

# **CONTAMINATION SCREENING EVALUATION REPORT**

**(Addendum to the Mainline and Ponds CSERs)**

**MARSHALL HAMPTON RESERVE TRAILHEAD/ CARETAKER  
DRIVEWAY**

**AND**

**FPC 2-3 and SMF 3 Option 2**

Florida Turnpike Enterprise

**SR 570B (Central Polk Parkway) Segment 1  
From SR 570 (Polk Parkway) to SR 35 (US 17)**

Polk County, Florida

Financial Management Number: 440897-2-32-01

October 22, 2020

## **Introduction**

The purpose of this Contamination Screening Evaluation Report Addendum is to present the findings of a contamination screening evaluation for the Marshall Hampton Reserve Trailhead/Caretaker Driveway, FPC 2-3, and SMF 3 Option 2. See attached **Sheets A-1** and **Sheet A-2**. This document was prepared by Tierra, Inc., and has been revised based on FTE comments received on October 21, 2020.

## **Methodology**

The methodology (based on negotiated scope) for this contamination evaluation includes:

- Desktop review of previous reports (Level I Contamination Screening Evaluation Report (mainline) dated July 29, 2020, Level I CSER Ponds dated July 30, 2020, and Contamination Tech Memo – Alt 6) dated August 5, 2020),
- Assign risk ratings for FPC 2-3, SMF 3 Option 2, and the Marshall Hampton Reserve Trailhead/Caretaker Driveway

## **Findings**

Based on Tierra's review of the Level I Contamination Screening Evaluation Report (mainline) dated July 29, 2020, Level I CSER Ponds dated July 30, 2020, and Contamination Tech Memo – Alt 6 dated August 5, 2020), no contamination concerns were noted within the PD&E Manual Chapter 20 recommended search distances for the Marshall Hampton Reserve Trailhead/Caretaker Driveway. However, for FPC 2-3 and SMF 3 Option 2, the following two sites were identified:

Site 1 – Former Grove - This site was assigned a risk rating of Low for historic use as groves and proximity to the Marshall Hampton Reserve Trailhead/Caretaker Driveway. A detailed discussion of Site 1 as it relates to the Marshall Hampton Reserve Trailhead/Caretaker Driveway is provided in **Table 1** and is depicted on **Sheet No. A-2**.

Site 11 - Former Old Florida Plantation Property (currently Southwest Florida Water Management District (SWFWMD) property) - this site was assigned a risk rating of Medium for historic use as phosphate mined land. FPC 2-3 and SMF 3 Option 2 are located within the limits of Site 11. A detailed discussion of Site 11 as it relates to FPC 2-3 and SMF 3 Option 2 is provided in **Table 1** and is depicted on **Sheet No. A-1**.

One two-inch diameter piezometer (presumably) was noted during the site reconnaissance performed for the mainline in December 2018. It is located within the Marshall Hampton Reserve Trailhead ROW (see **Sheet No. A-2**). Information found on the Southwest Florida Water Management District (SWFWMD) database (Permit 596139) states the 2-inch diameter well is 12 feet deep, and was plugged in 1997. The owners were identified as Ethelyn Leigh and Lynn Hampton, 3125 Thornhill Road, Winter Haven 33880. No purpose of the piezometer/well (piezometer, monitor, etc.) was found. No contamination records were found. Therefore, this piezometer is not considered a contamination concern.



Table 1 – Potential Contamination Sites						
Site Number	Site Name & Address	Facility ID	Approximate Distance From Subject Sites	Contaminants of Concern	Risk Rating	Comments
1	Former Grove West of Thornhill Road, Bartow	NA	100 feet west of Marshall Hampton Reserve Trailhead/ Caretaker Driveway	Pesticides, herbicides	Low	This site was noted during the review of historic aerial photographs from 1980 to 2010. The former grove was located 100 feet west of the Marshall Hampton Reserve Trailhead/Caretaker Driveway. Citrus groves can be associated with contamination from residual pesticides, herbicides, and heavy metals contaminants in the soil and/or groundwater. The potential for contamination is primarily in the vicinity of receiving, storage, mixing, washing and distribution areas. Additionally, row crops typically include diesel powered irrigation pumps. Agricultural uses of organic and inorganic pesticides are exempt from most RCRA provisions, provided that the farmers apply the chemicals on their own farms and in accordance with labeled instructions. Spills, improper application, too much application and application of disallowed pesticides are not exempted from these requirements. No mix/load areas, agrichemical storage areas, or diesel powered irrigation pumps were noted during the historical aerial review. Given the distance of 100 feet from the Marshall Hampton Reserve Trailhead/Caretaker Driveway, this site is assigned a risk rating of Low.

