



# Gulf Coast Consulting, Inc.

Land Development Consulting

Engineering • Planning • Transportation • Permitting

ICOT Center

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Clearwater, FL 33760

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January 2, 2014

Mr. Paul Bouldin  
Marcus & Millichap  
4030 Boy Scout Blvd., Suite 850  
Tampa, FL 33607

**Re: 35 Acre MLK Site Folio # 065053-0000 & 065054-0000**

Dear Mr. Bouldin:

We have reviewed the information you provided and conducted out feasibility analysis regarding the above-referenced property. After review and checking sources of information, we offer the following observation:

## LAND USE / ZONING

The 35.65 acre site has a future land use designation of Urban-Mixed-Use - 20 (UMU-20) according to the Future of Hillsborough Comprehensive Plan. The UMU-20 land use designation allows a variety of uses and residential development with a maximum density of 20 units / acre. It is important to note that any rezoning of property with a UMU-20 designation must go through the Planned Development (PD) rezoning process. This was confirmed with Brian Grady of the Hillsborough County Planning Department. We have verified the site is currently zoned AR & RDC-12 and is regulated by Section 6.01.01 of the Hillsborough County Land Development Code (LDC). The AR zoning district requires 5-acre minimum lots and permitted uses include agriculture, single-family homes and manufactured homes. The AR zoning is clearly a remnant and should be rezoned. The RDC-12 zoning allows single-family, duplex, and modular home residential development with the following bulk regulations:

Minimum Lot Size	3,500 s.f.
Minimum Lot Width	40 ft.
Front Setback	20 ft.
Side Setback	5 ft.
Rear Setback	20 ft.
Maximum Height	35 ft.
Maximum Building Coverage	35%

Under current zoning the site could be developed with single-family homes, duplex homes or manufactured homes.

### **TRANSPORTATION CONCURRENCY/ACCESS**

The property has direct frontage on the following roadway segments:

MLK Boulevard (SR 574) (Faulkenburg Rd - Williams Rd)  
Williams Road (MLK Blvd – US 92)

According to the Hillsborough County 2011 Level of Service Report (March 2011) the adjacent segment of MLK Boulevard operates at LOS D, and the adjacent segment of Williams Road operates at LOS C. Several signalized intersections in the study area presently operate at unacceptable levels of service based on prior traffic studies we have done in the area. Any potential development will require a detailed Traffic Analysis conducted in accordance with Hillsborough County's methodology. Hillsborough County has established proportionate share methodology where improvements needed by existing/background traffic levels are NOT the responsibility of the developer, any additional improvements caused by the proposed new development are subject to a proportionate share calculation. We have conducted many proportionate share traffic studies and the results have been reasonable and acceptable to the developers. Any proportionate share payments made are credited against future transportation impact fees. The traffic study will need to demonstrate if turn lanes are warranted at the project driveways.

Access to MLK Boulevard (SR 574) will require an Access Connection Permit through the FDOT and the any access connection to Williams Road will require a Right-of-way Use Permit through Hillsborough County. MLK Boulevard is classified by FDOT Rule 14-97 as an "Access Class 5" roadway which has minimum connection spacing of 440 feet, directional median opening spacing of 660 feet, and full median opening spacing of 2,640 feet. Although the site has approximately 1,300 feet of frontage on MLK Boulevard, the proximity of the on-ramp to I-75 North presents an access challenge. The outer-most westbound lane on MLK Boulevard is an exclusive right-turn lane for the I-75 on-ramp. The traffic signal at MLK/Williams Road is located only 1,400 feet from the traffic signal controlling the I-75 ramp. Rule 14-97 states within ¼ mile of an interchange ramp, median openings are not permitted. Connections within ¼ mile of an interchange must be a minimum of 660 feet from the taper of the interchange ramp. Due to the proximity to the I-75 ramps, there is no opportunity for left turns into the site. Access along MLK Boulevard would be limited to right-in/right-out. This was confirmed in a telephone conversation with Jim Scott, P.E. FDOT District Permits Engineer.

### **ENVIRONMENTAL AND EXISTING CONDITIONS**

The existing site is undeveloped and is comprised. GCC environmental sub-consultant Bob Upcavage of Environmental Consultants, LLC conducted a field observation in December 2013, and compared findings with published SWFWMD maps and National Wetland Inventory (NWI) maps. Based on visual inspection of the site, the wetlands are less extensive than published by SWFWMD and adjustments may be possible. Wetlands on the site are highly disturbed primarily due to historic dredge/fill activities and the on-site wetlands have been hydrologically altered due to nearby development and roadway construction. The western wetland are dominated by nuisance species such as Brazilian Pepper trees, the borrow pit is dominated with nuisance species along its banks and the water has a brownish color due to tannins, and the eastern wetland has mature trees and is inundated with water to its edge. Generally,

these wetlands are considered “low quality” and are not expected to support a diversity of protected wildlife species. Although considered “low quality” any proposed impacts will require adequate justification to local, state and federal agencies. Mitigation and permitting of the potential wetland impacts would be handled in the following order:

1. Impacts to the borrow pit reservoir would be the simplest and easiest to justify since it is a man-made wetland, has virtually no littoral shelf for much of its perimeter, and does not support submerged vegetation. Mitigation ratio is expected to be 1:1.
2. Impacts to the western shrub wetland would be moderately permissible because of its negatively altered hydrology and proximity to I-75. Mitigation ratios are expected to be 2.5:1 at a minimum.
- 3 Impacts to the eastern shrub wetland would be the most difficult to justify from a permitting perspective and the most costly to mitigate due to the size of the wetland, density of trees, and near normal hydrology. Mitigation ratios are expected to be 4:1 at a minimum.

A more extensive wetland delineation (flagging) by an environmental scientist and surveying is highly recommended. This wetland survey could then be presented to SWFWMD, EPC for approval and will constitute a formally accepted jurisdictional wetland determination. Off-site mitigation of wetland impacts is possible, provided the property used for mitigation is within the same watershed as the wetland impacted. A map of the watersheds is provided in the Appendix. The full report by Environmental Consultants, LLC is included in the Appendix.

## SOILS

The on-site soils as identified in the Hillsborough County Soil Survey are predominantly Basinger, Holopaw, Samsula depressional soils; Candler Fine Sand; Myakka Fine Sand; and Zolfo Fine Sand. Typical characteristics of these soils are as follows:

### Basinger, Holopaw, & Samsula depressional Soils:

Nearly level poorly drained soils typically found in swamps and depressions in flatwoods areas. Undrained areas are mucky and ponded for 6 months of the year. A drainage system is typically needed to remove excess surface water and reduce wetness. This soil type is present on the southeastern portion of the site. These are considered hydric soils.

### Candler Fine Sand

This is a nearly level and gently sloping upland soil type. This is the most suitable of the soil types found on this site for development. This soil type is found on the northern part of the site near Bryan Road.

### Myakka Fine Sand

This soil is nearly level and poorly drained. In Most years the seasonal high water table fluctuates from the surface to a depth of 10 inches for up to 4 months and recedes to a depth of 40 inches during prolonged dry periods. In some areas this soil type is used for urban development, however, the main concern is excessive wetness, therefore a drainage management system must be used. The Myakka Fine sands is located on the south-central portion of the site adjacent to MLK Boulevard.

#### Zolfo Fine Sand

This soil is nearly level and poorly drained. In Most years the seasonal high water table fluctuates from the 24 inches to a depth of 40 inches for up to 6 months and recedes to a depth of 60 inches during prolonged dry periods. In some areas this soil type is used for urban development, however, the main concern is excessive wetness, therefore a drainage management system must be used. The Zolfo Fine Sand is found in the northeastern and western portions of the site.

Excerpts from the Hillsborough County Soil Survey are included in the Appendix.

#### FLOODPLAIN

The majority of the site lies within Flood Zone AE (El. 36.3) per the Flood Insurance Rate Map No. 12057C038J dated September 27, 2013. This zone is within the 100-year floodplain with a base-flood-elevation of 36.3 feet. All structures must be elevated above this elevation. The extreme southwestern and the northern part of the site are in Flood Zone X which is not in the floodplain. The FEMA floodplain map is included in the Appendix.

#### DRAINAGE

Based on available topographic data, the site has a high point of 49-feet on the northwestern boundary near Bryan Road. Generally the site slopes inward toward the pond (borrow pit pond) near the west-central part of the site. Elevations are approximately 37-feet along MLK Boulevard, and range from 34-feet to 38-feet along the Williams Road frontage.

Any proposed drainage system would need to accommodate on-site runoff and be permitted through SWFWMD. If filling of the existing pond is proposed, new retention areas will need to be sized to replace the volume currently stored in the borrow pit pond. Extensive coordination with SWFWMD regarding surface water runoff and wetland imp acts will be required.

#### UTILITIES

We have researched the Hillsborough County utility atlas maps. There is an 8-inch waterline running down Williams Road. Sanitary sewer facilities are also available in Williams Road north of the property. This gravity sanitary sewer line connects to a wastewater treatment plant located on Magnolia Lane east of the site. Any proposed development would need to connect to these systems for water and sanitary sewer service.

**CONCLUSION**

The property should be rezoned to a category consistent with the underlying Future Land Use Designation of UMU-20. The existing AR zoning and RDC-12 zoning are clearly outdated and severely limit the development potential of the site. Discussions with Brian Grady of Hillsborough County confirmed the site MUST go through the Planned Development (PD) process which is a Site Plan controlled process. Many adjacent properties in the I-75 corridor are zoned PD, and a PD zoning request should be considered consistent/compatible with the area zonings. Rezoning to PD will substantially increase the development potential of the site, subject to the environmental constraints.

Based on the environmental constraints and relative difficulty of permitting wetlands impacts, we envision the development potential of this property to consist of two separate developed areas, possibly interconnected by an internal roadway. The south-central portion of the site adjacent to MLK Boulevard would be most suitable for retail/commercial/office development. A hotel is also possible here. The northern portion of the property adjacent to Bryan Road would be most suitable for higher density multi-family development. Access to Williams Road would be needed and the wetland impacts of an access road through the eastern wetland would be justifiable, but would need to be mitigated. A Concept Plan is attached.

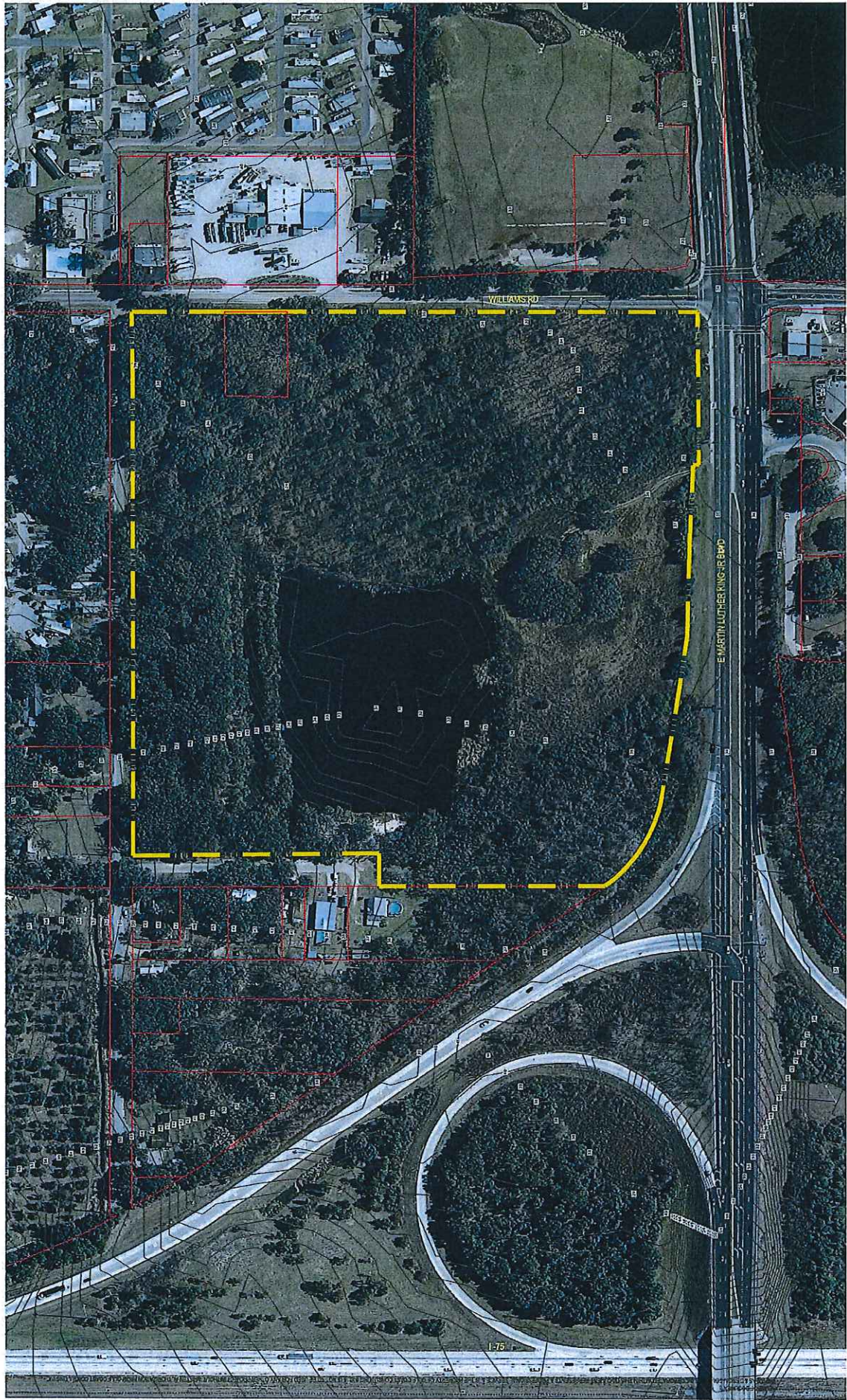
Sincerely,



Robert Pergolizzi, AICP/PTP  
Principal

cc: File 13-057

APPENDIX A

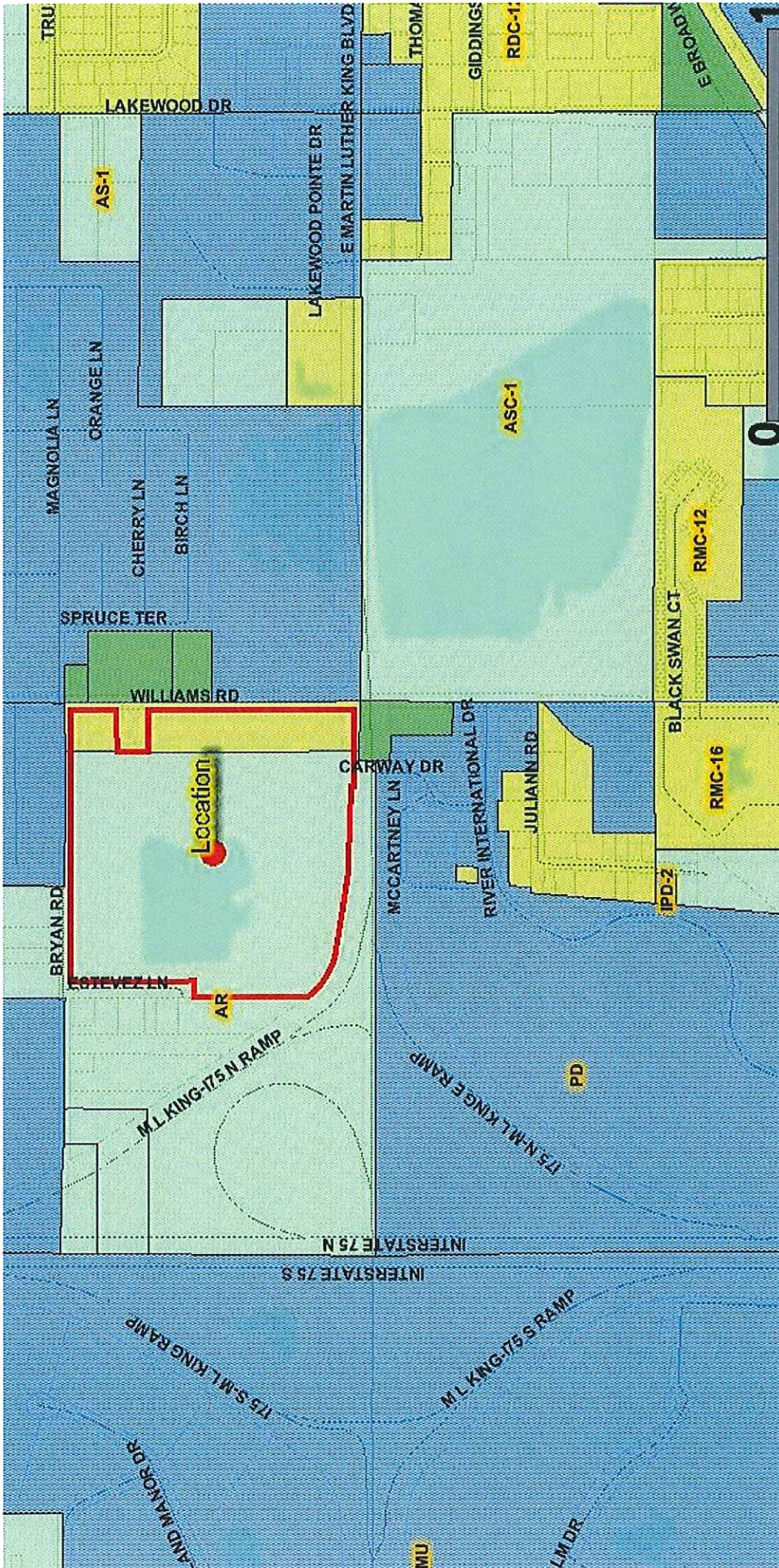


AERIAL PHOTOGRAPH

CONCEPT PLAN ONLY  
SUBJECT TO CHANGE BASED ON FINAL DESIGN BOUNDARY  
& TOPOGRAPHIC SURVEY AND JURISDICTIONAL WETLAND  
CONSTRAINTS. SUBJECT TO SITE PLAN APPROVAL.



