POND SITING REPORT

Poinciana Parkway Extension

(From Poinciana Parkway to CR 532)

Polk and Osceola Counties, FL

Project 599-224

Prepared for:

Central Florida Expressway Authority

4974 ORL Tower Road

Orlando, Florida, 32807

Prepared By:

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June 2019

PROFESSIONAL ENGINEER CERTIFICATION

I hereby certify that I am a registered professional engineer in the State of Florida practicing engineering with The Balmoral Group and that I have supervised the preparation of and approve the analysis, findings, opinions, conclusions and technical advice hereby reported for:

PROJECT: Poinciana Parkway Extension (SR 538)
(From Poinciana Parkway to CR 532)
Pond Siting Report
Project 599-224
Osceola and Polk Counties, Florida

The engineering work represented by this document was performed through the following duly authorized engineering business:

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Certificate of Authorization No. 26123

This report provides the results of the preliminary analysis of the existing drainage conditions and the analysis required for the estimation of stormwater pond sizes for the proposed improvements including the potential pond locations for comparison purposes within the Poinciana Parkway Extension Pond Siting Report for the Project Development and Environment Study within Osceola and Polk Counties, FL. The results in this report are based on assumptions from existing permits and best available desktop data; no site-specific investigations were performed for this analysis. It is recommended that additional site specific analysis be performed to finalize the report or prior to purchasing any recommended sites. I acknowledge that the procedures and references used to develop the results contained in this report are standard to the professional practice of hydrologic analysis and hydraulic engineering as applied through professional judgment and experience.

Any engineering analysis, documents, conclusions or recommendations relied upon from other professional sources or provided with responsibility by the client are referenced accordingly in the following report.

FLORIDA REGISTERED ENGINEER:
Jennifer A. Nunn, State of Florida, Professional Engineer, License No. 70709
This item has been electronically signed and sealed by:

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

EXECUTIVE SUMMARY

The Balmoral Group has subcontracted with Kimley-Horn to provide Project Development and Environment (PD&E) drainage design services for the Central Florida Expressway Authority (CFX) for the extension of the existing Poinciana Parkway (SR 538) from the existing bridge over the Reedy Creek Mitigation Bank (RCMB) to CR 532, which includes approximately 2.9 to 3.6 miles of new limited access highway. The Poinciana Parkway Extension is a proposed 4-lane tolled expressway with approximately 330 feet of right-of-way (R/W). This R/W width provides for future expansion for additional lanes and/or other multi-modal travel options. The project also includes interchanges with other county and state roads, bridges over wetlands in the RCMB and South Florida Water Management District (SFWMD) owned/managed Upper Lakes Basin Watershed (ULBW) habitat, as well as bridges over local roads and railroads. There are four potential alternatives currently being analyzed. The study area includes portions of Osceola and Polk Counties, Florida.

The objective of this report is to discuss, analyze and identify the stormwater management plan for the proposed roadway alternatives. Stormwater management for water quality treatment and runoff attenuation will be provided using wet detention stormwater management facilities. Floodplain compensation estimates used the cup-for-cup method. The design of the stormwater facilities will comply with the standards set forth by CFX, SFWMD, Southwest Florida Water Management District (SWFWMD), Polk County, Osceola County, and Florida Department of Transportation (FDOT).

The proposed typical section consists of 330 feet of right-of-way with two 12-foot lanes in each direction, 4-foot inside and 12-foot outside paved shoulders with a median (that can accommodate additional lanes and/or a potential multimodal corridor). Pond sizing assumed a fully paved median creating a total width of 164-feet of impervious area along the mainline.

Required pond sizes for each basin were determined by evaluating runoff volume using the NRCS CN method, calculating treatment volume requirements, and including floodplain impacts (as applicable). These volumes were summed and combined with landscaping, pond geometry, side slopes, freeboard, and maintenance berm assumptions to produce an estimated total required pond size. Since this is a preliminary analysis for pond sizing capacity, recovery calculations for orifice sizing and permanent pool calculations are not included in the pond sizing considerations. Please note that the recommendations were based on pond sizes determined from preliminary data, reasonable engineering judgment, and assumptions. Pond size requirements may change during final design as more detailed information on Seasonal High Water Table (SHWT), wetland hydrologic information, and final roadway profile become available.

Design considerations for each pond site location included a desktop review of the best available data, which included hydraulic data, hydrology (land use cover, soil types, SHWT, etc.), contamination sites, wetland limits, wildlife siting's, archaeological or historical sites, and conservation areas. A summary of each pond option sites for each alternative are included in the following **Pond Summary Matrix Tables**. No site-specific investigations have been performed or used in this analysis, this includes field survey, geotechnical testing, wetland delineation, threatened and endangered species observations, archaeological / cultural resources investigations, or contamination screenings. The analyses in this report are based on best available GIS data, permit research, and site field review.

POND SUMMARY MATRIX – ALTERATIVE 1A

Pond Site	Recommended Rank	Wetland Impacts (ac)	Wildlife Habitat Impacts	Contamination Risk	Floodplain Impact (ac)	Cultural or Archaeological Resources Impacts	Access Issues	Utilities	Number of Property Owners	Pond R/W Area (ac)
Pond 1-1A1	1	0.06	Medium	Low	0.15	None	None	N/A	2	3.0
Pond 1-1A2	1	0.18	Medium	Low	0.14	None	None	N/A	1	6.0
Pond 1-1B1	2	None	Low	Low	0.30	None	Requires Easement	(1)	1	3.0
Pond 1-1B2	2	0.18	Medium	Low	0.14	None	None	N/A	1	6.0
Pond 1-2A	1	2.47	Medium	Low	1.43	None	None	N/A	9	9.2
Pond 1-2B	2	2.47	Medium	Low	1.44	None	None	N/A	8	9.2
Pond 1-3A	2	None	Low	Low	0.27	None	None	N/A	3	6.8
Pond 1-3B	1	None	Low	Low	0.27	None	None	N/A	2	7.0
Pond 1-4A1	2	N/A	N/A	Low	N/A	None	None	N/A	-	2.4
Pond 1-4A2	2	None	Low	High	0.65	None	None	(2)	3	4.2
Pond 1-4A3	2	0.17	Medium	Low	0.18	None	None	N/A	1	2.8
Pond 1-4B1	1	N/A	N/A	Low	N/A	None	None	N/A	-	2.4
Pond 1-4B2	1	0.56	Medium	Low	0.30	None	None	N/A	1	6.0
Pond 1-4B3	1	1.4	Medium	Low	None	None	None	N/A	1	2.7
Pond 1-5A	2	None	High	Low	1.25	None	None	N/A	1	10.8
Pond 1-5B1	1	None	High	Low	None	None	None	N/A	1	7.1
FPC 1-5B2	1	0.04	Medium	Low	1.06	None	None	(3)	1	3.2
FPC 1-5B3	1	None	Low	Low	0.01	None	None	N/A	1	5.3
FPC 1-5B4	1	None	High	Low	None	None	None	N/A	1	2.5

REFER TO SECTION 6.2 BASIS OF EVALUATION FOR ASSUMPTIONS ON LOW, MEDIUM, & HIGH

Notes:

(1) 16" KM Fuel Pipeline
Duke Transmission Power Lines
36" Florida Southeast Connection Gas Pipeline

(2) Duke Transmission Power Lines

(3) 16" KM Fuel Pipeline
Duke Transmission Power Lines

POND SUMMARY MATRIX – ALTERATIVE 4A

Pond Site	Recommended Rank	Wetland Impacts (ac)	Wildlife Habitat Impacts	Contamination Risk	Floodplain Impact	Cultural or Archaeological Resources Impacts	Access Issues	Utilities	Number of Property Owners	Pond R/W Area (ac)
Pond 4-1A	1	None	Low	Low	None	None	None	N/A	1	5.5
Pond 4-1B	2	0.01	Medium	Low	None	None	None	N/A	3	5.4
Pond 4-2A1	2	1.82	High	Low	None	None	None	N/A	4	5.5
Pond 4-2A2	2	None	Low	Low	0.09	None	None	N/A	2	2.5
Pond 4-2B1	1	0.41	Medium	Low	None	None	None	N/A	1	5.8
Pond 4-2B2	1	None	Low	Low	None	None	None	N/A	4	1.1
Pond 4-3A	1	0.04	Medium	Low	0.01	None	None	N/A	2	2.4
Pond 4-3B	2	None	High	Low	None	None	None	N/A	1	2.1
Pond 4-4A	1	None	High	Low	None	None	None	N/A	1	2.1
Pond 4-4B	2	None	High	Low	None	None	None	N/A	1	2.2
Pond 4-5A1	1	N/A	N/A	Low	N/A	None	None	N/A	-	8.9
Pond 4-5A2	1	None	High	Low	None	None	Requires Easement	N/A	1	5.0
Pond 4-5B1	2	N/A	N/A	Low	N/A	None	None	N/A	-	8.9
Pond 4-5B2	2	None	High	Low	None	None	None	N/A	1	18.4

REFER TO SECTION 6.2 BASIS OF EVALUATION FOR ASSUMPTIONS ON LOW, MEDIUM, & HIGH

POND SUMMARY MATRIX – ALTERATIVE 5A
WITH RONALD REAGAN PARKWAY SLIP RAMPS

Pond Site	Recommended Rank	Wetland Impacts (ac)	Wildlife Habitat Impacts	Contamination Risk	Floodplain Impact	Cultural or Archaeological Resources Impacts	Access Issues	Utilities	Number of Property Owners	Pond R/W Area (ac)
Pond 5-1A	1	None	Medium	None	None	High	None	N/A	1	5.5
Pond 5-1B	2	4.50	Medium	None	None	High	None	N/A	3	5.4
Pond 5-2A1	2	3.55	Medium	None	None	Low	None	N/A	4	5.5
Pond 5-2A2	2	1.88	Medium	Low	0.09	Low	None	N/A	2	2.5
Pond 5-2B1	1	0.80	Medium	None	None	Low	None	N/A	1	5.8
Pond 5-2B2	1	0.33	Medium	Low	None	Low	None	N/A	4	1.1
Pond 5-3A	1	1.61	Medium	Low	0.01	Low	None	N/A	2	2.4
Pond 5-3B	2	None	High	None	None	Low	None	N/A	1	2.1
Pond 5-4A	1	None	High	None	None	Medium	None	N/A	1	2.2
Pond 5-4B	2	None	High	None	None	Medium	None	N/A	1	1.9
Pond 5-5A	1	None	High	Low	None	High	None	N/A	1	10.6
Pond 5-5B	2	None	Medium	None	None	High	Requires Easement	N/A	1	6.9

REFER TO SECTION 6.2 BASIS OF EVALUATION FOR ASSUMPTIONS ON LOW, MEDIUM, & HIGH

POND SUMMARY MATRIX – ALTERATIVE 5A

WITHOUT RONALD REAGAN PARKWAY SLIP RAMPS

Pond Site	Recommended Rank	Wetland Impacts (ac)	Wildlife Habitat Impacts	Contamination Risk	Floodplain Impact	Cultural or Archaeological Resources Impacts	Access Issues	Utilities	Number of Property Owners	Pond R/W Area (ac)
Pond 5-1A	**1**	**None**	**Medium**	**None**	**None**	**High**	**None**	**N/A**	**1**	**5.5**
Pond 5-1B	2	4.50	Medium	None	None	High	None	N/A	3	5.4
Pond 5-2A1	2	3.55	Medium	None	None	Low	None	N/A	4	5.5
Pond 5-2A2	2	1.88	Medium	Low	0.09	Low	None	N/A	2	2.5
Pond 5-2B1	**1**	**0.80**	**Medium**	**None**	**None**	**Low**	**None**	**N/A**	**1**	**5.8**
Pond 5-2B2	**1**	**0.33**	**Medium**	**Low**	**None**	**Low**	**None**	**N/A**	**4**	**1.1**
Pond 5-3A	**1**	**1.61**	**Medium**	**Low**	**0.01**	**Low**	**None**	**N/A**	**2**	**2.4**
Pond 5-3B	2	None	High	None	None	Low	None	N/A	1	2.1
Pond 5-4A	**1**	**None**	**High**	**None**	**None**	**Medium**	**None**	**N/A**	**1**	**2.2**
Pond 5-4B	2	None	High	None	None	Medium	None	N/A	1	1.9
Pond 5-5A	**1**	**None**	**High**	**Low**	**None**	**High**	**None**	**N/A**	**1**	**10.6**
Pond 5-5B	2	None	Medium	None	None	High	Requires Easement	N/A	1	6.9

REFER TO SECTION 6.2 BASIS OF EVALUATION FOR ASSUMPTIONS ON LOW, MEDIUM, & HIGH

Bolded Ponds are the recommended site(s) within the preferred alignment

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1. Introduction

The Balmoral Group has subcontracted with Kimley-Horn to provide Project Development and Environment (PD&E) drainage design services for the Central Florida Expressway Authority (CFX) for the extension of the existing Poinciana Parkway (SR 538) from the existing bridge over the Reedy Creek Mitigation Bank (RCMB) to CR 532, which includes approximately 2.9 to 3.6 miles of new limited access highway. Refer to **Figure 1** in **Appendix A** for the Project Location Map. The Poinciana Parkway Extension is a proposed 4-lane tolled expressway with approximately 330 feet of right-of-way (R/W). This R/W width provides for expansion for additional lanes and/or other multi-modal travel options if needed in the future. The project also includes interchanges with other county and state roads, bridges over wetlands in the RCMB and South Florida Water Management District (SFWMD) owned/managed Upper Lakes Basin Watershed (ULBW) habitat, as well as bridges over local roads and railroads. There are four potential alternatives currently being analyzed. The study area includes portions of Osceola and Polk Counties, Florida.

The objective of this report is to discuss, analyze and identify the stormwater management plan for the proposed roadway alternative. Stormwater management for water quality treatment and runoff attenuation will be provided using wet detention stormwater management facilities. Floodplain compensation estimates used the cup-for-cup method. The design of the stormwater facilities will comply with the standards set forth by CFX, SFWMD, Southwest Florida Water Management District (SWFWMD), Osceola County, Polk County, and Florida Department of Transportation (FDOT). All exhibits for this report are included in **Appendix A**.

2. Project Description

The project is located in Osceola and Polk Counties, and within SFWMD and SWFWMD jurisdictions. The project site is within Township 25 South, Range 27 East (Sections 36); Township 25 South, Range 28 East (Sections 31); Township 26 South, Range 27 East (Sections 1, 12, 13); and Township 26 South, Range 28 East (Sections 6, 7, 8, 17, 18). Refer to **Figure 3** in **Appendix A** for the USGS Quad Map. The project is located within the Kissimmee River Watershed, more specifically within the Reedy Creek Above Lake Russel basin (WBID 3170C).

Several studies have been conducted to date to define corridors and potential build alternatives for this project. Following completion of the Poinciana Parkway Extension/I-4 Connector Concept, Feasibility & Mobility Study (May 2018), four build alternatives were carried forward into the PD&E Study. For this PD&E Study, the build alternatives have been refined based on input from the public, the Project Advisory Group (PAG), the Environmental Advisory Group (EAG) and other local stakeholders.

The proposed typical section consists of 330 feet of right-of-way with two 12-foot lanes in each direction, 4-foot inside and 12-foot outside paved shoulders with a median (that can accommodate additional lanes and/or a potential multimodal corridor). Pond sizing assumed a fully paved median creating a total width of 164-feet of impervious area along the mainline. There are four potential alternatives currently being analyzed to extend Poinciana Parkway from the northern end of the existing bridge over the RCMB to CR 532 (Osceola Polk Line Road). The proposed alternatives are as follows:

- Alternative 1A
- Alternative 4A
- Alternative 5A with Ronald Reagan Parkway Slip Ramps
- Alternative 5A without Ronald Reagan Parkway Slip Ramps

The report is based on the vertical datum NAVD88. Data sources based in NGVD29 are converted to NAVD88. The conversion from NGVD29 to NAVD88 is -0.91 using the U.S. Army Corps of Engineers Corpscon Version 6 software (i.e. 10.00 ft NGVD = 9.09 ft NAVD).

3. Data Collection

The design team collected and reviewed data from the following sources:

- FDOT Drainage Manual & Drainage Design Guide, January 2019
- FDOT PD&E Manual, January 2019
- FDOT Design Manual, January 2019
- Federal Emergency Management Agency (FEMA), Panel Nos. 12097C0040G, 12097C0045G, 12097C0225G for Osceola County, Florida (effective date 6/2013)
- Federal Emergency Management Agency (FEMA), Panel Nos. 12105C0125H, 12105C0230H, 12105C0235H for Polk County, Florida (effective date 12/2016)
- U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) SSURGO Database of Osceola and Polk Counties, Florida, 1989
- USGS 7.5-Minute Quadrangle Maps for Intercession City and Davenport
- U.S. National Park Service's National Register of Historic Places
- U.S. Fish and Wildlife Service (USFWS) datasets for National Wetland Inventory (NWI) (2017), Wood Stork Nesting Sites (2014), Florida Panther Focus Area (2007), Environmental Conservation Online System (ECOS) (2015)
- Florida Fish and Wildlife Conservation Commission-Fish and Wildlife Research Institute (FWC-FWRI) datasets for Gopher Tortoise Relocation Sites (2008), Florida Mortality Locations (2015)
- Florida Department of Environmental Protection (FDEP) and Water Management Districts (WMD) Mitigation Bank Service Areas (4/2017)
- FDEP datasets for Waste Cleanup Sites, Brownfields, Spring Locations (2016), WBID, Outstanding Florida Waters (OFW) (2018), Verified Impaired Waters (2018), Waters Not Attaining Standards (WNAS) (2018)
- FDEP and Florida Geological Survey (FGS) datasets for Spring Protective Areas (2005), Wells, Swallets
- FDEP and Department of Management Services (DMS) Florida State Owned Land and Record Information System (FL-SOLARIS) and Land Inventory Tracking System (LITS) (2016)
- Florida Natural Areas Inventory datasets for Florida Forever Projects (2015), Florida Conservation Lands (FLMA) (2016)
- Florida Ecological Greenways Network (2005)
- University of Florida – GeoPlan Center dataset for Florida Sand Skink and Blue-Tailed Mole Skink suitable habitat locations (2013)
- Osceola County LiDAR (2016)
- Polk County LiDAR (2005)
- Florida Department of Revenue 2017 Parcel Data
- Kissimmee River Watershed Total Maximum Daily Load (2013)
- Lake Okeechobee Basin Management Action Plan (BMAP) (2014)
- SWFWMD, SFWMD, and FDEP Permit Search

Elevation information was obtained from Osceola County (2016) and Polk County (2005) to create a 5-foot Digital Elevation Model (DEM) using CatchmentSIM. This is shown in **Figure 2** in **Appendix A**. This DEM was used to verify SHWT estimates and 100-year floodplain elevations. Note, since this elevation information was obtained prior to some development within the study area (particularly

along Ronald Reagan Parkway), existing permits and plans were used for topographic reference in these areas. No topographic survey was available for the project limits and no field survey was collected for this phase.

Several existing permits were used to assist in making assumptions to establish SHWT, 100-year floodplain elevations, wetland normal pool elevations, existing on-site storage and treatment, and existing cross drain information. **Table 1** shows the existing permits within the project study area that were used in the evaluation. The analysis in this report utilizes the best available information.

TABLE 1 - EXISTING WMD PERMITS

Permit No.	Name	Year (Plans)	Datum
SFWMD App. No. 050613-21	Nature's Preserve Basin 1 Modification	2005	ft, NGVD
SFWMD App. No. 070119-12	Nature's Preserve Village 1	2007	ft, NGVD
SFWMD App. No. 071212-21	Providence Parcel N-27	2008	ft, NGVD
SFWMD App. No. 141010-12	Poinciana Parkway Section 1	2014	ft, NGVD
SWFWMD Permit No. 28086	CR 54 from Lake Wilson Road to US Hwy 17-92	2005	ft, NAVD

4. Design Criteria

The design of the stormwater facilities will comply with the standards set forth by CFX, SFWMD, SWFWMD, Osceola County, Polk County, and FDOT. It is assumed if the final project corridor lies within both water management districts, a memo of understanding will be developed to obtain an Environmental Resource Permit from a single entity. Since the majority of the alternatives were within SFWMD, a pre-application meeting was held with SFWMD on November 27, 2018 to confirm criteria. Minutes from this meeting are included in **Appendix F**. SFWMD criteria and the direction provided from the pre-application meeting was used as the governing criteria for the pond sizing.

All basins are considered open basins. Wet detention systems will be analyzed to provide water quality improvements, as well as water quantity attenuation for the project runoff. Wet detention is based on the high water table prevalent throughout the project limits. The stormwater ponds have been preliminarily designed and sized for the proposed alternatives. Required pond sizes for each basin were calculated by evaluating runoff volume using the NRCS CN method, calculating treatment volume requirements, and reviewing floodplain impacts. These volumes were added together and combined with landscaping and maintenance berm assumptions to result in the total required pond size. Please refer to the summary below for the water quality, water quantity, and detention pond facilities configuration criterion used for the project.

4.1 Water Quality Criteria

Per Section 4.2.1 of the *2016 SFWMD Environmental Resource Permit Applicant's Handbook Volume II*, wet detention volume shall be provided for the first inch of runoff from the developed project, or the total runoff of 2.5-inches times the percentage of imperviousness, whichever is greater. Proposed offsite ponds are proposed to be wet detention.

Since this is a preliminary analysis for pond sizing capacity, recovery calculations for orifice sizing, and permanent pool calculations are not included in the pond sizing considerations.

Per Appendix E of the *2016 SFWMD Environmental Resource Permit Applicant's Handbook Volume II*, as a part of the review of ERP applications, the District evaluates whether discharges from a project will be directed to an Outstanding Florida Water (OFW) or a water body that has been identified as impaired pursuant Chapter 62-303, F.A.C. If a proposed project discharges to an OFW or an impaired water body, the District will require that additional protective measures be incorporated into the project's design and operation to provide reasonable assurance that the proposed discharge will not cause or contribute to violations of State water quality standards. The additional protective measures shall include a site-specific pollutant loading analysis and an additional 50% water quality treatment volume above the amounts required pursuant to Section 4.2.1, Volume II. The project study area is located within WBID 3170C – Reedy Creek Above Lake Russell, which is not identified as an OFW or an impaired water body; however, it is a part of the Lake Kissimmee Total Maximum Daily Load (TMDL) Basin and Lake Okeechobee Basin Management Action Plan (BMAP), which are impaired for nutrients. Additionally, the project discharges to the RCMB, which was considered a sensitive water body within Poinciana Parkway Segments 1, 2, & 3 under ERP Permit Application 141010-12 (2014). Therefore, an additional

50% of treatment volume will be added to the required treatment volume for wet detention facilities.

Pollutant loading analysis was not performed for this study.

4.2 Water Quantity Criteria

Per Section 5.2.2 of the *2018 FDOT Drainage Manual*, the design must comply with state, Water Management District, and – when delegated by the state – local government stormwater management programs.

Per Section 3.2 of the *2016 SFWMD Environmental Resource Permit Applicant's Handbook Volume II, o*ff-site discharge rate is limited to rates not causing adverse impacts to existing off-site properties, and: (a) Historic discharge rates; or (b) Rates determined in previous Agency permit actions; or (c) Rates specified in District criteria. The project area does not discharge to any locations with rates specified in District criteria within Appendix A of the ERP Handbook. Therefore, attenuation estimates will be based on historic discharge rates (Pre vs. Post limiting criteria) requirement.

Per Section 3.3 of the *2016 SFWMD Environmental Resource Permit Applicant's Handbook Volume II*, unless otherwise specified by previous Agency permits or criteria, a storm event of 3-day duration and 25-year return frequency shall be used in computing off-site discharge rates, which has a rainfall of 10.5-inches at the project location. Applicants are advised that local drainage districts or local governments may require more stringent design storm criteria.

From permit review of existing ponds along Poinciana Parkway/Ronald Reagan Parkway, a discharge formula of 0.4 cfs per basin acreage for the 25-year/72-hour storm event and the FDOT 10-year/72-hour storm event (7.5-inches) per Osceola County criteria have been used to determine the allowable discharge rates within the Reedy Creek Basin Area.

Due to the anticipated interchange along US 17/92, which is maintained by FDOT, it is anticipated that an FDOT Drainage Connection permit will be required, as was done for Poinciana Parkway Segments 1, 2, & 3.

All project basins are open basins. The controlling attenuation volume was determined to be the FDOT 100-year/24-hour Critical Duration rainfall of 10.56-inches, which was used for attenuation volume estimates. This does not replace a critical duration analysis that will be required to obtain an FDOT Drainage Connection Permit, which include a discharge analysis for the 3-year to 100-year frequencies with durations of 1-hour to 3-days for open basins.

4.3 Floodplain Compensation Criteria

Per Sections 3.6 and 3.7 of the *2016 SFWMD Environmental Resource Permit Applicant's Handbook Volume II,* floodplain impacts include the volume of displaced water between the average wet

season water table and the 100-year event, and provisions must be made to replace or mitigate the loss of historic basin storage.

The floodplain compensation volume was estimated using the cup for cup method between the 100-year elevation and estimated average wet season water table at Federal Emergency Management Agency (FEMA) mapped floodplains as part of the Osceola County June 2013 FIS and Polk County December 2016 FIS. Per pre-application meeting discussion, floodplain compensation may be provided within the stormwater ponds.

4.4 Pond Geometry Criteria

It is assumed that all proposed ponds within the Poinciana Parkway Extension will be wet detention facilities. Pond size estimates will include side slopes of 1:4, 1-foot of freeboard above the design high water elevation, a 20-foot maintenance berm, and 20% additional area for additional landscaping and tie-in side slopes.

5. Existing Conditions

5.1 Land Use

The project corridor is a mixture of residential, open land, wetlands, and conservation land. **Figure 5** in **Appendix A** shows the existing land use within the project study area.

Regarding future land use, Polk County has zoned the surrounding area around the CR 54 Ronald Reagan Parkway, and US 17/92 intersection as commercial, and the surrounding open and wetland land covers are zoned for medium density residential development. The future land use within Osceola County is comprised of low density residential and conservation. **Figure 6** in **Appendix A** shows the future land use within the project study area.

5.2 Soils

United States Department of Agriculture (USDA) Natural Resources Conservation Services (NRCS) SSURGO Database was used to identify the soil types within and adjacent to the project limits. These are shown in **Figure 4** in **Appendix A** for the NRCS SSURGO Database Map. Project soils include hydrologic soil groups: A, A/D, B/D, and C/D.

TABLE 2 - NRCS SOIL SURVEY INFORMATION (OSCEOLA COUNTY)

Soil Symbol	Soil Name	Hydrologic Soil Group	SHWT Depth (feet)
1	ADAMSVILLE SAND, 0 TO 2 PERCENT SLOPES	A	2.75
12	FLORIDANA FINE SAND, DEPRESSIONAL	C/D	0.5
14	HOLOPAW FINE SAND, 0 TO 2 PERCENT SLOPES	A/D	0.5
15	HONTOON MUCK	A/D	0.5
16	IMMOKALEE FINE SAND	A/D	0.5
17	KALIGA MUCK	C/D	1
22	MYAKKA FINE SAND, 0 TO 2 PERCENT SLOPES	A/D	0.5
25	NITTAW MUCK	C/D	0.5
27	ONA FINE SAND	B/D	0.5
29	PARKWOOD LOAMY FINE SAND, OCCASIONALLY FLOODED	A/D	0.5
31	PITS		
32	PLACID FINE SAND, DEPRESSIONAL	A/D	0.5
36	POMPANO FINE SAND, 0 TO 2 PERCENT SLOPES	A/D	0.5
37	POMPANO FINE SAND, DEPRESSIONAL	A/D	0.5
39	RIVIERA FINE SAND, DEPRESSIONAL, 0 TO 1 PERCENT SLOPES	A/D	0.5
41	SATELLITE SAND, 0 TO 2 PERCENT SLOPES	A/D	2.25

TABLE 3 - NRCS SOIL SURVEY INFORMATION (POLK COUNTY)

Soil Symbol	Soil Name	Hydrologic Soil Group	SHWT Depth (feet)
13	SAMSULA MUCK	A/D	1
15	TAVARES FINE SAND, 0 TO 5 PERCENT SLOPES	A	4.75
17	SMYRNA AND MYAKKA FINE SANDS	A/D	0.5
19	FLORIDANA MUCKY FINE SAND, DEPRESSIONAL	C/D	1
21	IMMOKALEE SAND	B/D	0.5
25	PLACID AND MYAKKA FINE SANDS, DEPRESSIONAL	A/D	1
3	CANDLER SAND, 0 TO 5 PERCENT SLOPES	A	6
30	POMPANO FINE SAND	A/D	0.5
32	KALIGA MUCK	C/D	0.5
33	HOLOPAW FINE SAND, DEPRESSIONAL	A/D	1
35	HONTOON MUCK	A/D	1
42	FELDA FINE SAND	A/D	0.5
46	ASTATULA SAND, 0 TO 5 PERCENT SLOPES	A	6
47	ZOLFO FINE SAND, 0 TO 2 PERCENT SLOPES	A	2.75
48	CHOBEE FINE SANDY LOAM, DEPRESSIONAL, 0 TO 1 PERCENT SLOPES	C/D	1
70	DUETTE FINE SAND	A	5
77	SATELLITE SAND, 0 TO 2 PERCENT SLOPES	A/D	2.25
86	FELDA FINE SAND, DEPRESSIONAL	A/D	1
88	ASTATULA SAND, 5 TO 12 PERCENT SLOPES	A	
99	WATER		

If a soil is assigned to a dual hydrologic group (i.e. A/D, B/D), the first letter is for the drained areas and the second is for the undrained areas.

To identify whether the area was in a drained or undrained condition, seasonal high water table (SHWT) information was collected from the existing permit information and plotted along the corridor. Areas where the SHWT was within two-feet of the existing ground were assumed to be an undrained condition and were classified as a D soils group. This was the case in all instances along the corridor.

5.3 Floodplains

The project limits are within the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map (FIRM) Panel No's. 12097C0040G, 12097C0045G, 12097C0225G for Osceola County, Florida (effective date 6/2013), and Panel Nos. 12105C0125H, 12105C0230H, 12105C0235H for Polk County, Florida (effective date 12/2016). The major floodplain impacts are associated with Reedy Creek's surrounding wetlands. Flood zones Zone X, Zone AE, and Zone A are present along the corridor. Zone X is an area of minimal flood hazard and was not evaluated for floodplain impacts. Zone AE has an established Base Flood Elevation (BFE) that has

been approved by FEMA and ranges from 90.4 to 66 ft NAVD within the study area. Zone A has an identified area of inundation resulting from the 100-year storm event, but no BFE has been established. Reedy Creek is a FEMA-designated regulatory floodway, but the corridors analyzed do not cross the floodway portion of the creek. Refer to **Figure 7** in **Appendix A** for the FEMA Floodplain Map.

5.4 Existing Drainage Conditions

The project is located within the Reedy Creek Watershed, and more specifically within the Reedy Creek Above Lake Russell basin (WBID 3170C). Reedy Creek is not designated as an impaired water body, according to FDEP Comprehensive Verified List (8/2018). However, Reedy Creek is located within the Kissimmee River Total Maximum Daily Load (TMDL) Basin and the Lake Okeechobee Basin Management Action Plan (BMAP), which are impaired for nutrients. The existing basins are open basins, which discharge to interconnected wetlands that flow from west to east or south to north towards Reedy Creek and the RCMB. The ultimate outfall of the project study area is the Kissimmee River, which flows to Lake Okeechobee. Refer to **Figure 2** and **Figure 8** in **Appendix A** for existing drainage patterns and basin maps.

5.5 Existing Ponds

The project proposes to extend Poinciana Parkway west of the RCMB. There are three existing ponds that have been permitted to treat and attenuate runoff from Poinciana Parkway/Ronald Reagan Parkway, and one pond that currently treats and attenuates runoff from US 17/92 and CR 54 (Ronald Reagan Parkway). These ponds were reviewed for possible existing treatment capacity for portions of the proposed corridor. The remaining section of the proposed alternatives are new, thereby there are no existing stormwater management systems.

5.5.1 Existing Ponds along Poinciana Parkway

Poinciana Parkway/Ronald Reagan Parkway has been permitted for treatment and attenuation within Ponds 1 and 2 under SFWMD ERP Permit Application No. 141010-12, as well as within a pond located in the Nature's Preserve subdivision, herein named Pond NP, under SFWMD ERP Permit Application No. 050613-21.

Pond NP was permitted in 2005 to take 1.24 acres of impervious area along Poinciana Parkway/Ronald Reagan Parkway. The subsequent permit in 2014 for Poinciana Parkway's ultimate condition does not mention continuation of treatment within this pond site. Therefore, it is assumed that this pond does not have any additional capacity for the Poinciana Parkway Extension ultimate condition.

Ponds 1 and 2 were designed to provide an additional 50% of treatment volume due to the sensitive nature of the Reedy Creek Basin within the project vicinity. Pond 1 treats and attenuates a 4-lane future typical section, as shown in **Plate 1,** from US 17/92 to STA 136+00. Pond 1 is a wet detention facility and is permitted to provide treatment for 7.0 acres of impervious area, which requires a treatment volume of 2.19 ac-ft (including the additional 50% of treatment). Pond 1 is permitted to provide 2.69 ac-ft of treatment volume, creating an excess of 0.50 ac-ft. The allowable discharge rate is based off the

FDOT 10-year/72-hour storm event pre-development condition, which equates to a discharge of 30.9 cubic feet per second (cfs).

Pond 1 provides compensatory treatment for an additional 2.2 acres of impervious area as documented in the SFWMD Permit Application No. 141010-12. This effectively means that 2.2 acres of new impervious can be discharged to the similar discharge location as Pond 1 without receiving treatment or attenuation. This existing capacity is included in the pond sizing calculations for alternative basins in this area.

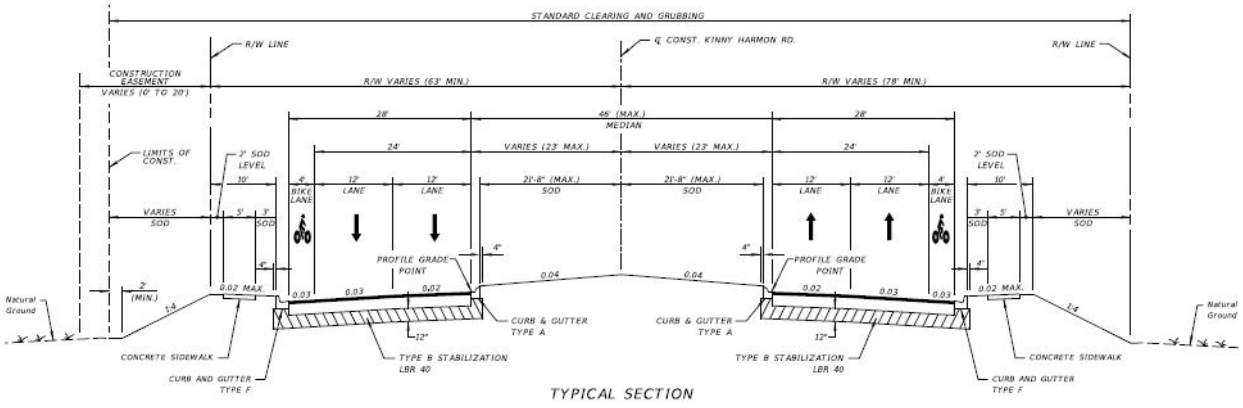
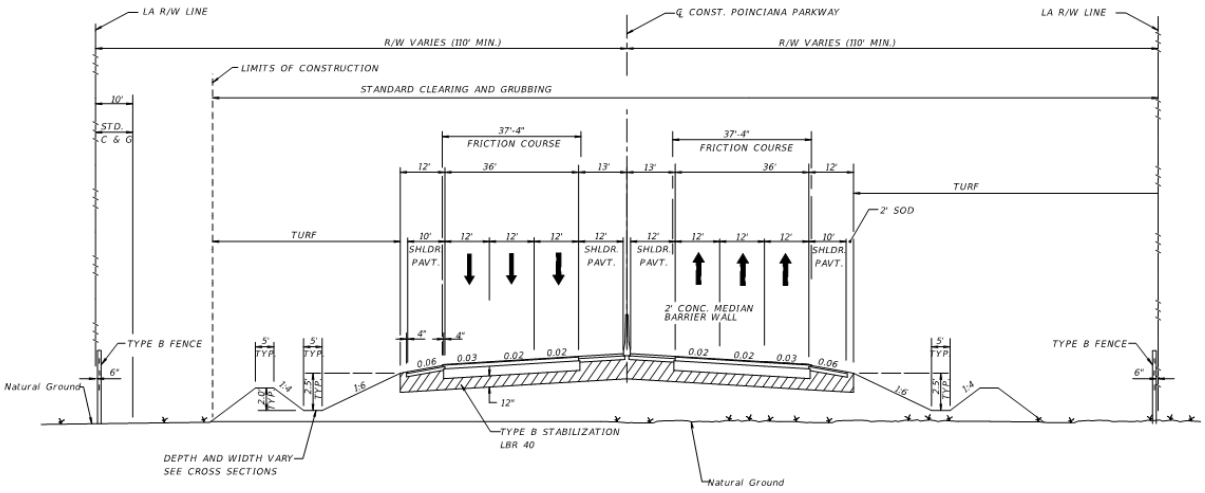


PLATE 1 - FUTURE 4-LANE TYPICAL SECTION - POINCIANA PARKWAY SEG. 2

Pond 2 treats and attenuates the 4-lane future typical section between Stations 136+00 to 172+37 and the 6-lane future typical section as shown in **Plate 2** between Stations 172+37 to 230+00, which includes a portion of each alternative and approximately half of the bridge over the RCMB. Pond 2 is a wet detention facility and is permitted to provide treatment for 23.01 acres of impervious area, which requires a treatment volume of 7.19 ac-ft (includes the additional 50% of treatment). Pond 2 is permitted to provide 7.41 ac-ft of treatment volume, creating an excess of 0.23 ac-ft. The allowable discharge rate is based off the FDOT 10-year/72hour storm event pre-development condition, which equates to a discharge of 90.1 cfs.

There is only minimal additional capacity in Pond 2; however, the contributing basin of Pond 2 includes a portion of the proposed improvements where it is proposed to remove impervious/future impervious area. With the removal of existing impervious and the future allotment of impervious area from the existing Ronald Reagan Parkway, proposed impervious area can be routed to Pond 2 as a substitute. Thus, the capacity of Pond 2 will be maintained.



FUTURE 6 LANE TYPICAL SECTION
POINCIANA PARKWAY

PLATE 2 – FUTURE 6-LANE TYPICAL SECTION - POINCIANA PARKWAY SEG. 3

5.5.2 Existing Ponds along US 17/92

The existing pond along US 17/92 was permitted under SWFWMD ERP Permit No. 28086 as Pond 800, and the basin was slightly modified to accommodate the Poinciana Parkway and US 17/92 intersection improvements under SFWMD ERP Application No. 141010-12. Pond 800 is a wet detention facility and is permitted to provide treatment for 4.33 acres of additional impervious area, which requires a treatment volume of 0.44 ac-ft. Pond 800 is permitted to provide 0.49 ac-ft of treatment volume, creating an excess of 0.05 ac-ft. Given the minimal excess currently being provided and that no future capacity was documented, it is assumed there is no additional capacity within Pond 800.

6. Proposed Stormwater Management

6.1 Pond Sizing Methodology

The required pond volume for the proposed improvements is calculated by the following:

$$Total\ Pond\ Volume\ Required = Required\ Treatment\ Volume + Required\ Attenuation\ Volume + Floodplain\ Impact\ Volume$$

The treatment volume includes the first flush runoff volume from the proposed developed site to be detained and treated prior to discharging downstream. The attenuation volume includes the storage of the additional excess runoff caused by the proposed development by minimizing the peak flowrate from the site to mimic pre-development conditions so as not to adversely impact offsite properties. The floodplain impact volume includes the storage between the SHWT and the 100-year event that is impacted due to the proposed development.

The basin area includes the alternative corridor right-of-way, which was divided into several sub-basins along floodplain or hydraulic boundaries from the existing topography or proposed roadway bridge crossings; proposed roadway profiles were not developed. It is assumed that each sub-basin will have one pond, which is sized using the methodology described within the following sections. Evaluation of basin delineation, pond sites, and their potential impacts (with regard to maintenance, constructability, aesthetics, environmental, social, and cultural, etc.) was conducted within this PD&E phase. All assumptions were based on the best available data from desktop review.

Within this PD&E effort, it is assumed that each of the pond volume parameters are "stacked" instead of taking credit for any possible volume overlapping; this provides a conservative estimate which can further evaluated within the design phase. The methodology used to determine these parameters for calculating pond volumes are described within the following sections.

6.1.1 Treatment Volume

For the purposes of this PD&E study, all proposed ponds are assumed to be wet detention. The required treatment volume for wet ponds is larger than dry ponds and the water tables are generally shallow within the project area. It assumed that evaluation of pond types will be accomplished during the design phase.

The SFWMD required treatment volume criterion for a wet detention pond is the greatest volume of either 1-inch over the basin or 2.5-inches over the new impervious area. The entire project is located with Lake Okeechobee BMAP and the Kissimmee River TMDL, which requires an additional 50% of the required treatment volume. Furthermore, the previous permit of Poinciana Parkway (ERP App. 141010-12) required the additional 50% of the required treatment volume for the RCMB.

$$Treatment\ Volume = Greater\ of\ 1"\ over\ Basin\ Area\ or\ 2.5"\ over\ New\ Impervious\ Area$$

$$Reedy\ Creek\ Mitigation\ Area/Kissimmee\ River\ TMDL/Lake\ Okeechobee\ BMAP = 1.5 * Treatment\ Volume$$

Existing roadway impervious areas that connect to the alternatives were digitized via aerial imagery. The proposed roadway impervious area along the interchanges and side roads were digitized from the PD&E roadway design files and include the ultimate condition. The ultimate condition along the mainline includes eight (8) 12-foot travel lanes, two 4-foot inside paved shoulders, and two 12-foot outside paved shoulders; however, for pond sizing purposes within this PD&E phase, the median was also considered impervious and pond volumes were sized with a 164-foot impervious width along the mainline. The impervious area for the interchange ramps assumed shoulder widths of 2 feet inside and 4 feet outside for single lane ramps, and 4 feet inside and 10 feet outside for two-lane ramps where barrier walls were not shown.

6.1.2 Pollutant Loading Analysis

The project area is located within the Reedy Creek Above Lake Russell basin (WBID 3170C). This basin is not designated as an Outstanding Florida Waterbody (OFW) or an impaired water body per FDEP Comprehensive Verified List (8/2018). For the purposes of this PD&E study, a preliminary pollutant loading analysis was not performed.

6.1.3 Attenuation Volume

Criteria set forth by SFWMD, SWFWMD, FDOT, and Osceola County was reviewed to determine the governing criteria from these agencies. It was determined that the controlling criteria for attenuation to use for this study is the FDOT Critical Duration requirement due to the criteria being the most stringent within the project area. The criteria utilized is that the post-development peak flow rate is not to exceed the pre-development peak flow rate for the FDOT 100-yr/24-hr storm event. It was determined that the Poinciana Parkway Extension design storm event would require retaining volume from 10.56-inches of rainfall (FDOT IDF Curve for Zone 7 & 8). This volume is close to the SFWMD requirement of 10.5-inches for the 25-year/72-hour storm event. Since no routing is being performed during this PD&E phase, the attenuation volume will be based on the pre-post difference in volume generation, not peak discharge rate.

The SCS Runoff Curve Number (CN) Method was used to determine the total runoff volume generation for the pre-development and post-development conditions. The SFWMD land cover and land use (LCLU) dated 2008/09 and SWFWMD LCLU dated 2011-12 was merged then further modified to include existing roadway impervious area at the alternative corridors' interchanges to determine the CN for the pre-development condition. The Poinciana Parkway Extension alternatives were digitized, with a fully paved median (164-foot width of pavement for the mainline), to determine the difference in land use along the proposed corridors.

$$Runoff = \frac{(P - 0.2S)^2}{(P + 0.8S)}$$

$$S = \frac{1000}{CN} - 10$$

$$Volume = Runoff * Basin\ Area$$
$$Attenuation\ Volume\ =\ Post\ Development\ Volume - Pre\ Development\ Volume$$

For basins that have a lower CN in the post-development condition, (e.g. marsh land coverage is converted to impervious area and open – good land uses), the attenuation volume is assumed zero and no credit is provided for generating a lower runoff volume. See **Table 4** for the conversion between the Florida Land Use and Cover Classification System (FLUCCS) within the merged and modified SFWMD/SWFWMD LCLU file to the CN land use categories to determine the attenuation volume.

TABLE 4 - CONVERSION OF FLUCCS LAND USE DESCRIPTIONS TO SCS RUNOFF CURVE NUMBER CATEGORY

FLUCCS	SCS Runoff CN (TR-55)
CROPLAND AND PASTURELAND	Pasture – Good
CYPRESS	Woods - Good
EMERGENT AQUATIC VEGETATION	Water
FRESHWATER MARSHES	Water
HARDWOOD - CONIFEROUS MIXED	Woods - Good
IMPROVED PASTURES	Pasture - Good
INTERMITTENT PONDS	Water
LAKES	Water
MIXED RANGELAND	Pasture - Good
MIXED WETLAND HARDWOODS	Water
OPEN LAND	Open - Fair
PINE FLATWOODS	Woods - Good
RECREATIONAL	Commercial and business
RESERVOIRS	Water
RESIDENTIAL HIGH DENSITY	Residential - 1/4 acre
RESIDENTIAL LOW DENSITY	Residential - 1 acre
RESIDENTIAL HIGH DENSITY	Residential – 1/4 acre
SHRUB AND BRUSHLAND	Brush - Good
STREAM AND LAKE SWAMPS (BOTTOMLAND)	Water
TRANSPORTATION	Streets and Roads – Paved; Including R/W
UTILITIES	Industrial
WET PRAIRIES	Open - Poor
WETLAND CONIFEROUS FORESTS	Woods - Good
WETLAND FORESTED MIXED	Woods - Good

6.1.4 Floodplain Evaluation

For the floodplain evaluation, potential impacts to the Federal Emergency Management Agency (FEMA) mapped floodplains database, dated May 2016, as part of the Osceola County June 2013 FIS and Polk County December 2016 FIS were reviewed and quantified.

Flood zones classified as Zone X, Zone AE, and Zone A are present along the corridor and only these FEMA-approved floodplain areas were reviewed and quantified for impacts. Natural historic depressions or wetlands were not evaluated for floodplain impacts as part of this PD&E study, but may require further evaluation in the design phase.

Zone X is an area of minimal flood hazard and was not evaluated for floodplain impacts. Zone AE has an established BFE that has been approved by FEMA. Zone A has an identified area of inundation resulting from the 100-year storm event, but no BFE has been established. To assess the floodplain impacts for each corridor, an approximate BFE and SHWT for the FEMA floodplain shapes was established. These elevations were estimated using the best available data and considered the following sources in **Table 5**. No site-specific information (i.e. geotechnical testing, wetland survey, topographic survey, etc.) was obtained for these estimates. No hydrologic/hydraulic modeling was performed. Some of the information reviewed utilized the NGVD 1929 vertical datum; this information was converted to NAVD 1988.

TABLE 5 - DESCRIPTION OF DATA REVIEWED IN PRELIMINARY ANALYSIS

Data	Source	Relevance
FEMA Flood Insurance Study (FIS)	FEMA Geodatabases (May 2016), 2013 FIS for Osceola County, & 2016 FIS for Polk County	High
DEM or Contours developed from source	2016 LiDAR data from Osceola County in 3-ft grid format; 2005 Polk County LiDAR in 5-ft grid format	High
Infrared aerial imagery	2004 Osceola County	High
Historic aerial imagery	Google Earth (dating back to 1995) and UF Historical Imagery Library (dating back to 1959)	High
Geotechnical borings	SFWMD ERP Applications	High
Wet detention ponds normal water elevations	SFWMD ERP Applications	High
Wetland SHWTs	SFWMD ERP Applications	High
Canal monitoring stations: Stage & Flow	SFWMD Arc Hydro database	High
National Hydrography Dataset (NHD)	USGS NHD Database	High
Soil coverage	NRCS coverage provided by USDA	Medium – Depth to water table information
Depth to Surficial Aquifer Water Table	FDEP Florida Aquifer Vulnerability Assessment (FAVA)	Low – Information available is very coarse (6,000 ft x 6,000 ft)
USGS 7.5-Minute Quad Maps with 5-ft contours	USGS Quad Maps: Davenport and Intercession City	Low (dated 1980 & 2015)

(ft, NGVD29)		
Land use land coverage	SFWMD	Low – Ensure floodplain is still applicable
National Wetland Inventory	US Fish and Wildlife Service	Low – Used where other information could not be found.

Base Flood Elevation (BFE)

The BFE can vary across the extent of the floodplain based on local topography, the amount of vegetative cover, presence of urbanization, water control infrastructure, and inflows to the floodplain. To estimate the BFE, the factors local to the area of potential impacts was weighted heavier. If the BFE was estimated from a provided source (i.e. Zone AE, permit data, etc.), the elevation was rounded to the nearest 0.1 foot; if the elevation was estimated from the DEM, it was rounded to the nearest half foot. The following ranking was applied in order to estimate the BFE:

1. FEMA established BFE (i.e. Zone AE sloping BFE, Stillwater BFE in FIS)
2. Modelled BFE as part of an Environmental Resource Permit (ERP) application
3. Floodplain compensation pond information within an ERP application.
4. Stage data from regulated lakes and canals (Using HEC SSP to estimate the 100-year stage).
5. Comparison of infrared and historic aerial images to the DEM to estimate high water elevations in previous years (i.e. inspection of tree line migration, etc.).
6. USGS 7.5 Minute Quad Maps with 5-ft contours (NGVD29).
7. Comparison of FEMA-mapped floodplain shape and DEM or contours derived from DEM.

Seasonal high water table (SHWT)

The SHWT is the elevation to which the water table can be expected to rise due to a normal wet season. The water table surface is generally parallel to the natural ground surface in relatively flat areas with uniform soil type.

To estimate the SHWT, the factors local to the area of potential impacts was weighted heavier. If the SHWT was estimated from a provided source (i.e. stage data, permit data, etc.), the elevation was rounded to the nearest 0.1 foot; if the elevation was estimated from the DEM, it was rounded to the nearest half foot. The following ranking was applied in order to estimate the SHWT:

1. The average annual wet season stage in the lakes and canals with regulated flood control where stage data is available. (Wet season is defined as June through October.)
2. Surveyed SHWT provided in an ERP application.
3. Wet detention pond information in an ERP application; Note it is understood that the normal water elevation is not equivalent to the SHWT, but it can serve as a reliable approximation.

4. Tailwater information from an ERP application if tailwater (or initial stage of tailwater) is identified as being representative of the SHWT.
5. Comparison of adjacent wetland shapes to the DEM to estimate wetland SHWT.
6. Comparison of infrared and historic aerial images to the DEM to estimate water elevations in previous years (i.e. visible standing water, etc.).
7. NRCS soils depth to water table applied over the DEM.

In one instance, an unnamed lake was given a waterbody elevation within the GIS layer NHD (National Hydrography Dataset) Waterbody, published by USGS. This elevation was used as the SHWT of the encompassing floodplain boundary (ID 24).

Assessing Floodplain Impacts

For the alternatives, the floodplain impact volume was calculated by the following:

$$Floodplain\ Impact\ Volume = Floodplain\ Depth\ x\ Average\ Inundation\ Area\ of\ the\ SHWT\ \&\ BFE$$

The floodplain depth is the difference between the BFE and either the ground surface topography or the SHWT, whichever has a higher elevation. The minimum ground surface elevation within the 100-year inundation was used for the floodplain depth calculation if the SHWT was below ground.

The Inundation Area is the average of the area of the BFE and SHWT (area of zero if below ground) plotted on the project DEM within the proposed corridor right-of-way (R/W). The inundation plot was performed so that the BFE and SHWT elevations and areas would correspond to DEM.

Impacts were not considered where a floodplain was plotted within the corridor which did not represent a FEMA floodplain. For example, there are existing ponds that are be impacted along each corridor that provide storage but are not a part of FEMA floodplain evaluation. These additional impacts are to be evaluated as necessary during the design phase.

There are bridges assumed over an unnamed lake (Floodplain ID 24) and the Reedy Creek Floodplain for the four alternatives. Proposed bridge lengths were provided by Kimley-Horn. No floodplain impacts were assumed beneath these proposed bridge locations.

6.1.5 Pond Sizing

Pond sizing estimates are based on providing sufficient storage capacity above the estimated normal water level within an allowable storage height. It is assumed that all proposed ponds within the I-4/Poinciana Parkway Connector Expressway will be wet detention facilities. From review of nearby CFX Contracts 450, 451, 417-304, 417-543, and 417-454, it was determined that the wet detention available storage for the treatment volume, attenuation volume, and floodplain impact volume is a 3-foot design depth above the normal water level (NWL). The exception to this is the floodplain compensation ponds considered as part of Alternative 1A

Basin 5, which have a design depth equal to the floodplain depth. The estimated pond sizes assume a pond geometry of a square shape. The average pond area is estimated by dividing the required volume for the pond site by the allowable storage height of the pond site. The pond size is expanded by including 1:4 side slopes, 1-foot of freeboard, and a 20-foot maintenance berm. An additional 20% increase in pond size to account for landscaping and tie-in to natural ground, as demonstrated by the following equations and typical section in **Plate 3:**

$$Pond\ Length\ at\ Design\ Depth = \sqrt{\frac{Total\ Pond\ Volume\ Required * 43560\frac{ft^2}{ac}}{Design\ Depth}} + \left(\frac{Design\ Depth}{2} * (2 * 4)\right)$$

$$Required\ Pond\ Area = 1.2 * \frac{\left(Pond\ Length\ at\ Design\ Depth + (Berm\ Width * 2) + \left(Freeboard\ Height * (2 * 4)\right)\right)^2}{43560\frac{ft^2}{ac}}$$

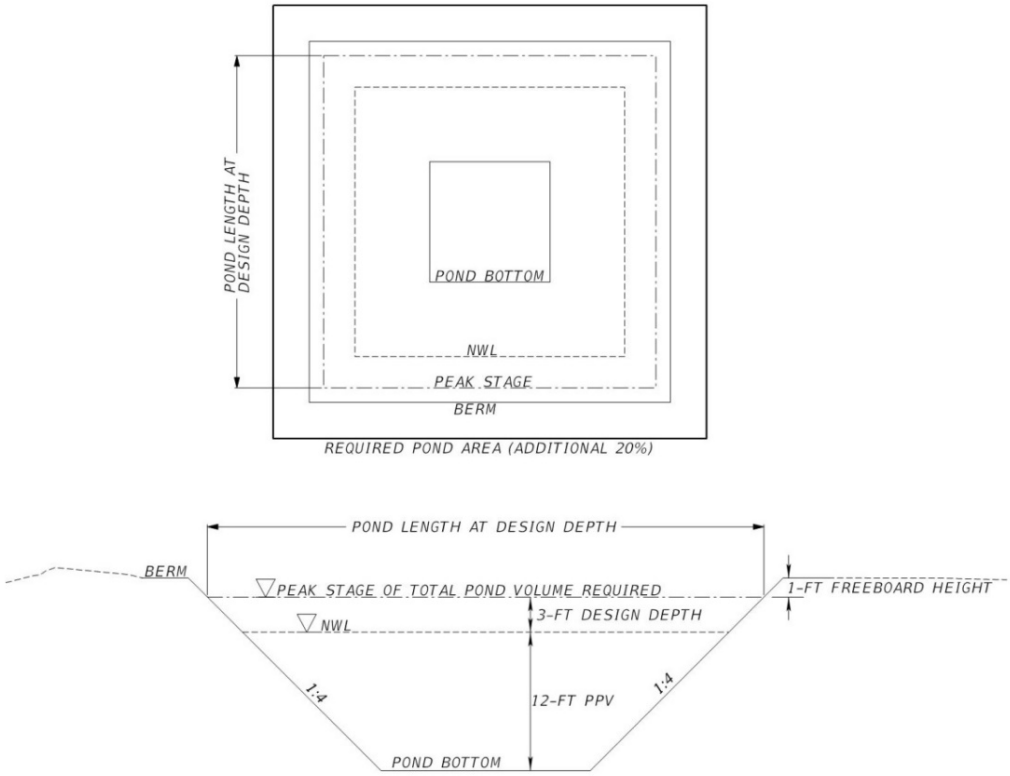


PLATE 3 - POND SIZING TYPICAL SECTION (NOT TO SCALE)

Basins 1-1, 1-4, 4-2, 4-5, and 5-2 have two pond sites. Consequently, there is additional berm length associated with these sites. The loss of volume due to slope tie-in along the additional

berm length is not accounted for within the pond sizing calculations. Likewise, there is a loss of volume associated with rectangular ponds that are significantly longer than they are wide, such as Ponds 1-3B, 4-2B1, and 5-2B1. Pond sizing is expected to be further refined in the design phase once proposed roadway profiles are developed and site specific investigation is performed on each site.

6.2 Basis of Evaluation

An alternative comparison analysis has been performed which consists of a description of each Stormwater Management Facility (SMF) location along with an analysis of the following parameters for each site. Note, analysis of these parameters is based on a desktop review of the best available data. Any data used in the review of that parameter is listed and where available a date is provided. A field review of the proposed pond sites was performed on April 11, 2019.

Wetland Impacts: Pertains to impacts to wetland areas (National Wetland Inventory, 2017); For Alignment 5A (with and without slip ramps), additional input was provided by Kimley-Horn which included conducting field reconnaissance and mapping all habitats (based on FLUCFCS) within the study area. The wetland impact area for this alignment was estimated using the project specific and field-verified data.

Wildlife Habitat Impacts: Pertains to impacts to wetland areas, FEMA effective floodplains, and to habitats for threatened, endangered, or significant wildlife species. According to the USFWS IPaC Endangered species resource, federally-listed endangered (E) or threatened (T) species include the following for Osceola and Polk Counties within the project's vicinity: Florida Bonneted Bat (E), Florida Panther (E), Audubon's Crested Caracara (T), Everglade Snail Kite (E), Florida Grasshopper Sparrow (E), Florida Scrub-jay (T), Ivory-billed Woodpecker (E), Red-cockaded Woodpecker (E), Wood Stork (T), Bluetail Mole Skink (T), Eastern Indigo Snake (T), Sand Skink (T), This included a review of the following GIS layers: FDEP Florida Springs (2016), USFWS National Wetland Inventory (2016), Scrub Jay Service Area, Skink Suitability (2013), Florida Panther Focus Area, Wood Stork Nests (2014), Panther Mortality Locations (2015), and Gopher Tortoise Relocation Sites (2008). For this PD&E evaluation, the following rankings were used: "High" for pond sites located within a conservation area or the mitigation bank, "Medium" for pond sites that include wetlands identified by the NWI, and "Low" is used if the site does not include NWI wetlands. For Alignment 5A (with and without slip ramps), additional input was provided by Kimley-Horn which included conducting field reconnaissance and mapping all habitats (based on FLUCFCS) within the study area. If the site was within the ULBW or the RCMB, this it was assigned a "High" ranking. If the site was not within ULBW or RCMB but it had either wetland impacts or wildlife habitat impacts (upland native habitats), then it was assigned a "Medium" ranking.

Contamination Risk: Pertains to the presence of hazardous materials or petroleum contamination on or near the site location. (DEP Cleanup Sites, Petroleum Contamination Monitoring (PCTS) Discharges, State Funded Cleanup Sites (2014), FDEP Waste Cleanup Inactive Sites (2016), FDEP Waste Cleanup Open Sites (2016)). For this PD&E evaluation, the following rankings were used: "High" for pond sites that have identified contamination risk, "Low" for pond sites that do not

have identified contamination risk. For Alignment 5A (with and without slip ramps), additional input was provided in the Contamination Screening Evaluation Report (CSER) by Kimley-Horn with information provided by GeoSearch. Since more detailed input was provided for ponds along this alignment, ponds were assigned a risk of "Low" or "None" based on information provided in the CSER.

Geotechnical Information: Addresses the underlying soil conditions within the pond footprint. While this factor was considered in selecting pond sites, no proposed sites are within an area of an identified brownfield, swallet, or FGS well; therefore, this item is not included in the evaluation matrix. Additional geotechnical investigation for the specific pond sites will need to be performed to detect the presence of muck and unsuitable materials. (NRCS Soils (2017), FDEP brownfield sites (2016), Florida Geologic Survey wells, Florida Geologic Survey swallets, FDEP Florida Subsidence Incident Reports)

Floodplain Impacts: Pond floodplain impacts were not included in the pond sizing calculations. Pond sites were selected in order to avoid further floodplain impacts. The area of impact is listed in the evaluation matrix (Appendix A – Pond Parcel Summary, Tables 1-4) in order to demonstrate that these impacts are in addition to the required pond size. (FEMA dFIRM Flood Hazard Dataset, 2017).

Cultural or Archaeological Resources Impacts: Addresses impacts to prehistoric/historic archaeological or historic structures for each site (National Register of Historic Places of Interest 2016 Database). For Alignment 5A (with and without slip ramps), additional input was provided in the Cultural Resource Desktop Analysis for 12 Pond Locations Associated with the Poinciana Parkway Extension Project by SEARCH.

Permitability: Addresses impacts to permitting efforts to local, state, and federal agencies. Since this is consistent for all the alternatives, this was not included in the evaluation matrix. (DEP Outstanding Florida Waters, Florida TMDLs (2018), Verified Impaired WBIDs (2018))

Ownership/Number of Property Owners: Addresses the impacts to property owner(s) and identifies the number of impacted entities. Florida Department of Revenue Property Department (2017) & Florida Department of Revenue Property Department (2015)

Utilities: Addresses impacts to existing apparent major utilities and known future utilities at each alternative location. (Antenna Structures (2017)). A site visit was performed on April 11, 2019 to further confirm existing, visible utilities at each site location. Refer to **Appendix D** for pond site photos and descriptions.

Access/Maintainability: Adequate area needed for regular cleaning, sediment removal, mowing and other required maintenance. This includes evaluation if a drainage easement would be required. This was evaluated based on the proximity of the site to existing right-of-way.

Cost: Economics associated with right-of-way acquisition. This information was provided by others and was only estimated for pond options associated with the preferred alternative.

6.3 Proposed Stormwater Facility Alternatives

The proposed Poinciana Parkway Extension will introduce a new roadway alternative in some areas where there is no existing roadway, and will alter drainage patterns to some extent as a result. The proposed drainage patterns will maintain the existing/historic drainage patterns as closely as possible. Cross drains are proposed to convey existing ditches/streams, or function as equalizer pipes for existing depressional areas. The Location Hydraulics Report (LHR) for the project is under separate cover.

Three alternatives were carried forward from the Concept, Feasibility & Mobility Study (May 2018), with one alternative having two interchange options, creating a total of four alternatives analyzed as part of this PSR. Each alternative extends the existing Poinciana Parkway to CR532 with an interchange at US 17/92. These alternatives are Alternative 1A, Alternative 4A, and Alternative 5A. Additionally, Alternative 5A was further reviewed without slip ramps to and from Ronald Reagan Parkway. There are five basins per alternative. Two potential pond sites were selected for each basin. Outfall type and location are not provided and are expected to be laid out during the design phase. Most of the discharge will go to neighboring floodplains and wetlands and it is recommended to evaluate the use of spreader swales in the design phase to best mimic existing conditions.