Table 1 – Potential Contamination Sites						
Site Number	Site Name & Address	Facility ID	Approximate Distance From Subject Sites	Contaminants of Concern	Risk Rating	Comments
11	Former Old Florida Plantation Property (currently Southwest Florida Water Management District (SWFWMD) property) North of Old Bartow Eagle Lake Road, Bartow	NA	Within FPC 2-3  Within SMF 3 Option 2  4,200 feet south of Trailhead and Caretaker Driveway	Polycyclic Aromatic Hydrocarbons (PAHs), Volatile Organic Compounds (VOCs), Total Petroleum Hydrocarbons (TPH), Radium 226, and pH	Medium	<p>This facility (PD&amp;E Site W203-6) was identified as a former phosphate mine located within the right-of-way (ROW) in the original PD&amp;E Contamination Screening Evaluation Report dated December 2010 (Revised March 2011), and assigned a risk rating of Medium. This site is illustrated on the attachment, <b>Sheet A-1</b>. PD&amp;E recommendations included soil and groundwater sampling for pH, Radium 226, and polynuclear aromatic hydrocarbons (PAHs). During the site reconnaissance during the original PD&amp;E, this site was observed as open pasture and ponds. During the review of historical aerial photography and topographic maps during the original PD&amp;E, mining activities spanning approximately 2 miles of the southern portion of the project corridor were evident within and adjacent to proposed ROW at least since the 1960s. Contamination related regulatory files were not identified for this facility.</p> <p>According to the FDEP’s “Phosphate” website, large draglines are used to conduct the mining. It scoops up the top 15 to 30 feet of earth, known as overburden, and dumps it in spoil piles to the side of the mine pit. The dragline then digs out the ore-bearing layer (known as the matrix), which consists of about equal parts phosphate rock, clay, and sand. Matrix material is then dumped in a pit where high-pressure water guns create a slurry that can then be pumped to the beneficiation plant, which can be several miles away. At the beneficiation plant, the phosphate is separated from the sand and clay. The phosphate is sent by rail to a separate chemical processing plant where it is processed for use in fertilizer and other products. The chemical processing is done at separate facilities that are not regulated by the FDEP Mining and Mitigation Program. After going through beneficiation, the clay is pumped through pipelines into large impoundment areas, known as clay settling areas, where they remain. The sand is pumped through pipelines back to the mined area and is used in reclamation.</p> <p>According to the Selected Study Area Existing Conditions Analysis Polk County Florida report dated May 2012 (by Florida Institute for Phosphate Research (FIPR)), waste disposal, radioactivity, air and water pollution are considered “special regulatory concerns” with regards to “impact to health.” Since, based on review of historic aerial photographs, no phosphate plant is located within or adjacent to the ROW, plant emissions are not considered a contamination concern. Based on the 1941 aerial photograph, the processing plant was located approximately 0.7 miles south of US 17 and the project limits. Phosphogypsum stacks or process water ponds were not identified within or adjacent to the ROW.</p> <p>Currently, Florida Administrative Code requires radiation monitoring (soil radium) at phosphate mining areas both pre- and post-mining, and after reclamation. The FDEP was contacted on March 26, 2019 for contamination assessment/testing related files for this study area. A response provided on March 27, 2019 by Mrs. Marisa Rhian, FDEP Environmental Administrator, Bartow/Homeland Regional Field Office stated areas adjacent to the ROW “were mined for phosphate prior to June 1, 1975 and are considered nonmandatory. Reclamation standards for phosphate mines were established for lands mined after June 1, 1975 per Chapter 378, Florida Statutes.” She further stated inquiries regarding radium/radon testing should be sent to the Florida Department of Health’s (FDOH) Bureau of Radiation Control at 407-297-2096, RadiationControl@FLhealth.gov.</p> <p>In an email response (dated April 3, 2019) from the FDOH, Bureau of Radiation Control, Brenda Andrews stated “according to our Environmental Radiation Section, we have no data points for the mine referenced as it was closed long before pre and post mining began.” See email in the Level I Contamination Screening Evaluation Report dated April 10, 2020.</p> <p>Based on Tierra’s Preliminary Roadway Soil Survey Report dated October 23, 2018, a total of 7 piezometers were installed along the project limits in 2013. Depth to groundwater ranged from 4.5 feet below land surface (bls) to 12.5 feet bls in 2013. Mined soils, including Clay Settling Areas (CSAs) also known as waste phosphatic clay or waste slime, were identified from Station 1213 to Station 1333, (adjacent west of FPC 2-3, 500 feet west of SMF 3 Option 2, and approximately 4,200 feet south of the Marshall Hampton Reserve Trailhead/Caretaker Driveway) at depths ranging from 15 to 80 feet bls. The Alt 4 ROW is located approximately 1,000 feet east of the Alt 6 ROW.</p> <p>Based on the USEPA Fact Sheet (no date), “phosphate rocks, which can contain relatively high levels of radium and uranium, are a potential source of exposure.” Radium exposure can be from inhalation and ingestion. It can accumulate in bones and will remain there for a person’s lifetime. In the environment the greatest risk associated with radium is actually posed by its direct decay product radon.</p> <p>No information was reviewed that would warrant a change to the risk rating assigned during the PD&amp;E. Therefore, this area retains a risk rating of Medium.</p>