Soil Conservation Service, Inc.  
1000 North 10th Street  
Ft. Collins, CO 80521  
Phone: 970.223.1234  
Fax: 970.223.1235



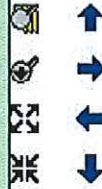
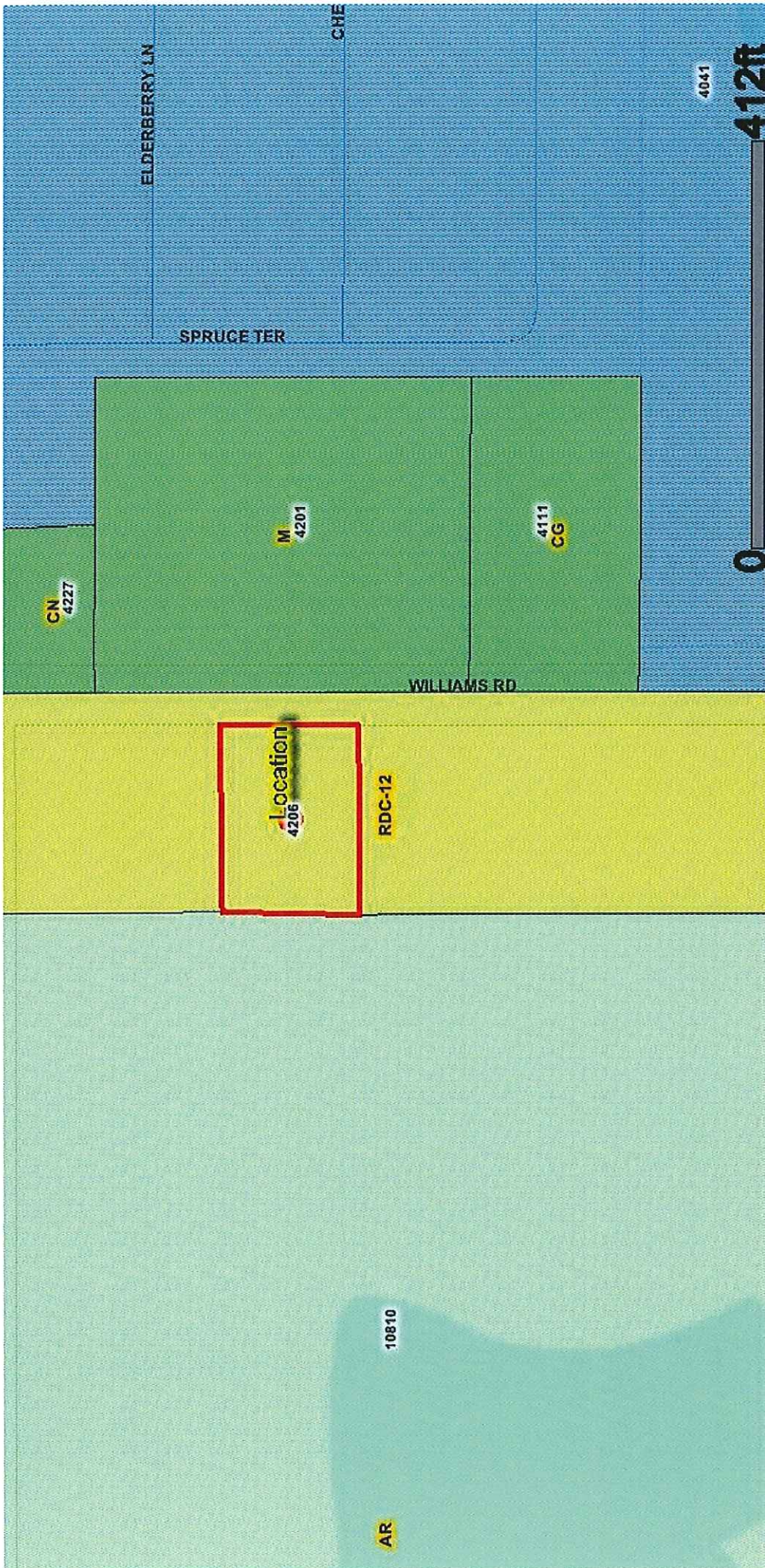
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### PARCEL QUERY RESULT

Owner Name: WHITE CONSTRUCTION COMPANY INC Folio: 65053.0000  
 Location Address: 10810 DR MARTIN LUTHER KING JR BLVD Pin Number: U-05-29-20-ZZZ-000002-37080.0  
 Landuse Group: 9900:VACANT ACREAGE Area (acres): 35.04  
 Tax Value: \$417619.00 Market Value: \$417619.00  
 Section-Township-Range: 05-29-20  
 Owners Address: C/O L L FOLEY  
 PO BOX 790  
 CHIEFLAND, FL 32644-0790



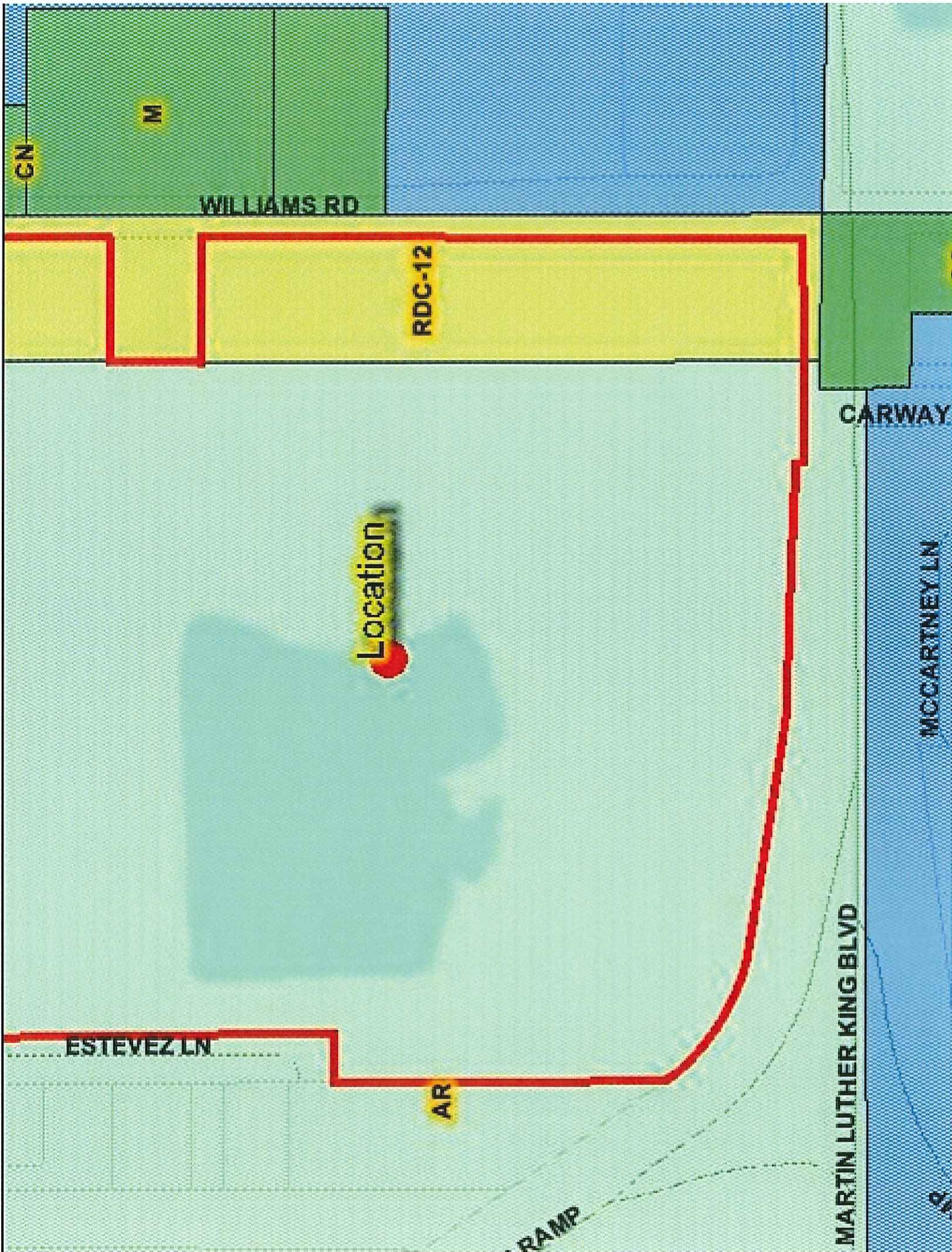


Mode: Zoom In xZoom: 2x Select Theme: ZONING Printable Map Info Legend

For help with navigation buttons click [here](#)  
[Close the window](#)

**PARCEL QUERY RESULT**

Owner Name:	WHITE CONSTRUCTION COMPANY INC	Folio:	65054.0000
Location Address:	4206 WILLIAMS RD	Pin Number:	U-05-29-20-ZZZ-0000002-37090.0
Landuse Group:	9900:VACANT ACREAGE	Area (acres):	0.61
Tax Value:	\$27481.00	Market Value:	\$27481.00
Section-Township-Range:	05-29-20		
Owners Address:	C/O L.L. FOLEY PO BOX 790 CHIEFLAND, FL 32644-0790		



CN

M

WILLIAMS RD

RDC-12

Location

CARWAY

MCCARTNEY LN

MARTIN LUTHER KING BLVD

ESTEVEZ LN

AR

RAMP

FUTURE OF HILLSBOROUGH  
URBAN LAND USE CLASSIFICATION

Urban Mixed Use - 20 (UMU-20) lxxx

RESIDENTIAL GROSS DENSITY	TYPICAL USES	MAXIMUM FLOOR AREA RATIO OR SQUARE FEET	SPECIFIC INTENT OF CATEGORY
<p>Up to a maximum of 20.0 dwelling units per gross acre. Alternative methods for calculating density of certain uses are specified in the land development regulations. Density bonuses and credits may be considered in this category and are described in the Plan. The maximum residential density is provided only as a limit for application in situations in which all Goals, Objectives, and Policies and applicable development regulations are being complied with, especially those regarding compatibility of the proposed development with surrounding land uses, existing and/or approved, and with regard to the adequacy and availability of public facilities.</p>	<p>Residential, regional scale commercial uses such as a mall, office and business park uses, research corporate park uses, light industrial, multi-purpose and clustered residential and/or mixed use projects at appropriate locations.</p>	<p>An intensity up to 1.0 Floor Area Ratio (FAR) shall be allowed for any single or mixed use. Allowable density shall be up to twenty (20) dwelling units per acre. All FAR calculations shall be on the basis of gross acreage as calculated in applicable portions of the Land Use Element and applicable development regulations.</p>	<p>The UMU areas shall be urban in intensity and density of uses, with development occurring as the provision and timing of transportation and public facility services necessary to support these intensities and densities are made available.</p>
<p>No minimum lot size is required to support the concept of clustering and preservation of open spaces left in a natural state. See related policies regarding clustering.</p>	<p>Agricultural uses may be permitted pursuant to policies in the agricultural objective areas of the Future Land Use Element.</p>	<p>*</p>	<p>Retail commercial uses shall be clustered at arterial and collector intersections. Strip development with separate driveway access for nonresidential uses to arterials shall be prohibited.</p>
			<p>Rezoning shall be approved through a planned unit development rezoning process which requires, at a minimum, integrated site plans controlled through performance standards to achieve developments which are compatible with surrounding land use patterns and the Goals, Objectives, and Policies of the Land Use Plan. Exceptions to this requirement may be included within the Land Development Code.</p>

Agricultural Uses	AS		RSC			RDC				EMC				UC					SPT																			
	A	AR	0.4	-1	C-1	AJ	2	3	4	6	9	6	12	6	9	12	16	20	BPC	OR	CN	CG	CI	M	I	2	3	I	2	3	4	5	V					
Agriculture	P	P	P	P	P	P																																
Agricultural Equipment Storage	C																																					
Agricultural Manufacturing	C	C	C	C	C	C																																
Agricultural Stands — temporary or permanent	C	C	C	C	C	C																																
Animals	C	C	C	C	C	C																																
Animal Production Unit, Type 1 and 2	C	C	C	C	C	C																																
Family Farm	C	C																																				
Family Homestead	C	C	C	C																																		
Family Lot			C	C	C	C																																
Farm Worker Housing	S	S	S	S	S	S																																
Kennels	C	C	C	C	C	C																																
Land Application Disposal	S	S	S	S	S	S																																
Plant Farm	C	C	C	C	C	C																																
Pug mills (in Agricultural Zoning Districts, part of an approved land excavation site)	C	C																																				
Rural Home Industry	C	C	C	C	C	C																																
Stables (Private)	C	C	C	C	C	C																																
Stables (Public)	C	C	C	C	C	C																																
<b>Residential Uses</b>																																						
Accessory Dwellings	C	C	C	C	C	C																																
Accessory Kitchen	S	S	S	S	S	S																																
Accessory Structures	C	C	C	C	C	C																																
Affordable Housing Development																																						
With a density bonus	C	C	C	C	C	C																																
Without a density bonus	C	C	C	C	C	C																																
Apartments, Commercial																																						
Bed and Breakfast Establishment	C	C	C	C	C	C																																

ZONING DISTRICTS

§ 2.02.02

*Table of Allowable Uses in Zoning Districts*

**Key:** P = Permitted, C = Conditional Use, permitted pursuant to standards of Article VI (no public hearing required unless specified in applicable section) and the procedures of Section 10.01.00, S = Special Use, noticed public hearing required and subject to standards of Article VI. Reviewed pursuant to Section 10.02.00, A = Accessory use, permitted pursuant to Article VI, N = Potentially permitted pursuant to Section 6.11.65, Blank = Prohibited.

	AS		RSC				RDC				RMC				UC				SPI																			
	A	R	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	M	CI	CG	CN	OR	BFC	CI	M	1	2	3	4	5			
Boarding House																																						
Community Residential Homes Type A																																						
Community Residential Homes Type B & C																																						
Dormitories																																						
Dwelling, Modular																																						
Dwelling, Multi-family																																						
Dwelling, Single-family conventional																																						
Dwelling, Single-family manufactured/mobile home																																						
Dwelling, Two family (duplex)																																						
Family Day Care Home																																						
Fraternities/Sororities																																						
Garage, Yard, Etc. Sales																																						
Home Occupation																																						
Home Swimming Instructions																																						
Hospital Guest House																																						
Housing for Older Persons																																						
Life Care Treatment																																						
Mobile Home Park																																						
Model Dwelling Units and Pre-construction Sales Offices																																						
Neighborhood Fair																																						
Nursing, Convalescent and Extended Care Facilities																																						
Parks Security Mobile Home																																						
Portable Temporary Storage Units																																						
Private Skateboard Ramps																																						
Professional Residential Facilities																																						
Recovery Home A																																						
Recovery Home B																																						

**REQUIRES PLANNED DEVELOPMENT DISTRICT APPROVAL**

*Table of Allowable Uses in Zoning Districts*

**Key:** P = Permitted, C = Conditional Use, permitted pursuant to standards of Article VI (no public hearing required unless specified in applicable section) and the procedures of Section 10.01.00, S = Special Use, noticed public hearing required and subject to standards of Article VI, Reviewed pursuant to Section 10.02.00, A = Accessory use, permitted pursuant to Article VI, N = Potentially permitted pursuant to Section 6.11.65, Blank = Prohibited.

	AS		S		C-1		AI		RSC		RDC		RMC		UC		SPL																					
	A	AR	S	S	S	S	2	3	4	6	9	6	12	6	9	12	16	20	BPO	OR	CN	CG	CI	M	1	2	3	1	2	3	4	5	V					
Recovery Home C	S	S	S	S	S	S																																
REQUIRES PLANNED DEVELOPMENT DISTRICT APPROVAL																																						
Recreational Vehicle Park	C	C	C	C	C	C																																
Sanitarium/Mental Institution																																						
Single-Family Efficiency																																						
Swimming Pools	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C			
Temporary Manufactured Home Facilities	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C			
Cultural/Institutional Uses																																						
Churches and Synagogues (300 seats or less)	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C			
Churches and Synagogues (301 seats or more)	C	C	C	C	C	C	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S		
Community Centers	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P		
Research Activities																																						
Libraries	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P		
Membership Organizations																																						
Private Parks and Recreational Facilities with lighting	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	
Public Parks and Recreational Facilities with lighting <sup>4</sup>	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
Private Parks and Recreational Facilities without lighting	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Pre-K, Day Care, Child Care and Child Nurseries	C	C	C	C	C	C	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
Schools, Private (K-12)	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
Schools, Public (K-12) <sup>5</sup>	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Ultralight Flight Park	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Neighborhood, General and High Intensity Business and Commercial																																						
Accessory Retail																																						
Adult Care Centers	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C

**SCHEDULE OF AREA, HEIGHT, BULK, AND PLACEMENT REGULATIONS**

The standards described in this table shall be used for the purpose of establishing individual lot standards pursuant to a property's zoning. In the Urban Service Area, individual lots may only be developed using these standards as a minimum to the extent it can be demonstrated in a plat or site development plan that the project as a whole does not exceed gross density as defined and regulated by the Comprehensive Plan.

District	Minimum Zoning Lot Size			Required Yard <sup>30</sup>			Added Yard	Maximum Height	Maximum Building Coverage <sup>27</sup>	Maximum Percent Impervious Surface	
	Area / sf	Area / du	Width	Front	Side <sup>1</sup>	Rear <sup>1</sup>					
<b>Agricultural and Residential Districts</b>											
AM	871,200 <sup>2</sup>	871,200	150'	50'	25'	50'	NA	50'	NA	NA	
A	435,600 <sup>2</sup>	435,600	150'	50'	25'	50'	NA	50'	NA	NA	
AR	217,800 <sup>2</sup>	217,800	150'	50'	25'	50'	NA	50'	NA	NA	
AS-0.4	108,900 <sup>2</sup>	108,900	150'	50'	25'	50'	NA	50'	NA	NA	
AS-1	43,560 <sup>2</sup>	43,560	150'	50'	15'	50'	NA	50'	NA	NA	
ASC-1	43,560 <sup>2</sup>	43,560	150'	50'	15'	50'	NA	50'	NA	NA	
AI	43,560	43,560	150'	50'	15'	50'	NA	50'	NA	NA	
RSC-2	21,780 <sup>3</sup>	21,780 <sup>3</sup>	100'	25'	10'	25'	NA	35'	30	NA	
RSC-3	14,520 <sup>3</sup>	14,520	75'	25'	7.5'	25'	NA	35'	32	NA	
RSC-4	10,000 <sup>3</sup>	10,000	75'	25'	7.5'	25'	NA	35'	35	NA	
RSC-6	7,000 <sup>3</sup>	7,000	70'	25'	7.5'	25'	NA	35'	40	NA	
RSC-9	5,000 <sup>3</sup>	5,000	50'	20'	5'	20'	NA	35'	40	NA	
MH				as per underlying zoning district							
RDC-6 <sup>4</sup>	7,260	7,260	60'	25'	7.5'	20'	NA	35'	30	NA	
RDC-12 <sup>5,6,6</sup>	3,500	3,500	40'	20'	5'	20'	NA	35'	35	NA	
RMC-6 <sup>5</sup>	21,780 <sup>3</sup>	7,260 <sup>7</sup>	70'	25'	10'	20'	NA	35'	35	60	
RMC-9 <sup>5</sup>	14,520 <sup>3</sup>	4,840 <sup>3</sup>	70'	25'	10'	20'	NA	35' <sup>8</sup>	35	70	
RMC-12 <sup>5</sup>	10,890 <sup>3</sup>	3,630 <sup>7</sup>	70'	25'	10'	20'	NA	35' <sup>8</sup>	40	70	
RMC-16 <sup>5</sup>	8,175 <sup>3</sup>	2,725 <sup>7</sup>	70'	25'	10'	20'	NA	45' <sup>8</sup>	40	75	
RMC-20 <sup>5</sup>	6,540 <sup>3</sup>	2,180 <sup>7</sup>	70'	25'	10'	20'	NA	45' <sup>8</sup>	40	75	
<b>Non-Residential Districts</b>											
B-PO	7,000	NA	70'	30'	10&11	10&11	NA	50' <sup>8</sup>	20	60	
O-R	7,000	NA	70'	30'	10&11	10&11	NA	35' <sup>8</sup>	20	60	
C-N	7,000	NA	70'	30'	10&11	10&11	NA	35' <sup>8</sup>	20	60	
C-G	10,000	NA	75'	30'	10&11	10&11	NA	50' <sup>8</sup>	27	70	
C-I <sup>12</sup>	20,000	NA	100'	30'	10&11	10&11	NA	50' <sup>8</sup>	30	75	
M <sup>12</sup>	20,000	NA	100'	30' <sup>13</sup>	10&11	10&11	NA	110' <sup>8</sup>	40	75	
<b>Special Purpose Districts</b>											
SB				as per underlying zoning district and Sec. 3.01.02							
<b>Special Public Interest Districts</b>											