6.3.1 Alternative 1A

Alternative 1A travels south of Ronald Reagan Parkway, and crosses over US 17/92 south of its intersection with Ronald Reagan Parkway. The alternative extends northward crossing over Old Kissimmee Road and the CSX railroad, travelling parallel to and west of the CSX railroad before heading north to CR 532 just west of the Polk County/Osceola County line.

A partial interchange is provided with US 17/92 and slip ramps are provided to and from Ronald Reagan Parkway just west of the existing bridge over the RCMB. An at-grade intersection is provided with CR 532.

The following sections describe the alternative's sub-basins with two potential pond sites within each basin. In **Appendix A**, **Figure 9** provides a visual representation of the sub-basins and input parameters used for pond sizing, **Figures A.1 – A.10** present each respective sub-basin's pond options, and **Table 1** identifies the impacted parcels.

Basin 1-01

Basin 1-01 extends from the CR 532 intersection to the Sandy Ridge Subdivision, approximately 2,700-feet south of CR 532 at a topographic high point. It includes the ramps that connect CR 532 to the Poinciana Parkway Extension and the additional impervious along CR 532 for the intersection improvements, as well as extends the Poinciana Parkway Extension mainline to CR 532. It is assumed that the ultimate condition may extend the Poinciana Parkway north of this location. From permit search efforts, it appears that this section of CR 532 is not currently treated.

Basin 1-01 includes a total area of 35.4 acres, with an additional 18.0 acres of impervious area. The required treatment volume is 5.6 ac-ft, which includes the additional 50% to accommodate the Lake Okeechobee BMAP, Kissimmee River TMDL, and the RCMB sensitive water body criteria. This portion of the proposed alternative is estimated to affect 8.0 acres of floodplains and require approximately 8.8 ac-ft of floodplain compensation. This basin requires a pond site that can accommodate 16.5 acre-feet for treatment, attenuation, and floodplain compensation volume. The estimated required pond area for this sub-basin is 8.3 acres.

Pond Option 1-1A includes two pond sites, Pond 1-1A1 and Pond 1-1A2.

Pond 1-1A1 is a 3.0-acre site located within two parcels south of CR 532 and west of the Poinciana Parkway Extension. The site proposes to take the remainder of the remnant parcel created by the Poinciana Parkway Extension alternative, and a full take of a parcel, which is classified as a vacant residential property according to the Polk County Property Appraiser. It is located north and encompasses some of the adjacent wetlands identified within the National Wetland Inventory and a FEMA floodplain zoned AE, so wetland mitigation and additional floodplain compensation may need to be considered for this site. Soils encountered at this site are Immokalee Sand, which is poorly drained and within the hydrologic soil group classification Type B/D, and Samsula Muck, which frequently ponds, very poorly drained, and within the hydrologic soil group classification Type A/D. The estimated SHWT is 83 ft-NAVD, based on imagery estimates. According to SFWMD/SWFWMD existing land cover and land use (LCLU) database, the site is classified as low-density residential, cropland/pastureland, and pine flatwoods.

Pond 1-1A2 is a 6.0-acre site located just north of the Sandy Ridge Subdivision and west of the Poinciana Parkway Extension alternative. The site proposes to take a portion of the remnant parcel created by the Poinciana Parkway Extension alternative. It is placed on the upland section of the parcel, however, the pond site does encompass some of the adjacent wetlands identified by the National Wetland Inventory and portion of a FEMA floodplain zoned AE, so wetland mitigation and floodplain compensation may need to be considered for this site. Soils encountered at this site are Satellite Sand, which is somewhat poorly drained and within the hydrologic soil group classification Type A/D. The estimated SHWT is 79 ft-NAVD, based on imagery estimates. According to SFWMD/SWFWMD existing LCLU database, the site is classified as cropland/pastureland.

These pond sites provide 9.0 acres for pond facilities within this sub-basin, which is 0.7 acre greater than the estimated required pond size. Both pond sites for this option are adjacent to the Poinciana Parkway Extension, so additional drainage easements will not be necessary to access the facilities. From aerial imagery and the April 2019 field visit, there are no apparent major utilities present on the properties. Refer to **Appendix D** for pond site photos and descriptions. There are no specific wildlife data observations in or adjacent to these sites. There are no specific clean-up sites within FDEP's databases. No wells, as identified by Florida Geologic Survey (FGS), exist within 100-foot buffer of the proposed pond footprints. There

are also no cultural/historic resources listed within the National Register of Historic Places database within a 100-foot buffer of the potential pond sites.

Pond Option 1-1B includes two pond sites, Pond 1-1B1 and Pond 1-1B2.

Pond 1-1B1 is a 3.0-acre site located approximately 1,600 feet south of CR 532, and is a partial take of one parcel. The parcel is along the east side of the Poinciana Parkway Extension alternative. It is placed on the upland section of the parcel, north of and adjacent to the wetlands identified in the National Wetland Inventory, so wetland mitigation is not anticipated for this site. The pond site is located within a FEMA floodplain, so additional floodplain compensation may be required for this site. Soils encountered at this site are Floridana Mucky Fine Sand (frequently ponded, very poorly drained, and within the hydrologic soil group (HSG) classification Type C/D), Placid and Myakka Fine Sands (depressional, very poorly drained, and within the HSG classification Type A/D), and Smyrna and Myakka Fine Sands (poorly drained and within HSG classification Type A/D). The estimated SHWT is 77 ft-NAVD, based on imagery estimates. According to SFWMD/SWFWMD existing LCLU database, the site is classified as cropland/pastureland and pine flatwoods.

Pond 1-1B2 is a 6.0-acre site located just north of the Sandy Ridge Subdivision and west of the Poinciana Parkway Extension alternative. The site proposes to take a portion of the remnant parcel created by the Poinciana Parkway Extension alternative. It is placed on the upland section of the parcel, however, the pond site does encompass some of the adjacent wetlands identified by the National Wetland Inventory and portion of a FEMA floodplain zoned AE, so wetland mitigation and floodplain compensation may need to be considered for this site. Soils encountered at this site are Satellite Sand, which is somewhat poorly drained and within the hydrologic soil group classification Type A/D. The estimated SHWT is 79 ft-NAVD, based on imagery estimates. According to SFWMD/SWFWMD existing LCLU database, the site is classified as cropland/pastureland.

These pond sites provide 9.0 acres for pond facilities within this sub-basin, which is 0.7 acre greater than the estimated required pond size. An additional drainage easement is anticipated within the remnant parcel to access Pond 1-1B1. Pond 1-B2 is adjacent to the Poinciana Parkway Extension, so an additional drainage easement will not be necessary to access this facility. From aerial imagery and the April 2019 field visit, there appears to be major overhead transmission lines and major gas lines present on Pond 1-1B1 site, along a utility easement. Refer to **Appendix D** for pond site photos and descriptions. There are no specific wildlife data observations in or adjacent to these sites. There are no specific clean-up sites within FDEP's databases. No wells, as identified by Florida Geologic Survey (FGS), exist within 100-foot buffer of the proposed pond footprints. There are also no cultural/historic resources listed within the National Register of Historic Places database within a 100-foot buffer of the potential pond sites.

Basin 1-02

Basin 1-02 extends from the Sandy Ridge Subdivision, approximately 2,700-feet south of CR 532 at a topographic high point, to the CSX railroad. The alternative right-of-way would encroach upon two existing stormwater management facilities within the Sandy Ridge Subdivision. Pond sizing estimates did not take loss of storage from these existing ponds because it is assumed that these existing ponds will be relocated and re-evaluated as part of the cost for those parcels.

Basin 1-02 includes a total area of 24.4 acres, with an additional 12.2 acres of impervious area. The required treatment volume is 3.8 ac-ft, which includes the additional 50% to accommodate the Lake Okeechobee BMAP, Kissimmee River TMDL, and the RCMB sensitive water body criteria. This portion of the proposed alternative is estimated to affect 14.1 acres of floodplains and require approximately 14.1 ac-ft of floodplain compensation. This basin requires a pond site that can accommodate 17.9 acre-feet for treatment, attenuation, and floodplain compensation volume. The estimated required pond area for this sub-basin is 9.0 acres.

Pond Option 1-2A includes one pond site, Pond 1-2A. Pond 1-2A is a 9.2-acre site located at the northeast corner of Old Lake Wilson Road, Vagt's Lane, and Alabama Avenue intersection. The pond site takes the remainder of the two remnant parcels created from the Poinciana Parkway Extension alternative, as well as full takes of seven (7) additional parcels that are described as mobile homes and vacant residential properties according to Polk County Property Appraiser website. Additionally, this pond site takes a section of Vagt's Lane and Alabama Avenue, which appear to be dirt roads for residences to access their properties.

The parcel is along the west side of the Poinciana Parkway Extension alternative. It is located south of the basin's topographic low point. Approximately a quarter of the pond site encompasses adjacent wetlands and some of the FEMA floodplain, so wetland mitigation and additional floodplain compensation will need to be considered for this site. Soils encountered at this site are Candler Sand (excessively drained and HSG Type A), Immokalee Sand (poorly drained and HSG Type B/D), Samsula Muck (frequently ponded, very poorly drained, and HSG Type A/D), and Placid and Myakka Fine Sands (depressional, very poorly drained, and HSG Type A/D). The estimated SHWT is 83 ft-NAVD, based on imagery estimates. According to SFWMD/SWFWMD existing LCLU database, the site is classified as residential high-density, residential low-density, and stream and lake swamps (bottomland).

The pond site provides 9.2 acres for pond facility within this sub-basin, which is 0.2 acre greater than the estimated required pond size. The pond site is adjacent to the Poinciana Parkway Extension, so an additional drainage easement will not be necessary to access this facility. From aerial imagery and the April 2019 field visit, there are no apparent major utilities present on the properties. Some utilities associated with the residential properties were present. Refer to **Appendix D** for pond site photos and descriptions. There are no specific wildlife data observations in or adjacent to this site. There are no specific clean-up sites within FDEP's databases. No wells, as identified by Florida Geologic Survey (FGS), exist within 100-foot buffer of the proposed pond footprint. There are also no cultural/historic resources listed

within the National Register of Historic Places database within a 100-foot buffer of the potential pond site.

Pond Option 1-2B includes one pond site, Pond 1-2B. Pond 1-2B is a 9.25-acre site located at the northeast corner of Old Lake Wilson Road, Vagt's Lane, and Alabama Avenue intersection. The pond site takes the remainder of the four (4) remnant parcels created from the Poinciana Parkway Extension alternative. Additionally, this site will also have full takes of six (6) additional parcels that are described as mobile homes and vacant residential properties according to Polk County Property Appraiser website. Furthermore, this pond site takes a section of Vagt's Lane, Alabama Avenue, and Florida Avenue, which appear to be dirt roads for residences to access their properties.

The parcel is along the west side of the Poinciana Parkway Extension alternative. It is located south of the basin's topographic low point. Approximately a third of the pond site encompasses the adjacent wetlands and some of the FEMA floodplain, so wetland mitigation and additional floodplain compensation will need to be considered for this site. Soils encountered at this site are Candler Sand (excessively drained and HSG Type A), Immokalee Sand (poorly drained and HSG Type B/D), Samsula Muck (frequently ponded, very poorly drained, and HSG Type A/D), and Placid and Myakka Fine Sands (depressional, very poorly drained, and HSG Type A/D). The estimated SHWT is 83 ft-NAVD, based on imagery estimates. According to SFWMD/SWFWMD existing LCLU database, the site is classified as residential high-density, residential low-density, and stream and lake swamps (bottomland).

The pond site provides 9.2 acres for pond facility within this sub-basin, which is 0.2 acre greater than the estimated required pond size. The pond site is adjacent to the Poinciana Parkway Extension, so an additional drainage easement will not be necessary to access this facility. From aerial imagery and the April 2019 field visit, there are no apparent major utilities present on the properties. Some utilities associated with the residential properties were present. One of the parcels had some recent grading at the time of the field visit. Refer to **Appendix D** for pond site photos and descriptions. There are no specific wildlife data observations in or adjacent to this site. There are no specific clean-up sites within FDEP's databases. No wells, as identified by Florida Geologic Survey (FGS), exist within 100-foot buffer of the proposed pond footprint. There are also no cultural/historic resources listed within the National Register of Historic Places database within a 100-foot buffer of the potential pond site.

Basin 1-03

Basin 1-03 extends from the CSX railroad to Ronald Reagan Parkway. Basin 1-03 includes a total area of 13.8 acres, with an additional 6.8 acres of impervious area. The required treatment volume is 2.1 ac-ft, which includes the additional 50% to accommodate the Lake Okeechobee BMAP, Kissimmee River TMDL, and the RCMB sensitive water body criteria. This portion of the proposed alternative is estimated to affect 9.0 acres of floodplains and require approximately 9.0 ac-ft of floodplain compensation. This basin requires a pond site

that can accommodate 12.3 acre-feet for treatment, attenuation, and floodplain compensation volume. The estimated required pond area for this sub-basin is 6.4 acres.

Pond Option 1-3A includes one pond site, Pond 1-3A. Pond 1-3A is a 6.8-acre site located approximately 1,200 feet north of Ronald Reagan Parkway and east of the Poinciana Parkway Extension alternative. The pond site extends between Poinciana Parkway Extension alternative to Old Tampa Highway Trail. The pond site takes a portion of the two remnant parcels created from the Poinciana Parkway Extension alternative. Additionally, this site will also have full takes of one (1) additional parcel that is described as a mobile homes property according to Polk County Property Appraiser website.

The pond site is placed on the upland section of the parcels, south of and adjacent to a Reedy Creek wetland slough tributary. The site does not include any wetlands identified by the National Wetland Inventory, so wetland mitigation is not anticipated for this site. The site is bound by FEMA floodplains to the north and south of the site and encompasses a portion of those FEMA floodplains zoned A, so additional floodplain compensation may be required for this site. Soils encountered at this site are Tavares Fine Sand (moderately well drained and HSG Type A), Pomello Fine Sand (moderately well drained and HSG Type A), Samsula Muck (frequently ponded, very poorly drained, and HSG Type A/D), and Immokalee Sands (poorly drained and HSG Type B/D). The estimated SHWT is 91.5 ft-NAVD, based on imagery estimates of the adjacent isolated wetland to the south of the pond site. According to SFWMD/SWFWMD existing LCLU database, the site is classified as residential low-density.

The pond site provides 6.8 acres for pond facility within this sub-basin, which is 0.4 acre larger than the estimated required pond size. The pond site is adjacent to the Poinciana Parkway Extension, so an additional drainage easement will not be necessary to access this facility. From aerial imagery and the April 2019 field visit, there are no apparent major utilities present on the properties. Refer to **Appendix D** for pond site photos and descriptions. There are no specific wildlife data observations in or adjacent to this site. There are no specific clean-up sites within FDEP's databases. No wells, as identified by Florida Geologic Survey (FGS), exist within 100-foot buffer of the proposed pond footprint. There are also no cultural/historic resources listed within the National Register of Historic Places database within a 100-foot buffer of the potential pond site.

Pond Option 1-3B includes one pond site, Pond 1-3B. Pond 1-3B is a 7.0-acre site located approximately 700 feet north of Ronald Reagan Parkway and east of the Poinciana Parkway Extension alternative. The pond site takes the remaining sections of two remnant parcels created from the Poinciana Parkway Extension alternative.

The pond site is placed south of and adjacent to a Reedy Creek wetland slough tributary. The site does not include any wetlands identified by the National Wetland Inventory, so wetland mitigation is not anticipated for this site. However, the site is bounded by and encompasses a portion of FEMA floodplains zoned A, so additional floodplain compensation may need to be considered for this site. Soils encountered at this site are Candler Sand (excessively drained and HSG Type A), Tavares Fine Sand (moderately well drained and HSG Type A), Pomello

Fine Sand (moderately well drained and HSG Type A), and Immokalee Sands (poorly drained and HSG Type B/D). The estimated SHWT is 91.5 ft-NAVD, based on imagery estimates of the adjacent isolated wetland to the south of the pond site. According to SFWMD/SWFWMD existing LCLU database, the site is classified as residential low-density.

The pond site provides 7.0 acres for pond facility within this sub-basin, which is 0.6 acre larger than the estimated required pond size. The pond site is adjacent to the Poinciana Parkway Extension, so an additional drainage easement will not be necessary to access this facility. From aerial imagery and the April 2019 field visit, there are no apparent major utilities present on the property. Refer to **Appendix D** for pond site photos and descriptions. There are no specific wildlife data observations in or adjacent to this site. There are no specific clean-up sites within FDEP's databases. No wells, as identified by Florida Geologic Survey (FGS), exist within 100-foot buffer of the proposed pond footprint. There are also no cultural/historic resources listed within the National Register of Historic Places database within a 100-foot buffer of the potential pond site.

Basin 1-04

Basin 1-04 extends from Ronald Reagan Parkway to an apparent utility easement for overhead electric, approximately 2,250 feet east of the Ronald Reagan Parkway and US 17/92 intersection. The basin includes the partial interchange with US 17/92 and 2,300 feet along US 17/92 of roadway improvements to accommodate the new interchange. A section of this basin along US 17/92 is currently receiving treatment in Pond 800 (ERP Application 141010-12).

Basin 1-04 includes a total area of 48.2 acres, with an additional 18.7 acres of impervious area. The required treatment volume is 6.0 ac-ft, which includes the additional 50% to accommodate the Lake Okeechobee BMAP, Kissimmee River TMDL, and the RCMB sensitive water body criteria. This portion of the proposed alternative is estimated to affect 16.7 acres of floodplains and require approximately 12.0 ac-ft of floodplain compensation. This basin requires a pond site that can accommodate 18.0 ac-ft for treatment, attenuation, and floodplain compensation volume. The estimated required pond area for this sub-basin is 9.0 acres.

Pond Option 1-4A includes three pond sites, Pond 1-4A1, Pond 1-4A2, and Pond 1-4A3.

Pond 1-4A1 is a 2.4-acre site located within the infield area of the US 17/92 interchange with a 50-foot buffer from the proposed ramp. Wetland mitigation and floodplain impacts are assumed to be associated with the proposed alternative, so no additional wetland mitigation or floodplain compensation is anticipated for this site. Soils encountered at this site are Pompano Fine Sand (poorly drained, HSG Type A/D) and Hontoon Muck (frequently ponded, very poorly drained, and HSG Type A/D). The estimated SHWT is 89.1 ft-NAVD, based on data associated with SFWMD ERP Application 071212-21 for Providence Parcel N-27. According to SFWMD/SWFWMD existing LCLU database, the site is classified as stream and lake swamps (bottomland).

Pond 1-4A2 is a 4.2-acre site bounded by Poinciana Parkway Extension, Ronald Reagan Parkway, and US 17/92 intersection. The site takes the remaining east segments of five (5) remnant parcels created by the Poinciana Parkway Extension alternative, as well as a full take of two (2) parcels. Additionally, this site takes the remaining portions of Gaines Road and Gaines Avenue. It is located on an existing gas station, which may cause risk for contamination. The pond site is not located on wetlands identified by the National Wetland Inventory, so additional wetland mitigation is not anticipated for this site. The site does encompass a FEMA floodplain zoned AE, so additional floodplain compensation may be required for this site. Soils encountered at this site are Tavares Fine Sand (Moderately well drained and HSG Type A), Astatula Sand (excessively drained and HSG Type A), and Duette Fine Sand (moderately well drained and HSG Type A). The estimated SHWT is 92.6 ft-NAVD, based on the average SHWT between the unnamed lake south of Ronald Reagan Parkway (USGS National Hydrography Dataset) and the permit data for the wetlands at the southeast corner of the US 17/92 and Ronald Reagan Parkway intersection (SFWMD ERP Application 071212-21). According to SFWMD/SWFWMD existing LCLU database, the site is classified as residential low-density.

Pond 1-4A3 is a 2.8-acre site located along the northwest side of the Poinciana Parkway Extension and US 17/92 proposed intersection. The site takes the remaining west segment of the one remnant parcel, and takes a portion of the west segment of a parcel created by the Poinciana Parkway Extension alternative. The pond site is adjacent to wetlands and FEMA floodplains to the west and south. A portion of the pond site encroaches in the wetlands identified by the National Wetland Inventory and the FEMA floodplains, so additional floodplain compensation may need to be considered for this site. Soils encountered at this site are Tavares Fine Sand (Moderately well drained and HSG Type A), Immokalee Sand (poorly drained and HSG Type B/D), Duette Fine Sand (moderately well drained and HSG Type A), and Samsula Muck (very poorly drained and HSG Type A/D). The estimated SHWT is 91.5 ft-NAVD, based on the SHWT of the adjacent pond, Pond 800, permit data (SWFWMD ERP Permit 28086). According to SFWMD/SWFWMD existing LCLU database, the site is classified as residential low-density.

These pond sites provide 9.4 acres for pond facilities within this sub-basin, which is 0.4 acre greater than the estimated required pond size. All three pond sites are adjacent to the Poinciana Parkway Extension, so an additional drainage easement will not be necessary to access these facilities. From aerial imagery and the April 2019 field visit, there appears to be significant number of utilities present within Pond 1-4A2 along Gaines Avenue/Gaines Road and at the southwest corner of US 17/92 and CR 54 (Ronald Reagan Parkway). Refer to **Appendix D** for pond site photos and descriptions. There are no specific wildlife data observations in or adjacent to these sites. There is an identified clean-up site within FDEP's database at the northeast corner of Ronald Reagan Parkway and US 17/92 intersection that may pose risk for contamination. Additionally, Pond 1-4A2 is located on an existing gas station, which will also have risk for contamination. No wells, as identified by Florida Geologic Survey (FGS), exist within 100-foot buffer of the proposed pond footprints. There are also no

cultural/historic resources listed within the National Register of Historic Places database within a 100-foot buffer of the potential pond sites.

Pond Option 1-4B includes three pond sites, Pond 1-4B1, Pond 1-4B2, and Pond 1-4B3.

Pond 1-4B1 is a 2.4-acre site located within the infield area of the US 17/92 interchange with a 50-foot buffer from the proposed ramp. Wetland mitigation and floodplain impacts are assumed to be associated with the proposed alternative, so no additional wetland mitigation or floodplain compensation is anticipated for this site. Soils encountered at this site are Pompano Fine Sand (poorly drained, HSG Type A/D) and Hontoon Muck (frequently ponded, very poorly drained, and HSG Type A/D). The estimated SHWT is 89.1 ft-NAVD, based on data associated with SFWMD ERP Application 071212-21 for Providence Parcel N-27. According to SFWMD/SWFWMD existing LCLU database, the site is classified as stream and lake swamps (bottomland).

Pond 1-4B2 is a 6.0-acre site bounded by Poinciana Parkway Extension and Ronald Reagan Parkway. The site takes the remaining northern segment of a remnant parcel as well as a partial take of the northern remnant parcel created by the Poinciana Parkway Extension. The pond site partially encompasses NWI wetlands and FEMA floodplains, so additional wetland mitigation and floodplain compensation may be required for this site. Soils encountered at this site are Pompano Fine Sand (poorly drained and HSG Type A/D), Satellite Sand (somewhat poorly drained and HSG Type A/D), and Hontoon Muck (very poorly drained and HSG Type A/D). The estimated SHWT is 89.1 ft-NAVD, based on the SHWT from permit data within SFWMD ERP Application 071212-21. According to SFWMD/SWFWMD existing LCLU database, the site is classified as freshwater marshes, shrub and brushland, and stream and lake swamps (bottomland).

Pond 1-4B3 is a 2.7-acre site located along the southeast side of the Poinciana Parkway Extension and US 17/92 proposed intersection. The site takes a portion of a remnant parcel created by the Poinciana Parkway Extension. Approximately half of the pond site is located within wetlands identified by the National Wetland Inventory, so additional wetland mitigation may be required for this site. The pond site is surrounded by FEMA floodplains to the west and south, but does not encroached into the effective floodplains, so additional floodplain compensation is not anticipated for this site. Soils encountered at this site are Pompano Fine Sand (poorly drained and HSG Type A/D) and Hontoon Muck (very poorly drained and HSG Type A/D). The estimated SHWT is 89.1 ft-NAVD, based on the SHWT from permit data within SFWMD ERP Application 071212-21. According to SFWMD/SWFWMD existing LCLU database, the site is classified as shrub and brushland and stream and lake swamps (bottomland).

These pond sites provide 11.1 acres for pond facilities within this sub-basin, which is 2.1 acres greater than the estimated required pond size. All three pond sites are adjacent to the Poinciana Parkway Extension, so an additional drainage easement will not be necessary to access these facilities. From aerial imagery and the April 2019 field visit, there are no apparent major utilities present on the property. Refer to **Appendix D** for pond site photos and

descriptions. There are no specific wildlife data observations in or adjacent to these sites. There is an identified clean-up site within FDEP's database at the northeast corner of Ronald Reagan Parkway and US 17/92 intersection that may pose risk for contamination. No wells, as identified by Florida Geologic Survey (FGS), exist within 100-foot buffer of the proposed pond footprints. There are also no cultural/historic resources listed within the National Register of Historic Places database within a 100-foot buffer of the potential pond sites.

Basin 1-05

Basin 1-05 extends from an apparent utility easement for overhead electric, approximately 2,250 feet east of the Ronald Reagan Parkway and US 17/92 intersection, to the existing Poinciana Parkway Bridge over the RCMB. The basin includes slip ramps to and from Ronald Reagan Parkway. A section of this basin along Poinciana Parkway/Ronald Reagan Parkway is currently receiving treatment in Ponds 1 and 2 under ERP Application 141010-12, as well as Pond NP within Nature's Preserve Subdivision.

Basin 1-05 includes a total area of 64.6 acres, with an additional 26.8 acres of impervious area. From review of the additional capacity within the existing ponds currently treating Poinciana Parkway/Ronald Reagan Parkway, it was determined that approximately 2.2 acres and 10.9 acres of additional impervious area can be provided within Pond 1 and Pond 2, respectively. The adjacent pond within the Nature's Preserve Subdivision will be impacted with this alternative, however, pond sizing estimates did not take loss of storage from this existing pond because it is assumed that the existing pond will be relocated and re-evaluated as part of the cost for the parcel. This results in a new offsite pond to accommodate treatment for 13.7 acres of additional impervious area. Refer to **Figure 13** in **Appendix A**. The required treatment volume for the new offsite pond is 4.3 ac-ft, which includes the additional 50% to accommodate the Lake Okeechobee BMAP, Kissimmee River TMDL, and the RCMB sensitive water body criteria. This portion of the proposed alternative is estimated to affect 13.5 acres of floodplains and require approximately 12.8 ac-ft of floodplain compensation. This basin requires a pond site that can accommodate 20.8 ac-ft for treatment, attenuation, and floodplain compensation volume. The estimated required pond area for this sub-basin is 10.3 acres.

Pond Option 1-5A includes one pond site, Pond 1-5A. Pond 1-5A is a 10.8-acre site located approximately 3,200 feet northwest of the existing Poinciana Parkway bridge over the RCMB within the northern section of the permitted Nature's Preserve Village 1 Subdivision (ERP Application No. 070119-12). The pond site takes the remaining section of the remnant parcel created from the Poinciana Parkway Extension alternative.

The pond site is placed south of and adjacent to a Reedy Creek wetland slough tributary. The site does not include any wetlands identified within the National Wetland Inventory, so additional wetland mitigation is not anticipated for this site. A portion of the site encompasses a FEMA floodplain, so additional floodplain compensation may need to be considered for this site. Soils encountered at this site are Myakka Fine Sand (poorly drained and HSG Type A/D), Satellite Sand (somewhat poorly drained and HSG Type A/D), and Smyrna and Myakka Fine

Sand (poorly drained and HSG Type A/D). The estimated SHWT is 77.5 ft-NAVD, based on aerial imagery. According to SFWMD/SWFWMD existing LCLU database, the site is classified as Freshwater Marshes and cropland/pastureland.

The pond site provides 10.8 acres for pond facility within this sub-basin, which is 0.5 acre larger than the estimated required pond size. The pond site is adjacent to the Poinciana Parkway Extension, so an additional drainage easement will not be necessary to access this facility. From aerial imagery and the April 2019 field visit, there are no apparent major utilities present on the property. The property was under construction for a subdivision development during the field visit. Refer to **Appendix D** for pond site photos and descriptions. There are no specific wildlife data observations in or adjacent to this site. There are no specific clean-up sites within FDEP's databases. No wells, as identified by Florida Geologic Survey (FGS), exist within 100-foot buffer of the proposed pond footprint. There are also no cultural/historic resources listed within the National Register of Historic Places database within a 100-foot buffer of the potential pond site.

Pond Option 1-5B includes one new on-site pond with three floodplain compensation ponds (FCP): Pond 1-5B1, FCP 1-5B2, FCP 1-5B3, and FCP 1-5B4.

Pond 1-5B1 proposes to expand the existing Poinciana Parkway Pond 2. The design depth within Pond 2 is 1.8-feet, which will require approximately 6.8 acres of additional pond size to accommodate the treatment and attenuation within Basin 1-05 that is not already accommodated through the existing Poinciana Parkway Ponds 1 and 2. Pond 1-5B1 is a 7.1-acre site. The pond site is a partial take of a parcel already impacted by the Poinciana Parkway Extension. The pond site does not include any wetlands identified within the National Wetland Inventory, but is placed within the RCMB, so wetland mitigation will need to be evaluated for this site. The site is located northwest of FEMA floodplains, so no additional floodplain compensation is anticipated for this site. The soil encountered at this site is Immokalee Fine Sand (poorly drained and HSG Type B/D). The estimated SHWT is 68.09 ft-NAVD, based on the adjacent wet pond's normal water level from ERP Application No. 141010-12. According to SFWMD/SWFWMD existing LCLU database, the site is classified as improved pastures.

FCP 1-5B2 is a 3.2-acre floodplain compensation pond sized to accommodate 3.0 ac-ft of floodplain impacts caused by the Poinciana Parkway Extension alternative. The site is located approximately 2,250 feet southeast of the US 17/92 and Ronald Reagan Parkway intersection, between the Providence N2-3 subdivision (ERP Application No. 041206-18) and the Providence Water Treatment Facility (ERP Application No. 071207-18). The pond site is a partial take of a parcel already impacted by the Poinciana Parkway Extension. The pond site encompasses some identified wetlands within the USGS National Wetland Inventory along the south side of the site; therefore, wetland impacts should be evaluated for this site. The site expands a FEMA floodplain zoned AE, and was plotted against the DEM to contour with the BFE 89.8 ft-NAVD. Soils encountered at this site are Samsula Muck (frequently ponded, very poorly drained, and HSG Type A/D), Satellite Sand (somewhat poorly drained and HSG Type A/D), and Pompano Fine Sand (poorly drained and HSG Type A/D). The estimated SHWT is 88 ft-NAVD, based on the adjacent Water Treatment Facility's dry detention pond

control elevation from ERP Application No. 071207-18 and data presented in Poinciana Parkway ERP Application 141010-12. According to SFWMD/SWFWMD existing LCLU database, the site is classified as open land, pine flatwoods, and stream and lake swamps (bottomland).

FCP 1-5B3 is a 5.3-acre floodplain compensation pond sized to accommodate 9.3 ac-ft of floodplain impacts caused by the Poinciana Parkway Extension alternative. The site is located approximately 3,800 ft southeast of the US 17/92 and Ronald Reagan Parkway intersection, east of the Providence Water Treatment Facility (ERP Application No. 071207-18). The pond site is a partial take of a parcel already impacted by the Poinciana Parkway Extension. The pond site does not impact identified wetlands within the USGS National Wetland Inventory; therefore, wetland impacts are not anticipated for this site. The site expands a FEMA floodplain zoned AE, and was plotted against the DEM to contour with the BFE 83.4 ft-NAVD. Soils encountered at this site are Smyrna and Myakka Fine Sands (poorly drained and HSG Type A/D), Ona-Ona Wet Fine Sand (poorly drained and HSG Type B/D), and Pompano Fine Sand (poorly drained and HSG Type A/D). The estimated SHWT is 80.5 ft-NAVD, based on data presented in Poinciana Parkway ERP Application 141010-12. According to SFWMD/SWFWMD existing LCLU database, the site is classified as mixed rangeland and cropland/pastureland.

FCP 1-5B4 is a 2.5-acre floodplain compensation pond sized to accommodate 0.4 ac-ft of floodplain impacts caused by the Poinciana Parkway Extension alternative. The site is located approximately 2,000 ft northwest of the existing Poinciana Parkway Bridge over the RCMB. The pond site is a partial take of a parcel that was not already impacted by the Poinciana Parkway Extension. The pond site does not include any identified wetlands within the National Wetland Inventory dataset, but is placed within the RCMB, so wetland mitigation will need to be evaluated for this site. The site is near a FEMA floodplain zoned A, with an estimated 100-year elevation of 75.5 per data within Nature's Preserve ERP Application 050613-21. The soil encountered at this site is Adamsville Sand (somewhat poorly drained and HSG Type A). The estimated SHWT is 75.1 ft-NAVD, based on data presented in Nature's Preserve ERP Application 050613-21. According to SFWMD/SWFWMD existing LCLU database, the site is classified as improved pastures and cropland/pastureland.

The pond option provides 18.0 acres for stormwater facilities within this sub-basin to accommodate on-site treatment and attenuation, with separate floodplain compensation. This pond option has a larger required area since the FCP have varying design depths based upon the difference between the estimated SHWT and the BFE for their respective floodplain. Each pond site for this option is adjacent to the Poinciana Parkway Extension, so an additional drainage easement will not be necessary to access these facilities. From aerial imagery and the April 2019 field visit, there are major overhead transmission lines and gas pipelines apparent within the footprint for FCP 1-5B2, along the utility easement. No major utilities were identified within the other treatment and floodplain compensation pond sites. Refer to **Appendix D** for pond site photos and descriptions. There are no specific wildlife data observations in or adjacent to these sites. There are no specific clean-up sites within FDEP's databases. No wells, as identified by Florida Geologic Survey (FGS), exist within 100-foot

buffer of the proposed pond footprints. There are also no cultural/historic resources listed within the National Register of Historic Places database within a 100-foot buffer of the potential pond sites.

6.3.2 Alternative 4A

Alternative 4A travels through the RCMB in Polk County, then enters Osceola County within the SFWMD's ULBW lands before crossing over US 17/92 approximately one-mile north of its intersection with Ronald Reagan Parkway. The alternative continues northward and crosses over Old Tampa Highway and the CSX railroad before connecting with CR 532 just west of the Polk County/Osceola County line. This alternative requires utility relocations from along the Polk County/Osceola County line to just west of the proposed expressway.

This alternative includes bridging over the wetlands within the RCMB and the ULBW.

A single point urban interchange is provided with US 17/92 and slip ramps are provided to and from Ronald Reagan Parkway just west of the existing bridge over the RCMB. An at-grade intersection is provided with CR 532.

The following sections describe the alternative's sub-basins with two potential pond sites within each basin. In **Appendix A**, **Figure 10** provides a visual representation of the sub-basins and input parameters used for pond sizing, **Figures A.11 – A.20** present each respective sub-basin's pond options, and **Table 2** identifies the impacted parcels.

Basin 4-01

Basin 4-01 extends from the CR 532 intersection to the CSX railroad, approximately 2,000-feet south of CR 532. It includes the ramps that connect CR 532 to the Poinciana Parkway Extension and the additional impervious along CR 532 for the intersection improvements, as well as extends the Poinciana Parkway Extension mainline to CR 532. It is assumed that the ultimate condition may extend the Poinciana Parkway north of this location. From permit search efforts, it appears that this section of CR 532 is not currently treated.

Basin 4-01 includes a total area of 32.8 acres, with an additional 16.3 acres of impervious area. The required treatment volume is 5.1 ac-ft, which includes the additional 50% to accommodate the Lake Okeechobee BMAP, Kissimmee River TMDL, and the RCMB sensitive water body criteria. This portion of the proposed alternative is estimated to affect 1.8 acres of floodplains and require approximately 2.7 ac-ft of floodplain compensation. This basin requires a pond site that can accommodate 10.0 acre-feet for treatment, attenuation, and floodplain compensation volume. The estimated required pond area for this sub-basin is 5.4 acres.

Pond Option 4-1A includes one pond site, Pond 4-1A. Pond 4-1A is a 5.5-acre site located west of the Poinciana Parkway Extension alternative, north of the CSX railroad, and northeast of the Sandy Ridge subdivision; approximately 2,200 feet south of CR 532. The pond site takes

the southern section of a remnant parcel and majority of another remnant parcel created from the Poinciana Parkway Extension alternative.

The pond site is placed south of and adjacent to a Reedy Creek wetland slough tributary that is also a Zone AE FEMA floodplain, so wetland mitigation and floodplain compensation is not anticipated for this site. The soil encountered at this site is Satellite Sand (somewhat poorly drained and HSG Type A/D). The estimated SHWT is 79.0 ft-NAVD, based on aerial imagery estimates. According to SFWMD/SWFWMD existing LCLU database, the site is classified as residential low-density and cropland/pastureland.

The pond site provides 5.5 acres for pond facility within this sub-basin, which is 0.1 acre larger than the estimated required pond size. The pond site is adjacent to the Poinciana Parkway Extension, so an additional drainage easement will not be necessary to access this facility. From aerial imagery and the April 2019 field visit, there are no apparent major utilities present on the property, however, there is a gas pipeline along the west side of the railroad tracts adjacent to the pond site. Refer to **Appendix D** for site photos and descriptions. There are no specific wildlife data observations in or adjacent to this site. There are no specific clean-up sites within FDEP's databases. No wells, as identified by Florida Geologic Survey (FGS), exist within 100-foot buffer of the proposed pond footprint. There are also no cultural/historic resources listed within the National Register of Historic Places database within a 100-foot buffer of the potential pond site.

Pond Option 4-1B includes one pond site, Pond 4-1B. Pond 4-1B is a 5.4-acre site located east of the Poinciana Parkway Extension alternative and north of the CSX railroad; approximately 1,300 feet south of CR 532. The pond site takes the remaining remnant parcel created from the Poinciana Parkway Extension alternative, and takes partial parcels north of CSX railroad.

The pond site is north of a Reedy Creek wetland slough tributary. The site is bounded by a wetland identified within the National Wetland Inventory database, so wetland impacts should be evaluated at this pond site. There is a Zone AE FEMA floodplain approximately 170-feet to the southeast of the pond, however, the site encompasses some area at and below the BFE of the floodplain, so floodplain compensation may be required for this site. Soils encountered at this site are Riviera Fine Sand (poorly drained and HSG type A/D), Immokalee Fine Sand (poorly drained and HSG Type B/D), Floridana Fine Sand (frequently ponded, very poorly drained, and HSG Type C/D), and Myakka Fine Sand (poorly drained and HSG Type A/D). The estimated SHWT is 77.0 ft-NAVD, based on aerial imagery estimates. According to SFWMD/SWFWMD existing LCLU database, the site is classified as cropland/pastureland, pine flatwoods, and freshwater marshes.

The pond site provides 5.4 acres for pond facility within this sub-basin, which is equal to the estimated required pond size. The pond site is adjacent to the Poinciana Parkway Extension, so an additional drainage easement will not be necessary to access this facility. From aerial imagery and the April 2019 field visit, there are no apparent major utilities present on the property. The pond site is located at the north corner of the railroad right-of-way and a major

utility easement, both of which had gas pipeline warning signs observed in the field. Refer to **Appendix D** for pond site photos and descriptions. There are no specific wildlife data observations in or adjacent to this site. There are no specific clean-up sites within FDEP's databases. No wells, as identified by Florida Geologic Survey (FGS), exist within 100-foot buffer of the proposed pond footprint. There are also no cultural/historic resources listed within the National Register of Historic Places database within a 100-foot buffer of the potential pond site.

Basin 4-02

Basin 4-02 extends from CSX railroad to the proposed bridge over the wetlands within the RCMB and the ULBW. It includes the single point urban interchange with US 17/92 and approximately 4,700 linear feet along US 17/92 to include the additional impervious along US 17/92 for the intersection improvements. From permit search efforts, it appears that this section of US 17/92 is not currently treated.

Basin 4-02 includes a total area of 55.2 acres, with an additional 24.1 acres of impervious area. The required treatment volume is 7.5 ac-ft, which includes the additional 50% to accommodate the Lake Okeechobee BMAP, Kissimmee River TMDL, and the RCMB sensitive water body criteria. This portion of the proposed alternative is estimated to affect 5.7 acres of floodplains and require approximately 3.1 ac-ft of floodplain compensation. This basin requires a pond site that can accommodate 12.9 acre-feet for treatment, attenuation, and floodplain compensation volume. The estimated required pond area for this sub-basin is 6.7 acres.

There is an existing wet pond near the RCMB that is being impacted by this alternative. The existing storage within this pond has not been evaluated for this PD&E phase and is not included within these pond sizing estimates.

Pond Option 4-2A includes two pond sites, Pond 4-2A1 and Pond 4-2A2.

Pond 4-2A1 is a 5.5-acre site located on the northwest corner of the Poinciana Parkway Extension and US 17/92 interchange, taking five (5) vacant residential parcels and a vacant road right-of-way parcel. The pond site is placed within identified wetlands from the National Wetland Inventory, so wetland impacts should be evaluated for this site. The pond site is located within FEMA Zone X, so additional floodplain compensation is not anticipated for this site. Soils encountered at this site are Floridana Fine Sand (frequently ponded, very poorly drained, and HSG Type C/D), Satellite Sand (somewhat poorly drained and HSG Type A/D), and Immokalee Fine Sand (poorly drained and HSG Type B/D). According to SFWMD/SWFWMD existing LCLU database, the site is classified as pine flatwoods and stream and lake swamps (bottomland).

Pond 4-2A2 is a 2.5-acre site located on the southeast corner of the Poinciana Parkway Extension and US 17/92 interchange, taking one full parcel and one partial parcel that are impacted by the Poinciana Parkway Extension alternative. The pond site is not placed within

identified wetlands from the National Wetland Inventory, so wetland impacts are not anticipated for this site. A small portion of this pond site encompasses a FEMA floodplain zoned AE, with some of the plotted floodplain encroaching into the pond site, so additional floodplain compensation may need to be evaluated for this site. Soils encountered at this site are Immokalee Fine Sand (poorly drained and HSG Type B/D), Ona Fine Sand (poorly drained and HSG Type B/D), Immokalee Sand (poorly drained and HSG Type B/D), Pompano Fine Sand (poorly drained and HSG Type A/D), and Placid and Myakka Fine Sands (very poorly drained and HSG Type A/D). According to SFWMD/SWFWMD existing LCLU database, the site is classified as residential low-density and stream and lake swamps (bottomland).

In total these pond sites provide 8.0 acres for pond facility within this sub-basin, which is 1.3 acres larger than the estimated required pond size. The pond sites are adjacent to the Poinciana Parkway Extension, so an additional drainage easement will not be necessary to access this facility. From aerial imagery and the April 2019 field visit, there are no apparent major utilities present on the properties. There are overhead electric transmission lines along the west side of US 17/92 near Pond 4-2A1. Refer to **Appendix D** for pond site photos and descriptions. There are no specific wildlife data observations in or adjacent to these sites. There are no specific clean-up sites within FDEP's databases. No wells, as identified by Florida Geologic Survey (FGS), exist within 100-foot buffer of the proposed pond footprints. There are also no cultural/historic resources listed within the National Register of Historic Places database within a 100-foot buffer of the potential pond sites.

Pond Option 4-2B includes two pond sites, Pond 4-2B1 and Pond 4-2B2.

Pond 4-2B1 is a 5.8-acre site located on the northeast corner of the Poinciana Parkway Extension and US 17/92 interchange, taking a portion of a parcel that is already impacted by the Poinciana Parkway Extension alternative. The pond site is placed within identified wetlands from the National Wetland Inventory, so wetland impacts should be evaluated for this site. The pond site is located west of a FEMA floodplain zoned AE, however, a portion of the pond site encompasses area at or below the BFE in this area, so additional floodplain compensation may need to be evaluated for this site. Soils encountered at this site are Satellite Sand (somewhat poorly drained and HSG Type A/D), Immokalee Fine Sand (poorly drained and HSG Type B/D), Ona Fine Sand (poorly drained and HSG Type B/D), and Myakka Fine Sand (poorly drained and HSG Type A/D). According to SFWMD/SWFWMD existing LCLU database, the site is classified as residential low-density, freshwater marshes, and stream and lake swamps (bottomland).

Pond 4-2B2 is a 1.1-acre site located on the southeast corner of the Poinciana Parkway Extension and US 17/92 interchange, taking four (4) remnant parcels created by the Poinciana Parkway Extension alternative and a portion of two parcels that are impacted by the Poinciana Parkway Extension alternative. The pond site is not placed within identified wetlands from the National Wetland Inventory, so wetland impacts are not anticipated for this site. The pond site is located within FEMA Zone X, so additional floodplain compensation is not anticipated for this site. Soils encountered at this site are Immokalee Fine Sand (poorly drained and HSG Type B/D) and Ona Fine Sand (poorly drained and HSG Type B/D). According to

SFWMD/SWFWMD existing LCLU database, the site is classified as residential low-density and stream and lake swamps (bottomland).

In total these pond sites provide 6.9 acres for pond facility within this sub-basin, which is 0.2 acre greater than the estimated required pond size. The pond sites are adjacent to the Poinciana Parkway Extension, so an additional drainage easement will not be necessary to access these facilities. From aerial imagery and the April 2019 field visit, there are no apparent major utilities present on the properties. Refer to **Appendix D** for pond site photos and descriptions. There are no specific wildlife data observations in or adjacent to these sites. There are no specific clean-up sites within FDEP's databases. No wells, as identified by Florida Geologic Survey (FGS), exist within 100-foot buffer of the proposed pond footprints. There are also no cultural/historic resources listed within the National Register of Historic Places database within a 100-foot buffer of the potential pond sites.

Basin 4-03

Basin 4-03 extends over the northern section of the proposed bridge above the wetlands within the RCMB and the ULBW. Profiles have not been created during this PD&E evaluation, so it was assumed that the basin includes approximately half of the bridge length.

Basin 4-03 includes a total area of 18.9 acres, with an additional 9.3 acres of impervious area. The required treatment volume is 2.9 ac-ft, which includes the additional 50% to accommodate the Lake Okeechobee BMAP, Kissimmee River TMDL, and the RCMB sensitive water body criteria. This portion of the proposed alternative is assumed to bridge over majority of the floodplains within this area. This basin requires a pond site that can accommodate 2.9 acre-feet for treatment and attenuation volume. The estimated required pond area for this sub-basin is 1.9 acres.

Pond Option 4-3A includes one pond site, Pond 4-3A. Pond 4-3A is a 2.4-acre site located on the southwest corner of the Poinciana Parkway Extension and US 17/92 interchange, taking a portion of two parcels already impacted by the Poinciana Parkway Extension alternative. The pond site is placed on an isolated wetland and near large wetlands identified within the National Wetland Inventory, so wetland impacts may need to be evaluated for this site. The pond site is located north of and adjacent to a FEMA floodplain zoned AE, so additional floodplain compensation may be required for this site. The pond site is located on an existing wet pond, however, pond sizing estimates did not take loss of storage from this existing pond because it is assumed that the existing pond will be relocated and re-evaluated as part of the cost for the parcel. Soils encountered at this site are Immokalee Fine Sand (poorly drained and HSG Type B/D) and Ona Fine Sand (poorly drained and HSG Type B/D). According to SFWMD/SWFWMD existing LCLU database, the site is classified as residential low-density and stream and lake swamps (bottomland).

The pond site provides 2.4 acres for pond facility within this sub-basin, which is 0.5 acre larger than the estimated required pond size. The pond site is adjacent to the Poinciana Parkway Extension, so an additional drainage easement will not be necessary to access this facility.

From aerial imagery and the April 2019 field visit, there are no apparent major utilities present on the properties. Refer to **Appendix D** for pond site photos and descriptions. There are no specific wildlife data observations in or adjacent to this site. There are no specific clean-up sites within FDEP's databases. No wells, as identified by Florida Geologic Survey (FGS), exist within 100-foot buffer of the proposed pond footprint. There are also no cultural/historic resources listed within the National Register of Historic Places database within a 100-foot buffer of the potential pond site.

Pond Option 4-3B includes one pond site, Pond 4-3B. Pond 4-3B is a 2.1-acre site located on the southeast corner of the Poinciana Parkway Extension and US 17/92 interchange, taking a portion of A parcel already impacted by the Poinciana Parkway Extension alternative, owned by FDEP and SFWMD. The pond site is not placed on a wetland identified within the National Wetland Inventory, but is located within SFWMD ULBW managed area, so wetland impacts may need to be evaluated for this site. The pond site is located north of and adjacent to a FEMA floodplain zoned AE, however, the plotted floodplain on the DEM does not encroach within the pond site's footprint, so additional floodplain compensation is not anticipated for this site. Soils encountered at this site are Immokalee Fine Sand (poorly drained and HSG Type B/D) and Ona Fine Sand (poorly drained and HSG Type B/D). According to SFWMD/SWFWMD existing LCLU database, the site is classified as residential low-density and stream and lake swamps (bottomland).

The pond site provides 2.1 acres for pond facility within this sub-basin, which is 0.2 acre larger than the estimated required pond size. The pond site is adjacent to the Poinciana Parkway Extension, so an additional drainage easement will not be necessary to access this facility. From aerial imagery, there are no apparent major utilities present on the property. There are no specific wildlife data observations in or adjacent to this site. There are no specific clean-up sites within FDEP's databases. No wells, as identified by Florida Geologic Survey (FGS), exist within 100-foot buffer of the proposed pond footprint. There are also no cultural/historic resources listed within the National Register of Historic Places database within a 100-foot buffer of the potential pond site.

Basin 4-04

Basin 4-04 extends over the southern section of the proposed bridge above the wetlands within the RCMB and the ULBW. Profiles have not been created during this PD&E evaluation, so it was assumed that the basin includes approximately half of the bridge length.

Basin 4-03 includes a total area of 19.8 acres, with an additional 9.9 acres of impervious area. The required treatment volume is 3.1 ac-ft, which includes the additional 50% to accommodate the Lake Okeechobee BMAP, Kissimmee River TMDL, and the RCMB sensitive water body criteria. This portion of the proposed alternative is assumed to bridge over the floodplains within this area. This basin requires a pond site that can accommodate 3.1 acre-feet for treatment and attenuation volume. The estimated required pond area for this sub-basin is 2.1 acres.

Pond Option 4-4A includes one pond site, Pond 4-4A. Pond 4-4A is a 2.1-acre site located along the west side of the Poinciana Parkway Extension and approximately 1,000 feet north of the existing Poinciana Parkway/Ronald Reagan Parkway. The pond site is not placed on a wetland identified within the National Wetland Inventory; however, it is located within the RCMB, so wetland impacts may need to be evaluated for this site. The pond site is located south and east of a FEMA floodplain zoned AE, however, the plotted floodplain on the DEM does not encroach within the pond site's footprint, so additional floodplain compensation is not anticipated for this site. The soil encountered at this site is Immokalee Sand (poorly drained and HSG Type B/D). According to SFWMD/SWFWMD existing LCLU database, the site is classified as cropland/pastureland.

The pond site provides 2.1 acres for pond facility within this sub-basin, which is equal to the estimated required pond size. The pond site is adjacent to the Poinciana Parkway Extension, so an additional drainage easement will not be necessary to access this facility. From aerial imagery, there are no apparent major utilities present on the property. There are no specific wildlife data observations in or adjacent to this site. There are no specific clean-up sites within FDEP's databases. No wells, as identified by Florida Geologic Survey (FGS), exist within 100-foot buffer of the proposed pond footprint. There are also no cultural/historic resources listed within the National Register of Historic Places database within a 100-foot buffer of the potential pond site.

Pond Option 4-4B includes one pond site, Pond 4-4B. Pond 4-4B is a 2.2-acre site located along the east side of the Poinciana Parkway Extension and approximately 1,300 feet north of the existing Poinciana Parkway/Ronald Reagan Parkways. The pond site is south of a wetland identified within the National Wetland Inventory, but is located within the RCMB, so wetland impacts may need to be evaluated for this site. The pond site is located south of a FEMA floodplain zoned AE, however, the plotted floodplain on the DEM does not encroach within the pond site's footprint, so additional floodplain compensation is not anticipated for this site. The soil encountered at this site is Immokalee Fine Sand (poorly drained and HSG Type B/D). According to SFWMD/SWFWMD existing LCLU database, the site is classified as cropland/pastureland.

The pond site provides 2.2 acres for pond facility within this sub-basin, which is 0.1 acre larger than the estimated required pond size. The pond site is adjacent to the Poinciana Parkway Extension, so an additional drainage easement will not be necessary to access this facility. From aerial imagery, there are no apparent major utilities present on the property. There are no specific wildlife data observations in or adjacent to this site. There are no specific clean-up sites within FDEP's databases. No wells, as identified by Florida Geologic Survey (FGS), exist within 100-foot buffer of the proposed pond footprint. There are also no cultural/historic resources listed within the National Register of Historic Places database within a 100-foot buffer of the potential pond site.

Basin 4-05

Basin 4-05 extends from the proposed bridge over the wetlands within the RCMB and the ULBW to the existing Poinciana Parkway bridge over the RCMB. The basin includes slip ramps to and from Ronald Reagan Parkway. A section of this basin along Poinciana Parkway/Ronald Reagan Parkway is currently receiving treatment in Pond 2 under ERP Application 141010-12.

Basin 4-05 includes a total area of 68.0 acres, with an additional 19.6 acres of impervious area. From review of the additional capacity within the existing ponds currently treating Poinciana Parkway/Ronald Reagan Parkway, it was determined that approximately 2.2 acres and 12.6 acres of additional impervious area can be provided within Pond 1 and Pond 2, respectively. This results in a new offsite pond to accommodate treatment for 4.8 acres of additional impervious area. Refer to **Figure 14** in **Appendix A**. The required treatment volume for the new offsite pond is 3.2 ac-ft, which includes the additional 50% to accommodate the Lake Okeechobee BMAP, Kissimmee River TMDL, and the RCMB sensitive water body criteria. This portion of the proposed alternative is estimated to affect 11.7 acres of floodplains and require approximately 22.5 ac-ft of floodplain compensation. This basin requires a pond site that can accommodate 28.6 ac-ft for treatment, attenuation, and floodplain compensation volume. The estimated required pond area for this sub-basin is 13.7 acres.

Pond Option 4-5A includes two infield pond sites, Pond 4-5A1, and one off-site pond, Pond 4-5A2. This pond option is sized for treatment, attenuation, and floodplain compensation for the Poinciana Parkway Extension that cannot be accommodated through the existing Poinciana Parkway Ponds 1 and 2, under ERP Application 141010-12.

Pond 4-5A1 is an 8.9-acre infield site within the slip ramps to and from Ronald Reagan Parkway. It is assumed that all wetland and floodplain impacts are associated with the Poinciana Parkway Extension alternative, so no additional wetland mitigation or floodplain compensation is anticipated for this site. Soils encountered at this site are Pompano Fine Sand (poorly drained and HSG Type A/D), Satellite Sand (somewhat poorly drained and HSG Type A/D), and Smyrna and Myakka Fine Sand (poorly drained and HSG Type A/D). The estimated SHWT is 77.5 ft-NAVD, based on aerial imagery. According to SFWMD/SWFWMD existing LCLU database, the site is classified as freshwater marshes and cropland/pastureland.

Pond 4-5A2 is a 5.0-acre pond site that is placed south of the Poinciana Parkway Extension alternative. It is located on an existing wet pond. The loss of storage within the existing pond was not included in the pond sizing estimates because it is assumed that the existing pond will be relocated and re-evaluated as part of the cost for the parcel. The pond site is not located within an identified wetland within the National Wetland Inventory, but is located within the RCMB, so wetland mitigation may need to be evaluated for this site. The site is located north of and adjacent to a FEMA floodplain zoned AE. The pond site's foot print is located above the BFE elevation associated with the adjacent floodplain, so additional floodplain compensation is not anticipated for this site. Soils encountered at this site are Immokalee Fine Sand (poorly drained and HSG Type B/D), Pompano Fine Sand (frequently ponded, very poorly drained, and HSG Type A/D), and Adamsville Sand (somewhat poorly drained and HSG Type A). The estimated SHWT is 71.3 ft-NAVD, based on permit data from ERP Application No.

160817-30. According to SFWMD/SWFWMD existing LCLU database, the site is classified as improved pastures, reservoirs, and mixed wetland hardwoods.

In total these pond sites provide 13.9 acres for pond facilities within this sub-basin, which is 0.2 acre larger than the estimated required pond size. The offsite pond is approximately 500-feet south of the Poinciana Parkway Extension, so an additional drainage easement will be necessary to access this facility. From aerial imagery and the April 2019 field visit, there are no apparent major utilities present on the properties. The property at Pond 4-5A1 was under construction for a subdivision development during the field visit. Refer to **Appendix D** for pond site photos and descriptions. There are no specific wildlife data observations in or adjacent to these sites. There are no specific clean-up sites within FDEP's databases. No wells, as identified by Florida Geologic Survey (FGS), exist within 100-foot buffer of the proposed pond footprint. There are also no cultural/historic resources listed within the National Register of Historic Places database within a 100-foot buffer of the potential pond sites.

Pond Option 4-5B includes two infield pond sites, Pond 4-5B1, and one off-site pond, Pond 4-5B2. This pond option is sized for treatment, attenuation, and floodplain compensation for the Poinciana Parkway Extension that cannot be accommodated through the existing Poinciana Parkway Ponds 1 and 2, under ERP Application 141010-12.

Pond 4-5B1 is an 8.9-acre infield site within the slip ramps to and from Ronald Reagan Parkway. With a 3-foot design depth, it is estimated that these infield ponds can provide storage for 5.4 acre-feet, so an offsite pond will be required to provide the remaining 23.2 ac-ft. It is assumed that all wetland and floodplain impacts are associated with the Poinciana Parkway Extension alternative, so no additional wetland mitigation or floodplain compensation is anticipated for this site. Soils encountered at this site are Pompano Fine Sand (poorly drained and HSG Type A/D), Satellite Sand (somewhat poorly drained and HSG Type A/D), and Smyrna and Myakka Fine Sand (poorly drained and HSG Type A/D). The estimated SHWT is 77.5 ft-NAVD, based on aerial imagery. According to SFWMD/SWFWMD existing LCLU database, the site is classified as freshwater marshes and cropland/pastureland.

Pond 4-5B2 proposes to expand the existing Poinciana Parkway Pond 2. The design depth within Pond 2 is 1.8-feet, which will require approximately 17.9 acres of additional pond size to accommodate the required pond volume within Basin 4-05 that is not already accommodated through the existing Poinciana Parkway Ponds 1 and 2 and infield ponds, Pond 4-5B1. Pond 4-5B2 is an 18.4-acre site. The pond site is a partial take of a parcel already impacted by the Poinciana Parkway Extension. The pond site does not include wetlands identified within the National Wetland Inventory, but is placed within the RCMB, so wetland mitigation will need to be evaluated for this site. The site is located northwest of FEMA floodplains, so no additional floodplain compensation is anticipated for this site. The soil encountered at this site is Immokalee Fine Sand (poorly drained and HSG Type B/D), Pompano Fine Sand (frequently ponded, very poorly drained, and HSG Type A/D), and Adamsville Sand (somewhat poorly drained and HSG Type A). The estimated SHWT is 68.09 ft-NAVD, based on Pond 2's normal water level. According to SFWMD/SWFWMD existing LCLU database, the site is classified as improved pastures.

In total these pond sites provide 27.3 acres for pond facilities within this sub-basin, which is 0.5 acre larger than the estimated required pond size. The offsite pond is adjacent to the Poinciana Parkway Extension, so an additional drainage easement will not be necessary to access this facility. From aerial imagery and the April 2019 field visit, there are no apparent major utilities present on the properties. The property at Pond 4-5B1 was under construction for a subdivision development during the field visit. Refer to **Appendix D** for pond site photos and descriptions. There are no specific wildlife data observations in or adjacent to these sites. There are no specific clean-up sites within FDEP's databases. No wells, as identified by Florida Geologic Survey (FGS), exist within 100-foot buffer of the proposed pond footprints. There are also no cultural/historic resources listed within the National Register of Historic Places database within a 100-foot buffer of the potential pond sites.

6.3.3 Alternative 5A with Ronald Reagan Parkway Slip Ramps

Alternative 5A with Ronald Reagan Parkway Slip Ramps travels through the RCMB in Osceola County and the SFWMD's ULBW before crossing over US 17/92 approximately one-mile north of its intersection with Ronald Reagan Parkway. The alternative continues northward crossing over Old Tampa Highway and the CSX railroad before connecting with CR 532 just west of the Polk County/Osceola County line. This alternative requires utility relocations from along the Polk County/Osceola County line to just west of the proposed expressway.

This alternative includes bridging over the wetlands within the RCMB and the ULBW.

A single point urban interchange is provided with US 17/92 and slip ramps are provided to and from Ronald Reagan Parkway just west of the existing bridge over the RCMB. An at-grade intersection is provided with CR 532.

The following sections describe the alternative's sub-basins with two potential pond sites within each basin. In **Appendix A, Figure 11** provides a visual representation of the sub-basins and input parameters used for pond sizing, **Figures A.21 – A.30** present each respective sub-basin's pond options, and **Table 3** identifies the impacted parcels.

Basin 5-01

Basin 5-01 extends from the CR 532 intersection to the CSX railroad, approximately 2,000-feet south of CR 532. It includes the ramps that connect CR 532 to the Poinciana Parkway Extension and the additional impervious along CR 532 for the intersection improvements, as well as extends the Poinciana Parkway Extension mainline to CR 532. It is assumed that the ultimate condition may extend the Poinciana Parkway north of this location. From permit search efforts, it appears that this section of CR 532 is not currently treated.

Basin 5-01 includes a total area of 32.8 acres, with an additional 16.2 acres of impervious area. The required treatment volume is 5.1 ac-ft, which includes the additional 50% to accommodate the Lake Okeechobee BMAP, Kissimmee River TMDL, and the RCMB sensitive water body criteria. This portion of the proposed alternative is estimated to affect 1.8 acres

of floodplains and require approximately 2.7 ac-ft of floodplain compensation. This basin requires a pond site that can accommodate 10.0 acre-feet for treatment, attenuation, and floodplain compensation volume. The estimated required pond area for this sub-basin is 5.4 acres.

Pond Option 5-1A includes one pond site, Pond 5-1A. Pond 5-1A is a 5.5-acre site located west of the Poinciana Parkway Extension alternative, north of the CSX railroad, and northeast of the Sandy Ridge subdivision; approximately 2,200 feet south of CR 532. The pond site takes the southern section of a remnant parcel and the majority of another remnant parcel created from the Poinciana Parkway Extension alternative.