## **Conclusions and Recommendations**

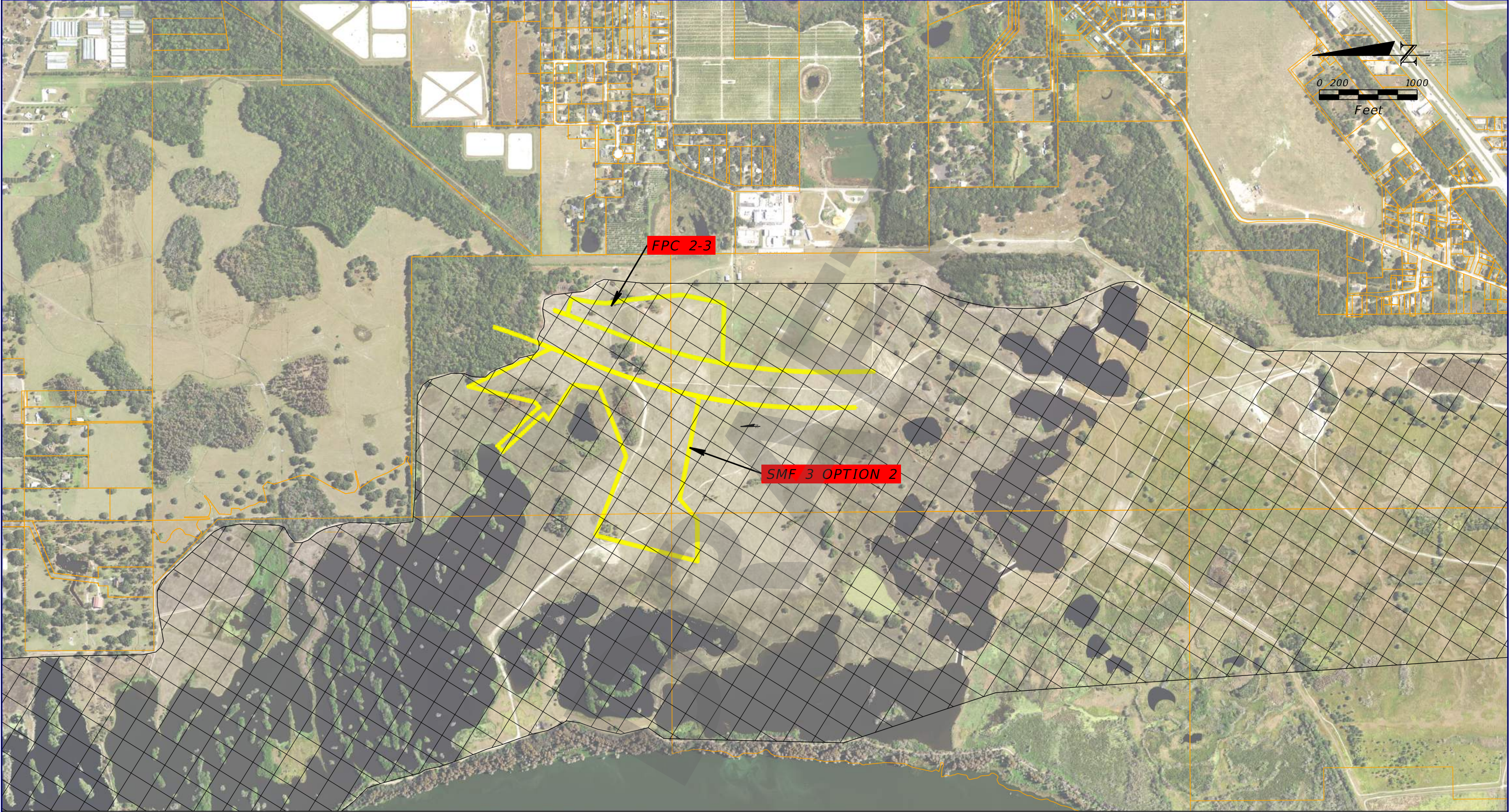
Based on this contamination screening, one potential contamination site was identified within the limits of FPC 2-3 and SMF 3 Option 2. One contamination site was identified proximal to the Marshall Hampton Reserve Trailhead/Caretaker Driveway. The following table presents a summary of the risk ratings assigned for the Marshall Hampton Reserve Trailhead/Caretaker Driveway, and the FPC and SMF:

Site/Pond ID	Risk Rating	Contamination Concerns
Marshall Hampton Reserve Trailhead/Caretaker Driveway	Low	Former grove located approximately 100 feet west
FPC 2-3	Medium	Site 11 – Former Old Florida Plantation (currently Southwest Florida Water Management District (SWFWMD) property)
SMF 3 Option 2	Medium	Site 11 – Former Old Florida Plantation (currently Southwest Florida Water Management District (SWFWMD) property)

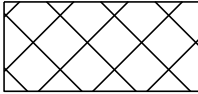
Based on the conclusions of the study and the risk ratings noted above, the following recommendations are made for this project:

- Additional information may become available or site-specific conditions may change from the time this report was prepared and should be considered prior to acquiring ROW and/or proceeding with roadway construction.
- FPC 2-3 and SMF 3 Option 2: Level II testing is recommended for Site 11 – Former Old Florida Plantation (currently Southwest Florida Water Management District (SWFWMD) property) which was assigned a risk rating of Medium for historical use as phosphate mined land. It has been determined that this site may have potential contaminants that could impact the proposed project. A soil and groundwater sampling plan should be developed. The sampling plan should provide sufficient detail as to the number of soil and groundwater samples to be obtained and the specific analytical tests to be performed. Laboratory analytical tests may include Radium 226 by EPA Method 903.1, Polycyclic Aromatic Hydrocarbons (PAHs) by EPA Method 8270, Total Petroleum Hydrocarbons (TPH) by FL PRO Method, TPH fractionation (if warranted), Volatile Organic Compounds (VOCs) by EPA Method 8260, and pH. A site location sketch showing all proposed boring locations and groundwater monitoring wells should be prepared. The FTE District Contamination Impact Coordinator (DCIC) should be consulted regarding the site-specific Level II field screening scope of work.






SOURCE: FDOT SURVEY AND MAPPING DATED 2017



SITE 11 - FORMER OLD FLORIDA PLANTATION (PHOSPHATE MINE)

