5-ft on both sides. The third proposed typical section, from CR 579 (Prospect Road) to Fort King Road, is a four-lane urban roadway with a 22-ft median and two 5-ft sidewalks. All three typical sections have 11-ft lanes, 7-ft bike lanes, and a 45 - 55 mph design speed. Preliminary Concept Plans are included in **Appendix A**.

**TABLE 2-1: PROPOSED MINIMUM DESIGN CRITERIA**

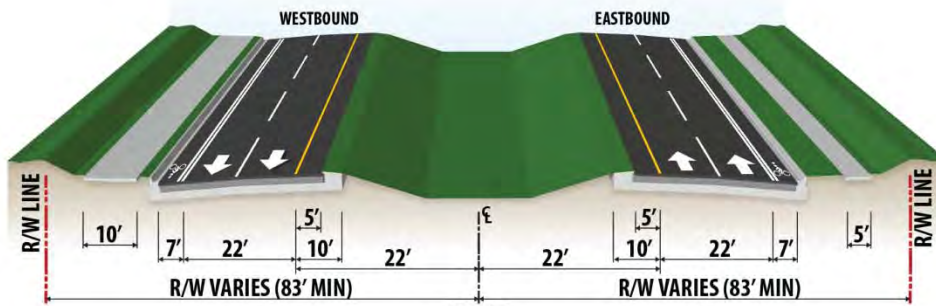
<b>Design Element</b>	<b>Value/Designation High-Speed Suburban</b>	<b>Documentation</b>
Functional Classification	Rural Principal Arterial - Other	FDOT SLD
Access Classification	Access Class 3	FDOT
Strategic Intermodal System (SIS) Designation	N/A	FDOT SIS System Map
Level of Service	LOS C	FDOT 2009 Quality/Level of Service Handbook
Design Speed	45 mph	FDOT PPM Table 1.9.1
Travel Lane Width	11 ft	FDOT PPM Table 2.1.1
Median Width	22 ft	FDOT PPM Tables 2.2.1
Shoulder Width: 4-lane Inside Outside	10 ft (4 ft paved) N/A	FDOT PPM Table 2.3.2
Sidewalk Width	5 ft	PPM Section 8.3.1
Shared Use Path	12 ft (10 ft minimum)	PPM Section 8.6.2
Border Width	12 ft	FDOT PPM Table 2.5.2
Bicycle Lane Width	7 ft	PPM Table 2.1.2
Recoverable Terrain	24 ft	PPM Table 2.11.11
Front Slopes (All Heights)	1:2 or to suit property owner, not flatter than 1:6	FDOT PPM Table 2.4.1
Back Slopes	1:2 or to suit property owner, not flatter than 1:6	
Transverse Slopes	1:4	
Desirable Length of Horizontal Curve	15V = 675 ft.	FDOT PPM Table 2.8.2a
Minimum Length of Horizontal Curve	400 ft	
Superelevation Transition Rate	1:200	FDOT PPM Table 2.9.3
Max. Deflection w/o Horizontal Curve	1° 00' 00"	FDOT PPM Table 2.8.1a
Maximum Grade (Rolling Terrain)	7%	FDOT PPM Table 2.6.1
Roadway Base Clearance	1 ft.	FDOT PPM Table 2.6.3
Maximum Grade Algebraic Difference w/o Vertical Curve	0.70%	FDOT PPM Table 2.6.2
Crest Vertical Curve "K" Value	98	FDOT PPM Table 2.8.5
Minimum Length of Crest Vertical Curve	3V = 135 ft.	
Sag Vertical Curve "K" Value	79	FDOT PPM Table 2.8.6
Minimum Length of Sag Vertical Curve	3V = 135 ft.	
Stopping Sight Distance: grades of 2% or less	360 ft.	FDOT PPM 2.7.1
Typical Cross Section Slopes	0.02, 0.02, 0.03	FDOT PPM Figure 2.1.1

**TABLE 2-1: PROPOSED MINIMUM DESIGN CRITERIA (continued)**

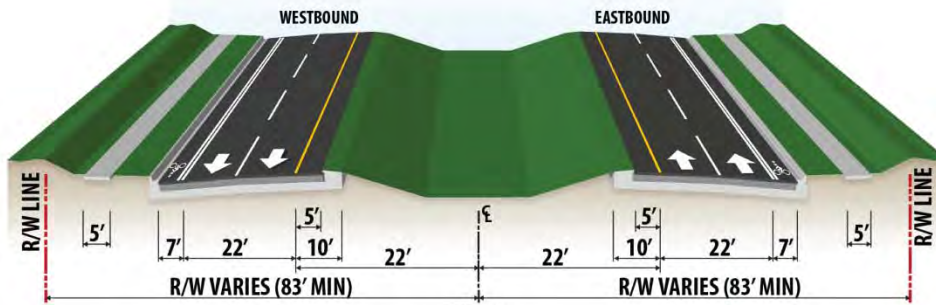
<b>Design Element</b>	<b>Value/Designation High-Speed Suburban</b>	<b>Documentation</b>
Maximum Horizontal Curve using Normal Cross Slope Rural	2° 45' 00"	FDOT PPM Table 2.8.4 FDOT PPM Section 2.9 FDOT PPM Table 2.9.3
Max. Rate Superelevation	0.05	
Superelevation Transition Rate	1:200	
Max. Deflection w/o Horizontal Curve	1° 00' 00"	FDOT PPM Table 2.8.1a FDOT PPM Table 2.6.1
Maximum Grade (Rolling Terrain)	7%	
Roadway Base Clearance	1 ft.	FDOT PPM Table 2.6.3
Maximum Grade Algebraic Difference w/o Vertical Curve	0.70%	FDOT PPM Table 2.6.2
Crest Vertical Curve "K" Value	98	FDOT PPM Table 2.8.5
Minimum Length of Crest Vertical Curve	3V = 135 ft	FDOT PPM Table 2.9.3
Sag Vertical Curve "K" Value	79	FDOT PPM Table 2.8.6
Minimum Length of Sag Vertical Curve	3V = 135 ft	FDOT PPM Table 2.6.1
Stopping Sight Distance: grades of 2% or less	360 ft	FDOT PPM Table 2.7.1
Typical Cross Section Slopes (ft/ft)	0.02, 0.02, 0.03	FDOT PPM Figure 2.1.1
Minimum Length of Sag Vertical Curve	3V = 135 ft	FDOT PPM Table 2.7.1
Stopping Sight Distance: grades of 2% or less	360 ft	
Typical Cross Section Slopes (ft/ft)	0.02, 0.02, 0.03	FDOT PPM Figure 2.1.1



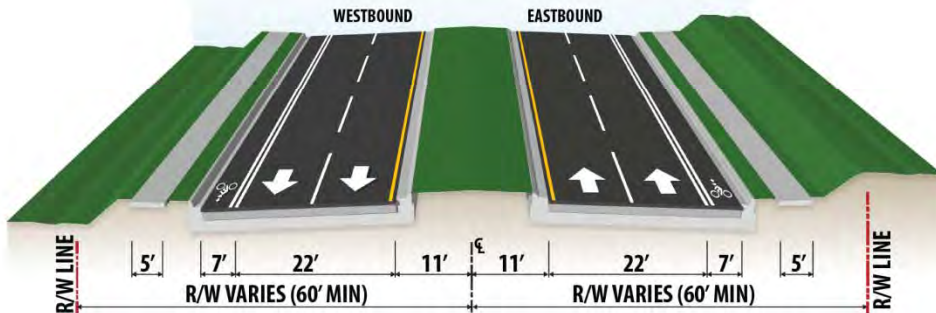
**FIGURE 2-1: PROPOSED TYPICAL SECTIONS**



**SR 52**  
From McKendree Road to CR 577 (Curley Road)



**SR 52**  
From CR 577 (Curley Road) to CR 579 (Prospect Road)



**SR 52**  
From CR 579 (Prospect Road) to Fort King Road



**SR 52 PD&E Study**

From East of McKendree Road to East of US 301  
WPI Segment No: 435915-1

**PROPOSED TYPICAL SECTIONS**



## 2.1.6 Recommendation

The Evaluation Matrix (**Table 2-2**) shows the outcome of the evaluation of the No-Build and Build Alternatives for social, cultural, and natural effects, as well as cost. Based upon the results of the evaluation, the Build Alternative is the Recommended Alternative.

**TABLE 2-2: EVALUATION MATRIX**

	No-Build Alternative	Build Alternative
<b>Social Effects</b>		
Land Use Changes	None	Minimal
Community Cohesion	None	None
Residential Relocations	None	5
Business Relocations	None	None
Bicycles and Pedestrians	None	Enhanced
Utilities and Railroads	None	None
<b>Cultural Effects</b>		
Historic Sites (NR Eligible)	None	1
Archaeological Sites	None	None
Recreation	None	None
<b>Natural Environment Effects</b>		
Wetlands Within ROW (ac)	None	9.35
Water Quality	None	Minimal
Wildlife and Habitat	None	Minimal
<b>Physical Effects</b>		
Noise Sensitive Sites Impacted	None	14
Contamination Sites (Medium/High Risk)	None	4/0
Construction	None	Minimal
<b>Estimated Cost (2015 Dollars)</b>		
Design (12%)	\$0	\$7,740,068
Right-of-way (FDOT)	\$0	\$5,997,110
Right-of-way (Pasco County)	\$0	\$18,000,000
Construction*	\$0	\$64,500,567
Construction Engineering Inspection (12%)	\$0	\$7,740,068
Total Cost	\$0	\$103,977,813

\*Includes roadway, earthwork, shoulder, median, drainage, bridge widening, signing, signalization, maintenance of traffic, mobilization, unknowns/contingency

## 2.2 Access Management Plan

Access management will be used to control the location of where vehicles can turn through the median. The current access classification along existing SR 52 from I-75 to CR 41 (21<sup>st</sup> Street) is Access Class 3 and from CR 41 (21<sup>st</sup> Street) to US 301 it is Access Class 7. The proposed Access Classification along the new alignment is Access Class 3. This change in access required a public hearing, which was included with the PD&E study public hearing held on June 2, 2015.

Design criteria for Access Class 3 are shown in **Table 2-3** for a 45 mph design speed. Median openings are proposed to be a combination of directional and full access openings. Directional openings will allow traffic to make a left turn to adjacent property or to make a U-turn. Full access openings will allow turns in all directions through the median. Since much of the proposed alignment is new alignment, some of the proposed median opening locations are based on spacing distance requirements rather than location of cross streets since many cross streets do not exist. The section of the proposed alignment that falls within the Bella Verde (formerly Cannon Ranch) Development of Regional Impact (DRI) would have the same standards applied to its future design. Only three full median openings are proposed within the Cannon Ranch DRI (at McKendree Road, SR 52 connector, and at Curley Road). The locations for directional and full median access openings are shown in the Preliminary Concept Plans in **Appendix A**, and shown in **Table 2-4**. Two traffic signals are proposed at CR 577 (Curley Road) and CR 579 (Prospect Road). Locations of the proposed signals and median openings are shown in **Table 2-4**. In addition, roundabouts will be evaluated during final design.

## 2.3 Bicycles and Pedestrians

There is a 7-ft bike lane proposed in each direction from McKendree Road to Fort King Road. There is a 5-ft sidewalk proposed on the south side and a 10-ft shared use path on the north side from McKendree Road to CR 579 (Prospect Road). There are two 5-ft sidewalks proposed from CR 579 (Prospect Road) to Fort King Road. The recently constructed portion of Clinton Avenue from Fort King Road to US 301 will not be changed. It contains two 12-ft lanes, a 4-ft bike lane, and a 5-ft sidewalk in each direction separated by a 22-ft raised median.

Constructing the project will result in enhanced accommodations for bicyclists and pedestrians, with the addition of 7-ft paved bike lanes for bicyclists, 5-ft sidewalks and a 10-ft shared use path for pedestrians. Therefore the level of impact will be none.

**TABLE 2-3: ACCESS CLASSIFICATION 3 STANDARDS**

<b>Standard</b>	<b>Access Class 3</b>
Facility Design Features (Median Treatment & Access Roads)	Restrictive
Minimum Connection Spacing	440 ft *
Minimum Directional Median Opening Spacing	1,320 ft *
Minimum Full Median Opening Spacing	2,640 ft *
Minimum Signal Spacing	2,640 ft *

\* Less than or equal to 45 mph posted speed

**TABLE 2-4: ACCESS MANAGEMENT PLAN**

Existing Access Class	Evaluated Access Class	Connection / Access Point	Station	Proposed Traffic Control	Existing Median Opening Type	Proposed Median Opening Type	Median Openings			Does It Meet Rule 14-97 Standard?	Does it Meet Signal Spacing? 2640 ft	Comments	
							Proposed Directional Spacing (ft)	Proposed Full Spacing (ft)	Rule 14-97 Standard (ft)				
Access Class 3: Restrictive	Access Class 3: Restrictive	Uradco Place	9+00	None/Stop	N/A	Directional						I-75 D/B Project	
		McKendree Road	26+00	None/Stop	N/A	Full	1700		1320	129%			
		No Connection	42+35	None/Stop	N/A	Directional	1635	↕	1320	124%			
		SR 52 Connector	72+50	None/Stop	N/A	Full	3015		1320	228%			
		No Connection	85+00	None/Stop	N/A	Directional	1250	↕	1320	95%			
		No Connection	97+50	None/Stop	N/A	Directional	1250		1320	95%			
		Cannon Ranch DRI Entrance	110+00	None/Stop	N/A	Full	1250	3750	2640	142%			
		No Connection	122+50	None/Stop	N/A	Directional	1250	↕	1320	95%			
		No Connection	135+00	None/Stop	N/A	Directional	1250		1320	95%			
		CR 577 (Curley Road)	149+00	Signal	N/A	Full	1400	↕	2640	148%			
		Wirt Road	162+20	None/Stop	N/A	Directional	1320		1320	100%	Yes		
		Driveway	183+60	None/Stop	N/A	Directional	2140	↕	1320	162%		Directional median openings allow U-turns and left turns from SR 52 only. No Left turns out permitted	
		Williams Cemetery Road	200+00	None/Stop	N/A	Full	1640		2640	193%			
		Handcart Road (Future)	221+00	None/Stop	N/A	Full		2100	2640	80%			
		Driveway	249+20	None/Stop	N/A	Full		2820	2640	107%			
		CR 579 (Prospect Road)	277+10	Signal	N/A	Full		2790	2640	106%	Yes		
		Just-A-Mere Lane	300+50	None/Stop	N/A	Full		2340	2640	89%			
		U-Turn	309+40	None/Stop	N/A	Directional	890	↕	3430	2640	130%		
		U-Turn	324+00	None/Stop	N/A	Directional	1460		1320	111%			
		Pasadena Road	334+80	None/Stop	N/A	Full	1080	↕	1320	82%			
		Circle B Road	341+30	None/Stop	N/A	Directional	650		1500	2640	57%		
		Orangewood Drive	349+80	None/Stop	N/A	Full	850	↕	1320	49%			
		Chesterfield Road	358+20	None/Stop	N/A	Directional	840		1500	2640	57%		
U-Turns/Driveway	373+40	None/Stop	N/A	Full	1520	↕	1320	64%					
Fort King Road	387+90	Signal	N/A	Full			2360	1320	89%				
						1450	2640	115%		No Crossroad			
								2640	55%	Yes			

## 2.4 LAND USE CHANGES

### *Existing Land Use*

South of SR 52, within the proposed corridor for the re-alignment of SR 52, the land use is more rural. From the location where the new alignment veers away from existing SR 52, the land is open pastureland until the vicinity of the intersection of Curley Road (CR 572) and McCabe Road. Along McCabe Road, as it proceeds east the land is either open pasture, orange groves, and a few farm buildings. Where McCabe Road intersects with Williams Cemetery Road, the land becomes wooded, then interspersed with crops and pasture and more woods. Where the proposed new alignment shifts north to avoid Williams Cemetery and connect to Clinton Avenue at Prospect Road (CR 579A), the land is mostly open pasture with one or two residences east of Prospect Road (CR 579A), several residences north of Clinton Avenue and one residence south of Clinton Avenue. Traveling eastward along Clinton Avenue the land is mostly open pasture until Just A Mere Lane. Although the land along Clinton Avenue remains rural with a mix of woods, planted pines, and orange groves, it becomes more residential in nature towards the end of the project between Pasadena Road and US 301.

During the Environmental Screening Tool (EST) analysis, the Southwest Florida Water Management District (SWFWMD) 2011 Florida Land Use, Classification, and Cover System (FLUCCS) identified five major land uses within the proposed corridor:

- Cropland and Pastureland – 355.2 acres (49.95%)
- Residential Low Density – 94.8 acres (13.33%),
- Other Open Lands (rural) – 44.1 acres (6.21%)
- Tree Crops – 43.2 acres (6.07%)
- Nurseries and Vineyards – 36.4 acres (5.11%)

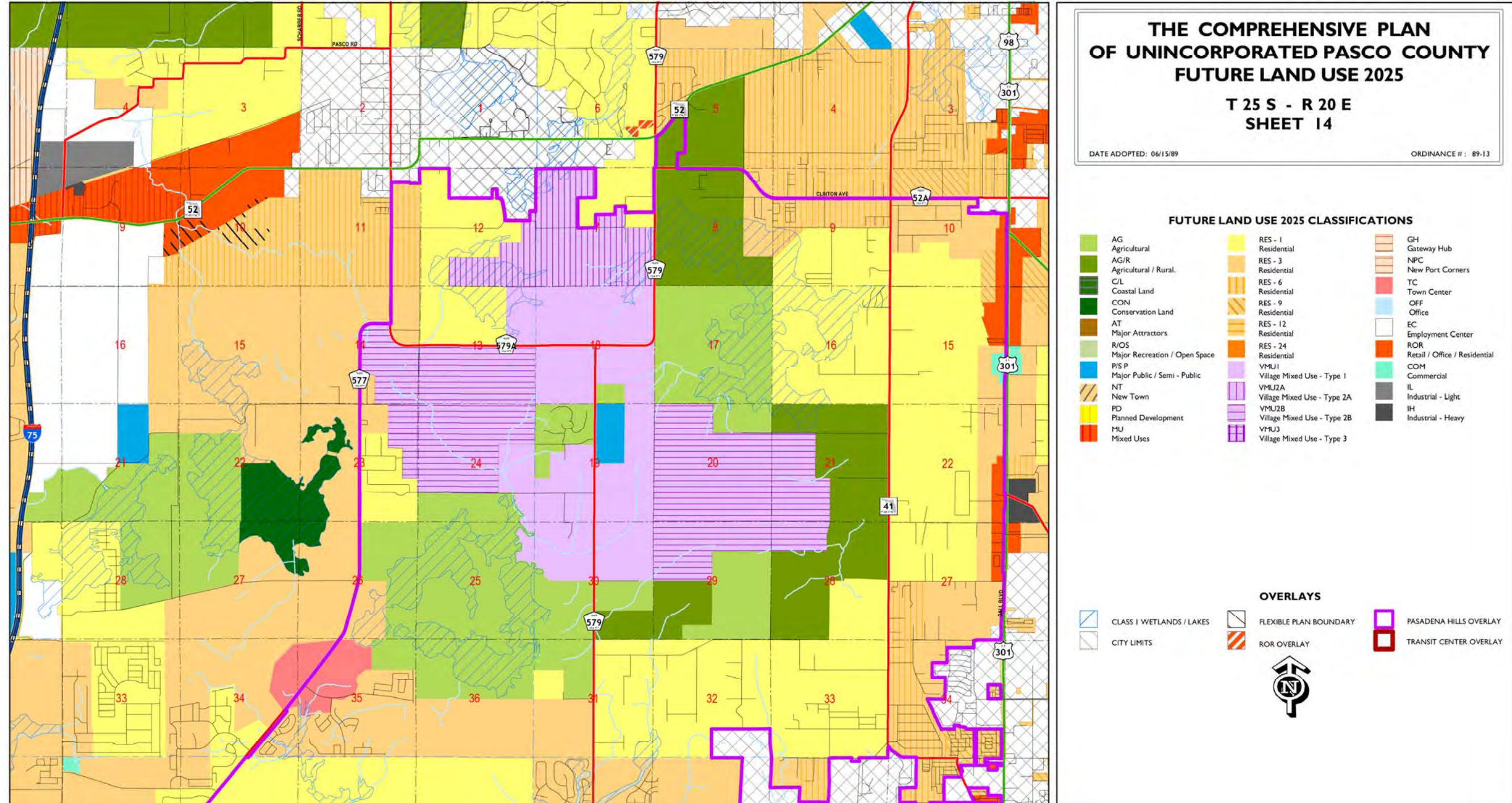
Two Developments of Regional Impact (DRIs) are also within the project vicinity. They are Cannon Ranch and One Pasco Center. The Cannon Ranch DRI has changed names several times over the last decade and is now known as Bella Verde. Pasco Center, located one-half mile from the I-75 and SR 52 interchange, consists of 36 parcels of one to six acres that are zoned for mixed uses such as commercial, light industrial and hotel. Bella Verde, a planned golf community, has yet to begin development. It is located east of One Pasco Center and south of SR 52 and would be bisected by the proposed re-alignment of SR 52.