The pond site is placed south of and adjacent to a Reedy Creek wetland slough tributary that is also a Zone AE FEMA floodplain, so wetland mitigation and floodplain compensation is not anticipated for this site. The soil encountered at this site is Satellite Sand (somewhat poorly drained and HSG Type A/D). The estimated SHWT is 79.0 ft-NAVD, based on aerial imagery estimates. According to SFWMD/SWFWMD existing LCLU database, the site is classified as residential low-density and cropland/pastureland.

The pond site provides 5.5 acres for pond facility within this sub-basin, which is 0.1 acre larger than the estimated required pond size. The pond site is adjacent to the Poinciana Parkway Extension, so an additional drainage easement will not be necessary to access this facility. From aerial imagery and the April 2019 field visit, there are no apparent major utilities present on the property, however, there is a gas pipeline along the west side of the railroad tracts adjacent to the pond site. Refer to **Appendix D** for site photos and descriptions. There are no specific wildlife data observations in or adjacent to this site; however, the site is within upland native habitats. There are no specific clean-up sites within FDEP's databases. No wells, as identified by Florida Geologic Survey (FGS), exist within 100-foot buffer of the proposed pond footprint. The Cultural Resource Desktop Analysis for 12 Pond Locations Associated with the Poinciana Parkway Extension Project performed by SEARCH indicated a High risk of impacts for this site.

Pond Option 5-1B includes one pond site, Pond 5-1B. Pond 5-1B is a 5.4-acre site located east of the Poinciana Parkway Extension alternative and north of the CSX railroad; approximately 1,300 feet south of CR 532. The pond site takes the remaining of a remnant parcel created from the Poinciana Parkway Extension alternative and takes two (2) partial parcels north of CSX.

The pond site is north of a Reedy Creek wetland slough tributary. The site is bounded by a wetland identified within the National Wetland Inventory database, so wetland impacts should be evaluated at this pond site. There is a Zone AE FEMA floodplain to the southeast, the pond site encompasses area at and below the BFE of the floodplain, so floodplain compensation may be required for this site. Soils encountered at this site are Riviera Fine Sand (poorly drained and HSG type A/D), Immokalee Fine Sand (poorly drained and HSG Type B/D), Floridana Fine Sand (frequently ponded, very poorly drained, and HSG Type C/D), and Myakka Fine Sand (poorly drained and HSG Type A/D). The estimated SHWT is 77.0 ft-NAVD, based on aerial

imagery estimates. According to SFWMD/SWFWMD existing LCLU database, the site is classified as cropland/pastureland, pine flatwoods, and freshwater marshes.

The pond site provides 5.4 acres for pond facility within this sub-basin, which is equal to the estimated required pond size. The pond site is adjacent to the Poinciana Parkway Extension, so an additional drainage easement will not be necessary to access this facility. From aerial imagery and the April 2019 field visit, there are no apparent major utilities present on the property. The pond site is located at the north corner of the railroad right-of-way and a major utility easement, both of which had gas pipeline warning signs observed in the field. Refer to **Appendix D** for pond site photos and descriptions. There are no specific wildlife data observations in or adjacent to this site; however, the site is within upland native habitats. There are no specific clean-up sites within FDEP's databases. No wells, as identified by Florida Geologic Survey (FGS), exist within 100-foot buffer of the proposed pond footprint. The Cultural Resource Desktop Analysis for 12 Pond Locations Associated with the Poinciana Parkway Extension Project performed by SEARCH indicated a High risk of impacts for this site.

Basin 5-02

Basin 5-02 extends from CSX railroad to the proposed bridge over the wetlands within the RCMB and the ULBW. It includes the single point urban interchange with US 17/92 and approximately 4,700 linear feet along US 17/92 to include the additional impervious along US 17/92 for the intersection improvements. From permit search efforts, it appears that this section of US 17/92 is not currently treated.

Basin 5-02 includes a total area of 55.2 acres, with an additional 24.1 acres of impervious area. The required treatment volume is 7.5 ac-ft, which includes the additional 50% to accommodate the Lake Okeechobee BMAP, Kissimmee River TMDL, and the RCMB sensitive water body criteria. This portion of the proposed alternative is estimated to affect 5.7 acres of floodplains and require approximately 3.1 ac-ft of floodplain compensation. This basin requires a pond site that can accommodate 12.9 acre-feet for treatment, attenuation, and floodplain compensation volume. The estimated required pond area for this sub-basin is 6.7 acres.

There is an existing wet pond near the RCMB that is being impacted by this alternative. The existing storage within this pond has not been evaluated for this PD&E phase and is not included within these pond sizing estimates.

Pond Option 5-2A includes two pond sites, Pond 5-2A1 and Pond 5-2A2.

Pond 5-2A1 is a 5.5-acre site located on the northwest corner of the Poinciana Parkway Extension and US 17/92 interchange, taking five (5) vacant residential parcels and a vacant road right-of-way parcel. The pond site is placed within identified wetlands from the National Wetland Inventory, so wetland impacts should be evaluated for this site. The pond site is located within FEMA Zone X, so additional floodplain compensation is not anticipated for this

site. Soils encountered at this site are Floridana Fine Sand (frequently ponded, very poorly drained, and HSG Type C/D), Satellite Sand (somewhat poorly drained and HSG Type A/D), and Immokalee Fine Sand (poorly drained and HSG Type B/D). According to SFWMD/SWFWMD existing LCLU database, the site is classified as pine flatwoods and stream and lake swamps (bottomland).

Pond 5-2A2 is a 2.5-acre site located on the southeast corner of the Poinciana Parkway Extension and US 17/92 interchange, taking one full parcel and one partial parcel that are impacted by the Poinciana Parkway Extension alternative. The pond site is not placed within identified wetlands from the National Wetland Inventory, so wetland impacts are not anticipated for this site. A small portion of this pond site encompasses a FEMA floodplain zoned AE, with some of the plotted floodplain encroaching into the pond site, so additional floodplain compensation may need to be evaluated for this site. Soils encountered at this site are Immokalee Fine Sand (poorly drained and HSG Type B/D), Ona Fine Sand (poorly drained and HSG Type B/D), Immokalee Sand (poorly drained and HSG Type B/D), Pompano Fine Sand (poorly drained and HSG Type A/D), and Placid and Myakka Fine Sands (very poorly drained and HSG Type A/D). According to SFWMD/SWFWMD existing LCLU database, the site is classified as residential low-density and stream and lake swamps (bottomland).

In total these pond sites provide 8.0 acres for pond facility within this sub-basin, which is 1.3 acres larger than the estimated required pond size. The pond sites are adjacent to the Poinciana Parkway Extension, so an additional drainage easement will not be necessary to access these facilities. From aerial imagery and the April 2019 field visit, there are no apparent major utilities present on the properties. There are overhead electric transmission lines along the west side of US 17/92 near Pond 5-2A1. Refer to **Appendix D** for pond site photos and descriptions. There are no specific wildlife data observations in or adjacent to this site; however, the site is within upland native habitats. There are no specific clean-up sites within FDEP's databases; however, the CSER identified the risk of contamination as low for Pond 5-2A2. No wells, as identified by Florida Geologic Survey (FGS), exist within 100-foot buffer of the proposed pond footprints. The Cultural Resource Desktop Analysis for 12 Pond Locations Associated with the Poinciana Parkway Extension Project performed by SEARCH indicated a Low risk of impacts for this site.

Pond Option 5-2B includes two pond sites, Pond 5-2B1 and Pond 5-2B2.

Pond 5-2B1 is a 5.8-acre site located on the northeast corner of the Poinciana Parkway Extension and US 17/92 interchange, taking a portion of a parcel that is already impacted by the Poinciana Parkway Extension alternative. The pond site is placed within identified wetlands from the National Wetland Inventory, so wetland impacts should be evaluated for this site. The pond site is located west of a FEMA floodplain zoned AE, however, a portion of the pond site encompasses area at or below the BFE in this area, so additional floodplain compensation may need to be evaluated for this site. Soils encountered at this site are Satellite Sand (somewhat poorly drained and HSG Type A/D), Immokalee Fine Sand (poorly drained and HSG Type B/D), Ona Fine Sand (poorly drained and HSG Type B/D), and Myakka Fine Sand (poorly drained and HSG Type A/D). According to SFWMD/SWFWMD existing LCLU

database, the site is classified as residential low-density, freshwater marshes, and stream and lake swamps (bottomland).

Pond 5-2B2 is a 1.1-acre site located on the southeast corner of the Poinciana Parkway Extension and US 17/92 interchange, taking four (4) remnant parcels created by the Poinciana Parkway Extension alternative and a portion of two parcels that are impacted by the Poinciana Parkway Extension alternative. The pond site is not placed within identified wetlands from the National Wetland Inventory; however, it is within the field-verified FLUCFCS of wetland forested mixed, so wetland impacts are anticipated for this site. The pond site is located within FEMA Zone X, so additional floodplain compensation is not anticipated for this site. Soils encountered at this site are Immokalee Fine Sand (poorly drained and HSG Type B/D) and Ona Fine Sand (poorly drained and HSG Type B/D). According to SFWMD/SWFWMD existing LCLU database, the site is classified as residential low-density and stream and lake swamps (bottomland).

In total these pond sites provide 6.9 acres for pond facility within this sub-basin, which is 0.2 acre greater than the estimated required pond size. The pond sites are adjacent to the Poinciana Parkway Extension, so an additional drainage easement will not be necessary to access these facilities. From aerial imagery and the April 2019 field visit, there are no apparent major utilities present on the properties. Refer to **Appendix D** for pond site photos and descriptions. There are no specific wildlife data observations in or adjacent to this site; however, the site is within upland native habitats. There are no specific clean-up sites within FDEP's databases; however, the CSER identified the risk of contamination as low for Pond 5-2B2. No wells, as identified by Florida Geologic Survey (FGS), exist within 100-foot buffer of the proposed pond footprints. The Cultural Resource Desktop Analysis for 12 Pond Locations Associated with the Poinciana Parkway Extension Project performed by SEARCH indicated a Low risk of impacts for this site.

Basin 5-03

Basin 5-03 extends from the northern section of the proposed bridge over the wetlands within the RCMB and the ULBW. Profiles have not been created during this PD&E evaluation, so it was assumed that the basin includes approximately half of the bridge length.

Basin 5-03 includes a total area of 19.5 acres, with an additional 9.6 acres of impervious area. The required treatment volume is 3.0 ac-ft, which includes the additional 50% to accommodate the Lake Okeechobee BMAP, Kissimmee River TMDL, and the RCMB sensitive water body criteria. This portion of the proposed alternative is assumed to bridge over the majority of the floodplains within this area. This basin requires a pond site that can accommodate 3.0 acre-feet for treatment and attenuation volume. The estimated required pond area for this sub-basin is 2.0 acres.

Pond Option 5-3A includes one pond site, Pond 5-3A. Pond 5-3A is a 2.4-acre site located on the southwest corner of the Poinciana Parkway Extension and US 17/92 interchange, taking a portion of two parcels already impacted by the Poinciana Parkway Extension alternative.

The pond site is placed on an isolated wetland and near large wetlands identified within the National Wetland Inventory, so wetland impacts may need to be evaluated for this site. The pond site is located north of and adjacent to a FEMA floodplain zoned AE, however, the plotted floodplain on the DEM does not encroach within the pond site's footprint, so additional floodplain compensation is not anticipated for this site. The pond site is located on an existing wet pond, however, pond sizing estimates did not take loss of storage from this existing pond because it is assumed that the existing pond will be relocated and re-evaluated as part of the cost for the parcel. Soils encountered at this site are Immokalee Fine Sand (poorly drained and HSG Type B/D) and Ona Fine Sand (poorly drained and HSG Type B/D). According to SFWMD/SWFWMD existing LCLU database, the site is classified as residential low-density and stream and lake swamps (bottomland).

The pond site provides 2.4 acres for pond facility within this sub-basin, which is 0.4 acre larger than the estimated required pond size. The pond site is adjacent to the Poinciana Parkway Extension, so an additional drainage easement will not be necessary to access this facility. From aerial imagery and the April 2019 field visit, there are no apparent major utilities present on the properties. Refer to **Appendix D** for pond site photos and descriptions. There are no specific wildlife data observations in or adjacent to this site; however, the site is within upland native habitats. There are no specific clean-up sites within FDEP's databases; however, the CSER identified the risk of contamination as low for Pond 5-3A. No wells, as identified by Florida Geologic Survey (FGS), exist within 100-foot buffer of the proposed pond footprint. The Cultural Resource Desktop Analysis for 12 Pond Locations Associated with the Poinciana Parkway Extension Project performed by SEARCH indicated a Low risk of impacts for this site.

Pond Option 5-3B includes one pond site, Pond 5-3B. Pond 5-3B is a 2.1-acre site located on the southeast corner of the Poinciana Parkway Extension and US 17/92 interchange, taking a portion of a parcel already impacted by the Poinciana Parkway Extension alternative, owned by FDEP and SFWMD. The pond site is not placed on a wetland identified within the National Wetland Inventory, but is located within SFWMD ULBW managed area, so wetland impacts may need to be evaluated for this site. The pond site is located north of and adjacent to a FEMA floodplain zoned AE, however, the plotted floodplain on the DEM does not encroach within the pond site's footprint, so additional floodplain compensation is not anticipated for this site. Soils encountered at this site are Immokalee Fine Sand (poorly drained and HSG Type B/D) and Ona Fine Sand (poorly drained and HSG Type B/D). According to SFWMD/SWFWMD existing LCLU database, the site is classified as residential low-density and stream and lake swamps (bottomland).

The pond site provides 2.1 acres for pond facility within this sub-basin, which is 0.1 acre larger than the estimated required pond size. The pond site is adjacent to the Poinciana Parkway Extension, so an additional drainage easement will not be necessary to access this facility. From aerial imagery, there are no apparent major utilities present on the property. There are no specific wildlife data observations in or adjacent to this site; however, the site is within the ULBW. There are no specific clean-up sites within FDEP's databases. No wells, as identified by Florida Geologic Survey (FGS), exist within 100-foot buffer of the proposed pond footprint.

The Cultural Resource Desktop Analysis for 12 Pond Locations Associated with the Poinciana Parkway Extension Project performed by SEARCH indicated a Low risk of impacts for this site.

Basin 5-04

Basin 5-04 extends over the southern section of the proposed bridge above the wetlands within the RCMB and the ULBW. Profiles have not been created during this PD&E evaluation, so it was assumed that the basin includes approximately half of the bridge length.

Basin 5-04 includes a total area of 17.6 acres, with an additional 8.8 acres of impervious area. The required treatment volume is 2.7 ac-ft, which includes the additional 50% to accommodate the Lake Okeechobee BMAP, Kissimmee River TMDL, and the RCMB sensitive water body criteria. This portion of the proposed alternative is assumed to bridge over the floodplains within this area. This basin requires a pond site that can accommodate 2.7 acre-feet for treatment and attenuation volume. The estimated required pond area for this sub-basin is 1.8 acres.

Pond Option 5-4A includes one pond site, Pond 5-4A. Pond 5-4A is a 2.2-acre site located along the east side of the Poinciana Parkway Extension and approximately 1,800 feet north of the existing Poinciana Parkway/Ronald Reagan Parkway. The pond site is not located within a wetland identified within the National Wetland Inventory; however, it is located within the RCMB, so wetland impacts may need to be evaluated for this site. The pond site is not located within a FEMA floodplain, so additional floodplain compensation is not anticipated for this site. The soil encountered at this site is Immokalee Fine Sand (poorly drained and HSG Type B/D). According to SFWMD/SWFWMD existing LCLU database, the site is classified as cropland/pastureland.

The pond site provides 2.2 acres for pond facility within this sub-basin, which is 0.4 acre larger than the estimated required pond size. The pond site is adjacent to the Poinciana Parkway Extension, so an additional drainage easement will not be necessary to access this facility. From aerial imagery, there are no apparent major utilities present on the property. There are no specific wildlife data observations in or adjacent to this site; however, the site is within the RCMB. There are no specific clean-up sites within FDEP's databases. No wells, as identified by Florida Geologic Survey (FGS), exist within 100-foot buffer of the proposed pond footprint. The Cultural Resource Desktop Analysis for 12 Pond Locations Associated with the Poinciana Parkway Extension Project performed by SEARCH indicated a Medium risk of impacts for this site.

Pond Option 5-4B includes one pond site, Pond 5-4B. Pond 5-4B is a 1.9-acre site located along the west side of the Poinciana Parkway Extension and approximately 1,300 feet north of the existing Poinciana Parkway/Ronald Reagan Parkway. The pond site is south of and partially encompasses a section of a wetland identified within the National Wetland Inventory, and is located within the RCMB, so wetland impacts may need to be evaluated for this site. The pond site is located south of a FEMA floodplain zoned AE, however, the plotted floodplain

on the DEM does not encroach within the pond site's footprint, so additional floodplain compensation is not anticipated for this site. The soil encountered at this site is Immokalee Fine Sand (poorly drained and HSG Type B/D). According to SFWMD/SWFWMD existing LCLU database, the site is classified as cropland/pastureland.

The pond site provides 1.9 acres for pond facility within this sub-basin, which is 0.1 acre larger than the estimated required pond size. The pond site is adjacent to the Poinciana Parkway Extension, so an additional drainage easement will not be necessary to access this facility. From aerial imagery, there are no apparent major utilities present on the property. There are no specific wildlife data observations in or adjacent to this site; however, the site is within the RCMB. There are no specific clean-up sites within FDEP's databases. No wells, as identified by Florida Geologic Survey (FGS), exist within 100-foot buffer of the proposed pond footprint. The Cultural Resource Desktop Analysis for 12 Pond Locations Associated with the Poinciana Parkway Extension Project performed by SEARCH indicated a Medium risk of impacts for this site.

Basin 5-05

Basin 5-05 extends from the proposed bridge over the wetlands within the RCMB and the ULBW to the existing Poinciana Parkway Bridge over the RCMB. The basin includes slip ramps to and from Ronald Reagan Parkway. A section of this basin along Poinciana Parkway/Ronald Reagan Parkway is currently receiving treatment in Pond 2 under ERP Application 141010-12.

Basin 5-05 includes a total area of 69.2 acres, with an additional 18.8 acres of impervious area. From review of the additional capacity within the existing ponds currently treating Poinciana Parkway/Ronald Reagan Parkway, it was determined that approximately 2.2 acres and 11.7 acres of additional impervious area can be provided within Pond 1 and Pond 2, respectively. This results in a new offsite pond to accommodate treatment for 4.9 acres of additional impervious area. Refer to **Figure 15** in **Appendix A**. The required treatment volume for the new offsite pond is 3.8 ac-ft, which includes the additional 50% to accommodate the Lake Okeechobee BMAP, Kissimmee River TMDL, and the RCMB sensitive water body criteria. This portion of the proposed alternative is estimated to affect 9.9 acres of floodplains and require approximately 5.7 ac-ft of floodplain compensation. This basin requires a pond site that can accommodate 12.5 ac-ft for treatment, attenuation, and floodplain compensation volume. The estimated required pond area for a 3-foot design depth for this sub-basin is 6.5 acres.

Pond Option 5-5A includes one pond site, Pond 5-5A. This pond option is sized for treatment, attenuation, and floodplain compensation for the Poinciana Parkway Extension that cannot be accommodated through the existing Poinciana Parkway Ponds 1 and 2, under ERP Application 141010-12.

Pond 5-5A proposes to expand the existing Poinciana Parkway Pond 2. The design depth within Pond 2 is 1.8-feet, which will require approximately 10.1 acres of additional pond size to the required volume for Basin 5-05. Pond 5-5A is a 10.6-acre site that is placed south of

the Poinciana Parkway Extension alternative and west of the existing Poinciana Parkway Pond 2. The pond site is a partial take of a parcel already impacted by the Poinciana Parkway Extension. The pond site does not include wetlands identified within the National Wetland Inventory, but is placed within the RCMB, so wetland mitigation will need to be evaluated for this site. The site is located northwest of FEMA floodplains, so no additional floodplain compensation is anticipated for this site. The soil encountered at this site is Immokalee Fine Sand (poorly drained and HSG Type B/D) and Adamsville Sand (somewhat poorly drained and HSG Type A). The estimated SHWT is 68.09 ft-NAVD, based on Pond 2's normal water level. According to SFWMD/SWFWMD existing LCLU database, the site is classified as improved pastures.

The pond site provides 10.6 acres for pond facility within this sub-basin, which is 0.5 acre larger than the estimated required pond size. The pond site is adjacent to the Poinciana Parkway Extension, so an additional drainage easement will not be necessary to access this facility. From aerial imagery and the April 2019 field visit, there are no apparent major utilities present on the property. Refer to **Appendix D** for pond site photos and descriptions. There are no specific wildlife data observations in or adjacent to this site; however, the site is within the RCMB. There are no specific clean-up sites within FDEP's databases; however, the CSER identified the risk of contamination as low for Pond 5-5A. No wells, as identified by Florida Geologic Survey (FGS), exist within 100-foot buffer of the proposed pond footprint. The Cultural Resource Desktop Analysis for 12 Pond Locations Associated with the Poinciana Parkway Extension Project performed by SEARCH indicated a High risk of impacts for this site.

Pond Option 5-5B includes one pond site, Pond 5-5B. This pond option is sized for treatment, attenuation, and floodplain compensation for the Poinciana Parkway Extension that cannot be accommodated through the existing Poinciana Parkway Ponds 1 and 2, under ERP Application 141010-12.

Pond 5-5B is a 6.9-acre pond site that is placed south of the Poinciana Parkway Extension alternative. It is located on an existing wet pond. The loss of storage within the existing pond was not included in the pond sizing estimates because it is assumed that the existing pond will be relocated and re-evaluated as part of the cost for the parcel. The pond site is not located within an identified wetland within the National Wetland Inventory, but is located within the RCMB, so wetland mitigation may need to be evaluated for this site. The site is located north of and adjacent to a FEMA floodplain zoned AE. The pond site's foot print is located above the BFE elevation associated with the adjacent floodplain, so additional floodplain compensation is not anticipated for this site. Soils encountered at this site are Immokalee Fine Sand (poorly drained and HSG Type B/D), Pompano Fine Sand (frequently ponded, very poorly drained, and HSG Type A/D), and Adamsville Sand (somewhat poorly drained and HSG Type A). The estimated SHWT is 71.3 ft-NAVD, based on permit data from ERP Application No. 160817-30. According to SFWMD/SWFWMD existing LCLU database, the site is classified as improved pastures, reservoirs, and mixed wetland hardwoods.

The pond site provides 6.9 acres for the pond facility within this sub-basin, which is 0.4 acre larger than the estimated required pond size. The offsite pond is approximately 500-feet south of the Poinciana Parkway Extension, so an additional drainage easement will be necessary to access this facility. From aerial imagery and the April 2019 field visit, there are no apparent major utilities present on the property. Refer to **Appendix D** for pond site photos and descriptions. There are no specific wildlife data observations in or adjacent to this site; however, the site is within upland native habitats. There are no specific clean-up sites within FDEP's databases. No wells, as identified by Florida Geologic Survey (FGS), exist within 100-foot buffer of the proposed pond footprint. The Cultural Resource Desktop Analysis for 12 Pond Locations Associated with the Poinciana Parkway Extension Project performed by SEARCH indicated a High risk of impacts for this site.

6.3.4 Alternative 5A without Ronald Reagan Parkway Slip Ramps

Alternative 5A without Ronald Reagan Parkway Slip Ramps travels through the RCMB in Osceola County and the SFWMD's ULBW before crossing over US 17/92 approximately one-mile north of its intersection with Ronald Reagan Parkway. The alternative continues northward crossing over Old Tampa Highway and the CSX railroad before connecting with CR 532 just west of the Polk County/Osceola County line. This alternative requires utility relocations from along the Polk County/Osceola County line to just west of the proposed expressway.

This alternative includes bridging over the wetlands within the RCMB and the ULBW.

A single point urban interchange is provided with US 17/92 and an at-grade intersection is provided with CR 532.

The following sections describe the alternative's sub-basins with two potential pond sites within each basin. In **Appendix A, Figure 12** provides a visual representation of the sub-basins and input parameters used for pond sizing, **Figures A.31 – A.40** present each respective sub-basin's pond options, and **Table 4** identifies the impacted parcels.

Basin 5-01 without Ronald Reagan Parkway Slip Ramps

Basin 5-01_woRRPsr extends from the CR 532 intersection to the CSX railroad, approximately 2,000-feet south of CR 532. It includes the ramps that connect CR 532 to the Poinciana Parkway Extension and the additional impervious along CR 532 for the intersection improvements, as well as extends the Poinciana Parkway Extension mainline to CR 532. It is assumed that the ultimate condition may extend the Poinciana Parkway north of this location. From permit search efforts, it appears that this section of CR 532 is not currently treated.

Basin 5-01_woRRPsr includes a total area of 32.8 acres, with an additional 16.2 acres of impervious area. The required treatment volume is 5.1 ac-ft, which includes the additional 50% to accommodate the Lake Okeechobee BMAP, Kissimmee River TMDL, and the RCMB sensitive water body criteria. This portion of the proposed alternative is estimated to affect 1.8 acres of floodplains and require approximately 2.7 ac-ft of floodplain compensation. This

basin requires a pond site that can accommodate 10.0 acre-feet for treatment, attenuation, and floodplain compensation volume. The estimated required pond area for this sub-basin is 5.4 acres.

Pond Option 5-1A includes one pond site, Pond 5-1A. Pond 5-1A is a 5.5-acre site located west of the Poinciana Parkway Extension alternative, north of the CSX railroad, and northeast of the Sandy Ridge subdivision; approximately 2,200 feet south of CR 532. The pond site takes the southern section of a remnant parcel and the majority of another remnant parcel created from the Poinciana Parkway Extension alternative.

The pond site is placed south of and adjacent to a Reedy Creek wetland slough tributary that is also a Zone AE FEMA floodplain, so wetland mitigation and floodplain compensation is not anticipated for this site. The soil encountered at this site is Satellite Sand (somewhat poorly drained and HSG Type A/D). The estimated SHWT is 79.0 ft-NAVD, based on aerial imagery estimates. According to SFWMD/SWFWMD existing LCLU database, the site is classified as residential low-density and cropland/pastureland.

The pond site provides 5.5 acres for pond facility within this sub-basin, which is 0.1 acre larger than the estimated required pond size. The pond site is adjacent to the Poinciana Parkway Extension, so an additional drainage easement will not be necessary to access this facility. From aerial imagery and the April 2019 field visit, there are no apparent major utilities present on the property, however, there is a gas pipeline along the west side of the railroad tracts adjacent to the pond site. Refer to **Appendix D** for phot site photos and descriptions. There are no specific wildlife data observations in or adjacent to this site; however, the site is within upland native habitats. There are no specific clean-up sites within FDEP's databases. No wells, as identified by Florida Geologic Survey (FGS), exist within 100-foot buffer of the proposed pond footprint. The Cultural Resource Desktop Analysis for 12 Pond Locations Associated with the Poinciana Parkway Extension Project performed by SEARCH indicated a High risk of impacts for this site.

Pond Option 5-1B includes one pond site, Pond 5-1B. Pond 5-1B is a 5.4-acre site located east of the Poinciana Parkway Extension alternative and north of the CSX railroad; approximately 1,300 feet south of CR 532. The pond site takes the remaining of a remnant parcel created from the Poinciana Parkway Extension alternative and takes two (2) partial parcels north of CSX.

The pond site is north of a Reedy Creek wetland slough tributary. The site is bounded by a wetland identified within the National Wetland Inventory database, so wetland impacts should be evaluated at this pond site. There is a Zone AE FEMA floodplain to the southeast, the pond site encompasses area at and below the BFE of the floodplain, so floodplain compensation may be required for this site. Soils encountered at this site are Riviera Fine Sand (poorly drained and HSG type A/D), Immokalee Fine Sand (poorly drained and HSG Type B/D), Floridana Fine Sand (frequently ponded, very poorly drained, and HSG Type C/D), and Myakka Fine Sand (poorly drained and HSG Type A/D). The estimated SHWT is 77.0 ft-NAVD, based on aerial

imagery estimates. According to SFWMD/SWFWMD existing LCLU database, the site is classified as cropland/pastureland, pine flatwoods, and freshwater marshes.

The pond site provides 5.4 acres for pond facility within this sub-basin, which is equal to the estimated required pond size. The pond site is adjacent to the Poinciana Parkway Extension, so an additional drainage easement will not be necessary to access this facility. From aerial imagery and the April 2019 field visit, there are no apparent major utilities present on the property. The pond site is located at the north corner of the railroad right-of-way and a major utility easement, both of which had gas pipeline warning signs observed in the field. Refer to **Appendix D** for pond site photos and descriptions. There are no specific wildlife data observations in or adjacent to this site; however, the site is within upland native habitats. There are no specific clean-up sites within FDEP's databases. No wells, as identified by Florida Geologic Survey (FGS), exist within 100-foot buffer of the proposed pond footprint. The Cultural Resource Desktop Analysis for 12 Pond Locations Associated with the Poinciana Parkway Extension Project performed by SEARCH indicated a High risk of impacts for this site.

Basin 5-02 without Ronald Reagan Parkway Slip Ramps

Basin 5-02_woRRPsr extends from CSX railroad to the proposed bridge over the wetlands within the RCMB and the ULBW. It includes the single point urban interchange with US 17/92 and approximately 4,700 linear feet along US 17/92 to include the additional impervious along US 17/92 for the intersection improvements. From permit search efforts, it appears that this section of US 17/92 is not currently treated.

Basin 5-02_woRRPsr includes a total area of 55.2 acres, with an additional 24.1 acres of impervious area. The required treatment volume is 7.5 ac-ft, which includes the additional 50% to accommodate the Lake Okeechobee BMAP, Kissimmee River TMDL, and the RCMB sensitive water body criteria. This portion of the proposed alternative is estimated to affect 5.7 acres of floodplains and require approximately 3.1 ac-ft of floodplain compensation. This basin requires a pond site that can accommodate 12.9 acre-feet for treatment, attenuation, and floodplain compensation volume. The estimated required pond area for this sub-basin is 6.7 acres.

There is an existing wet pond near the RCMB that is being impacted by this alternative. The existing storage within this pond has not been evaluated for this PD&E phase and is not included within these pond sizing estimates.

Pond Option 5-2A includes two pond sites, Pond 5-2A1 and Pond 5-2A2.

Pond 5-2A1 is a 5.5-acre site located on the northwest corner of the Poinciana Parkway Extension and US 17/92 interchange, taking five (5) vacant residential parcels and a vacant road right-of-way parcel. The pond site is placed within identified wetlands from the National Wetland Inventory, so wetland impacts should be evaluated for this site. The pond site is located within FEMA Zone X, so additional floodplain compensation is not anticipated for this

site. Soils encountered at this site are Floridana Fine Sand (frequently ponded, very poorly drained, and HSG Type C/D), Satellite Sand (somewhat poorly drained and HSG Type A/D), and Immokalee Fine Sand (poorly drained and HSG Type B/D). According to SFWMD/SWFWMD existing LCLU database, the site is classified as pine flatwoods and stream and lake swamps (bottomland).

Pond 5-2A2 is a 2.5-acre site located on the southeast corner of the Poinciana Parkway Extension and US 17/92 interchange, taking one full parcel and one partial parcel that are impacted by the Poinciana Parkway Extension alternative. The pond site is not placed within identified wetlands from the National Wetland Inventory, so wetland impacts are not anticipated for this site. A small portion of this pond site encompasses a FEMA floodplain zoned AE, with some of the plotted floodplain encroaching into the pond site, so additional floodplain compensation may need to be evaluated for this site. Soils encountered at this site are Immokalee Fine Sand (poorly drained and HSG Type B/D), Ona Fine Sand (poorly drained and HSG Type B/D), Immokalee Sand (poorly drained and HSG Type B/D), Pompano Fine Sand (poorly drained and HSG Type A/D), and Placid and Myakka Fine Sands (very poorly drained and HSG Type A/D). According to SFWMD/SWFWMD existing LCLU database, the site is classified as residential low-density and stream and lake swamps (bottomland).

In total, these pond sites provide 8.0 acres for pond facility within this sub-basin, which is 1.3 acres larger than the estimated required pond size. The pond sites are adjacent to the Poinciana Parkway Extension, so an additional drainage easement will not be necessary to access these facilities. From aerial imagery and the April 2019 field visit, there are no apparent major utilities present on the properties. There are overhead electric transmission lines along the west side of US 17/92 near Pond 5-2A1. Refer to **Appendix D** for pond site photos and descriptions. There are no specific wildlife data observations in or adjacent to this site; however, the site is within upland native habitats. There are no specific clean-up sites within FDEP's databases; however, the CSER identified the risk of contamination as low for Pond 5-2A2. No wells, as identified by Florida Geologic Survey (FGS), exist within 100-foot buffer of the proposed pond footprints. The Cultural Resource Desktop Analysis for 12 Pond Locations Associated with the Poinciana Parkway Extension Project performed by SEARCH indicated a Low risk of impacts for this site.

Pond Option 5-2B includes two pond sites, Pond 5-2B1 and Pond 5-2B2.

Pond 5-2B1 is a 5.8-acre site located on the northeast corner of the Poinciana Parkway Extension and US 17/92 interchange, taking a portion of a parcel that is already impacted by the Poinciana Parkway Extension alternative. The pond site is placed within identified wetlands from the National Wetland Inventory, so wetland impacts should be evaluated for this site. The pond site is located west of a FEMA floodplain zoned AE, however, a portion of the pond site encompasses area at or below the BFE in this area, so additional floodplain compensation may need to be evaluated for this site. Soils encountered at this site are Satellite Sand (somewhat poorly drained and HSG Type A/D), Immokalee Fine Sand (poorly drained and HSG Type B/D), Ona Fine Sand (poorly drained and HSG Type B/D), and Myakka Fine Sand (poorly drained and HSG Type A/D). According to SFWMD/SWFWMD existing LCLU

database, the site is classified as residential low-density, freshwater marshes, and stream and lake swamps (bottomland).

Pond 5-2B2 is a 1.1-acre site located on the southeast corner of the Poinciana Parkway Extension and US 17/92 interchange, taking four (4) remnant parcels created by the Poinciana Parkway Extension alternative and a portion of two parcels that are impacted by the Poinciana Parkway Extension alternative. The pond site is not placed within identified wetlands from the National Wetland Inventory; however, it is within the field-verified FLUCFCS of wetland forested mixed, so wetland impacts are anticipated for this site. The pond site is located within FEMA Zone X, so additional floodplain compensation is not anticipated for this site. Soils encountered at this site are Immokalee Fine Sand (poorly drained and HSG Type B/D) and Ona Fine Sand (poorly drained and HSG Type B/D). According to SFWMD/SWFWMD existing LCLU database, the site is classified as residential low-density and stream and lake swamps (bottomland).

In total these pond sites provide 6.9 acres for pond facility within this sub-basin, which is 0.2 acre greater than the estimated required pond size. The pond sites are adjacent to the Poinciana Parkway Extension, so an additional drainage easement will not be necessary to access these facilities. From aerial imagery and the April 2019 field visit, there are no apparent major utilities present on the properties. Refer to **Appendix D** for pond site photos and descriptions. There are no specific wildlife data observations in or adjacent to this site; however, the site is within upland native habitats. There are no specific clean-up sites within FDEP's databases; however, the CSER identified the risk of contamination as low for Pond 5-2B2. No wells, as identified by Florida Geologic Survey (FGS), exist within 100-foot buffer of the proposed pond footprints. The Cultural Resource Desktop Analysis for 12 Pond Locations Associated with the Poinciana Parkway Extension Project performed by SEARCH indicated a Low risk of impacts for this site.

Basin 5-03 without Ronald Reagan Parkway Slip Ramps

Basin 5-03_woRRPsr extends from the northern section of the proposed bridge over the wetlands within the RCMB and the ULBW. Profiles have not been created during this PD&E evaluation, so it was assumed that the basin includes approximately half of the bridge length.

Basin 5-03_woRRPsr includes a total area of 19.5 acres, with an additional 9.6 acres of impervious area. The required treatment volume is 3.0 ac-ft, which includes the additional 50% to accommodate the Lake Okeechobee BMAP, Kissimmee River TMDL, and the RCMB sensitive water body criteria. This portion of the proposed alternative is assumed to bridge over the majority of the floodplains within this area. This basin requires a pond site that can accommodate 3.0 acre-feet for treatment and attenuation volume. The estimated required pond area for this sub-basin is 2.0 acres.

Pond Option 5-3A includes one pond site, Pond 5-3A. Pond 5-3A is a 2.4-acre site located on the southwest corner of the Poinciana Parkway Extension and US 17/92 interchange, taking a portion of two parcels already impacted by the Poinciana Parkway Extension alternative.

The pond site is placed on an isolated wetland and near large wetlands identified within the National Wetland Inventory, so wetland impacts may need to be evaluated for this site. The pond site is located north of and adjacent to a FEMA floodplain zoned AE, however, the plotted floodplain on the DEM does not encroach within the pond site's footprint, so additional floodplain compensation is not anticipated for this site. The pond site is located on an existing wet pond, however, pond sizing estimates did not take loss of storage from this existing pond because it is assumed that the existing pond will be relocated and re-evaluated as part of the cost for the parcel. Soils encountered at this site are Immokalee Fine Sand (poorly drained and HSG Type B/D) and Ona Fine Sand (poorly drained and HSG Type B/D). According to SFWMD/SWFWMD existing LCLU database, the site is classified as residential low-density and stream and lake swamps (bottomland).

The pond site provides 2.4 acres for pond facility within this sub-basin, which is 0.4 acre larger than the estimated required pond size. The pond site is adjacent to the Poinciana Parkway Extension, so an additional drainage easement will not be necessary to access this facility. From aerial imagery and the April 2019 field visit, there are no apparent major utilities present on the properties. Refer to **Appendix D** for pond site photos and descriptions. There are no specific wildlife data observations in or adjacent to this site; however, the site is within upland native habitats. There are no specific clean-up sites within FDEP's databases; however, the CSER identified the risk of contamination as low for Pond 5-3A. No wells, as identified by Florida Geologic Survey (FGS), exist within 100-foot buffer of the proposed pond footprint. The Cultural Resource Desktop Analysis for 12 Pond Locations Associated with the Poinciana Parkway Extension Project performed by SEARCH indicated a Low risk of impacts for this site.

Pond Option 5-3B includes one pond site, Pond 5-3B. Pond 5-3B is a 2.1-acre site located on the southeast corner of the Poinciana Parkway Extension and US 17/92 interchange, taking a portion of a parcel already impacted by the Poinciana Parkway Extension alternative, owned by FDEP and SFWMD. The pond site is not placed on a wetland identified within the National Wetland Inventory, but is located within SFWMD ULBW managed area, so wetland impacts may need to be evaluated for this site. The pond site is located north of and adjacent to a FEMA floodplain zoned AE, however, the plotted floodplain on the DEM does not encroach within the pond site's footprint, so additional floodplain compensation is not anticipated for this site. Soils encountered at this site are Immokalee Fine Sand (poorly drained and HSG Type B/D) and Ona Fine Sand (poorly drained and HSG Type B/D). According to SFWMD/SWFWMD existing LCLU database, the site is classified as residential low-density and stream and lake swamps (bottomland).

The pond site provides 2.1 acres for pond facility within this sub-basin, which is 0.1 acre larger than the estimated required pond size. The pond site is adjacent to the Poinciana Parkway Extension, so an additional drainage easement will not be necessary to access this facility. From aerial imagery, there are no apparent major utilities present on the property. There are no specific wildlife data observations in or adjacent to this site; however, the site is within the ULBW. There are no specific clean-up sites within FDEP's databases. No wells, as identified by Florida Geologic Survey (FGS), exist within 100-foot buffer of the proposed pond footprint.

The Cultural Resource Desktop Analysis for 12 Pond Locations Associated with the Poinciana Parkway Extension Project performed by SEARCH indicated a Low risk of impacts for this site.

Basin 5-04 without Ronald Reagan Parkway Slip Ramps

Basin 5-04_woRRPsr extends across the southern section of the proposed bridge over the wetlands within the RCMB and the ULBW. Profiles have not been created during this PD&E evaluation, so it was assumed that the basin includes approximately half of the bridge length.

Basin 5-04_wrRRPsr includes a total area of 17.6 acres, with an additional 8.8 acres of impervious area. The required treatment volume is 2.7 ac-ft, which includes the additional 50% to accommodate the Lake Okeechobee BMAP, Kissimmee River TMDL, and the RCMB sensitive water body criteria. This portion of the proposed alternative is assumed to bridge over the floodplains within this area. This basin requires a pond site that can accommodate 2.7 acre-feet for treatment and attenuation volume. The estimated required pond area for this sub-basin is 1.8 acres.

Pond Option 5-4A includes one pond site, Pond 5-4A. Pond 5-4A is a 2.2-acre site located along the east side of the Poinciana Parkway Extension and approximately 1,800 feet north of the existing Poinciana Parkway/Ronald Reagan Parkway. The pond site is not located within a wetland identified within the National Wetland Inventory; however, it is located within the RCMB, so wetland impacts may need to be evaluated for this site. The pond site is not located within a FEMA floodplain, so additional floodplain compensation is not anticipated for this site. The soil encountered at this site is Immokalee Fine Sand (poorly drained and HSG Type B/D). According to SFWMD/SWFWMD existing LCLU database, the site is classified as cropland/pastureland.

The pond site provides 2.2 acres for pond facility within this sub-basin, which is 0.4 acre larger than the estimated required pond size. The pond site is adjacent to the Poinciana Parkway Extension, so an additional drainage easement will not be necessary to access this facility. From aerial imagery, there are no apparent major utilities present on the property. There are no specific wildlife data observations in or adjacent to this site; however, the site is within the RCMB. There are no specific clean-up sites within FDEP's databases. No wells, as identified by Florida Geologic Survey (FGS), exist within 100-foot buffer of the proposed pond footprint. The Cultural Resource Desktop Analysis for 12 Pond Locations Associated with the Poinciana Parkway Extension Project performed by SEARCH indicated a Medium risk of impacts for this site.

Pond Option 5-4B includes one pond site, Pond 5-4B. Pond 5-4B is a 1.9-acre site located along the west side of the Poinciana Parkway Extension and approximately 1,300 feet north of the existing Poinciana Parkway/Ronald Reagan Parkway. The pond site is south of and partially encompasses a section of a wetland identified within the National Wetland Inventory, and is located within the RCMB, so wetland impacts may need to be evaluated for this site. The pond site is located south of a FEMA floodplain zoned AE, however, the plotted floodplain

on the DEM does not encroach within the pond site's footprint, so additional floodplain compensation is not anticipated for this site. The soil encountered at this site is Immokalee Fine Sand (poorly drained and HSG Type B/D). According to SFWMD/SWFWMD existing LCLU database, the site is classified as cropland/pastureland.

The pond site provides 1.9 acres for pond facility within this sub-basin, which is 0.1 acre larger than the estimated required pond size. The pond site is adjacent to the Poinciana Parkway Extension, so an additional drainage easement will not be necessary to access this facility. From aerial imagery, there are no apparent major utilities present on the property. There are no specific wildlife data observations in or adjacent to this site; however, the site is within the RCMB. There are no specific clean-up sites within FDEP's databases. No wells, as identified by Florida Geologic Survey (FGS), exist within 100-foot buffer of the proposed pond footprint. The Cultural Resource Desktop Analysis for 12 Pond Locations Associated with the Poinciana Parkway Extension Project performed by SEARCH indicated a Medium risk of impacts for this site.

Basin 5-05 without Ronald Reagan Parkway Slip Ramps

Basin 5-05_woRRPsr extends from the proposed bridge over the wetlands within the RCMB and the ULBW to the existing Poinciana Parkway Bridge over the RCMB. The basin includes only a mainline connection between the existing Poinciana Parkway and the Poinciana Parkway Extension alternative, excluding slip ramps to and from Ronald Reagan Parkway. A section of this basin along Poinciana Parkway/Ronald Reagan Parkway is currently receiving treatment in Pond 2 under ERP Application 141010-12.

Basin 5-05_woRRPsr includes a total area of 39.0 acres, with an additional 16.9 acres of impervious area. From review of the additional capacity within the existing ponds currently treating Poinciana Parkway/Ronald Reagan Parkway, it was determined that approximately 2.2 acres and 11.7 acres of additional impervious area can be provided within Pond 1 and Pond 2, respectively. This results in a new offsite pond to accommodate treatment for 3.0 acres of additional impervious area. Refer to **Figure 16** in **Appendix A**. The required treatment volume for the new offsite pond is 0.9 ac-ft, which includes the additional 50% to accommodate the Lake Okeechobee BMAP, Kissimmee River TMDL, and the RCMB sensitive water body criteria. This portion of the proposed alternative is estimated to affect 6.6 acres of floodplains and require approximately 3.4 ac-ft of floodplain compensation. This basin requires a pond site that can accommodate 7.1 ac-ft for treatment, attenuation, and floodplain compensation volume. The estimated required pond area with a 3-foot design depth for this sub-basin is 4.0 acres.

Pond Option 5-5A includes one pond site, Pond 5-5A. This pond option is sized for treatment, attenuation, and floodplain compensation for the Poinciana Parkway Extension that cannot be accommodated through the existing Poinciana Parkway Ponds 1 and 2, under ERP Application 141010-12.

Pond 5-5A proposes to expand the existing Poinciana Parkway Pond 2. The design depth within Pond 2 is 1.8-feet, which will require approximately 6.1 acres of additional pond size to the required volume for Basin 5-05. Pond 5-5A is a 10.6-acre site that is placed south of the Poinciana Parkway Extension alternative and west of the existing Poinciana Parkway Pond 2. The pond site is a partial take of a parcel already impacted by the Poinciana Parkway Extension. The pond site does not include wetlands identified within the National Wetland Inventory, but is placed within the RCMB, so wetland mitigation will need to be evaluated for this site. The site is located northwest of FEMA floodplains, so no additional floodplain compensation is anticipated for this site. The soil encountered at this site is Immokalee Fine Sand (poorly drained and HSG Type B/D) and Adamsville Sand (somewhat poorly drained and HSG Type A). The estimated SHWT is 68.09 ft-NAVD, based on Pond 2's normal water level. According to SFWMD/SWFWMD existing LCLU database, the site is classified as improved pastures.

The pond site provides 10.6 acres for pond facility within this sub-basin, which is 4.5 acres larger than the estimated required pond size. This size can be adjusted during design to be closer to the required area after additional site specific data has been collected. The pond site is adjacent to the Poinciana Parkway Extension, so an additional drainage easement will not be necessary to access this facility. From aerial imagery and the April 2019 field visit, there are no apparent major utilities present on the property. Refer to **Appendix D** for pond site photos and descriptions. There are no specific wildlife data observations in or adjacent to this site; however, the site is within the RCMB. There are no specific clean-up sites within FDEP's databases; however, the CSER identified the risk of contamination as low for Pond 5-5A. No wells, as identified by Florida Geologic Survey (FGS), exist within 100-foot buffer of the proposed pond footprint. The Cultural Resource Desktop Analysis for 12 Pond Locations Associated with the Poinciana Parkway Extension Project performed by SEARCH indicated a High risk of impacts for this site.

Pond Option 5-5B includes one pond site, Pond 5-5B. This pond option is sized for treatment, attenuation, and floodplain compensation for the Poinciana Parkway Extension that cannot be accommodated through the existing Poinciana Parkway Ponds 1 and 2, under ERP Application 141010-12.

Pond 5-5B is a 6.9-acre pond site that is placed south of the Poinciana Parkway Extension alternative. It is located on an existing wet pond. The loss of storage within the existing pond was not included in the pond sizing estimates because it is assumed that the existing pond will be relocated and re-evaluated as part of the cost for the parcel. The pond site is not located within an identified wetland within the National Wetland Inventory, but is located within the RCMB, so wetland mitigation may need to be evaluated for this site. The site is located north of and adjacent to a FEMA floodplain zoned AE. The pond site's foot print is located above the BFE elevation associated with the adjacent floodplain, so additional floodplain compensation is not anticipated for this site. Soils encountered at this site are Immokalee Fine Sand (poorly drained and HSG Type B/D), Pompano Fine Sand (frequently ponded, very poorly drained, and HSG Type A/D), and Adamsville Sand (somewhat poorly drained and HSG Type A). The estimated SHWT is 71.3 ft-NAVD, based on permit data from ERP Application No.

160817-30. According to SFWMD/SWFWMD existing LCLU database, the site is classified as improved pastures, reservoirs, and mixed wetland hardwoods.

The pond site provides 6.9 acres for the pond facility within this sub-basin, which is 2.9 acres larger than the estimated required pond size. The offsite pond is approximately 500-feet south of the Poinciana Parkway Extension, so an additional drainage easement will be necessary to access this facility. From aerial imagery and the April 2019 field visit, there are no apparent major utilities present on the property. Refer to **Appendix D** for pond site photos and descriptions. There are no specific wildlife data observations in or adjacent to this site; however, the site is within upland native habitats. There are no specific clean-up sites within FDEP's databases. No wells, as identified by Florida Geologic Survey (FGS), exist within 100-foot buffer of the proposed pond footprint. The Cultural Resource Desktop Analysis for 12 Pond Locations Associated with the Poinciana Parkway Extension Project performed by SEARCH indicated a High risk of impacts for this site.

7. Conclusion

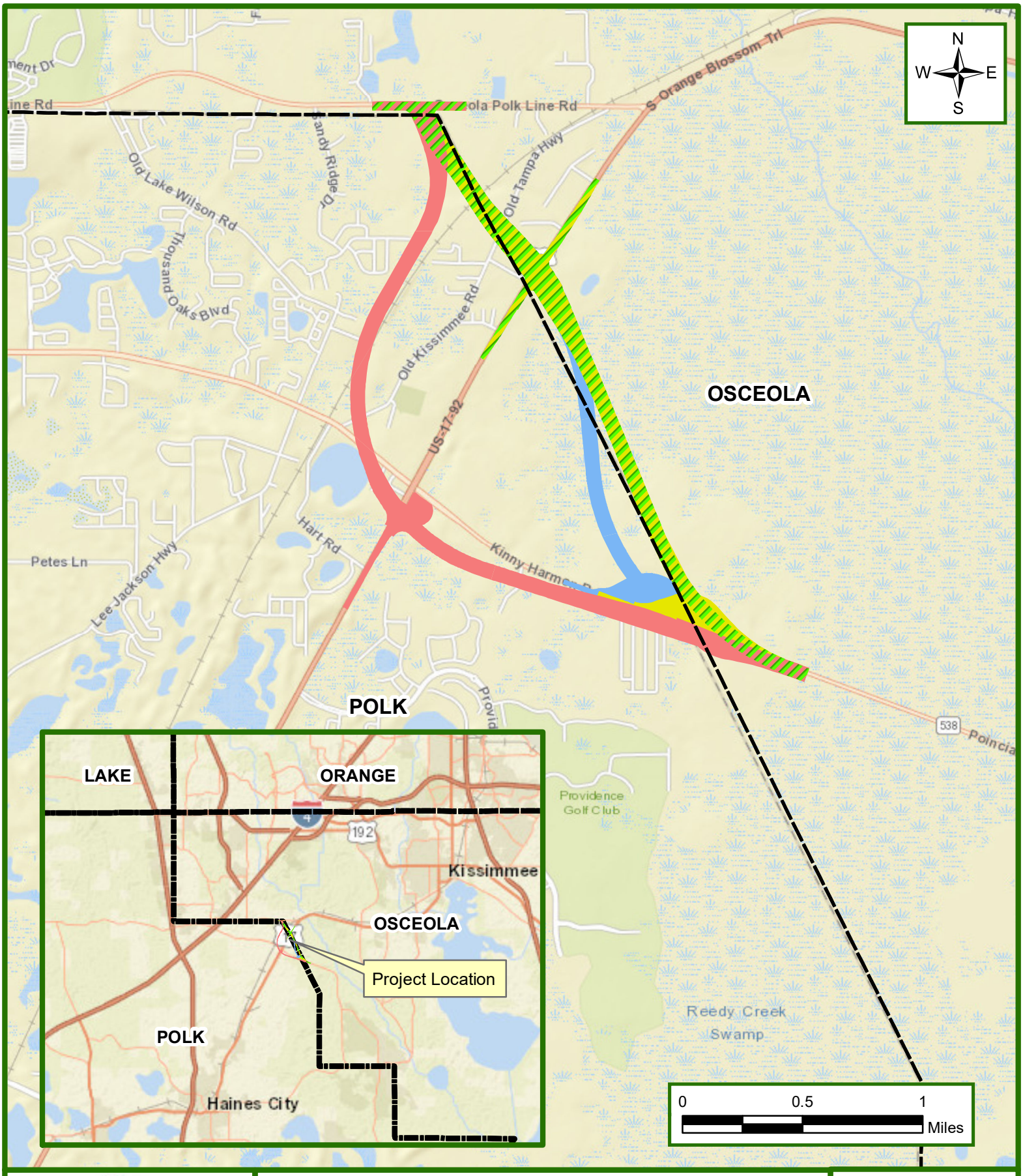
Potential ponds have been sized and sited along the project limits for this PD&E study. The analysis utilized limited information to estimate stormwater management right-of-way need using a volumetric analysis, which accounts for water quality treatment, water quantity for runoff attenuation and floodplain impacts. A 20 percent increase in the pond right-of-way area requirements have been factored in to account for some degree of flexibility since no site specific data (survey, geotechnical, environmental) was obtained and the proposed roadway profile has not been established. No detailed stormwater modeling has been performed. Recommendations were based on pond sizes determined from preliminary data, reasonable engineering judgment, and assumptions. Pond sizes and configurations may change during final design as more detailed information on SHWT, wetland normal pool elevation, final roadway profile design, etc. become available. Please refer to **Table 6** for the recommended pond sites for the preferred Alternative 5A without Ronald Reagan Parkway Slip Ramps.

TABLE 6 - POND SUMMARY MATRIX – ALTERATIVE 5A
WITHOUT RONALD REAGAN PARKWAY SLIP RAMPS

Pond Site	Recommended Rank	Wetland Impacts (ac)	Wildlife Habitat Impacts	Contamination Risk	Floodplain Impact	Cultural or Archaeological Resources Impacts	Access Issues	Utilities	Number of Property Owners	Pond R/W Area (ac)
Pond 5-1A	**1**	**None**	**Medium**	**None**	**None**	**High**	**None**	**N/A**	**1**	**5.5**
Pond 5-1B	2	4.50	Medium	None	None	High	None	N/A	3	5.4
Pond 5-2A1	2	3.55	Medium	None	None	Low	None	N/A	4	5.5
Pond 5-2A2	2	1.88	Medium	Low	0.09	Low	None	N/A	2	2.5
Pond 5-2B1	**1**	**0.80**	**Medium**	**None**	**None**	**Low**	**None**	**N/A**	**1**	**5.8**
Pond 5-2B2	**1**	**0.33**	**Medium**	**Low**	**None**	**Low**	**None**	**N/A**	**4**	**1.1**
Pond 5-3A	**1**	**1.61**	**Medium**	**Low**	**0.01**	**Low**	**None**	**N/A**	**2**	**2.4**
Pond 5-3B	2	None	High	None	None	Low	None	N/A	1	2.1
Pond 5-4A	**1**	**None**	**High**	**None**	**None**	**Medium**	**None**	**N/A**	**1**	**2.2**
Pond 5-4B	2	None	High	None	None	Medium	None	N/A	1	1.9
Pond 5-5A	**1**	**None**	**High**	**Low**	**None**	**High**	**None**	**N/A**	**1**	**10.6**
Pond 5-5B	2	None	Medium	None	None	High	Requires Easement	N/A	1	6.9

REFER TO SECTION 6.2 BASIS OF EVALUATION FOR ASSUMPTIONS ON LOW, MEDIUM, & HIGH
Bolded Ponds are the recommended site(s) within the preferred alignment

Appendix A
Figures



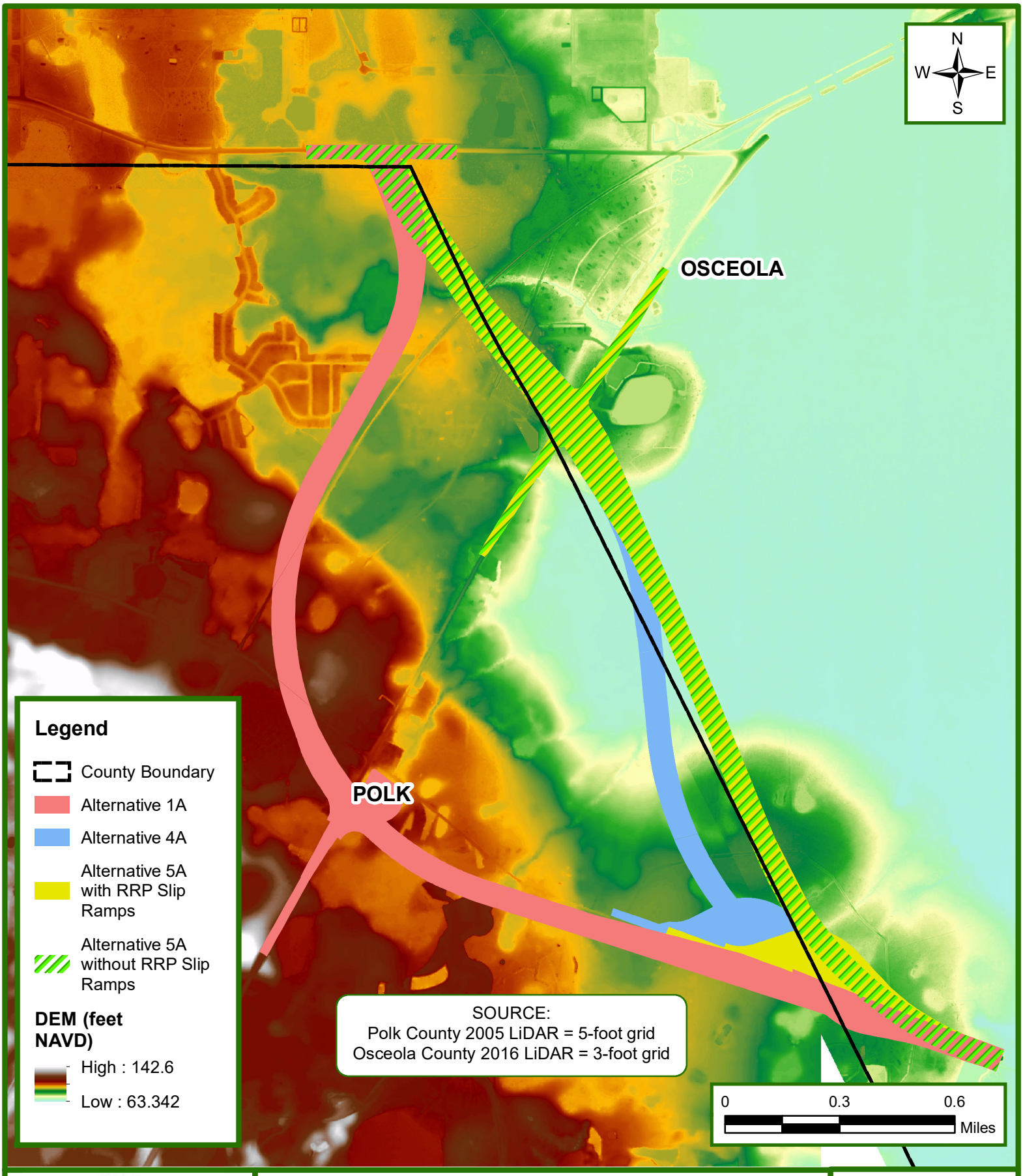
The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

FIGURE 1
PROJECT LOCATION MAP

POINCIANA PARKWAY EXTENSION

FROM POINCIANA PARKWAY TO CR 532
CFX PD&E Pond Siting Report Study
POLK & OSCELOA COUNTY, FLORIDA

CENTRAL FLORIDA EXPRESSWAY AUTHORITY



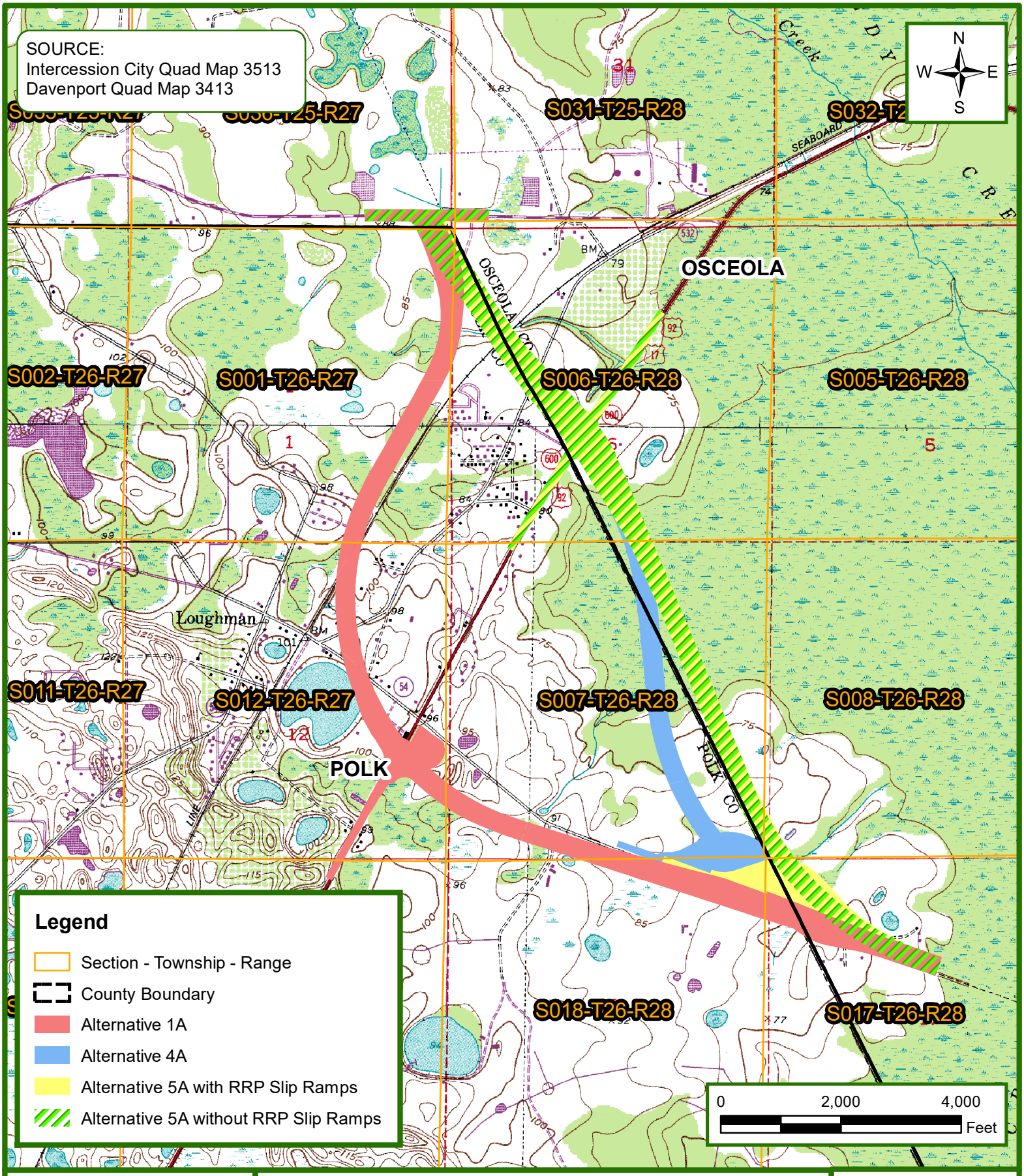
The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