District	Minimum Zoning Lot Size			Required Yard <sup>30</sup>			Added Yard	Maximum Far	Maximum Height	Building Coverage <sup>27</sup>	Maximum Percent Impervious Surface
	Area/sf	Area/du	Width	Front	Side <sup>1</sup>	Rear <sup>1</sup>					
SPL-UC: as per underlying zoning district unless modified by Sec. 3.01.07											
UC-1—											
SF du	7,000 <sup>3&amp;14</sup>	7,000	70'	25'	7.5'	25'	NA	NA	35'	30	NA
Res. ≤ 12 du/ac	10,990 <sup>3&amp;14</sup>	3,630 <sup>7</sup>	70'	25'	10'	20'	NA	NA	35'	40	70
Res. > 12 du/ac	6,540 <sup>3&amp;14</sup>	2,180 <sup>7</sup>	70'	25'	10'	20'	NA	NA	— <sup>15</sup>	40	75
NonRes.	7,000	NA	70'	25'	10&11	25'	NA	.75	— <sup>16</sup>	50	75
UC-2—											
NonRes.	7,000	NA	70'	25'	10&11	25'	NA	.75 <sup>28</sup>	— <sup>16</sup>	50	75
UC-3—											
SF du	7,000 <sup>14</sup>	7,000	70'	25'	7.5'	25'	NA	NA	35'	30	NA
Res. ≤ 12 du/ac	10,890 <sup>14</sup>	3,630 <sup>7</sup>	70'	25'	10'	20'	NA	NA	35'	40	70
Res. > 12 du/ac	6,540 <sup>14</sup>	2,180 <sup>7</sup>	70'	25'	10'	20'	NA	NA	— <sup>15</sup>	40	75
NonRes.	7,000	NA	70'	25'	10&11	25'	NA	.25	— <sup>16</sup>	25	75
SPL-AP:											
AP-1	30,000	NA	100'	NA	NA	NA	NA	NA <sup>8</sup>	NA	NA	80 <sup>16</sup>
AP-2	30,000	NA	100'	NA	NA	NA	NA	NA	NA	NA	80 <sup>16</sup>
AP-3	30,000	NA	100'	30 <sup>17</sup>	10 <sup>18</sup>	20 <sup>18</sup>	NA	.50	35'	NA	80 <sup>16</sup>
AP-4	30,000	NA	100'	30 <sup>17</sup>	10 <sup>18</sup>	20 <sup>18</sup>	NA	.60	35'	NA	80 <sup>16</sup>
AP-5	30,000	NA	100'	30 <sup>17</sup>	10 <sup>18</sup>	20 <sup>18</sup>	NA	.60	70 <sup>8</sup>	NA	80 <sup>16</sup>
AP-V	30,000	NA	100'	NA	NA	NA	NA	NA	NA	NA	80 <sup>16</sup>
SPL-NDM	19	19	19	19	19	19	40'	19	19	19	19
Interstate I-75 Planned Development Districts <sup>20</sup>											
IPD-1:											
Res	NA	12 <sup>21</sup>	NA	30 <sup>15</sup>	22	22	NA	NA	23&15	NA	70 <sup>24</sup>
Off	NA	NA	NA	30 <sup>15</sup>	22	22	NA	0.50 <sup>25</sup>	23&15	NA	60 <sup>24</sup>
Com	NA	NA	NA	30 <sup>15</sup>	22	22	NA	0.50 <sup>25</sup>	23&15	NA	70 <sup>24</sup>
Ind	NA	NA	NA	30 <sup>15</sup>	22	22	NA	0.50 <sup>25</sup>	23&15	NA	75 <sup>24</sup>
IPD-2:											
Res.	NA	20 <sup>21</sup>	NA	30 <sup>15</sup>	22	22	NA	NA	23&15	NA	75 <sup>24</sup>
Off	NA	NA	NA	30 <sup>15</sup>	22	22	NA	1.00 <sup>25</sup>	23&15	NA	60 <sup>24</sup>
Com	NA	NA	NA	30 <sup>15</sup>	22	22	NA	1.00 <sup>25</sup>	23&15	NA	70 <sup>24</sup>
Ind	NA	NA	NA	30 <sup>15</sup>	22	22	NA	1.00 <sup>25</sup>	23&15	NA	75 <sup>24</sup>
IPD-3											
Res	NA	50 <sup>21</sup>	NA	12'-15' <sup>26</sup>	20' <sup>15&amp;26</sup>	20' <sup>15&amp;26</sup>	NA	NA	10	NA	80 <sup>24</sup>
Off	NA	NA	NA	12'-15' <sup>26</sup>	20' <sup>15&amp;26</sup>	20' <sup>15&amp;26</sup>	NA	2.50 <sup>25</sup>	10	NA	80 <sup>24</sup>
Com	NA	NA	NA	12'-15' <sup>26</sup>	20' <sup>15&amp;26</sup>	20' <sup>15&amp;26</sup>	NA	2.50 <sup>25</sup>	10	NA	80 <sup>24</sup>
Ind	NA	NA	NA	12'-15' <sup>26</sup>	20' <sup>15&amp;26</sup>	20' <sup>15&amp;26</sup>	NA	2.50 <sup>25</sup>	10	NA	80 <sup>24</sup>



HILLSBOROUGH COUNTY  
AUTOMOBILE LEVEL OF SERVICE REPORT  
STATE ROADWAYS

Roadway (From/To)	Plan Area	FC	Road Type	Spd Lmt	LOS Std.	Len (mi)	Sig/Mi	AADT	Daily Cap	Peak Hr Dir Vol	Peak Hr Dir Cap	V/C Ratio	LOS	Cap Avail
I-275: (BEARSS AVE -to- I-75)	CW/USF/ LUT	F	4F	70	D	6.80		52,000	73,600	3,100	3,720	0.83	D	Y
LEE ROY SELMON EXPWY: (US 411/50TH-to-US HWY 301)	PR/T	F	4F	65	D	3.84		48,000	73,600	2,500	3,720	0.67	C	Y
LEE ROY SELMON EXPWY: (US HWY 301 -to- I-75)	BR	F	4F	65	D	1.22		36,000	73,600	1,900	3,720	0.51	B	Y
M L KING BLVD: (40TH ST-to-I-4)	EL/T	MA	2U	45	E	1.83	1.09	23,500	17,900	1,300	890	1.46	F	N
M L KING BLVD: (I-4 -to-US HWY 301)	EL	PA	6D	50	E	1.46	2.05	36,300	53,100	1,900	2,830	0.67	C	Y
M L KING BLVD: (US HWY 301-to-FALKENBURG)	EL	PA	6D	50	E	1.50	0.67	34,000	55,300	1,800	2,940	0.61	B	Y
M L KING BLVD: (FALKENBURG-to-WILLIAMS RD)	EL/SFN	PA	4D	50	E	1.00	1.00	34,800	36,700	1,900	1,960	0.97	D	Y
M L KING BLVD: (WILLIAMS RD-to-CR 579)	SFN	PA	6D	50	D	1.00	3.00	35,800	50,300	2,000	2,680	0.75	C	Y
M L KING BLVD: (CR 579-to-PARSONS AVE)	SFN	MA	2U	45	D	1.50	2.00	27,500	15,200	1,500	810	1.85	F	N
M L KING BLVD: (PARSONS AVE-to-MCINTOSH RD)	BR/ER	MA	2U	45	D	2.64	0.38	18,100	16,500	950	880	1.08	F	N
M L KING BLVD: (MCINTOSH RD-to-FORBES RD)	ER	MA	2U	45	D	3.60	0.56	10,400	15,200	550	800	0.69	C	Y
M L KING BLVD: (FORBES RD-to-TURKEY CREEK RD)	ER	MA	2U	45	D	1.00	1.00	9,700	15,200	520	800	0.65	C	Y
NEBRASKA AVE: (FOWLER AVE -to-FLETCHER AVE)	USF	PA	4D	45	E	0.98	2.04	24,000	35,100	1,300	1,870	0.70	C	Y
NEBRASKA AVE: (FLETCHER AVE -to-BEARSS AVE)	USF	PA	4D	45	E	1.29	2.33	21,500	35,100	1,200	1,870	0.64	C	Y
NEBRASKA AVE: (BEARSS AVE -to-NEBRASKA/FLORIDA)	CW/USF	PA	4D	45	D	1.77	1.13	25,000	36,700	1,400	1,960	0.71	B	Y
SR 39: (SR 60 -to-ALEXANDER ST)	ER	PA	4D	45	D	3.50	0.57	16,200	28,000	870	1,490	0.58	C	Y
SR 39: (SAM ALLEN RD-to-KNIGHTS-GRIFFIN)	ER	PA	2U	45	C	2.10	0.48	12,900	14,100	690	750	0.92	C	Y
SR 39: (KNIGHTS-GRIFFIN -to-PASCO COUNTY)	ER	PA	2U	45	C	6.59	0.00	7,900	14,200	430	780	0.55	C	Y
SR 60 / ADAMO DR: (US HWY 41-to-US 301)	PR/T	PA	4D	50	D	3.00	1.33	36,900	36,700	2,000	1,960	1.02	F	N
SR 60 / BRANDON BLVD: (US 301-to-FALKENBURG)	BR	PA	4D	50	D	1.25	1.60	43,500	36,700	2,400	1,960	1.22	F	N
SR 60 / BRANDON BLVD: (FALKENBURG-to-LAKEWOOD)	BR	PA	8D	45	D	1.50	3.33	82,000	67,300	4,300	3,590	1.20	F	N
SR 60 / BRANDON BLVD: (LAKEWOOD DR-to-LITHIA PINECREST)	BR	PA	6D	45	D	1.75	2.86	69,000	50,300	3,700	2,680	1.38	F	N
SR 60 / BRANDON BLVD: (LITHIA PINECREST-to-VALRICO RD)	BR	PA	8D	50	D	1.90	2.11	52,500	67,300	2,900	3,590	0.81	D	Y
SR 60 / BRANDON BLVD: (VALRICO RD -to-DOVER RD)	VR	PA	4D	55	D	2.04	1.96	38,000	36,700	2,200	1,960	1.12	F	N

HILLSBOROUGH COUNTY  
AUTOMOBILE LEVEL OF SERVICE REPORT  
COUNTY ROADWAYS

THE FORMAT OF THIS REPORT IS  
SPECIFICALLY DESIGNED FOR  
REZONINGS AND CONCURRENCY REVIEWS

Roadway (From/To)	Plan Area	Reg	FC	Road Type	Spd Lmt	LOS Std.	Len (mi)	Sig/Mi	AADT	Daily Cap	Peak Hr Dir Vol	Peak Hr Dir Cap	V/C Ratio	LOS	Cap Avail
VAN DYKE RD: (SIMMONS RD -to- DALE MABRY HWY)	LU	Y	C	2U	45	C	1.34	0.75	10,546	13,395	595	713	0.84	C	Y
VAN DYKE RD: (DALE MABRY HWY -to- VETERANS EXPWY)	LU	Y	MA	2U	50	D	2.70	1.11	21,474	15,675	1,070	836	1.28	F	N
VAN DYKE RD: (VETERANS EXPWY -to- GUNN HWY)	KO	Y	MA	2U	50	D	2.10	0.95	17,397 *	14,440	810	760	1.07	F	N
VICTORIA STILMONA RD: (LAKEWOOD DR -to- PARSONS AVE)	BR	Y	C	2U	35	D	2.01	1.49	4,067 *	15,675	168	836	0.20	B	Y
W VILLAGE DR: (S VILLAGE DR -to- EHRLICH)	CW	Y	C	2U	35	D	1.59	0.63	9,693 *	15,675	544	836	0.65	C	Y
WATERS AVE: (ARMENTA AVE -to- DALE MABRY HWY)	EGL	Y	MA	4D	45	D	1.27	2.36	32,994	31,540	1,364	1,682	0.81	D	Y
WATERS AVE: (DALE MABRY HWY -to- ANDERSON RD)	EGL	Y	MA	6D	45	D	2.00	2.00	45,888	47,785	2,377	2,546	0.93	D	Y
WATERS AVE: (ANDERSON RD -to- SHELDON RD)	TNC	Y	MA	6D	45	E	2.78	3.24	34,051	50,445	1,884	2,689	0.70	C	Y
WATERS AVE: (SHELDON RD -to- MONTAGUE RD)	TNC	Y	C	4D	45	D	0.92	0.81	17,940 *	34,865	1,315	1,862	0.71	B	Y
WATERS AVE: (MONTAGUE RD -to- COUNTRYWAY BLVD)	TNC	Y	C	4D	45	D	1.54	0.81	13,181 *	34,865	908	1,862	0.49	B	Y
WEBB RD: (MEMORIAL HWY -to- JACKSON SPRINGS)	TNC	Y	C	2U	45	D	1.18	1.69	6,389 *	15,675	339	836	0.41	B	Y
WESTLAKE RD: (SR 674 -to- BISHOP RD)	WM	N	C	2U	45	C	1.52	0.00	1,908 *	13,490	113	741	0.15	B	Y
WHEELER RD: (LAKEWOOD DR -to- PARSONS RD)	BR	Y	C	2U	35	D	1.58	1.27	7,905 *	15,675	684	836	0.82	C	Y
WHEELER RD: (PARSONS RD -to- VALRICO RD)	BR	Y	C	2U	40	D	2.02	0.99	11,175 *	15,675	871	836	1.04	F	N
WHITAKER RD/VANDERHORT: (LIVINGSTON -to- US HWY 41)	LU	Y	C	2U	45	C	2.18	0.46	7,597 *	13,395	411	713	0.58	B	Y
WILCOX/NEWKIRK RD: (NORTHE DALE BLVD -to- HUCHINSON RD)	CW	Y	C	2U	45	C	1.00	1.00	5,299 *	13,395	284	713	0.40	B	Y
WILDER RD: (US HWY 92 -to- I-4 FRONTAGE S)	ER/PC	Y	C	2U	45	C	1.20	1.67	1,088 *	13,395	54	713	0.08	B	Y
WILDER RD: (I-4 FRONTAGE N -to- KNIGHTS-GRIFFIN)	ER	Y	C	2U	45	C	3.00	0.67	2,623 *	13,395	262	713	0.37	B	Y
WILLIAMS RD: (BROADWAY AVE -to- MLK BLVD)	SFN	Y	C	2U	40	D	2.30	0.87	6,261 *	15,675	383	836	0.46	B	Y
WILLIAMS RD: (MLK BLVD -to- US HWY 92)	SFN	Y	C	2U	45	D	1.20	0.83	9,559 *	15,675	660	836	0.79	C	Y
WILLIAMS RD: (US HWY 92 -to- FOWLER AVE)	TH/SFN	Y	C	2U	45	C	4.32	0.69	6,348 *	13,395	460	713	0.65	C	Y
WILSKY BLVD: (HANLEY RD -to- VETERAN'S EXPWY)	TNC	Y	C	2U	45	D	.98	1.02	15,205	15,675	801	836	0.96	D	Y

County Roadways

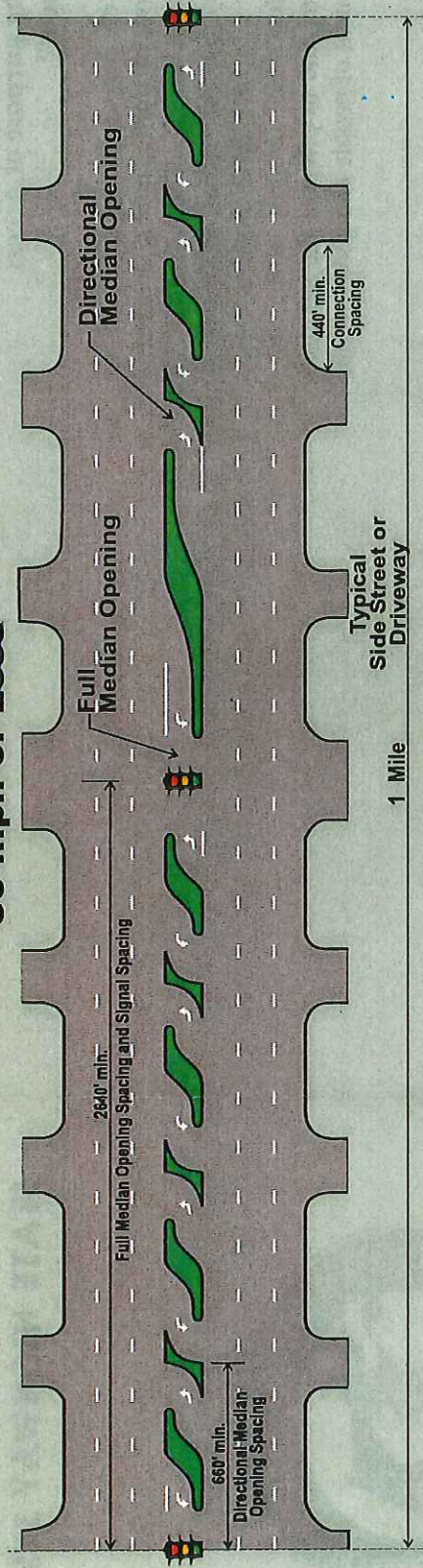
\* Growth Factor Applied to 2008 AADT

\*\* Capacity and V/C based on 1.2E. LOS based on Generalized Tables

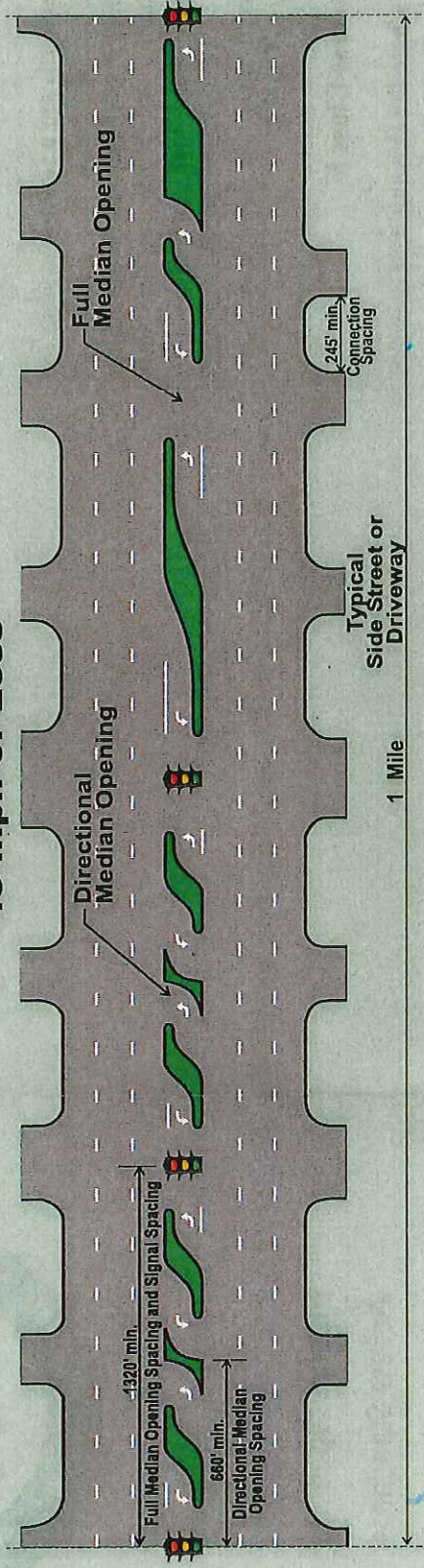
March 2011

# ACCESS CLASS 5

50 mph or <sup>MORE</sup> ~~LESS~~



45 mph or Less



**LEGEND**

- Raised Median
- Traffic Signal

**NOTE:** Signing and Striping are for Conceptual Design Only.

4. Corner Clearances for "isolated corners properties" are as follows:

### Corner Clearance at Intersections With Restrictive Median

Position	Access Allowed	Minimum (Feet)
Approaching intersection	Right In/Out	115
Approaching intersection	Right In Only	75
Departing intersection	Right In/Out	230 (125)*
Departing intersection	Right Out Only	100

### Without Restrictive Median

Position	Access Allowed	Minimum (Feet)
Approaching intersection	Full Access	230 (125)*
Approaching intersection	Right In Only**	100
Departing intersection	Full Access	230 (125)*
Departing intersection	Right Out Only**	100

\* Access Class 7 and Interim "Special Case" at 35 MPH or less, may use the measurements in parenthesis.

\*\* Right In/Out, Right In Only, and Right Out Only connections on roads without restrictive medians shall, by design of the connection, effectively eliminate unpermitted movements.

(j) Connections and median openings on a controlled access facility located up to 1/4 mile from an interchange area or up to the first intersection with an arterial road, whichever distance is less, shall be regulated to protect the safety and operational efficiency of the limited access facility and the interchange area. The 1/4 mile distance shall be measured from the end of the taper of the ramp furthest from the interchange.

1. The distance to the first connection shall be at least 660 feet where the posted speed limit is greater than 45 MPH or 440 feet where the posted speed limit is 45 MPH or less. This distance will be measured from the end of the taper for that particular quadrant of the interchange on the controlled access facility. A single connection per property not meeting this connection spacing standard shall be provided, pursuant to the connection permit process as defined in Rule Chapter 14-96, if no reasonable access to the property exists and if permitting authority review of the connection permit application provided by the applicant determines that the connection does not create a safety, operational or weaving hazard pursuant to Rule 14-96.007. In such cases, applications for more than a single connection shall be examined as non-conforming connections pursuant to Rule 14-96.009.