### *Future Land Use*

The Pasco County Comprehensive Plan 2025 Future Land Use Map (FLUM) (November 2013) identified mainly residential land uses with some agricultural and mixed use, activity center, and urban village land uses (**Figure 2-2**).



FIGURE 2-2: FUTURE LAND USE



**SR 52 PD&E Study**

From East of McKendree Road to East of US 301  
 WPI Segment No: 435915-1

FUTURE LAND USE MAP

The City of San Antonio FLUM shows neighborhood mixed use, commercial, medium density residential with a small amount of public/semi-public along SR 52.

The Dade City FLUM shows public/semipublic, general commercial, residential office retail, and medium residential from west of Gene Nelson Boulevard to Howard Avenue. From Howard Avenue to 10<sup>th</sup> Street the Dade City FLUM indicates mainly low density residential with a few residential/office parcels. From 10<sup>th</sup> Street to US 301 it shows Downtown, conservation/ preservation, residential office retail, and general commercial.

### ***Changes in Land Use Patterns***

The Build Alternative, being on mostly new alignment, could open up areas for development that previously were undeveloped or in agricultural use; however, this is consistent with Pasco County's Future Land Use designations which include New Town at the western end of the Build Alternative and residential throughout the remaining corridor. The New Town land use designation is within the Belle Verde DRI (**Figure 2-3**). The Belle Verde DRI, which encompasses 1,965 acres and proposes 4,373 dwelling units when built out, should accommodate the population needs of the planning period (until 2040). Therefore, the Build Alternative is not likely to induce development beyond that already approved and would, as a result, have minimal effect on land use changes.

## **2.5 COMMUNITY SERVICES**

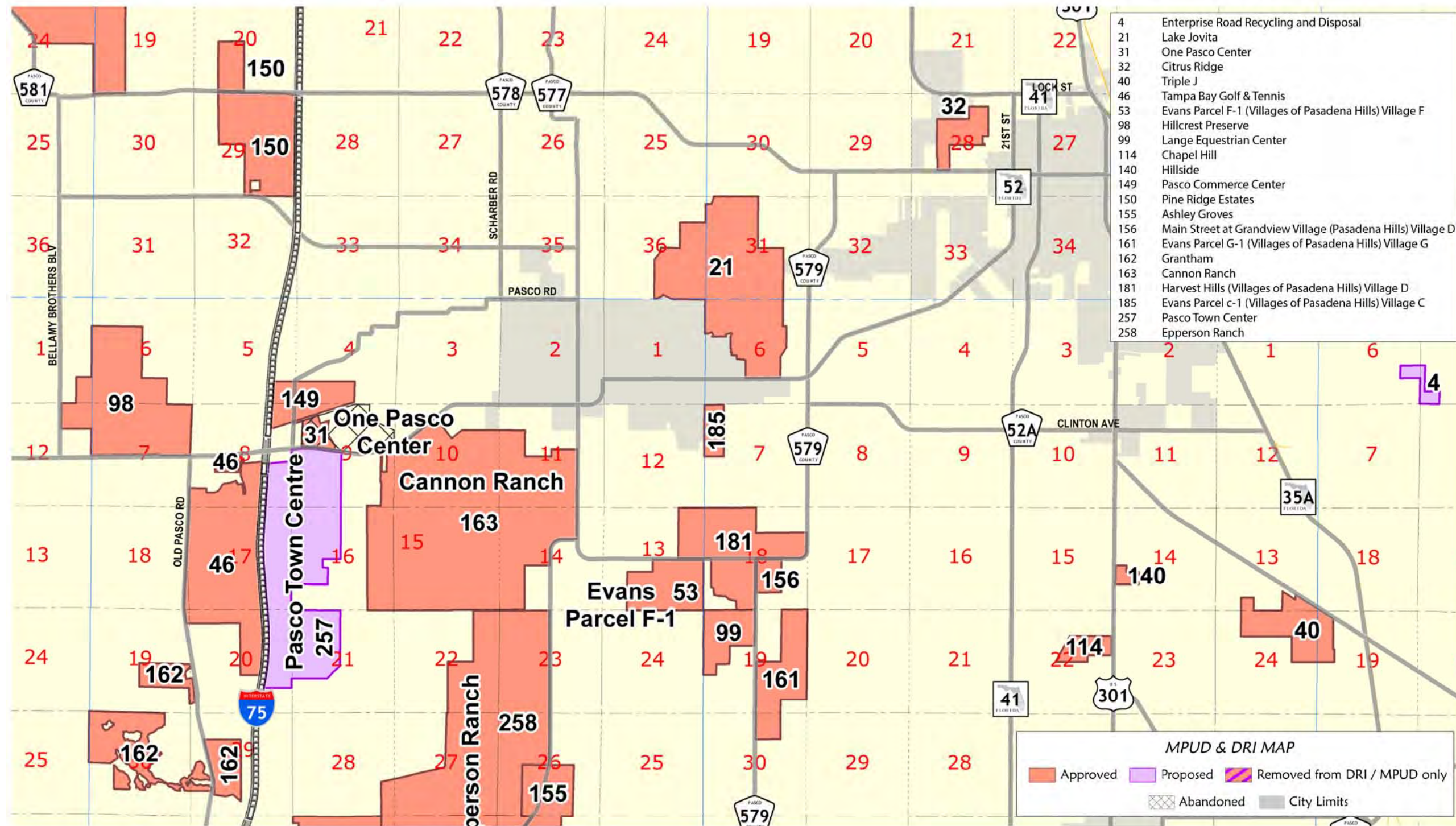
Community services typically serve the needs of the surrounding area and provide a focal point for adjacent neighborhoods and communities. Community services include churches, cemeteries, schools, parks, recreational facilities, and public buildings and facilities. There are no cultural centers, parks, recreational facilities, fire stations, schools, or medical facilities in the vicinity of the Build Alternative between McKendree Road and Fort King Road. Community services in the study area are shown on **Figure 2-4**.

There are two mobile home parks, three churches, and one cemetery in the vicinity of the Build Alternative.

- Sunny Skies Mobile Home & RV Park, 32704 Cantwell Drive, San Antonio
- Lake Iola TP, 33009 McCabe Road, San Antonio
- Piney Grove Missionary Baptist Church, 31027 SR 52
- Pasadena Baptist Church, 35845 Clinton Avenue, Dade City
- Williams Cemetery, Williams Cemetery Road, San Antonio
- Faith Fellowship (Former Pasadena Church)



FIGURE 2-3: PASCO COUNTY DRI MAP



**SR 52 PD&E Study**

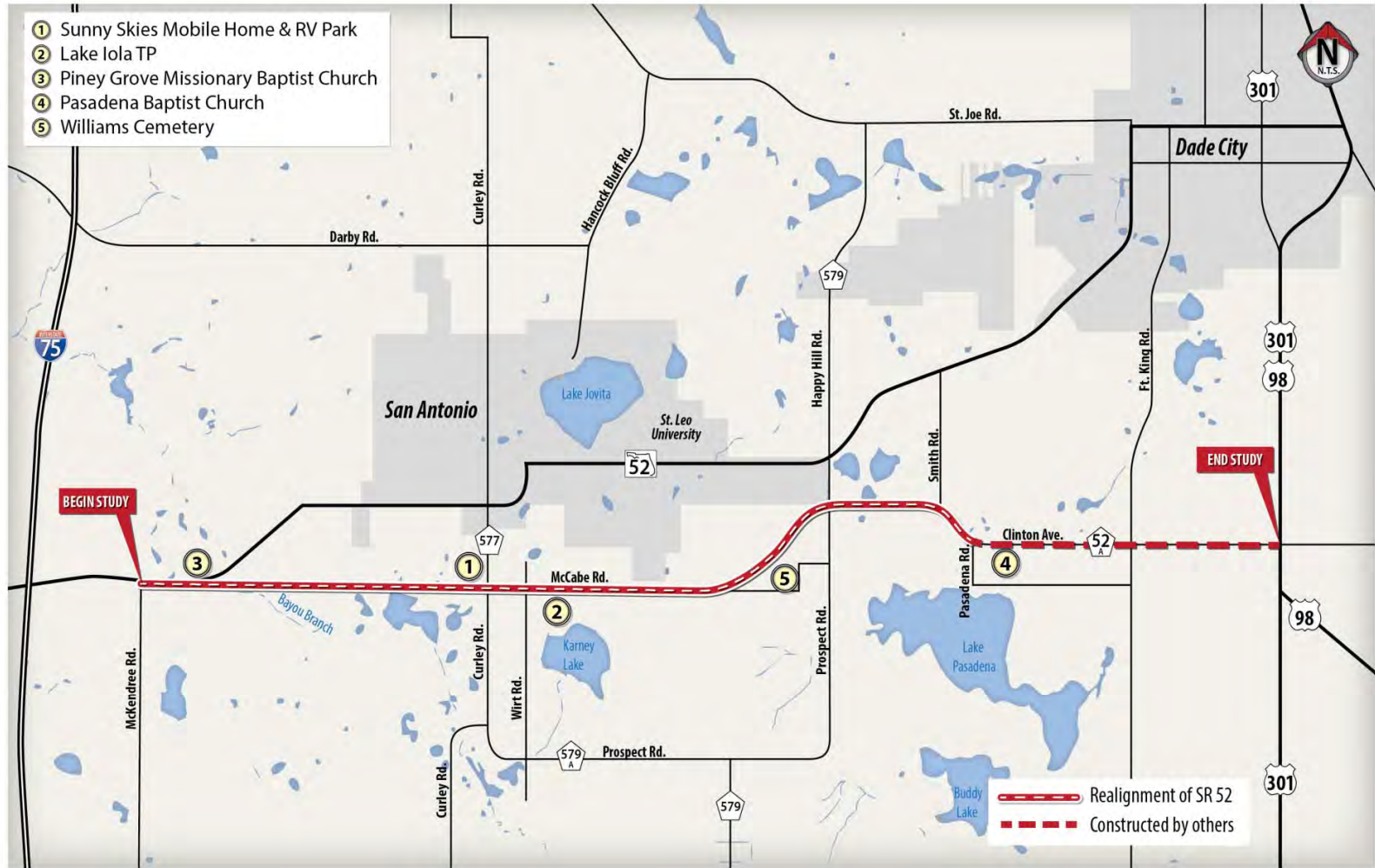
From East of McKendree Road to East of US 301

WPI Segment No: 435915-1

MPUD & DRI MAP



**FIGURE 2-4: COMMUNITY SERVICES MAP**



**SR 52 PD&E Study**  
 From East of McKendree Road to East of US 301  
 WPI Segment No: 435915-1

**COMMUNITY SERVICES**

SR 52 PD&E Study  
 Final Engineering and Environmental Technical Compendium

Access to both mobile home parks will not be affected by this project. Access to Sunny Skies Mobile Home & RV Park will not be affected by this project since improvements along CR 577 (Curley Road) are not part of this project. The Lake Iola TP mobile home park is located along the south side of McCabe Road, where the proposed alignment is to the north. Therefore, there are no direct impacts. The Piney Grove Missionary Baptist Church is located along SR 52 northeast of where the project breaks away towards the east. Therefore, there are no direct impacts. The Pasadena Baptist Church is located along Clinton Avenue east of Pasadena Road. Direct impacts to the church will be avoided. The development of the Build Alternative took into consideration the location of Williams Cemetery and avoided the cemetery by staying to the northwest to align with Clinton Avenue. Therefore, the Build Alternative would have no impact on Williams Cemetery. Therefore, the community service impacts will be none.

## 2.6 Utilities and Railroads

In order to evaluate potential surface and subsurface utility conflicts associated with the proposed project, information was collected concerning the location and characteristics of the existing utilities within the vicinity of the proposed project.

**Table 2-5** indicates utility providers that have facilities within the vicinity of the proposed project. Utility relocation costs are not included in the total estimated project costs.

There are utilities in the vicinity of the project however they are not expected to be substantially impacted and there is no project involvement with any railroads, therefore the level of impact will be none.

**TABLE 2-5: UTILITIES**

Provider	Contact	Phone Numbers	Utility Type
Bright House Networks – East Pasco	Mike Kiker	(813) 862 - 0522 x84263 Alt: (863) 581 - 5730	Fiber, Cable
Centurylink Winter Garden	Jeff Griffin	(407) 814 - 5344	Phone, Fiber Optic
City of Dade City	Heather Washburn	(352) 523 - 5050 x301	Water and Sewer
Pasco County Utilities	Paul Hamar	(727) 847 - 8145 Emerg: (727) 847 - 8144	Reclaimed Water
TECO People’s Gas – Tampa	Luis Castellano	(813) 275 – 3743	Gas
Tampa Electric Company	Jason Cooper	(813) 275 - 3037	Electric
Withlacoochee River Electric Cooperative	Corey Littlefield	(352) 588 - 5115	Electric

## 2.7 Drainage

The *Pond Siting Report Clinton Avenue Extension*<sup>6</sup> was reviewed for reasonableness. In general, this Pond Siting Report (PSR) was an appropriate preliminary PSR. Further refinements in the recommendations will be forthcoming in the Design Phase of the project as more survey information, ROW costs, roadway ROW needs, and further coordination with regulatory agencies becomes available.

After review of the preliminary PSR, the Drainage Map for Pasco County Project No. C 3216.40 from STA 108+50 to STA 352+00, by RS&H, dated 10/25/2010, was reviewed. This drainage map showed more roadway and design details, a roadway profile, pipe layout, locations of soil borings, and LiDAR 1-ft contours were used as the base map. The limits of this drainage map were similar to the preliminary PSR.

SWFWMD permit files were researched, and a Cannon Ranch Post Developed Master Drainage Plan for ERP 49028080.021, dated 1/17/2006 was reviewed. This drainage map shows the construction of Clinton Avenue from SR 52 to the east to match the drainage design for Pasco County Project No. C 3216.40. The Cannon Ranch drainage plan shows six proposed ponds in “Basin A”, which drains to Bayou Branch.

The proposed realignment/intersection of SR 52 at the west end of the project shows two additional ponds to the six internal Cannon Ranch master drainage plan ponds. One pond is north of SR 52 west of Bayou Branch along a widened SR 52, and one pond is east of the intersection between the existing SR 52 and the Clinton Road alignment. The pond sizes and floodplain compensation appear to be reasonable approximations for this preliminary study. Final pond sizes, and floodplain compensation (FPC) sites will be determined in the Design Phase when more information and additional analysis is available.

The Federal Emergency Management Agency (FEMA) Flood Insurance Study (FIS) and Flood Insurance Rate Maps (FIRM) for this area, effective date September 26, 2014, were derived from the SWFWMD Cypress Creek watershed Interconnected Channel and Pond Routing (ICPR) model. This ICPR model will be modified and rerun with the proposed fill and FPC sites to ensure that there is no significant increase to the Bayou Branch flood stages. This will be part of the Design Phase SWFWMD permit requirements.

## 2.8 Floodplains

Evaluation of the FEMA 1996 FIRMs for Pasco County revealed that the majority of the project (671.8 acres, or 94.46 percent) is within Zone X, areas outside of the 500-year floodplain. Of the remaining 5.54 percent of the project area, 31 acres (4.36 percent) is within Flood Zone A and 8.4 acres (1.18 percent) of the project is within an area that is not mapped on any published FIRM (See **Appendix C**).

The FEMA current effective FIS for Pasco County is Flood Insurance Study Number 12101CV000A, effective September 26, 2014. The FEMA FIS is based on the SWFWMD Cypress Creek Watershed ICPR model. There are no designated floodways within the project limits.

Portions of the study area for the proposed SR 52 improvements are located within the floodplain limits shown on the FIRM Community Panels 12101C0258F, 12101C0259F, and 12101C0280F. The predominate floodplains on the west end of the project are from Bayou Branch and Karney Lake, which are part of the Cypress Creek watershed. The remaining FEMA floodplains adjacent to the project are closed basins. East of Prospect Road there is a FEMA Zone AE closed basin floodplain with a BFE of 86.6. The FEMA flood map panels are in **Appendix C**.

The existing and proposed SR 52 alignment is a transverse encroachment to freshwater floodplains. Floodplain storage compensation will be required for any encroachment into the floodplain or historical storage by the SWFWMD. The remaining corridor within the project limits either lies in Zone C (areas of minimal flooding) or Zone B (areas between the limits of the 100-year flood plain and the 500-year flood plain; or certain areas subject to 100-year flooding with average depths less than one foot; or areas protected by levees from the base flood).