FIGURE 2
DIGITAL ELEVATION MODEL (DEM) MAP

POINCIANA PARKWAY EXTENSION

FROM POINCIANA PARKWAY TO CR 532
CFX PD&E Pond Siting Report Study
POLK & OSCELOA COUNTY, FLORIDA

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

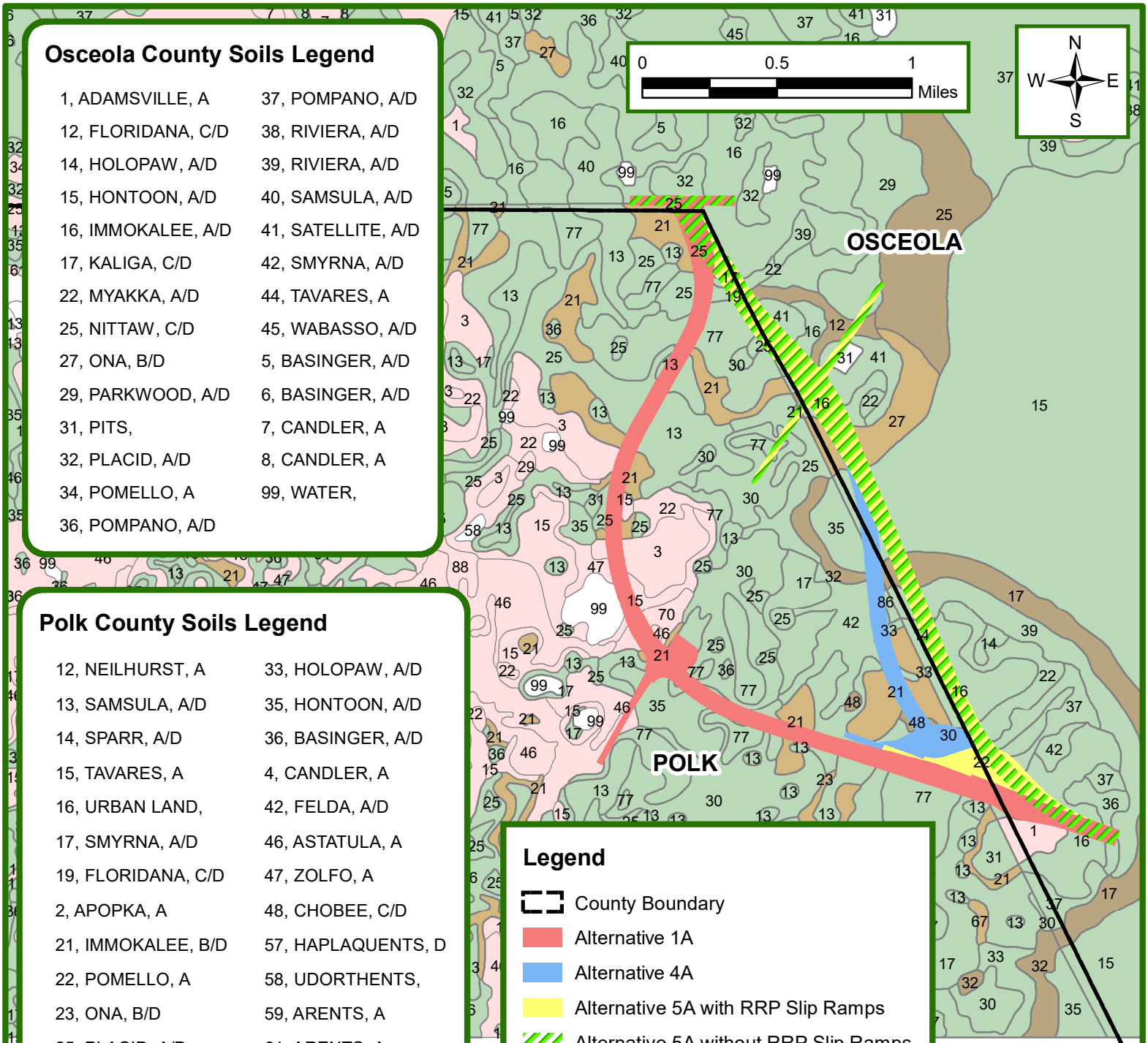


The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

FIGURE 3
USGS QUAD MAP

POINCIANA PARKWAY EXTENSION
FROM POINCIANA PARKWAY TO CR 532
CFX PD&E Pond Siting Report Study
POLK & OSCELOA COUNTY, FLORIDA

CENTRAL FLORIDA EXPRESSWAY AUTHORITY



Osceola County Soils Legend

1, ADAMSVILLE, A	37, POMPANO, A/D
12, FLORIDANA, C/D	38, RIVIERA, A/D
14, HOLOPAW, A/D	39, RIVIERA, A/D
15, HONTOON, A/D	40, SAMSULA, A/D
16, IMMOKALEE, A/D	41, SATELLITE, A/D
17, KALIGA, C/D	42, SMYRNA, A/D
22, MYAKKA, A/D	44, TAVARES, A
25, NITTAW, C/D	45, WABASSO, A/D
27, ONA, B/D	5, BASINGER, A/D
29, PARKWOOD, A/D	6, BASINGER, A/D
31, PITS,	7, CANDLER, A
32, PLACID, A/D	8, CANDLER, A
34, POMELLO, A	99, WATER,
36, POMPANO, A/D	

Polk County Soils Legend

12, NEILHURST, A	33, HOLOPAW, A/D
13, SAMSULA, A/D	35, HONTOON, A/D
14, SPARR, A/D	36, BASINGER, A/D
15, TAVARES, A	4, CANDLER, A
16, URBAN LAND,	42, FELDA, A/D
17, SMYRNA, A/D	46, ASTATULA, A
19, FLORIDANA, C/D	47, ZOLFO, A
2, APOPKA, A	48, CHOBEE, C/D
21, IMMOKALEE, B/D	57, HAPLAQUENTS, D
22, POMELLO, A	58, UDORTHENTS,
23, ONA, B/D	59, ARENTS, A
25, PLACID, A/D	61, ARENTS, A
27, KENDRICK, A	67, BRADENTON, B/D
29, ST. LUCIE, A	70, DUETTE, A
3, CANDLER, A	77, SATELLITE, A/D
30, POMPANO, A/D	86, FELDA, A/D
31, ADAMSVILLE, A/D	88, ASTATULA, A
32, KALIGA, C/D	99, WATER,

Legend

- County Boundary
- Alternative 1A
- Alternative 4A
- Alternative 5A with RRP Slip Ramps
- Alternative 5A without RRP Slip Ramps

NRCS HYDRGRP

- Not Rated
- A
- A/D
- B/D
- C/D

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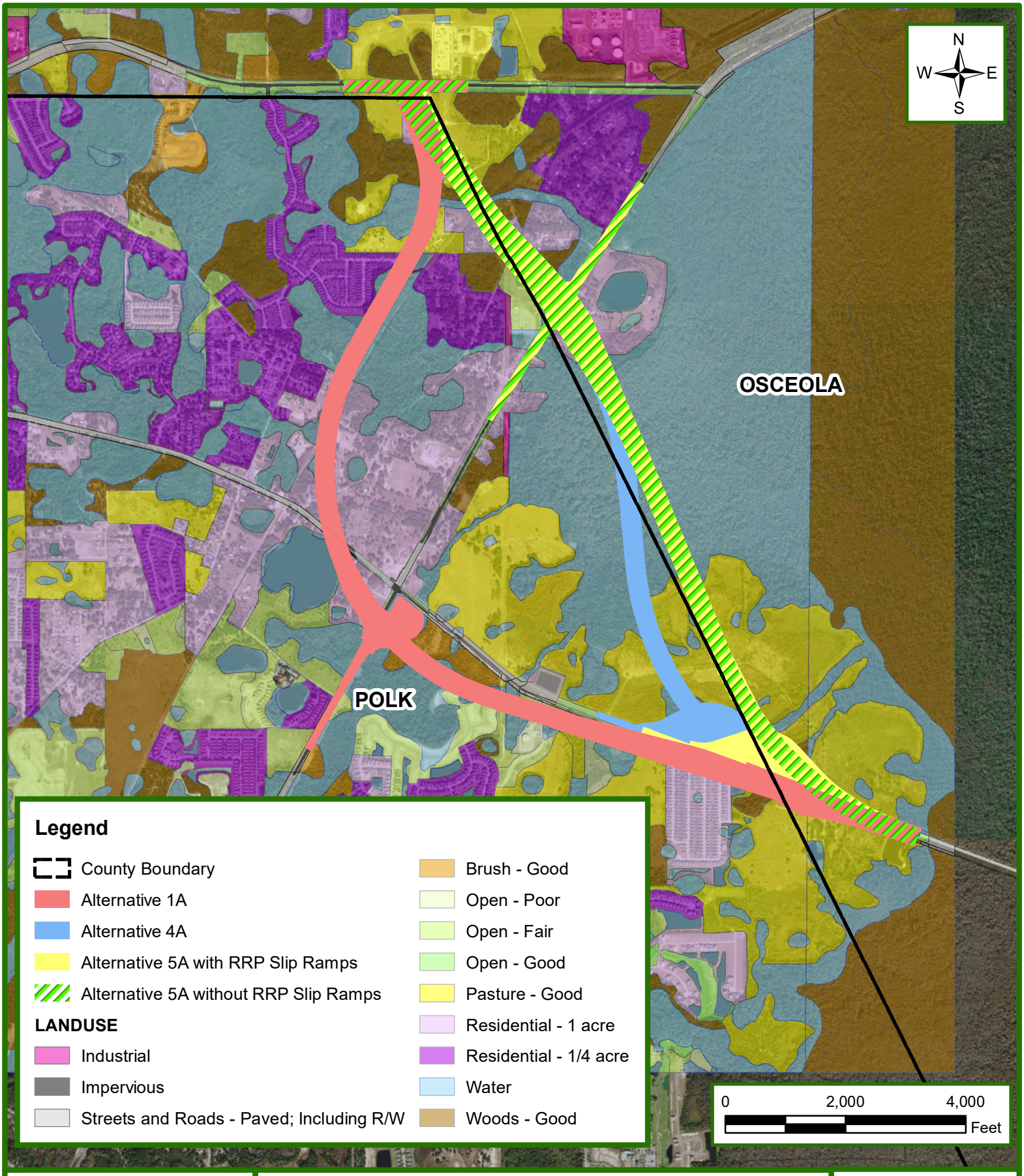
FIGURE 4
NRCS SOILS MAP

POINCIANA PARKWAY EXTENSION

FROM POINCIANA PARKWAY TO CR 532
CFX PD&E Pond Siting Report Study
POLK & OSCELOA COUNTY, FLORIDA

CENTRAL FLORIDA EXPRESSWAY AUTHORITY



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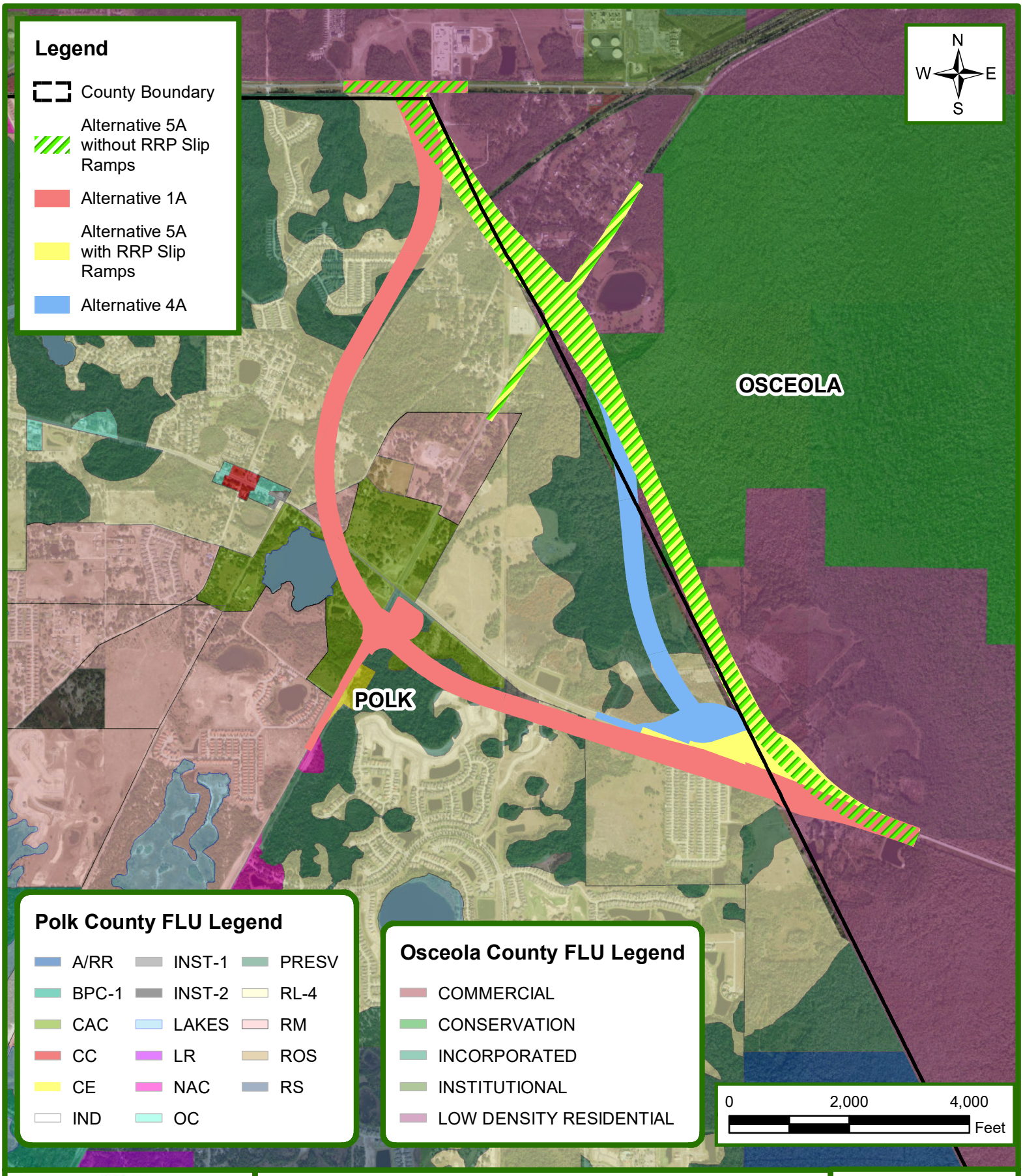
Winter Park, Florida 32789

FIGURE 5
EXISTING LAND USE MAP

POINCIANA PARKWAY EXTENSION

FROM POINCIANA PARKWAY TO CR 532
CFX PD&E Pond Siting Report Study
POLK & OSCELOA COUNTY, FLORIDA

CENTRAL FLORIDA EXPRESSWAY AUTHORITY



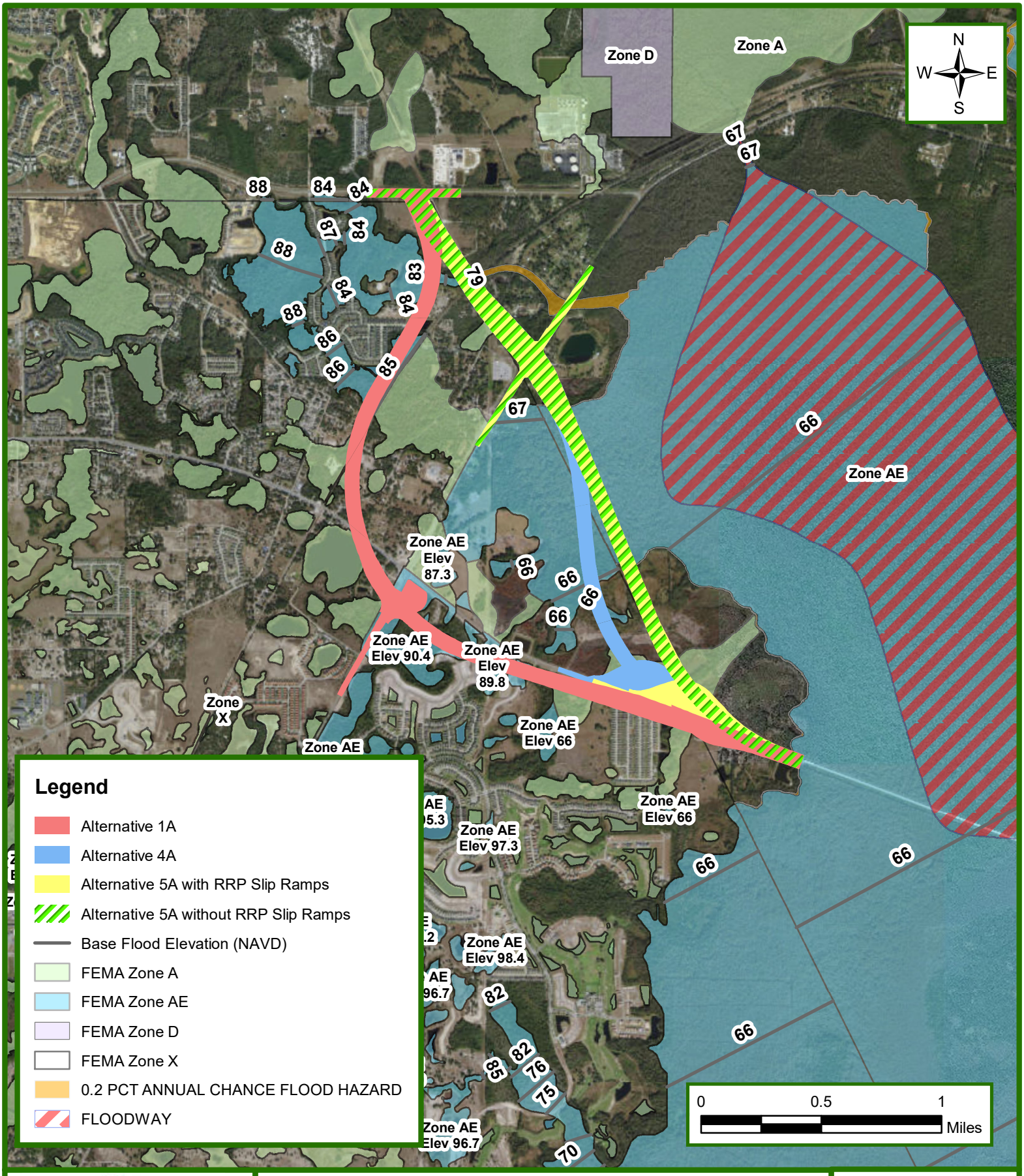
The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

FIGURE 6
FUTURE LAND USE MAP

POINCIANA PARKWAY EXTENSION

FROM POINCIANA PARKWAY TO CR 532
CFX PD&E Pond Siting Report Study
POLK & OSCELOA COUNTY, FLORIDA

CENTRAL FLORIDA EXPRESSWAY AUTHORITY



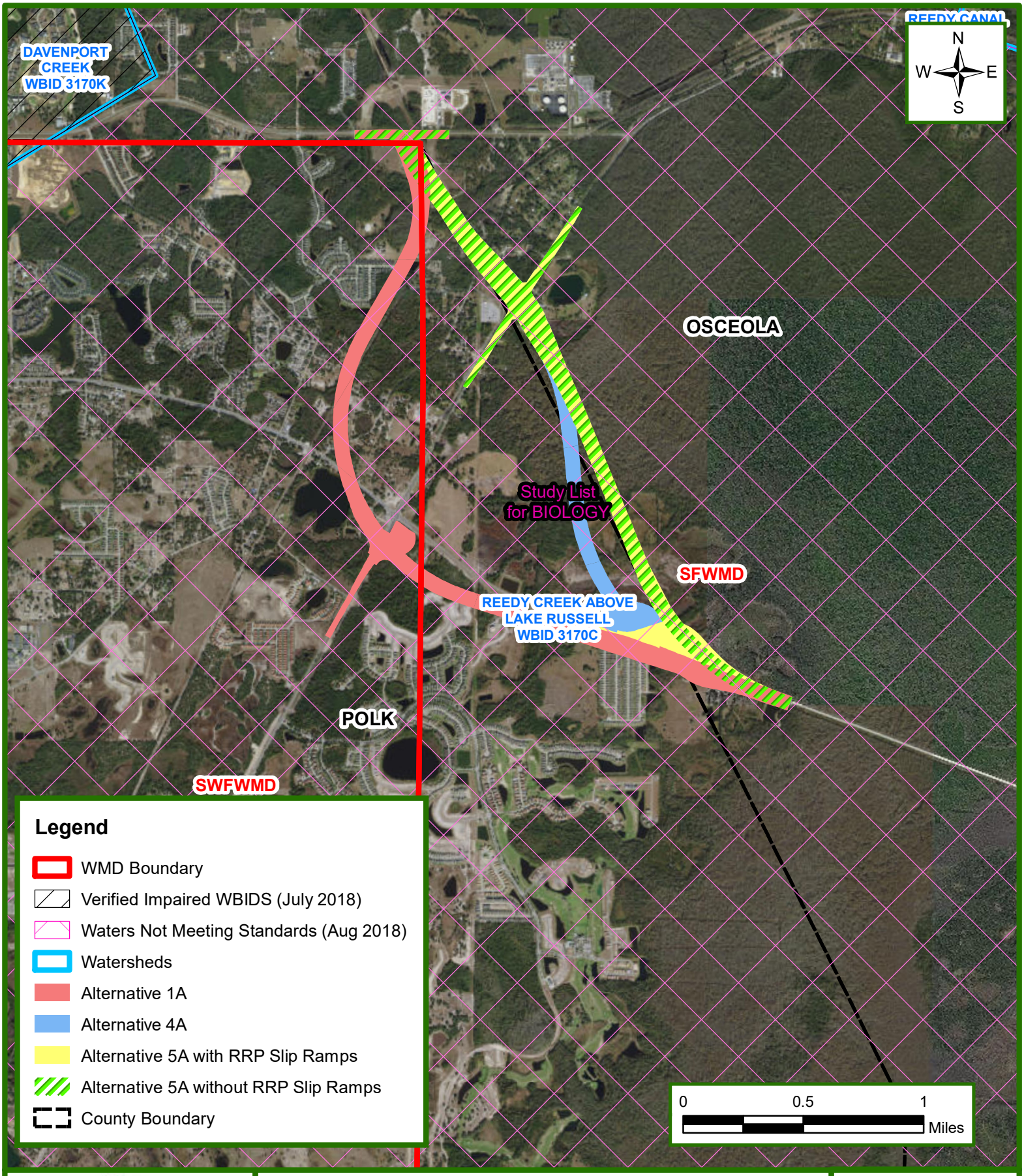
The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

FIGURE 7
FEMA FLOODPLAIN MAP

POINCIANA PARKWAY EXTENSION

FROM POINCIANA PARKWAY TO CR 532
CFX PD&E Pond Siting Report Study
POLK & OSCELOA COUNTY, FLORIDA

CENTRAL FLORIDA EXPRESSWAY AUTHORITY



The Balmoral Group
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Winter Park, Florida 32789

FIGURE 8
WBID MAP

POINCIANA PARKWAY EXTENSION
FROM POINCIANA PARKWAY TO CR 532
CFX PD&E Pond Siting Report Study
POLK & OSCELOA COUNTY, FLORIDA

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

FIGURE 9
ALTERNATIVE 1A POND SIZING MAP

POINCIANA PARKWAY EXTENSION

FROM POINCIANA PARKWAY TO CR 532
CFX PD&E Pond Siting Report Study
POLK & OSCELOA COUNTY, FLORIDA

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

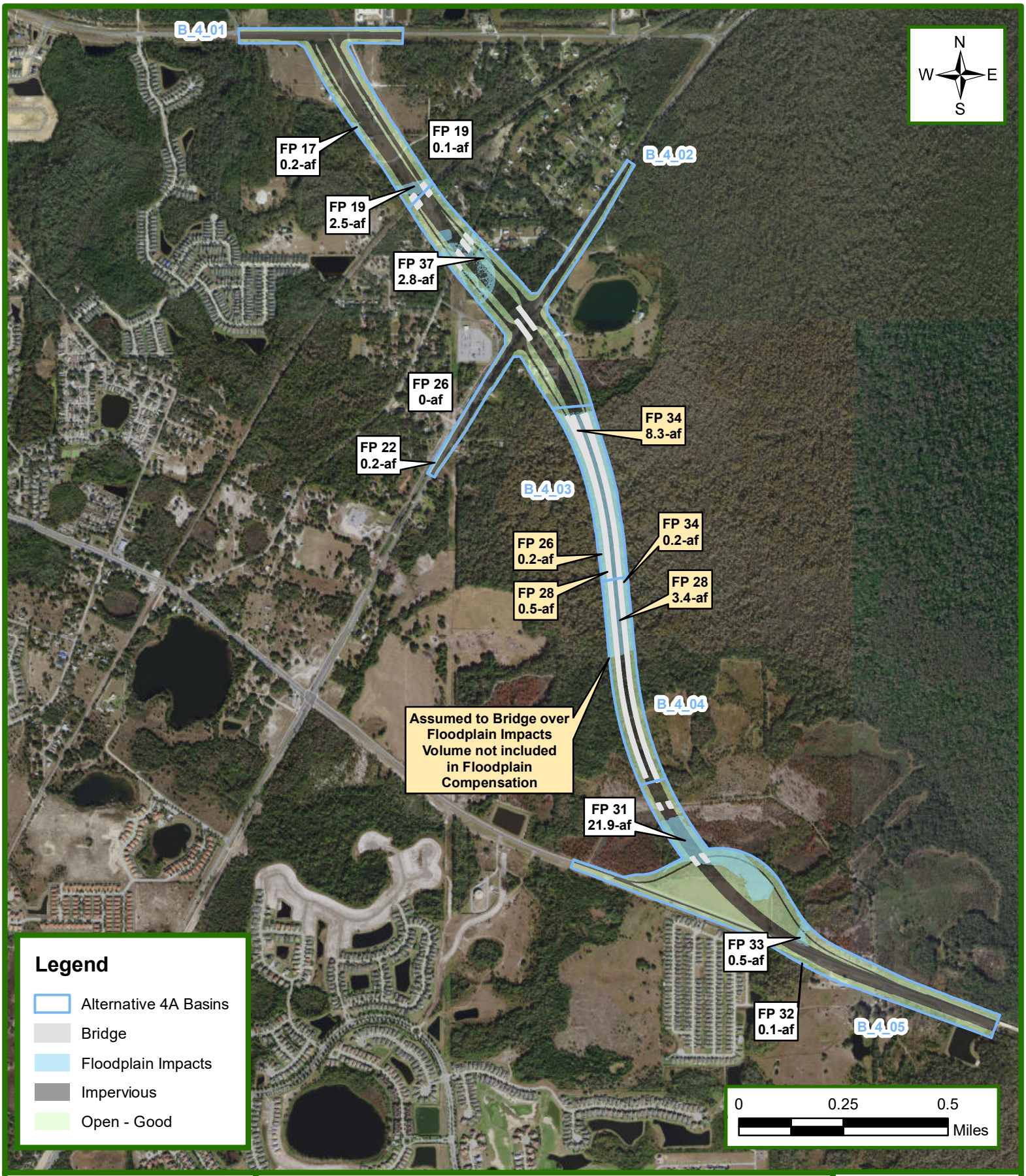

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FIGURE 10
ALTERNATIVE 4A POND SIZING MAP

POINCIANA PARKWAY EXTENSION

FROM POINCIANA PARKWAY TO CR 532
CFX PD&E Pond Siting Report Study
POLK & OSCELOA COUNTY, FLORIDA

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

The Balmoral Group
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Winter Park, Florida 32789

FIGURE 11
ALTERNATIVE 5A POND SIZING MAP

POINCIANA PARKWAY EXTENSION

FROM POINCIANA PARKWAY TO CR 532
CFX PD&E Pond Siting Report Study
POLK & OSCELOA COUNTY, FLORIDA

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

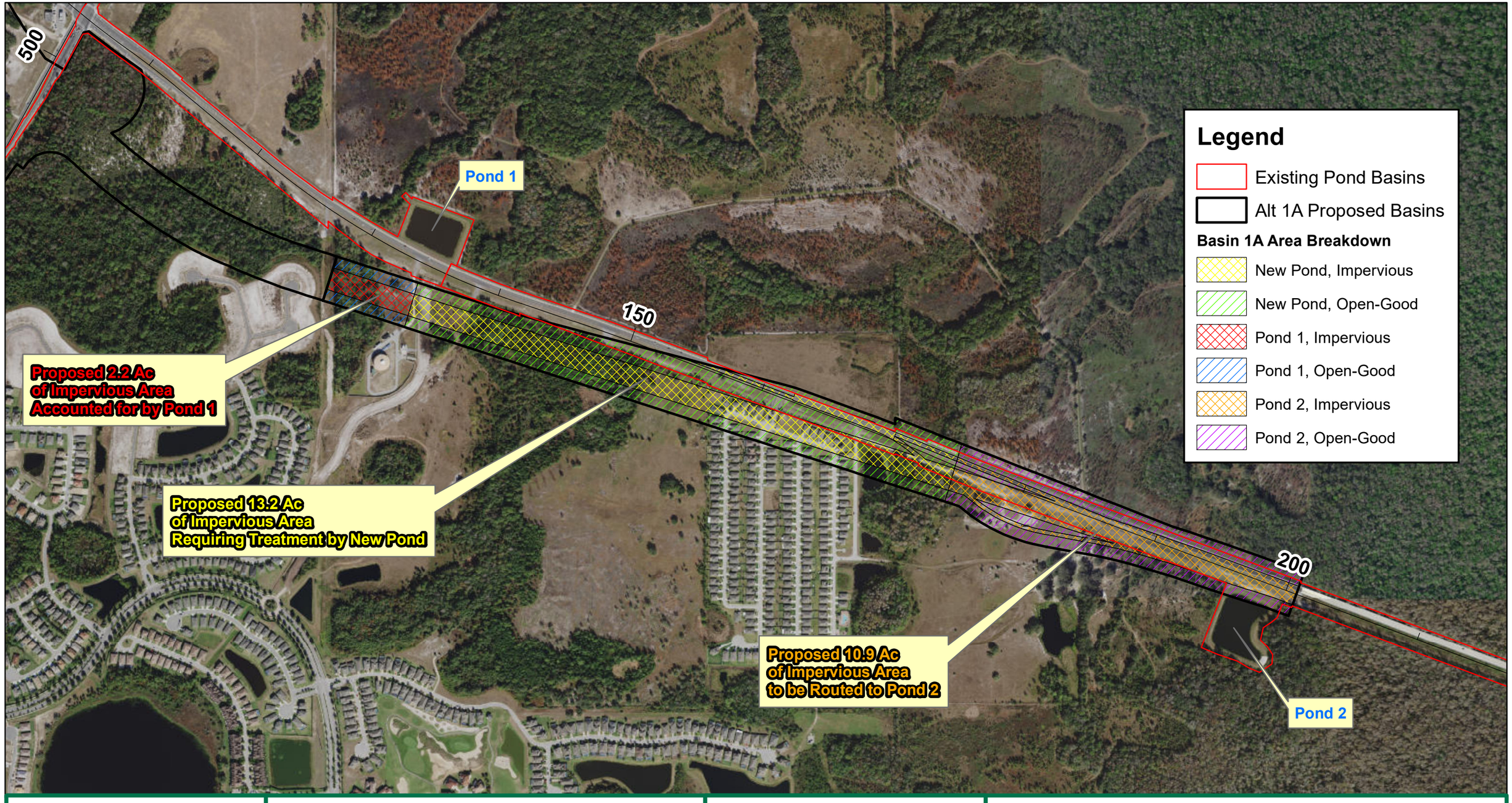
The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

FIGURE 12
ALT. 5A W/O SLIP RAMPS POND SIZING MAP

POINCIANA PARKWAY EXTENSION

FROM POINCIANA PARKWAY TO CR 532
CFX PD&E Pond Siting Report Study
POLK & OSCELOA COUNTY, FLORIDA

CENTRAL FLORIDA EXPRESSWAY AUTHORITY



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Winter Park, Florida 32789

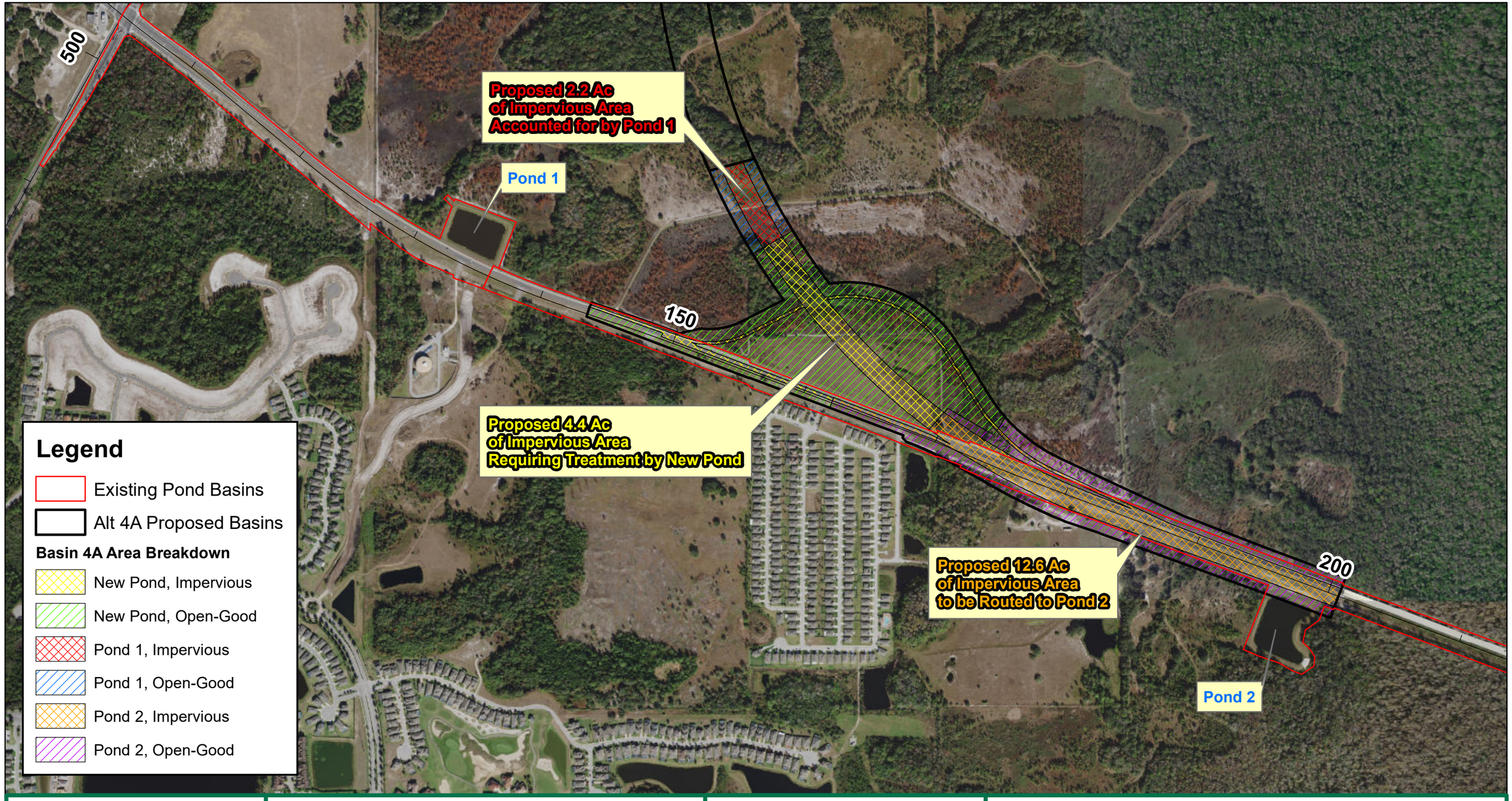
FIGURE 13
EXISTING POND CAPACITY FOR ALT. 1A

N
W E
S

0 0.05 0.1 0.2
Miles

POINCIANA PARKWAY EXTENSION

CFX PD&E Study
OSCEOLA & POLK COUNTY, FLORIDA



The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

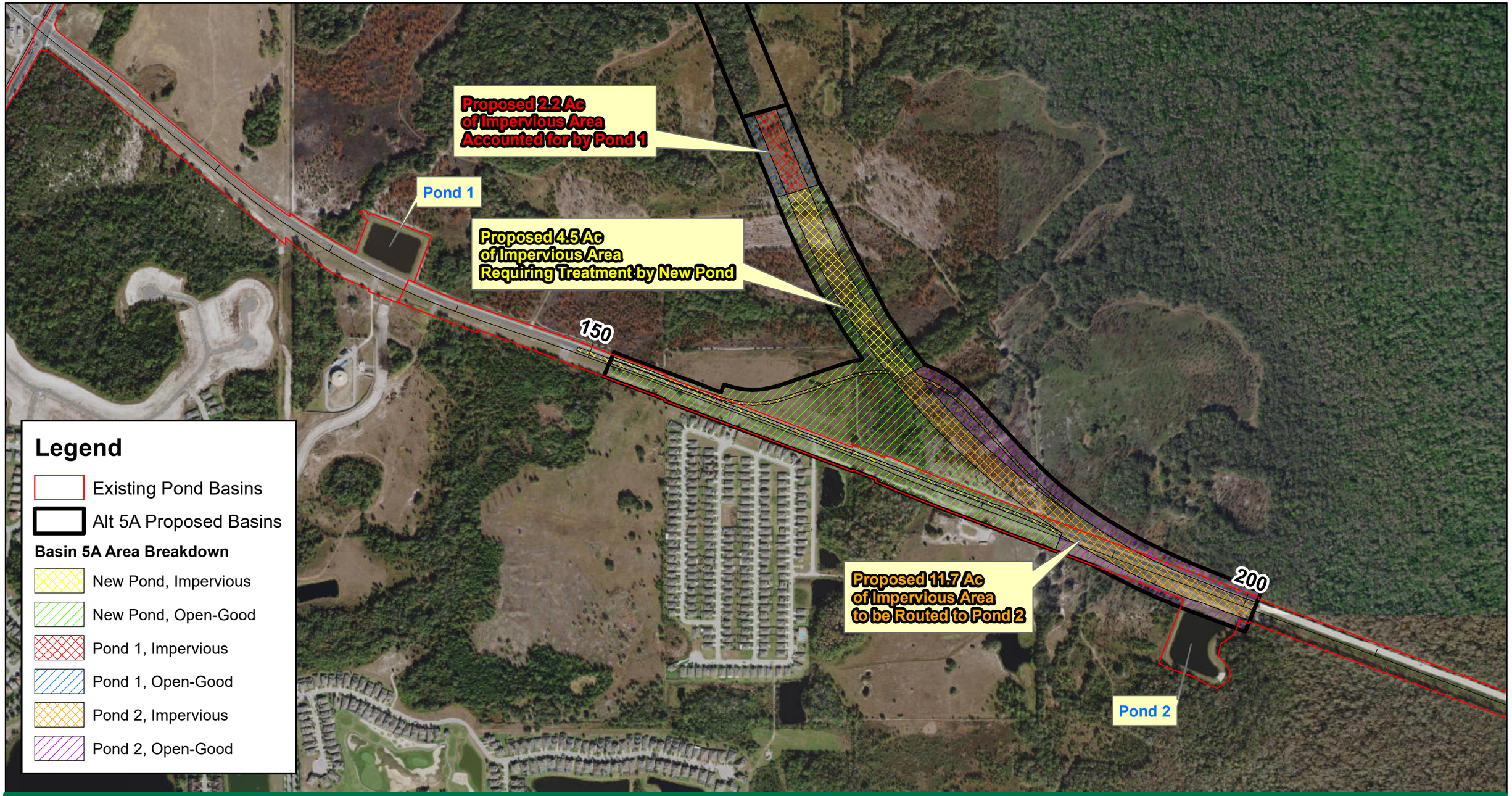
FIGURE 14
EXISTING POND CAPACITY FOR ALT. 4A

N
W E
S

0 0.05 0.1 0.2 Miles

POINCIANA PARKWAY EXTENSION

CFX PD&E Study
OSCEOLA & POLK COUNTY, FLORIDA



The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

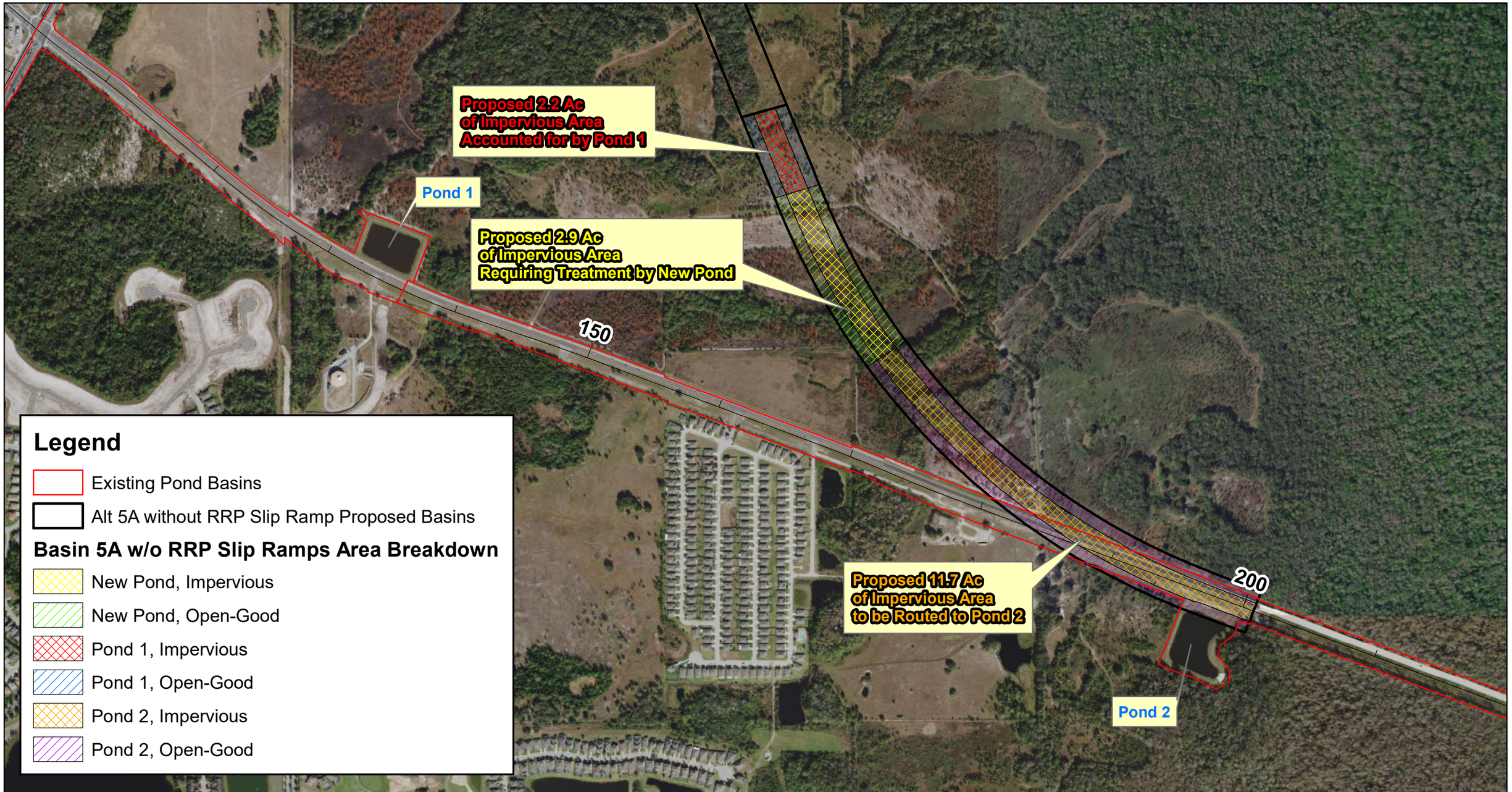
FIGURE 15
EXISTING POND CAPACITY FOR ALT. 5A

N
W E
S

0 0.05 0.1 0.2
Miles

POINCIANA PARKWAY EXTENSION

CFX PD&E Study
OSCEOLA & POLK COUNTY, FLORIDA



The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

FIGURE 16
EXISTING POND CAPACITY FOR ALT. 5A WITHOUT RRP SLIP RAMPS

N
W E
S

0 0.05 0.1 0.2 Miles

POINCIANA PARKWAY EXTENSION

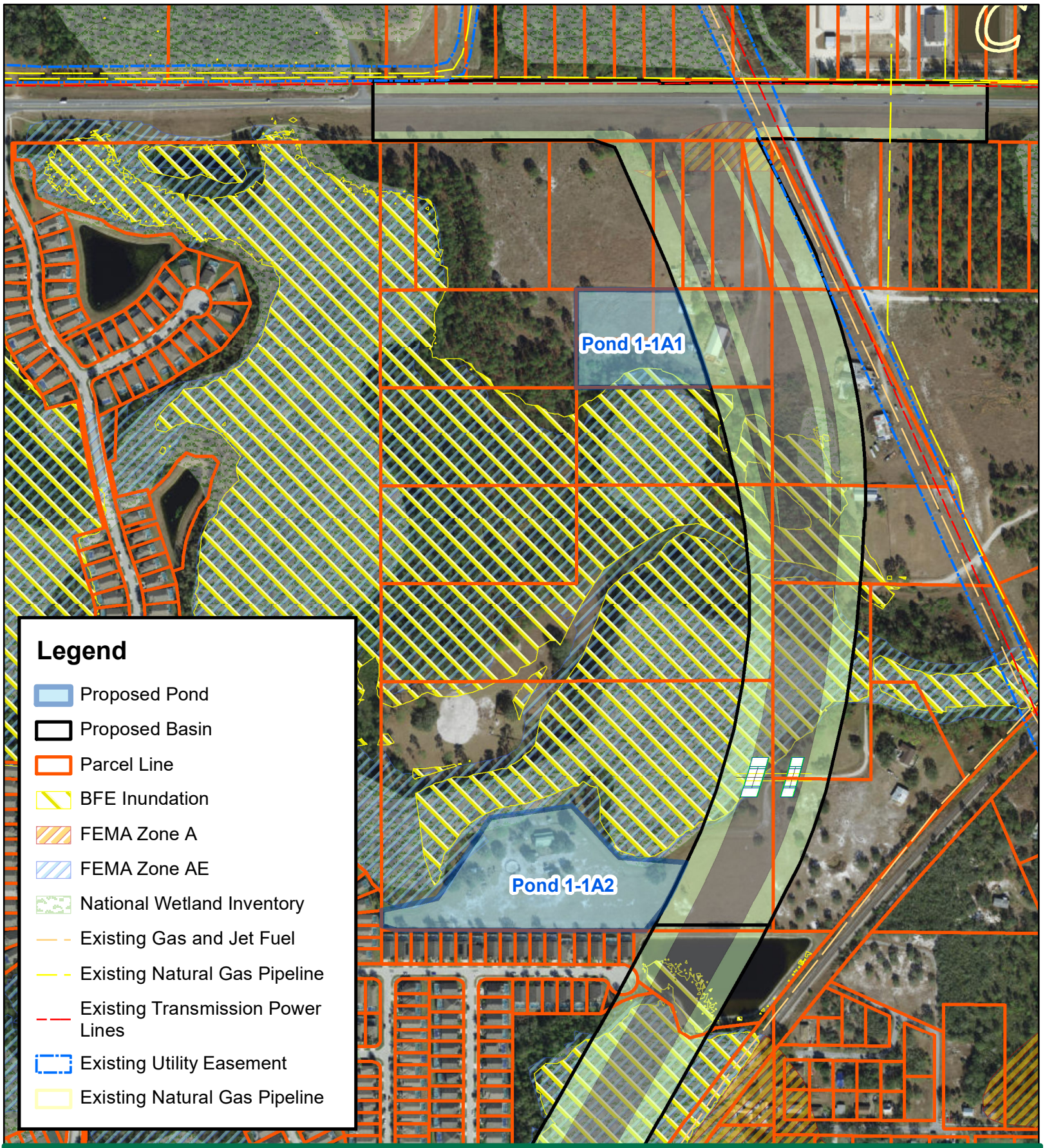
CFX PD&E Study
OSCEOLA & POLK COUNTY, FLORIDA

Project: Poinciana Parkway Extension PD&E
County: Polk and Osceola

Pond Parcel Summary

Table 1 - Alternative 1A

Basin	Pond Name	Required Area (ac)	Pond Area (ac)	Parcel#	Property Owner	Total Parcel Area (ac)
B_1_01	1-1A1	8.30	3.0	27-26-01-0000-0001-1000	LOZANO CARMEN C	0.99
				27-26-01-0000-0001-1030	LOZANO ELIO GARY	4.01
	1-1A2		6.0	27-26-01-0000-0001-2010	BARTLETT FRANCIS E	25.49
	1-1B1	8.30	3.0	28-26-06-0000-0003-4040	WORRELL WILLIAM	6.77
	1-1B2		6.0	27-26-01-0000-0001-2010	BARTLETT FRANCIS E	25.49
B_1_02	1-2A	9.0	9.2	VACANT R/W - NO PARCEL #	--	--
				27-26-01-7005-0002-6020	DIOP MOUSSA	7.31
				27-26-01-7005-0002-0010	HALL DAVID	1.34
				27-26-01-7005-0002-1091	HERNANDEZ CRESCENCIA LARA	0.59
				27-26-01-7005-0002-1061	BAYLESS MAUDIE ESTATE OF	0.47
				27-26-01-7005-0002-1040	DOYNE SUSIE	0.47
				27-26-01-7005-0002-1120	DUNN BOBBY	0.34
				27-26-01-7005-0002-1131	COLLINS STEPHANIE	0.23
				27-26-01-7005-0002-1141	COLLINS CATHY	0.23
				27-26-01-7005-0002-1160	RESTO STEPHANICE MADERA	0.23
	1-2B	9.0	9.2	VACANT R/W - NO PARCEL #	--	--
				27-26-01-7005-0002-6020	DIOP MOUSSA	7.31
				27-26-01-7005-0002-0010	HALL DAVID	1.34
				27-26-01-7005-0002-1091	HERNANDEZ CRESCENCIA LARA	0.59
				27-26-01-7005-0002-1120	DUNN BOBBY	0.34
				27-26-01-7005-0002-1131	COLLINS STEPHANIE	0.23
				27-26-01-7005-0001-9020	PINEDA ROMAN JR	0.21
				27-26-01-700500-019080	WISDOM IN TORAH MINISTRY INC	0.73
				27-26-01-7005-0001-9011	PINEDA ROMAN JR	0.21
				27-26-01-7005-0001-8101	BICKFORD KELVIN R	0.33
				27-26-01-7005-0001-8101	ARNOLD BELINDA YOUNG	0.26
B_1_03	1-3A	6.4	6.8	27-26-12-0000-0001-1020	EMBREY THOMAS E	2.10
				27-26-12-0000-0001-1040	JONES LAWRENCE R	2.50
				27-26-12-0000-0001-1030	CAMPBELL LESTER M	13.94
	1-3B	6.4	7.0	27-26-12-0000-0001-1020	EMBREY THOMAS E	2.10
				27-26-12-0000-0001-1030	CAMPBELL LESTER M	13.94
B_1_04	1-4A1	9.0	2.4	Infield	--	--
	1-4A2		4.2	27-26-12-7025-0000-8010	HEDDEN ANTOINETTE M	1.87
				27-26-12-7025-0000-8030	GOTTS FAMILY PROPERTIES LLC	3.26
				VACANT R/W - NO PARCEL #	--	--
				27-26-12-7025-0001-0010	SHRI RAMJI LLC	1.12
				27-26-12-7025-0001-0210	SHRI RAMJI LLC	0.99
				27-26-12-7025-0001-0030	GOTTS FAMILY PROPERTIES LLC	0.63
				27-26-12-7025-0001-0040	GOTTS FAMILY PROPERTIES LLC	4.94
	1-4A3		2.8	27-26-12-7025-0000-8050	GOTTS FAMILY PROPERTIES LLC	8.75
				27-26-12-7025-0001-0040	GOTTS FAMILY PROPERTIES LLC	4.94
	1-4B1	9.0	2.4	Infield	--	--
	1-4B2		6.0	27-26-12-7025-0001-6010	APPLIED BUILDING DEVELOPMENT COMPANY	16.81
	1-4B3		2.7	27-26-12-7025-0001-7010	APPLIED BUILDING DEVELOPMENT COMPANY	18.39
B_1_05	1-5A	10.3	10.8	28-26-18-0000-0001-1010	KINNEY ROAD LAND INVESTMENTS LLC	11.78
	1-5B1	6.8	7.1	28-26-07-0000-0001-4010	TCP II REEDY CREEK LLC	461.23
	1-5B2	2.9	3.2	28-26-07-9328-5100-1390	APPLIED BUILDING DEVELOPMENT COMPANY	31.44
	1-5B3	5.2	5.3	28-26-18-0000-0003-1010	APPLIED BUILDING DEVELOPMENT COMPANY	79.30
	1-5B4	2.0	2.5	17-26-28-0000-0020-0000	KINNEY ROAD LAND INVESTMENTS LLC	8.89



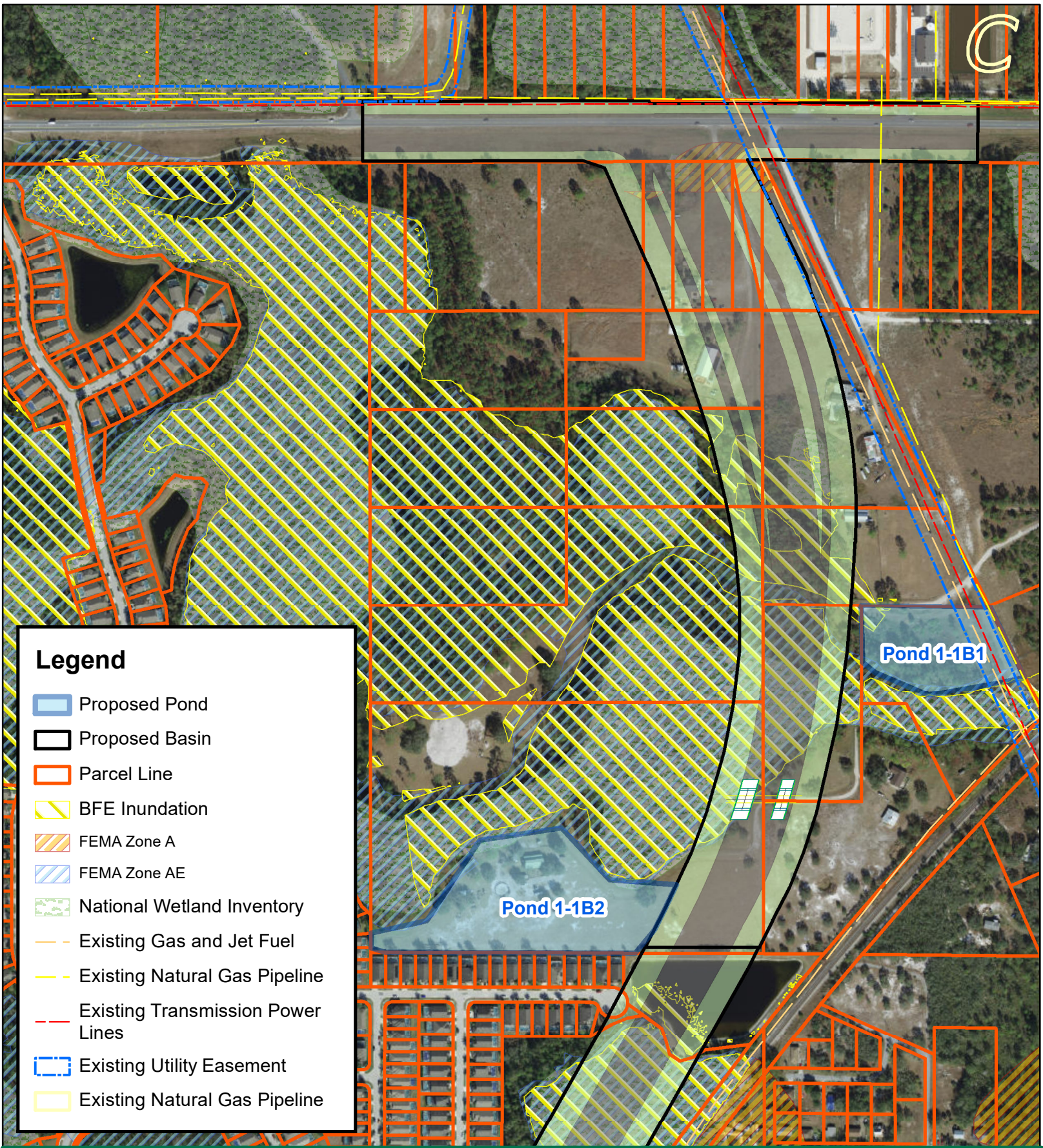
The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

FIGURE A.1 - Alternative 1A
Pond 1-1A

N
W E
S

POINCIANA PARKWAY EXTENSION (SR 538)
(POINCIANA PARKWAY TO CR 532)
OSCEOLA & POLK COUNTY, FLORIDA

0 250 500 1,000
Feet



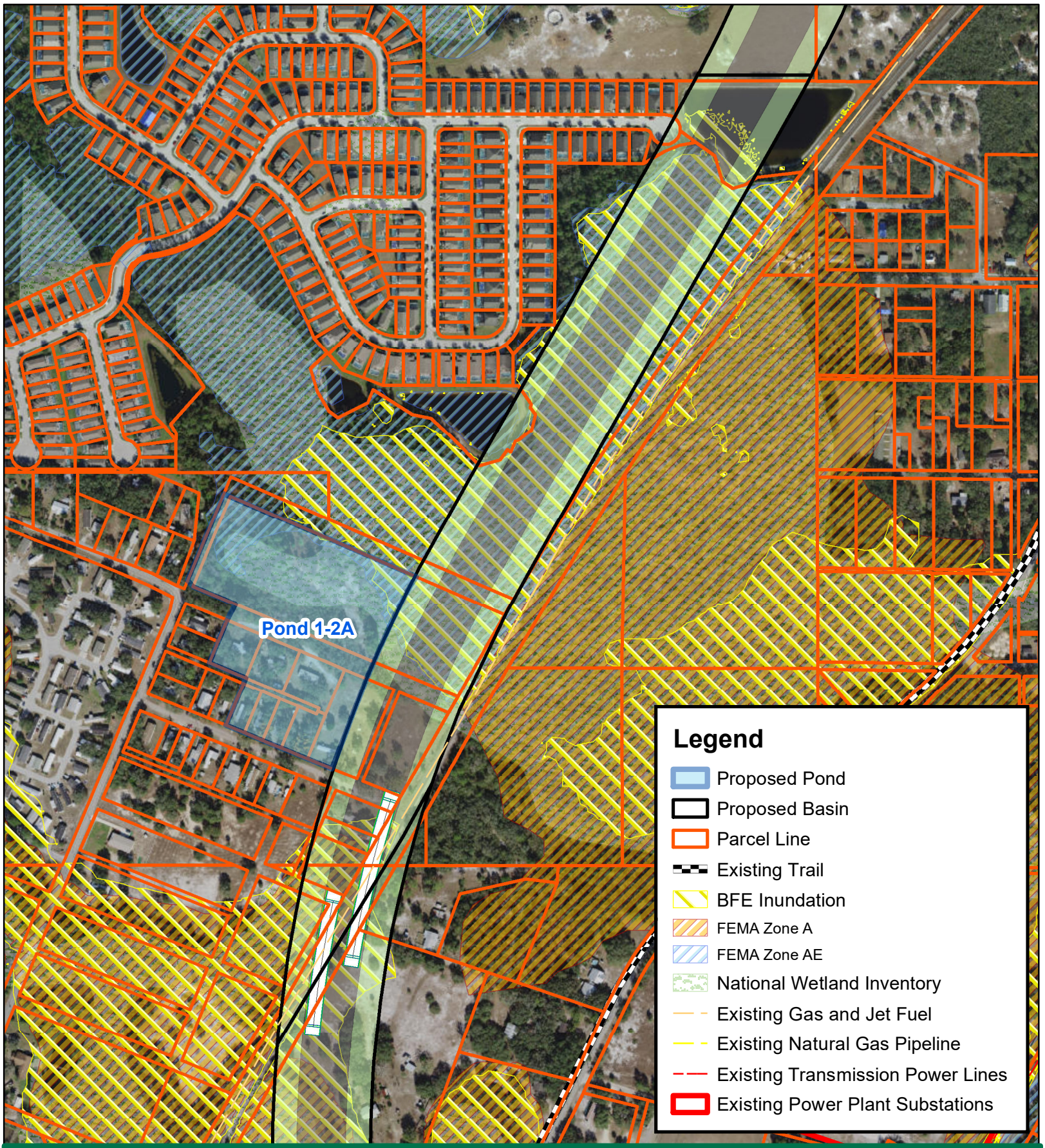
The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