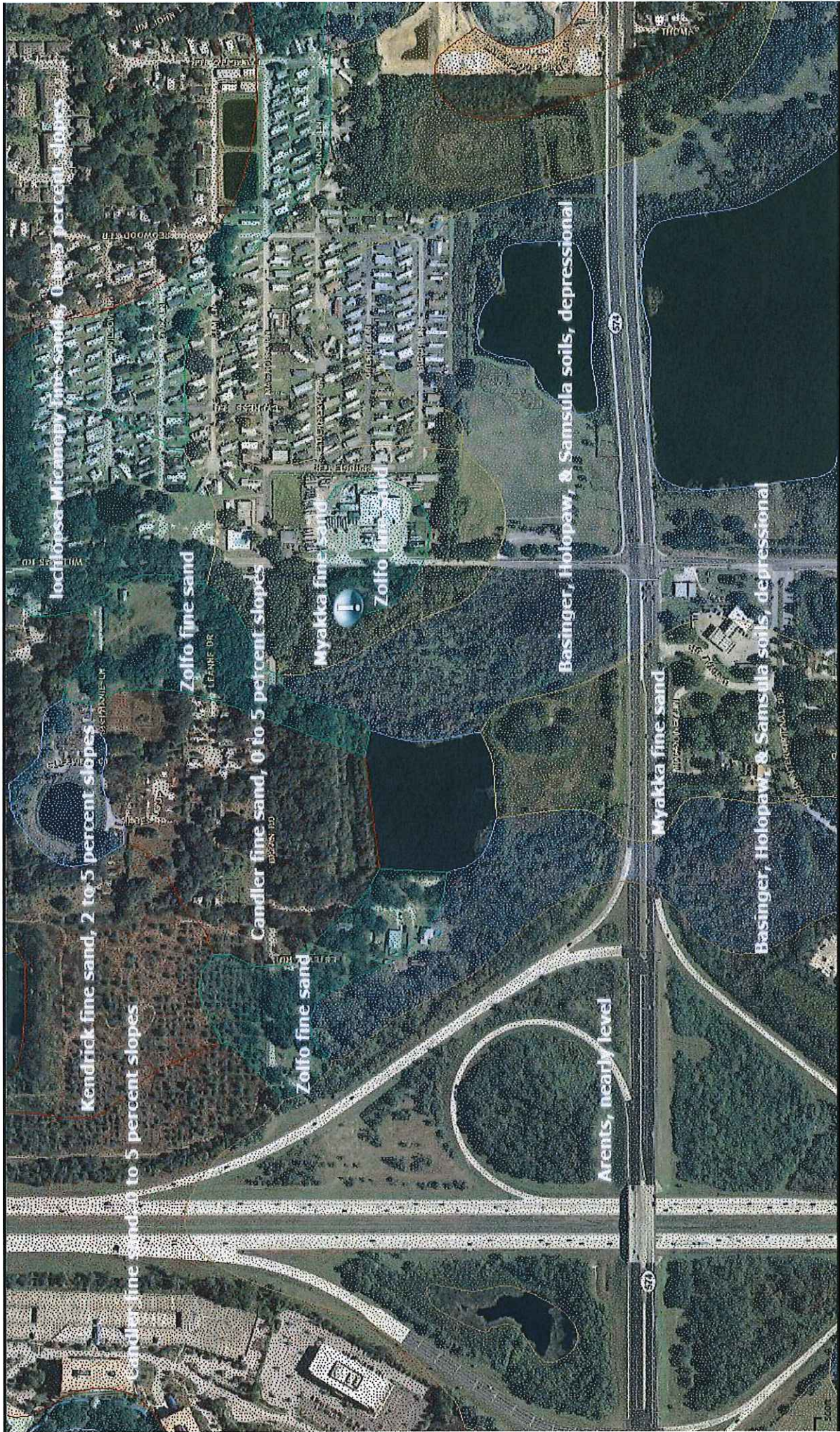
2. The minimum distance to the first median opening shall be at least 1320 feet as measured from the end of the taper of the egress ramp.

3. Connections and median openings meeting spacing standards still may not be permitted in the location requested in the permit application pursuant to Rule 14-96.007 and the criteria in Rule 14-96.007 when the Department determines, based on traffic engineering principles, that the engineering and traffic information provided in the permit application shows that the safety or operation of the interchange or the limited access highway would be adversely affected.

(k) Traffic signals meeting signal warrants which are proposed at intervals closer than the standard for the access class for the highway segment shall be considered by the Permitting Authority but shall only be approved where the need for such signals is clearly demonstrated for the safety and operation of the highway based on Permitting Authority review of the traffic and signal information provided by the applicant in the connection permit application pursuant to Rule Chapter 14-96.

14-97.003 Access Management  
Classification System  
and Standards

# Soils Map





United States  
Department of  
Agriculture

Soil  
Conservation  
Service

In cooperation with  
University of Florida,  
Institute of Food and  
Agricultural Sciences,  
Agricultural Experiment  
Stations and Soil Science  
Department, and  
Florida Department of  
Agriculture and  
Consumer Services

# Soil Survey of Hillsborough County, Florida



moderate to high, a community sewage system can help to prevent contamination of water supplies by seepage.

This Archbold soil is in capability subclass VI, in woodland group 3S, and in the Sand Pine-Scrub Oak range site.

**4—Arents, nearly level.** Arents consist of nearly level, heterogeneous soil material. This material has been excavated, reworked, and reshaped by earthmoving equipment. Arents are near urban centers, phosphate-mining operations, major highways, and sanitary landfills.

Arents do not have an orderly sequence of soil layers. This map unit is not associated with or confined to a particular kind of soil. Arents are variable and contain discontinuous lenses, pockets, or streaks of black, gray, grayish brown, brown, or yellowish brown sandy or loamy fill material. The thickness of the fill material ranges from 30 to 80 inches or more.

Included in this map unit are areas used as sanitary landfills. Refuse consists of concrete, glass, metal, plastic, wood, and other materials and ranges in thickness from 2 to 10 feet. It is generally stratified with layers of soil material that were used as daily cover. These areas are identified on soil maps by the words "sanitary landfill." Also included are small areas of soil that has slope that ranges from 0 to 5 percent.

Most soil properties are variable. The depth to the seasonal high water table varies with the amount of fill material and artificial drainage. Permeability and the available water capacity vary widely from one area to another.

In most areas, the soil in this map unit has been left idle or is used for homesites, recreation, and urban development. In a few areas, the soil is used for pasture (fig. 2). An individual assessment of each site is necessary to determine its potential for different uses.

The soils in this map unit have not been assigned to a capability subclass, a woodland group, or range site.

**5—Basinger, Holopaw and Samsula soils, depressional.** The soils in this map unit are nearly level and very poorly drained. They are in swamps and depressions on the flatwoods. Generally, Basinger soil is along the exterior of swamps or in shallow depressions. Holopaw and Samsula soils are in the interior areas of the swamps or in deeper depressions. Undrained areas are frequently ponded for very long periods. The slope is 0 to 2 percent.

In 90 percent of the areas of this map unit, Basinger, Holopaw and Samsula soils, depressional, and similar soils make up 78 to 96 percent of the mapped areas, and dissimilar soils make up about 4 to 22 percent of the mapped areas. Generally, the mapped areas consist of about 35 percent Basinger soil and similar soils, 31 percent Holopaw soil and similar soils, and 18 percent Samsula soil and similar soils. The individual soils are generally in large enough areas to be mapped

separately, but in considering their present and predicted use, they were mapped as one unit.

Typically, the surface layer of Basinger soil is black fine sand about 7 inches thick. The subsurface layer, to a depth of about 28 inches, is gray fine sand. The subsoil, to a depth of about 42 inches, is brown and grayish brown fine sand. The substratum to a depth of about 80 inches is light brownish gray fine sand. Similar soils included in mapping, in some areas, have a surface layer of mucky fine sand, and it is more than 7 inches thick.

Typically, the surface layer of Holopaw soil is black mucky fine sand about 6 inches thick. The upper part of the subsurface layer, to a depth of about 12 inches, is dark gray fine sand. The middle part, to a depth of about 42 inches, is light gray fine sand. The lower part, to a depth of about 52 inches, is grayish brown fine sand. The upper part of the subsoil, to a depth of about 64 inches, is grayish brown fine sand. The lower part to a depth of about 80 inches is gray, mottled sandy loam. Similar soils included in mapping, in some areas, have a black surface layer more than 10 inches thick.

Typically, the upper part of the surface tiers of Samsula soil is black muck about 10 inches thick. The lower part, to a depth of about 34 inches, is dark reddish brown muck. The layer below the organic material, to a depth of about 40 inches, is black fine sand. The underlying material to a depth of 80 inches is light brownish gray fine sand. Similar soils included in mapping, in some areas, have organic material that is more than 51 inches thick.

Dissimilar soils included in mapping are the Ona and other sandy soils, all in small areas. These soils have a well-developed sandy subsoil at a depth of more than 40 inches.

In most years, the undrained areas in this map unit are ponded for about 6 months. Permeability is rapid in Basinger and Samsula soils. It is rapid in the surface and subsurface layer of Holopaw soil and moderately slow or moderate in the subsoil. The available water capacity is low in Basinger soil, low or moderate in Holopaw soil, and high in Samsula soil.

In most areas, the soils making up this map unit have been left in natural vegetation. In some drained areas, the soils are used as pasture. In other areas that have been filled, the soils are used for homesite or urban development. The natural vegetation consists of cypress. The understory includes bluestem, maidencane, panicum, Jamaica sawgrass, and cutgrass.

The soils are generally not suited to most cultivated crops, citrus crops, or pasture because of ponding, excessive wetness, and low natural fertility. A drainage system is needed in most areas to remove excess surface water and reduce soil wetness, but suitable outlets are generally not available.

These soils are generally not suited to the production of pines because of ponding or extended wetness. They



the underlying material, to a depth of 10 inches, is gray fine sand. The middle part, to a depth of 14 inches, is grayish brown fine sand. The lower part, to a depth of 26 inches, is very pale brown fine sand. This layer is underlain by gray and white limestone. In places, the limestone is thin and discontinuous.

The Urban land part of this complex is covered by concrete, asphalt, buildings, or other impervious surfaces that obscure or alter the soils so that their identification is not feasible.

Included in mapping are Malabar and Wabasso soils in small areas. These soils are in lower positions on the landscape than Broward soils, and they are poorly drained.

In most areas, the soils in this map unit are artificially drained by sewer systems, gutters, tile drains, and surface ditches. The undrained areas have a seasonal high water table at a depth of about 20 to 30 inches for 2 to 6 months in most years. The permeability of Broward soil is rapid. The available water capacity is low or very low.

Present land use precludes the use of the soils in this map unit for cultivated crops, pasture, or commercial trees. Broward soil in the Urban land part of this complex is used for lawns, parks, playgrounds, or cemeteries, or it is left as open space.

If the soils in this map unit are used for building site development, the main management concerns are depth to bedrock, wetness, possible contamination of the ground water, and instability of cutbanks. The moderately deep bedrock often interferes with the installation of septic tank absorption fields and sewer systems. If the density of housing is moderate to high, a community sewage system can help prevent contamination of water supplies by seepage. Cutbanks are not stable and are subject to slumping. Plans for homesite development should provide for the preservation of as many trees as possible. Droughtiness, a result of low or very low available water capacity, is a limitation, especially during extended dry periods. Selection of vegetation that is adapted to these soils is critical for the establishment of lawns, shrubs, trees, and vegetable gardens. The soils need to be mulched, fertilized, and irrigated to establish lawn grasses and other small seeded plants.

The soils in this map unit have not been assigned to a capability subclass, to a woodland group, or to a range site.

**7—Candler fine sand, 0 to 5 percent slopes.** This soil is nearly level to gently sloping and excessively drained. It is on the uplands.

In 95 percent of the areas mapped as Candler fine sand, 0 to 5 percent slopes, the Candler soil and similar soils make up 82 to 96 percent of the mapped areas. Dissimilar soils make up 4 to 18 percent of the mapped areas.

Typically, this soil has a surface layer of dark gray fine sand about 6 inches thick. The upper part of the subsurface layer, to a depth of about 35 inches, is light yellowish brown fine sand. The middle part, to a depth of about 72 inches, is very pale brown fine sand. The lower part to a depth of about 80 inches is a mixture of very pale brown fine sand and strong brown loamy sand lamellae that are about one-sixteenth to one-quarter of an inch thick and 2 to 6 inches long. In some places, similar soils included in the mapped areas do not have lamellae in the lower part of the subsurface layer. Other similar soils, in some areas, have a subsurface layer that consists of 5 to 10 percent silt and clay; and some similar soils also included in mapping, in some of the lower parts of the landscape, are well drained.

Dissimilar soils included in mapping are Kendrick and Millhopper soils in small areas. Kendrick soils are well drained, and Millhopper soils are moderately well drained. Also included are areas of unnamed soils on upper side slopes that are well drained and have a sandy clay loam subsoil within 40 to 80 inches of the surface.

A seasonal high water table is at a depth of more than 80 inches. Permeability is rapid. The available water capacity is very low.

In most areas, this Chandler soil is used for citrus crops. In a few areas, it is used for pasture or for homesite or urban development. The natural vegetation consists of bluejack oak, Chapman oak, scrub live oak, and turkey oak. The understory includes indiagrass, hairy panicum, panicum, and running oak.

This soil is suited to citrus crops in areas that are relatively free of freezing temperatures. If this soil is used for cultivated crops, the main limitations are droughtiness and rapid leaching of plant nutrients, which limit the choice of plants that can be grown and reduce the potential yield of crops. Droughtiness, a result of the very low available water capacity, is a management concern, especially during extended dry periods. Irrigation is generally feasible where irrigation water is readily available. Returning all crop residue to the soil and using a cropping system that includes grasses, legumes, or a grass-legume mixture help to conserve moisture, maintain fertility, and control erosion.

This soil is moderately suited to pasture. The very low available water capacity of the soil limits production of plants during extended dry periods. Deep-rooted plants, such as Coastal bermudagrass and bahiagrass, are more drought tolerant if the soil is properly fertilized and limed. Proper stocking, pasture rotation, and timely deferral of grazing help keep the pasture in good condition.

The potential of this soil for the production of sand pines is moderate. The main management concerns for producing and harvesting timber are seedling mortality and the equipment use limitations. The very low available water capacity adversely affects seedling survival in areas where understory plants are numerous. The fine



sand texture of the surface layer limits the use of equipment.

If this soil is used for building site development, the main management concerns are instability of cutbanks and possible contamination of ground water. Population growth has resulted in increased construction of houses on this soil. Cutbanks are not stable and are subject to slumping. If the density of housing is moderate to high, a community sewage system can help prevent contamination of water supplies by seepage.

This Candler soil is in capability subclass IVs, in woodland group 8S, and in the Longleaf Pine-Turkey Oak Hills range site.

**8—Candler fine sand, 5 to 12 percent slopes.** This soil is sloping to strongly sloping and excessively drained. It is on the uplands.

In 80 percent of the areas mapped as Candler fine sand, 5 to 12 percent slopes, the Candler soil and similar soils make up about 82 to 99 percent of the mapped areas. Dissimilar soils make up 1 to 18 percent of the mapped areas.

Typically, this soil has a surface layer of dark gray fine sand about 6 inches thick. The subsurface layer extends to a depth of about 74 inches. In the upper part, it is yellow fine sand. In the lower part, it is very pale brown fine sand. The next layer to a depth of about 80 inches is very pale brown fine sand that has yellowish brown loamy sand lamellae that are about one-sixteenth of an inch thick and 2 to 4 inches long. Similar soils included in mapping do not have lamellae. Other similar soils, in some areas, have 5 to 10 percent silt and clay in the subsurface layer, and similar soils, in some of the lower parts of the landscape, are well drained.

Dissimilar soils included in mapping are Millhopper and Kendrick soils in small areas. Millhopper soils are moderately well drained, and Kendrick soils are well drained. Also included are some unnamed soils on the upper side slopes. These soils have a subsoil at a depth of more than 40 inches. They are well drained.

A seasonal high water table is at a depth of more than 80 inches. Permeability is rapid. The available water capacity is very low.

In most areas, this Candler soil has been left in natural vegetation. In some areas, it is used for citrus crops or pasture or for homesite or urban development. The natural vegetation consists of bluejack oak, Chapman oak, scrub live oak, and turkey oak. The understory includes indiagrass, hairy panicum, and pineland threeawn.

This soil is generally not suited to most cultivated crops because of droughtiness, rapid leaching of plant nutrients, and steepness of slope. This soil is suited to citrus crops in areas that are relatively free of freezing temperatures. Droughtiness, a result of the very low available water capacity, is a management concern, especially during extended dry periods. A well designed

and properly managed sprinkler irrigation system helps to maintain optimum soil moisture and to obtain maximum yields. A ground cover of close-growing plants between tree rows reduces erosion.

This soil is moderately suited to pasture. The very low available water capacity of the soil limits the production of plants during extended dry periods. Deep-rooted plants, such as Coastal bermudagrass and bahiagrass, are more drought tolerant if properly fertilized and limed. Proper stocking, pasture rotation, and timely deferral of grazing help keep the pasture in good condition.

The potential of this soil for the production of sand pines is moderate. The main management concerns for producing and harvesting timber are seedling mortality and the equipment use limitations. The very low available water capacity adversely affects seedling survival in areas where understory plants are numerous. The fine sand texture of the surface layer limits the use of equipment.

Population growth has resulted in increased construction of houses on this soil. If this soil is used for building site development, the main management concerns are instability of cutbanks and possible contamination of ground water. Cutbanks are not stable and are subject to slumping. If the density of housing is moderate to high, a community sewage system can help prevent contamination of water supplies by seepage.

This Candler soil is in capability subclass VI, in woodland group 8S, and in the Longleaf Pine-Turkey Oak Hills range site.

**9—Candler-Urban land complex, 0 to 5 percent slopes.** This complex consists of Candler soil that is nearly level to gently sloping and excessively drained and of areas of Urban land. This complex is on the uplands.

This map unit consists of 45 to 60 percent Candler soil and 35 to 45 percent Urban land. The included soils make up 18 percent or less of this map unit. The individual areas of the soils in this map unit are too mixed or too small to map separately at the scale used for the maps in the back of this publication.

Typically, the surface layer of Candler soil is dark gray fine sand about 6 inches thick. The upper part of the subsurface layer, to a depth of 26 inches, is brownish yellow fine sand. The lower part, to a depth of 76 inches, is very pale brown fine sand. The subsoil to a depth of about 80 inches is very pale brown fine sand that has yellowish brown loamy sand lamellae that are about one-sixteenth to one-quarter of an inch thick and 2 to 6 inches long. In places, the soil does not have lamellae. In some areas, the subsurface layer contains 5 to 10 percent silt and clay. In some of the lower parts of the landscape, the soil is well drained.

The Urban land part of this complex is covered by concrete, asphalt, buildings, or other impervious surfaces

The potential of this soil for the production of slash pines is moderately high. Seedling mortality and the equipment use limitation are the main limitations. Water-tolerant trees should be planted. Planting and harvesting operations should be scheduled during dry periods. Bedding of rows helps to minimize the excessive wetness limitation. Wetness limits the use of equipment.

If this soil is used for building site development, the main management concerns are excessive wetness, slow permeability of the subsoil, and instability of the cutbanks. Drainage is needed to lower the high water table, and fill material is needed in most areas. Slow permeability and the high water table increase the possibility that the septic tank absorption fields will not function properly. Cutbanks are not stable and are subject to slumping.

This Malabar soil is in capability subclass IVw, in woodland group 10W, and in the Slough range site.

**28—Millhopper-Urban land complex, 0 to 5 percent slopes.** This complex consists of Millhopper soil that is nearly level to gently sloping and moderately well drained and of areas of Urban land. This complex is on the uplands.

This map unit consists of 45 to 60 percent Millhopper soil and 30 to 45 percent Urban land. The included soils make up 10 percent or less of this map unit. The individual areas of the soils in this map unit are too mixed or too small to map separately at the scale used for the maps in the back of this publication.

Typically, the surface layer of Millhopper soil is very dark gray fine sand about 5 inches thick. The upper part of the subsurface layer, to a depth of 22 inches, is brown fine sand. The lower part, to a depth of 57 inches, is pale brown fine sand. The upper part of the subsoil, to a depth of about 64 inches, is light yellowish brown, mottled sandy loam. The lower part to a depth of about 80 inches is gray, mottled sandy clay loam. In some of the lower parts of the landscape, the soil is somewhat poorly drained, and in some of the higher parts, it is well drained. In places, the upper part of the subsoil is at a depth of 40 inches.

The Urban land part of this complex is covered by concrete, asphalt, buildings, or other impervious surfaces that obscure or alter the soil so that their identification is not feasible.

Included in mapping are Seffner and Tavares soils in small areas. Seffner soils are in lower positions on the landscape than Millhopper soil. Seffner soils are somewhat poorly drained. Tavares soils and Millhopper soil are in similar positions on the landscape. Tavares soils do not have a subsoil.

In most years, a seasonal high water table is at a depth of 40 to 60 inches for 1 to 4 months and recedes to a depth of 60 to 72 inches for 2 to 4 months. The permeability of Millhopper soil is rapid in the surface and

subsurface layers and moderate in the subsoil. The available water capacity is low.

Present land use precludes the use of the soils in this map unit for cultivated crops, pasture, or commercial trees. Millhopper soil in the Urban land part of this complex is used for lawns, parks, playgrounds, or cemeteries, or it is left as open space.

If the soils in this map unit are used for building site development, the main management concern is instability of cutbanks. Cutbanks are not stable and are subject to slumping. Plans for homesite development should provide for the preservation of as many trees as possible. Droughtiness, a result of the low available water capacity, is a limitation, especially during extended dry periods. Selection of vegetation that is adapted to these soils is critical for the establishment of lawns, shrubs, trees, and vegetable gardens. The soils need to be mulched, fertilized, and irrigated to establish lawn grasses and other small seeded plants.

The soils in this map unit have not been assigned to a capability subclass, to a woodland group, or to a range site.

**29—Myakka fine sand.** This soil is nearly level and poorly drained. It is on broad plains on the flatwoods. The slope is 0 to 2 percent.

In 95 percent of the areas mapped as Myakka fine sand, the Myakka soil and similar soils make up 84 to 93 percent of the mapped areas. Dissimilar soils make up 7 to 16 percent of the mapped areas.