The existing cross drain information for the length of the project is provided in **Table 2-6**. The proposed Clinton Avenue cross drains in Basins B, C, D, E, F, G, H, I, J, and K are currently in design. The Cannon Ranch Development cross drains are preliminary and will need to be reevaluated in the Design Phase of the project. The existing cross drains to be extended on SR 52 from McKendree Road to east of Bayou Branch will need to be evaluated in the Design Phase.

A more detailed modeling effort of the cross drains and floodplain encroachments will be part of the design phase. The SWFWMD may require that many of these cross drains be evaluated with the Cypress Creek ICPR model. It is anticipated that some of existing structures will be found to be adequately sized and any that are not will only require one size increment increase. The bridge at Bayou Branch is within the FEMA/SWFWMD Cypress Creek ICPR model as part of the Bridge Hydraulics Report (BHR) in the design phase. The existing quadruple, 10-ft by 10-ft concrete box structure (CBC) will be evaluated to determine whether to extend the CBC or to replace with a bridge structure. Soil borings will need to be performed to determine whether the soils are suitable for the CBC headwall foundation. The existing CBC was originally constructed in 1951 and the 2013 Bridge Inspection Report gave the bridge a Sufficiency Rating of 95.1 and a Health Index of 62.3. Further corrosion and structural analysis may be necessary in the design phase to determine whether the structure should be replaced or extended.

**TABLE 2-6: EXISTING CROSS DRAIN INFORMATION**

<b>STR</b>	<b>Station</b>	<b>Flow Direction</b>	<b>Size</b>
<b>Proposed Clinton Avenue Basins B, C, D, E, F, G, H, I, J, K</b>			
CD-1	110+60	N-S	(2) 48"
CD-2	134+00	N-S	(2) 24" X 38"
CD-3	137+50	N-S	(5) 38" X 60"
CD-4	159+00	N-S	36"
Unknown	162+50	N-S	Unknown
Unknown	168+00	N-S	Unknown
CD-15	173+00	N-S	Unknown
CD-5	178+50	N-S	18"
CD-6	186+70	N-S	(2) 24"
CD-7	202+50	S-N	24"
CD-9	261+20	S-N	(3) 24" X 38"
CD-10	279+50	Equalizer	48"
CD-12	316+90	S-N	(3) 36"
CD-14	368+70	S-N	48"
<b>STR</b>	<b>STA</b>	<b>Flow Direction</b>	<b>Size</b>
<b>Proposed Cannon Ranch Development Basin A, Bayou Branch</b>			
Unknown	Unknown	N-S	6' X 6'
Unknown	Unknown	N-S	5' X 6'
Unknown	Unknown	N-S	6' X 7'
<b>Existing SR 52 from McKendree Road (MP 24.17)</b>			
	MP 24.30	S-N	24" X 63'
	MP 24.38	S-N	24" X 63'
	MP 24.6	S-N	(4) 10' X 10'

### 2.8.1 Drainage Patterns

The existing drainage patterns were determined using the United States Geological Survey (USGS) quadrangle maps, SWFWMD LiDAR data, Cannon Ranch Master Drainage Plan, and preliminary drainage maps for the Clinton Road Extension.

Some of the proposed alignment is over existing roads. The stormwater runoff from the existing lanes and outside shoulders sheet flows to adjacent properties or to roadside ditches.

### **2.8.2 Drainage Related Problems**

The proposed project alignment traverses through Karst conditions. There appears to be an existing relic sink hole east of Curley Road on the north side of McCabe Road north of Karney Lake. SWFWMD requires additional treatment volume for any stormwater that discharges to this sink, and requires encroachments into the storage around the sink to be compensated. An alternative to discharging to this sink could be to bypass the sink and discharge to the Karney Lake basin. This issue will be further reviewed in the Design Phase.

The proposed project is consistent with the Pasco County Comprehensive Plan. The proposed project will not encourage floodplain development due to local (FEMA) floodplain and SWFWMD regulations. The project's drainage design will be consistent with local (FEMA), FDOT, and SWFWMD design guidelines. Therefore, no significant changes in the base flood elevation or limits will occur. Therefore, no natural and beneficial floodplain values will be significantly affected.

### **2.8.3 Project Category**

Based on the information collected during this study, the proposed improvement can be categorized as a modification of CATEGORY 6: PROJECTS ON NEW AND EXISTING ALIGNMENT INVOLVING REPLACEMENT OF EXISTING DRAINAGE STRUCTURES WITH NO RECORD OF DRAINAGE PROBLEMS, as defined in Part 2, Chapter 24 (01-07-08) of the FDOT PD&E Manual.

“It has been determined, through consultation with local, state, and federal water resources and floodplain management agencies that there is no regulatory floodway involvement on the proposed project and that the project will not support base floodplain development that is incompatible with existing floodplain management programs.”

“The proposed structures will perform hydraulically in a manner equal to or greater than the existing structures, and backwater surface elevations are not expected to increase. Proposed structures will discharge in a similar condition as much as feasible and changes will be reviewed by the appropriate regulatory authorities who will concur that the determination that there will be no significant impacts. As a result, there will be no significant adverse impacts on natural and beneficial floodplain values, there will be no significant change in flood risk, and there will be no significant change in the potential for interruption or termination of emergency service or emergency evacuation routes. Therefore, it has been determined that this encroachment is not significant.” Effects to floodplains are expected to be minimal.

## 2.9 Construction

Construction activities for this proposed project will have minimal, temporary, yet unavoidable, air, noise, water quality, traffic flow, and visual impacts for those residents and travelers within the immediate vicinity of the project.

The air quality effect will be temporary and will primarily be in the form of emissions from diesel-powered construction equipment and dust from construction activities. Air pollution associated with the creation of airborne particles will be effectively controlled through the use of watering or the application of other controlled materials in accordance with FDOT's Standard Specifications for Road and Bridge Construction.

Water quality effects resulting from erosion and sedimentation during construction will be controlled in accordance with FDOT's Standard Specifications for Road and Bridge Construction and through the use of Best Management Practices (BMPs).

Short term construction related wetland impacts will be minimized by adherence to FDOT's Standard Specifications for Road and Bridge Construction. These specifications include measures known as BMPs, which include the use of siltation barriers, dewatering structures, and containment devices that will be implemented for controlling turbid water discharges outside of construction limits.

Maintenance of Traffic (MOT) and sequence of construction will be planned and scheduled to minimize traffic delays throughout the project. Signs will be used to provide notice of road closures. The local news media will be notified in advance of construction-related activities so that motorists, residents, and business persons can make accommodations. All provisions of FDOT's Standard Specifications for Road and Bridge Construction will be followed.

Construction of the project may require excavation of unsuitable material (muck), placement of embankments, and use of materials, such as limerock, asphaltic concrete, and Portland cement concrete. Demucking will be controlled by Section 120 of FDOT's Standard Specifications for Road and Bridge Construction. Temporary erosion control features, as specified in FDOT's Standard Specifications for Road and Bridge Construction, could consist of temporary grassing, sodding, mulching, sandbagging, slope drains, sediment basins, sediment checks, artificial coverings, and berms.

For the residents living in the project area, some of the materials stored for the project may be displeasing visually; however, this will be a temporary condition and should pose no substantial, long term problem. Therefore, construction impacts are expected to be minimal.

### 3.0 WETLANDS

Pursuant to Presidential Executive Order 11990 entitled “Protection of Wetlands,” the United States DOT has developed a policy, (DOT Order 5660.1A), Preservation of the Nation’s Wetlands, dated August 24, 1978, which requires all federally funded highway projects to protect wetlands to the fullest extent possible. In accordance with this policy, as well as Part 2, Chapter 18 Wetlands of the FDOT PD&E Manual, the study area between McKendree Road and Fort King Road was evaluated for any wetlands that have potential involvement with the proposed improvements.

Wetland delineation, impact assessment and mitigation plans were previously developed by Pasco County during their design and permitting of this project as a County project, as well as part of a Development of Regional Impact (DRI) for a portion of the project. Ground-truthing of wetland boundaries were conducted in accordance with the State of Florida wetland delineation methodology (Florida Administrative Code [F.A.C.] 62-340) and the United States Army Corps of Engineers (USACE) methodology (Corps of Engineers Wetlands Delineation Manual, 1987), and the boundaries were formally verified by the SWFWMD. During the County’s design and permitting effort, wetland functional assessments were performed and verified on each wetland and mitigation area based on the Uniform Mitigation Assessment Method (UMAM). The SWFWMD approved the County’s design via Permit 29996.001, which was issued November 21, 2005, then extended on May 18, 2011, and is valid until April 8, 2017. That permit authorizes 1.38 acres (0.95 Functional Loss unit) of forested wetland impacts and 0.46 acre (0.26 Functional Loss unit) of herbaceous wetland impacts, to be mitigated by Pasco County in conjunction with mitigation specified in SWFWMD permit 30052.001 (Pasco County- SR 52 from East of 1-75 to East of CR 577).

The DRI portion of the project (Bella Verde Road E (Clinton Road) from Prospect road to the intersection with existing SR 52) was authorized via ERP permit modification 28080.025 issued by SWFWMD as well as via the USACE permit for the overall DRI, SAJ-2003-5739 (IP-THE) issued December 5, 2005. That permit authorized 0.23 acre of wetland impacts requiring mitigation, 0.28 acre of wetlands exempt from mitigation and 0.16 acre of surface waters exempt from mitigation. Using UMAM, the functional loss of the wetland impact area requiring mitigation was determined to be 0.16 unit.

Based on connectivity to downstream waters, and their permitting history on portions of this project, the USACE will assert jurisdiction over the wetlands within this study area as Waters of the U.S. under the provisions of Section 404 of the federal Clean Water Act, requiring an Individual Permit. The SWFWMD will require a modification of the existing permit to reflect the revised alignment and wetland impacts. Wetland and surface water boundaries will be incorporated from the existing permits and updated as necessary during the design and permitting process for the proposed project.



Wetland and surface water habitat types and acreages based on FLUCFCS data for the study area, with reference to wetland labels in the SWFWMD permits, are provided in **Table 3-1** below. It should be noted that this table reflects the area of wetlands within the right-of-way (ROW) for the study area estimated based on FLUCFS data, rather than ultimate impacts.

**TABLE 3-1: WETLAND AND SURFACE WATER COMMUNITIES  
IN THE STUDY AREA**

<b>Wetland ID<sup>1</sup></b>	<b>FLUCFCS<sup>2</sup></b>	<b>Cowardin Classification</b>	<b>Acres within ROW</b>	<b>UMAM Functional Value<sup>3</sup></b>
PC-4, PC-5	6150	PFO	4.00	2.00
NN	6300	PFO	0.37	0.20
NN, BB	6410	PEM	0.90	0.42
BV-2, BV-38, BV-40, BV-42, PC-1, PC-2, PC-3, PC-6	6430	PEM	4.08	1.98

<sup>1</sup> PC=Wetland label in ERP permit 29996.01 issued to Pasco County; BV=Wetland label in ERP permit 28080.025 for Bella Verde Ranch; BB=Bayou Branch; NN=Not named in permits

<sup>2</sup> FLUCFCS data from SWFWMD GIS (may be different than field-based data in permits)

<sup>3</sup> UMAM Functional Value is estimated from ERP permits

***Mitigation***

The existing SWFWMD permits issued to Pasco County and the Bella Verde Ranch DRI for various portions of the project include mitigation at several enhanced or restored wetland areas within the County’s or the DRI property. However, these mitigation areas have not been completed and the project will require a permit modification issued to the Department. Therefore, the mitigation for this project will consist of the purchase of mitigation bank credits and/or through the FDOT Mitigation Program in accordance with Chapter 373.4137 F.S. The impacts and mitigation requirements will likely be less than estimated in Table 3-1, due to design modifications.

Therefore, impacts to wetlands are expected to be minimal.

**4.0 WILDLIFE AND HABITAT**

This project between McKendree Road and Fort King Road was evaluated for potential impacts to wildlife and habitat resources, including protected species in accordance with Title 50 Code of Federal Regulations (CFR) Part 402 of the Endangered Species Act of 1973, as amended; 50 CFR 17 (federal animal list); 379.2291 F.S., Endangered and Threatened Species Act; Chapter 68A-27.003 F.A.C. (Endangered and threatened species list); 68A-27.005 F.A.C. (Species of Special Concern list), and Chapter 27 of the FDOT PD&E Manual, Wildlife and Habitat Impacts.

Agency and GIS database searches, informal field reviews and a preliminary review of aerial photography were conducted to identify known and potential occurrences of state and federally protected wildlife species, suitable habitat and designated critical habitat occurring or potentially occurring within the study area. There is no designated critical habitat for any species within or adjacent to the project.

Based on these reviews and habitat conditions, the following state and federally-protected species were evaluated as having potential involvement with this project.

### Birds

Florida scrub jay (*Amphelocoma corulescens*) - FT  
Wood stork (*Mycteria americana*) - FT  
Red-cockaded woodpecker (*Picoides borealis*) – FE  
Red knot (*Calidris canutus rufa*) - FT  
Bald eagle (*Haliaeetus leucocephalus*) – NL (BGEPA/MBTA)  
Florida burrowing owl (*Athene cunicularia floridana*)—SSC  
Florida sandhill crane (*Grus canadensis pratensis*) – ST  
Southeastern American kestrel (*Falco sparverius paulus*)—ST  
Little blue heron (*Egretta caerulea*)—SSC  
Limpkin (*Aramus guarauna*)—SSC  
Snowy egret (*Egretta thula*)—SSC  
Tricolored heron (*Egretta tricolor*)—SSC  
White ibis (*Eudocimus albus*)--SSC

### Reptiles and Amphibians

Gopher tortoise (*Gopherus polyphemus*) – C/ST  
Gopher frog (*Lithobates capito*)—SSC  
Eastern indigo snake (*Drymarchon corais couperi*) – FT  
Florida pine snake (*Pituophis melanoleucus mugitus*)—SSC  
Short-tailed snake (*Stilosoma extenuatum*)—ST

### Mammals

Florida mouse (*Podomys floridanus*)—SSC  
Sherman's fox squirrel (*Sciurus niger shermani*)—SSC

### Plants

Ashe's savory (*Calamintha ashei*)—SE  
Celestial lily (*Nemastylis floridana*)—SE  
Chapman's sedge (*Carex chapmanii*)—ST  
Nodding pinweed (*Lechea cernua*)—SE  
Pondspice (*Litsea aestivalis*)—SE  
Pygmy pipes (*Montropsis reynoldsiae*)—SE  
Sinkhole fern (*Blechnum occidentale*)—SE

Key: C – Candidate; FE – Federal Endangered; FT—Federal Threatened; SE – State Endangered; ST – State Threatened; SSC – State Species of Special Concern; NL – Not Listed under the Federal or State Endangered Species Act; BGEPA/MBTA – Bald and Golden Eagle Protection Act/Migratory Bird Treaty Act.

The FDOT will be submitting a letter presenting the FDOT's effects determinations for federally-listed and state listed species involvement with the project to the U.S. Fish and Wildlife Service (USFWS) and the Florida Fish and Wildlife Conservation Commission (FWC) during the project's permitting phase. In this letter, the FDOT will propose a "*may affect, but is not likely to adversely affect*" determination for the federally listed wood stork, eastern indigo snake, and bald eagle and for the state listed gopher tortoise, Florida mouse, gopher frog, Florida sandhill crane, Sherman's fox squirrel Florida burrowing owl, short-tailed snake, Florida pine snake, Southeastern American kestrel, and five state listed wading birds a "*may affect, but is not unlikely to adversely affect*" determination. All other state and federally-listed species occurring or potentially occurring within study area, with a "*no effect*" determination.

Wetland and wildlife impacts will be finalized during the project's permitting phase. Mitigation sufficient to offset wetland/wood stork foraging habitat impacts will be provided through the wetland permitting process discussed previously in Section 3.0. Should a bald eagle nest be built prior to or during construction within 660 feet of the construction limits, precautions will be followed based on the FWC Bald Eagle Management Plan. During the project's design and prior to construction, FDOT will conduct the appropriate gopher tortoise survey, coordinate with the FWC to permit and relocate gopher tortoises located within the project's limits of construction, and provide compensation as required through that permitting process. To further avoid and minimize the potential for adverse effects to the eastern indigo snake, the FDOT commits to using the USFWS August 2013 (or later) *Standard Protection Measures for the Eastern Indigo Snake* provisions during the project's construction phase.

Further reviews will be completed during project design and prior to the construction phases to provide updated observations and verification of the potential for project involvement with listed/protected species and their habitat. The FDOT will coordinate further with the USFWS and FWC as appropriate during the permitting phase of the project. Therefore, impacts to wildlife and habitat are expected to be minimal.

## **5.0 CONTAMINATION**

A Contamination Screening Evaluation was performed using the ETDM screening tool in accordance with the FDOT PD&E Manual, Part 2, Chapter 22.

A preliminary evaluation of SR 52, from McKendree Road to Fort King Road, was conducted to determine potential contamination concerns from properties or operations located with 1/4 mile of the proposed SR 52 ROW. The study area on the existing portion of Clinton Avenue from Fort King Road to US 301, was recently constructed by Pasco County so this area was not evaluated.

The initial step in the contamination evaluation was the review of a database provided by Environmental Data Management (EDM). The contamination evaluation included the following tasks:

- A search of files available from the Florida Department of Environmental Protection (FDEP).
- A review of historical aerial photographs of the project area was conducted via on-line and other sources of aerial photographs.
- Visual reconnaissance to identify sites or areas with indications of past or present contaminant storage, use, generation, or disposal.
- Determining the contamination potential for each property within the project limits.

The final step in the evaluation process was to determine the site rating for each potential contamination site or pond site. The contamination rating system is divided into four degrees of risk: “No”, “Low”, “Medium”, and “High”. This system expresses the degree of concern for potential contamination problems. A site with a “High” rating might not necessarily present a significant cause for concern if the regulatory agencies involved with that site are aware of the situation and if clean-up activities are complete or underway at such a site. Sites were rated in accordance with Part 2, Chapter 22 of the *PD&E Manual*.

Results are included in the project file. A total of nine potential contamination sites were identified along the project corridor between McKendree Road and Fort King Road, with risk evaluation ratings ranging from “Low” to “Medium” risk. **Table 5-1** provides a summary of the nine potential contamination sites identified along the project and their risk evaluation ratings. A summary of the risk assessments for the project is presented in **Table 5-2**. A total of 13 pond sites were also evaluated for their contamination risk potential. A summary of the risk ratings for the pond sites (from “No” to “Medium” risk) is presented in **Table 5-3**.

**Appendix A** provides the concept plans for the project that illustrate the locations of the potential contamination sites and pond sites. If construction activities are to occur in an area with contamination concerns, then a site assessment would be performed to the degree necessary during final design to determine levels of contamination and evaluate clean-up options and associated costs. Excavation and/or dewatering for installation of underground structures or utilities in the vicinity of the contaminated sites could potentially encounter or exacerbate contamination. Investigations would not be limited to the areas of roadway expansion but would also include the drainage areas located adjacent to the roadway.