FIGURE A.2 - Alternative 1A
Pond 1-1B

N
W E
S

POINCIANA PARKWAY EXTENSION (SR 538)
(POINCIANA PARKWAY TO CR 532)
OSCEOLA & POLK COUNTY, FLORIDA

0 250 500 1,000
Feet



The Balmoral Group
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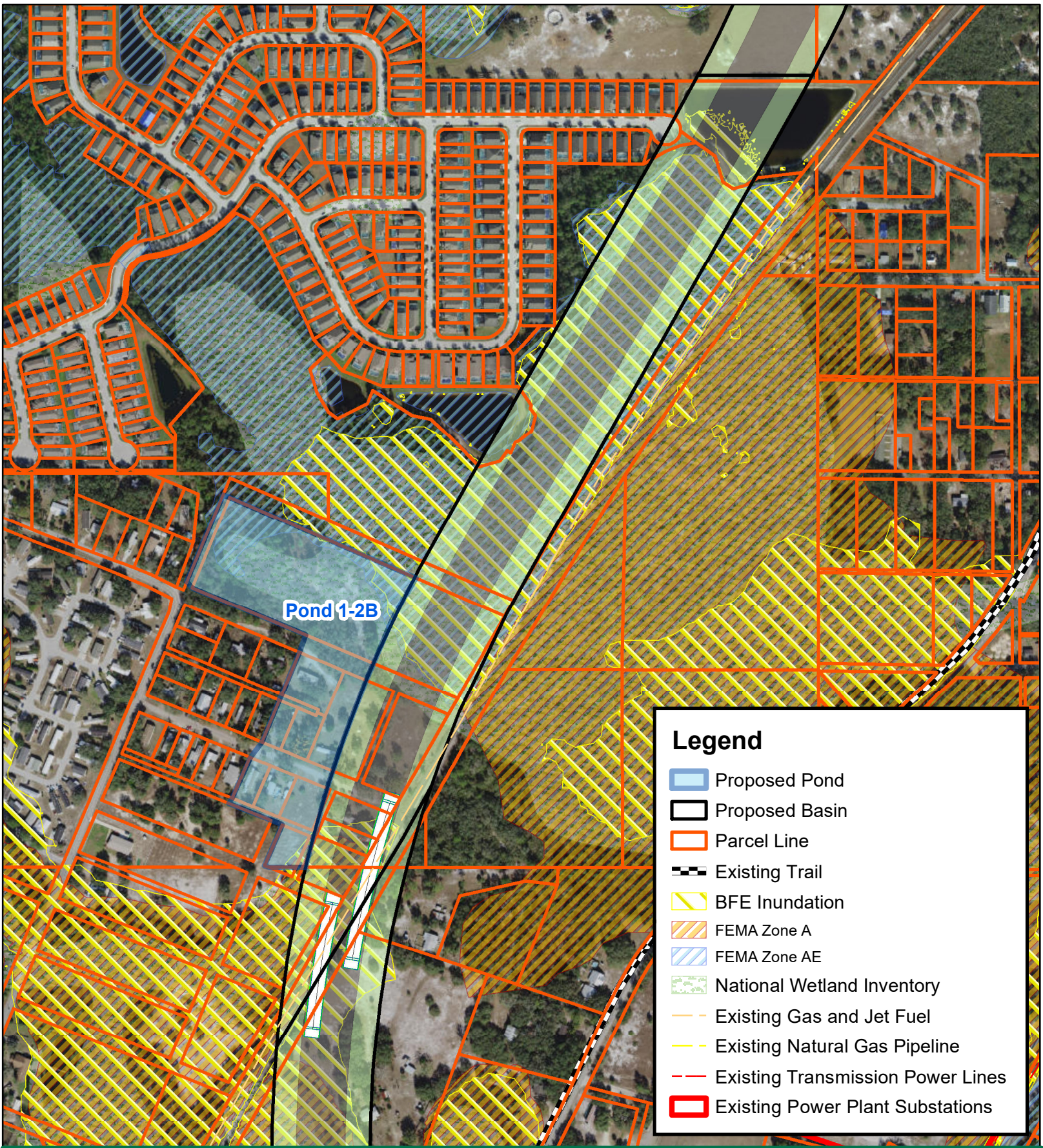
Winter Park, Florida 32789

FIGURE A.3- Alternative 1A
Pond 1-2A

N
W E
S

POINCIANA PARKWAY EXTENSION (SR 538)
(POINCIANA PARKWAY TO CR 532)
OSCEOLA & POLK COUNTY, FLORIDA

0 250 500 1,000
Feet



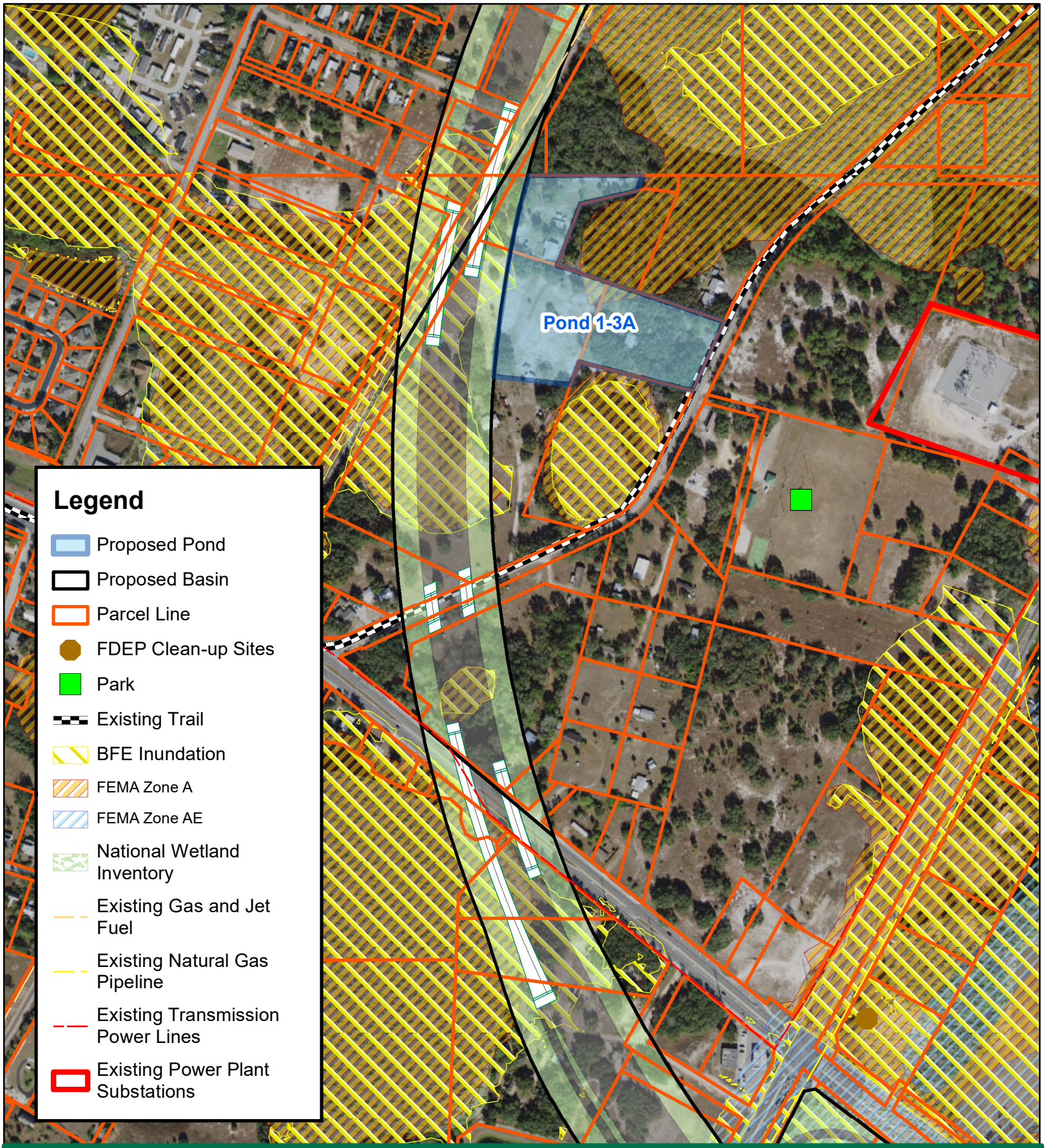
The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

FIGURE A.4- Alternative 1A
Pond 1-2B

N
W E
S

POINCIANA PARKWAY EXTENSION (SR 538)
(POINCIANA PARKWAY TO CR 532)
OSCEOLA & POLK COUNTY, FLORIDA

0 250 500 1,000
Feet



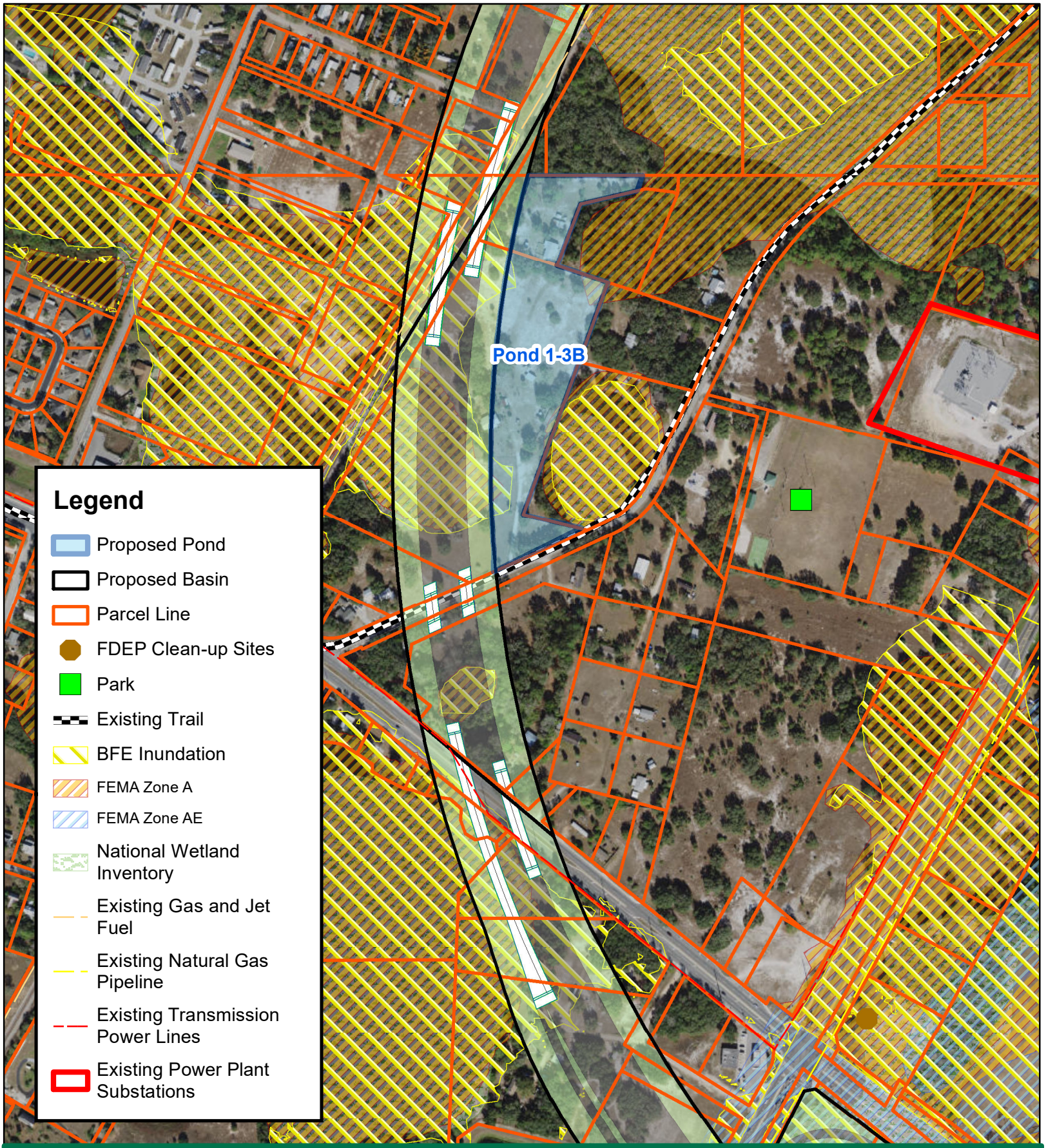
The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

FIGURE A.5- Alternative 1A
Pond 1-3A

N
W E
S

POINCIANA PARKWAY EXTENSION (SR 538)
(POINCIANA PARKWAY TO CR 532)
OSCEOLA & POLK COUNTY, FLORIDA

0 250 500 1,000
Feet



The Balmoral Group
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Winter Park, Florida 32789

FIGURE A.6- Alternative 1A
Pond 1-3B

N
W E
S

POINCIANA PARKWAY EXTENSION (SR 538)
(POINCIANA PARKWAY TO CR 532)
OSCEOLA & POLK COUNTY, FLORIDA

0 250 500 1,000
Feet

The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

FIGURE A.7- Alternative 1A
Pond 1-4A

N
W E
S

POINCIANA PARKWAY EXTENSION (SR 538)
(POINCIANA PARKWAY TO CR 532)
OSCEOLA & POLK COUNTY, FLORIDA

0 250 500 1,000
Feet

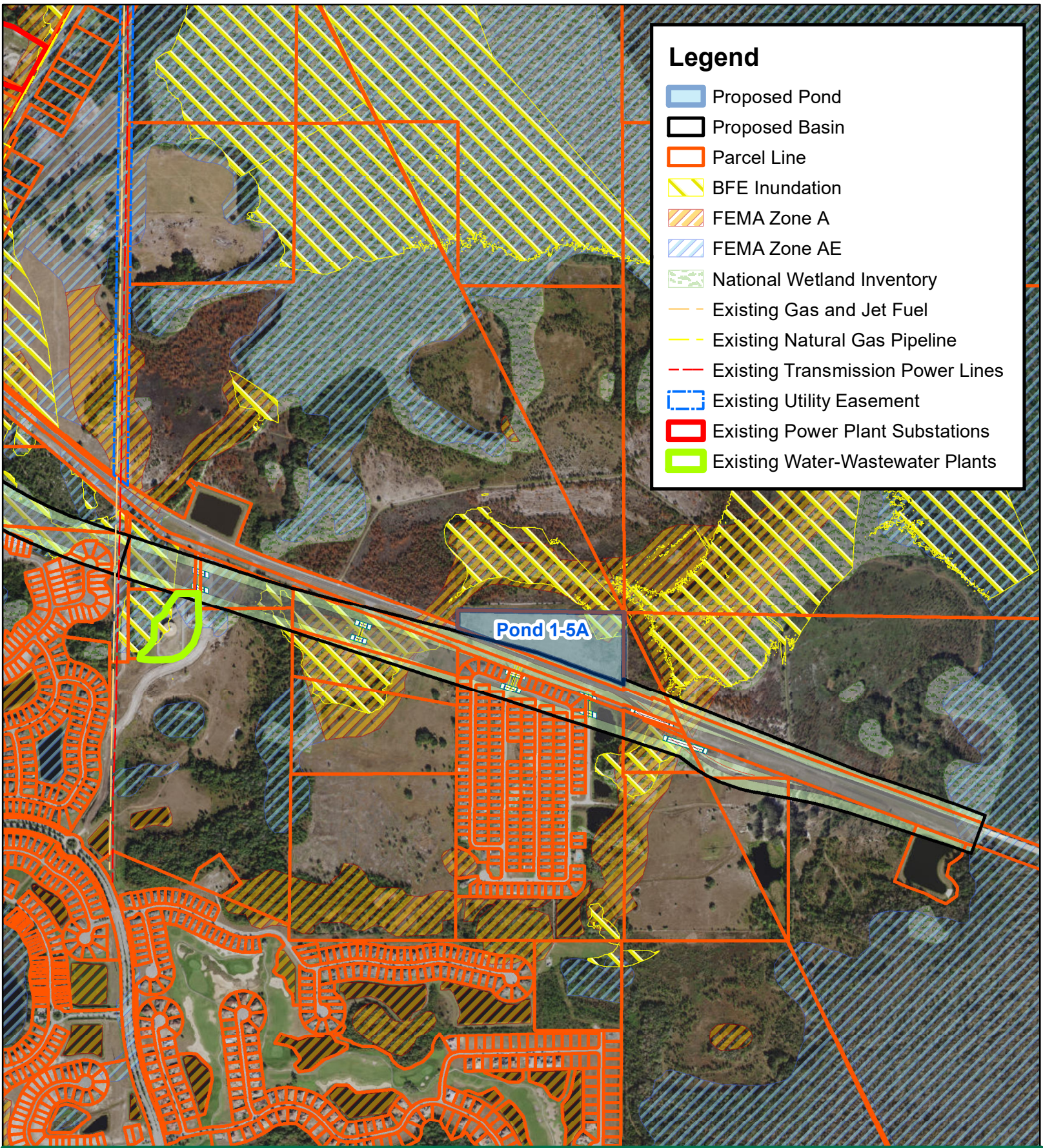
The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

FIGURE A.8- Alternative 1A
Pond 1-4B

N
W E
S

POINCIANA PARKWAY EXTENSION (SR 538)
(POINCIANA PARKWAY TO CR 532)
OSCEOLA & POLK COUNTY, FLORIDA

0 250 500 1,000
Feet



The Balmoral Group
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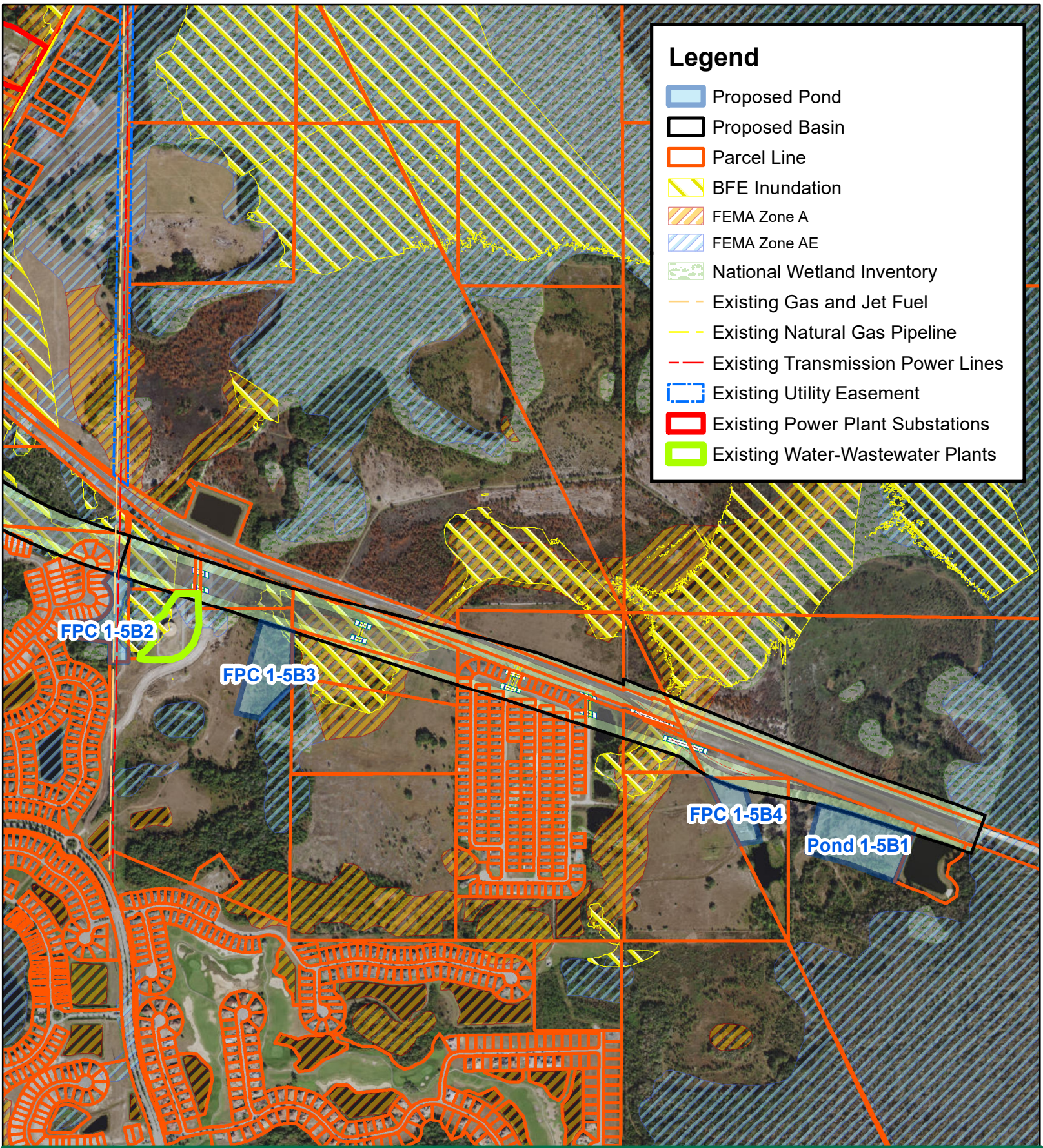
Winter Park, Florida 32789

FIGURE A.9- Alternative 1A
Pond 1-5A

N
W E
S

POINCIANA PARKWAY EXTENSION (SR 538)
(POINCIANA PARKWAY TO CR 532)
OSCEOLA & POLK COUNTY, FLORIDA

0 600 1,200 2,400
Feet



The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

FIGURE A.10- Alternative 1A
Pond 1-5B

N
W E
S

POINCIANA PARKWAY EXTENSION (SR 538)
(POINCIANA PARKWAY TO CR 532)
OSCEOLA & POLK COUNTY, FLORIDA

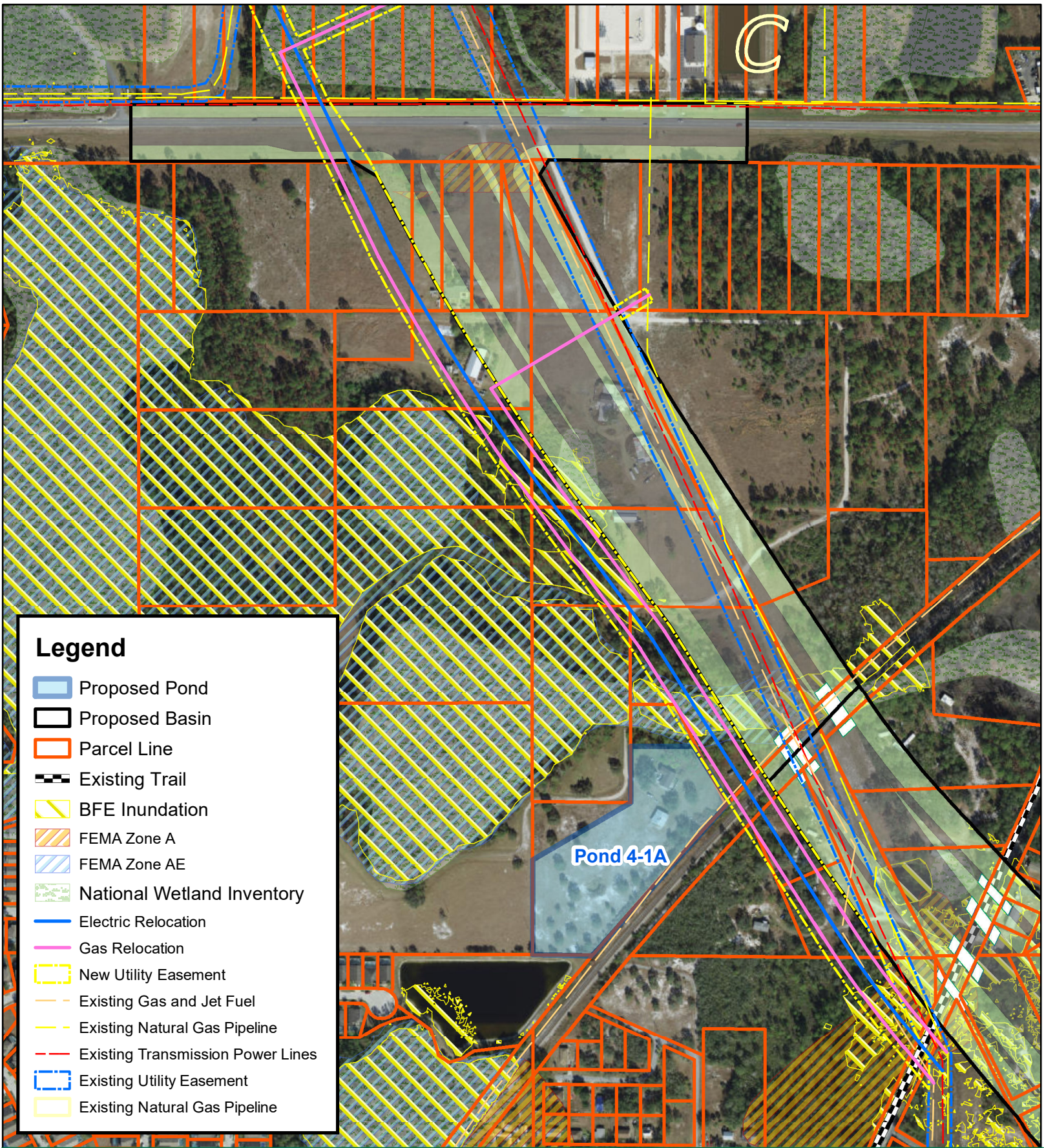
0 600 1,200 2,400
Feet

Project: Poinciana Parkway Extension PD&E
County: Polk and Osceola

Pond Parcel Summary

Table 2 - Alternative 4A

Basin	Pond Name	Required Area (ac)	Pond Area (ac)	Parcel#/Property Owner	Property Owner	Total Parcel Area (ac)
B_4_01	4-1A	5.4	5.5	28-26-06-0000-0003-4040	WORRELL WILLIAM	6.77
				28-26-06-0000-0003-4020	WORRELL WILLIAM	5.77
	4-1B	5.4	5.4	06-26-28-0000-0070-0000	JOSTAM PROPERTY INC	5.05
				06-26-28-0000-0092-0000	FORTIS-OLIVERAS MONSERRATE	6.14
				06-26-28-4785-0001-0150	BROWN RANCH SIX PROPERTIES LLC	13.17
B_4_02	4-2A1	6.7	5.5	06-26-28-5400-0003-0010	NINJA INVESTMENTS LTD	1.08
				06-26-28-5400-0004-0010	ZUCO ROSARIO A	0.46
				06-26-28-5400-0005-0010	ZUCO ROSARIO A	0.67
				VACANT R/W - NO PARCEL #	--	--
				06-26-28-5400-0008-0010	MONN RONALD D	5.92
				06-26-28-0000-0135-0000	T G I INC THE GOADS INTERNATIONAL	41.43
	4-2A2		2.5	28-26-06-0000-0004-2100	THOMPSON AUBREY E	1.77
				28-26-06-0000-0004-2130	DAVIS WILLIE ESTATE OF	2.16
	4-2B1	6.7	5.8	06-26-28-0000-0135-0000	T G I INC THE GOADS INTERNATIONAL	41.43
				06-26-28-0000-0136-0000	T G I INC THE GOADS INTERNATIONAL	5.79
	4-2B2		1.1	06-26-28-0000-0135-0000	T G I INC THE GOADS INTERNATIONAL	41.43
				06-26-28-3180-000C-0035	T G I INC THE GOADS INTERNATIONAL	0.52
				06-26-28-0000-0030-0000	SOUTH FLA WATER MGMT DIST	203.02
				06-26-28-3180-000C-0010	VAN COUR BRIAN M	5.05
				06-26-28-3180-000C-0020	DELANNOY ELADIO	4.49
B_4_03	4-3A	1.9	2.4	06-26-28-3180-000C-0010	VAN COUR BRIAN M	5.05
				06-26-28-3180-000C-0020	DELANNOY ELADIO	4.49
	4-3B	1.9	2.1	06-26-28-0000-0030-0000	SOUTH FL WATER MGMT DIST	203.02
B_4_04	4-4A	2.1	2.1	28-26-07-0000-0001-4010	TCP II REEDY CREEK LLC	207.67
	4-4B	2.1	2.2	28-26-07-0000-0001-4010	TCP II REEDY CREEK LLC	207.67
B_4_05	4-5A1	13.7	8.9	Infield Area	--	--
	4-5A2		5.0	17-26-28-0000-0020-0000	KINNEY ROAD LAND INVESTMENTS LLC	9.89
	4-5B1	13.7	8.9	Infield Area	--	--
	4-5B2		18.4	17-26-28-0000-0010-0000	TCP II REEDY CREEK LLC	461.23



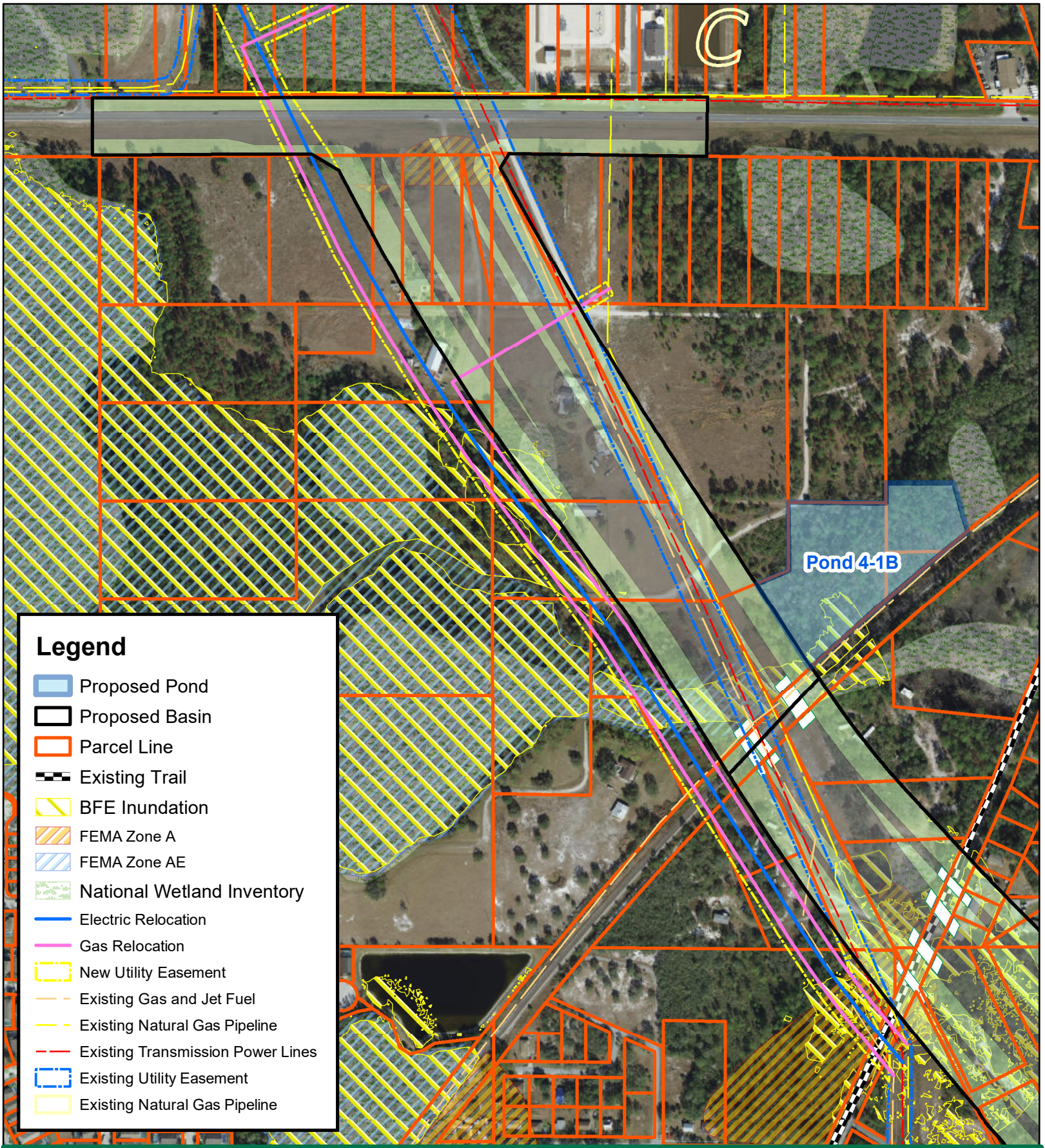
The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

FIGURE A.11 - Alternative 4A
Pond 4-1A

N
W E
S

POINCIANA PARKWAY EXTENSION (SR 538)
(POINCIANA PARKWAY TO CR 532)
OSCEOLA & POLK COUNTY, FLORIDA

0 250 500 1,000
Feet



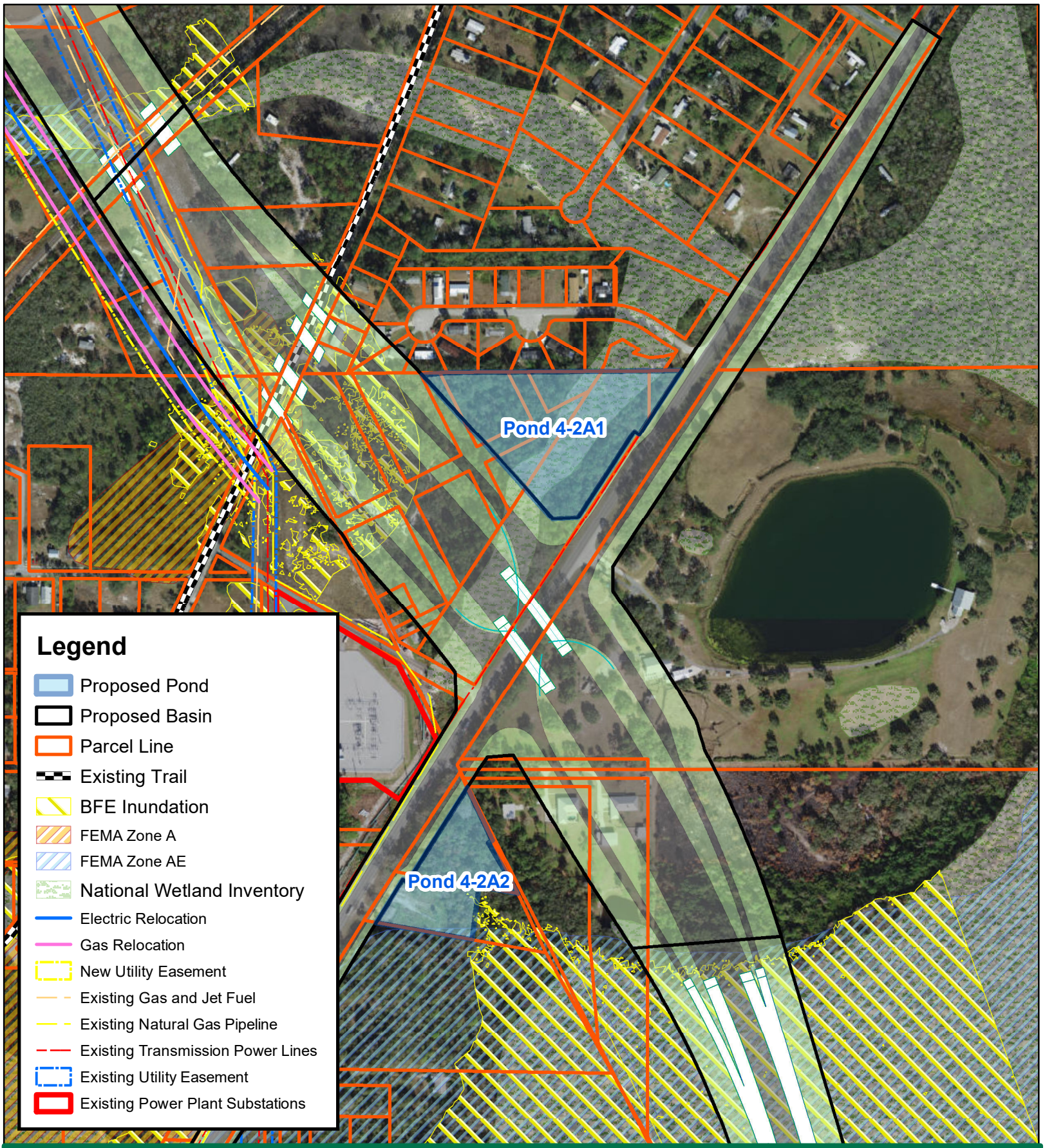
The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

FIGURE A.12 - Alternative 4A
Pond 4-1B

N
W E
S

POINCIANA PARKWAY EXTENSION (SR 538)
(POINCIANA PARKWAY TO CR 532)
OSCEOLA & POLK COUNTY, FLORIDA

0 250 500 1,000
Feet



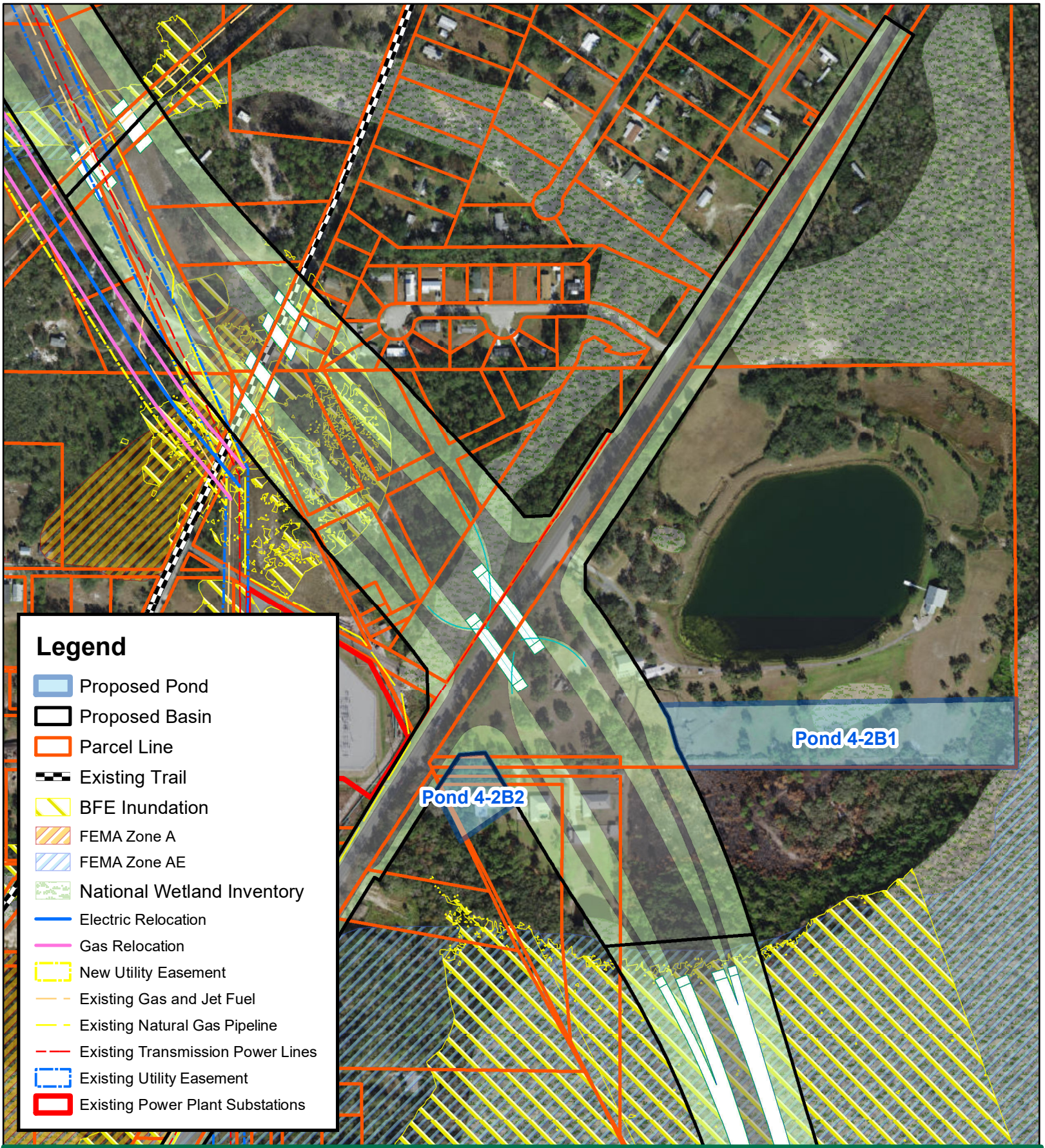
The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

FIGURE A.13 - Alternative 4A
Pond 4-2A

N
W E
S

POINCIANA PARKWAY EXTENSION (SR 538)
(POINCIANA PARKWAY TO CR 532)
OSCEOLA & POLK COUNTY, FLORIDA

0 250 500 1,000
Feet



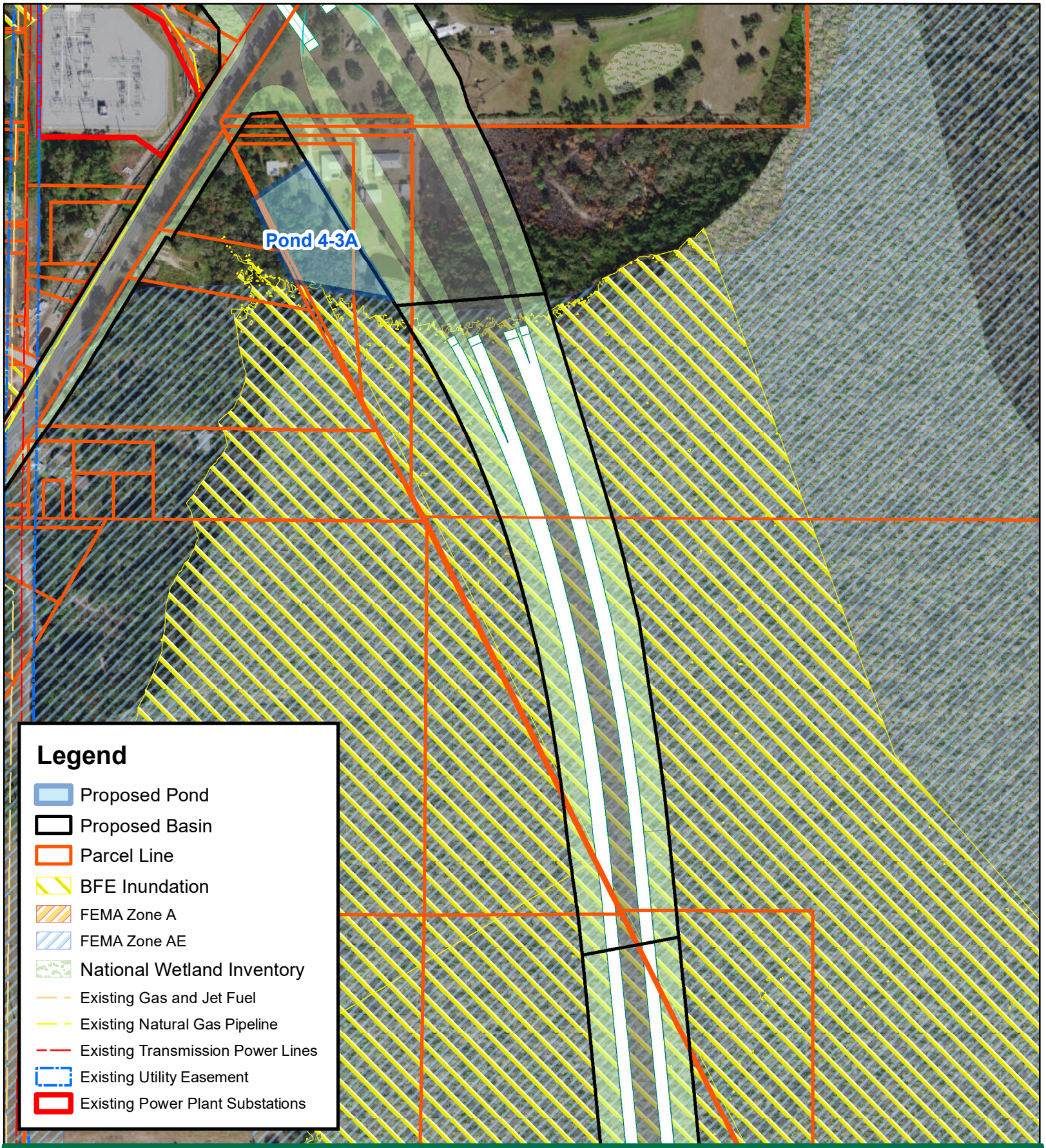
The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

FIGURE A.14 - Alternative 4A
Pond 4-2B

N
W E
S

POINCIANA PARKWAY EXTENSION (SR 538)
(POINCIANA PARKWAY TO CR 532)
OSCEOLA & POLK COUNTY, FLORIDA

0 250 500 1,000
Feet



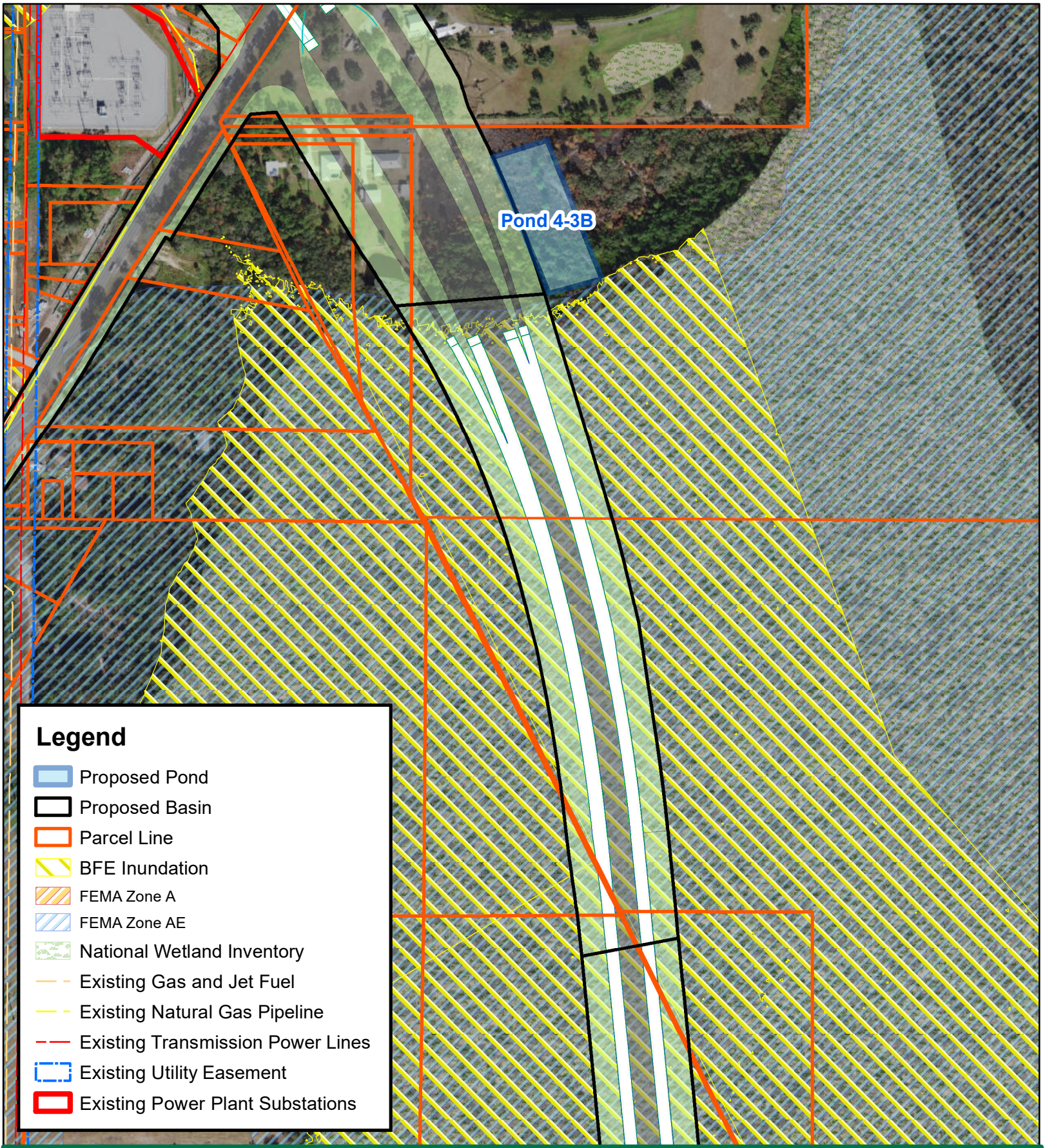
The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

FIGURE A.15 - Alternative 4A
Pond 4-3A

N
W E
S

POINCIANA PARKWAY EXTENSION (SR 538)
(POINCIANA PARKWAY TO CR 532)
OSCEOLA & POLK COUNTY, FLORIDA

0 250 500 1,000
Feet



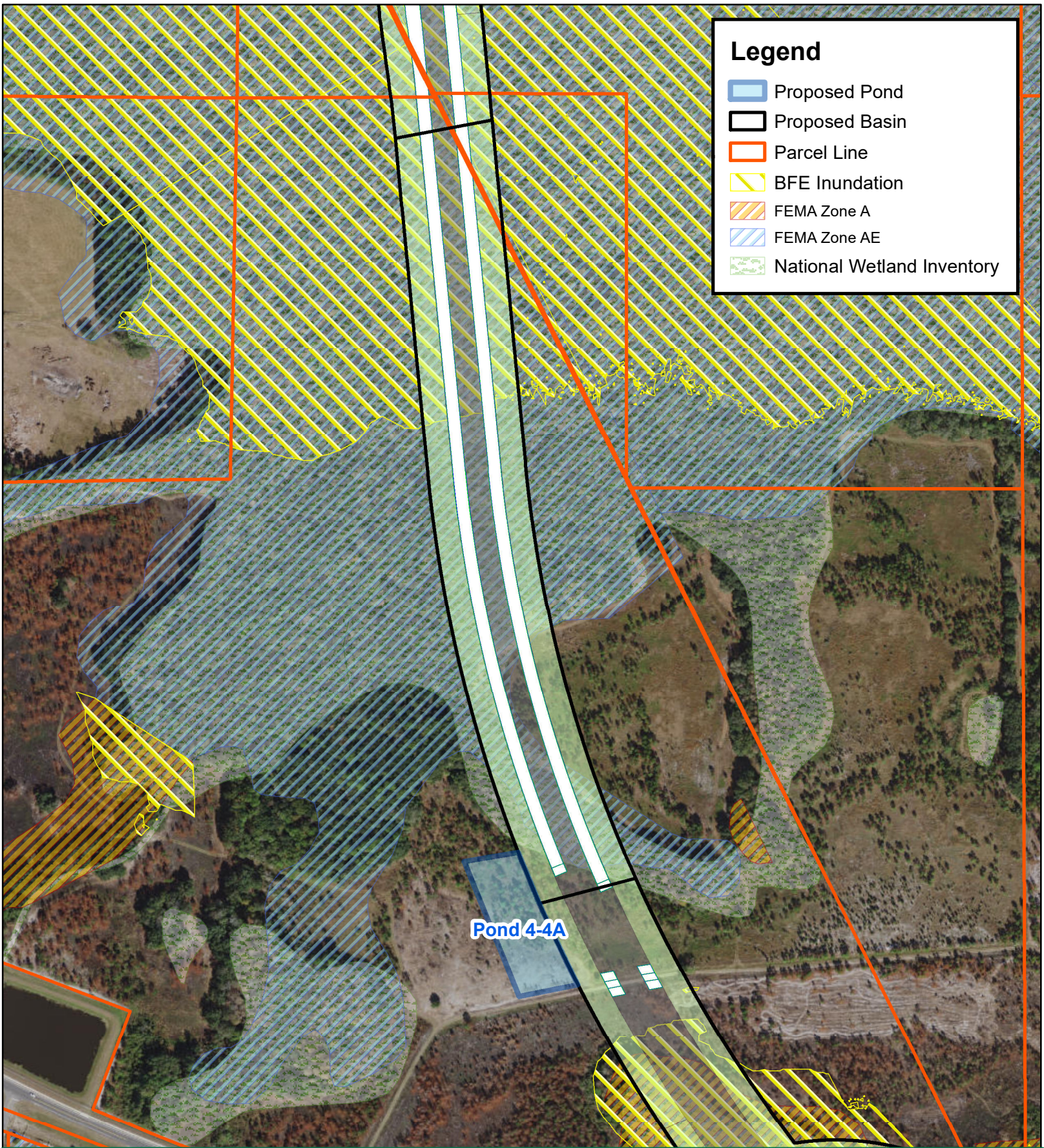
The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

FIGURE A.16 - Alternative 4A
Pond 4-3B

N
W E
S

POINCIANA PARKWAY EXTENSION (SR 538)
(POINCIANA PARKWAY TO CR 532)
OSCEOLA & POLK COUNTY, FLORIDA

0 250 500 1,000
Feet



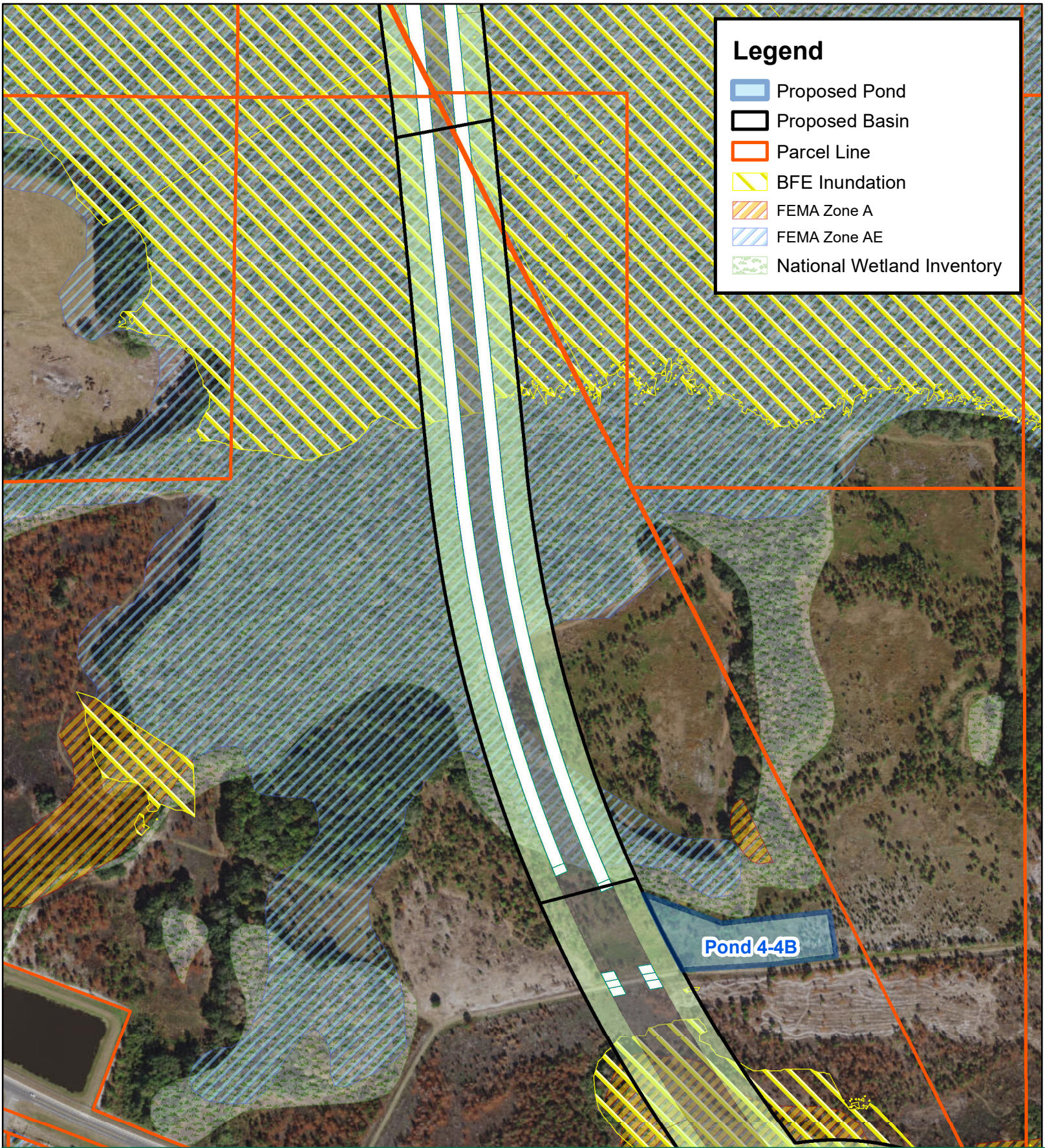
The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

FIGURE A.17 - Alternative 4A
Pond 4-4A

N
W E
S

POINCIANA PARKWAY EXTENSION (SR 538)
(POINCIANA PARKWAY TO CR 532)
OSCEOLA & POLK COUNTY, FLORIDA

0 250 500 1,000
Feet



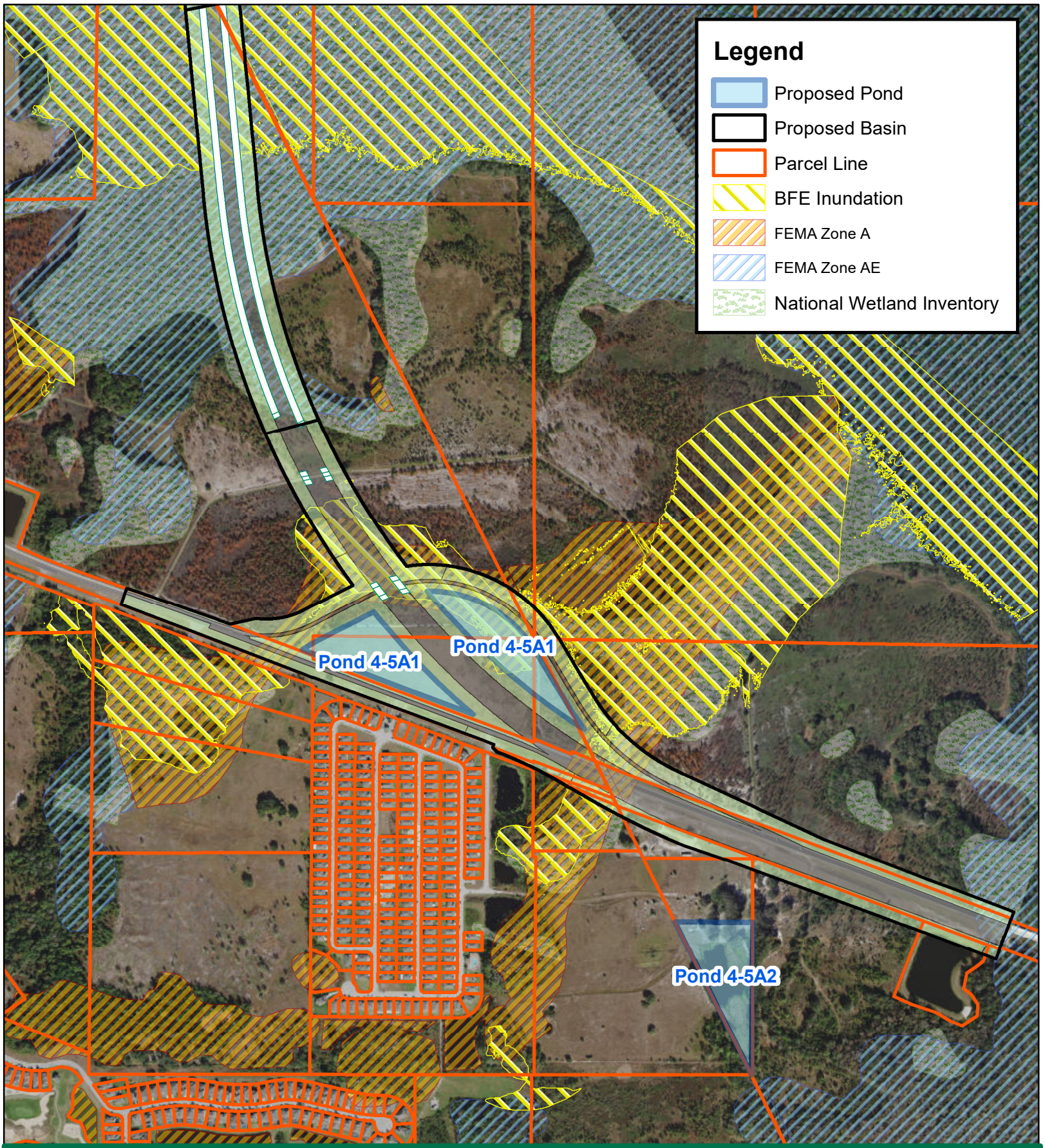
The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

FIGURE A.18 - Alternative 4A
Pond 4-4B

N
W E
S

POINCIANA PARKWAY EXTENSION (SR 538)
(POINCIANA PARKWAY TO CR 532)
OSCEOLA & POLK COUNTY, FLORIDA

0 250 500 1,000
Feet



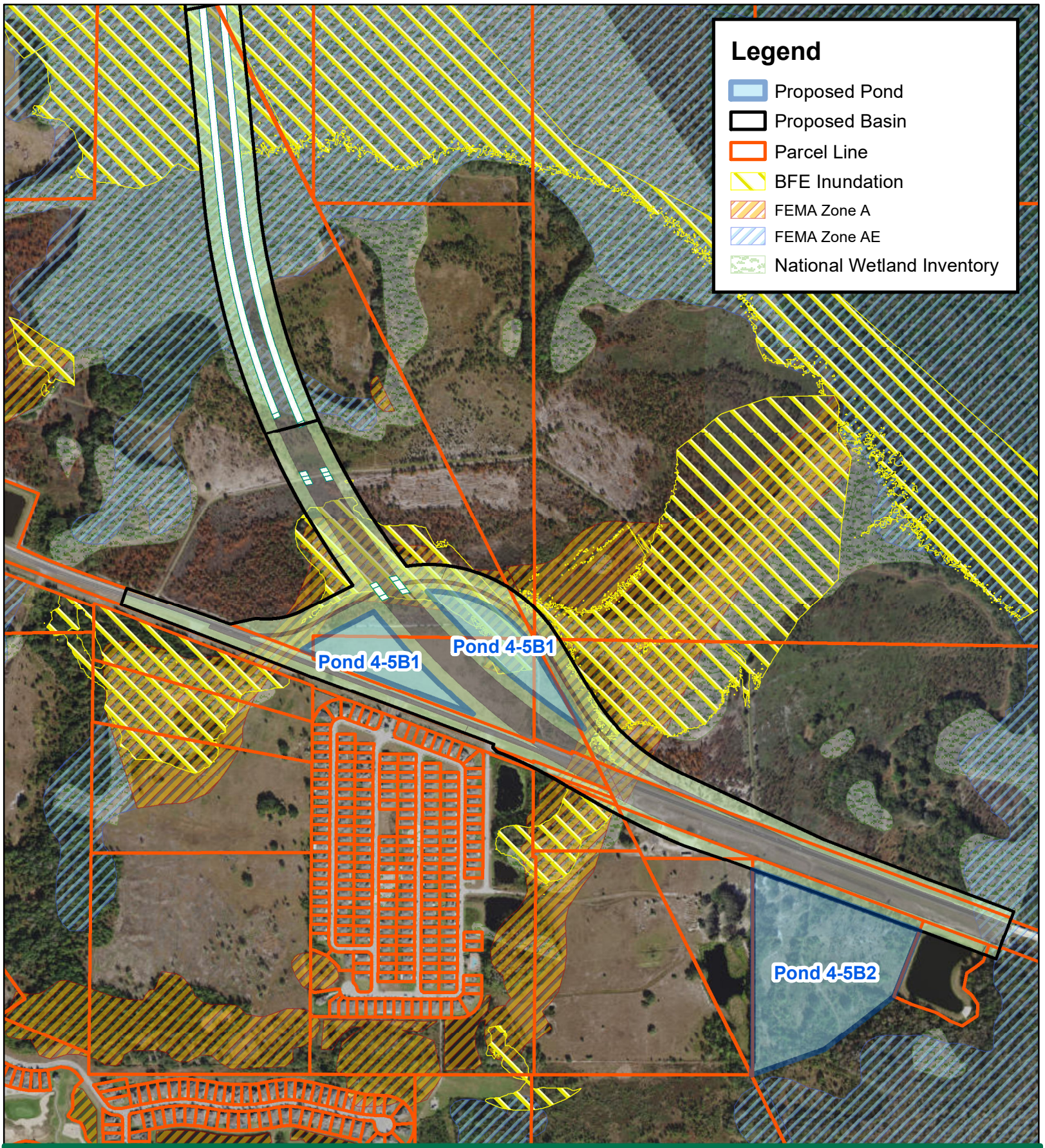
The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