Typically, this soil has a surface layer of very dark gray fine sand about 5 inches thick. The subsurface layer, to a depth of about 20 inches, is gray fine sand. The upper part of the subsoil, to a depth of about 25 inches, is black fine sand. The middle part, to a depth of 30 inches, is dark reddish brown fine sand. The lower part, to a depth of about 38 inches, is brownish yellow fine sand. The upper part of the substratum, to a depth of about 55 inches, is very pale brown fine sand. The lower part to a depth of about 80 inches is dark grayish brown fine sand. Similar soils included in mapping, in some areas, have a surface layer that is more than 8 inches thick. Other similar soils, in some places, have a subsoil within 20 inches of the surface, and some included similar soils have a subsoil at a depth of more than 30 inches or have a brown or dark brown subsoil, or both.

Dissimilar soils included in mapping are Basinger and Wabasso soils in small areas. Basinger soils are very poorly drained. Wabasso soils have a loamy subsoil below a sandy subsoil.

In most years, a seasonal high water table fluctuates from the soil surface to a depth of 10 inches for 1 to 4 months and recedes to a depth of 40 inches during prolonged dry periods. Permeability is rapid in the surface and subsurface layers, moderate or moderately rapid in the subsoil, and rapid in the substratum. The available water capacity is low.

In most areas, this Myakka soil is used for native pasture or cultivated crops. In a few areas, it is used for improved pasture or citrus crops, or it is used for homesite or urban development. The natural vegetation consists of longleaf pine and slash pine. The understory includes gallberry, running oak, saw palmetto, pineland threawn, and waxmyrtle.

If a water control system is established and maintained and soil-improving measures applied, this soil is suited to most cultivated crops, citrus crops, and pasture. Proper arrangement and bedding of tree rows, lateral ditches or tile drains, and well constructed outlets will help lower the water table. Returning all crop residue to the soil and using a cropping system that includes grasses, legumes, or a grass-legume mixture help to maintain fertility. Frequent applications of fertilizer and lime are generally needed to improve soil quality.

If a water control system is established and maintained, this soil is well suited to pasture. Wetness limits the choice of plants that can be grown and restricts grazing during periods of excessive wetness. Proper stocking, pasture rotation, and restricted grazing during wet periods help keep the pasture and the soil in good condition. Fertilizer and lime are needed for optimum growth of grasses and legumes.

The potential of this soil for the production of slash pines is moderate. The main management concerns for producing and harvesting timber are the equipment use limitations and seedling mortality. Equipment use limitations are a concern if the soil is not properly drained. Water-tolerant trees should be planted. Planting and harvesting operations should be scheduled during dry periods. Bedding of rows helps to minimize the excessive wetness limitation.

If this soil is used for building site development, the main management concerns are excessive wetness, possible contamination of the ground water, and instability of cutbanks. Population growth has resulted in increased construction of houses on this soil. Drainage is needed to lower the high water table, and fill material is needed in most areas. Septic tank absorption fields need to be mounded in most areas. If the density of housing is moderate to high, a community sewage system can help to prevent contamination of water supplies by seepage. Cutbanks are not stable and are subject to slumping.

This Myakka soil is in capability subclass IVw, in woodland group 8W, and in the South Florida Flatwoods range site.

**30—Myakka fine sand, frequently flooded.** This soil is level and very poorly drained. It is in tidal areas. This soil is subject to shallow flooding by the highest of normal tides. It is also subject to occasional deep flooding by storm tides. Many small ponds and tidal channels are in this map unit. The slope is dominantly less than 1 percent.

In 80 percent of the areas mapped as Myakka fine sand, frequently flooded, the Myakka soil and similar soils make up 78 to 99 percent of the mapped areas. Dissimilar soils make up 1 to 22 percent of the mapped areas.

Typically, this soil has a surface layer of very dark gray fine sand about 5 inches thick. The subsurface layer, to a depth of about 22 inches, is grayish brown fine sand. The subsoil, to a depth of about 40 inches, is very dark grayish brown fine sand. The substratum to a depth of about 80 inches is brown fine sand. Similar soils included in mapping, in some areas, have a surface layer of mucky fine sand, have a surface layer that is more than 8 inches thick, or have both. Other similar soils, in some places, have a subsoil at a depth of more than 30 inches.

Dissimilar soils included in mapping are small areas of unnamed soils. These soils are organic to a depth of 51 inches or more.

A seasonal high water table fluctuates from the soil surface to a depth of about 10 inches. It is affected by tidal fluctuations. Permeability is rapid in the surface and subsurface layers, moderate or moderately rapid in the subsoil, and rapid in the substratum. The available water capacity is low.

In most areas this Myakka soil has been left idle. In a few areas, it is used for urban development. The natural vegetation consists of mangrove trees, seashore saltgrass, glasswort, needlegrass rush, and marshhay cordgrass (fig. 4).

This soil is generally not suited to most cultivated crops or pasture or to the production of pine trees because of the flooding hazard and saline condition of the soil.

If this soil is used for building site development or for onsite waste disposal, tidal flooding is the main hazard. Drainage is needed to lower the high water table, and fill material is needed in most areas.

This Myakka soil is in capability subclass VIIIw. It has not been assigned to a woodland group. This soil is in the Saltwater Marsh range site.

**32—Myakka-Urban land complex.** This complex consists of Myakka soil that is nearly level and poorly drained and of areas of Urban land. This complex is on broad plains on the flatwoods. The slope is 0 to 2 percent.

This map unit consists of 40 to 60 percent Myakka soil and 30 to 45 percent Urban land (see fig. 5). The included soils make up 20 percent or less of this map unit. The individual areas of the soils in this map unit are too mixed or too small to map separately at the scale used for the maps in the back of this publication.

Typically, the surface layer of Myakka soil is dark gray fine sand about 5 inches thick. The subsurface layer, to a depth of 20 inches, is light gray fine sand. The upper part of the subsoil, to a depth of about 24 inches, is very

Dissimilar soils make up 1 to 24 percent of the mapped areas.

Typically, this soil has a surface layer of black fine sand about 5 inches thick. The subsurface layer, to a depth of about 14 inches, is grayish brown fine sand. The upper part of the subsoil, to a depth of about 18 inches, is gray sandy clay loam and white fine sand. The lower part of the subsoil, to a depth of about 34 inches, is grayish brown, mottled sandy clay loam. The substratum, to a depth of about 80 inches, is light brownish gray fine sand. Similar soils included in mapping, in some areas, have a subsoil at a depth of more than 20 inches. Other similar soils, in some areas, have a surface layer that is more than 8 inches thick or is stratified, or both. In some places are similar soils that have a thin, discontinuous strata of fragmented limestone in the upper part of the subsoil.

Dissimilar soils included in mapping are Samsula, Basinger, and Chobee soils in small areas. These soils are very poorly drained.

In most years, a seasonal high water table fluctuates from the soil surface to a depth of about 10 inches for 2 to 6 months. Permeability is rapid in the surface and subsurface layers, slow or very slow in the subsoil, and rapid in the substratum. The available water capacity is moderate.

In most areas, this Winder soil has been left idle in natural vegetation. In a few areas, it is used as pasture. The natural vegetation consists of Coastal Plain willow, red maple, cabbage palm, and sweetgum. The understory includes buttonbush, maidencane, sawgrass, smartweed, and sedges.

In its natural state, this soil is generally not suited to cultivated crops or pasture. If a water control system, such as dikes, ditches, and pumps, is established and maintained, this soil is suited to pasture and cultivated crops.

This soil is generally not suited to the production of pines because of flooding or extended wetness. It may be suited to the production of cypress and hardwoods through natural regeneration.

If this soil is used for building site development or for onsite waste disposal, flooding is the main hazard. Major flood control structures and extensive local drainage systems are needed to control flooding.

This Winder soil is in capability subclass Vw and in woodland group 11W. This soil has not been assigned to a range site.

**61—Zolfo fine sand.** This soil is nearly level and somewhat poorly drained. It is on broad, low ridges on the flatwoods. The slope is 0 to 2 percent.

In 95 percent of the areas mapped as Zolfo fine sand, the Zolfo soil and similar soils make up 88 to 99 percent of the mapped areas. Dissimilar soils make up 1 to 12 percent of the mapped areas.

Typically, this soil has a surface layer of very dark gray fine sand about 3 inches thick. The upper part of the subsurface layer, to a depth of about 15 inches, is grayish brown, mottled fine sand. The middle part, to a depth of about 51 inches, is light gray, mottled fine sand. The lower part, to a depth of about 60 inches, is grayish brown fine sand. The subsoil to a depth of about 80 inches is dark brown fine sand. Similar soils included in mapping, in some places, have a subsoil that extends to a depth of more than 80 inches. Other similar soils, in some of the higher parts of the landscape, are moderately well drained.

Dissimilar soils included in mapping are Malabar, Millhopper, Myakka, and Smyrna soils in small areas. Malabar, Myakka, and Smyrna soils are poorly drained. Millhopper soils are moderately well drained.

In most years, a seasonal high water table is at a depth of 24 to 40 inches for more than 2 to 6 months and recedes to a depth of 60 inches during prolonged dry periods. Permeability is rapid in the surface and subsurface layers and moderate in the subsoil. The available water capacity is low.

In most areas, this Zolfo soil is used for citrus crops or pasture or for homesite or urban development. In a few areas, it is used for cultivated crops or is left in natural vegetation. The natural vegetation consists of live oak, turkey oak, longleaf pine, and slash pine. The understory includes broomsedge, bluestem, lopsided indiagrass, saw palmetto, and pineland threeawn.

If a water control system is established and maintained and soil-improving measures applied, this soil is well suited to most cultivated crops. If drained, this soil is moderately suited to citrus crops in areas that are relatively free of freezing temperatures. Proper arrangement and bedding of tree rows, lateral ditches or tile drains, and well constructed outlets will help lower the water table. Droughtiness, a result of the low available water capacity, is a management concern, especially during extended dry periods. A well designed and properly managed irrigation system will help to maintain optimum soil moisture and thus ensure maximum yields. Returning all crop residue to the soil and using a cropping system that includes grasses, legumes, or a grass-legume mixture help to maintain fertility. Frequent applications of fertilizer and lime are generally needed to improve crop production.

This soil is moderately well suited to pasture. Proper stocking, pasture rotation, and timely deferment of grazing help keep the pasture in good condition. Fertilizer and lime are needed for optimum growth of grasses and legumes.

The potential of this soil for the production of slash pines is moderately high. This soil has few limitations for woodland use and management.

If this soil is used for building site development, the main management concerns are excessive wetness, instability of cutbanks, and possible contamination of the

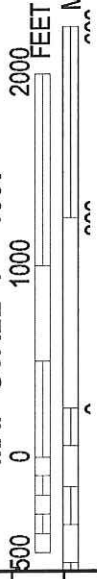
~~ground water.~~ Population growth has resulted in increased construction of houses on this soil. ~~Drainage is needed to lower the high water table, and fill material is needed in most areas.~~ Cutbanks are not stable and are subject to slumping. Septic tank absorption fields need to be mounded in most areas. If the density of housing is

moderate to high, a community sewage system can help prevent contamination of water supplies by seepage.

This Zolfo soil is in capability subclass IIIw, in woodland group 10W, and in the Upland Hardwood Hammocks range site.



MAP SCALE 1" = 1000'



PANEL 0380J

# FIRM FLOOD INSURANCE RATE MAP, HILLSBOROUGH COUNTY, FLORIDA AND INCORPORATED AREAS

**PANEL 380 OF 801**  
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)  
CONTAINS:  
COMMUNITY NUMBER 120112  
HILLSBOROUGH COUNTY 0380  
PANEL SUFFIX J

**AE 36.3**

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.

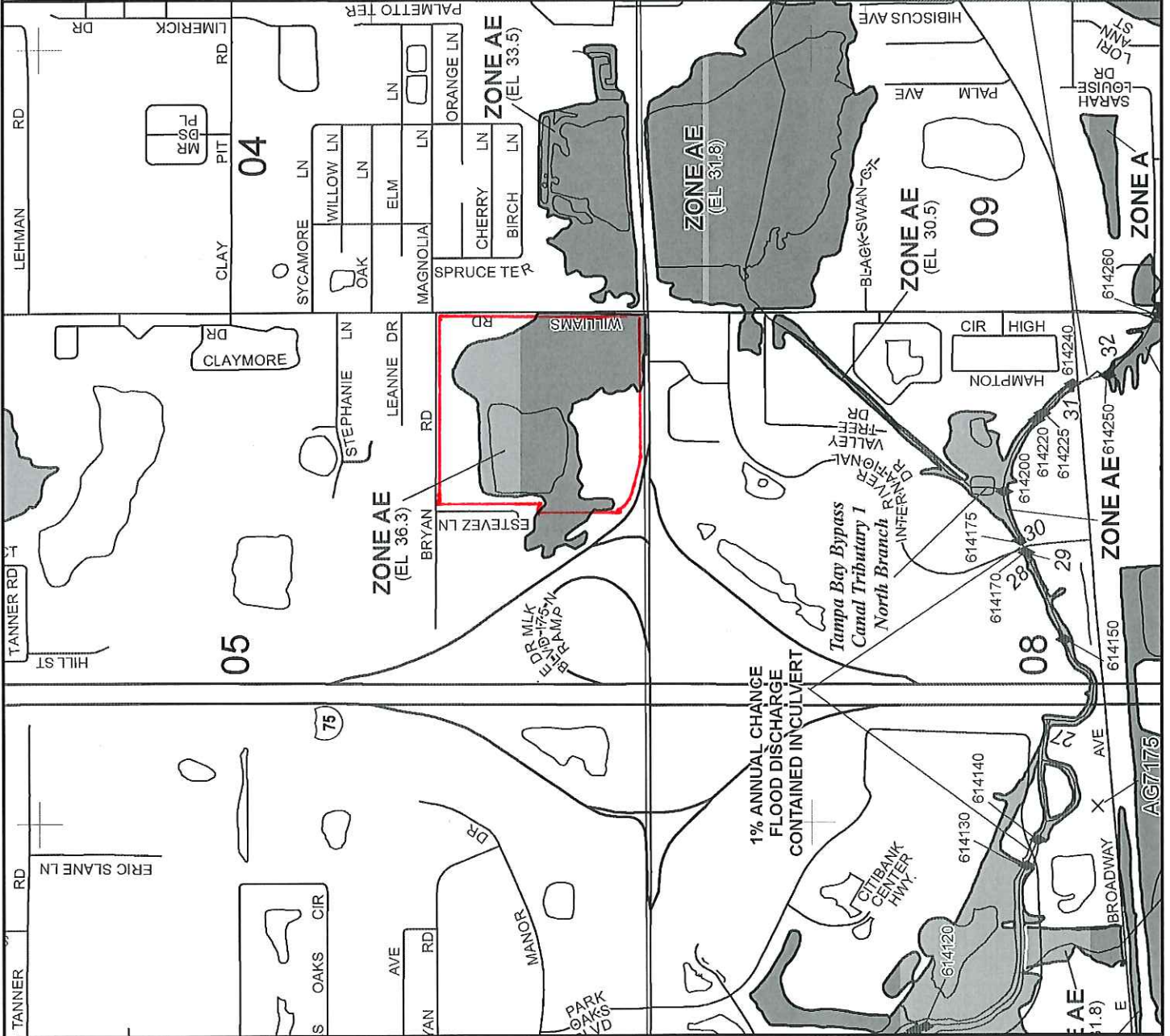


MAP NUMBER  
12057C0380J  
MAP REVISED  
SEPTEMBER 27, 2013

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)



# LEGEND

## SPECIAL FLOOD HAZARD AREAS (SFHAS) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A No Base Flood Elevations determined.
- ZONE AE Base Flood Elevations determined.
- ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- ZONE AR Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE A99 Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

## FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

## OTHER FLOOD AREAS

Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

## OTHER AREAS

Areas determined to be outside the 0.2% annual chance floodplain. Areas in which flood hazards are undetermined, but possible.

## COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS



MAP SCALE 1" = 1000'



UNITED STATES

PANEL 0380J

# FIRM FLOOD INSURANCE RATE MAP HILLSBOROUGH COUNTY, FLORIDA AND INCORPORATED AREAS

PANEL 380 OF 801

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY NUMBER 120112  
HILLSBOROUGH COUNTY PANEL SUFFIX 0380 J

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.

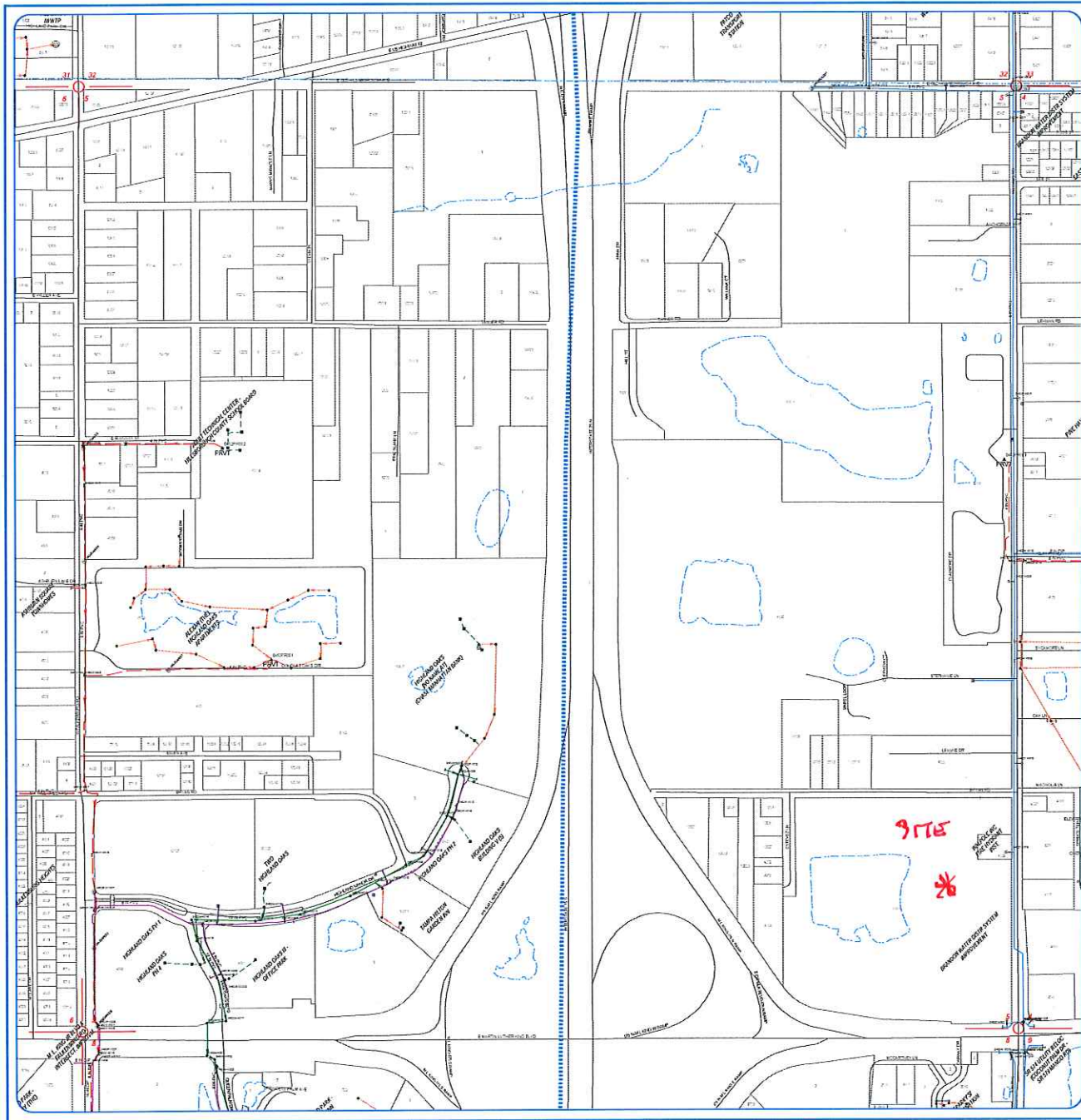


MAP NUMBER  
12057C0380J  
MAP REVISED  
SEPTEMBER 27, 2013

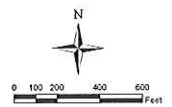
Federal Emergency Management Agency

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**P/W/R WATER SERVICES SOUTH CENTRAL**



- B/W/W/T DUCT
- B/W/W/T QUANTITY ADJUST
- WELLED HEAD
- FLAT TOP VALVE
- OVERHEAD VALVE
- DIE OPEN VALVE
- BLEED OFF QUANTITY
- AIR RELEASE VALVE
- BLEED OFF FLUSH VALVE
- BLEED OFF CONNECTION
- WATER RELEASED TO WASTE
- AIR RELEASE FACILITY
- DECHLORINATOR
- SEPTIC TANK HEAD FIELD CLEANUP TRAP
- ▲ WWW PUMP STATION MAINTAINED BY IFC
- ▲ WWW PUMP STATION MAINTAINED BY OTHERS
- ▲ WWW PRESSURE PUMP STATION
- ▲ FLEETS WITH IN HOUSE CONTROL
- ▲ MANSUKE MAINTAINED BY IFC
- ▲ MANSUKE MAINTAINED BY OTHERS
- ▲ GRAVITY MAN MAINTAINED BY IFC
- ▲ GRAVITY MAN MAINTAINED BY OTHERS
- ▲ GRAVITY REDUND LINE
- FORECAST
- LOW PRESS FORECAST
- TENSILE LINE UNDER CLEANOUT
- W/W/S LINE
- WATER MAIN DIM
- W/W/S V/C AREA BOARD FOOT (TOTAL)

OCTOBER 2013

PAGE 0452 STR 05\_29\_20

DATA SOURCES: Based on: Records and Water Biller data from Hillsborough County W/C. All Water Department Facilities are from IFC Property, Appraisals, Water, Sewer & Landfill Water Facilities are from IFC Water Reserve Services.