**TABLE 5-1: POTENTIAL CONTAMINATION SITES**

Site No.	EDM Map ID#	Site Name and Address	Facility ID No(s).	Distance from SR 52	Contamination Concern	Risk Rating
1	1	Former Ralard Printers, 30904 SR 52	51-9400248	Adjacent south	USTs removed in 1993; contaminated soil removed; site has a FDEP facility cleanup score of 49	Medium
2	2	J. Ralph Jones Grove, 3300 McCabe Road	51-9047003	700 feet north	Site has registered 500-gallon USTs for diesel fuel; no discharges reported	Low
3	None	Professional Nurseryman, McCabe Road, East of Wirt Road	None	Adjacent south	Commercial/retail nursery operation; no fueling areas or pesticide/herbicide areas observed	Low
4	None	Citrus Grove – Wichers Road, McCabe Road, East of Wirt Road	None	Adjacent north	Active citrus grove; electrical-operated irrigation pump	Low
5	3	Evans Properties, Inc. – Big Osborne Grove, McCabe Road and Prospect Road	51-9200638	Adjacent north	Active citrus grove; diesel AST located 400 feet north of project; no discharges reported	Low
6	4	St. Leo College Dump 0.5 Mile East, St. Leo College, South of SR 52	WACS ID 45936	Adjacent northwest	Reported location of Class II solid waste landfill with no monitoring or maintenance	Medium
7	None	Citrus Grove – Clinton Ave. Clinton Ave, East of Prospect Rd.	None	Adjacent north	Apparently active citrus grove; no fueling or pesticide/herbicide facilities observed in the project area	Low
8	5	Former R&M Transport 35950 Roberts Road	FLR 000066845	800 feet northeast	Complaint filed by neighbor to FDEP; no storage tank violations or RCRA hazardous waste violations observed during Pasco County and FDEP site inspections	Low
9	NA	Top King Food Mart #1 11744 Fort King Road	51-8943417	600 feet east	Current Chevron gas station with two USTs; existing groundwater contamination contained within the gas station property; depth to groundwater is 60 feet.	Low

AST – Above-ground Storage Tank

FDEP – Florida Department of Environmental Protection

RCRA – Resource Conservation and Recovery Act

NA – Not Applicable

UST – Underground Storage Tank

**TABLE 5-2: SUMMARY OF POTENTIAL CONTAMINATION SITES  
RISK ASSESSMENTS**

<b>Risk Assessment Category</b>	<b>Number of Sites</b>
No	0
Low	7
Medium	2
High	0

**TABLE 5-3: SUMMARY OF CONTAMINATION RISKS –  
PREFERRED STORMWATER MANAGEMENT FACILITY (POND) SITES**

<b>Risk Assessment Category</b>	<b>Number of Pond Sites</b>
No	10
Low	1
Medium	2
High	0

Specific recommendations for the potential contamination sites and preferred pond sites rated “Medium” (none were rated “High”) are as follows:

- Site 1 (Former Ralard Printers) is a former Leaking Underground Storage Tank (UST) site that has undergone initial soil removal and had detections of low levels of petroleum impacts in the groundwater. It is possible, but not confirmed, that all of the petroleum-impacted soil at this site may have been removed. The depth to groundwater is more than 20 feet at this site, so impacts to project construction activities associated with the groundwater are not likely. FDEP files in Oculus will be reviewed periodically to determine the status of this site. The site currently has a FDEP Facility Cleanup Score of 49, and the FDEP has requested that the site’s owner conduct further investigations at this site. If excavation or roadway construction activities are anticipated at this site, soil and groundwater (if applicable) investigations would be conducted to rule out any remaining contamination impacts from this site.
- Site 6 (St. Leo College Dump) is a reported former landfill, for which very little information was available. The exact location of the former landfill is not confirmed. The FDEP Solid Waste staff at the FDEP Southwest District will be contacted to determine the location of the landfill with as much accuracy as possible. If there are files available at the FDEP Southwest District regarding this landfill, which were not available in Oculus, they will be reviewed. The depth to groundwater and the potential impacts to groundwater from the landfill are not known. If project construction activities are

expected to occur in the immediate vicinity of the former landfill, soil and groundwater testing would be performed to determine the potential for impacts to the project. Potentially buried waste encountered during construction excavation will be managed in accordance with applicable rules and regulations.

- The SMF F site is an active citrus grove. This pond site was rated “Medium” due to its current use as citrus groves. Pesticides, herbicides, and/or petroleum products may have been used at this site, although storage and mixing areas for such chemicals were not observed within the footprint of the pond site itself. Limited soil and groundwater sampling would be undertaken at this site if it is retained as a preferred pond site. The soil and groundwater investigations would focus on analysis of arsenic, chlorinated herbicides, organo-phosphorus pesticides, organo-chlorine pesticides, poly-chlorinated bi-phenyls, and petroleum products.
- The SMF G site is located in the immediate vicinity of Site 6 (St. Leo College Dump). Since the exact location of the former landfill was not confirmed, there was no way to rule out impacts from the landfill to the proposed pond site location. See the above discussion regarding Site 6. If the SMF G site is selected as a final pond site location, soil and groundwater testing would be performed within the footprint of the pond site to determine the potential for impacts to the pond site due to proximity to the reported landfill.

Resolution of problems regarding contamination will be coordinated with the appropriate regulatory agencies, and action will be taken, where applicable. Further coordination with the regulatory agencies, and possible field surveys involving monitoring wells, soil borings, and other site-specific methods, can identify potential contamination issues so that avoidance, minimization, and remediation measures can be taken. The status of these sites, as well as any new sites/discharge events will be reviewed during the project’s design phase. The Department will oversee contamination remediation as applicable.

Procedures specifying the contractor’s responsibilities in regards to encountering petroleum-contaminated soil and/or groundwater are set forth in *FDOT’s Standard Specifications for Road and Bridge Construction*. Special provisions to the aforementioned standard specifications may be necessary if the presence of contamination is confirmed, which could impact construction.

Therefore, the project effect on contamination will be minimal.

## **6.0 WATER QUALITY**

A Water Quality Impact Evaluation (WQIE) was prepared and is included in **Appendix D**. Effects to water quality are expected to be minimal.

## 7.0 AIR QUALITY

The United States Environmental Protection Agency (EPA) has established National Ambient Air Quality Standards (NAAQS) for six pollutants: ozone, nitrogen dioxide, particulate matter, sulfur dioxide, carbon monoxide and lead. The Transportation Conformity Rule (Code of Federal Regulations, Title 40, Part 93, Subpart A) may apply to projects in areas designated as nonattainment for ozone, nitrogen dioxide or particulate matter. The project is located in an area that is designated by the EPA as in attainment of all of the NAAQS under the criteria provided in the Clean Air Act. Therefore, the Transportation Conformity Rule does not apply to this project, and the project effects to air quality are none.

## 8.0 REFERENCES

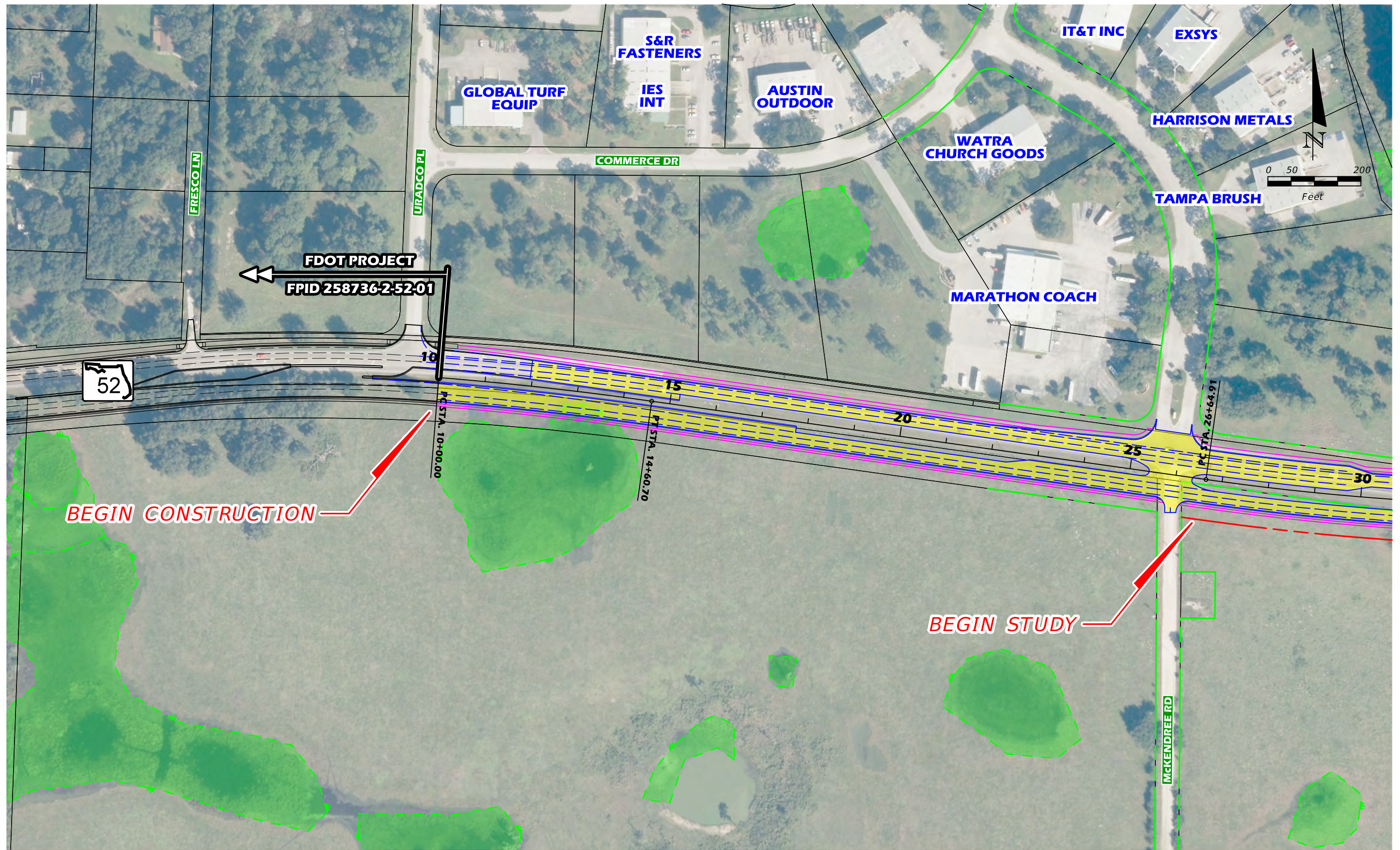
1. *Clinton Avenue Extension Final Route Study Report*, Reynolds, Smith & Hills, Inc.; Tampa, Florida; June 2004.
2. *State Environmental Impact Report*; Atkins; Tampa, Florida; July 2015.
3. *Plans Preparation Manual*; Florida Department of Transportation; Tallahassee, Florida; 2015.
4. *A Policy on Geometric Design of Highway Streets*; American Association of State Highways and Transportation Officials (AASHTO); Washington, D.C.; 2011.
5. *Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways*; Florida Department of Transportation; Tallahassee, Florida; 2013.
6. *Pond Siting Report*, Clinton Avenue Extension; Reynolds, Smith & Hills, Inc.; Tampa FL; May 2005.



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***APPENDIX A***  
***PRELIMINARY CONCEPT PLANS***





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	EXISTING R/W LINE		IMPROVEMENTS BY PASCO COUNTY		EXISTING TRAFFIC SIGNAL		
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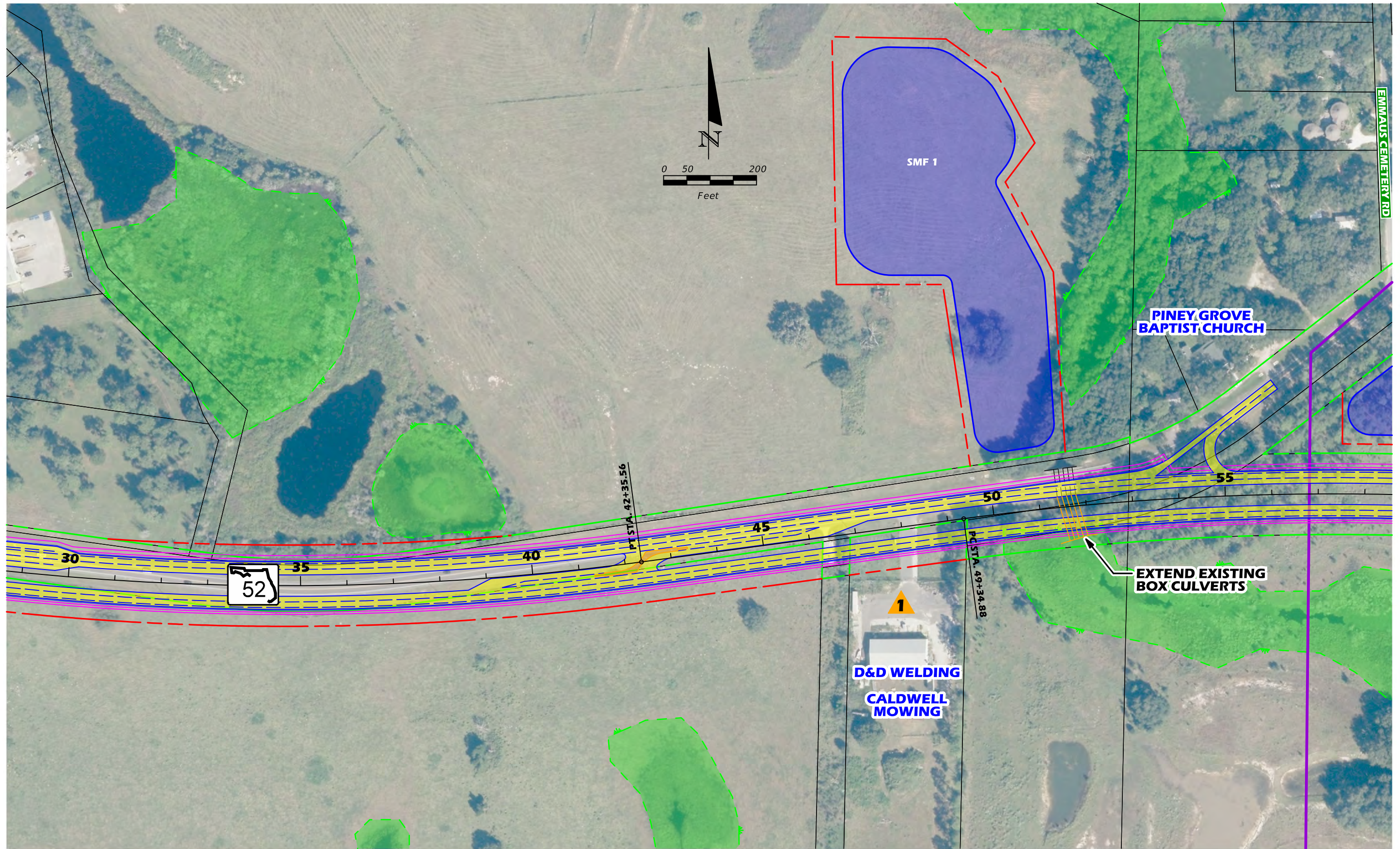
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 TAMPA, FL 33607