FIGURE A.19 - Alternative 4A
Pond 4-5A

N
W E
S

POINCIANA PARKWAY EXTENSION (SR 538)
(POINCIANA PARKWAY TO CR 532)
OSCEOLA & POLK COUNTY, FLORIDA

0 450 900 1,800
Feet



The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

FIGURE A.20 - Alternative 4A
Pond 4-5B

N
W E
S

POINCIANA PARKWAY EXTENSION (SR 538)
(POINCIANA PARKWAY TO CR 532)
OSCEOLA & POLK COUNTY, FLORIDA

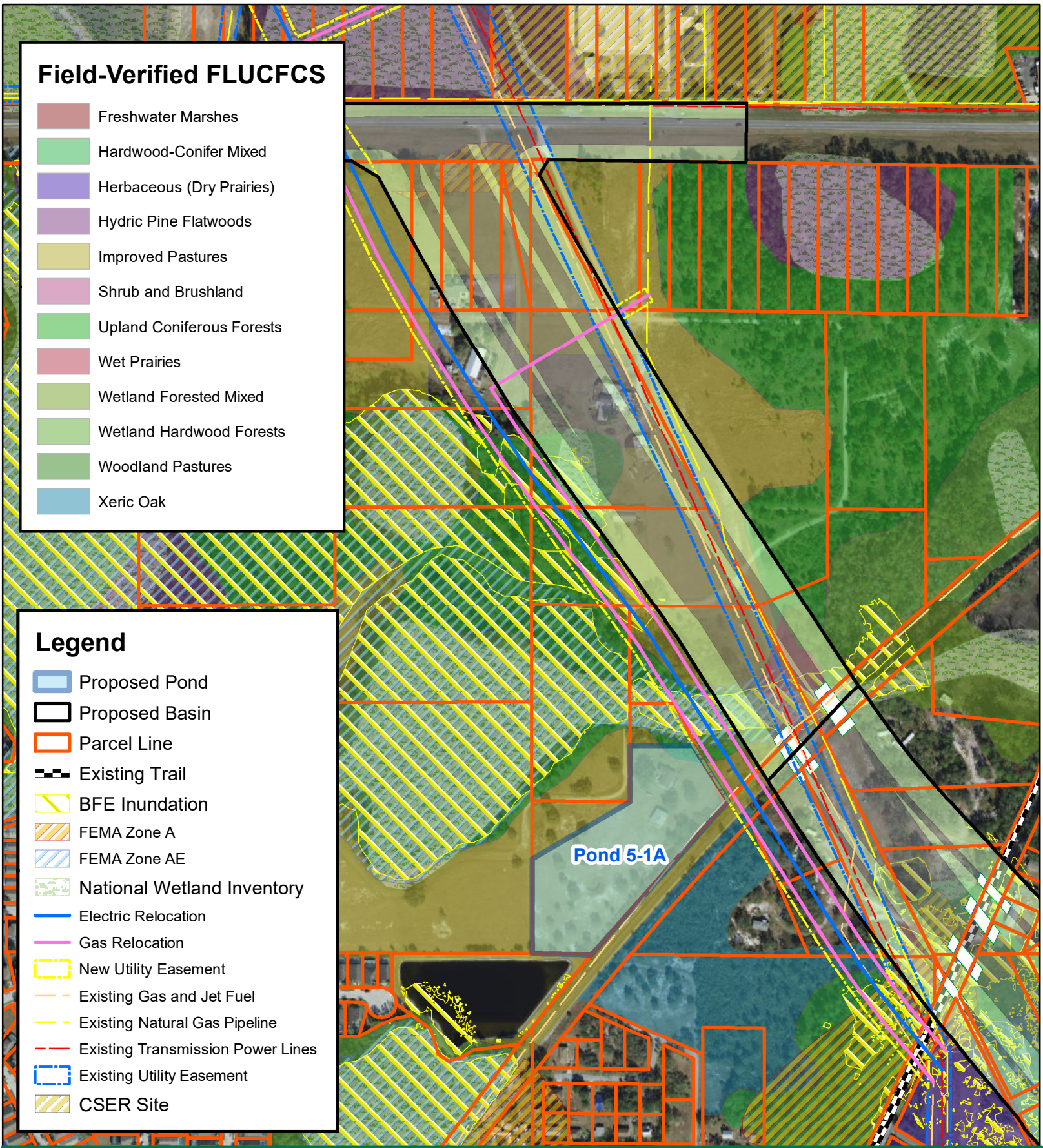
0 450 900 1,800
Feet

Project: Poinciana Parkway Extension PD&E
County: Polk and Osceola

Pond Parcel Summary

Table 3 - Alternative 5A

Basin	Pond Name	Required Area (ac)	Pond Area (ac)	Parcel#/Property Owner	Property Owner	Total Parcel Area (ac)
B_5_01	5-1A	5.4	5.5	28-26-06-0000-0003-4040	WORRELL WILLIAM	6.77
				28-26-06-0000-0003-4020	WORRELL WILLIAM	5.77
	5-1B	5.4	5.4	06-26-28-0000-0070-0000	JOSTAM PROPERTY INC	5.05
				06-26-28-0000-0092-0000	FORTIS-OLIVERAS MONSERRATE	6.14
				06-26-28-4785-0001-0150	BROWN RANCH SIX PROPERTIES LLC	13.17
B_5_02	5-2A1	6.7	5.5	06-26-28-5400-0003-0010	NINJA INVESTMENTS LTD	1.08
				06-26-28-5400-0004-0010	ZUCO ROSARIO A	0.46
				06-26-28-5400-0005-0010	ZUCO ROSARIO A	0.67
				VACANT R/W - NO PARCEL #	--	--
				06-26-28-5400-0008-0010	MONN RONALD D	5.92
				06-26-28-0000-0135-0000	T G I INC THE GOADS INTERNATIONAL	41.43
	5-2A2		2.5	28-26-06-0000-0004-2100	THOMPSON AUBREY E	1.77
				28-26-06-0000-0004-2130	DAVIS WILLIE ESTATE OF	2.16
	5-2B1	6.7	5.8	06-26-28-0000-0135-0000	T G I INC THE GOADS INTERNATIONAL	41.43
				06-26-28-0000-0136-0000	T G I INC THE GOADS INTERNATIONAL	5.79
	5-2B2		1.1	06-26-28-0000-0135-0000	T G I INC THE GOADS INTERNATIONAL	41.43
				06-26-28-3180-000C-0035	T G I INC THE GOADS INTERNATIONAL	0.52
				06-26-28-0000-0030-0000	SOUTH FLA WATER MGMT DIST	203.02
				06-26-28-3180-000C-0010	VAN COUR BRIAN M	5.05
				06-26-28-3180-000C-0020	DELANNOY ELADIO	4.49
B_5_03	5-3A	2.0	2.4	06-26-28-3180-000C-0020	DELANNOY ELADIO	4.49
				06-26-28-3180-000C-0010	VAN COUR BRIAN M	5.05
	5-3B	2.0	2.1	06-26-28-0000-0030-0000	SOUTH FL WATER MGMT DIST	203.02
B_5_04	5-4A	1.8	2.2	07-26-28-3180-000D-0010	TCP II REEDY CREEK LLC	51.60
	5-4B	1.8	1.9	07-26-28-3180-000D-0010	TCP II REEDY CREEK LLC	51.60
				28-26-07-000000-014010	TCP II REEDY CREEK LLC	207.67
B_5_05	5-5A	10.1	10.6	17-26-28-0000-0010-0000	TCP II REEDY CREEK LLC	461.23
	5-5B	10.1	6.9	17-26-28-0000-0020-0000	KINNEY ROAD LAND INVESTMENTS LLC	9.89



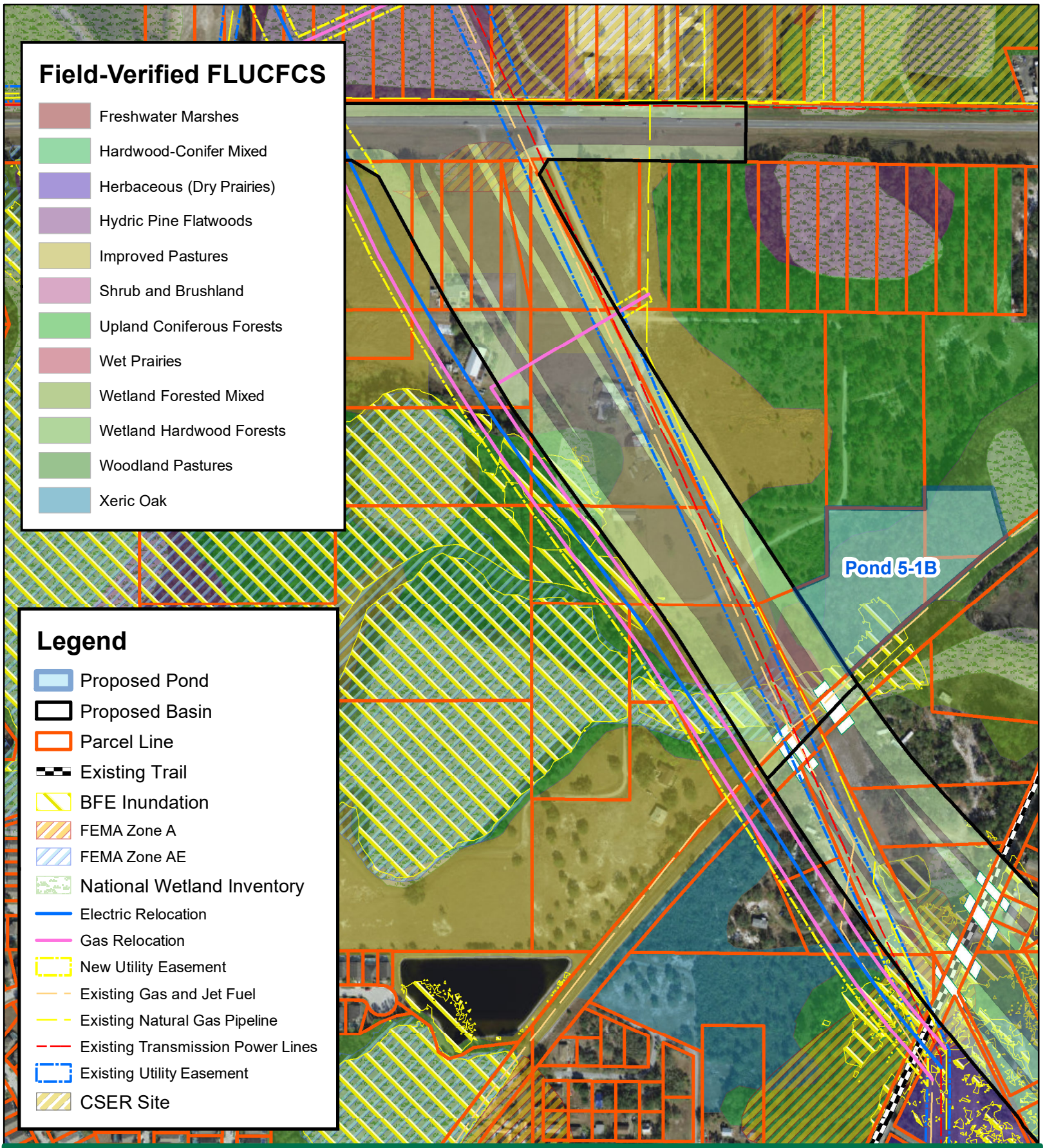
The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

FIGURE A.21 - Alternative 5A
Pond 5-1A

N
W E
S

POINCIANA PARKWAY EXTENSION (SR 538)
(POINCIANA PARKWAY TO CR 532)
OSCEOLA & POLK COUNTY, FLORIDA

0 250 500 1,000
Feet



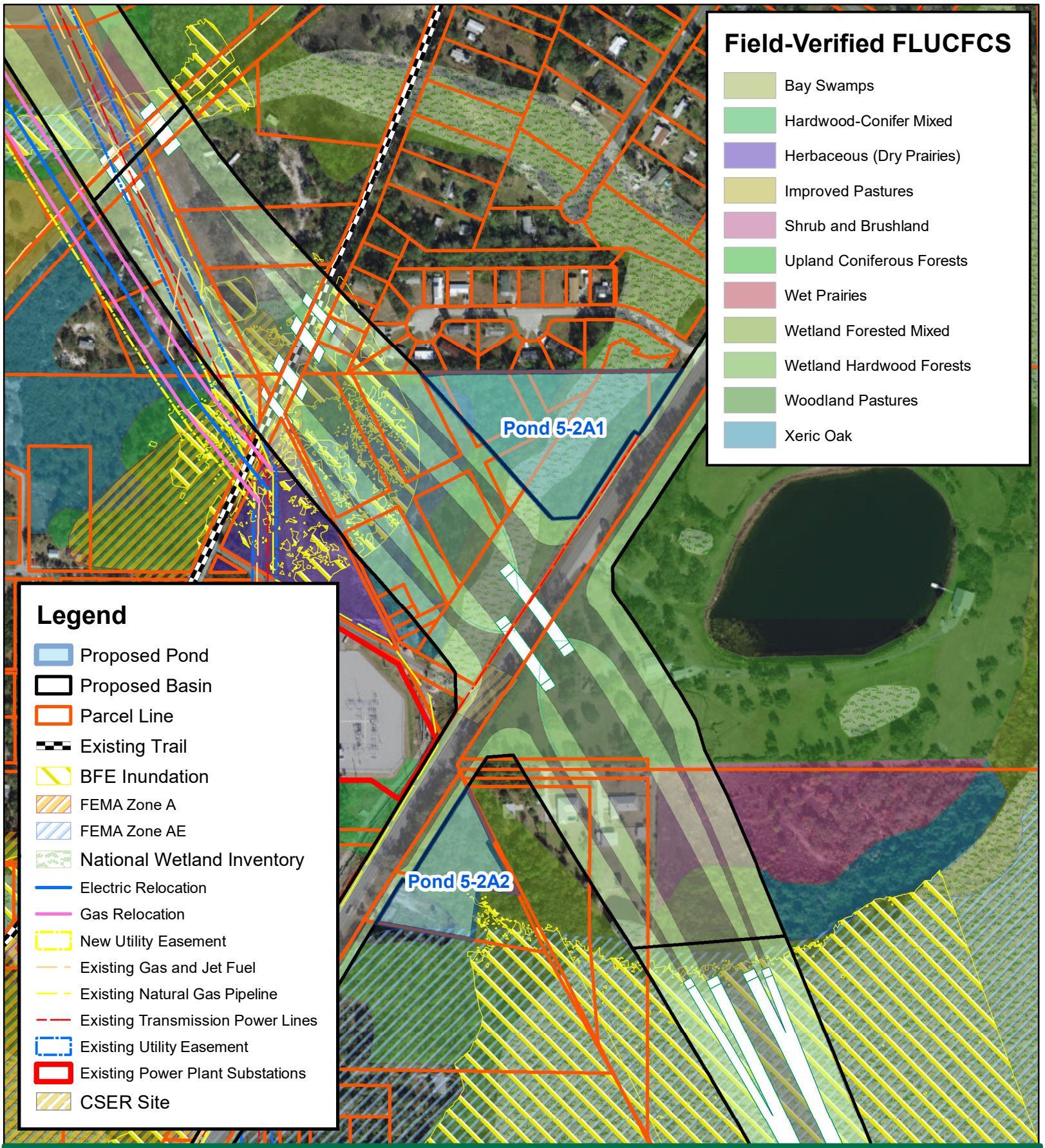
The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

FIGURE A.22 - Alternative 5A
Pond 5-1B

N
W E
S

POINCIANA PARKWAY EXTENSION (SR 538)
(POINCIANA PARKWAY TO CR 532)
OSCEOLA & POLK COUNTY, FLORIDA

0 250 500 1,000
Feet



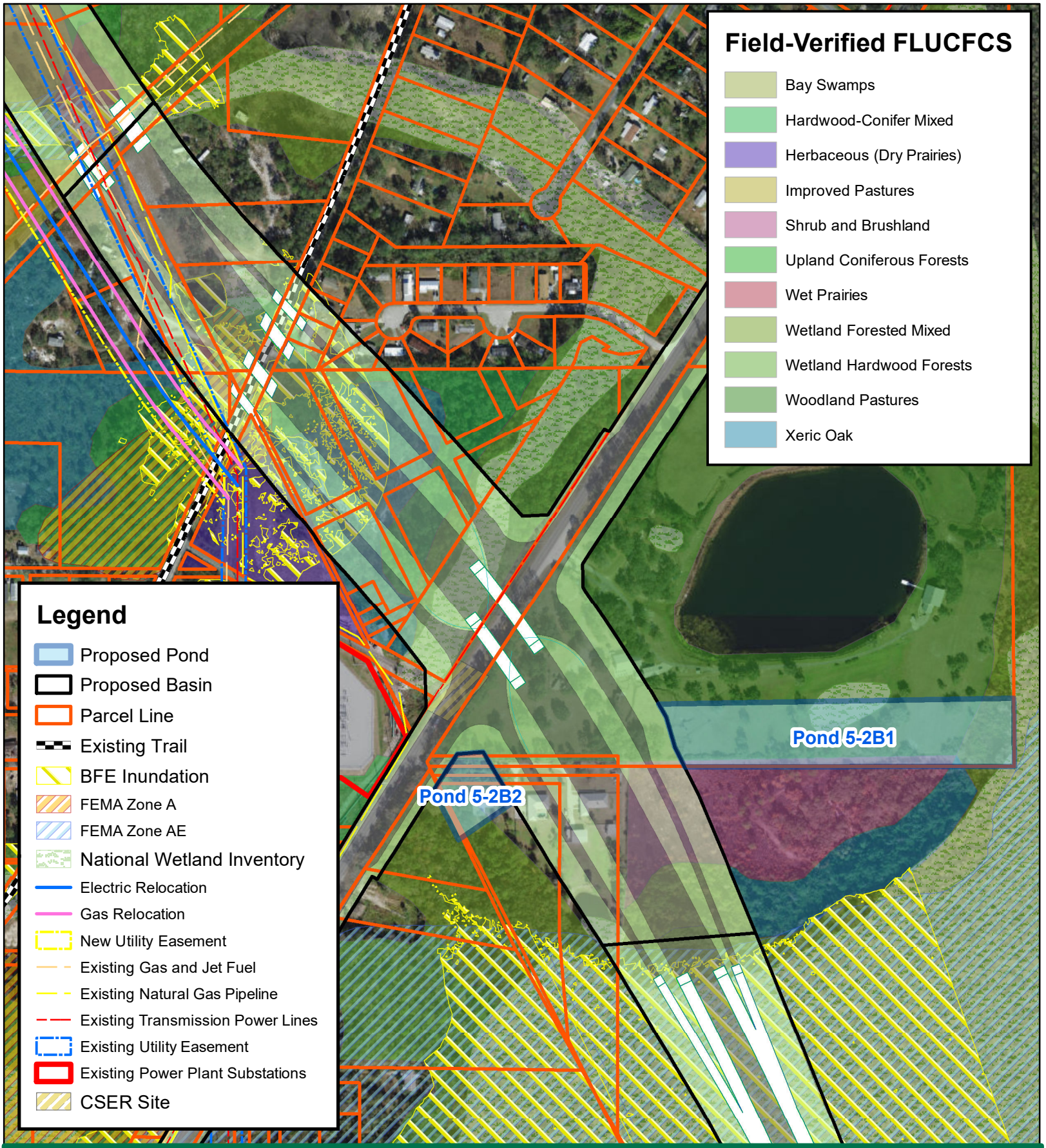
The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

FIGURE A.23 - Alternative 5A
Pond 5-2A

N
W E
S

POINCIANA PARKWAY EXTENSION (SR 538)
(POINCIANA PARKWAY TO CR 532)
OSCEOLA & POLK COUNTY, FLORIDA

0 250 500 1,000
Feet



The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

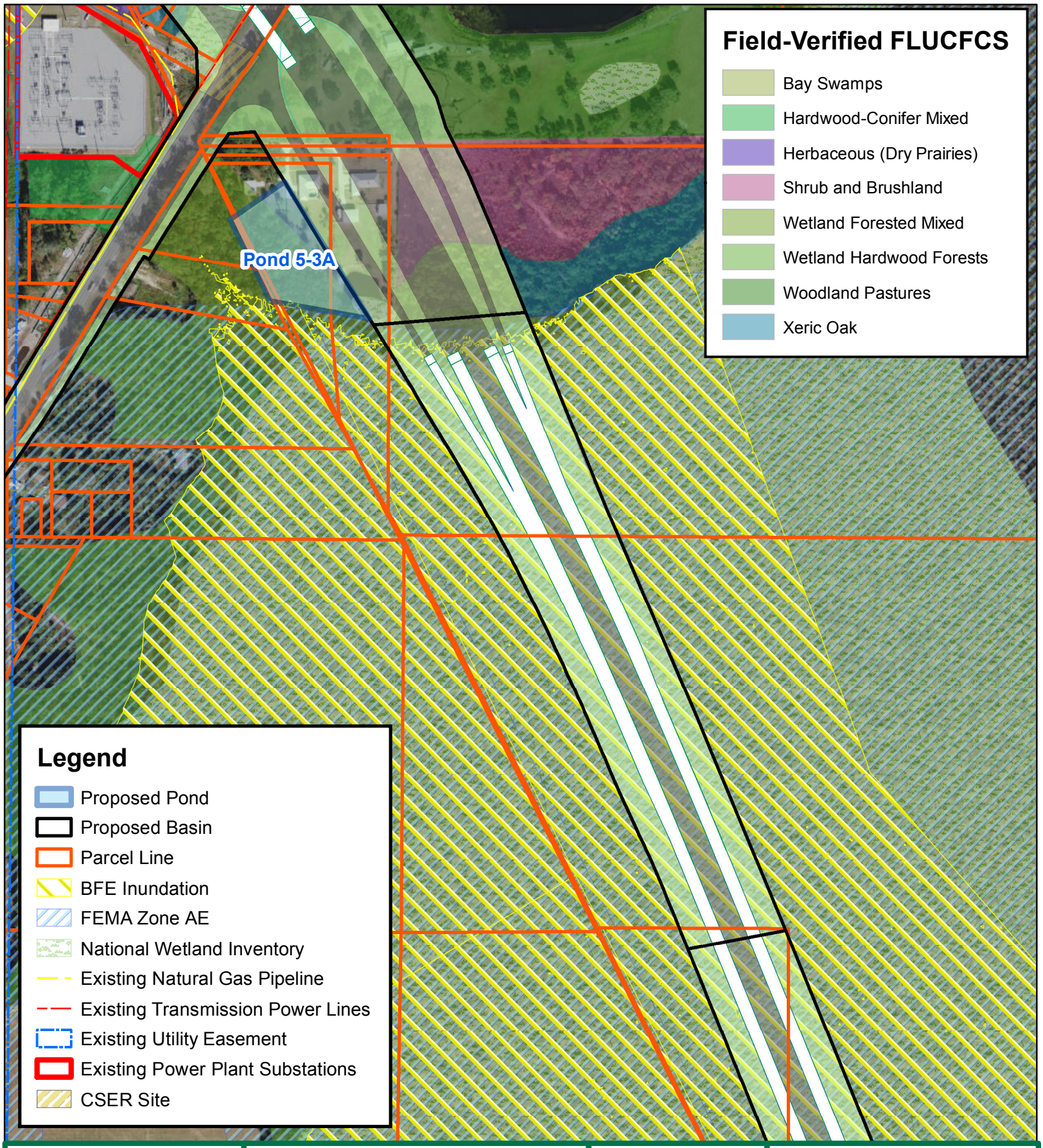
FIGURE A.24 - Alternative 5A
Pond 5-2B

N
W E
S

0 250 500 1,000
Feet

POINCIANA PARKWAY EXTENSION (SR 538)

(POINCIANA PARKWAY TO CR 532)
OSCEOLA & POLK COUNTY, FLORIDA



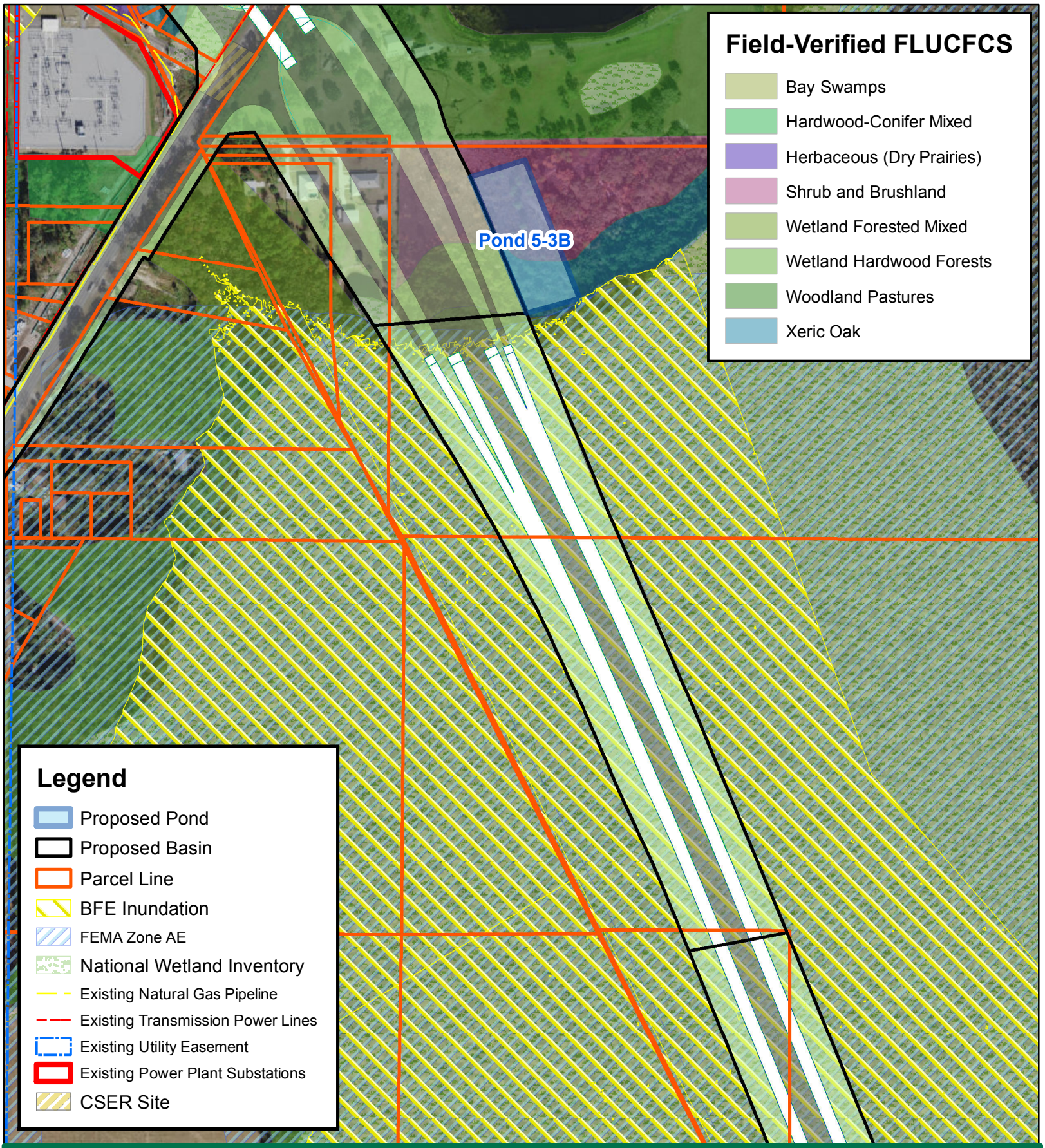
The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

FIGURE A.25 - Alternative 5A
Pond 5-3A

N
W E
S

POINCIANA PARKWAY EXTENSION (SR 538)
(POINCIANA PARKWAY TO CR 532)
OSCEOLA & POLK COUNTY, FLORIDA

0 250 500 1,000
Feet



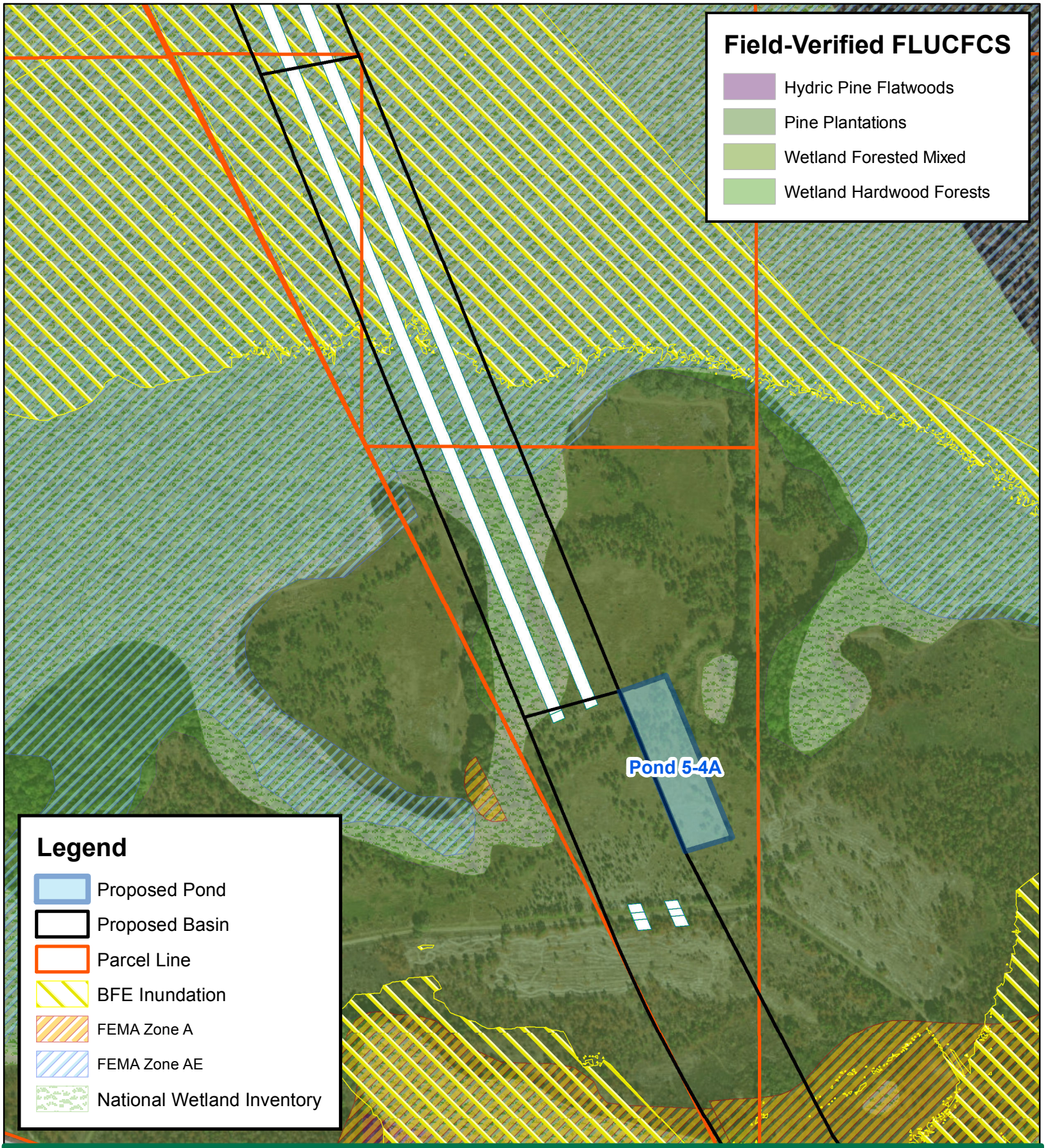
The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

FIGURE A.26 - Alternative 5A
Pond 5-3B

N
W E
S

POINCIANA PARKWAY EXTENSION (SR 538)
(POINCIANA PARKWAY TO CR 532)
OSCEOLA & POLK COUNTY, FLORIDA

0 250 500 1,000
Feet



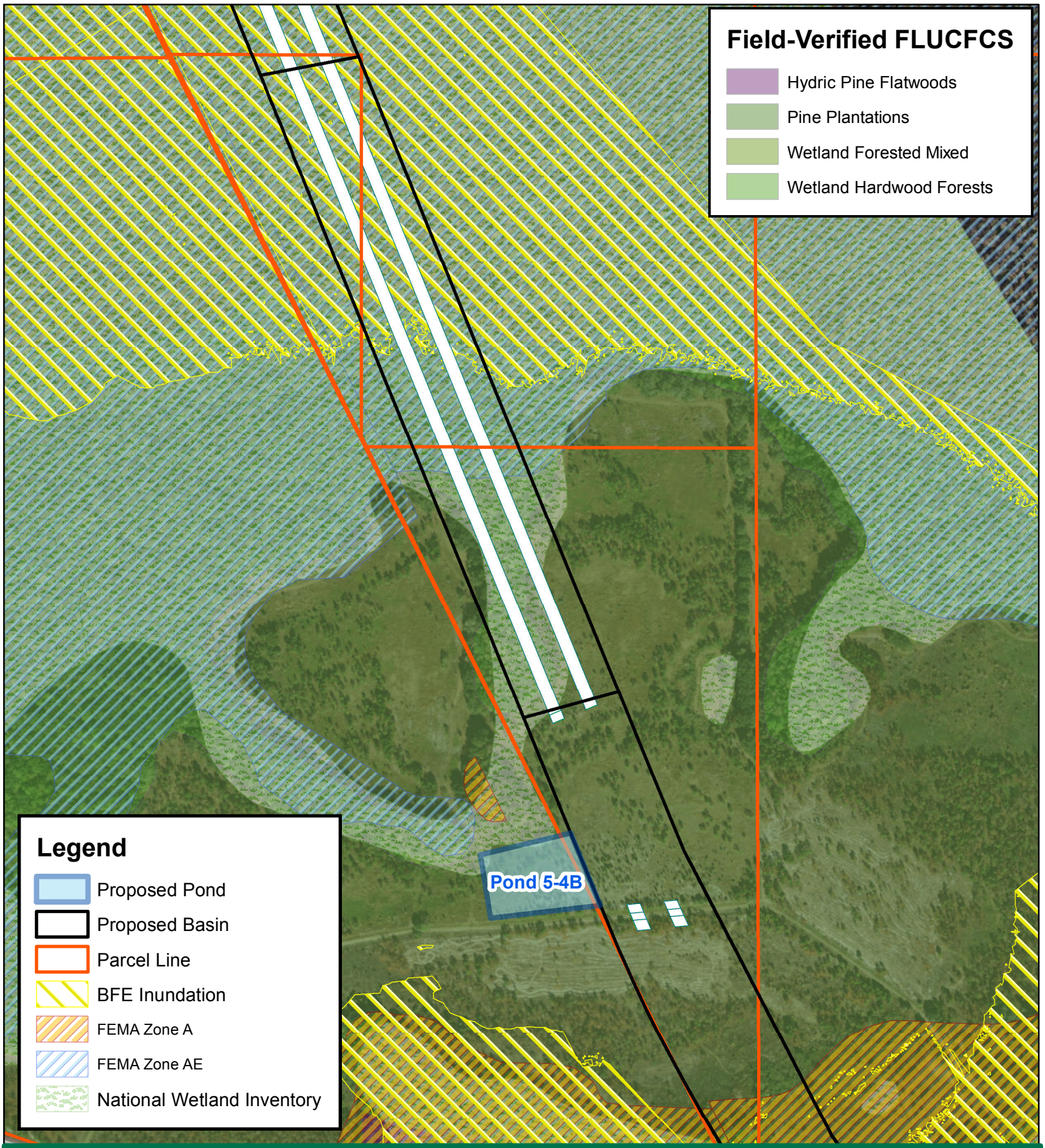
The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

FIGURE A.27 - Alternative 5A
Pond 5-4A

N
W E
S

POINCIANA PARKWAY EXTENSION (SR 538)
(POINCIANA PARKWAY TO CR 532)
OSCEOLA & POLK COUNTY, FLORIDA

0 250 500 1,000
Feet



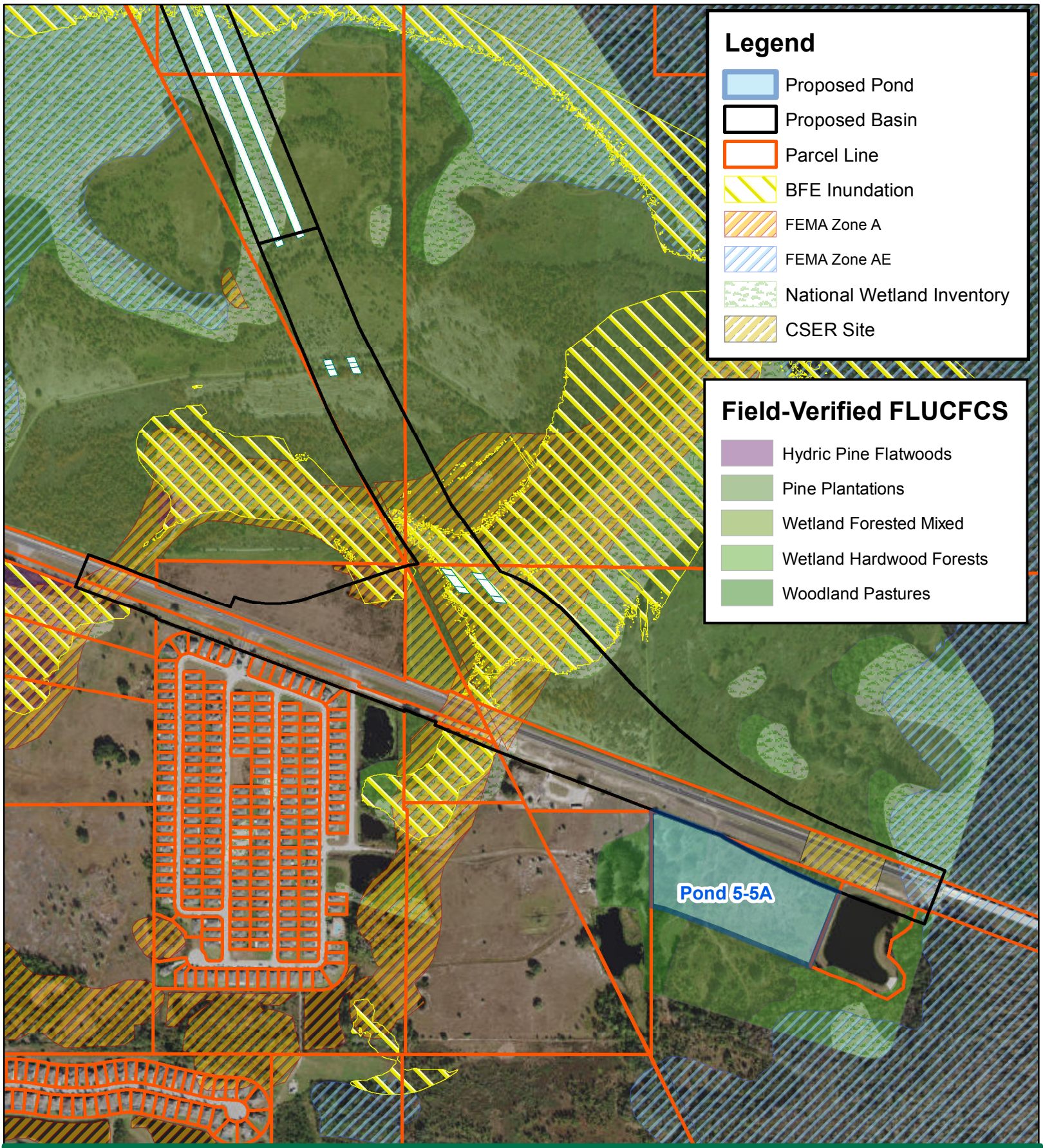
The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

FIGURE A.28 - Alternative 5A
Pond 5-4B

N
W E
S

POINCIANA PARKWAY EXTENSION (SR 538)
(POINCIANA PARKWAY TO CR 532)
OSCEOLA & POLK COUNTY, FLORIDA

0 250 500 1,000
Feet



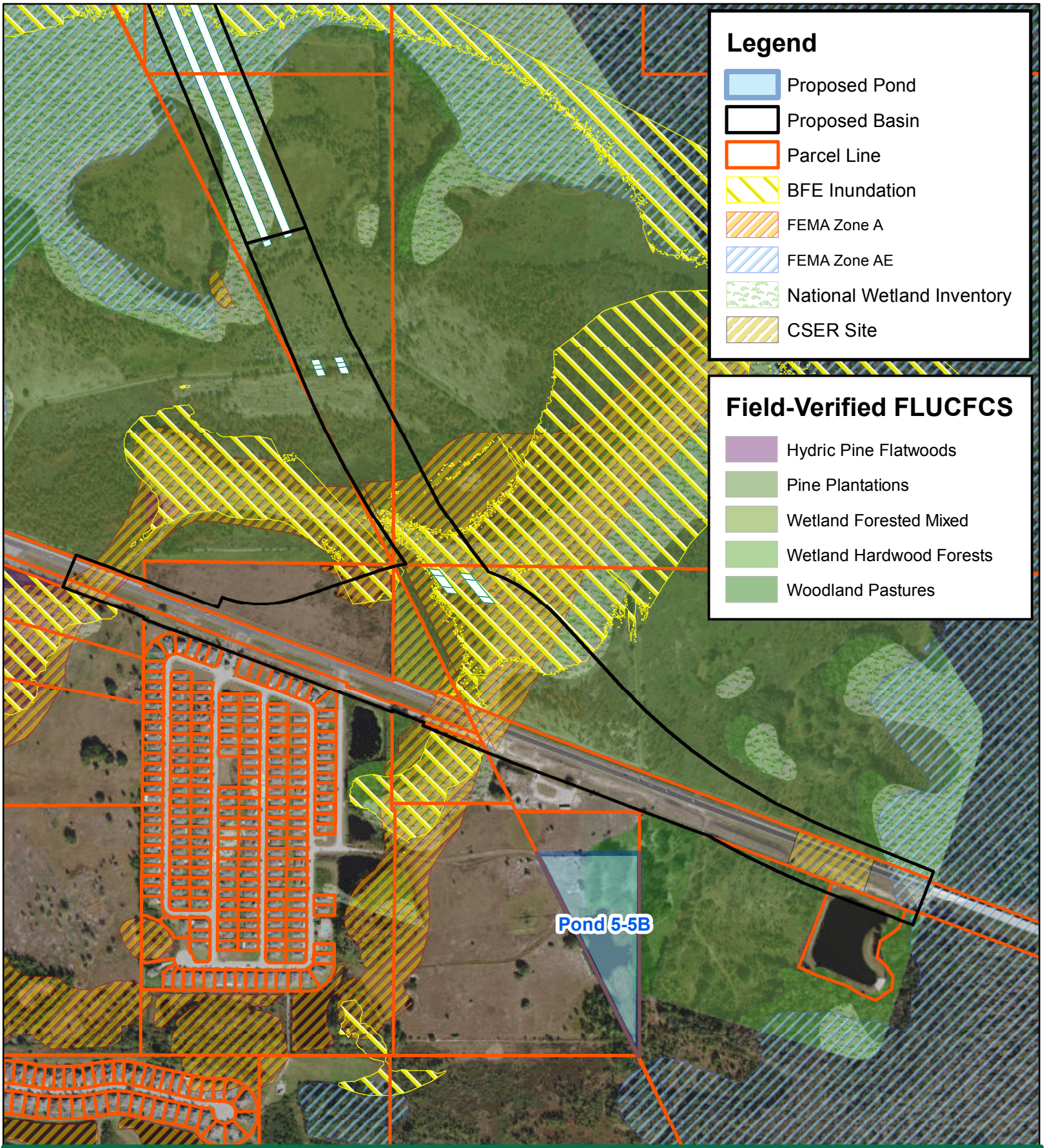
The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

FIGURE A.29 - Alternative 5A
Pond 5-5A

N
W E
S

POINCIANA PARKWAY EXTENSION (SR 538)
(POINCIANA PARKWAY TO CR 532)
OSCEOLA & POLK COUNTY, FLORIDA

0 400 800 1,600
Feet



The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

FIGURE A.30 - Alternative 5A
Pond 5-5B

N
W E
S

POINCIANA PARKWAY EXTENSION (SR 538)
(POINCIANA PARKWAY TO CR 532)
OSCEOLA & POLK COUNTY, FLORIDA

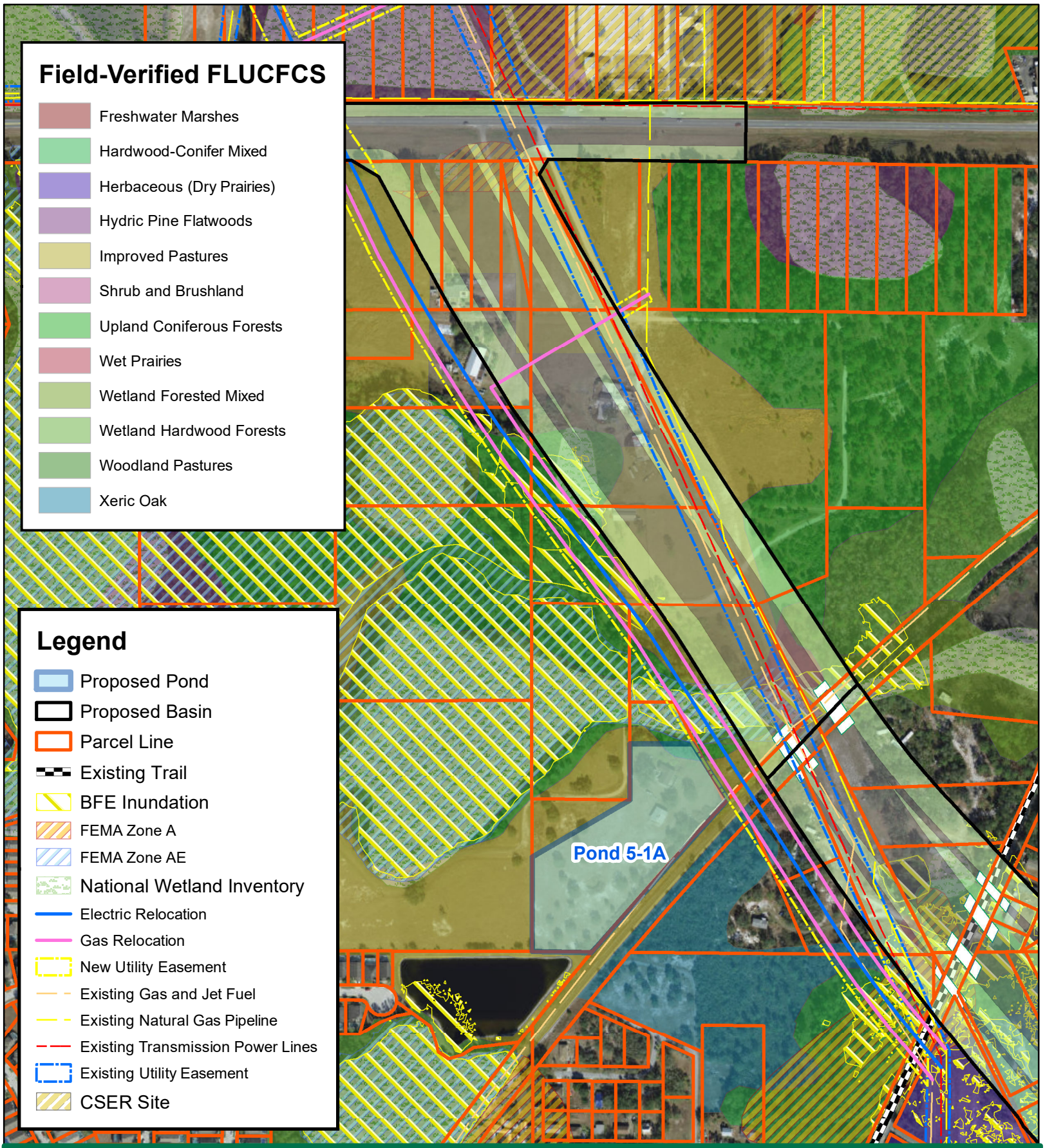
0 400 800 1,600
Feet

Project: Poinciana Parkway Extension PD&E
County: Polk and Osceola

Pond Parcel Summary

Table 4 - Alternative 5A without Ronald Reagan Parkway Slip Ramps

Basin	Pond Name	Required Area (ac)	Pond Area (ac)	Parcel#/Property Owner	Property Owner	Total Parcel Area (ac)
B_5_01	5-1A	5.4	5.5	28-26-06-0000-0003-4040	WORRELL WILLIAM	6.77
				28-26-06-0000-0003-4020	WORRELL WILLIAM	5.77
	5-1B	5.4	5.4	06-26-28-0000-0070-0000	JOSTAM PROPERTY INC	5.05
				06-26-28-0000-0092-0000	FORTIS-OLIVERAS MONSERRATE	6.14
				06-26-28-4785-0001-0150	BROWN RANCH SIX PROPERTIES LLC	13.17
B_5_02	5-2A1	6.7	5.5	06-26-28-5400-0003-0010	NINJA INVESTMENTS LTD	1.08
				06-26-28-5400-0004-0010	ZUCO ROSARIO A	0.46
				06-26-28-5400-0005-0010	ZUCO ROSARIO A	0.67
				VACANT R/W - NO PARCEL #	--	--
				06-26-28-5400-0008-0010	MONN RONALD D	5.92
				06-26-28-0000-0135-0000	T G I INC THE GOADS INTERNATIONAL	41.43
	5-2A2		2.5	28-26-06-0000-0004-2100	THOMPSON AUBREY E	1.77
				28-26-06-0000-0004-2130	DAVIS WILLIE ESTATE OF	2.16
	5-2B1	6.7	5.8	06-26-28-0000-0135-0000	T G I INC THE GOADS INTERNATIONAL	41.43
				06-26-28-0000-0136-0000	T G I INC THE GOADS INTERNATIONAL	5.79
	5-2B2		1.1	06-26-28-0000-0135-0000	T G I INC THE GOADS INTERNATIONAL	41.43
				06-26-28-3180-000C-0035	T G I INC THE GOADS INTERNATIONAL	0.52
				06-26-28-0000-0030-0000	SOUTH FLA WATER MGMT DIST	203.02
				06-26-28-3180-000C-0010	VAN COUR BRIAN M	5.05
				06-26-28-3180-000C-0020	DELANNOY ELADIO	4.49
B_5_03	5-3A	2.0	2.4	06-26-28-3180-000C-0020	DELANNOY ELADIO	4.49
				06-26-28-3180-000C-0010	VAN COUR BRIAN M	5.05
	5-3B	2.0	2.1	06-26-28-0000-0030-0000	SOUTH FL WATER MGMT DIST	203.02
B_5_04	5-4A	1.8	2.2	07-26-28-3180-000D-0010	TCP II REEDY CREEK LLC	51.60
	5-4B	1.8	1.9	07-26-28-3180-000D-0010	TCP II REEDY CREEK LLC	51.60
				28-26-07-000000-014010	TCP II REEDY CREEK LLC	207.67
B_5_05	5-5A	10.1	10.6	17-26-28-0000-0010-0000	TCP II REEDY CREEK LLC	461.23
	5-5B	10.1	6.9	17-26-28-0000-0020-0000	KINNEY ROAD LAND INVESTMENTS LLC	9.89



The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

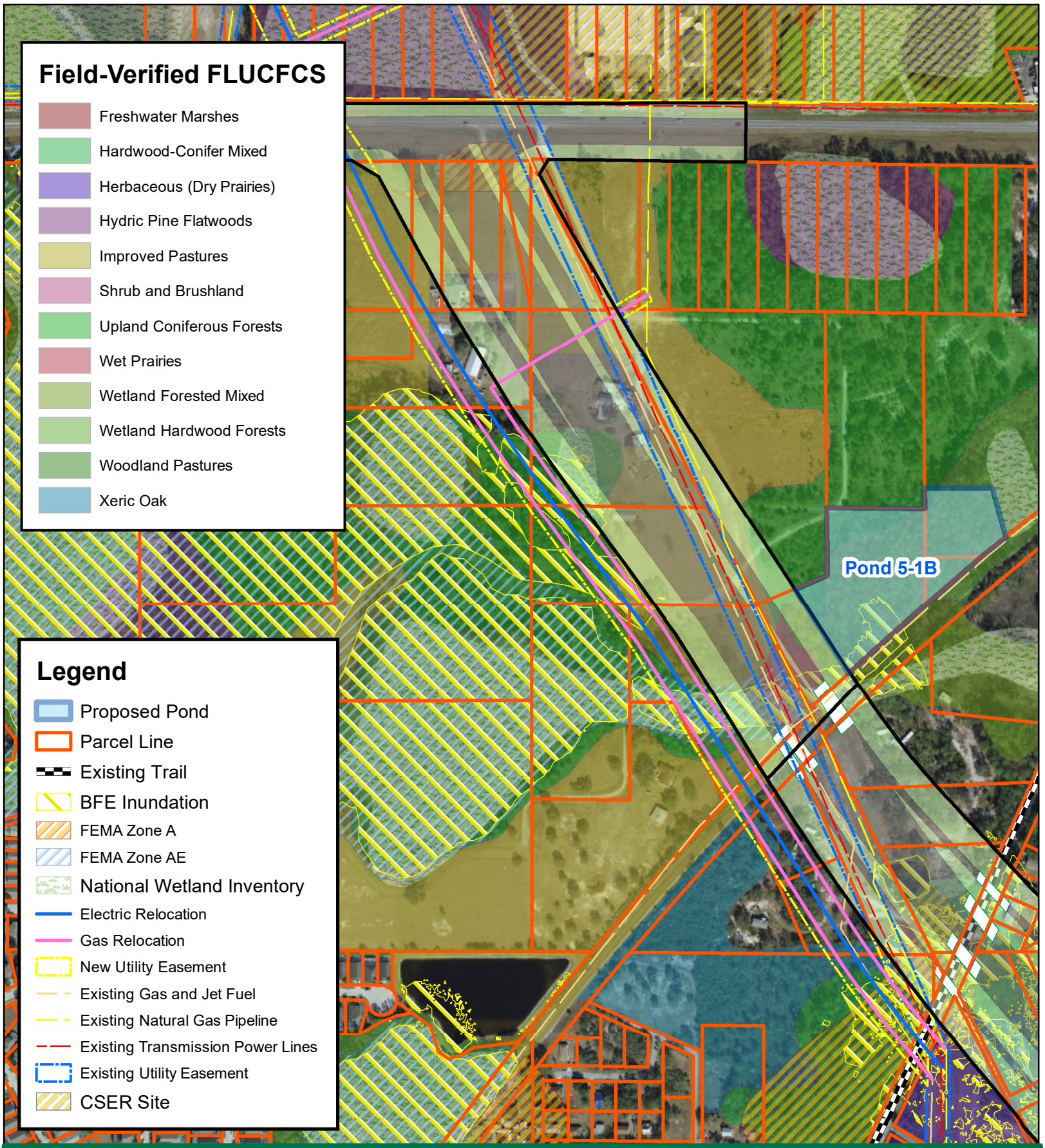
FIGURE A.31 - Alternative 5A Without RRP Slip Ramps Pond 5-1A

N
W E
S

POINCIANA PARKWAY EXTENSION (SR 538)

(POINCIANA PARKWAY TO CR 532)
OSCEOLA & POLK COUNTY, FLORIDA

0 250 500 1,000
Feet



The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

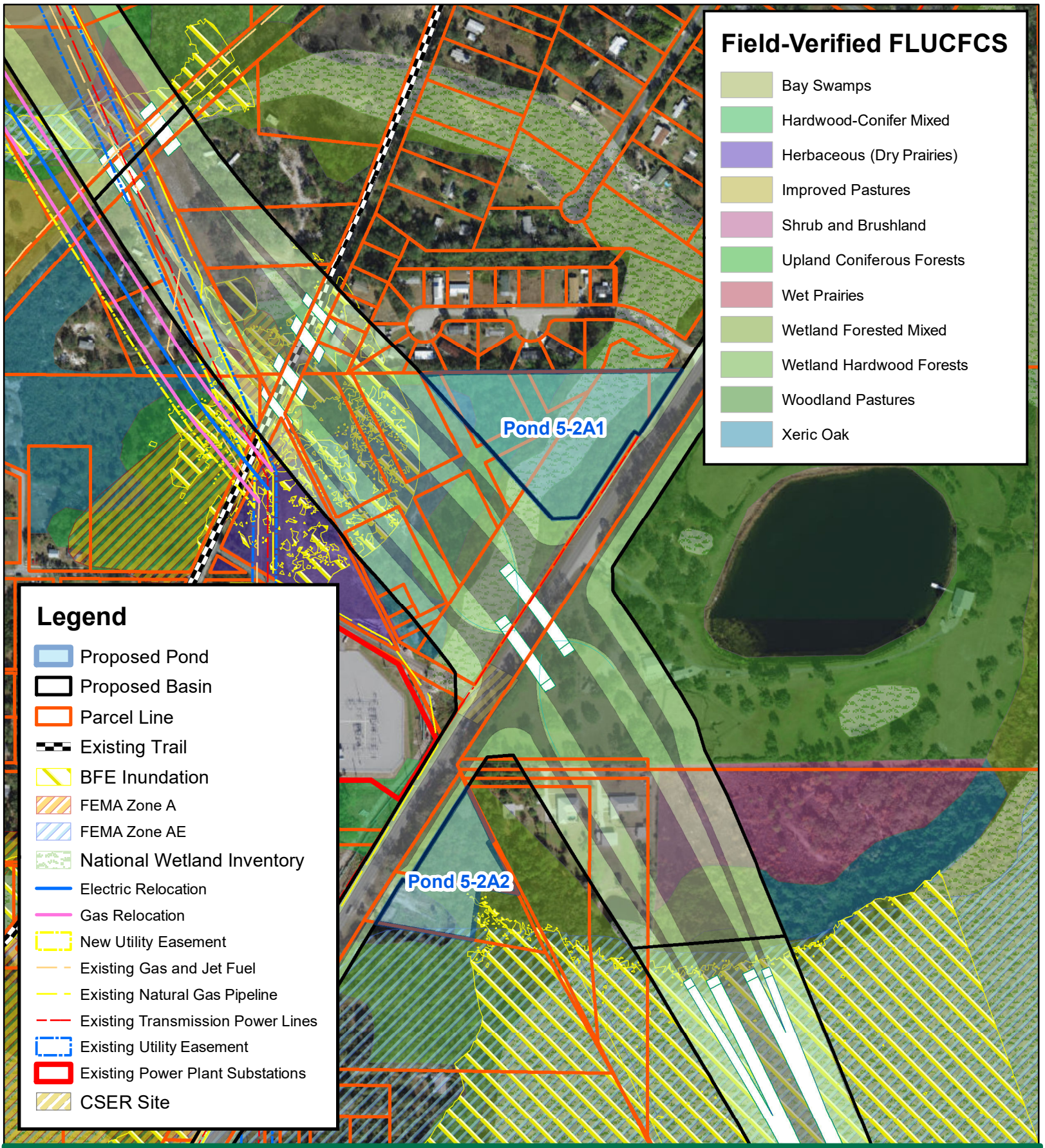
FIGURE A.32 - Alternative 5A Without RRP Slip Ramps Pond 5-1B

N
W E
S

POINCIANA PARKWAY EXTENSION (SR 538)

(POINCIANA PARKWAY TO CR 532)
OSCEOLA & POLK COUNTY, FLORIDA

0 250 500 1,000
Feet



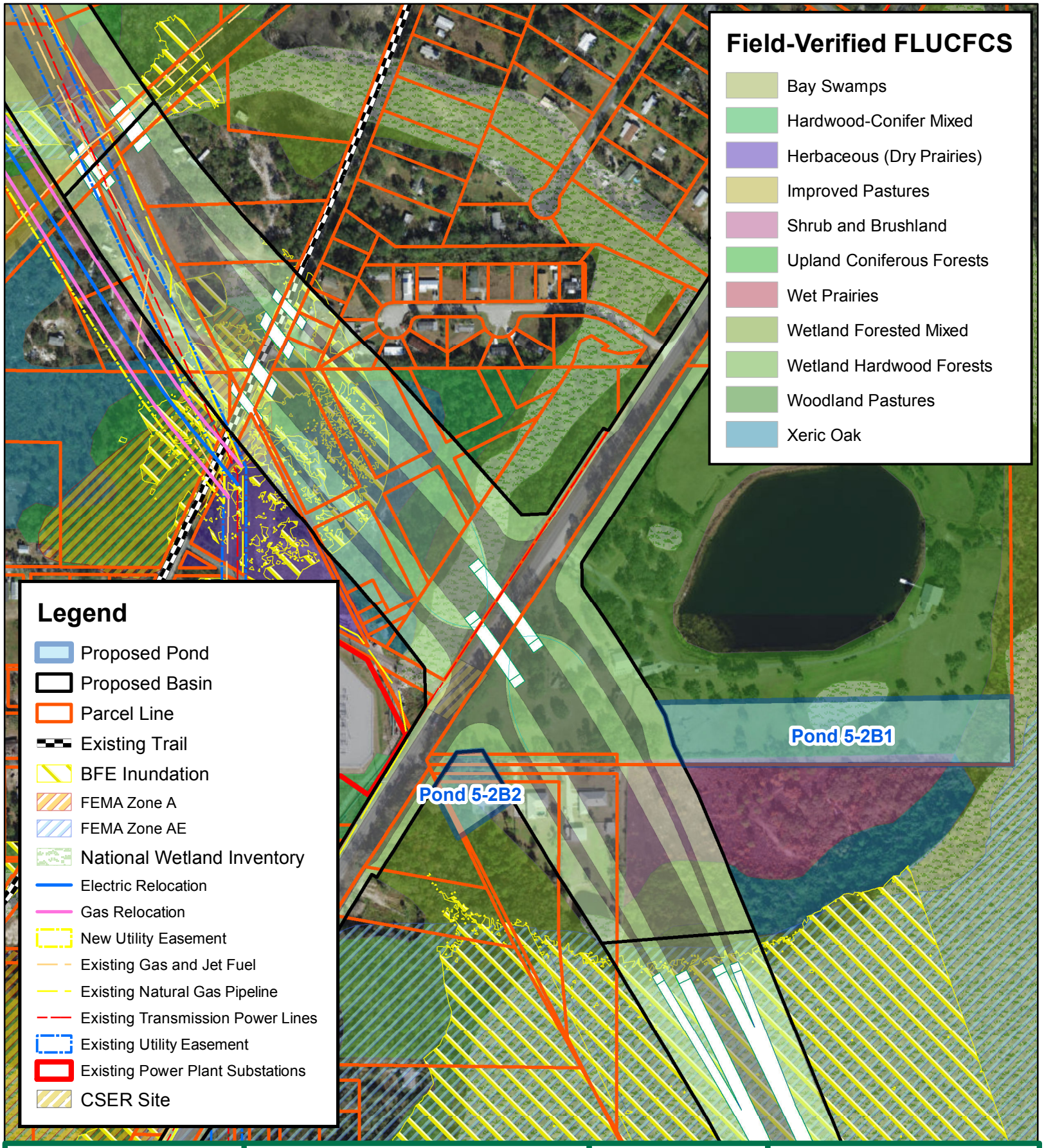
The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