ACCURACY: All data obtained from the accuracy of the data may vary with U.S. National map accuracy standards. However, we warrant, in any other use of accuracy in our jurisdiction, Hillsborough County.

RESPONSIBILITY: This document is the property of the City of Hillsborough County and its use without the explicit approval of the IFC Water Reserve Services.

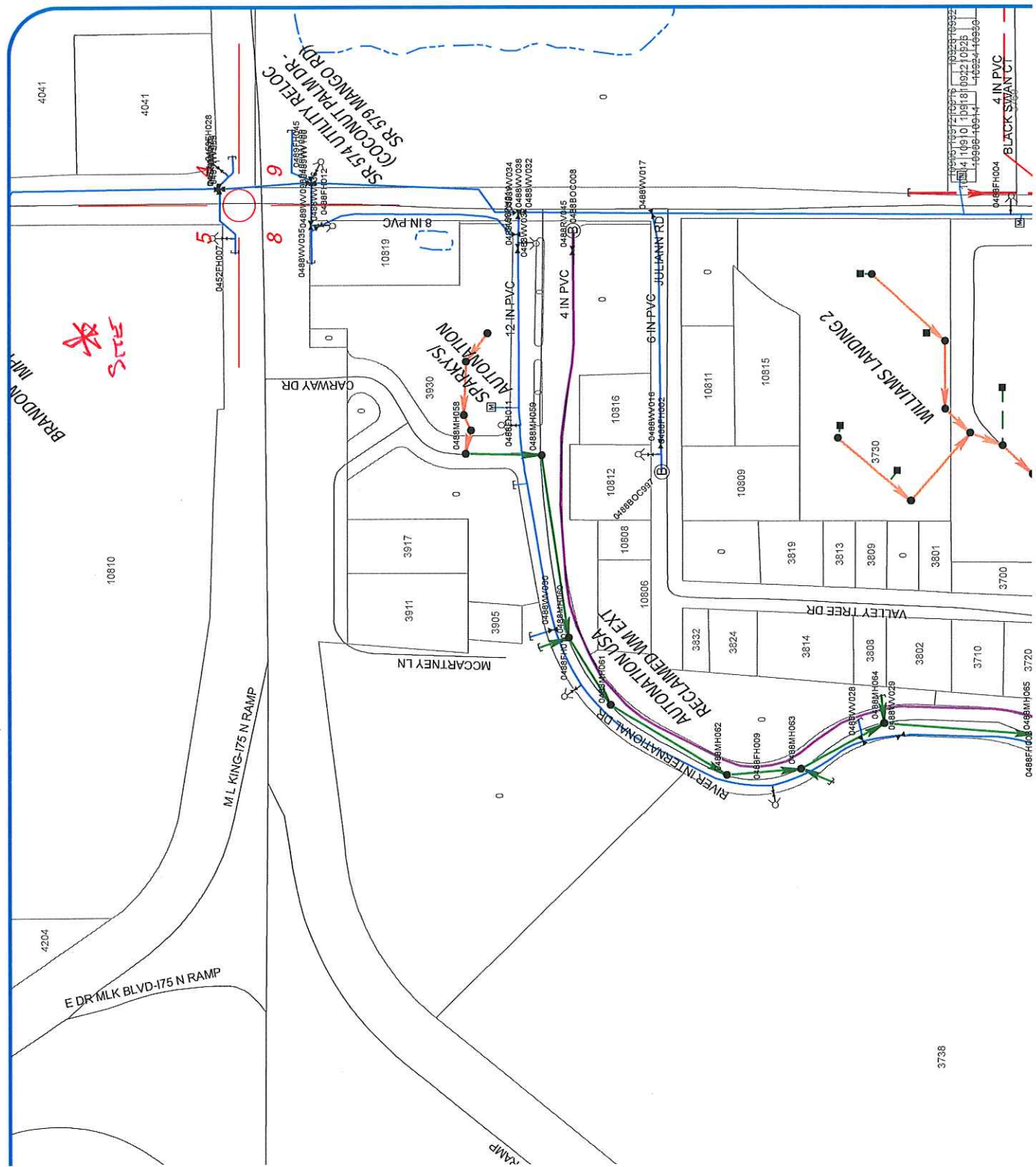


10/10/13 10:00 AM 10/10/13 10:00 AM 10/10/13 10:00 AM

# P/W/R WATER SER SOUTH CENTR



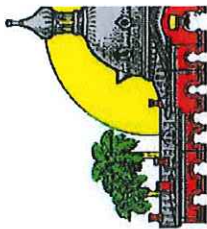
- WTP/WWTP/IWWTP
- WTP/WWTP (INACTIVE/AB.)
- WELL/FIRE HYDRANT
- PLUG/TAPPING VALVE
- GATE/BUTTERFLY VALVE
- DBL CHECK VALVE
- BLOW - OFF COUNTY'S/PRV
- AIR RELEASE VALVE
- REDUCER/PLUG STUB OUT
- METER/INTERCONNECTION
- WATER/RECLAIMED STOR.
- A.S.R./DECHLOR FACILITY
- DISCHARGE STR/BALL LOCK
- SEPTIC TANK/DRAINFIELD



**DATA SOURCES:** Base map, Road Hillsborough County (H.C.) Real Es from H.C. Property Appraiser, Water Facilities are from H.C. Water Reso

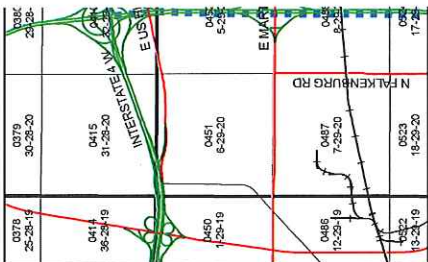
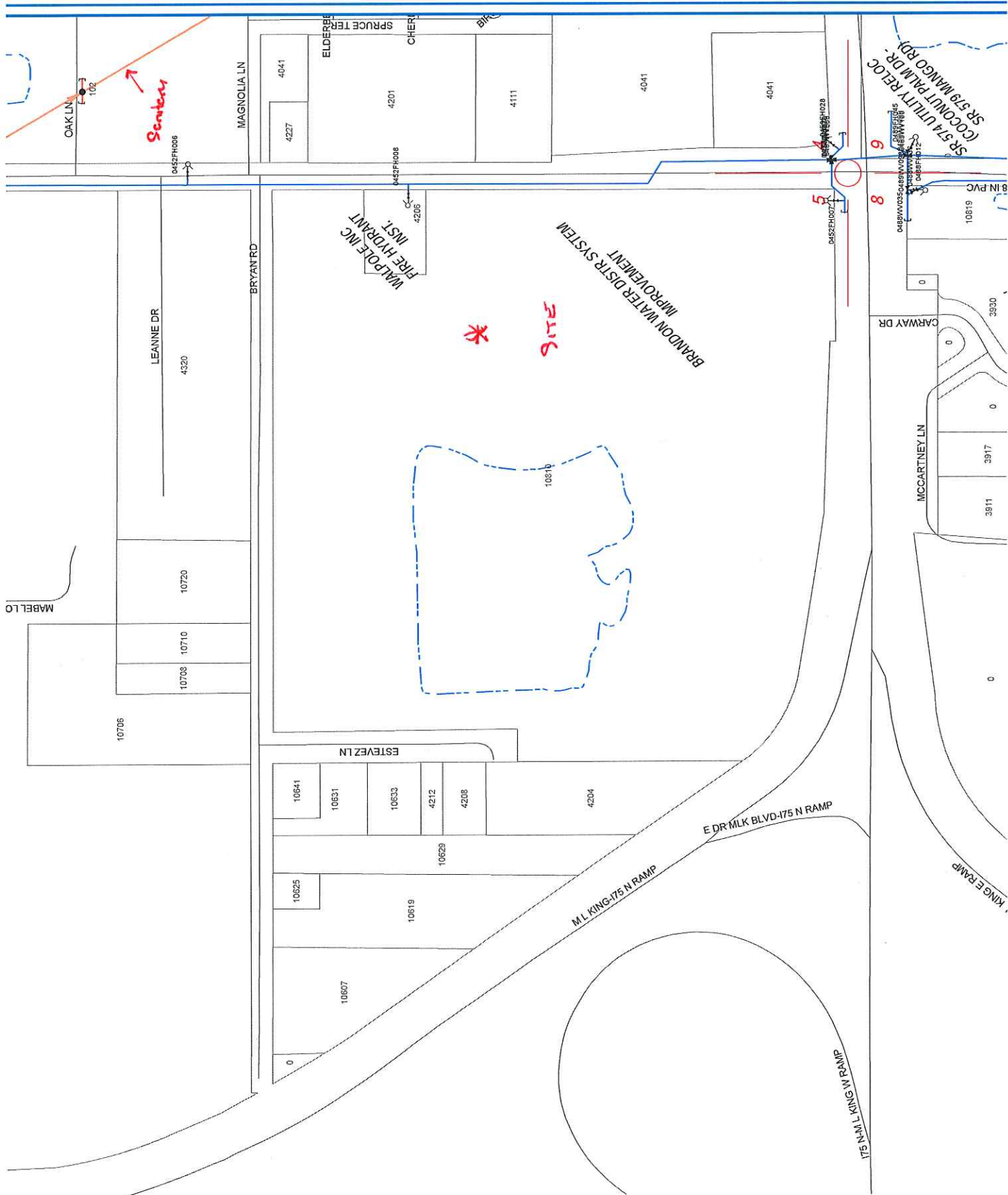
**ACCURACY:** It is intended that the comply with U.S. National map acci such accuracy, or any other level of Hillsborough County.

**REPRODUCTION:** This sheet may full for sale to anyone without speci Water Resource Services.

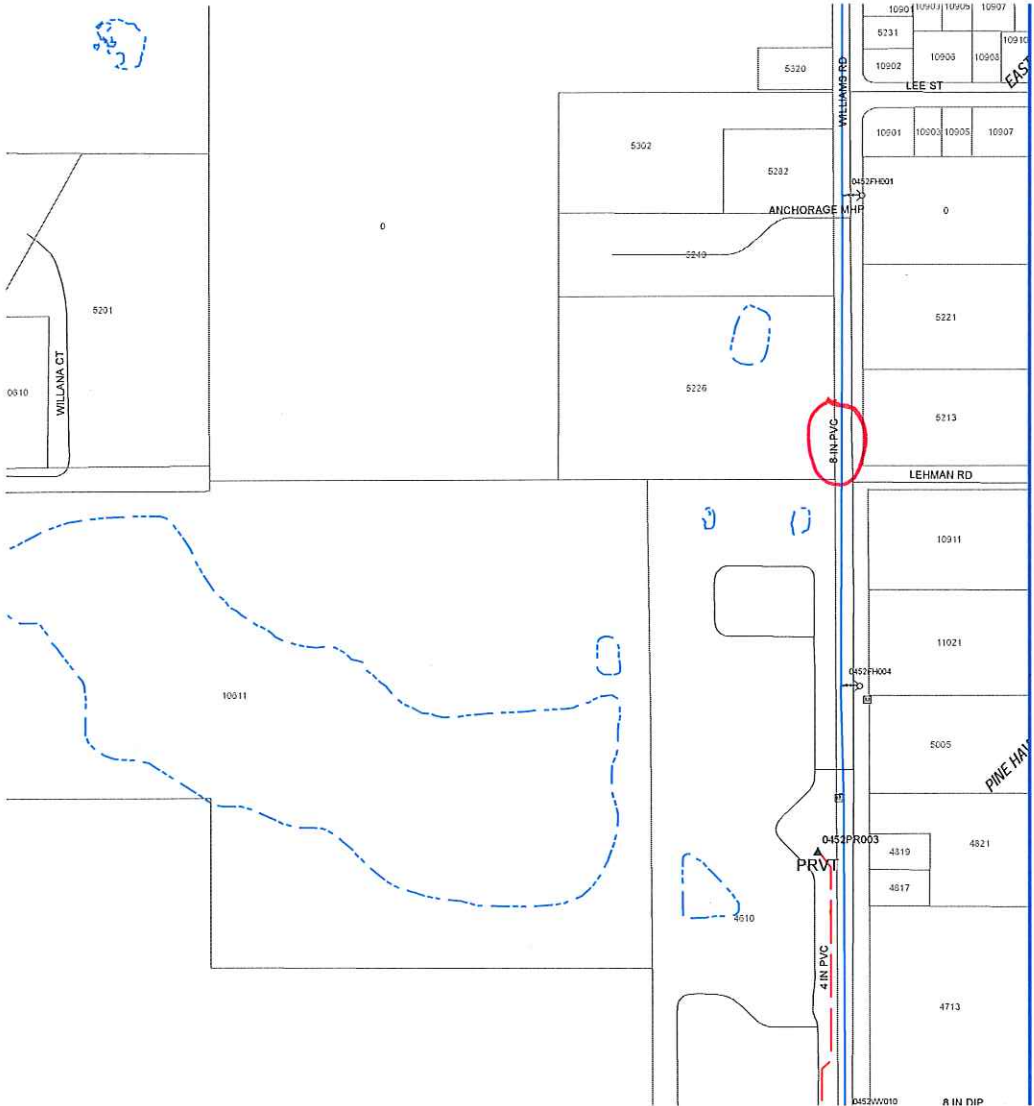


Hillsborough Flor.

Water Resource  
Engineering Data Services







- WTP/AWTP/ IWWTP
- WTP/AWTP (INACTIVE/ABAN.)
- WELL/FIRE HYDRANT
- PLUG/TAPPING VALVE
- GATE/BUTTERFLY VALVE
- DBL. CHECK VALVE
- BLOW - OFF COUNTY'S/PRVT
- AIR RELEASE VALVE
- REDUCER/PLUG STUB OUT
- METER/INTERCONNECTION
- WATER/RECLAIMED STORAGE TANK
- A.S.R./DECHLOR FACILITY
- DISCHARGE STR/BALL LOCAT.
- SEPTIC TANK/DRAINFIELD/GREASE TRAP
- W/WW PUMP STATION, MAINTAINED BY HC
- WW PUMP STATION, MAINTAINED BY OTHERS
- WW LOW PRESSURE PUMP STATION
- PUBLIC WW PS W/ODOR CONTROL
- MANHOLE, MAINTAINED BY HC
- MANHOLE, MAINTAINED BY OTHERS
- GRAVITY MAIN, MAINTAINED BY HC
- GRAVITY MAIN, MAINTAINED BY OTHERS
- GRAVITY REHAB'D LINE
- FORCEMAIN
- LOW PRESS FORSMAIN
- TERMINAL/INLINE/DOUBLE CLEANOUT
- W/RW MAIN LINE
- WATER MAIN TBW
- W/RW/WW SVC AREA BOUNDARY (TOTAL)



December 16, 2013

### **Technical Memorandum**

**To:** Robert Pergolizzi, Gulf Coast Consulting, Inc.

**From:** Bob Upcavage, Environmental Consultants, LLC

**Subject:** Wetland Assessment; White Construction Site; Hillsborough County, Florida

### **INTRODUCTION**

The purpose of this technical memorandum is to provide the results of the on-site investigation for the approximate extent and location of the on-site wetlands. It will also include a cursory discussion regarding the potential occurrence and/or habitat of any federal- or state-listed faunal and floral species within the property. The property is approximately 35 acres and is generally located north of State Road (SR) 574 (Dr. Martin Luther King, Jr. Boulevard), south of Bryan Road, east of Williams Road, and west of Interstate 75 in Section 5, Township 29 South, Range 20 East, Hillsborough County, Florida (Figure 1).

The initial part of this assessment was to gather in-house data to determine the potential extent and location of the on-site wetlands, then to conduct a brief field review to determine the accuracy of data and to document the quality of the wetlands. During the inspection any protected floral or faunal species would be documented and its approximate location would be recorded on an aerial photograph.

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Wetland Assessment Report - White Construction Site

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## SOIL, LAND USE/COVER, AND WETLANDS

According to soil survey information for Hillsborough County, four (4) soil map units were identified within the parcel boundary: Basinger, Holopaw, and Samsula soils, depressional (#5), a state and federally-listed hydric soil; Candler fine sand (0-5% slopes) (#7), Myakka fine sand (#29), and, Zolfo fine sand (#61) (Figure 2). The last three (3) soil mapping units are typically considered to be nonhydric soils by both the state and federal agencies. The majority of the upland areas are within the Candler fine soil and Myakka fine soil map units while the natural wetlands are located within the Basinger, Holopaw, and Samsula soil mapping units. The borrow pit lake (a man-made wetland) was constructed within the Candler fine sand and Zolfo fine sand mapping units.

Existing land use/cover on the site has been classified according to the Florida Land Use, Cover and Forms Classification System (FLUCCS) Level 3, which is widely utilized in development review in Florida (Florida Department of Transportation, 1999). According to Southwest Florida Water Management District's (SWFWMD) 2011 land use/cover data the land use/cover for the west parcel consists of Low Density Residential (FLUCCS 110), Reservoirs (FLUCCS 530), Wetland Forests Mixed (FLUCCS 630), Freshwater Marshes (FLUCCS 641), and Emergent Aquatic Vegetation (FLUCCS 644) (Figure 3).

The United States Fish and Wildlife Services National Wetland Inventory (NWI) Maps identified three (3) on-site wetlands (Figure 4). The borrow pit lake (POWHx), a forested wetland just east of the borrow pit lake (PFO3/1), and a tidal marsh (PEM5/6) just south of the forested wetland (an obvious error, this is a freshwater system).

The December 16, 2013 site inspection indicates that the SWFWMD land use maps appears to have over estimated the extent of the property's wetlands, while the NWI maps appear to have under estimated the extent of the property's wetlands. Based on the on-site inspection the approximate extent and location of the on-site wetlands are depicted in Figure 5. A photograph record of each wetland may be found in Appendix A. It should be noted that the actual extent and location of the wetlands may vary from that depicted in Figure 5 because not all of the property was canvassed, the site is highly disturbed from historic dredge and fill activities, and it appears that the on-site wetlands have been hydrologically altered from their historic hydroperiods probably due

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Wetland Assessment Report - White Construction Site

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to proximal development (primarily the roadway infrastructure). For an accurate assessment of the on-site wetland extent and location a wetland delineation with agency verification would be necessary.

## **WETLAND QUALITY**

There are three primary wetland areas, all appear to be interconnected, albeit tenuously. The west and east sides of the property have what would be best described as Mixed Shrubs (FLUCCS 6172) wetlands, aka Wetland Scrub (FLUCCS 631). This classification is used for forested wetland communities that are regenerating from a natural or induced die-off that include alterations to a wetland's historic hydrology. These categories are used where the wetland is dominated by shrubs or where most of the tree species are less than 20 feet in height.

The **west Mixed Shrubs** wetland includes scattered tree species such as Brazilian pepper (*Schinus terebinthifolius*), laurel oak (*Quercus laurifolius*), Carolina willow (*Salix caroliniana*), and red maple (*Acer rubrum*). Shrub species may include primrose willow (*Ludwigia peruviana*), wax myrtle (*Myrica cerifera*), groundsel tree (*Baccharis halimifolius*), and sabal palm (*Sabal palmetto*). Ground cover and vine species may include john charles (*Hyptis verticillata*), air potato (*Dioscorea bulbifera*), pepper vine (*Ampelopsis arborea*), muscadine (*Vitis rotundifolia*), blackberry (*Rubus arcuata*), and elderberry (*Sambucus nigra* subsp. *canadensis*). The ground undulates which may be the result of past dredge and fill activities. The hydrology appears to be depressed and may be drier than historic conditions.