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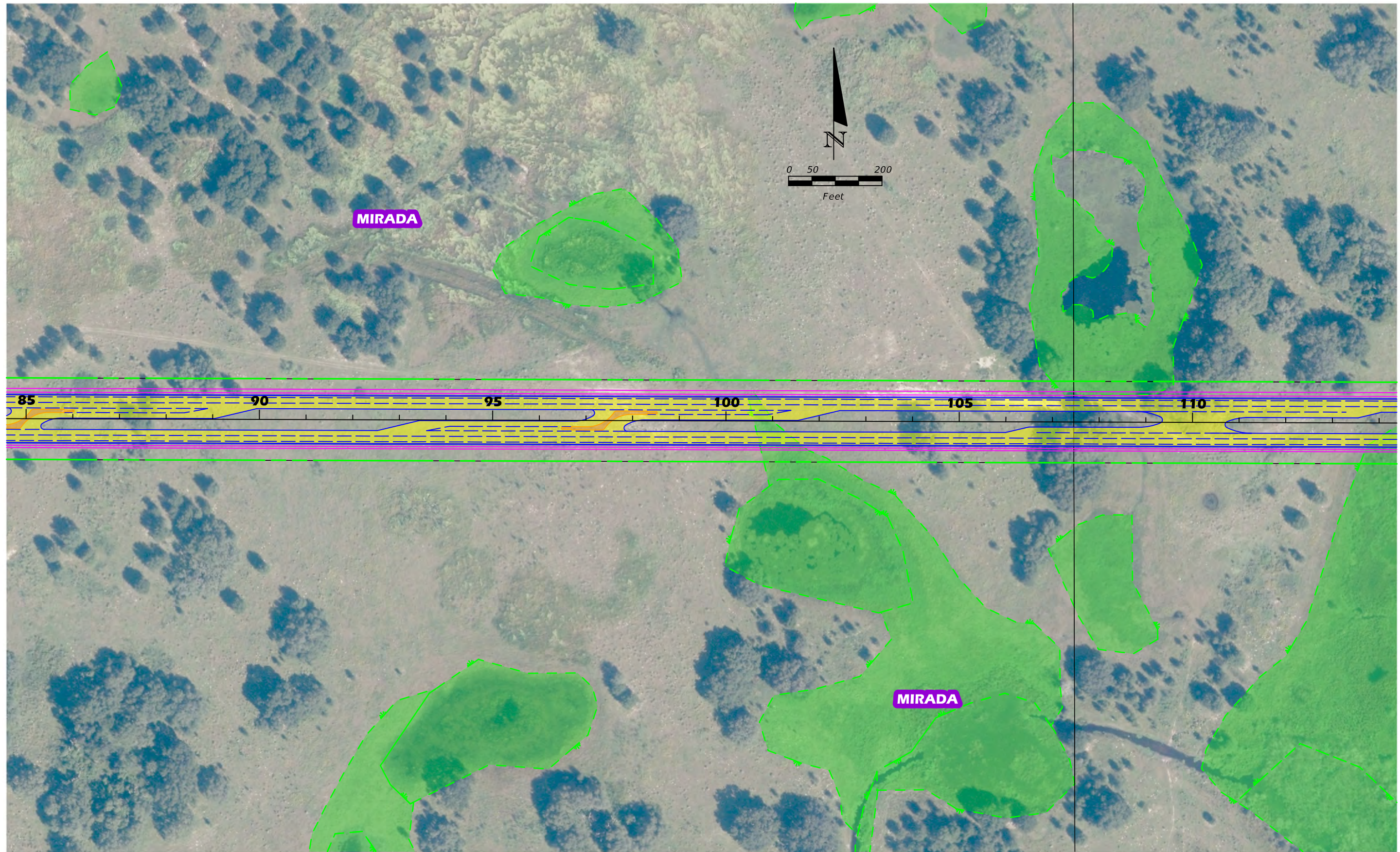
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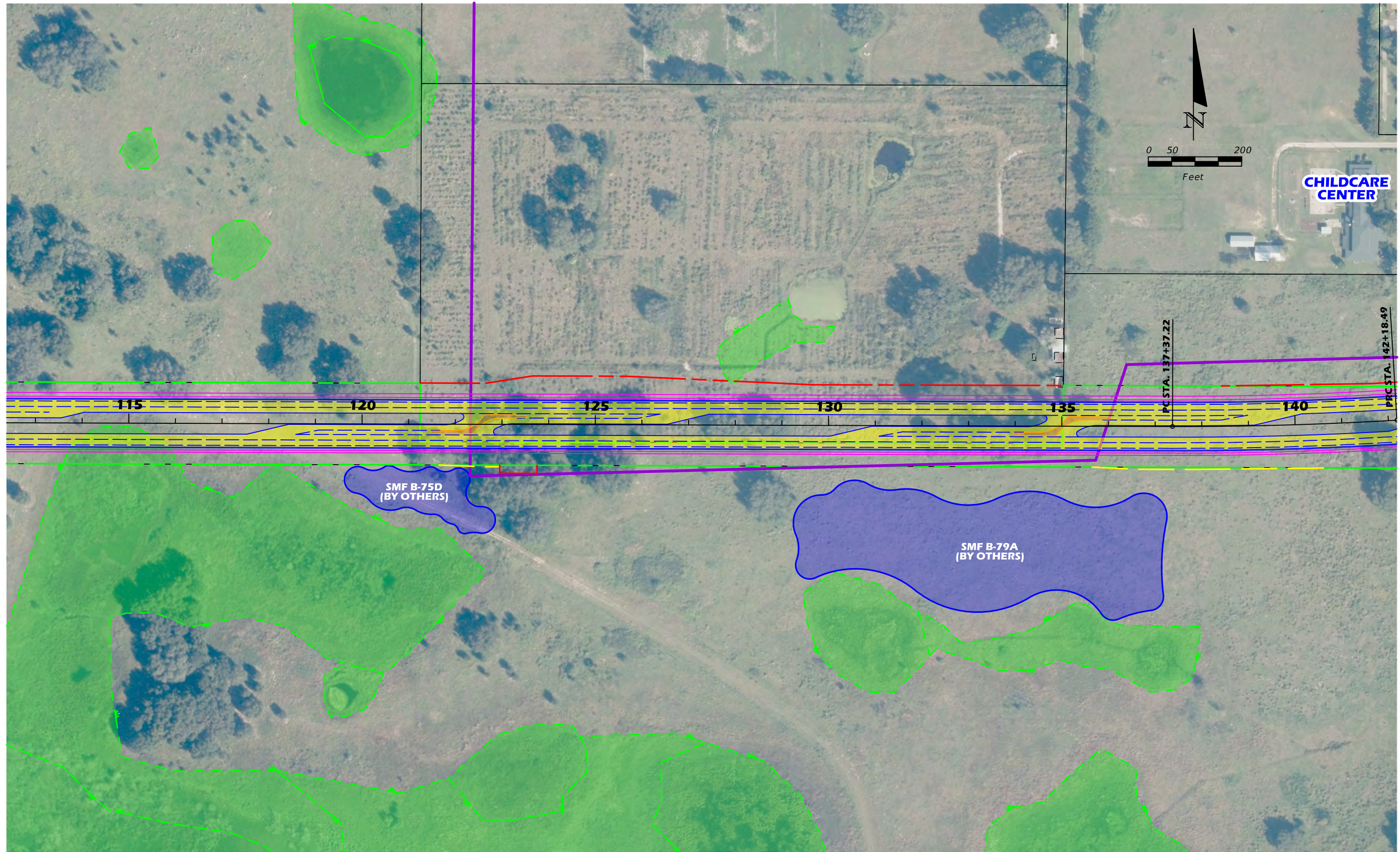
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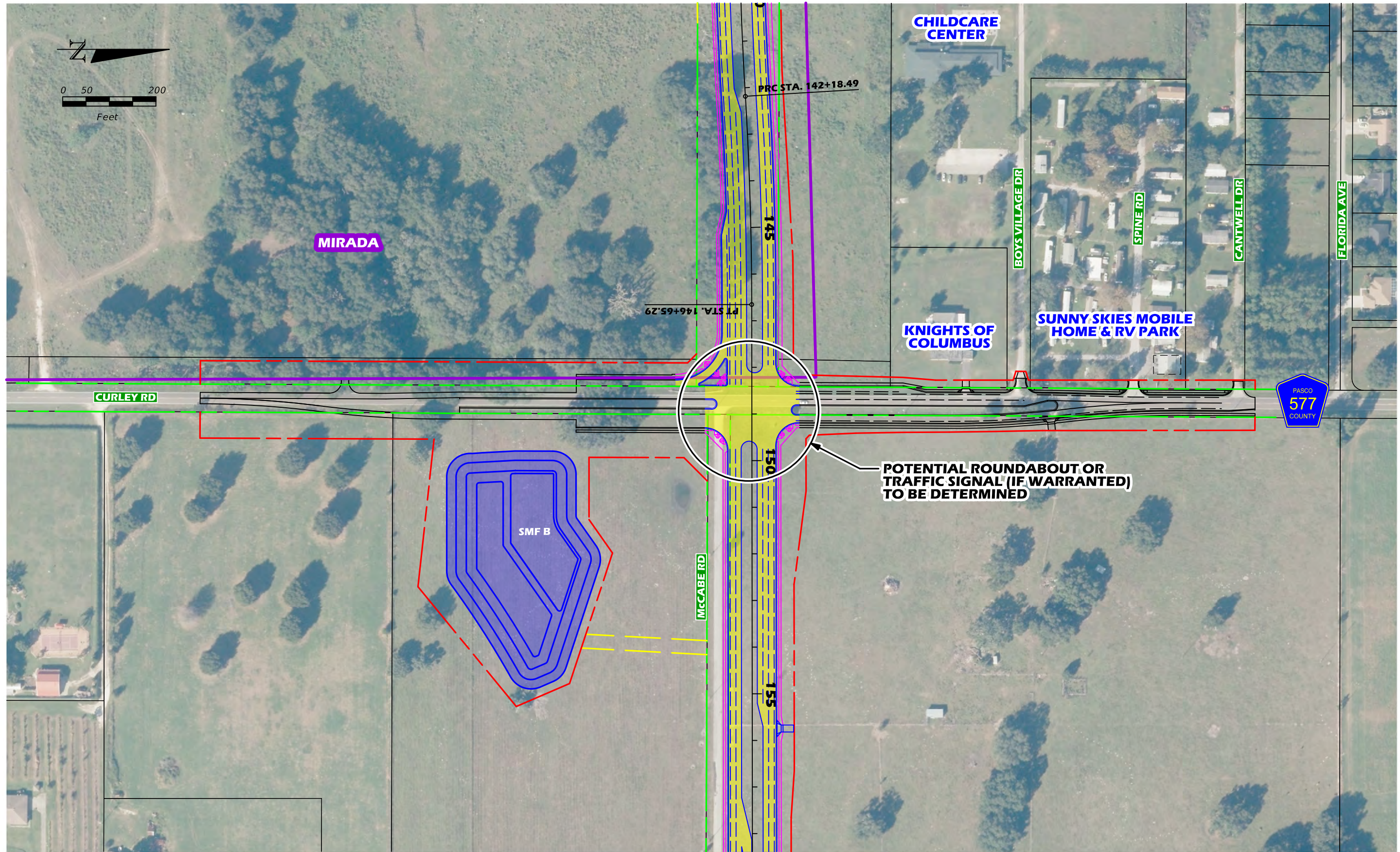
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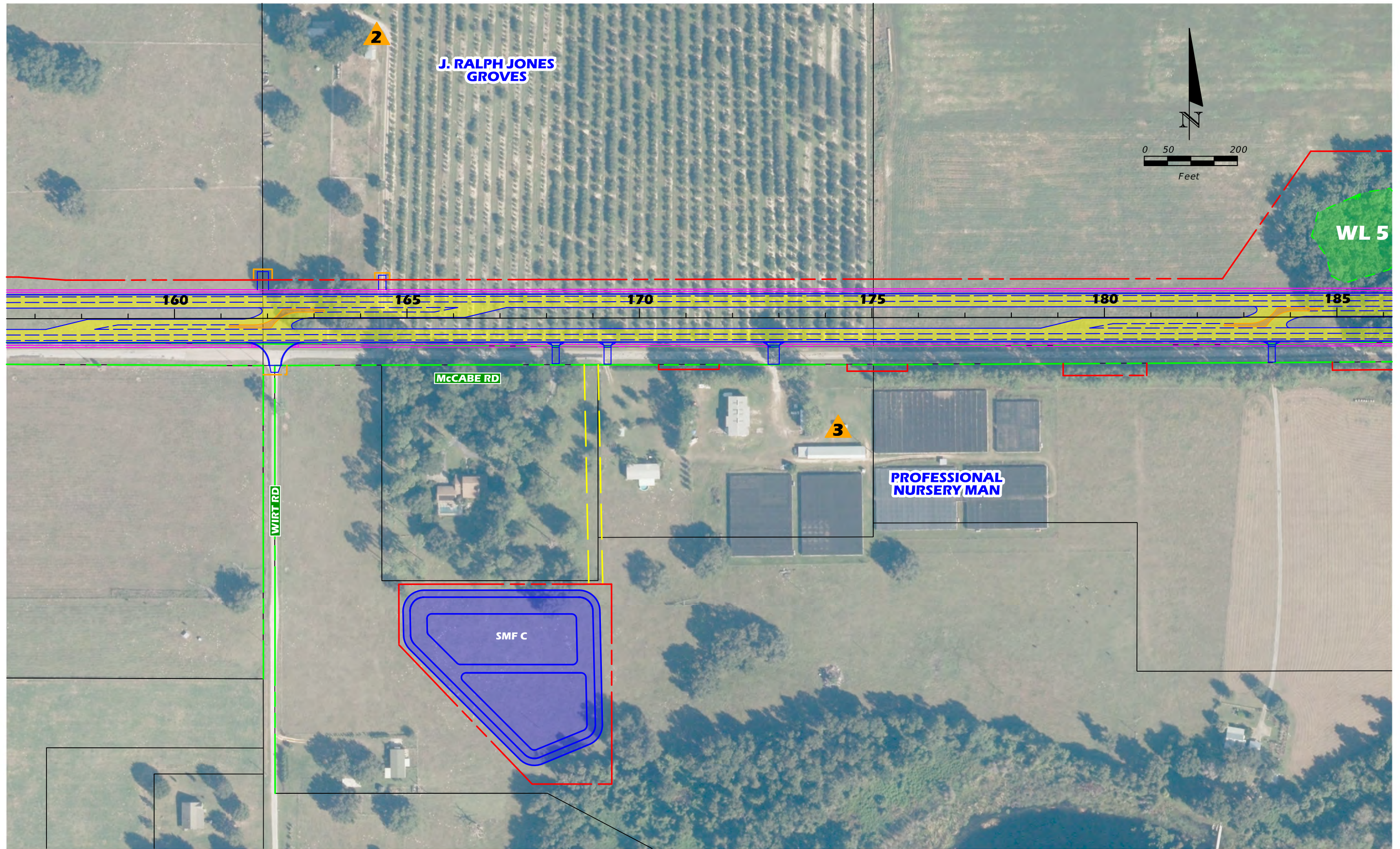
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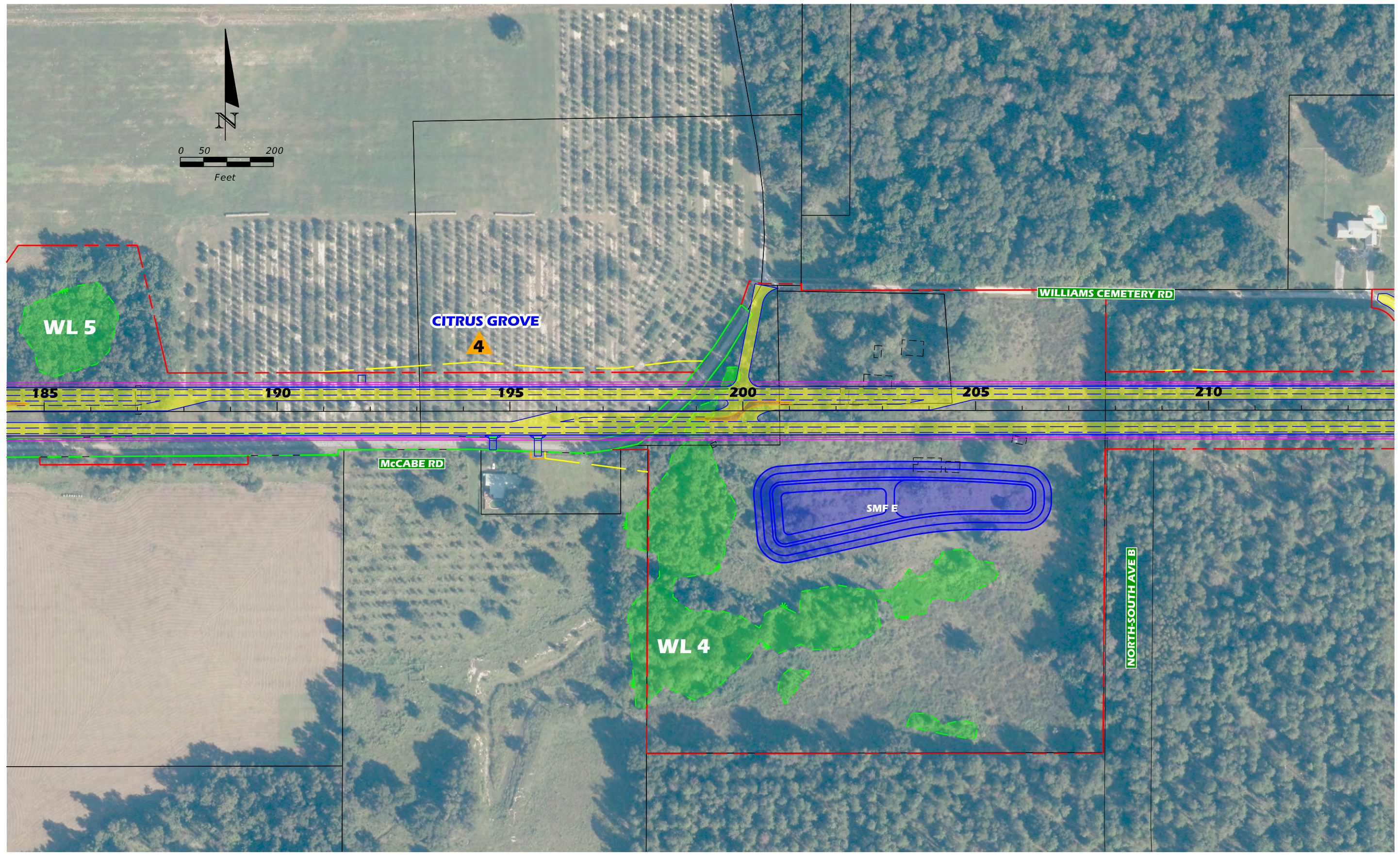
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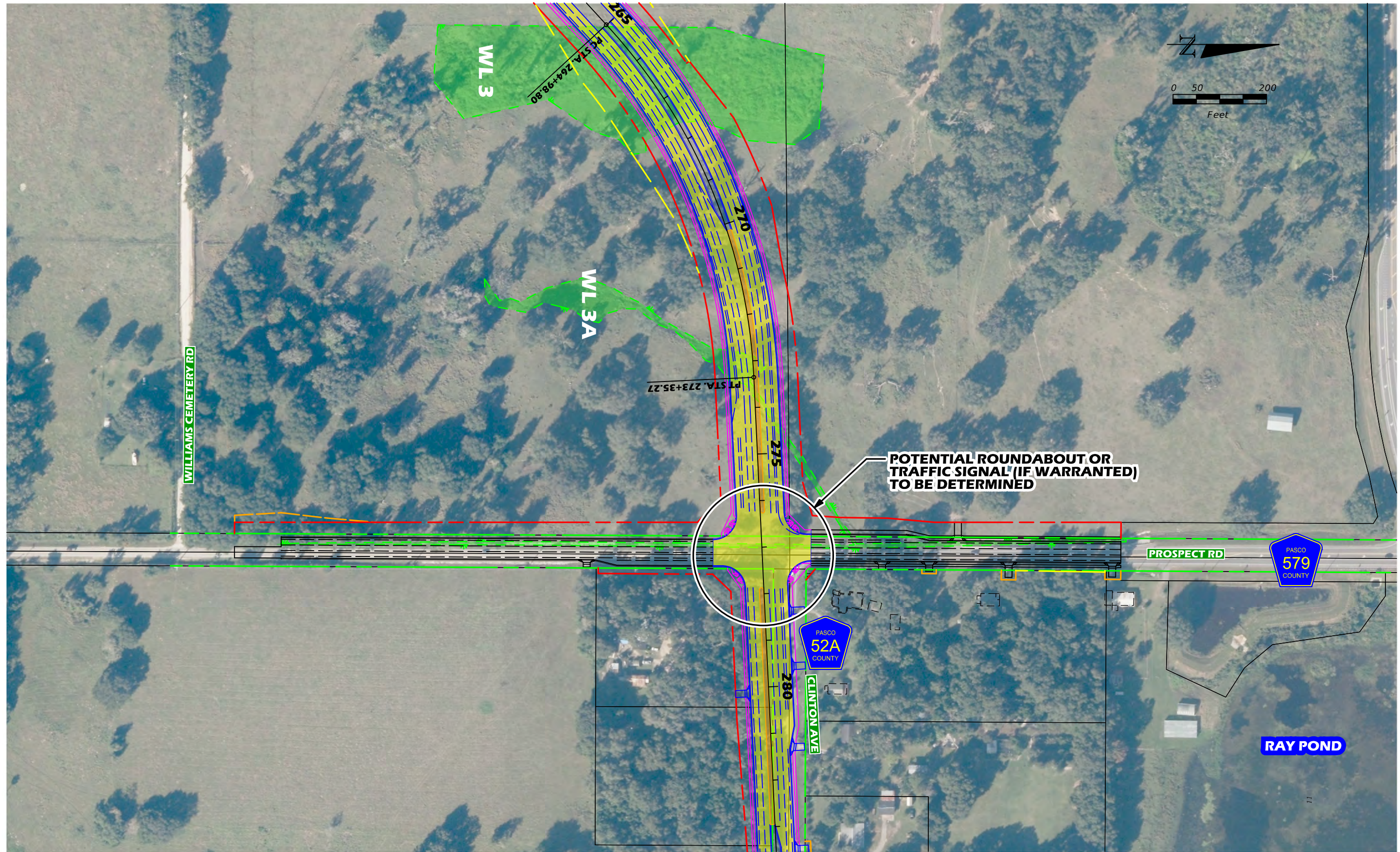
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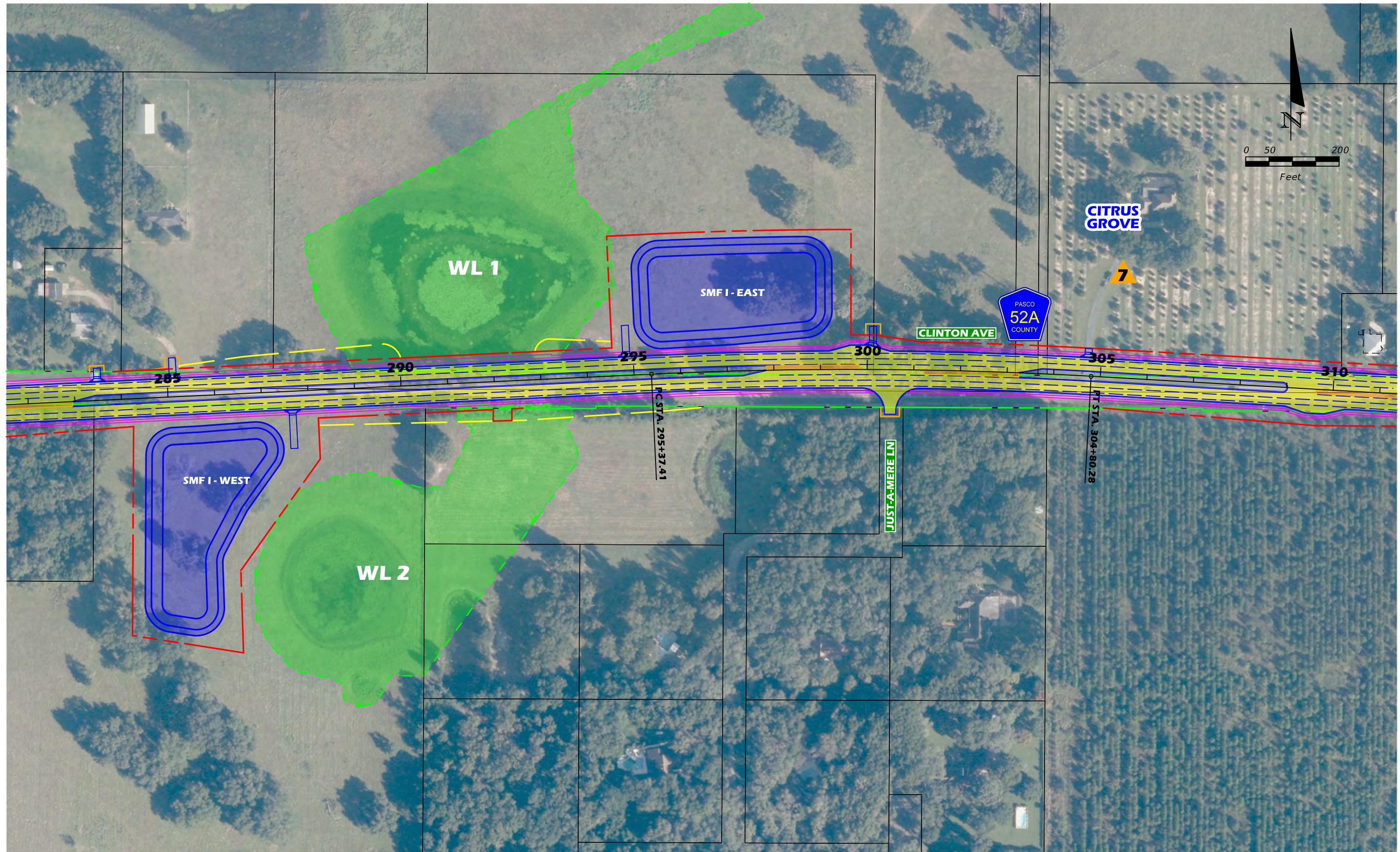
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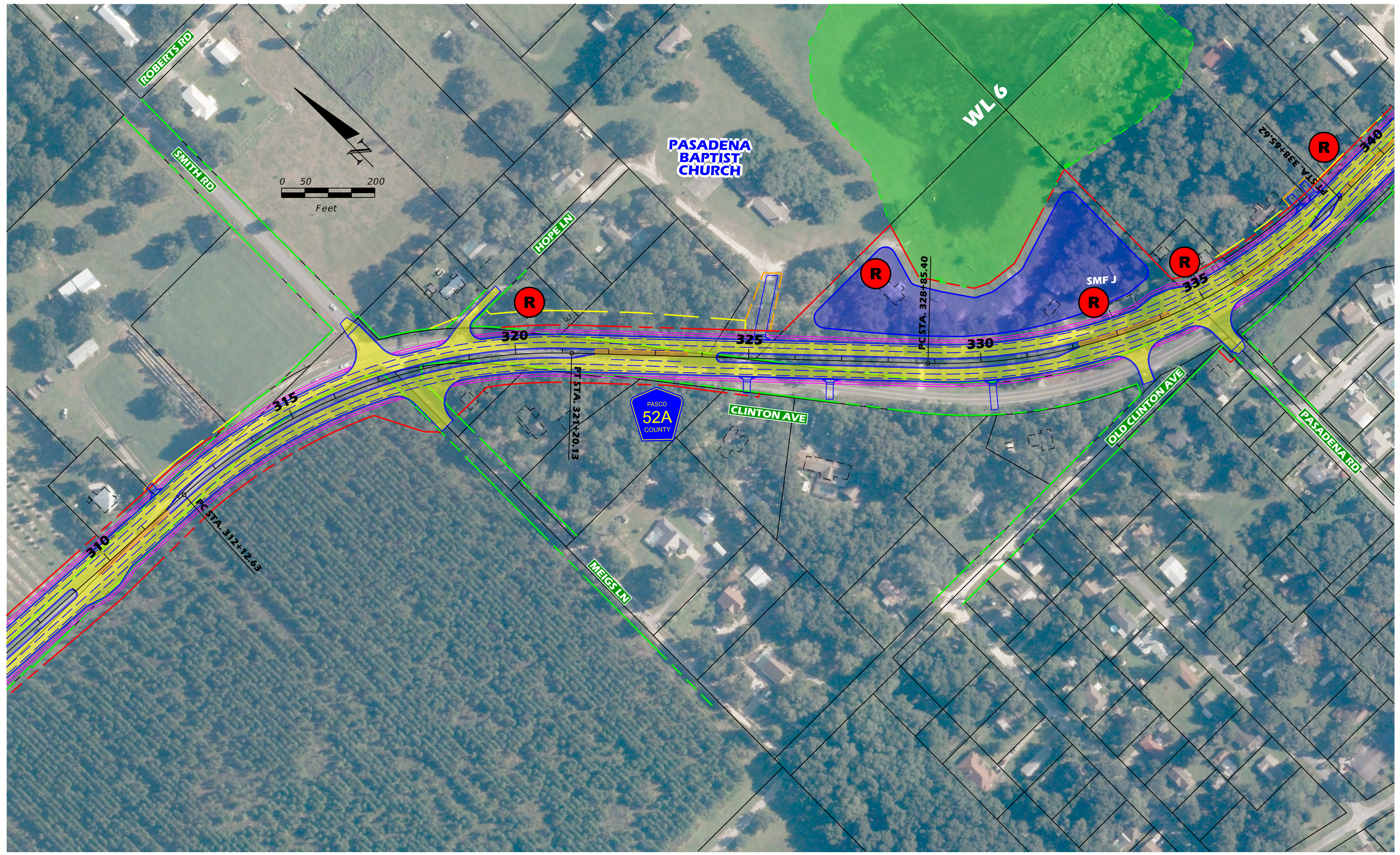
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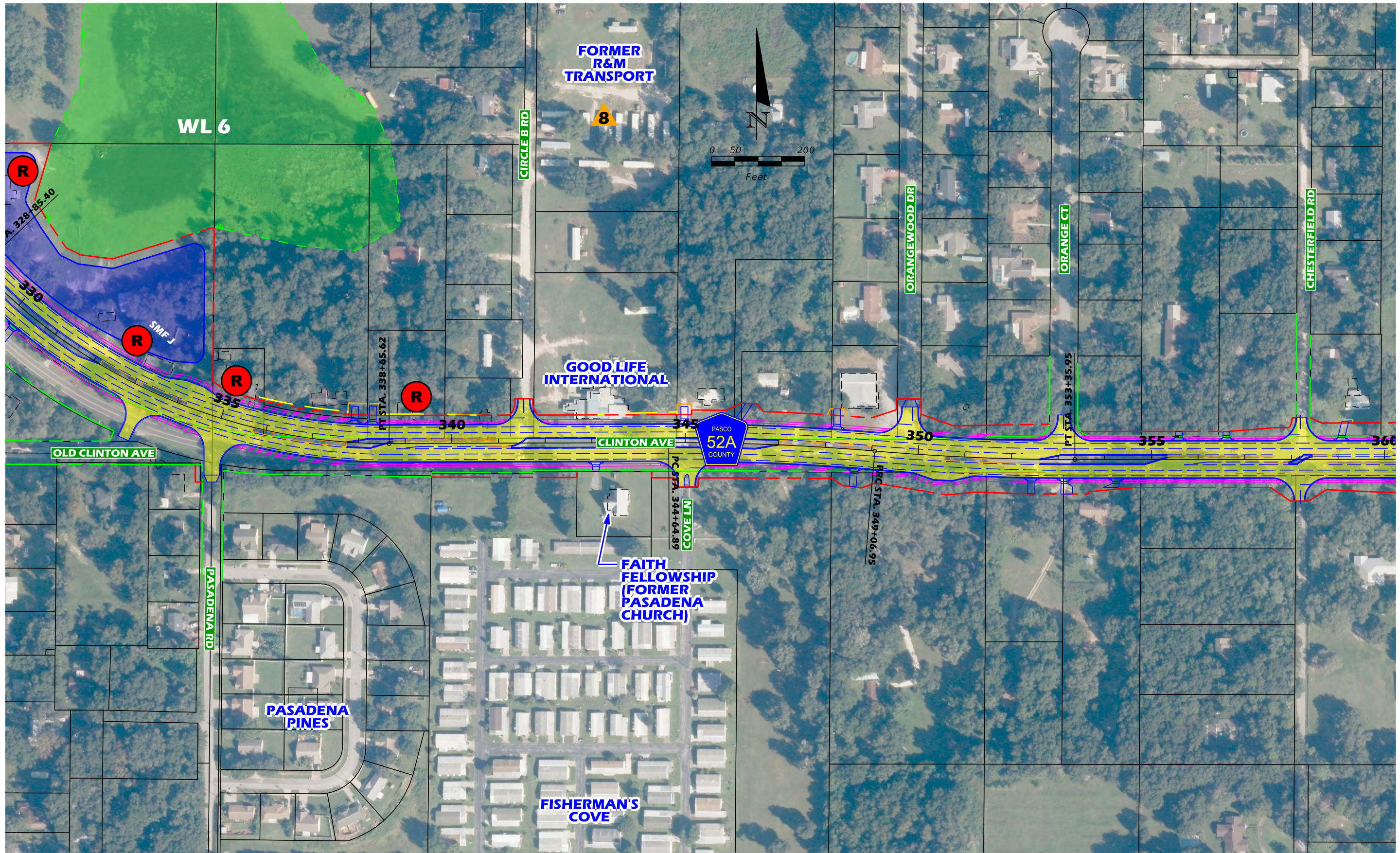
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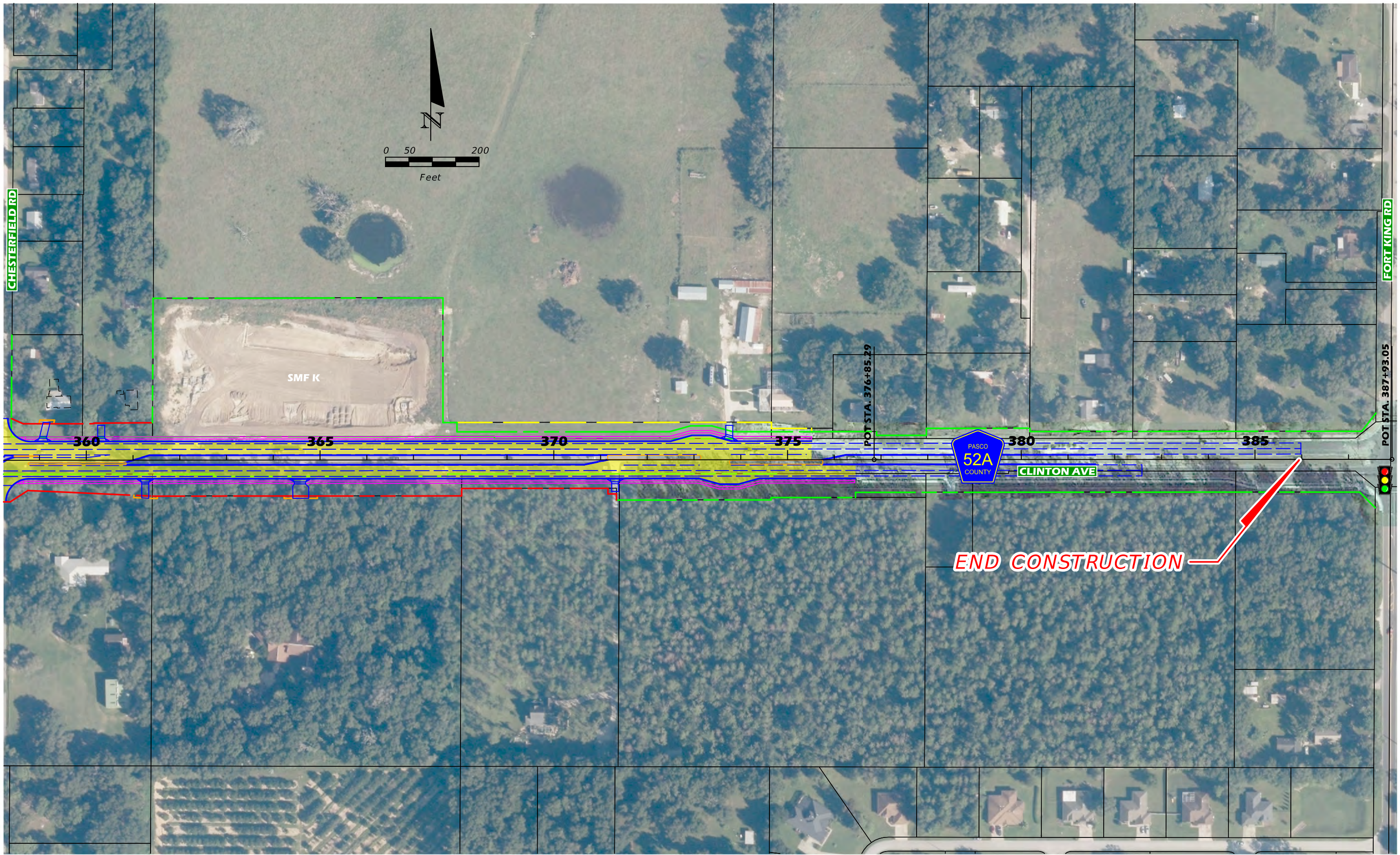
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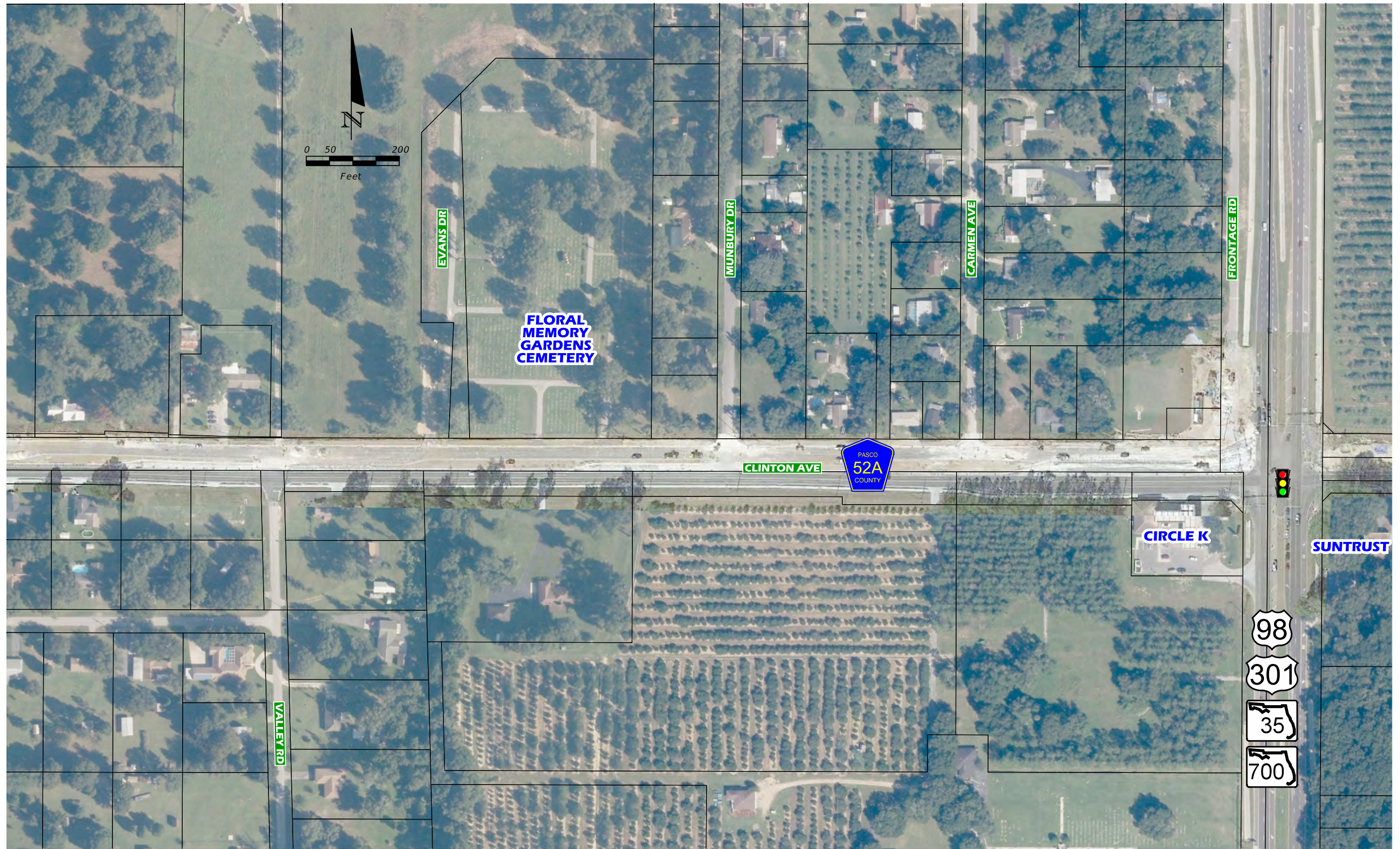
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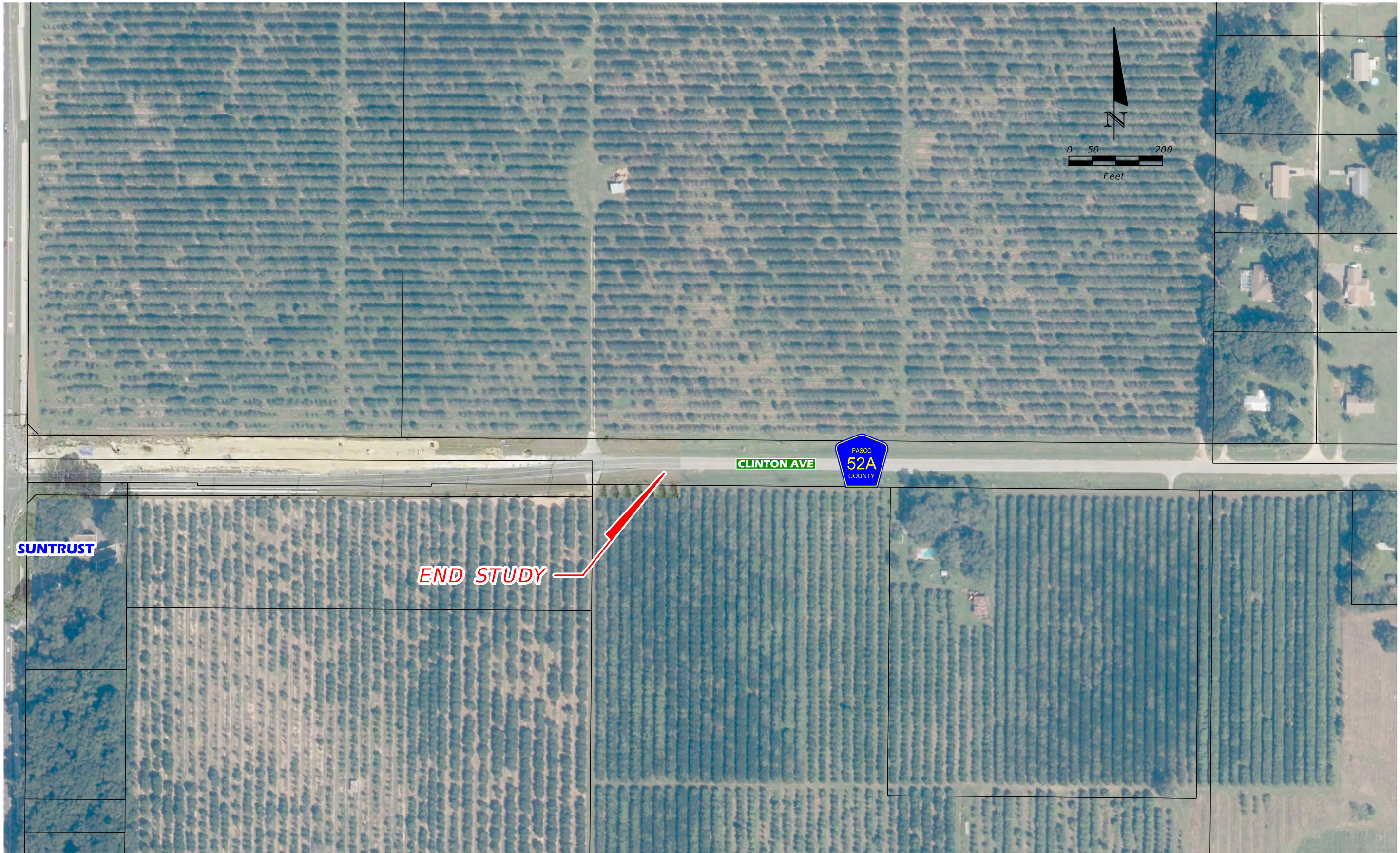
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***APPENDIX B***  
***2025 FSUTMS MODEL OUTPUT***