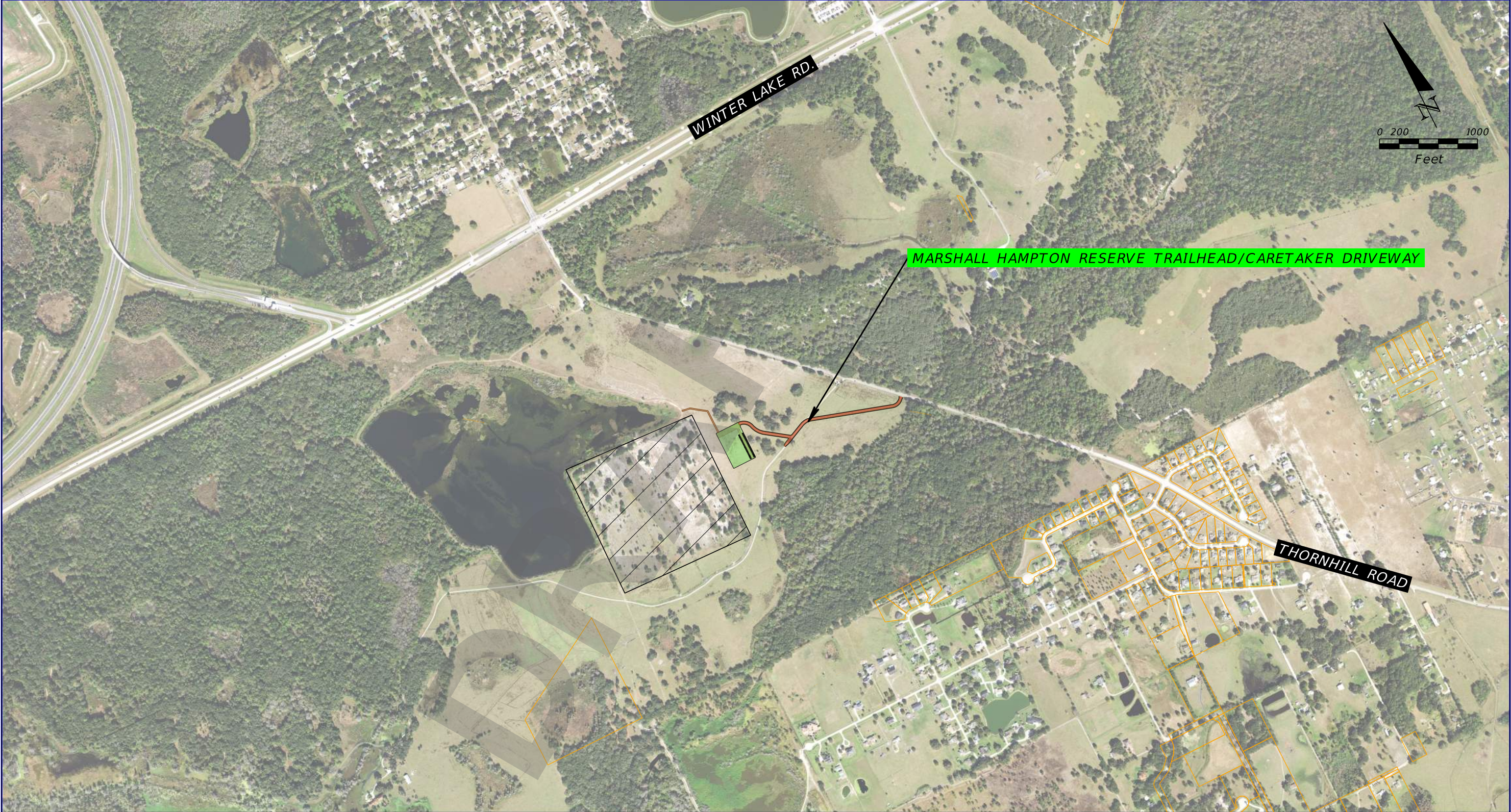
POND ALTERNATIVES LOCATION MAP

 LIMITED ACCESS RIGHT OF WAY

 RED = MEDIUM RISK RATING

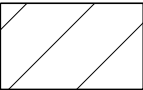
REVISIONS				TIERRA, INC. 7351 TEMPLE TERRACE HIGHWAY TAMPA, FLORIDA 33637	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			CENTRAL POLK PARKWAY - SEGMENT 1 POLK COUNTY, FLORIDA	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
			TIERRA PROJECT NO.: 6511-17-181-001E		N/A	POLK	440897-2-32-01	A-1	





SOURCE: FDOT SURVEY AND MAPPING DATED 2017

MARSHALL HAMPTON RESERVE TRAILHEAD  
AND CARETAKER DRIVEWAY MAP



SITE 1 - FORMER GROVE



GREEN = NO/LOW RISK RATING

REVISIONS				TIERRA, INC. 7351 TEMPLE TERRACE HIGHWAY TAMPA, FLORIDA 33637	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			CENTRAL POLK PARKWAY - SEGMENT 1 POLK COUNTY, FLORIDA	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
			TIERRA PROJECT NO.: 6511-17-181-001E		N/A	POLK	440897-2-32-01		
								A-2	