FIGURE A.33 - Alternative 5A Without RRP Slip Ramps Pond 5-2A

N
W E
S

POINCIANA PARKWAY EXTENSION (SR 538)
(POINCIANA PARKWAY TO CR 532)
OSCEOLA & POLK COUNTY, FLORIDA

0 250 500 1,000
Feet



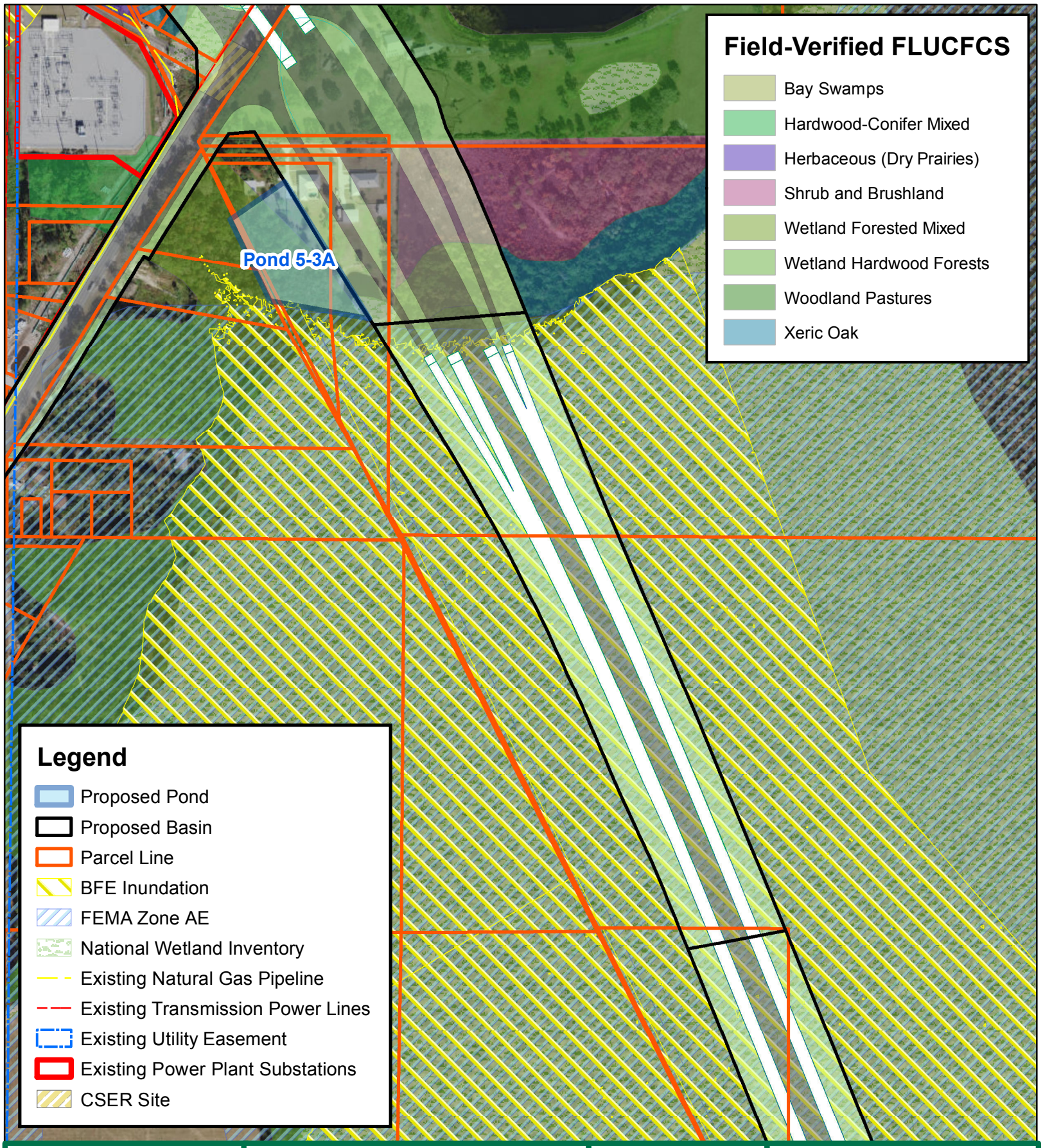
The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

FIGURE A.34 - Alternative 5A Without RRP Slip Ramps Pond 5-2B

N
W E
S

POINCIANA PARKWAY EXTENSION (SR 538)
(POINCIANA PARKWAY TO CR 532)
OSCEOLA & POLK COUNTY, FLORIDA

0 250 500 1,000
Feet



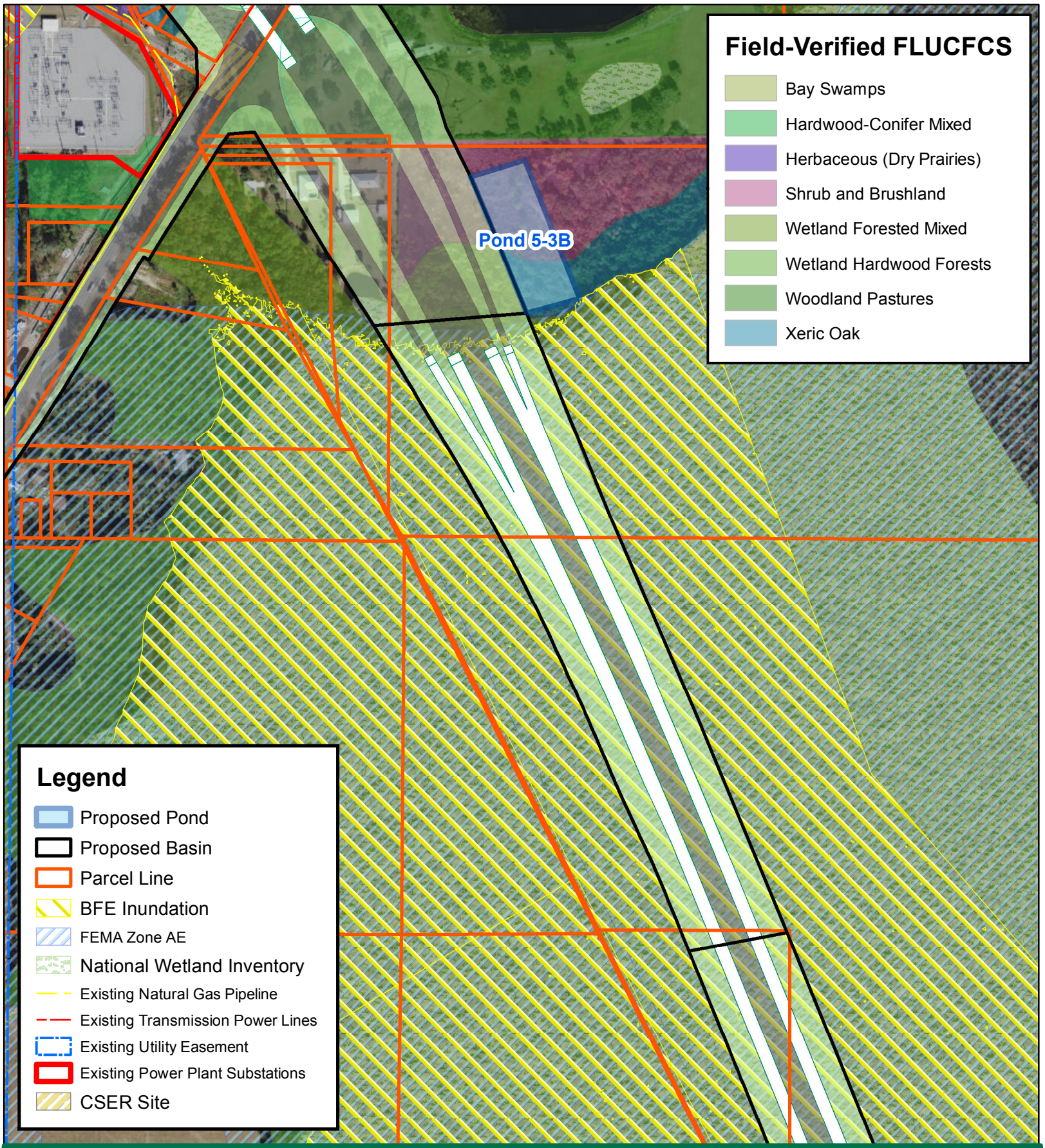
The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

FIGURE A.35 - Alternative 5A Without RRP Slip Ramps Pond 5-3A

N
W E
S

POINCIANA PARKWAY EXTENSION (SR 538)
(POINCIANA PARKWAY TO CR 532)
OSCEOLA & POLK COUNTY, FLORIDA

0 250 500 1,000
Feet



The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

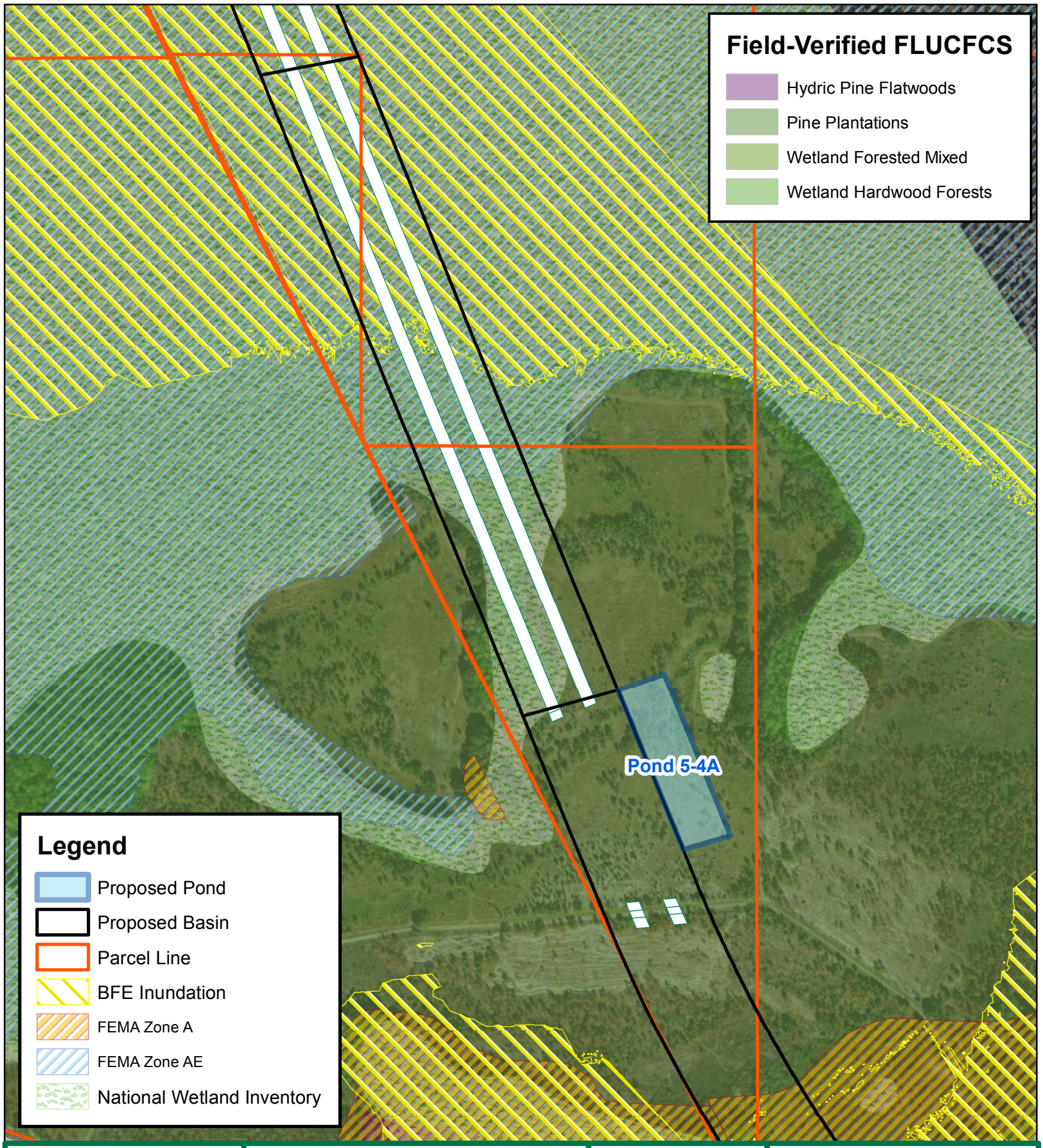
FIGURE A.36 - Alternative 5A Without RRP Slip Ramps Pond 5-3B

N
W E
S

POINCIANA PARKWAY EXTENSION (SR 538)

(POINCIANA PARKWAY TO CR 532)
OSCEOLA & POLK COUNTY, FLORIDA

0 250 500 1,000
Feet



The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

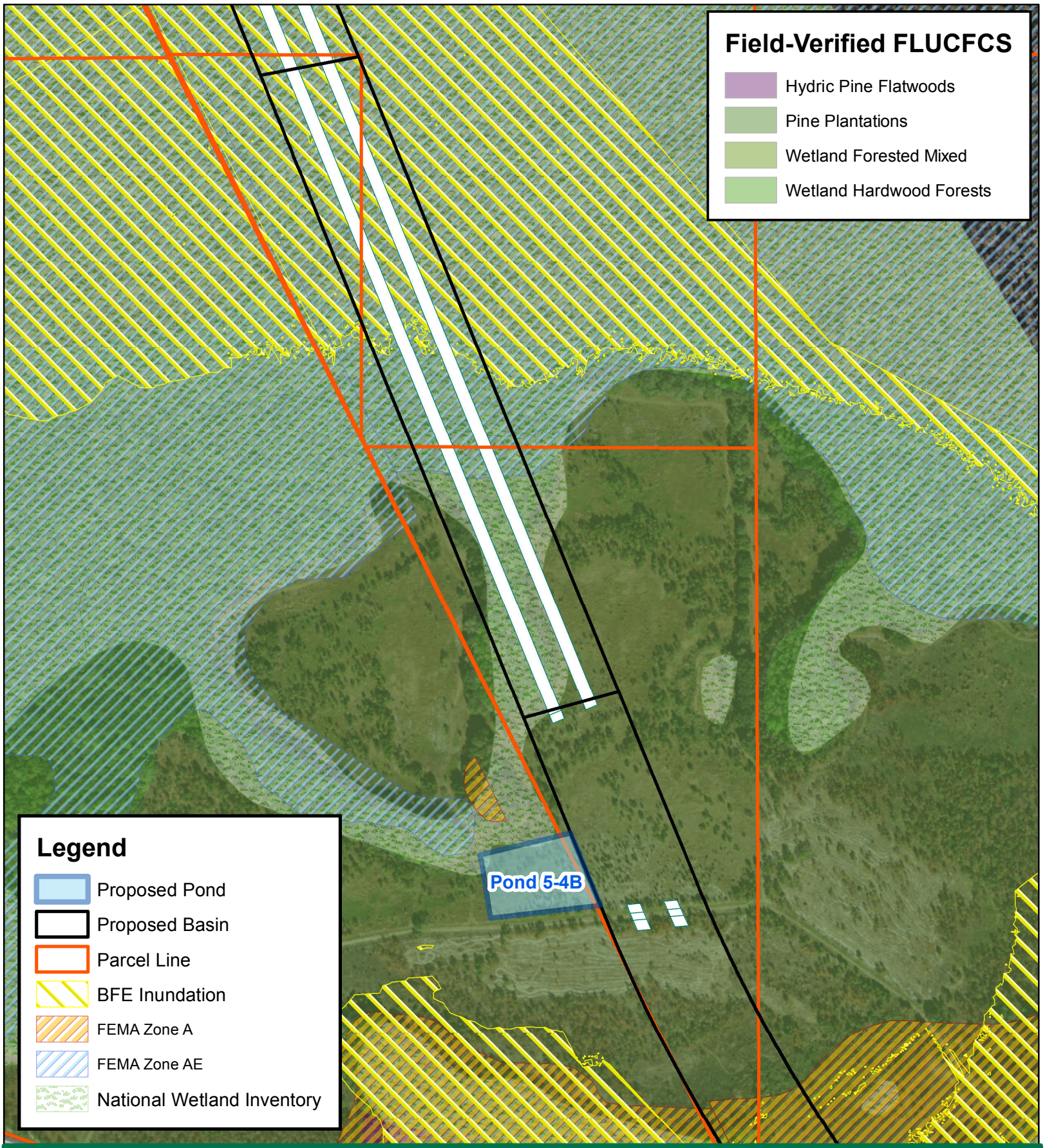
FIGURE A.37 - Alternative 5A Without RRP Slip Ramps Pond 5-4A

N
W E
S

POINCIANA PARKWAY EXTENSION (SR 538)

(POINCIANA PARKWAY TO CR 532)
OSCEOLA & POLK COUNTY, FLORIDA

0 250 500 1,000
Feet



The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

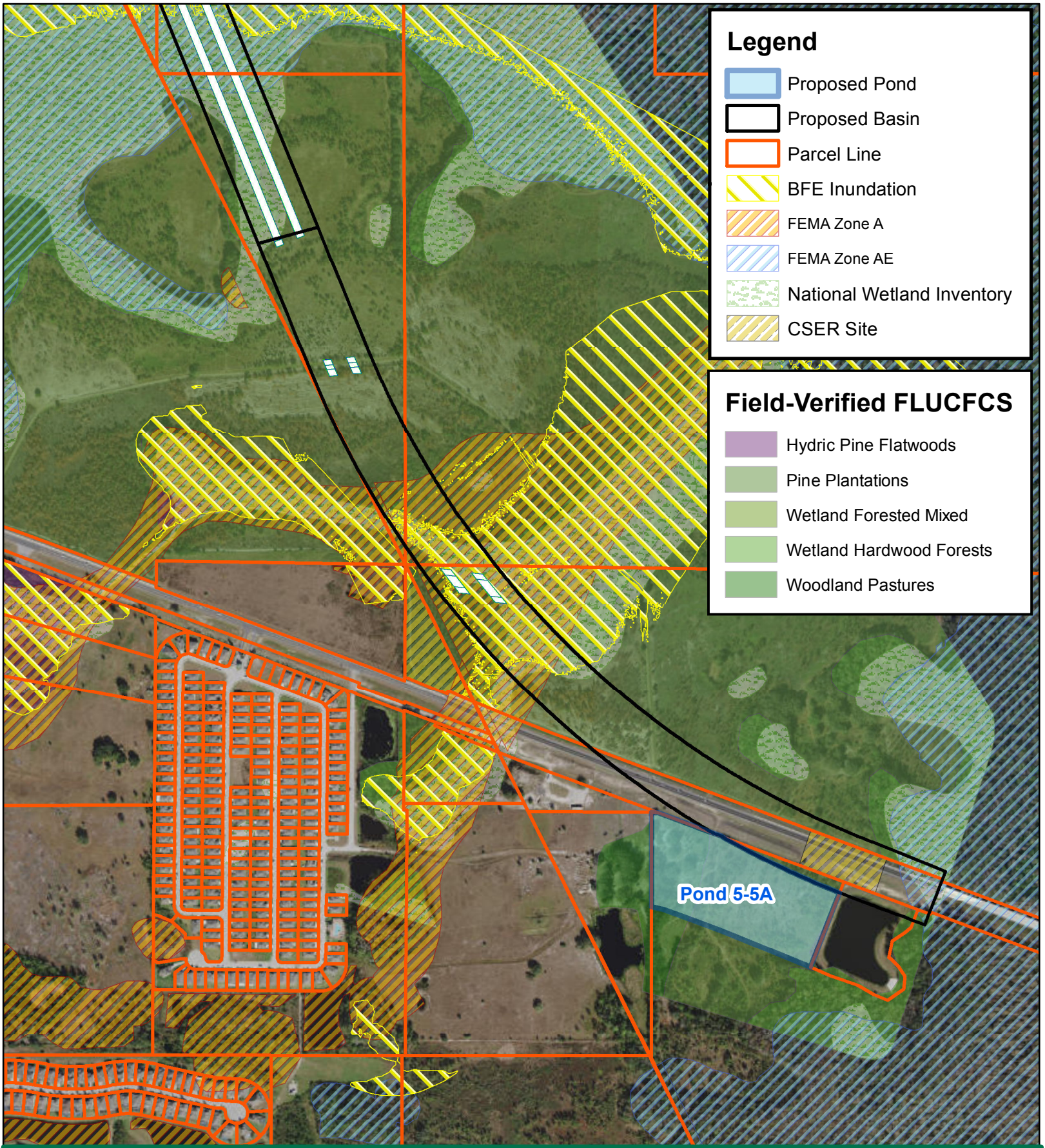
FIGURE A.38 - Alternative 5A Without RRP Slip Ramps Pond 5-4B

N
W E
S

POINCIANA PARKWAY EXTENSION (SR 538)

(POINCIANA PARKWAY TO CR 532)
OSCEOLA & POLK COUNTY, FLORIDA

0 250 500 1,000
Feet



The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

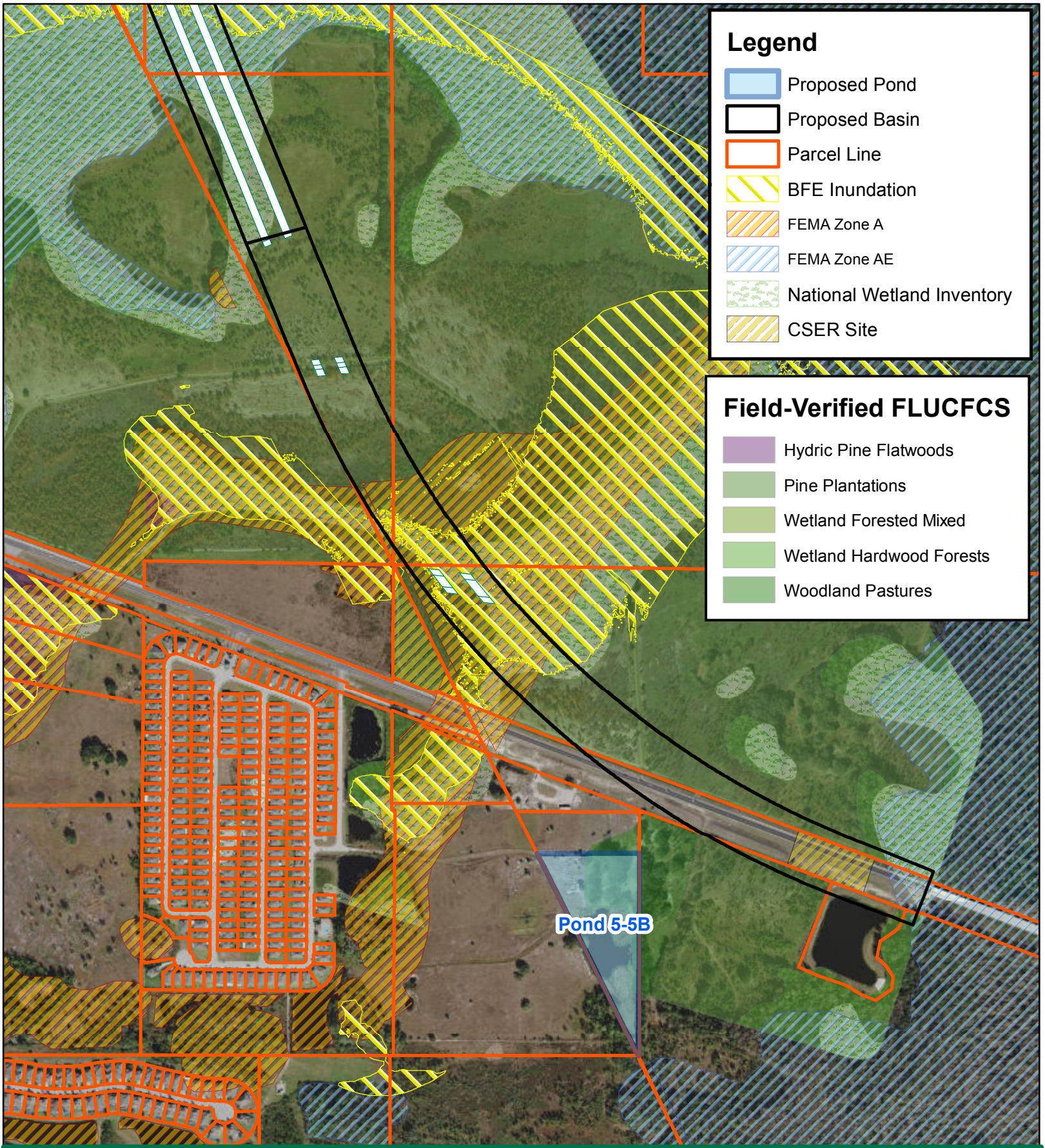
FIGURE A.39 - Alternative 5A Without RRP Slip Ramps Pond 5-5A

N
W E
S

POINCIANA PARKWAY EXTENSION (SR 538)

(POINCIANA PARKWAY TO CR 532)
OSCEOLA & POLK COUNTY, FLORIDA

0 400 800 1,600
Feet



The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

FIGURE A.40 - Alternative 5A Without RRP Slip Ramps Pond 5-5B

N
W E
S

POINCIANA PARKWAY EXTENSION (SR 538)

(POINCIANA PARKWAY TO CR 532)
OSCEOLA & POLK COUNTY, FLORIDA

0 400 800 1,600
Feet

Appendix B
Calculations

Project: CFX Feasibility Study: Poinciana Parkway Extension
County: Polk and Osceola

Notes:
(1) Attenuation volume zero if pre CN is greater than post CN (may occur due to existing water/wetland features)
(2) Interchange CN does not account for wet infield ponds. Open Space CN is used for infield areas; this will need to be further refined in design.

Rainfall (in) (100yr/24hr, FDOT Critical Duration)	**10.56**

Table A.1 - Attenuation Volume Summary

Alignment 1A

		Existing				Proposed				Results
Basin	**Area (ac)**	**Weighted CN**	**S**	**Runoff (in)**	**Runoff (ac-ft)**	**Weighted CN**	**S**	**Runoff (in)**	**Runoff (ac-ft)**	**Attenuation Volume (ac-ft)**
B_1_01	35.4	84.2	1.87	8.60	25.35	89.9	1.12	9.32	27.47	2.1
B_1_02	24.4	93.5	0.70	9.77	19.89	87.6	1.42	9.03	18.39	0.0
B_1_03	13.8	69.2	4.45	6.62	7.63	77.0	2.99	7.66	8.83	1.2
B_1_04	48.2	84.2	1.88	8.60	34.58	82.6	2.11	8.39	33.73	0.0
B_1_05	64.6	82.0	2.20	8.31	44.72	87.3	1.46	8.99	48.37	3.7

Alignment 4A

		Existing				Proposed				Results
Basin	**Area (ac)**	**Weighted CN**	**S**	**Runoff (in)**	**Runoff (ac-ft)**	**Weighted CN**	**S**	**Runoff (in)**	**Runoff (ac-ft)**	**Attenuation Volume (ac-ft)**
B_4_01	32.8	83.3	2.01	8.48	23.21	89.7	1.14	9.30	25.44	2.2
B_4_02	55.2	85.1	1.75	8.72	40.15	89.0	1.24	9.20	42.37	2.2
B_4_03	18.9	100.0	0.00	10.56	16.67	88.8	1.26	9.19	14.50	0.0
B_4_04	19.8	95.6	0.46	10.03	16.58	88.9	1.24	9.20	15.21	0.0
B_4_05	68.0	81.5	2.27	8.25	46.77	85.4	1.70	8.76	49.64	2.9

Project: CFX Feasibility Study: Poinciana Parkway Extension
County: Polk and Osceola

Notes:
(1) Attenuation volume zero if pre CN is greater than post CN (may occur due to existing water/wetland features)
(2) Interchange CN does not account for wet infield ponds. Open Space CN is used for infield areas; this will need to be further refined in design.

Rainfall (in) (100yr/24hr, FDOT Critical Duration)	**10.56**

Table A.1 - Attenuation Volume Summary

Alignment 5A with Ronald Reagan Parkway (RRP) Slip Ramps

		Existing				Proposed				Results
Basin	**Area (ac)**	**Weighted CN**	**S**	**Runoff (in)**	**Runoff (ac-ft)**	**Weighted CN**	**S**	**Runoff (in)**	**Runoff (ac-ft)**	**Attenuation Volume (ac-ft)**
B_5_01	32.8	83.3	2.01	8.48	23.22	89.7	1.15	9.30	25.44	2.2
B_5_02	55.2	85.1	1.75	8.72	40.12	89.0	1.24	9.21	42.36	2.2
B_5_03	19.5	100.0	0.00	10.56	17.17	88.9	1.25	9.19	14.94	0.0
B_5_04	17.6	96.4	0.37	10.13	14.88	88.9	1.24	9.20	13.52	0.0
B_5_05	69.2	81.1	2.33	8.20	47.27	85.1	1.75	8.72	50.26	3.0

Alignment 5A without Ronald Reagan Parkway (RRP) Slip Ramps

		Existing				Proposed				Results
Basin	**Area (ac)**	**Weighted CN**	**S**	**Runoff (in)**	**Runoff (ac-ft)**	**Weighted CN**	**S**	**Runoff (in)**	**Runoff (ac-ft)**	**Attenuation Volume (ac-ft)**
B_5_01_woRRPsr	32.8	83.3	2.01	8.48	23.22	89.7	1.15	9.30	25.44	2.2
B_5_02_woRRPsr	55.2	85.1	1.75	8.72	40.12	89.0	1.24	9.21	42.36	2.2
B_5_03_woRRPsr	19.5	100.0	0.00	10.56	17.17	88.9	1.25	9.19	14.94	0.0
B_5_04_woRRPsr	17.6	96.4	0.37	10.13	14.88	88.9	1.24	9.20	13.52	0.0
B_5_05_woRRPsr	39.0	81.2	2.32	8.21	26.69	87.8	1.39	9.06	29.45	2.8

Project: Poinciana Parkway Extension PD&E
County: Polk and Osceola

Table A.2 - Existing Pond Capacity
Source: SFWMD Permit 53-00216-P, Application 141010-12 (Issued 12/11/2014)

Pond 1

Pond 1 was permitted to treat **2.2 acres** Impervious Area in addition to that Required
Result: **2.2 acres**

Pond 2

Pond 2 was permitted to treat impervious area along Kinny Harnon and Poinciana Parkway

Limits of Each Proposed Alternative which overlap with Basin limits of Pond 2

Alternative 1A

	Begin		End	Length (ft)	R/W Width (ft)	Basin Area (ac)
Alternative 1 A	155+00.00	to	201+05.00	4605.00	330.00	**34.89**

Pond 2 Provided Impervious Area Treatment

Condition	Begin		End	Length (ft)	Avg. Impervious Area Width (ft)	Impervious Area (ac)
Ultimate 4-lane	155+00.00	to	172+37.00	1737.00	73	2.91
Ultimate 6-lane	172+37.00	to	190+00.00	1763.00	118	4.78
Ultimate 6-lane	190+00.00	to	201+05.00	1105.00	127	3.22
Total				4605.00		**10.91**

Alternative 4A

	Begin		End	Length (ft)	R/W Width (ft)	Basin Area (ac)
Alternative 4A	145+00.00	to	201+05.00	5605.00	330.00	**42.46**

Pond 2 Provided Impervious Area Treatment

Condition	Begin		End	Length (ft)	Avg. Impervious Area Width (ft)	Impervious Area (ac)
Ultimate 4-lane	145+00.00	to	172+37.00	2737.00	73	4.59
Ultimate 6-lane	172+37.00	to	190+00.00	1763.00	118	4.78
Ultimate 6-lane	190+00.00	to	201+05.00	1105.00	127	3.22
Total				5605.00		**12.58**

Alternative 5A
(with & without RRP Slip Ramps)

	Begin		End	Length (ft)	R/W Width (ft)	Basin Area (ac)
Alternative 5A	150+00.00	to	201+05.00	5105.00	330.00	**38.67**

Pond 2 Provided Impervious Area Treatment

Condition	Begin		End	Length (ft)	Avg. Impervious Area Width (ft)	Impervious Area (ac)
Ultimate 4-lane	150+00.00	to	172+37.00	2237.00	73	3.75
Ultimate 6-lane	172+37.00	to	190+00.00	1763.00	118	4.78
Ultimate 6-lane	190+00.00	to	201+05.00	1105.00	127	3.22
Total				5105.00		**11.75**

Project: CFX Feasibility Study: Poinciana Parkway Extension
County: Polk and Osceola

Table A.3 - Treatment Volume Summary - Assumes Wet Detention Ponds

Alignment 1A

Basin	Area (ac)	Existing Impervious Area (ac)	Proposed Impervious Area (ac)	Existing Impervious Area Receiving Treatment Additional to that Required (ac)	Basin Area to Existing Pond (ac)	Treated Impervious Area available in Existing Pond (ac)	Remaining Treatment Volume - Basin (ac-ft)	Remaining Treatment Volume - Impervious Area (ac-ft)	Remaining Treatment Volume Required (ac-ft)	Remaining Treatment Volume with Additional 50% RCMB (ac-ft)
B_1_01	35.4	1.4	19.5				2.9	3.8	3.8	5.6
B_1_02	24.4	0.0	12.2				2.0	2.5	2.5	3.8
B_1_03	13.8	0.0	6.8				1.2	1.4	1.4	2.1
B_1_04	48.2	3.4	22.1				4.0	3.9	4.0	6.0
B_1_05	64.6	3.5	30.3	2.2	34.9	10.9	2.5	2.9	2.9	4.3
Total	**186.4**	**8.3**	**90.9**				**12.6**	**14.5**	**14.6**	**21.9**

Alignment 4A

Basin	Area (ac)	Existing Impervious Area (ac)	Proposed Impervious Area (ac)	Existing Impervious Area Receiving Treatment Additional to that Required (ac)	Basin Area to Existing Pond (ac)	Treated Impervious Area available in Existing Pond (ac)	Remaining Treatment Volume - Basin (ac-ft)	Remaining Treatment Volume - Impervious Area (ac-ft)	Remaining Treatment Volume Required (ac-ft)	Remaining Treatment Volume with Additional 50% RCMB (ac-ft)
B_4_01	32.8	1.4	17.7				2.7	3.4	3.4	5.1
B_4_02	55.2	3.4	27.5				4.6	5.0	5.0	7.5
B_4_03	18.9	0.0	9.3				1.6	1.9	1.9	2.9
B_4_04	19.8	0.0	9.9				1.7	2.1	2.1	3.1
B_4_05	68.0	4.1	23.6	2.2	42.5	12.6	2.1	1.0	2.1	3.2
Total	**194.8**	**8.9**	**88.0**				**12.7**	**13.4**	**14.5**	**21.8**

Project: CFX Feasibility Study: Poinciana Parkway Extension
County: Polk and Osceola

Table A.3 - Treatment Volume Summary - Assumes Wet Detention Ponds

Alignment 5A with Ronald Reagan Parkway (RRP) Slip Ramps

Basin	Area (ac)	Existing Impervious Area (ac)	Proposed Impervious Area (ac)	Existing Impervious Area Receiving Treatment Additional to that Required (ac)	Basin Area to Existing Pond (ac)	Treated Impervious Area available in Existing Pond (ac)	Remaining Treatment Volume - Basin (ac-ft)	Remaining Treatment Volume - Impervious Area (ac-ft)	Remaining Treatment Volume Required (ac-ft)	Remaining Treatment Volume with Additional 50% RCMB (ac-ft)
B_5_01	32.8	1.4	17.6				2.7	3.4	3.4	5.1
B_5_02	55.2	3.4	27.5				4.6	5.0	5.0	7.5
B_5_03	19.5	0.0	9.6				1.6	2.0	2.0	3.0
B_5_04	17.6	0.0	8.8				1.5	1.8	1.8	2.7
B_5_05	69.2	3.7	22.5	2.2	38.7	11.7	2.5	1.0	2.5	3.8
Total	**194.4**	**8.5**	**85.9**				**13.0**	**13.2**	**14.8**	**22.1**

Alignment 5A without Ronald Reagan Parkway (RRP) Slip Ramps

Basin	Area (ac)	Existing Impervious Area (ac)	Proposed Impervious Area (ac)	Existing Impervious Area Receiving Treatment Additional to that Required (ac)	Basin Area to Existing Pond (ac)	Treated Impervious Area available in Existing Pond (ac)	Remaining Treatment Volume - Basin (ac-ft)	Remaining Treatment Volume - Impervious Area (ac-ft)	Remaining Treatment Volume Required (ac-ft)	Remaining Treatment Volume with Additional 50% RCMB (ac-ft)
B_5_01_woRRPsr	32.8	1.4	17.6				2.7	3.4	3.4	5.1
B_5_02_woRRPsr	55.2	3.4	27.5				4.6	5.0	5.0	7.5
B_5_03_woRRPsr	19.5	0.0	9.6				1.6	2.0	2.0	3.0
B_5_04_woRRPsr	17.6	0.0	8.8				1.5	1.8	1.8	2.7
B_5_05_woRRPsr	39.0	1.8	18.8	2.2	38.7	11.7	0.0	0.6	0.6	0.9
Total	**131.4**	**5.2**	**64.6**				**7.7**	**9.5**	**9.5**	**14.2**

Project: CFX Feasibility Study: Poinciana Parkway Extension
County: Polk and Osceola

Table A.4 - Floodplain Impacts

Alignment 1A

Basin	Floodplain Impact IDs	Floodplain Impacts Total (ac-ft)	Min. SHWT Elev. (ft NAVD)	Min. BFE (ft NAVD)	Floodplain Depth (ft)	Floodplain area (ac)
B_1_01	17, 18	8.8	79	82	3	8.0
B_1_02	20[(1)]	14.1	81	82	1	14.1
B_1_03	21, 23	9.0	94	96	2	9.0
B_1_04	25, 27, 29[(2)]	12.0	88	89.8	1.8	16.7
B_1_05	29, 30, 32, 33	12.8	74	75	1	13.5

[(1)] Does not include 0.5 ac-ft that is assoicated with the existing pond storage within the Sandy Ridge Subdivision.

[(2)] Floodplain ID 24 - bridge over unnamed lake to avoid floodplain impacts.

Total Volume Impact	**57 ac-ft**
Total 100-yr Area Impact	**61 ac**

Alignment 4A

Basin	Floodplain Impact IDs	Floodplain Impacts Total (ac-ft)	Min. SHWT Elev. (ft NAVD)	Min. BFE (ft NAVD)	Floodplain Depth (ft)	Floodplain area (ac)
B_4_01	17, 19	2.7	77	80.5	3.5	1.8
B_4_02	19, 22, 26, 37	3.1	66	67	1	5.7
B_4_03	26, 28, 34	0.0*	65	66	1	0.0*
B_4_04	28, 34	0.0*	65	66	1	0.0*
B_4_05	31, 32, 33	22.5	74	75	1	11.7

* No floodplain impacts assumed at the bridge

Total Volume Impact	**28 ac-ft**
Total 100-yr Area Impact	**19 ac**

Alignment 5A with Ronald Reagan Parkway (RRP) Slip Ramps

Basin	Floodplain Impact IDs	Floodplain Impacts Total (ac-ft)	Min. SHWT Elev. (ft NAVD)	Min. BFE (ft NAVD)	Floodplain Depth (ft)	Floodplain area (ac)
B_5_01	17, 19	2.7	77	80.5	3.5	1.8
B_5_02	19, 22, 26, 37	3.1	66	67	1	5.7
B_5_03	34	0.0*	65	66	1	0.0*
B_5_04	34	0.0*	65	66	1	0.0*
B_5_05	31, 33	5.7	74	75	1	9.9

* No floodplain impacts assumed at the bridge

Total Volume Impact	**12 ac-ft**
Total 100-yr Area Impact	**17 ac**

Alignment 5A without Ronald Reagan Parkway (RRP) Slip Ramps

Basin	Floodplain Impact IDs	Floodplain Impacts Total (ac-ft)	Min. SHWT Elev. (ft NAVD)	Min. BFE (ft NAVD)	Floodplain Depth (ft)	Floodplain area (ac)
B_5_01_woRRPsr	17, 19	2.7	77	80.5	3.5	1.8
B_5_02_woRRPsr	19, 22, 26, 37	3.1	66	67	1	5.7
B_5_03_woRRPsr	34	0.0*	65	66	1	0.0*
B_5_04_woRRPsr	34	0.0*	65	66	1	0.0*
B_5_05_woRRPsr	33	3.4	74	75	1	6.6

* No floodplain impacts assumed at the bridge

Total Volume Impact	**9 ac-ft**
Total 100-yr Area Impact	**14 ac**

Project: Poinciana Parkway Extension PD&E
County: Polk and Osceola

Table A.5 - Pond Sizing Calculations

Alignment 1A

Basin	Required Volume	Additional Percent for Landscaping / Tie-In Area	DHW Design Depth	L & W at Outside Top of Berm	Required Pond Area*
	ac-ft	pct	ft	ft	ac
B_1_01	16.5	20%	3	550	8.3
B_1_02	17.9	20%	3	570	9.0
B_1_03	12.3	20%	3	483	6.4
B_1_04	18.0	20%	3	572	9.0
B_1_05	20.8	20%	3	610	10.3
Total	**85.5**				**43.0**

**Required Pond Area includes: 1 foot of freeboard above the design depth, assumes square shape, 4:1 side slopes, & a 20-ft maintenance berm*

Alignment 1A Basin 5 with FPC options

Basin	Pond	Required Volume	Additional Percent for Landscaping / Tie-In Area	DHW Design Depth	L & W at Outside Top of Berm	Required Pond Area*
		ac-ft	pct	ft	ft	ac
B_1_05	1-5B1	8.1	20%	1.8	498	6.8
B_1_05	1-5B2	3.0	20%	1.8	323	2.9
B_1_05	1-5B3	9.3	20%	2.9	434	5.2
B_1_05	1-5B4	0.4	20%	0.4	270	2.0

**Required Pond Area includes: 1 foot of freeboard above the design depth, assumes square shape, 4:1 side slopes, & a 20-ft maintenance berm*

Project: Poinciana Parkway Extension PD&E
County: Polk and Osceola

Table A.5 - Pond Sizing Calculations

Alignment 4A

Basin	Required Volume	Additional Percent for Landscaping / Tie-In Area	DHW Design Depth	L & W at Outside Top of Berm	Required Pond Area*
	ac-ft	pct	ft	ft	ac
B_4_01	10.0	20%	3	442	5.4
B_4_02	12.9	20%	3	493	6.7
B_4_03	2.9	20%	3	266	1.9
B_4_04	3.1	20%	3	273	2.1
B_4_05	28.6	20%	3	705	13.7
Total	**85.0**				**29.7**

**Required Pond Area includes: 1 foot of freeboard above the design depth, assumes square shape, 4:1 side slopes, & a 20-ft maintenance berm*

Alignment 4A Basin 5 with Expanding Existing Pond Option

Basin	Pond	Required Volume	Additional Percent for Landscaping / Tie-In Area	DHW Design Depth	L & W at Outside Top of Berm	Required Pond Area*
		ac-ft	pct	ft	ft	ac
B_4_05	Infield	5.4	20%	3	518	8.9
	4-5B2	23.2	20%	1.8	805	17.9

**Required Pond Area includes: 1 foot of freeboard above the design depth, assumes square shape, 4:1 side slopes, & a 20-ft maintenance berm*

Project: Poinciana Parkway Extension PD&E
County: Polk and Osceola

Table A.5 - Pond Sizing Calculations

Alignment 5A with Ronald Reagan Parkway (RRP) Slip Ramps

Basin	Pond	Required Volume	Additional Percent for Landscaping / Tie-In Area	DHW Design Depth	L & W at Outside Top of Berm	Required Pond Area*
		ac-ft	pct	ft	ft	ac
B_5_01	All Options	10.0	20%	3	442	5.4
B_5_02	All Options	12.9	20%	3	493	6.7
B_5_03	All Options	3.0	20%	3	269	2.0
B_5_04	All Options	2.7	20%	3	258	1.8
B_5_05	5-5A	12.5	20%	1.8	606	10.1
	5-5B			3.0	487	6.5
Total		**41.1**				**32.5**

**Required Pond Area includes: 1 foot of freeboard above the design depth, assumes square shape, 4:1 side slopes, & a 20-ft maintenance berm*

Alignment 5A without Ronald Reagan Parkway (RRP) Slip Ramps

Basin		Required Volume	Additional Percent for Landscaping / Tie-In Area	DHW Design Depth	L & W at Outside Top of Berm	Required Pond Area*
		ac-ft	pct	ft	ft	ac
B_5_01_woRRPsr		10.0	20%	3	442	5.4
B_5_02_woRRPsr		12.9	20%	3	493	6.7
B_5_03_woRRPsr		3.0	20%	3	269	2.0
B_5_04_woRRPsr		2.7	20%	3	258	1.8
B_5_05_woRRPsr	5-5A	7.1	20%	1.8	470	6.1
	5-5B			3.0	382	4.0
Total		**35.7**				**26.0**

**Required Pond Area includes: 1 foot of freeboard above the design depth, assumes square shape, 4:1 side slopes, & a 20-ft maintenance berm*

Appendix D
Pond Site Photos

Pond Site	Photo	Description
Pond 1-1A1		• Pond site located behind (southwest) of home • Photo taken facing southwest
Pond 1-1A1		• Pond site located behind (southwest) of home • Photo taken facing south

Pond Site	Photo	Description
Pond 1-1B1 Pond 4-1B Pond 5-1B	 	• Pond sites are located approx. 1,000-ft ahead • Photo taken facing southeast • Major overhead electric transmission lines & gas pipeline warning signs visible within utility easement

Pond Site	Photo	Description
Pond 1-1A2 Pond 1-1B2		• Pond site • Lighting utilities on site • Photo taken facing north
Pond 4-1A Pond 5-1A		• Pond site • Photo taken facing north
Pond 4-1A Pond 5-1A		• Pond site along the west side of railroad • Photo taken facing northeast • Gas pipeline warning signs along west side of railroad

Pond Site	Photo	Description
Pond 1-2A Pond 1-2B		• Photo taken facing northeast • Wooded area north of subdivision • Lighting utilities along roadway • Photo surveillance at pond site
Pond 1-2A Pond 1-2B		• Pond site • Photo taken along Florida Avenue, Facing northeast • Residential utilities on site
Pond 1-2B		• Pond site • Photo taken along Florida Avenue, Facing south

Pond Site	Photo	Description
Pond 1-3A Pond 1-3B		• Pond site located behind (northwest) of house • Photo taken along Old Kissimmee Road, facing northwest
Pond 1-3B		• Pond site • Photo taken along Old Kissimmee Road, facing north
Pond 1-4A1 Pond 1-4B1		• Pond site • Photo taken along Poinciana Parkway (fka Kinney Harmon Road), facing southwest

Pond Site	Photo	Description
Pond 1-4A2		• Pond site • Photo taken along Gaines Road, facing northwest • Visible overhead and buried utilities along the roadway
Pond 1-4A2		• Pond site • Photo taken along US 17/92, facing north • Utilities at the corner of US 71/92 and CR 54 (Ronald Reagan Parkway)

Pond Site	Photo	Description
Pond 1-4A2		• Pond site • Photo taken along Gaines Road, facing south • Survey flags present along Gaines Road
Pond 1-4A2		• Pond site • Photo taken along Gaines Road, facing east • Wooded area northwest of the gas station
Pond 1-4A3		• Pond located approximately 375-feet ahead, south of dirt road • Photo taken along Gaines Road, facing southwest towards Gaines Lane

Pond Site	Photo	Description
Pond 1-4B2		• Pond site approximately 100-feet ahead (southwest) • Photo taken along Poinciana Parkway, facing southwest • Utilities along Poinciana Parkway/Ronald Reagan Parkway southern right-of-way boundary
FPC 1-5B2		• Google Earth Image • Image taken along Poinciana Parkway, facing south • Utility easement that passes through pond site • Overhead transmission lines & gas pipeline warning signs visible
FPC 1-5B2		• Pond site approximately 650-feet ahead (southwest) from photo • Photo taken along Poinciana Parkway and treatment plant entrance, facing southwest • Floodplain area west of treatment plant at the large overhead transmission lines.

Pond Site	Photo	Description
FPC 1-5B3		• Pond site approximately 450-feet ahead (southeast) from photo • Photo taken along Poinciana Parkway, facing southeast)
Pond 1-5A Pond 4-5A1 Pond 4-5B1		• Pond site • Photo taken along Poinciana Parkway, facing north • Permitted subdivision (Nature's Preserve) is under construction
FPC 1-5B4 Pond 4-5A2 Pond 5-5B		• Pond site approximately 450-feet along the left (southwest) of photo • Photo taken along Poinciana Parkway, facing southwest • Adjacent property to the west is under construction

Pond Site	Photo	Description
Pond 1-5B1 Pond 4-5B2 Pond 5-5A		• Pond site • Photo take along Poinciana Parkway, facing southwest • Land adjacent to northwest side of existing Pond 2
Pond 4-2A1 Pond 5-2A1		• Pond site west of US 17/92 • Photo taken along US 17/92, facing north • Overhead utilities along the west side of US 17/92
Pond 4-2B1 Pond 5-2B1		• Pond site located approximately 600-feet ahead (just past the road) • Photo taken along US 17/92, facing southeast

Pond Site	Photo	Description
Pond 4-2A2 Pond 4-2B2 Pond 4-3A Pond 5-2A2 Pond 5-2B2 Pond 5-3A		• Pond site along east side of US 17/92 • Photo taken along US 17/92, facing southwest • Overhead utilities on west side of US 17/92
Pond 4-2A2 Pond 4-2B2 Pond 4-3A Pond 5-2A2 Pond 5-2B2 Pond 5-3A		• Pond site approximately 220-feet ahead (at the visible house) • Photo taken along US 17/92, facing southeast

Appendix E
Existing Permit Information

III. Floodplain:

Portions of the project are within the Reedy Creek Swamp floodplain and the FEMA regulated Reedy Creek Floodway fringe. Based on the additional Floodplain information submitted to SFWMD in July 2006, in support of the permit application, the floodplain impacts are compensated within the proposed stormwater management facilities. The compensation volumes are provided between the normal water level NWL and the control weir elevation of each pond. An analysis of the impacts of 2300 LF of Basin 3 roadway embankment to be constructed within the Reedy Creek floodway and its associated floodplain concluded little to no impacts to the floodway. Therefore floodplain impacts and compensation within Basin 3 and Pond 3 are not quantified separately. The proposed embankment footprint is virtually the same as the permitted footprint for which the impacts were based. The proposed pond configurations provide significantly more volume between the NWL and the control elevation, the PAV volume, than required to offset the originally estimated floodplain impacts for each basin. For this reason detailed analysis is not warranted. See the table below for the a summary of basin impacts versus compensation provided.

Basin Name	Permitted Floodplain Encroachments (ac-ft)	PAV Volume Provided (ac-ft)
Basin 1	1.97	2.69
Basin 2	1.42	7.41
Basin 3	Modeled -No impact	7.52
Basin 4	0.70	6.41
Basin 5	0.33	4.89

IV. Segment 1 (US 17-92):

Segment 1 of the project is to design and construct the intersection improvements along US 17/92 and extends from station 488+00 north to station 527+35. This project was designed and permitted for FDOT District 1. A portion of Ronald Reagan Parkway will be widened to improve the turning movements. Within the past five years this intersection was reconstructed to a curb and gutter section with an enclosed stormsewer system and a stormwater pond. The proposed widening is to the right (east), maintaining the existing left curb and gutter and drainage system. The existing storm drains will function as originally designed with a net reduction of impervious area discharging to the existing stormwater management pond (Pond 800). Two of the existing cross-drains will be extended to maintain the existing drainage patterns.

Runoff from the proposed pavement widening drainage will be intercepted be Type 5 and 6 curb inlets and one barrier wall inlet and conveyed to Pond 1 via the proposed Kinney Harmon Road stormsewer system. The northern 1800 feet of the roadway will discharge to the roadside ditches. A treatment swale is proposed from station 513+00 to 520+50 on the right; it will provide nutrient removal and treatment / attenuation of the roadway runoff. Pond 1 in Segment 2 provides compensatory treatment for the additional impervious area along US 17/92 north, see the Table below. The proposed stormsewer systems along US 17/92 and the CR 54 stormsewer modifications are designed to convey the FDOT 10 year storm event. There are no wetland or floodplain impacts associated with this widening.

Pre versus the Ultimate Post Drainage Basin Summary (ac)

Basin	Pre		Post		Increase Imp.	Remarks
	Total	Imp.	Total	Imp.		
Basin 800	6.8	5.5	6.5	5.3	-0.2	Pond 800
Basin 17/92 (N)	0.0	0.0	3.5	0.9	0.9	Treatment Swale
Basin 17/92 (N)	7.1	2.7	2.7	2.7	0.0	Untreated
Basin 17/92 (S)	3.3	0.4	2.1	0.3	-0.1	Untreated
Kinny Harmon Road	15.6	2.1	0.0	0.0	-2.1	Untreated
Basin 1	0.0	0.0	18.0	8.5	8.5	Pond 1
Totals:	**32.8**	**10.7**	**32.8**	**17.7**	**7.0**	

Basin 1 includes Kinny Harmon Road and portions of US 17/92 South and North

Pre vs. Post Pollutant Loading Analysis: Pre = 9.354 (kg/yr) Post = 8.925 (kg/yr)

V. Segment 2 Kinney Harmon Road / Poinciana Parkway:

Segment 2 extends from the US 17/92 intersection east to station 172+36 along the current Kinney Harmon alignment. This section of Poinciana Parkway will ultimately be widened to a 4-lane divided roadway section with 4 foot bike lanes on each side. The proposed roadway improvements include the ultimate roadway section through the intersection, with turn lanes and then transitions to the interim 2-lane section along the left side. The proposed drainage system is designed for the FDOT 10 year storm event and utilizes Type 5 and 6 curb inlets. Curb inlet spacing utilizes the gutter and bike lane for the allowable spread. Lateral stub out pipes are proposed at areas where the future right 2-lane section stormsewer will be built. Four existing cross-drains will be removed and replaced to maintain the existing drainage pattern from the south, north through wetland sloughs to Reedy Creek.

Pond 1 is a 3.0 acre pond that was previously permitted to treat runoff from an ultimate 6–lane roadway section. The RFP scope states that this segment of the Poinciana Parkway will only be widened to a 4-lane section. The pond receives runoff from the US 17-92 right side widening and the left 2-lanes of Kinney Harmon / Poinciana Parkway roadway in the interim condition. Pond 1 is designed to accommodate the future right 2-lane section of Kinney Harmon / Poinciana Parkway roadway. Pond 1 is a wet detention pond with an outfall to an existing wetland tributary of Reedy Creek; a spreader swale will be used to dissipate the flows. The pond is designed to meet the existing permit criteria; by treatment, attenuation and nutrient removal.

Basin 1 Summary of the Pre and Post Discharge Rates

Storm Event	Pre-developed Discharge (cfs)	Post-developed Discharge (cfs)	Remarks
10-year 24-hour	21.94	6.70	DOT
10-year 72-hour	30.90	19.65	Osceola Cnty
25-year 24-hour	45.50	26.76	Polk Cnty
25-year 72-hour	39.96	27.39	Polk Cnty, SFWMD

The existing roadway from station 142+60 to 170+50 is being treated in the Sereno development (aka Natures Preserve) treatment ponds. In 2007 their permit was modified to vacate the roadway ROW and eliminate the triangular pond at the north ROW at station 169+00. The interim roadway improvements have a 5’ paved shoulder and driveway turnouts located along the eastbound (south) lanes that are not being treated in the proposed ponds. The existing pavement area not being treated from station 112+20 to 142+60 is 1.8 acres. The proposed area not being treated from station 112+20 to 156+00 totals 1.1 acres, a significant decrease. The 0.4 acres of shoulder and driveway pavement area from station 156+00 to 170+50 will continue to flow through the Sereno drainage systems and pond. The right side of the ROW is graded inward toward the centerline collecting the runoff from the eastbound 5’ paved shoulder in shallow graded areas that provides some treatment and attenuation before flowing to the historic discharge points, cross-drains or wetlands. These flat areas will in effect provide 2.5” PAV treatment with a depth of 0.14’. In addition Pond 1 will over attenuate and treat the runoff of the proposed interim roadway improvements for the basin.

VI. Segment 3 Poinciana Parkway:

Segment 3 ties to the curb and gutter section of Segment 2 at station 172+36, traverses the Reedy Creek Mitigation Bank and ends at station 335+00. Proposed drainage conveyance system includes ditches with side-drains, ditch bottom inlets and shoulder gutter inlets designed for the FDOT 10 year storm event. The primary drainage ponds are designed for the ultimate typical sections, 4-lane divided, 6-lane divided and 6-lane bridge. The secondary drainage systems are designed to intercept and convey the: 1) interim condition - 2 travel lanes and a 10 foot shoulder; and 2) future condition – 3 travel lanes and 2 shoulders. Two cross-drains and a long bridge are proposed to maintain the existing drainage pattern and span the Reedy Creek mitigation Bank.

The bridge design is to construct the left outer two travel lanes with 2 - 10 foot shoulders. The proposed bridge drains and suspended conveyance pipes are designed to accommodate runoff from a third travel lane. The deck drainage system is designed to meet the FDOT criteria identified in the Bridge Hydraulics Handbook, Drainage Manual, Structures Detailing Manual and the Bridge Maintenance & Repair Handbook. The shoulder cross-slopes were increased to 6% for runoff conveyance and every other deck drain was assumed blocked when setting spacing and checking the spread with 4” rainfall intensity. The pipe is sized to convey the FDOT 10 year storm event. The RFP scope identifies that the design build firm is to evaluate scour on all bridges over water. The Reedy Creek Swamp Bridge is over 6100 feet long and will span the existing wetland / floodplain. The water velocities through the bridge opening are expected to be very sluggish and less than the allowable sheer velocity of the natural ground cover. No scour counter measures will be required.

There are four wet detention stormwater management ponds (Ponds 2, 3, 4, and 5) proposed within this segment to accommodate the interim and ultimate roadway sections. Spreader swales will be constructed to dissipate the discharge flows prior to reaching the receiving wetlands. All four stormwater ponds within Segment 3 discharge to wetlands associated with the Reedy Creek Swamp. The Table below summarizes the Pre and Post development basin area characteristics.

Pre and Post Basin Areas

Basin	Pre-Development				Post-Development (Ultimate)			
	Pervious Area (Ac.)	Impervious Area (Ac.)	Pond Area NWL (Ac.)	Total Area (Ac.)	Pervious Area (Ac.)	Impervious Area (Ac.	Pond Area NWL (Ac.)	Total Area (Ac.)
2	34.36	2.10	0.00	**36.46**	10.53	23.01	2.92	**36.46**
3	57.42	0.00	0.00	**57.42**	34.20	15.01	8.21	**57.42**
4	44.62	0.00	0.00	**44.62**	20.09	13.92	10.61	**44.62**
5*	29.83	0.00	5.42	**35.25**	5.89	4.11	4.65	**14.66**

* - Pre-Development values for Basin 5 are the proposed permitted values from SFWMD Permit No. 53-00216-P, App. No. 060117-17.

6.1 Basin 2:

Pond 2 is a 3.7 acre pond that was previously permitted to treat roadway runoff from an ultimate 6–lane roadway section. The proposed basin limits extend from Station 136+00 which includes a portion of the Segment 2 roadway to station 230+00. The RFP scope states that the Poinciana Parkway will only be widened to a 4-lane section from station 136+00 to station 172+37. The ultimate Poinciana Parkway typical section changes from a rural 4-lane divided roadway section to a 6-lane divided roadway section at station 172+37 and includes a 6-lane bridge section from station 201+05 to station 230+00, the bridge high point. The interim roadway design proposes to construct the left side 2-lane section with a 10 foot outside shoulder of the ultimate roadway. The 5 foot inside shoulder is not conveyed to Pond 2 as previously discussed. The pond receives runoff from the left 2-lanes of Kinney Harmon / Poinciana Parkway roadway in the interim condition and is designed to accommodate the ultimate conditions of the Kinney Harmon / Poinciana Parkway roadway. Pond 2 is a wet detention pond with an outfall to the Reedy Creek Swamp; a spreader swale will be used to dissipate the flows. The pond is designed to meet the existing permit criteria; by treatment, attenuation and nutrient removal.