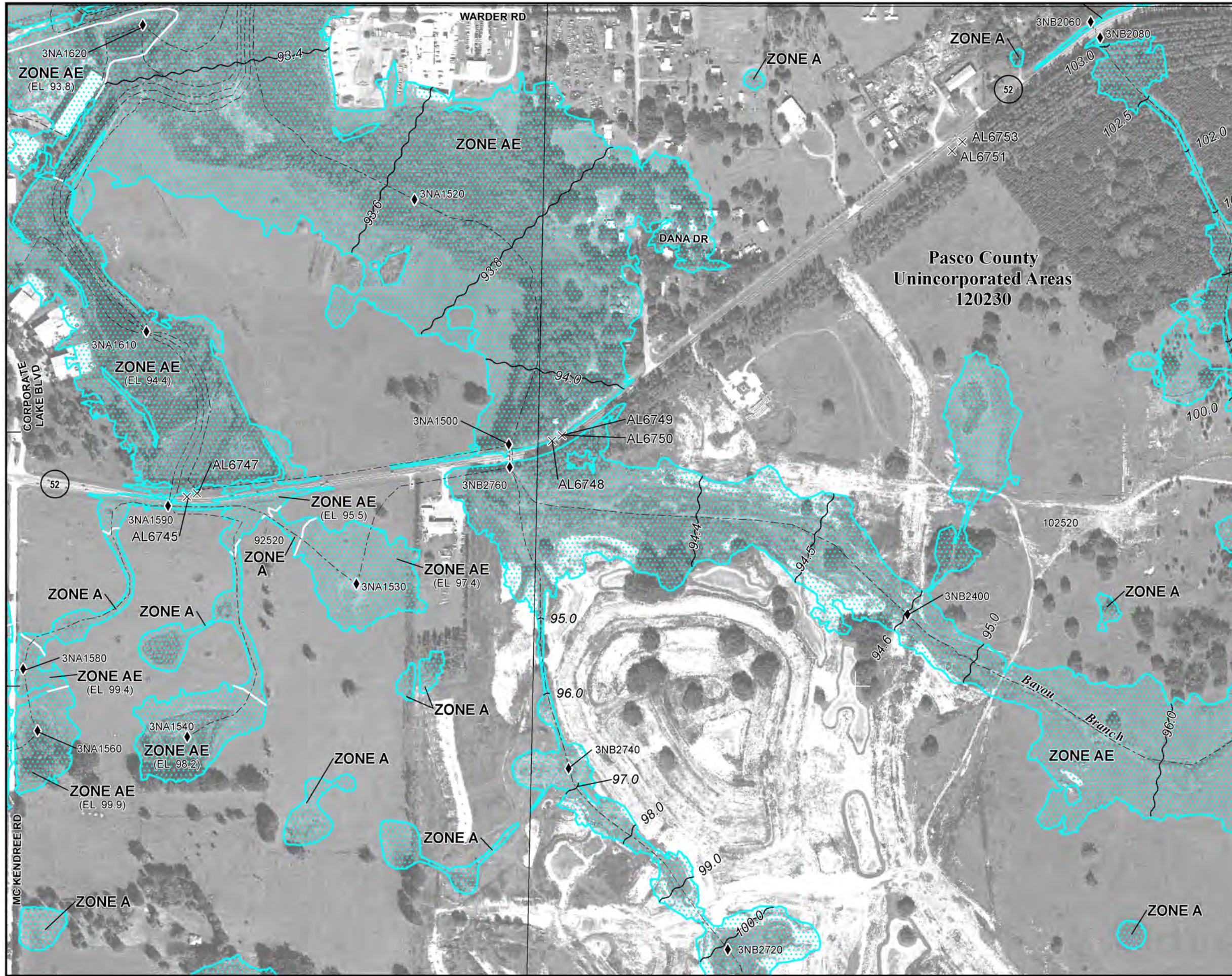
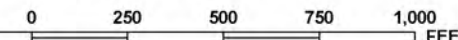
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***APPENDIX C***  
***FLOOD INSURANCE RATE MAP (FIRM)***  
***COMMUNITY PANELS***