The **Reservoir** (borrow pit lake) was likely excavated for fill required to build the I-75/SR 574 overpass and the Reservoir appears to have been excavated between 1982 and 1995 based upon review of aerial photograph imagery. The Reservoir has virtually no littoral shelf and therefore little emergent vegetation. The exception is along the north bank where an approximately 100 foot wide vegetated wetland shelf exists between the open water component of the borrow pit lake and the adjoining uplands to the north. A thin strip of 'land' exists at the waterward extent of the shelf, which deepens ditch-like as one progresses north, then rises rapidly in elevation to the uplands. As with most of the vegetation of the borrow pit lake this area is dominated with nuisance species. Most of the vegetation in the other areas of the borrow pit lake is located at the top of bank and consists of wax myrtle, Carolina willow, red maple, laurel oak, Brazilian pepper,



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Wetland Assessment Report - White Construction Site

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primrose willow, air potato, and climbing aster (*Symphotrichum carolinianum*). A few emergent species were observed that included cattail (*Typha latifolia*) and water hyacinth (*Eichhornia crassipes*). The water was tannin stained and slightly greenish in color, indicating that the water may be nutrient rich (eutrophic).

The **east Mixed Shrubs** wetland is densely populated with red maple, but also includes numbers of Chinese tallow (*Sapium sebiferum*), sweet bay magnolia (*Magnolia virginiana*), and a fringe of laurel oak, water oak (*Quercus nigra*), and live oak (*Quercus virginiana*). Scattered throughout this wetland are mature trees of the aforementioned tree species. Shrub species include primrose willow and immature tree species. The wetland is currently inundated almost to the edge of the approximate wetland boundary.

Generally, the wetlands would be considered low quality and are not expected to support a diversity of protected wildlife species. However, because of the size of the wetlands they should support a number of general wetland dependent wildlife species.

## WETLAND MITIGATION

Florida's Unified Mitigation Assessment Methodology (UMAM), a methodology for assessing a wetland's value to wildlife, reveals relatively low indices for all three (3) wetlands (Appendix B). However, in spite of the property's wetlands being considered low quality, any proposed impacts will require adequate justification presented to the local, state, and federal wetland regulatory agencies for any proposed wetland impacts and sufficient mitigation must be provided should the impacts be authorized. Up to three (3) wetland regulatory agencies may be involved with the wetland impact permitting for this property including: the Environmental Protection Commission of Hillsborough County, the Southwest Florida Water Management District, and the United States Army Corps of Engineers. Perhaps the route of least resistance for wetland impact authorization may be for the Reservoir. It is a man-made wetland and has virtually no littoral shelf for much of its perimeter and may not support submerged vegetation because of its depth and tannin stained water (some agencies may consider the Reservoir an open water feature), and as a result, may not require typical wetland compensation. Rather, compensation for the Reservoir may be for the loss of water storage volume. Next in line for its likelihood to receive authorization for wetland impacts would be the west Mixed Shrub wetland because of its negatively altered hydrology and proximity to the interstate. Most difficult, from a permitting perspective,

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Wetland Assessment Report - White Construction Site

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and costliest to mitigate would be the east wetland due to its size, density of trees, and near normal hydrology. If mitigated, the time-lag (T-factor) value (Chapter 62-345, Florida Administrative Code) required for each of the three (3) wetland systems for UMAM mitigation calculations may be two (2) years or less for the Reservoir, five (5) years or less for the west Mixed Shrubs wetland, and 20 years or less for the east Mixed Shrubs wetland, although some small localized areas of this last wetland may require a greater time-lag factor due to its large, mature trees. Also, starting mitigation ratios to expect for these systems may be 1:1 for the Reservoir (meaning one acre of mitigation for 1 acre of wetland impact), 2.5:1 for the west Mixed Shrubs wetland, and 4:1 for the east Mixed Shrubs wetland.

## **WILDLIFE OBSERVATIONS**

On December 16 air temperatures were in the lower 50s (degrees Fahrenheit) in the morning and mid 50s by early afternoon. Northerly breezes of 10 mph or less were present throughout the day and the skies were generally clear with a few clouds. The cooler weather was not ideal for wildlife assessment, especially for ectothermic species (cold-blooded animals). Project biologists performed several meandering pedestrian transects through the property while assessing the on-site wetlands and all indications of wildlife in the project area and immediate vicinity were recorded. These indications included observation of actual animals or signs of their presence, including tracks, burrows, dens, scat, nests, and calls (typically with avifauna). Any identification of signs of protected floral or faunal species were given special attention.

### **Protected Species - Federal and State Designations**

All field observations or evidence of general faunal species or protected floral/faunal species are summarized in **Table 1**. The species discussed in this section are those species that may potentially inhabit or otherwise utilize the property based on species' habitat preference or documented within a two-mile radius of the property.

The **American alligator (*Alligator mississippiensis*)** is designated as a SSC by FWC, and listed as Threatened by the USFWS because of its similarity in appearance to the American crocodile (*Crocodylus acutus*). Alligator tracks were noted near a small ditch that connects the Reservoir's southeast corner to the east Mixed Shrubs wetland. Due to the species' adaptive nature if a nominal amount of the on-site wetlands and

December 16, 2013

Wetland Assessment Report - White Construction Site

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Reservoir were preserved or if wet retention ponds are constructed within the property this species should not adversely affected.

Although the **southern bald eagle (*Haliaeetus leucocephalus*)** is no longer listed by the USFWS and the FWC they are still protected under several state and federal laws. However, according to 2011 FWC records, the closest southern bald eagle nest is approximately 2.01 miles south of the project area (nest # HL032). As a result, the proposed project should not adversely affect this species.

The **wood stork (*Mycteria americana*)** is listed as Endangered (E) by both the USFWS and the FWC. Normally an inhabitant of pristine swamplands, wood storks often forage in ditches and ponds. They require concentrations of fish in shallow water where they "grope-feed". No wood storks were observed in the project area. The project is located within the 18.6-mile Core Foraging Area (CFA) of one (1) or more wood stork rookeries (it is virtually impossible not to be in one of these CFAs in the Tampa Bay area). Any wetland impacts to these feeding areas would need to be mitigated by the creation of wetland compensation areas designed to facilitate the wood stork's feeding behavior. Anticipate the need to compensate for CFA impacts if the project's wetland impacts exceed 0.5 acres.

#### **Protected Species - State Designation Only**

Protected avifaunal waders using the site may include the **snowy egret (*Egretta thula*)**, **little blue heron (*Egretta caerulea*)**, **limpkin (*Aramus guarana*)**, **tri-colored heron (*Egretta tricolor*)**, **roseate spoonbill (*Ajaia ajaja*)**, or **white ibis (*Eudocimas albus*)** and are listed by the FWC as Species of Special Concern (SSC). None of the species above were observed in the project area, but could be periodically expected due to the presence of on-site wetlands. These species are highly mobile and are not usually adversely affected by typical development, unless a rookery, nesting, foraging, or roosting area is adversely affected by direct or secondary impact. No rookery or roosting area is located within two (2) miles of the property. As a result, any proposed wetland impacts would not be expected to adversely affect these species.

December 16, 2013

Wetland Assessment Report - White Construction Site

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- Rodgers, J. A., H. W. Kale, and H. T. Smith. 1996. Rare and Endangered Biota of Florida. Vol. V, Birds. University Presses of Florida. 688 pp.
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## FIGURES

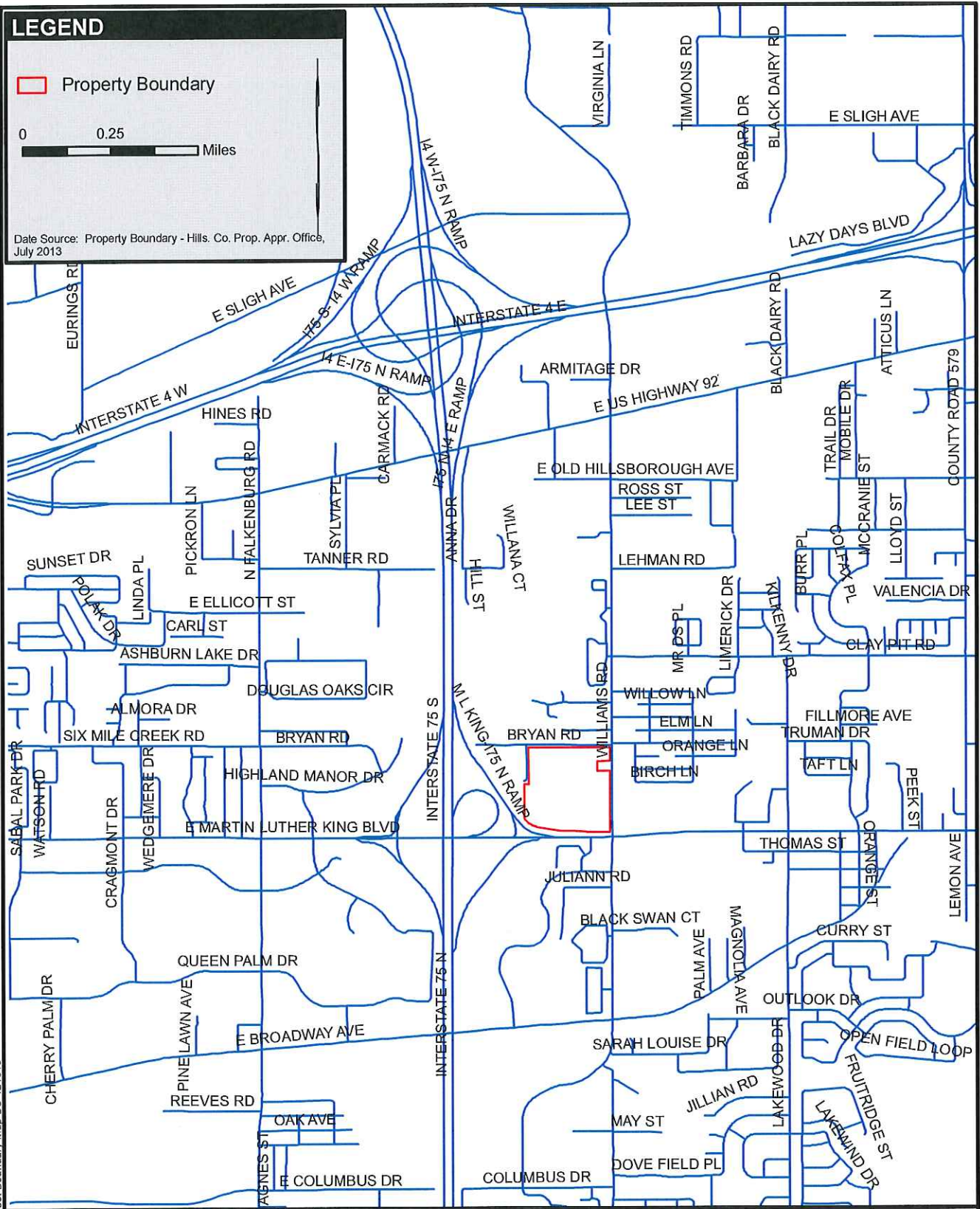
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**LEGEND**

 Property Boundary

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Miles

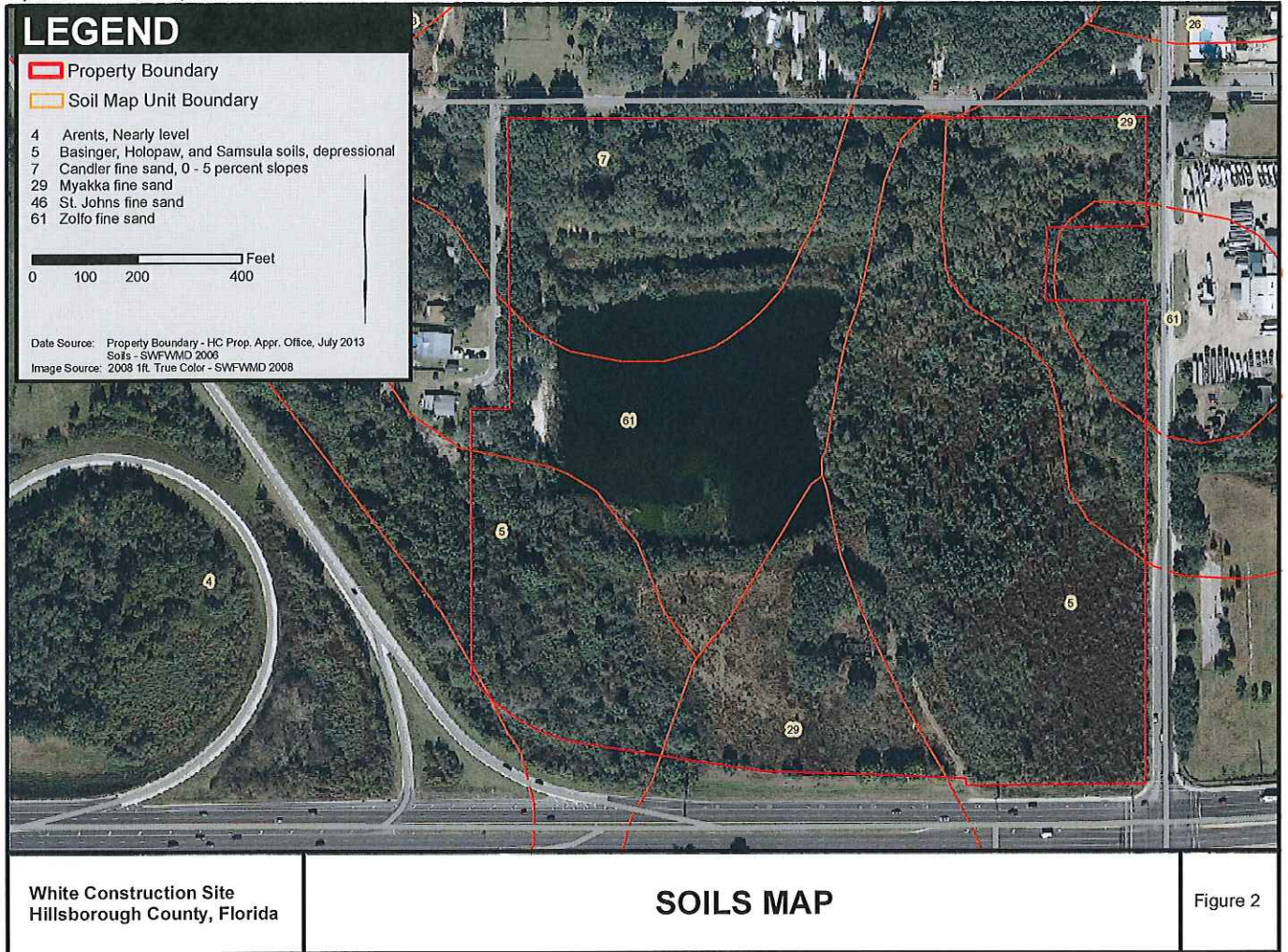
Date Source: Property Boundary - Hills. Co. Prop. Appr. Office, July 2013

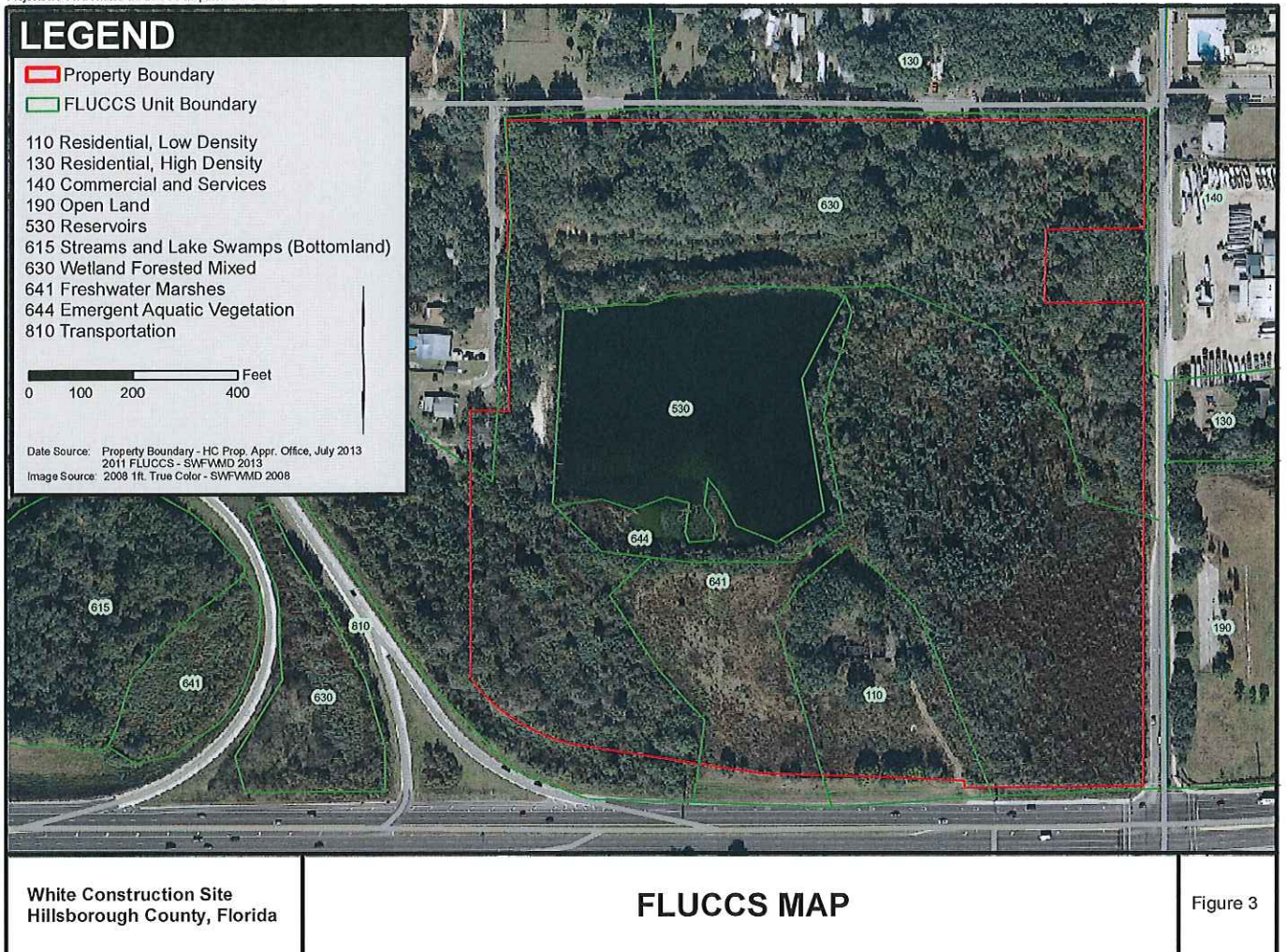


White Construction Site  
Hillsborough County, Florida

**PROJECT BOUNDARY MAP**

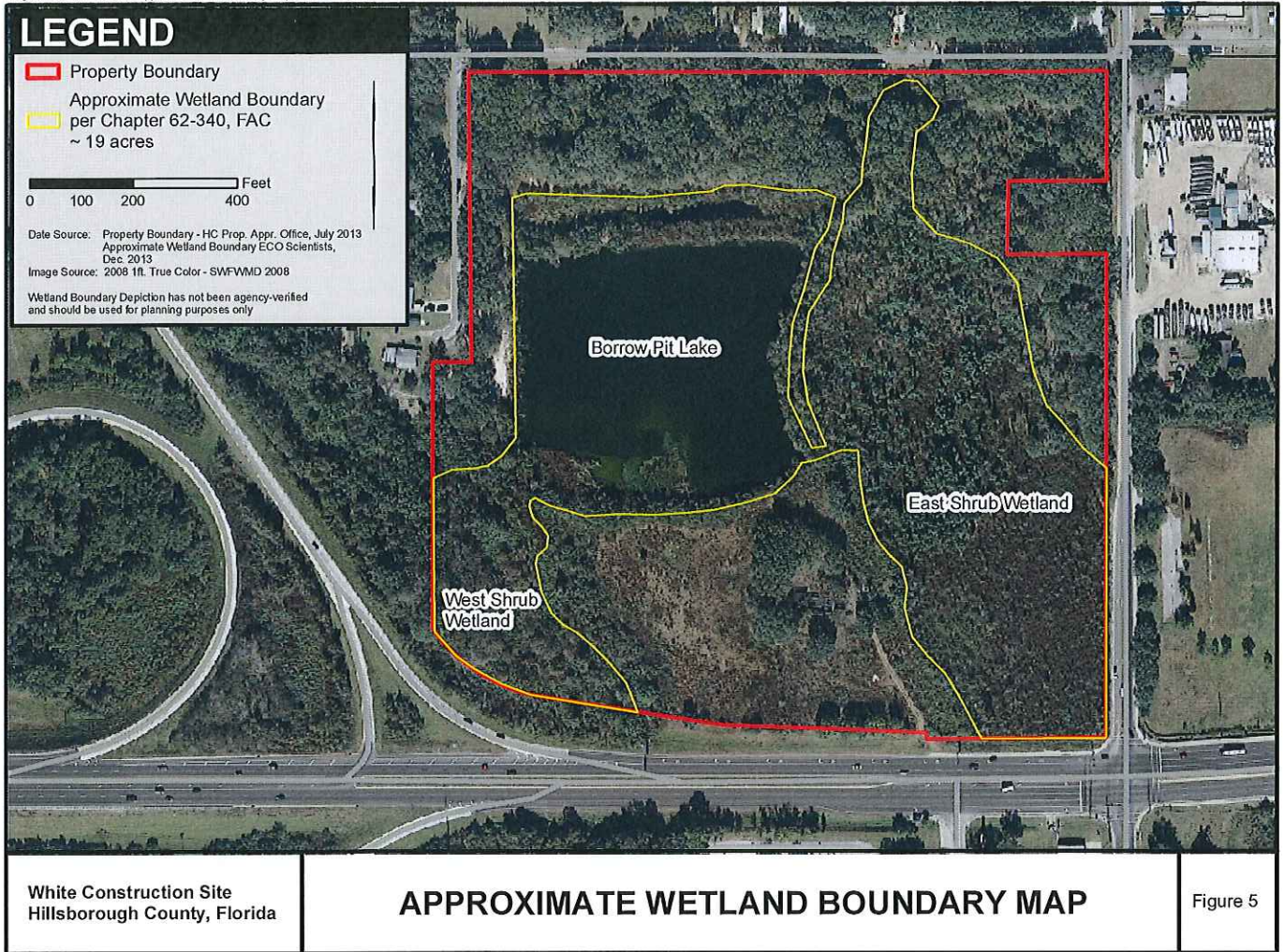
Figure 1











## TABLES

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Table 1. Observed General Fauna and Listed Species - White Construction Site