Basin 2 Summary of the Pre and Post Discharge Rates

Storm Event	Pre-developed Discharge (cfs)	Post-developed Discharge (cfs)	Remarks
10-year 24-hour	59.86	14.73	DOT
10-year 72-hour	90.10	50.79	Osceola Cnty
25-year 24-hour	123.09	69.98	Polk Cnty
25-year 72-hour	118.99	70.78	Polk Cnty, SFWMD

Pre vs. Post Pollutant Loading Analysis: Pre = 8.785 (kg/yr) Post = 7.511 (kg/yr)

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

CLAYTON J. LEE, P.E.
P.E. LICENSE NUMBER 44032
DEWBERRY / BOWYER-SINGLETON
520 S. MAGNOLIA AVENUE
ORLANDO, FL 32801
CERTIFICATE OF AUTHORIZATION 8794

OSCEOLA COUNTY EXPRESSWAY AUTHORITY

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
	POLK	

POST - DRAINAGE MAP

SHEET NO. A - 10

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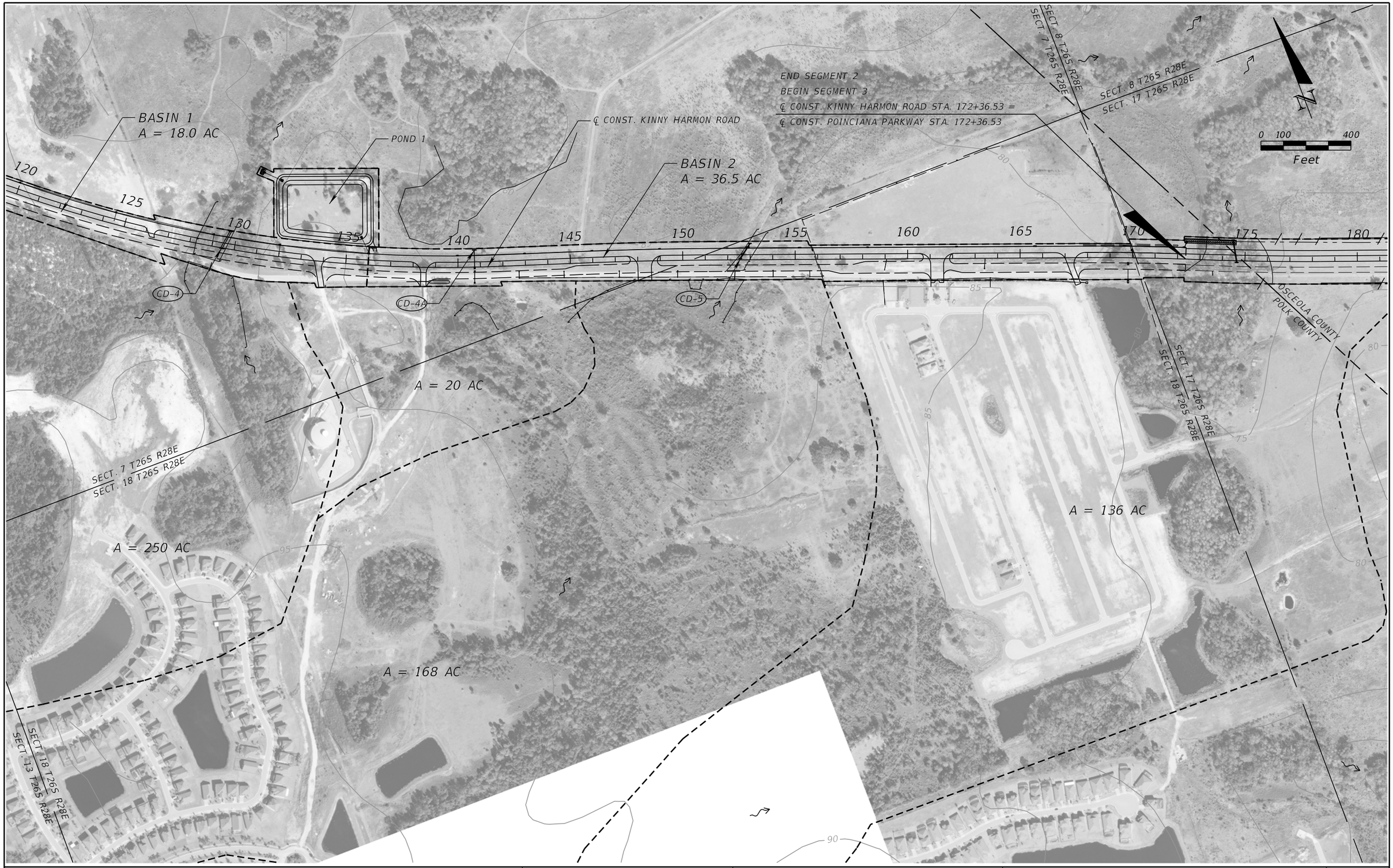

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OSCEOLA COUNTY EXPRESSWAY AUTHORITY

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
	POLK	

POST - DRAINAGE MAP

SHEET NO. A - 11

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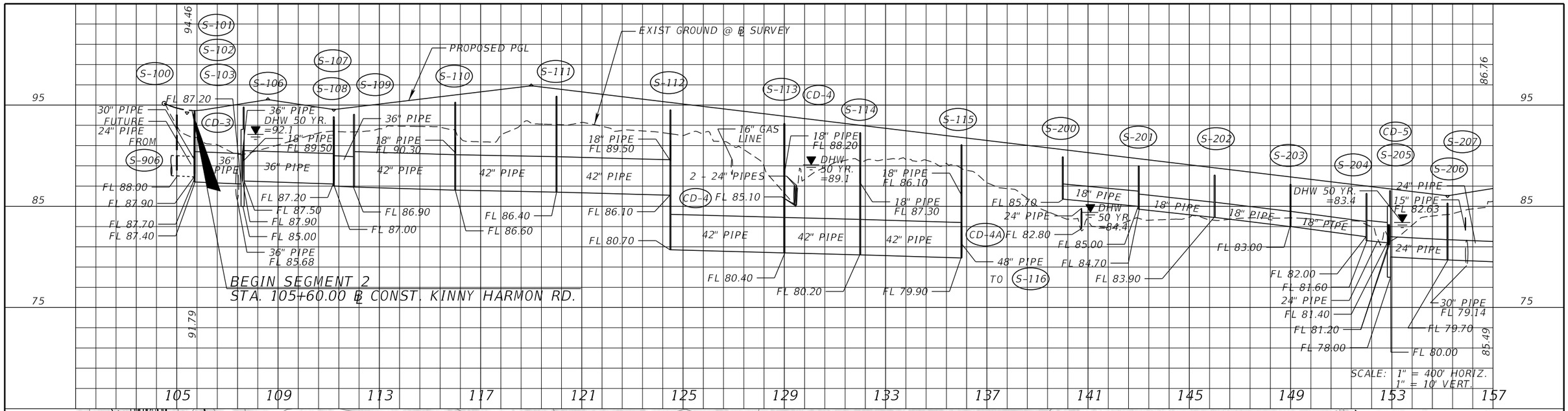

NOTE:

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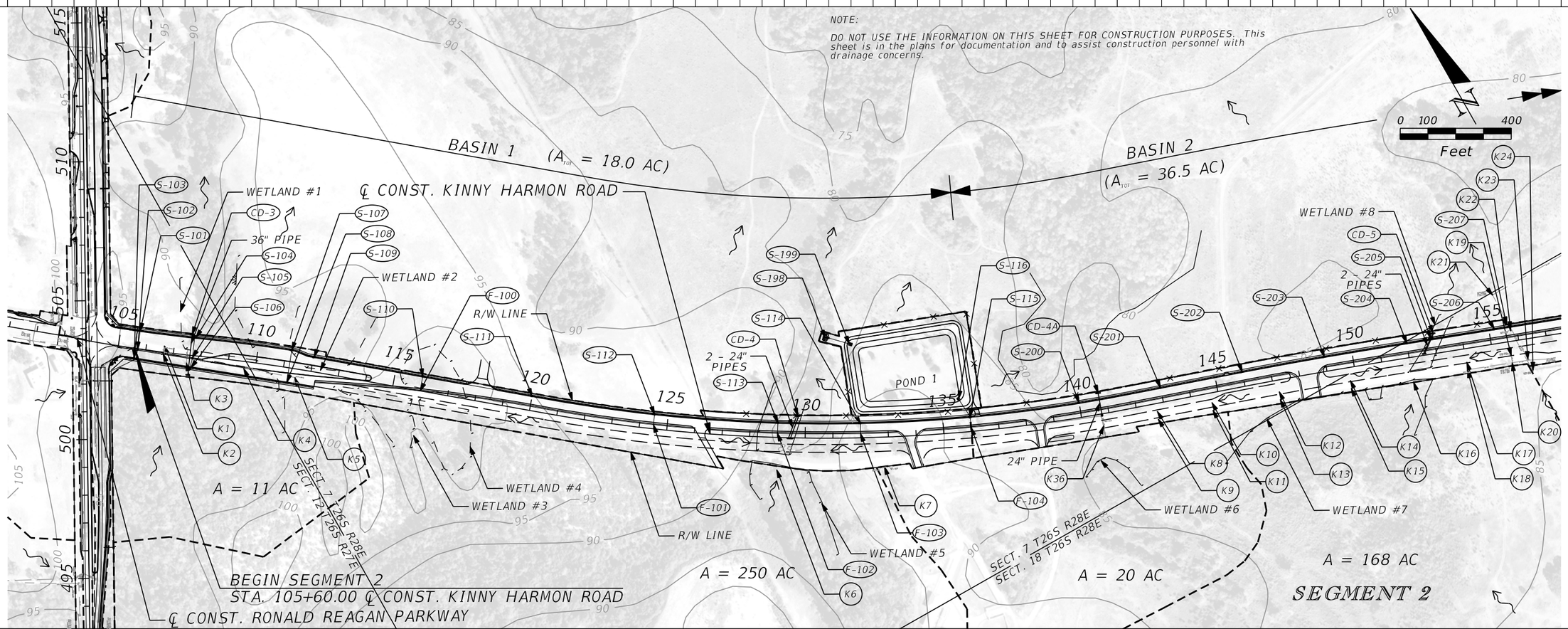

REVISIONS			
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OSCEOLA COUNTY EXPRESSWAY AUTHORITY

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
	POLK	

DRAINAGE MAP

SHEET NO. 2

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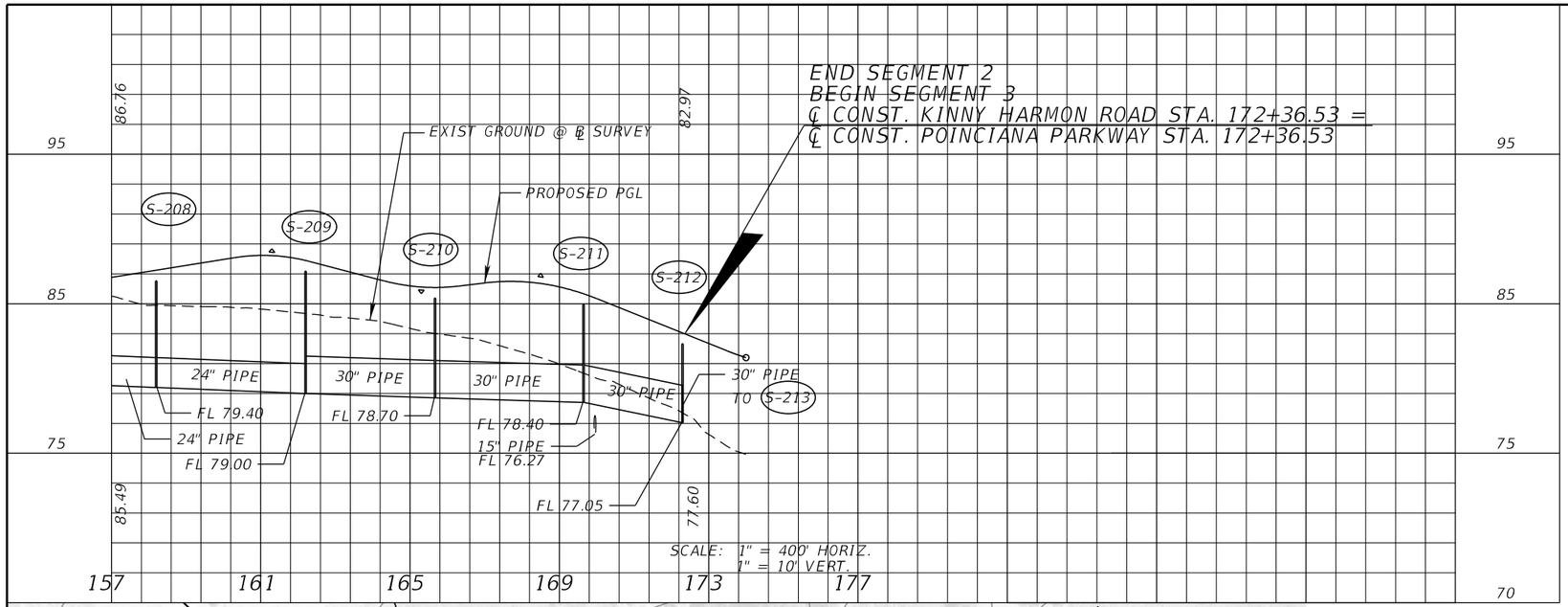

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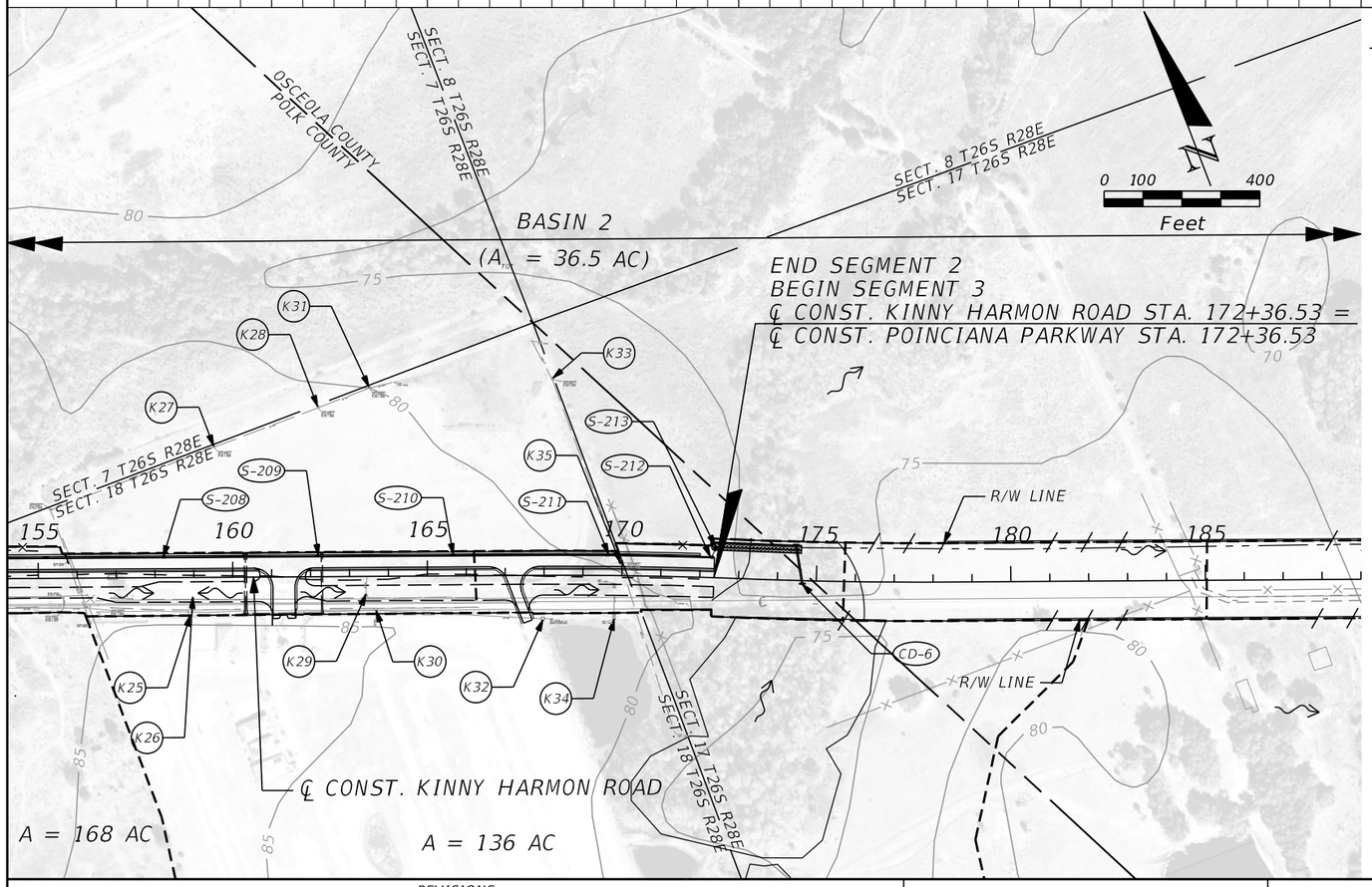

SUMMARY OF EXISTING DRAINAGE STRUCTURES

- (K1) CURB INLET GRATE EL. 93.26 FL 90.40 (S) 15" RCP
- (K2) CURB INLET GRATE EL. 93.08 FL 90.28 (N) 15" RCP FL 90.22 (E) 15" RCP
- (K3) 36" CMP PIPE FL 86.93 (N) FL 85.68 (S)
- (K4) CURB INLET GRATE EL. 93.49 FL 89.68 (W) 15" RCP FL 89.58 (E) 15" RCP
- (K5) CURB INLET GRATE EL. 92.42 FL 89.18 (W) 15" RCP FL 89.14 (S) 15" RCP
- (K6) 30" CMP PIPE FL 85.37 (N) FL 84.94 (S)
- (K7) MES, PIPE, MES 18" RCP FL 88.96 (E) FL 89.05 (W)
- (K8) GRATE INLET TOP EL. 85.24 FL 83.04 (S) 18" RCP
- (K9) GRATE INLET TOP EL. 86.29 FL 82.75 (N) 18" RCP FL 82.74 (E) 24" RCP
- (K10) GRATE INLET TOP EL. 84.50 FL 81.34 (S) 18" RCP
- (K11) GRATE INLET TOP EL. 84.57 FL 81.07 (N) 18" RCP FL 81.06 (E) 24" RCP FL 81.06 (W) 24" RCP
- (K12) GRATE INLET TOP EL. 84.19 FL 80.39 (S) 18" RCP
- (K13) GRATE INLET TOP EL. 84.31 FL 80.31 (W) 24" RCP FL 80.31 (N) 18" RCP FL 80.31 (E) 24" RCP
- (K14) GRATE INLET TOP EL. 85.14 FL 79.99 (S) 18" RCP
- (K15) GRATE INLET TOP EL. 85.21 FL 79.95 (W) 24" RCP FL 79.96 (N) 18" RCP FL 79.93 (E) 18" RCP
- (K16) 24" RCP PIPE FL 81.15 (N) FL 81.79 (S)
- (K17) CURB INLET GRATE EL. 83.90 FL UNKNOWN 18" RCP
- (K18) CURB INLET GRATE EL. 84.40 FL 79.49 (N) 18" RCP FL 79.49 (E) 24" RCP
- (K19) METAL GRATE FL 79.33 (S) 15" RCP
- (K20) METAL GRATE FL 79.24 (N) 15" RCP FL 79.28 (E) 24" RCP FL 79.18 (W) 24" RCP
- (K21) STORM MANHOLE LID EL. 83.76 FL 78.93 (S) 30" RCP FL 78.92 (E) 30" RCP
- (K22) CATCH BASIN FL 82.48 (S) 15" RCP
- (K23) STORM MANHOLE LID EL. 85.13 FL 79.20 (N) 30" RCP FL 79.33 (W) 24" RCP
- (K24) CATCH BASIN FL 83.06 (N) 15" RCP
- (K25) GRATE INLET TOP EL. 83.60 FL 78.95 (S) 30" RCP FL 79.10 (E) 30" CPP
- (K26) GRATE INLET INV. EL. 81.87 24" CPP
- (K27) STORM MANHOLE LID EL. 84.75 FL 78.64 (E) 30" RCP FL 78.48 (W) 30" RCP
- (K28) STORM MANHOLE LID EL. 83.72 FL 78.20 (E) 30" RCP FL 78.18 (W) 30" RCP
- (K29) GRATE INLET TOP EL. 83.94 FL EL 80.34 (N) 30" RCP
- (K30) GRATE INLET TOP EL. 83.48 FL EL 78.38 (W) 30" CPP FL EL 78.38 (S) 30" RCP FL EL 78.38 (E) 36" RCP
- (K31) STORM MANHOLE LID EL. 82.87 FL 78.22 (E) 30" HDPE FL 78.13 (W) 30" RCP
- (K32) MES FL 77.87 (W) 36" RCP
- (K33) STORM MANHOLE LID EL. 81.30 FL 76.52 (N) 15" HDPE FL 76.24 (S) 15" HDPE
- (K34) MES, PIPE, MES 30" RCP FL 78.70 (N) FL 78.06 (S)
- (K35) STORM MANHOLE LID EL. 84.05 FL 75.94 (N) 15" HDPE FL 76.39 (S) 15" HDPE
- (K36) MES, PIPE, MES 24" RCP FL 82.42 (N) FL 82.85 (S)

SUMMARY OF DRAINAGE AREAS

NODE NAME	IMPERV. AREA	PERV. AREA
S-101	0.510	0.030
S-102	0.110	0.000
S-103	0.560	0.050
S-104	0.120	0.010
S-105	0.040	0.010
S-107	0.370	0.190
S-108	0.610	0.440
S-109	0.340	0.256
S-110	0.255	0.191
S-111	0.085	0.064
S-112	0.380	0.285
S-113	0.382	0.283
S-114	0.255	0.188
S-115	0.340	0.249
S-200	0.340	0.240
S-201	0.255	0.185
S-202	0.255	0.184
S-203	0.255	0.184
S-204	0.255	0.183
S-206	0.527	0.375
S-208	0.243	0.172
S-209	0.097	0.068
S-210	0.467	0.331
S-211	0.166	0.121
S-212	0.225	0.168

SEGMENT 2

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

CLAYTON J. LEE, P.E.
P.E. LICENSE NUMBER 44032
DEWBERRY | BOWYER-SINGLETON
520 SOUTH MAGNOLIA AVENUE
ORLANDO, FL 32801
CERTIFICATE OF AUTHORIZATION 8794

OSCEOLA COUNTY EXPRESSWAY AUTHORITY

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
	POLK	

DRAINAGE MAP

SHEET NO. 3

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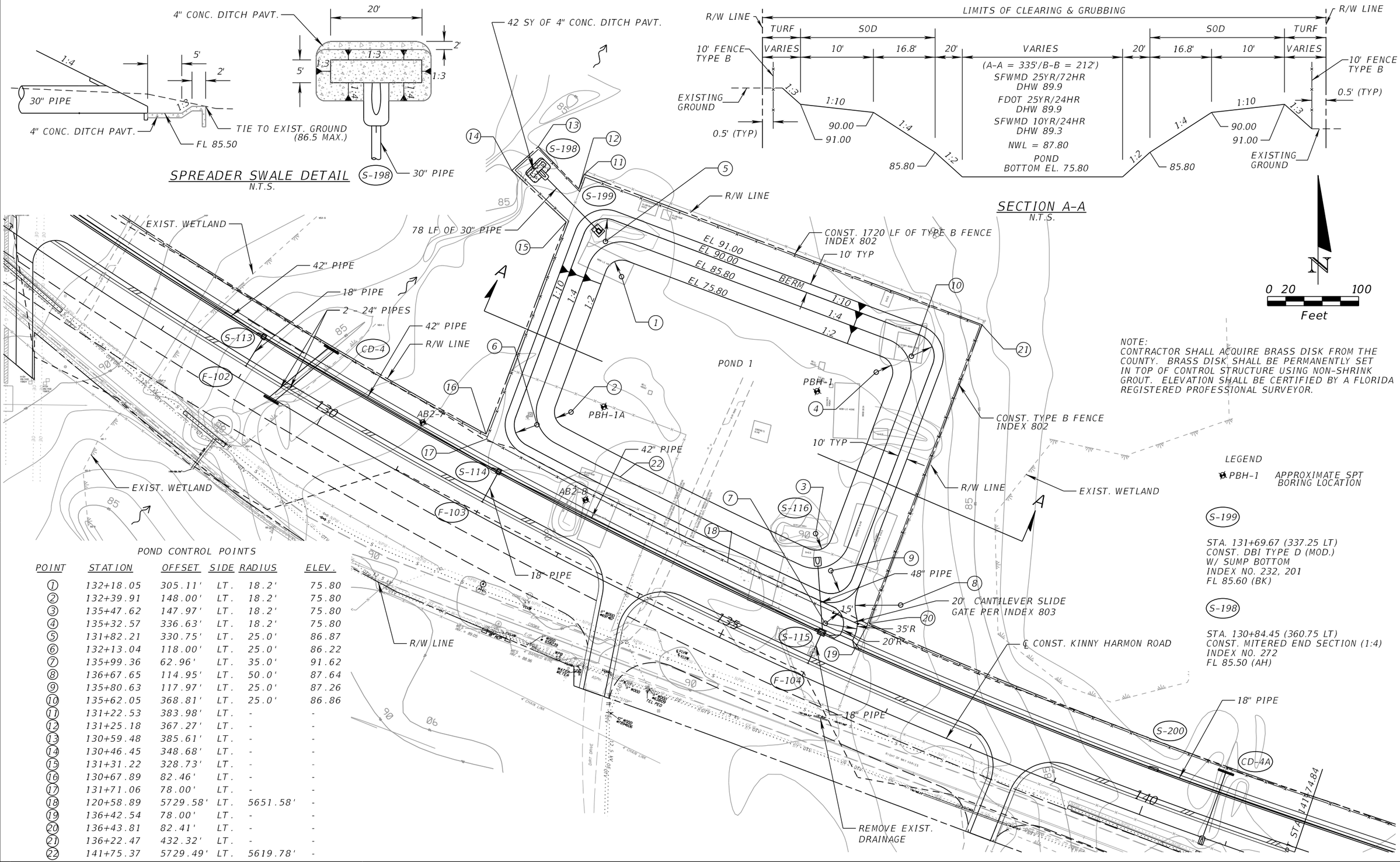

POND CONTROL POINTS

POINT	STATION	OFFSET	SIDE	RADIUS	ELEV.
1	132+18.05	305.11'	LT.	18.2'	75.80
2	132+39.91	148.00'	LT.	18.2'	75.80
3	135+47.62	147.97'	LT.	18.2'	75.80
4	135+32.57	336.63'	LT.	18.2'	75.80
5	131+82.21	330.75'	LT.	25.0'	86.87
6	132+13.04	118.00'	LT.	25.0'	86.22
7	135+99.36	62.96'	LT.	35.0'	91.62
8	136+67.65	114.95'	LT.	50.0'	87.64
9	135+80.63	117.97'	LT.	25.0'	87.26
10	135+62.05	368.81'	LT.	25.0'	86.86
11	131+22.53	383.98'	LT.	-	-
12	131+25.18	367.27'	LT.	-	-
13	130+59.48	385.61'	LT.	-	-
14	130+46.45	348.68'	LT.	-	-
15	131+31.22	328.73'	LT.	-	-
16	130+67.89	82.46'	LT.	-	-
17	131+71.06	78.00'	LT.	-	-
18	120+58.89	5729.58'	LT.	5651.58'	-
19	136+42.54	78.00'	LT.	-	-
20	136+43.81	82.41'	LT.	-	-
21	136+22.47	432.32'	LT.	-	-
22	141+75.37	5729.49'	LT.	5619.78'	-

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520 S. MAGNOLIA AVENUE
ORLANDO, FL 32801
CERTIFICATE OF AUTHORIZATION 8794

OSCEOLA COUNTY EXPRESSWAY AUTHORITY

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
	POLK	

POND 1 DETAIL SHEET
KINNY HARMON ROAD

SHEET NO. 52

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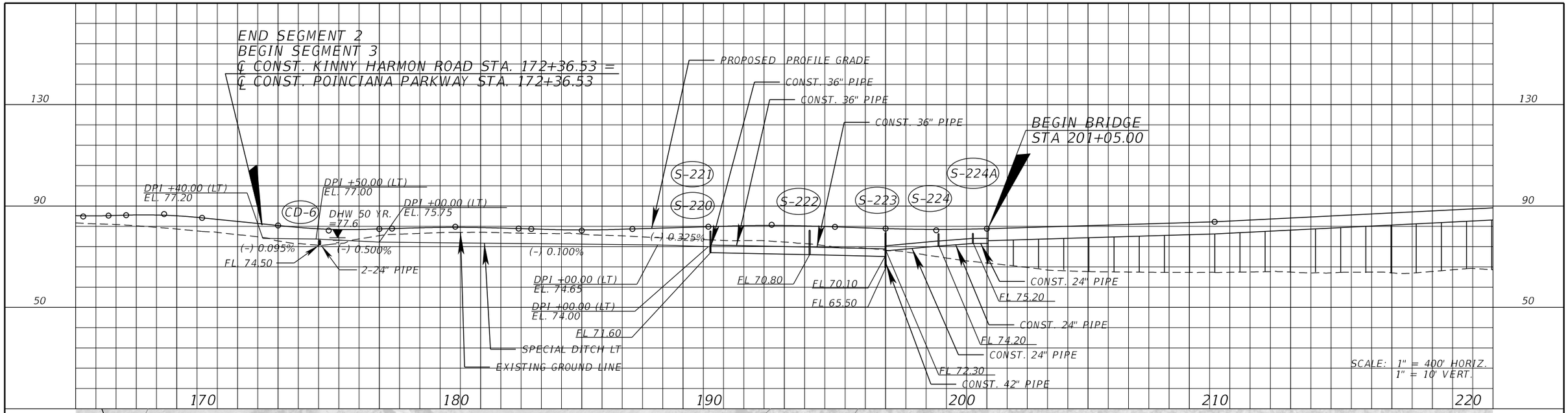
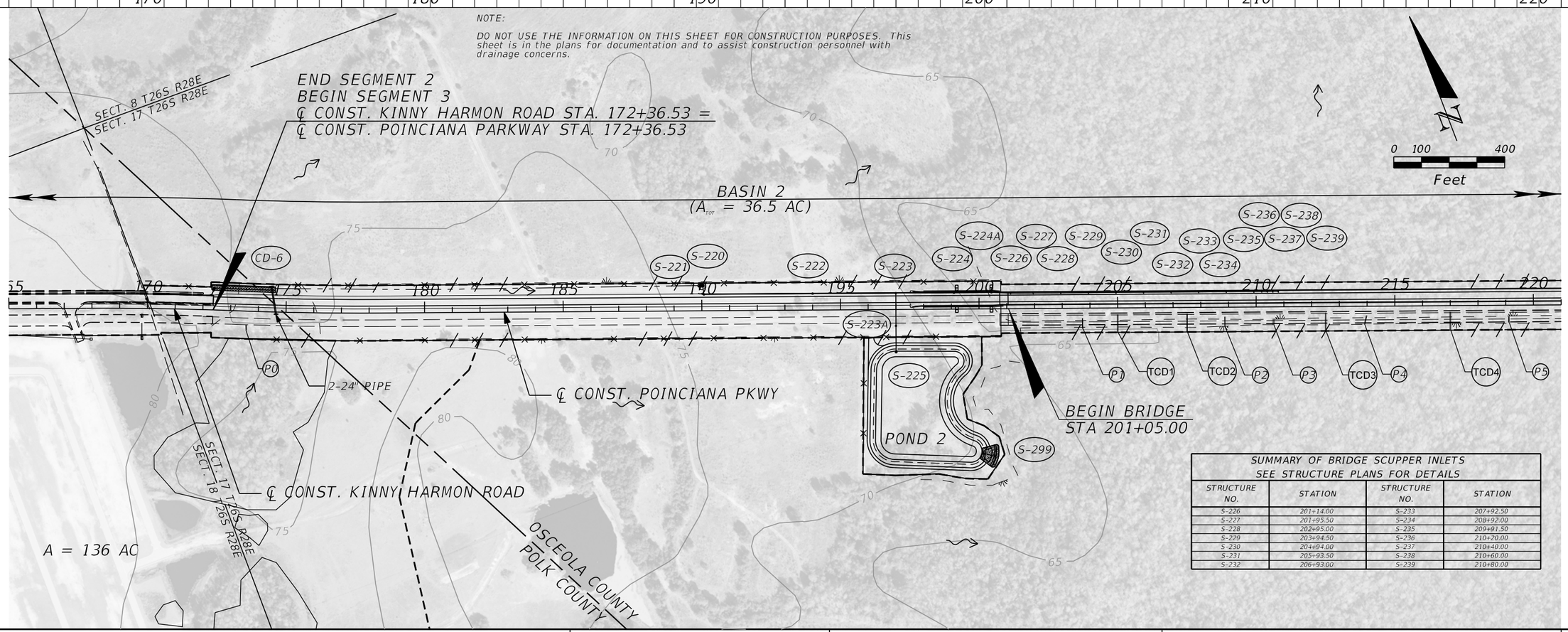


NOTE:

DO NOT USE THE INFORMATION ON THIS SHEET FOR CONSTRUCTION PURPOSES. This sheet is in the plans for documentation and to assist construction personnel with drainage concerns.



SUMMARY OF BRIDGE SCUPPER INLETS
SEE STRUCTURE PLANS FOR DETAILS

STRUCTURE NO.	STATION	STRUCTURE NO.	STATION
S-226	201+14.00	S-233	207+92.50
S-227	201+95.50	S-234	208+92.00
S-228	202+95.00	S-235	209+91.50
S-229	203+94.50	S-236	210+20.00
S-230	204+94.00	S-237	210+40.00
S-231	205+93.50	S-238	210+60.00
S-232	206+93.00	S-239	210+80.00

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

CLAYTON J. LEE, P.E.
P.E. LICENSE NUMBER 44032
DEWBERRY | BOWYER-SINGLETON
520 SOUTH MAGNOLIA AVENUE
ORLANDO, FL 32801
CERTIFICATE OF AUTHORIZATION 8794

OSCEOLA COUNTY EXPRESSWAY AUTHORITY

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
	OSCEOLA	

DRAINAGE MAP

SHEET NO. 2

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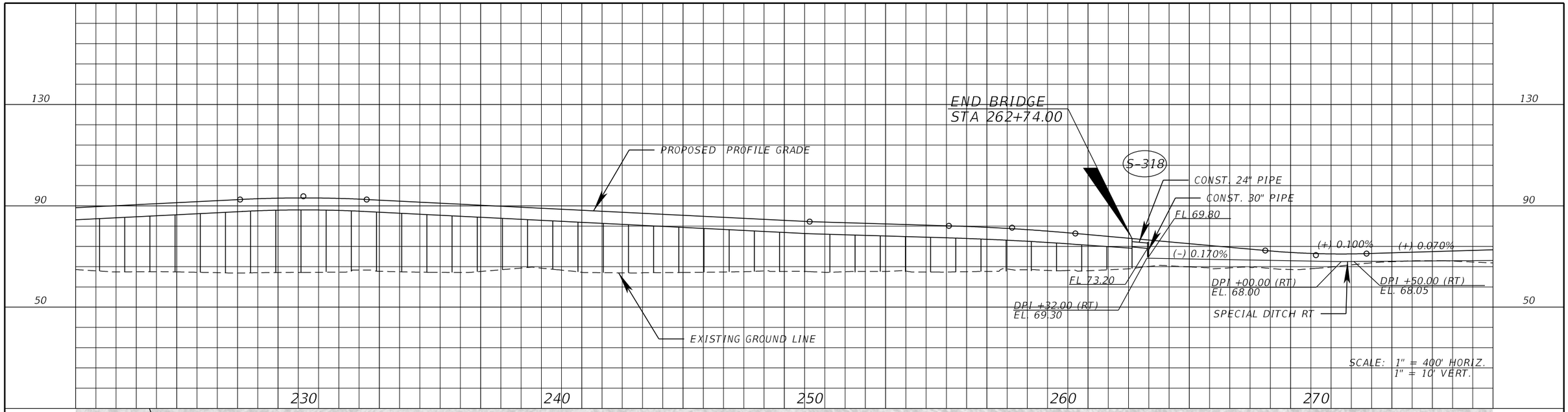
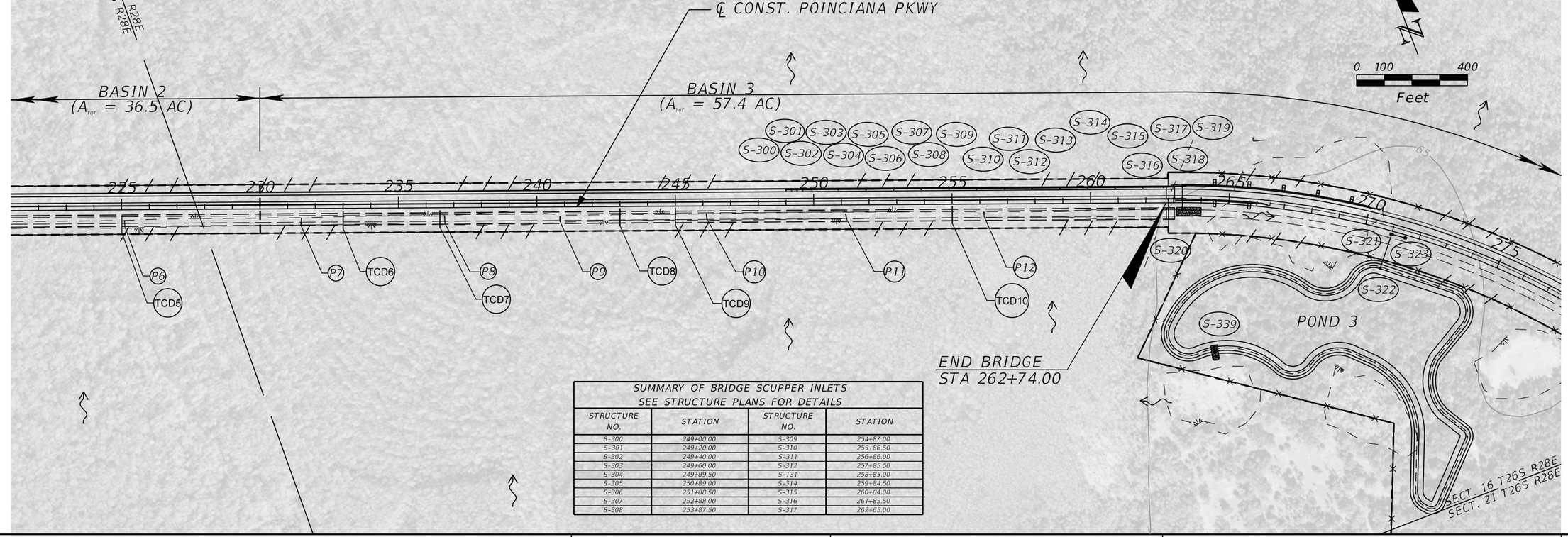


NOTE:

DO NOT USE THE INFORMATION ON THIS SHEET FOR CONSTRUCTION PURPOSES. This sheet is in the plans for documentation and to assist construction personnel with drainage concerns.

SECT. 16 T26S R28E
SECT. 17 T26S R28E



SUMMARY OF BRIDGE SCUPPER INLETS
SEE STRUCTURE PLANS FOR DETAILS

STRUCTURE NO.	STATION	STRUCTURE NO.	STATION
S-300	249+00.00	S-309	254+87.00
S-301	249+20.00	S-310	255+86.50
S-302	249+40.00	S-311	256+86.00
S-303	249+60.00	S-312	257+85.50
S-304	249+89.50	S-131	258+85.00
S-305	250+89.00	S-314	259+84.50
S-306	251+88.50	S-315	260+84.00
S-307	252+88.00	S-316	261+83.50
S-308	253+87.50	S-317	262+65.00

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

CLAYTON J. LEE, P.E.
P.E. LICENSE NUMBER 44032
DEWBERRY | BOWYER-SINGLETON
520 SOUTH MAGNOLIA AVENUE
ORLANDO, FL 32801
CERTIFICATE OF AUTHORIZATION 8794

OSCEOLA COUNTY EXPRESSWAY AUTHORITY

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
	OSCEOLA	

DRAINAGE MAP

SHEET NO. 3

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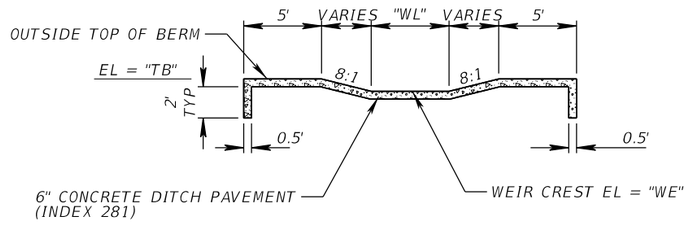
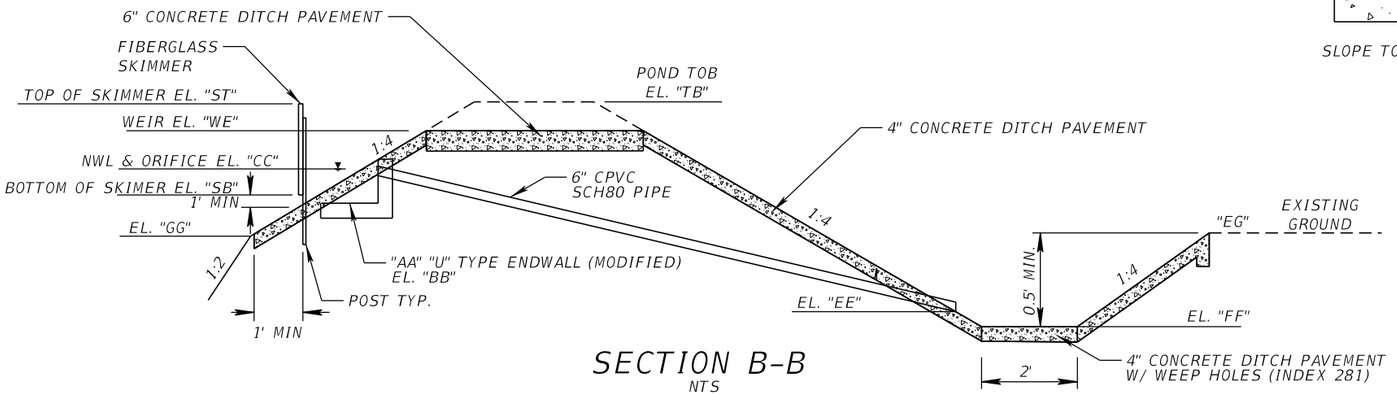


SECTION A-A
NTS



SECTION B-B
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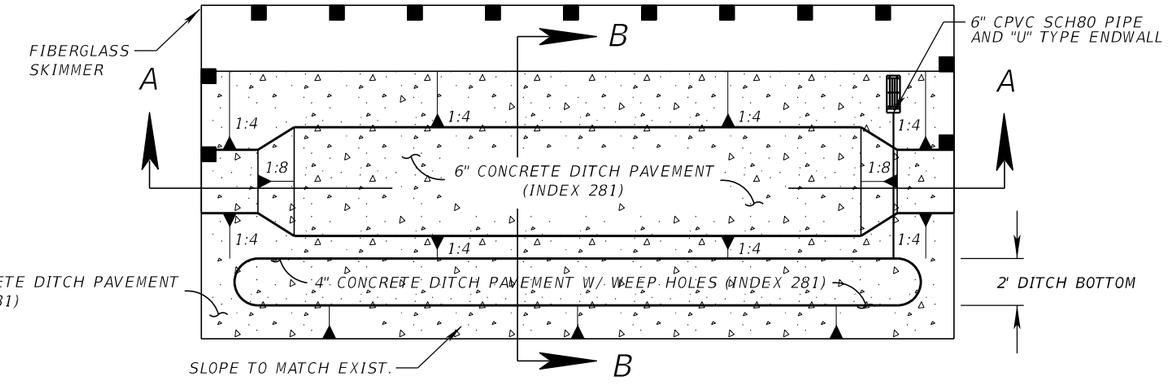

PLAN DETAIL
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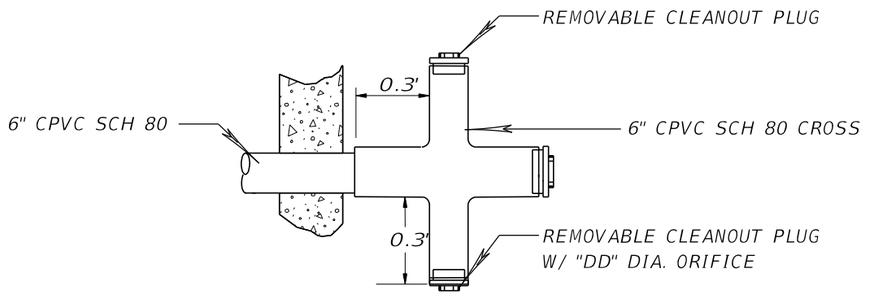
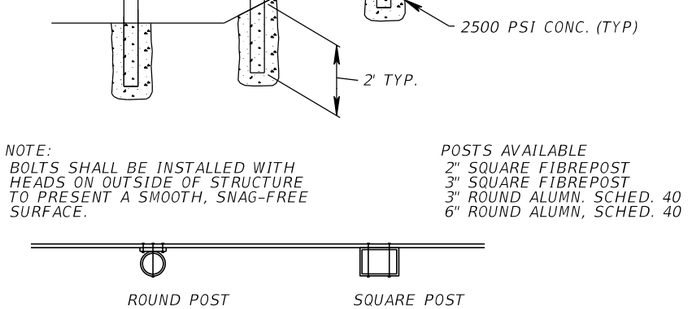


BLEED - DOWN DETAIL
N.T.S.



POST MOUNTED FIBERGLASS SKIMMER
NTS

WEIR AND SKIMMER SUMMARY

Pond No.	Structure No.	Weir Length (ft)	Weir Elevation	Top of Bank	Top of Skimmer	Bottom of Skimmer	Endwall Size (in.)	Endwall Invert Elevation	Orifice Elevation	Orifice Diameter (in.)	Outfall Invert	Spreader Swale Bottom Elevation	Grade Break Elevation	Existing Ground Elevation (Max)
		'WL'	**'WE'**	**'TB'**	**'ST'**	**'SB'**	**'AA'**	**'BB'**	**'CC'**	**'DD'**	**'EE'**	**'FF'**	**'GG'**	**'EG'**
2	S-299	45	71.4	73.0	72.5	70.9	24	67.7	69.0	4	67.0	66.5	67.0	67.5
3	S-339	5	67.1	69.5	68.9	66.6	24	64.9	66.2	6	64.1	63.6	64.5	64.6
4	S-403	5	67.1	69.0	68.4	66.6	24	65.2	66.5	6	65.5	65.0	64.5	66.0
5	S-599	5	69.0	71.0	70.2	68.5	24	67.2	68.5	3	67.8	67.3	66.0	68.3

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

CLAYTON J. LEE, P.E.
P.E. LICENSE NUMBER 44032
DEWBERRY / BOWYER-SINGLETON
520 S. MAGNOLIA AVENUE
ORLANDO, FL 32801
CERTIFICATE OF AUTHORIZATION 8794

OSCEOLA COUNTY EXPRESSWAY AUTHORITY

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
	OSCEOLA	

DRAINAGE DETAILS

SHEET NO. 45

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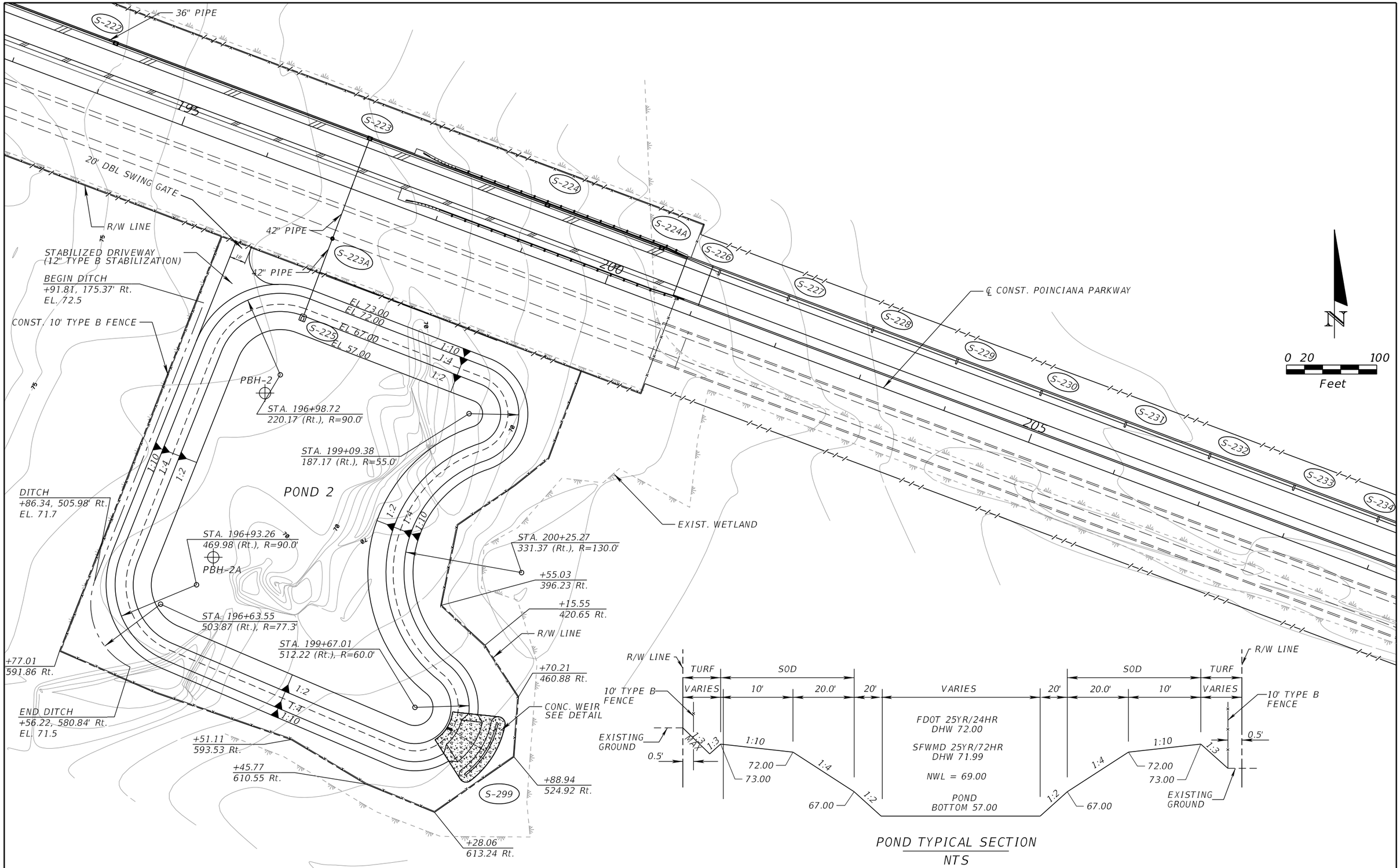

POND TYPICAL SECTION
NTS

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

CLAYTON J. LEE, P.E.
P.E. LICENSE NUMBER 44032
DEWBERRY / BOWYER-SINGLETON
520 S. MAGNOLIA AVENUE
ORLANDO, FL 32801
CERTIFICATE OF AUTHORIZATION 8794

OSCEOLA COUNTY EXPRESSWAY AUTHORITY

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
	OSCEOLA	

POND 2
POINCIANA PARKWAY

SHEET NO. 46

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Poinciana Parkway
Osceola County, Florida

Designed by: KMK
Checked by: CJL

Date: 11/10/2014
Date: 11/10/2014

Summary of the Pre and Post Basin Areas

Basin No.	Pre-Development				Post-Development			
	Pervious Area (Ac.)	Impervious Area (Ac.)	Pond Area NWL (Ac.)	**Total Area (Ac.)**	Pervious Area (Ac.)	Impervious Area (Ac.)	Pond Area NWL (Ac.)	**Total Area (Ac.)**
1	22.10	10.70	0.00	**32.80**	15.10	17.70	0.00	**32.80**
2	34.36	2.10	0.00	**36.46**	10.53	23.01	2.92	**36.46**
3	57.42	0.00	0.00	**57.42**	34.20	15.01	8.21	**57.42**
4	44.62	0.00	0.00	**44.62**	20.09	13.92	10.61	**44.62**
5*	14.94	15.66	4.65	**35.25**	5.89	4.11	4.65	**14.66**
Total	**173.44**	**28.46**	**4.65**	**206.55**	**85.81**	**73.75**	**26.39**	**185.96**

* -Basin 5 Pre-Development values are post-development numbers as previously permitted from SFWMD Permit No. 53-00216-P, Application No. 060117-17.

Poinciana Parkway
Osceola County, Florida

Designed by: KMK
Checked by: CJL

Date: 11/10/2014
Date: 11/10/2014

Summary of the Water Quality Treatment Volume

Basin ID	Areas (ac)			Water Quality Treatment Volume (ac-ft)			
	Impervious	Pond (NWL)	Total	2.5" x Impervious	1" x (Total Area - Pond Area)	Required WQT	Provided WQT
1*	7.00	-	-	1.46	-	1.46	2.69
2	23.01	2.92	36.46	4.79	2.80	4.79	7.41
3	15.01	8.21	57.42	3.13	4.10	4.10	7.52
4	13.92	10.61	44.62	2.90	2.83	2.90	6.41
5	4.11	4.65	14.66	0.86	0.83	0.86	2.35
					Total	**14.11**	**26.38**

* - The required water quality treatment volume for Basin 1 is equal to the increase of imprvious area within the basin times 2.5"

Poinciana Parkway
Osceola County, Florida

Designed by: KMK
Checked by: CJL

Date: 11/10/2014
Date: 11/10/2014

Summary of the Peak Pond Stages

Basin ID	Control Elevation (NWL)	Weir Elevation (WQT)	Inside Top of Bank	Outside Top of Bank	10-year 24-hour Peak Stage	10-year 72-hour Peak Stage	25-year 24-hour Peak Stage	25-year 72-hour Peak Stage	Minimum Proposed Road Elevation
1	87.80	88.90	90.00	91.00	89.29	89.72	89.91	89.93	91.1
2	69.00	71.40	72.00	73.00	71.63	71.93	72.05	72.05	82.3
3	66.20	67.10	68.50	69.50	67.76	68.19	68.40	68.44	70.0
4	66.50	67.10	68.00	69.00	67.48	67.75	67.87	67.94	69.9
5	68.50	69.00	70.00	71.00	69.25	69.48	69.57	69.63	72.7

Summary of the Pre and Post Discharge Rates

	Storm Event	Pre-developed Discharge (cfs)	Post-developed Discharge (cfs)	Remarks
Basin 1				
	10-year 24-hour	21.94	6.70	DOT
	10-year 72-hour	30.90	19.65	Osceola Cnty
	25-year 24-hour	45.50	26.76	Polk Cnty
	25-year 72-hour	39.96	27.39	Polk Cnty, SFWMD
Basin 2				
	10-year 24-hour	59.86	14.73	DOT
	10-year 72-hour	90.10	50.79	Osceola Cnty
	25-year 24-hour	123.09	69.98	Polk Cnty
	25-year 72-hour	118.99	70.78	Polk Cnty, SFWMD
Basin 3				
	10-year 24-hour	37.72	14.23	DOT
	10-year 72-hour	55.62	37.98	Osceola Cnty
	25-year 24-hour	81.73	53.95	Polk Cnty
	25-year 72-hour	73.98	58.27	Polk Cnty, SFWMD
Basin 4				
	10-year 24-hour	57.35	5.39	DOT
	10-year 72-hour	83.78	14.04	Osceola Cnty
	25-year 24-hour	122.95	19.07	Polk Cnty
	25-year 72-hour	111.18	22.43	Polk Cnty, SFWMD
Basin 5*				
	10-year 24-hour	6.38	2.14	DOT
	10-year 72-hour	12.71	6.06	Osceola Cnty
	25-year 24-hour	17.82	8.06	Polk Cnty
	25-year 72-hour	17.80	9.60	Polk Cnty, SFWMD

* -Basin 5 Pre-Development values are post-development numbers as previously permitted from SFWMD Permit No. 53-00216-P, Application No. 060117-17.

Appendix F
Correspondence

MEETING NOTES

SFWMD Pre-Application Meeting

Osceola Parkway Extension (599-223) & Poinciana Parkway Extension (599-224A) Project Development & Environmental (PD&E) Study

Osceola and Orange Counties

Location: SFWMD Orlando Service Center; Date: Tuesday, November 27, 2018; Time: 8:30 am

1. **INTRODUCTION – See Attached Sign In sheet**

2. **PROJECTS OVERVIEW and STATUS**
   a. Osceola Parkway Extension - Construct new limited access facility from SR 417 to Sunbridge Parkway; Permit for 8-lane typical section (Osceola and Orange County)
   b. Poinciana Parkway Extension – Construct new limited access facility from Poinciana Parkway to CR 532; (Osceola and Polk County)

3. **STORMWATER CRITERIA**
   a. Water Quantity
      i. Mr. Daron confirmed that SFWMD will follow the attenuation criteria set forth by Counties (Orange and Osceola) as this is considered the historic discharge rates for these areas:
         1. Osceola County: 10-year/72-hour storm event (using SFWMD72 distribution) (8.0 inches)
         2. Orange County: 25-year/24-hour with Orange distribution (8.6 inches) (*Osceola Parkway Extension only*)
   b. Water Quality
      i. Standard Wet detention criteria: Greater of the first one (1) inch of runoff from the total developed project or runoff from two and one-half (2.5) inches over the net new impervious area
      ii. Additional treatment and/or nutrient loading requirements are required if the proposed improvements are within an impaired WBID:
         1. Mr. Daron confirmed that Phosphorous Loading calculations are not required if the only basis is because the project is within the Lake Okeechobee BMAP
         2. *Poinciana Parkway Extension*- Mr. Ady recommended that CFX follow the criteria set forth in the previous Poinciana Parkway permit as a template for this project
      iii. In the area of the Reedy Creek Mitigation Bank, alternative treatment systems may be considered such as providing linear treatment swales which discharge via sheet flow to the adjacent wetlands, but are not sized for attenuation in order to avoid wetland impacts.
   c. Floodplain compensation options -
      i. Cup for Cup between the 100-year elevation and estimated average wet season water table
      ii. Can be provided within the proposed stormwater ponds
      iii. Mr. Daron confirmed that stormwater modeling is not allowed to demonstrate compensation, only cup for cup
   d. Other-
      i. As part of the permit application, a list of impacted permitted facilities should be provided for the District's use in tracking future compliance

ii. Mr. Daron confirmed that the District will allow flexibility in the dimensional criteria for wet detention ponds for linear transportation projects
iii. Any impacts to District lands (i.e. conservation, Canal R/W, etc.) will require further coordination outside of the Regulatory department.
iv. Existing borrow pits
    1. If they were previously permitted to provide floodplain compensation, then any impacts to this volume would need to be mitigated. If the borrow pits were not permitted for floodplain compensation, then floodplain impacts would not need to be considered.
    2. Existing borrow pits can be evaluated to be converted into stormwater ponds
    3. Permitted Pre-development discharge can provide proof of discharge, but may need to be evaluated for reasonableness prior to use in comparison against the post-development discharge
    4. Pre-post volume may be required where there was no permitted pre-development discharge

4. ENVIRONMENTAL

a. Osceola Parkway Extension
    i. Advanced Notification Package originally submitted by Florida's Turnpike in April 2012
    ii. PEIR completed in May 2017. Recommended alternative included 144 acres of wetland impacts
    iii. PEIR Reevaluation initiated in July 2017 to evaluate additional alternatives
        1. Ms. Gough outlined that the goal of this reevaluation was to develop an avoidance alternative for impacts to Split Oak Forest and to work with some of the adjacent landowners.
        2. Ms. Gough noted that there has been ongoing discussion with Florida Communities Trust regarding potential impacts to Split Oak Forest.
    iv. Mr. Dailey outlined the alternatives which are currently under consideration.
        1. Boggy Creek Alternative (west of Narcoossee Road)
        2. Lake Nona Alternative (west of Narcoossee Road)
        3. Alternative 107C-1 (east of Narcoossee Road)
        4. Alternative 207D-1 (Split Oak Forest avoidance alternative)
    v. Natural Resource Evaluation update being prepared to evaluate wetland and potential species habitat effects.
        1. Mr. Dailey noted that there are several bald eagle nests located within the project corridor and the project is also within the consultation area for the caracara and scrub-jay.
        2. Mr. Ady noted that either of the alignments will impact District-owned lands.
        3. Mr. Ady noted that it will be important to demonstrate avoidance and minimization of wetland impacts.
    vi. Mitigation Opportunities – there are multiple mitigation bank options in this area.
    vii. Permit discussion: Mr. Daron noted that if the project impacts an existing permitted facility, the permittee will be responsible for making sure that they are still in compliance.

b. Poinciana Parkway Extension
    i. Advanced Notification Package submitted in September 2018.
    ii. Environmental Advisory Group Meeting held August 15, 2018. SFWMD in attendance.
    iii. Alternatives 1, 4 and 5 carried forward from previous Feasibility Study.
    iv. Alternatives 4 and 5 extend into Reedy Creek Mitigation Bank and Upper Lakes Basin Watershed. Alternative 1 minimizes impacts to Reedy Creek Mitigation Bank, and avoids Upper Lakes Basin. But Alternative 1 has greater impacts to existing and proposed

developments, listed species and business/residential impacts.

v. Natural Resource Evaluation being prepared to evaluate wetland and species habitat effects.
vi. Evaluating avoidance, minimization and mitigation.
vii. Open discussion regarding effects

Mr. Ady suggested the existing Poinciana Parkway permit is a good template for evaluating the impacts, direct and secondary, the wetland assessments etc.

Ms. Gough asked about the lead agency for future permitting because the alternative alignments fall within both SFWMD and Southwest Florida Water Management District jurisdiction. Hydrologically the drainage basins discharge /drain to Reedy Creek. There could be a Memorandum of Agreement (MOA) between the SFWMD and SWFWMD, but Mr. Ady suggested that we meet with SWFWMD to discuss as they would need to agree.

Need to look at avoidance and minimization strategies and the previous permit provides a good template for this consideration as well.

Mitigation may be within the Reedy Creek bank, but sufficient credits may not be available. Additional mitigation options may be evaluated. Additionally, an evaluation of the effects on the bank needs to be evaluated and again the District indicated the previous permit may be a good template. The team has begun coordination with the bank owners/consultants.

Because there are impacts to the SFWMD Upper Lakes Basin, coordination with SFWMD Real Estate division will be needed during design and permitting.

Mr. Ady stressed the point that impacts need to be minimized.

Modica and Associates with Kimley-Horn has conducted field evaluations of the wetlands and listed species surveys will begin in January. All of this will be summarized in the PD&E documentation.

5. ACTION ITEMS

REVIEW COMMENTS

Discipline: Drainage
Reviewer: Sean Carrigan
CFX Project No.: 599-224
Description: Poinciana Parkway Extension PD&E Study

Date: 5/1/19
Consultant: The Balmoral Group
Submittal: Draft Pond Siting Report – April 2019

NO.	SHT NO.	COMMENTS	RESPONSE or ACTION TAKEN
1	General	When a review comment requests verification of an issue in question, the Section Engineer shall state results of verification in review response. A response such as "Will verify" or "verified" will not be adequate.	For a review comment that requests verification of an issue in question, the Section Engineer shall state results of verification in review response.
2	19	Required Pond Area equation only demonstrates the required pond area to the inside berm. To be consistent with the "L & W at Outside Top of Berm" column in Table A.5 – Pond Sizing Calculations, the required pond area equation should include the addition of the required berm width.	The required pond area equation will be updated to show the inclusion the addition of the required berm width. The required pond area calculations had included the berm width and do not require updates.
3	General	Please indicate on the maps and within the body of the narrative where the pond alternatives will discharge. In areas where pre-post volume attenuation is required, is it reasonable to assume that the pond will attenuate the volume necessary to meet the requirement at the proposed discharge location? In a virgin alignment, some properties will now experience discharge of the entire basins attenuated runoff rather than what was previously sheet flowing through it.	Most of the discharge will go to floodplains and wetlands. Details on the type/location of the outfall are expected to be performed in the design phase when the profile of the road is laid out. Also, the use of spreader swales will be evaluated during design to best mimic existing conditions.
4	Required Pond Area Calculations	Calculations are based on one site alternative by providing a length and width at a 3-foot design depth, however, in basins where two ponds sites are recommended for one site alternative (i.e. Pond Option 4-2B has Ponds 4-2B1 and 4-2B2), do the calculations take into account the loss of volume due to the side slopes associated with having two sites rather than one? Please demonstrate that the combination of proposed alternatives has the volume available to accommodate the required volume.	No, the pond sizing analysis did not get into detailed layouts and dimensions for each pond site. An additional 20% area has been estimated for landscaping/tie-in. Pond sizing is expected to be further refined in the design phase once proposed roadway profiles are developed and site specific investigation is performed on each site.
5	Pond Sizing	Some alternative sites are significantly longer than they are wide, which results in a reduction in available volume as compared to a square pond of equivalent area. Has this reduction in available volume been taken into account when sizing the pond alternatives? Please demonstrate that the proposed alternatives have the volume available to accommodate the required volume.	No, the pond sizing analysis did not get into detailed layouts and dimensions for each pond site. An additional 20% area has been estimated for landscaping/tie-in. Pond sizing is expected to be further refined in the design phase once proposed roadway profiles are developed and site specific investigation is performed on each site.

REVIEW COMMENTS

Discipline: Drainage
Reviewer: Sean Carrigan
CFX Project No.: 599-224
Description: Poinciana Parkway Extension PD&E Study

Date: 5/1/19
Consultant: The Balmoral Group
Submittal: Draft Pond Siting Report – April 2019

NO.	SHT NO.	COMMENTS	RESPONSE or ACTION TAKEN
		END OF COMMENTS	
Review by CFX does not include detailed review or checking of design of major components and related details or the accuracy with which such designs are depicted on the plans. The responsibility for accuracy and completeness of such items remains solely that of the Consultant."			