MAP SCALE 1" = 500'



Pasco County  
Unincorporated Areas  
120230

**NFIP** PANEL 0258F

**FIRM**  
FLOOD INSURANCE RATE MAP  
PASCO COUNTY,  
FLORIDA  
AND INCORPORATED AREAS

PANEL 258 OF 500  
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
PASCO COUNTY	120230	0258	F
SAN ANTONIO, CITY OF	120634	0258	F

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

**MAP NUMBER**  
12101C0258F

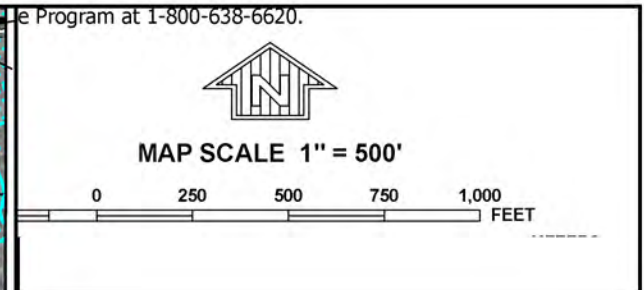
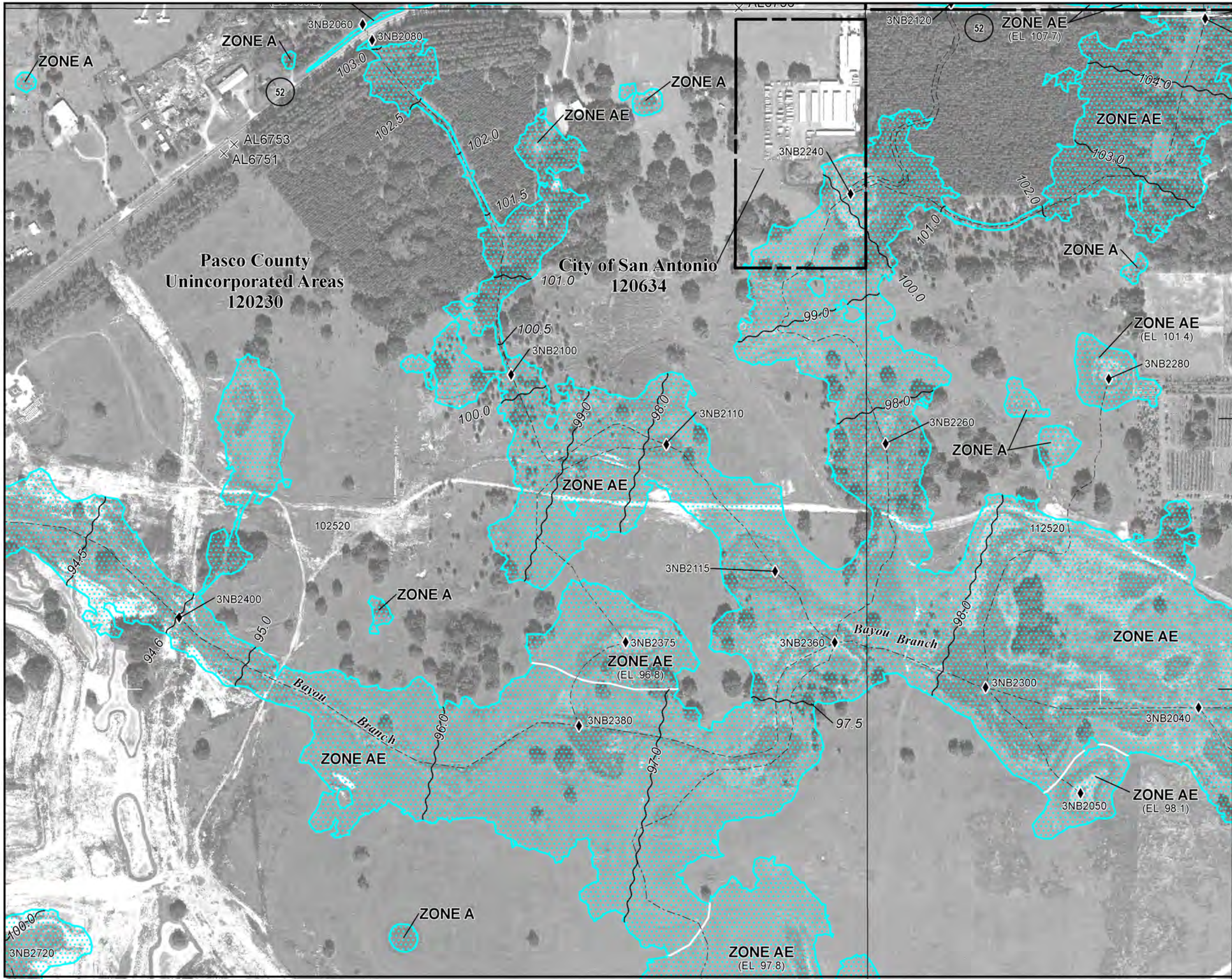
**EFFECTIVE DATE**  
SEPTEMBER 26, 2014

Federal Emergency Management Agency

**NATIONAL FLOOD INSURANCE PROGRAM**

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at [www.msc.fema.gov](http://www.msc.fema.gov)





Program at 1-800-638-6620.

**NFIP** PANEL 0258F

**NATIONAL FLOOD INSURANCE PROGRAM**

**FIRM**  
**FLOOD INSURANCE RATE MAP**  
**PASCO COUNTY,**  
**FLORIDA**  
**AND INCORPORATED AREAS**

PANEL 258 OF 500  
 (SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
PASCO COUNTY	120230	0258	F
SAN ANTONIO, CITY OF	120634	0258	F

Notice to User: The Map Number shown below should be used when placing map orders, the Community Number shown above should be used on insurance applications for the subject community.

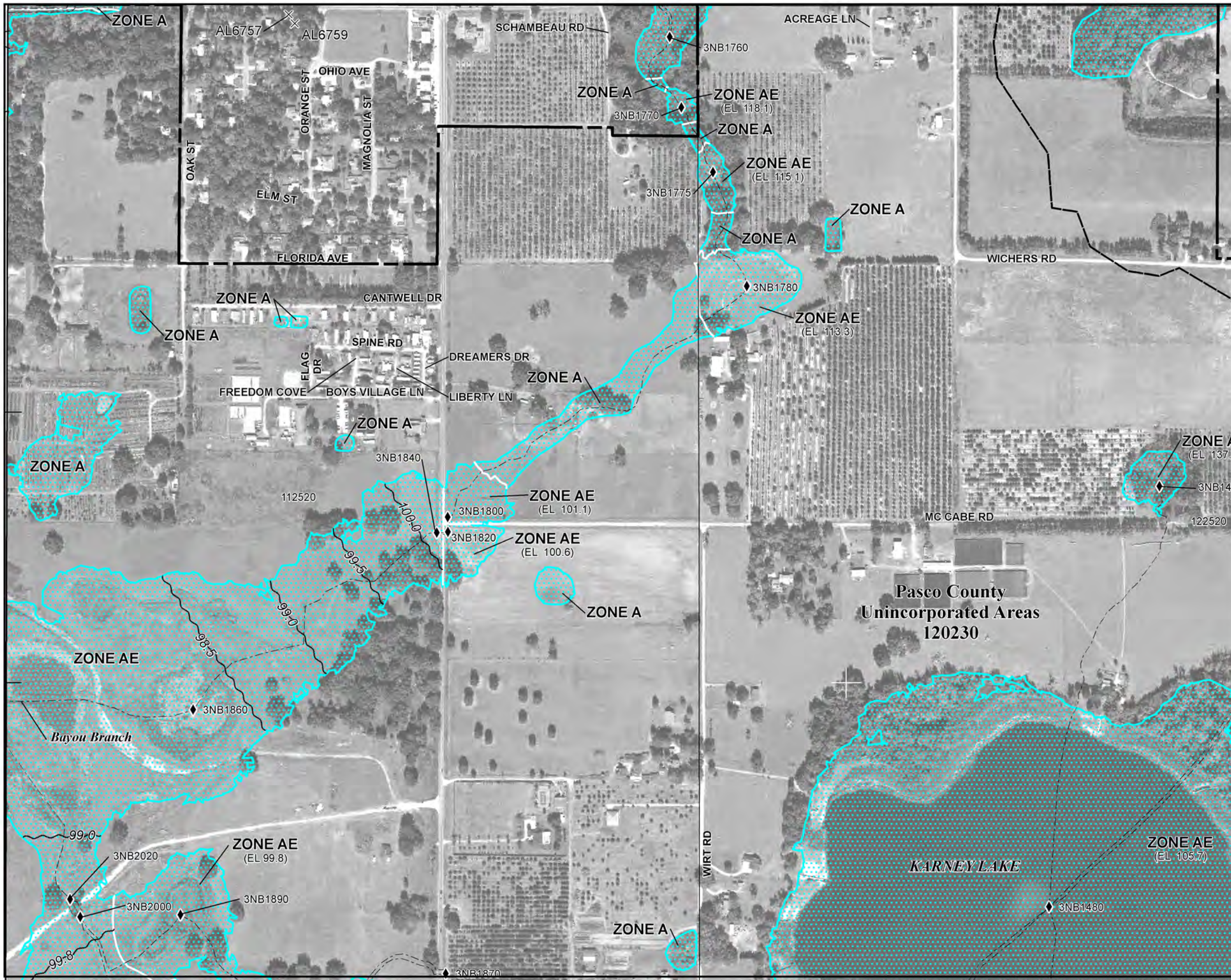
**MAP NUMBER**  
**12101C0258F**

**EFFECTIVE DATE**  
**SEPTEMBER 26, 2014**

**Federal Emergency Management Agency**

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ance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

Pasco County Unincorporated Areas 120230

**NFIP** PANEL 0259F

**NATIONAL FLOOD INSURANCE PROGRAM**

**FIRM**  
FLOOD INSURANCE RATE MAP  
PASCO COUNTY,  
FLORIDA  
AND INCORPORATED AREAS

PANEL 259 OF 500  
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
PASCO COUNTY	120230	0259	F
SAN ANTONIO, CITY OF	120634	0259	F
ST. LEO, TOWN OF	120166	0259	F

Notice to User: The Map Number shown below should be used when placing map orders, the Community Number shown above should be used on insurance applications for the subject community.