Scientific Name	Common Name	Observation	Listed Status
<b>FISH</b>			
<i>Gambusia holbrooki</i>	Eastern mosquito fish	v	
<b>AMPHIBIANS</b>			
<i>Rana sphenocephala</i>	Southern leopard frog	v	
<b>REPTILES</b>			
<i>Alligator mississippiensis</i>	American alligator	t	FWC-SSC FWS-T
<i>Anolis carolinensis</i>	Green anole	v	
<i>Anolis sagrei</i>	Brown anole	v	
<i>Scincella lateralis</i>	Ground skink	v	
<b>BIRDS</b>			
<i>Anhinga anhinga</i>	Anhinga	v	
<i>Buteo lineatus</i>	Red-shouldered hawk	c	
<i>Cardinalis cardinalis</i>	Northern cardinal	v	
<i>Cathartes aura</i>	Turkey vulture	fo	
<i>Columbina passerina</i>	Common ground dove	v	
<i>Coragyps atratus</i>	Black vulture	fo	
<i>Cyanocitta cristata</i>	Blue jay	v	
<i>Dendroica coronata</i>	Yellow-rumped warbler	v	
<i>Dendroica palmarum</i>	Palm warbler	v	
<i>Dendroica pinus</i>	Pine warbler	v	
<i>Dumetella carolinensis</i>	Gray catbird	v	
<i>Geothlypis trichas</i>	Common yellowthroat	c	
<i>Parus bicolor</i>	Tufted titmouse	v	
<i>Picoides pubescens</i>	Downy woodpecker	c	
<i>Poliophtila caerulea</i>	Blue-gray gnatcatcher	v	
<i>Thryothorus ludovicianus</i>	Carolina wren	c	
<b>MAMMALS</b>			
<i>Dasyopus novemcinctus</i>	Nine-banded armadillo	d	
<i>Procyon lotor</i>	Raccoon	t	
<i>Sciurus carolinensis</i>	Gray squirrel	v	

**Legend:**

FDA = Florida Department of Agriculture & Consumer Services  
 FWC = Florida Fish and Wildlife Conservation Commission  
 FWS = United States Fish and Wildlife Service  
 E = Endangered  
 SSC = Species of Special Concern  
 T = Threatened  
 CE = Commercially exploited

b = burrow  
 c = call, song, vocalization  
 d = dig, tunnel  
 e = evidence (carcass, feather, etc.)  
 fo = fly over  
 s = scat  
 t = track

**Sources:** Florida Fish and Wildlife Conservation Commission. July 2009. Florida's Endangered Species, Threatened Species and Species of Special Concern, Official Lists. 6 pp.

## APPENDICES

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**APPENDIX A**  
**PHOTOGRAPHS**

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Photo 1. West Mixed Shrubs wetland vegetation.



Photo 2. Reservoir (borrow pit lake), south side, looking north.

**White Construction Site**  
Hillsborough County, Florida

Photographs 12-16-2013

Appendix A



Photo 3. Reservoir, south side looking west at some of the littoral shelf vegetation.



Photo 4. Reservoir, north side littoral shelf.

**White Construction Site**  
Hillsborough County, Florida

Photographs 12-16-2013

Appendix A





Photo 5. East Mixed Shrubs wetland. Note density of tree species.



Photo 6. Upland area, just south of the Reservoir.

**APPENDIX B**  
**PRELIMINARY UMAM CALCULATIONS**  
**(NOT TO BE USED FOR PERMITTING PURPOSES)**

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**PART I – Qualitative Description**  
**(See Section 62-345.400, F.A.C.)**

Site/Project Name <b>White Construction Site</b>		Application Number	Assessment Area Name or Number <b>West Shrub Wetland</b>	
FLUCCS code <b>6172</b>	Further classification (optional)		Impact or Mitigation Site? <b>Impact Site</b>	Assessment Area Size <b>2.4 acres</b>
Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e., OFW, AP, other local/state/federal designation of importance)		
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands				
Assessment area description				
Significant nearby features		Uniqueness (considering the relative rarity in relation to the regional landscape.)		
Functions		Mitigation for previous permit/other historic use		
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found )		Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)		
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):				
Additional relevant factors:				
Assessment conducted by: <b>Bob Upcavage, Environmental Consultants, LLC</b>		Assessment date(s): <b>12/16/2013</b>		

**PART I – Qualitative Description  
(See Section 62-345.400, F.A.C.)**

Site/Project Name <b>White Construction Site</b>		Application Number	Assessment Area Name or Number <b>Borrow Pit Lake</b>	
FLUCCS code <b>530</b>		Further classification (optional)		Impact or Mitigation Site? <b>Impact Site</b>
Assessment Area Size <b>7.2 acres</b>		Basin/Watershed Name/Number		
Affected Water body (Class)		Special Classification (i.e., OFW, AP, other local/state/federal designation of importance)		
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands				
Assessment area description				
Significant nearby features			Uniqueness (considering the relative rarity in relation to the regional landscape.)	
Functions			Mitigation for previous permit/other historic use	
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found )			Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)	
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):				
Additional relevant factors:				
Assessment conducted by: <b>Bob Upcavage, Environmental Consultants, LLC</b>			Assessment date(s): <b>12/16/2013</b>	

**PART I – Qualitative Description**  
**(See Section 62-345.400, F.A.C.)**

Site/Project Name <b>White Construction Site</b>		Application Number		Assessment Area Name or Number <b>East Shrub Wetland</b>	
FLUCCS code <b>6172</b>		Further classification (optional)		Impact or Mitigation Site? <b>Impact Site</b>	
Assessment Area Size <b>9.4 acres</b>		Basin/Watershed Name/Number			
Affected Waterbody (Class)		Special Classification (i.e., OFW, AP, other local/state/federal designation of importance)			
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands					
Assessment area description					
Significant nearby features			Uniqueness (considering the relative rarity in relation to the regional landscape.)		
Functions			Mitigation for previous permit/other historic use		
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found )			Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)		
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):					
Additional relevant factors:					
Assessment conducted by: <b>Bob Upcavage, Environmental Consultants, LLC</b>			Assessment date(s): <b>12/16/2013</b>		

**PART II – Quantification of Assessment Area (impact or mitigation)**  
 (See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name <b>White Construction Site</b>	Application Number	Assessment Area Name or Number <b>West Shrub Wetland</b>
Impact or Mitigation <b>Impact</b>	Assessment conducted by: <b>Bob Upcavage, Environmental Consultants, LLC</b>	Assessment date: <b>16-Dec-13</b>

**Scoring Guidance**  
 The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed

Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	
w/o pres or current	with
4	0
.500(6)(b) Water Environment (n/a for uplands)	
w/o pres or current	with
3	0
.500(6)(c) Community structure	
1. Vegetation and/or 2. Benthic Community	
w/o pres or current	with
3	0

Score = sum of above scores/30 (if uplands, divide by 20)

current or w/o pres	with
0.33	0.00

If preservation as mitigation,

Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas

FL = delta x acres =	0.80
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Delta =  with-current
0.33

If mitigation

Time lag (t-factor) =
Risk factor =

For mitigation assessment areas

RFG = delta/(t-factor x risk) =
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Form 62-345.900(2), F.A.C. [effective date]

Values	
4	0
3	0
3	0
Variables	
3	3

ATTACHMENT A  
**PART II – Quantification of Assessment Area (impact or mitigation)**  
 (See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name <b>White Construction Site</b>	Application Number	Assessment Area Name or Number <b>Borrow Pit Lake</b>
Impact or Mitigation <b>Impact</b>	Assessment conducted by: <b>Bob Upcavage, Environmental Consultants, LLC</b>	Assessment date: <b>16-Dec-13</b>

<b>Scoring Guidance</b>
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed

<b>Optimal (10)</b>	<b>Moderate(7)</b>	<b>Minimal (4)</b>	<b>Not Present (0)</b>
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	
w/o pres or current	with
5	0
.500(6)(b) Water Environment (n/a for uplands)	
w/o pres or current	with
5	0
.500(6)(c) Community structure	
1. Vegetation and/or 2. Benthic Community	
w/o pres or current	with
2	0

Score = sum of above scores/30 (if uplands, divide by 20)	
current or w/o pres	with
0.40	0.00

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas
FL = delta x acres = <b>2.88</b>

Delta =  with-current
<b>0.40</b>

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

Form 62-345.900(2), F.A.C. [effective date]

Values	
5	0
5	0
2	0
Variables	
3	3

ATTACHMENT A  
**PART II – Quantification of Assessment Area (impact or mitigation)**  
 (See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name <b>White Construction Site</b>	Application Number	Assessment Area Name or Number <b>East Shrub Wetland</b>
Impact or Mitigation <b>Impact</b>	Assessment conducted by: <b>Bob Upcavage, Environmental Consultants, LLC</b>	Assessment date: <b>16-Dec-13</b>

Scoring Guidance The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	<b>Optimal (10)</b>	<b>Moderate(7)</b>	<b>Minimal (4)</b>	<b>Not Present (0)</b>
	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support				
w/o pres or current	5	with	0	
.500(6)(b) Water Environment (n/a for uplands)				
w/o pres or current	6	with	0	
.500(6)(c) Community structure				
1. Vegetation and/or 2. Benthic Community				
w/o pres or current	7	with	0	

Score = sum of above scores/30 (if uplands, divide by 20)	
current or w/o pres	with
0.60	0.00

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas	
FL = delta x acres =	5.64

Delta =  with-current
0.60

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas	
RFG = delta/(t-factor x risk) =	

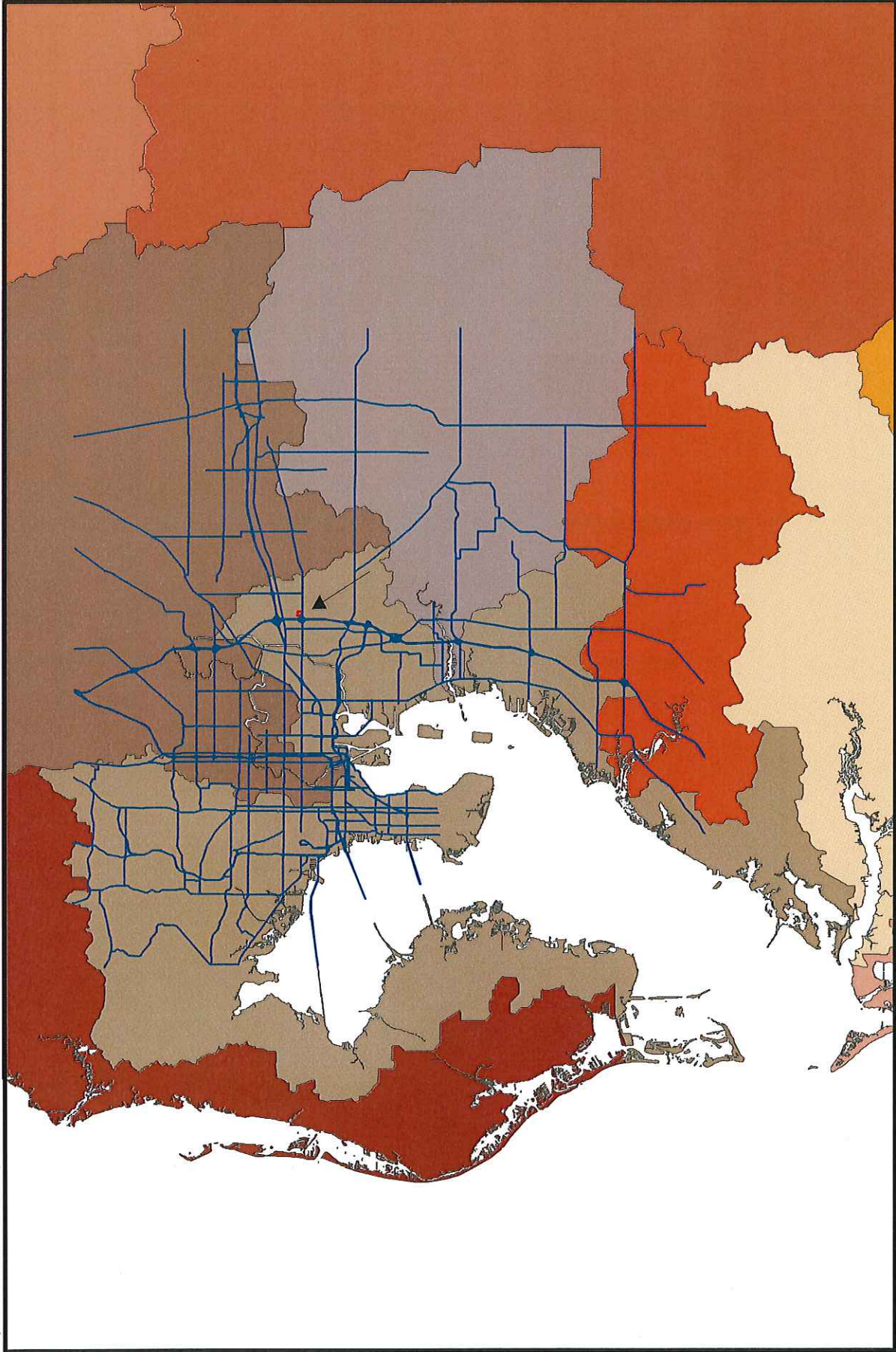
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Values	
5	0
6	0
7	0
Variables	
3	3



PROJECT SUMMARY SHEET								
Site/Project Name		Assessment Conducted By			Assessment Date			
White Construction Site		Bob Upcavage, Environmental Consultants, LLC			16-Dec-13			
Type	WETLAND ID	ACREAGE	DELTA	TIME LAG	RISK	FUNCTIONAL LOSS	RELATIVE FUNCTION GAIN	FUNCTIONAL GAIN
Impact	Impact Area A	2.40	0.33			0.80		
Impact	Impact Area B	7.20	0.40			2.88		
Impact	Impact Area C	9.40	0.60			2.88		
Creation	Mitigation Area A	0.00	0.00	1	1		0.00	0.00
Creation	Mitigation Area B		0.00	1	1		0.00	0.00
Creation	Mitigation Area C		0.00	1	1		0.00	0.00
Enhancement	Wetland Enhancement Area A		0.00	1	1		0.00	0.00
Enhancement	Wetland Enhancement Area B		0.00	1	1		0.00	0.00
Enhancement	Wetland Enhancement Area C		0.00	1	1		0.00	0.00
Preservation	Pres		0.00	1	1		0.00	0.00

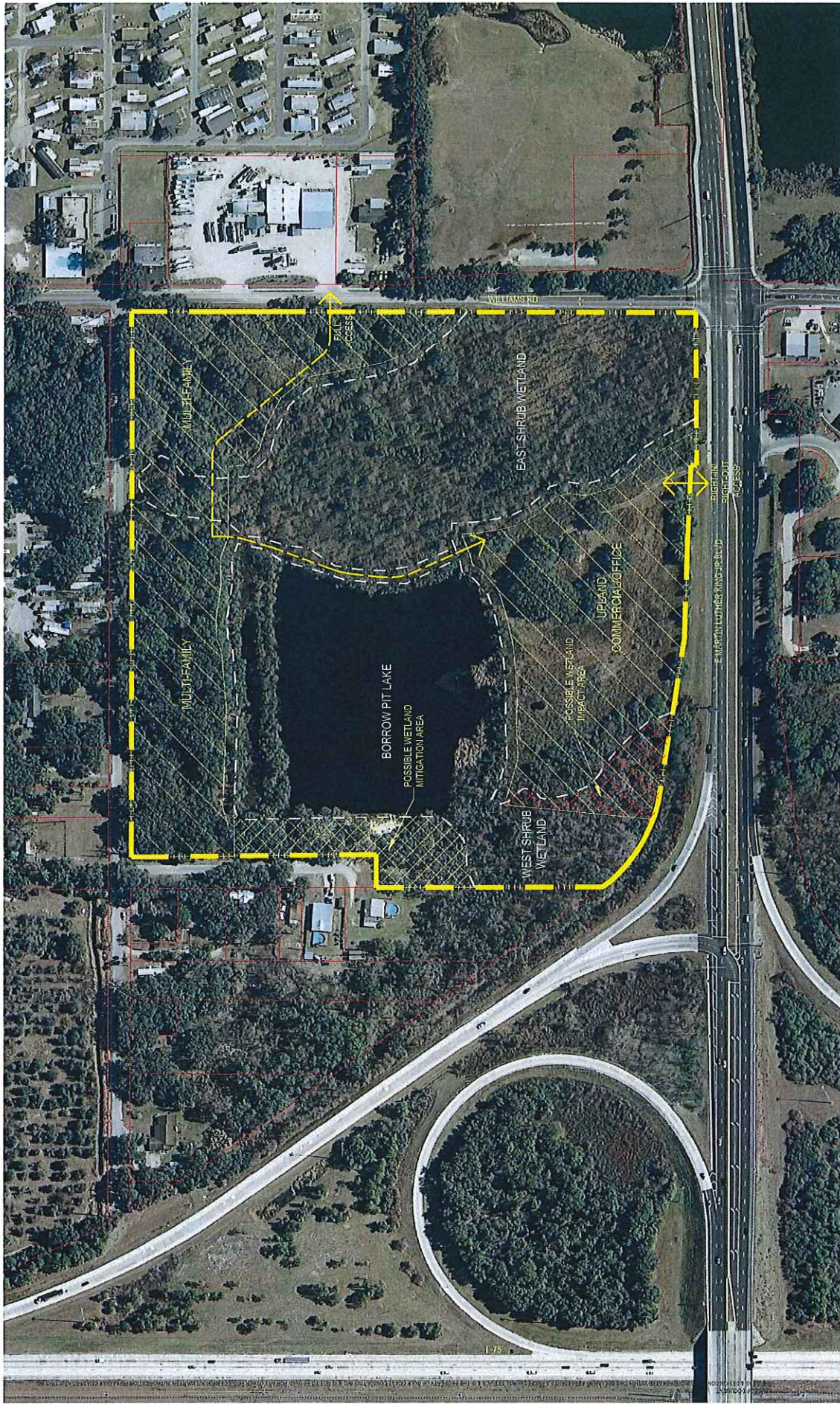
Total Wetland Impact	19.00	TOTALS	6.56	NA	0.00
Total Mitigation - Creation	0.00				
Total Mitigation - Enhancement	0.00				
Total Mitigation - Preservation	0.00				
Mitigation Ratio - Creation			0 : 1 mit/impact		
Mitigation Ratio - Enhancement			0 : 1 mit/impact		
Mitigation Ratio - Preservation			0 : 1 mit/impact		
Mitigation Ratio - Overall			0 : 1 mit/impact		



White Construction Site  
Hillsborough County, Florida

ERP Watersheds

Figure Xa



CONCEPT PLAN ONLY  
 SUBJECT TO CHANGE BASED ON FINAL DESIGN BOUNDARY  
 & TOPOGRAPHIC SURVEY AND JURISDICTIONAL WETLAND  
 CONSTRAINTS. SUBJECT TO SITE PLAN APPROVAL.



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