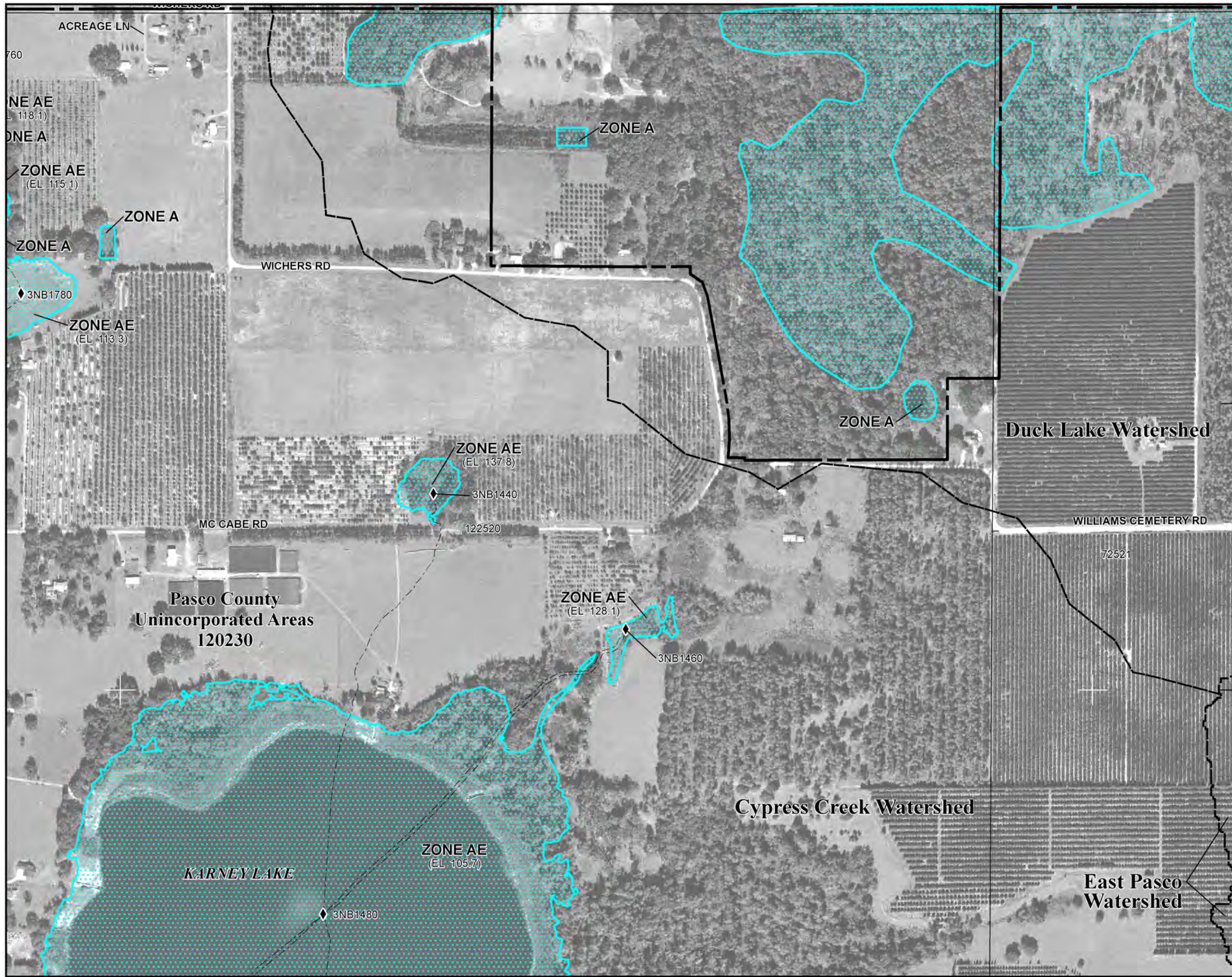
**MAP NUMBER**  
12101C0259F

**EFFECTIVE DATE**  
SEPTEMBER 26, 2014

Federal Emergency Management Agency

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ance Program at 1-800-638-6620.

**MAP SCALE 1" = 500'**

0 250 500 750 1,000 FEET

**NFIP**

**NATIONAL FLOOD INSURANCE PROGRAM**

PANEL 0259F

**FIRM**  
**FLOOD INSURANCE RATE MAP**  
**PASCO COUNTY,**  
**FLORIDA**  
**AND INCORPORATED AREAS**

PANEL 259 OF 500  
 (SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
PASCO COUNTY	120230	0259	F
SAN ANTONIO, CITY OF	120634	0259	F
ST. LEO, TOWN OF	120166	0259	F

Notice to User: The Map Number shown below should be used when placing map orders, the Community Number shown above should be used on insurance applications for the subject community.

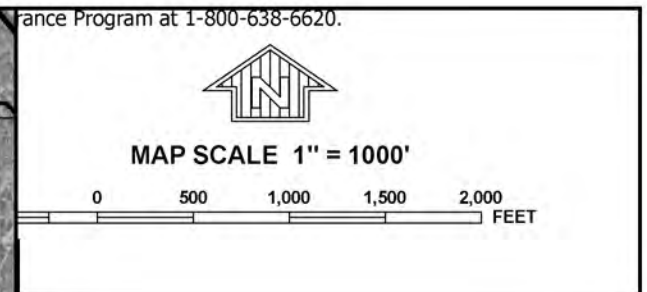
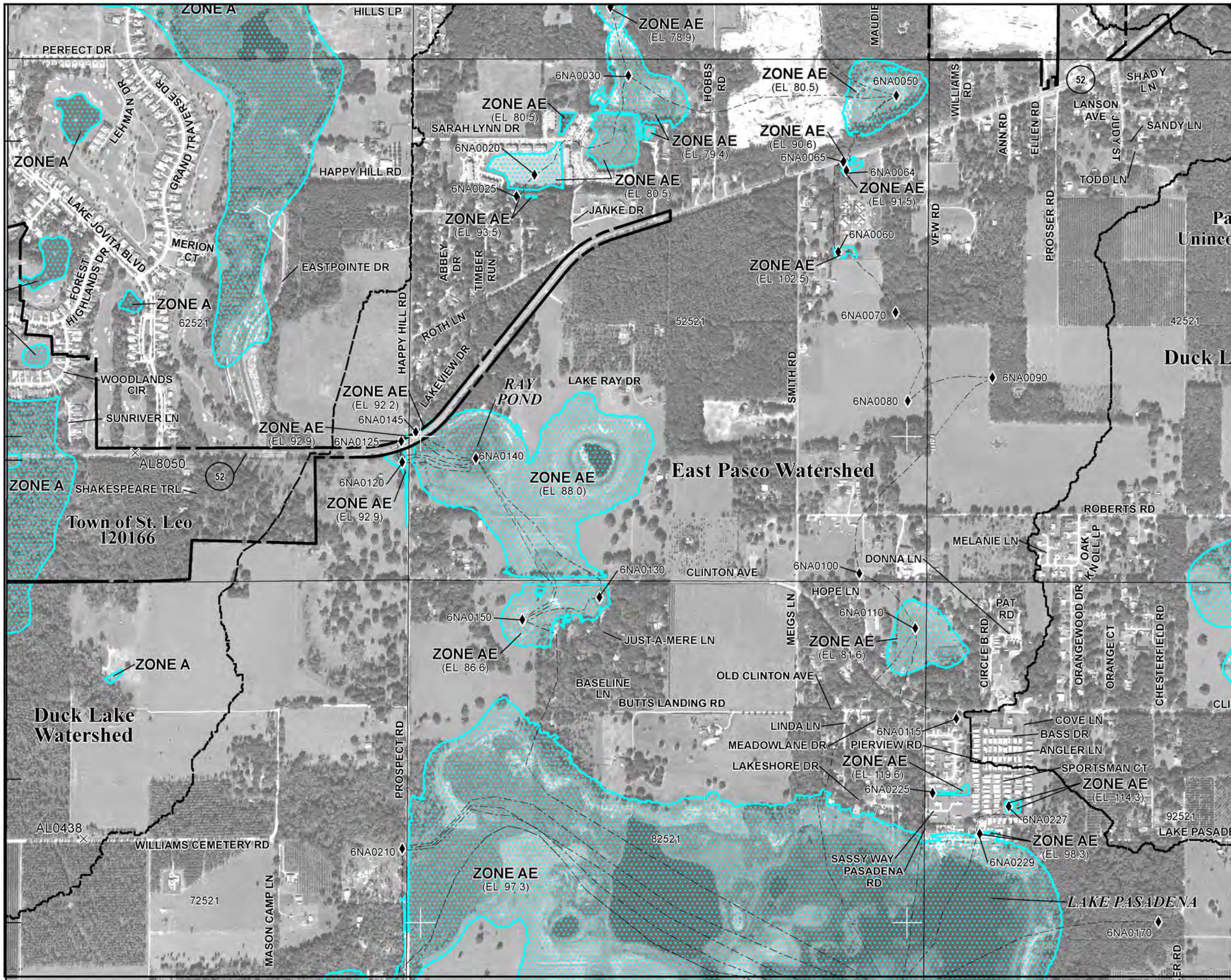
**MAP NUMBER**  
**12101C0259F**

**EFFECTIVE DATE**  
**SEPTEMBER 26, 2014**

Federal Emergency Management Agency

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ance Program at 1-800-638-6620.

PANEL 0280F

**FIRM**  
FLOOD INSURANCE RATE MAP  
PASCO COUNTY,  
FLORIDA  
AND INCORPORATED AREAS

PANEL 280 OF 500  
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
DADE CITY, CITY OF	120231	0280	F
PASCO COUNTY	120230	0280	F
ST. LEO, TOWN OF	120166	0280	F

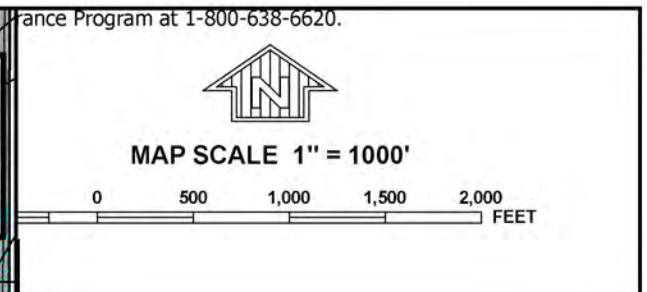
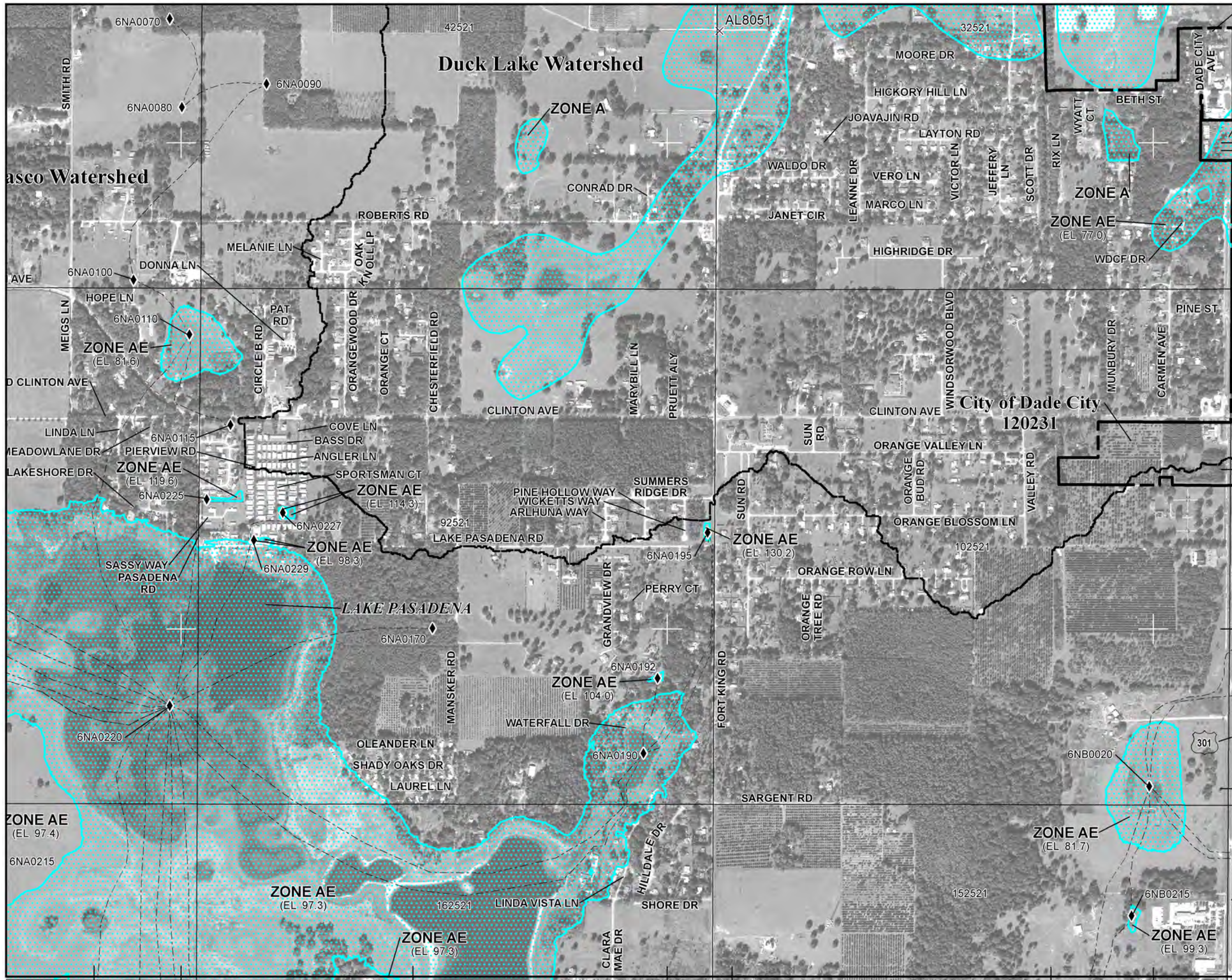
Notice to User: The Map Number shown below should be used when placing map orders, the Community Number shown above should be used on insurance applications for the subject community.

**MAP NUMBER**  
12101C0280F  
**EFFECTIVE DATE**  
SEPTEMBER 26, 2014

Federal Emergency Management Agency

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ANCE Program at 1-800-638-6620.

**MAP SCALE 1" = 1000'**

0 500 1,000 1,500 2,000 FEET

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PANEL 0280F

**FIRM**  
**FLOOD INSURANCE RATE MAP**  
**PASCO COUNTY,**  
**FLORIDA**  
**AND INCORPORATED AREAS**

PANEL 280 OF 500  
 (SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
DADE CITY, CITY OF	120231	0280	F
PASCO COUNTY	120230	0280	F
ST. LEO, TOWN OF	120166	0280	F

Notice to User: The Map Number shown below should be used when placing map orders, the Community Number shown above should be used on insurance applications for the subject community.

**MAP NUMBER**  
**12101C0280F**  
**EFFECTIVE DATE**  
**SEPTEMBER 26, 2014**

Federal Emergency Management Agency

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***APPENDIX D***

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***WATER QUALITY IMPACT EVALUATION (WQIE)***

## WQIE CHECK LIST

Project Name: SR 52 from East of McKendree Road to East of US 301

County: Pasco

FIN (Financial Number): 435915-1

Federal Aid Project No: N/A

Short project description: The Florida Department of Transportation (FDOT), District Seven, is conducting a Project Development and Environment (PD&E) study to determine the engineering and environmental effects of the proposed realignment of SR 52 from East of McKendree Road to East of US 301 within Pasco County, Florida.

### PART 1: DETERMINATION OF WQIE SCOPE

Does project increase impervious surface area?  Yes  No

Does project alter the drainage system?  Yes  No

If the answer to both questions is no, complete the WQIE by checking Box A in Part 4.

Do environmental regulatory requirements apply?  Yes  No

### PART 2: PROJECT CHARACTERISTICS

20-year design ADT: 21,700 Expected speed limit: 45 mi/hr

Drainage area: 127.41 acres 53.03 % Impervious 46.97 % Pervious

Land Use: \_\_\_\_\_ % Residential \_\_\_\_\_ % Commercial 43.41 % Open/Natural  
\_\_\_\_\_ % Industrial 3.56 % Wetlands 53.03 % Other (Roadway)

Potential large sources of pollution (identify): N/A

Groundwater receptor (name of aquifer or N/A): N/A

Designated well head protection area?  Yes  No Name: \_\_\_\_\_

Sole source aquifer  Yes  No Name: \_\_\_\_\_

Groundwater recharge mechanism:

Infiltration of treated stormwater through shallow stormwater management facilities. Geotechnical borings will be taken at stormwater management facilities. The facilities will minimally impact the surficial aquifer. No impacts to lower aquifers are anticipated. Karst conditions are known to exist in Pasco County and are possible to be present within the project limits.

(Notify District Drainage Engineer if karst conditions expected)

**WQIE CHECK LIST (Contd.)**

Surface water receptor (name or N/A): Hillsborough River Headwaters/Cypress Creek - Hillsborough River/Dobes Hole Lake-Withlacoochee River

Classification  I  II  III  IV  V

Special designation (check all that apply):

ONRW  OFW  Aquatic Preserve  Wild & Scenic River  
 Special Water  SWIM Area  Local Comp Plan  MS4 Area

Other (specify): WBIDS: 1418B, 1403B, 1424A

Conceptual storm water conveyances & system (check all that apply):

Swales  Curb and Gutter  Scuppers  Pipe  French Drains  
 Retention/Detention Ponds  Other \_\_\_\_\_

**PART 3: ENVIRONMENTAL REGULATORY REQUIREMENTS**

Regulatory Agency (Check all that apply)	Reference citation for regulatory criteria ( <b>attach copy of pertinent pages</b> )	Most stringent criteria (Check all that apply)
USEPA		<input type="checkbox"/>
FDEP	NPDES Construction	<input type="checkbox"/>
WMD (Specify) SWFWMD	ERP	<input checked="" type="checkbox"/>
OTHER (Specify) USACE	ERP	<input type="checkbox"/>

Proceed to Part 4 and check Box C.


**WQIE CHECK LIST (Contd.)**

**PART 4: WQIE DOCUMENTATION**

- Water quality is not an issue.
- No regulatory requirements apply to water quality issues  
(Document by checking the "none" box for water quality in Section 6.C.3 of the *Environmental Determination Form* or Section 5.C.3 of the SEIR.
- Regulatory requirements apply to water quality issues. Water quality issues will be mitigated through compliance with the quantity design requirements placed by SWFWMD, an authorized regulatory agency.  
(Document by checking the "none" box for water quality in Section 6.C.3 of the Environmental Determination Form or Section 5.C.3 of the SEIR.

Evaluator Name (print): Timothy A Polk

Office: Atkins NA - 600 N Broadway Ave, Suite 310, Bartow, FL 33830

Signature:  Digitally signed by timothy.polk@atkinglobal.com  
Date: 2015.05.01 08:05:50 -04'00' Date: \_\_\_\_\_