

Contamination Screening Evaluation Report
SOUTH SUMTER CONNECTOR TRAIL PD&E STUDY
From Withlacoochee State Trail to James A. Van Fleet Trail
Hernando and Sumter Counties, Florida
Financial Project ID No. 435471-1-22-01

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by FDOT pursuant to 23 U.S.C. § 327 and a Memorandum of Understanding dated December 14, 2016 and executed by FHWA and FDOT.

January 2018
Revised August 2019



Geotechnical
and
Environmental
Consultants, Inc.

At the very foundation of our community

January 12, 2018
Revised April 19, 2019
August 16, 2019

TranSystems Corporation
200 East Robinson Street, Suite 600
Orlando, FL 32801

Attention: Ms. Elizabeth Beam

Subject: Contamination Screening Evaluation Report
SOUTH SUMTER CONNECTOR TRAIL PD&E STUDY
From Withlacoochee State Trail to James A. Van Fleet Trail
Hernando and Sumter Counties, Florida
Financial Project ID No. 435471-1-22-01
GEC Project No. 4037E

Dear Ms. Beam:

Geotechnical and Environmental Consultants, Inc. (GEC) is pleased to present this Contamination Screening Evaluation Report (CSER) for the above-referenced project. This report describes our evaluation procedures, presents the information we obtained and identifies 27 sites that have been assigned Contamination Risk Potential Ratings.

We appreciate the opportunity to work with TranSystems Corporation and the Florida Department of Transportation on this project. If you have any questions concerning this report, or if we may be of further assistance, please contact us.

Sincerely,

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS, INC.

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TABLE OF CONTENTS

EXECUTIVE SUMMARY	iv
1.0 PURPOSE	1
2.0 PROJECT DESCRIPTION	1
2.1 Site Description	1
2.2 Current Land Use	1
2.3 Project Description.....	2
2.4 Potential Contamination Impacts	2
3.0 CONTAMINATION SCREENING METHODOLOGY	2
4.0 GEOLOGIC AND GEOGRAPHIC CONDITIONS	3
4.1 Central Florida Geology.....	3
4.2 USGS Quadrangle Map.....	4
4.3 NRCS Soil Survey Review.....	5
4.4 Geotechnical Investigation	6
5.0 HISTORICAL DATA REVIEW	6
5.1 Historical Aerial Photographs	6
5.2 City Directories.....	7
5.3 Fire Insurance Maps.....	8
5.4 Historical Quadrangle Maps.....	8
5.5 Historical Contamination Screening Evaluation Report	8
6.0 PUBLIC RECORD REVIEW	8
6.1 Florida Department of Environmental Protection (FDEP) Databases	9
6.2 United States Environmental Protection Agency (USEPA) Databases.....	9
6.3 FDEP OCULUS Document Management System, Map Direct Website, and Nexus Portal..	9
6.4 EDB Delineated Areas	9
6.5 Agricultural Land Use	10
6.6 Railroad Corridors	10
6.7 Cattle Dip Vats.....	11
7.0 INTERVIEWS	12
8.0 SITE RECONNAISSANCE	12

9.0 CONCLUSIONS AND RECOMMENDATIONS..... 12

9.1 Potential Contamination Sites 12

9.2 Level 2 Contamination Impact Analysis (CIA) Recommendations..... 13

9.3 CSER Update..... 14

10.0 LIMITATIONS..... 14

11.0 USE OF THIS REPORT 14

Figure 1: USGS Quadrangle Map

Figures 2A-2F: SWFWMD Land Use Map

Figures 3A-3F: NRCS Soil Survey Map

Figures 4A-4E: Potential Contamination Site Location Map

Table 1: Potential Contamination Site Summary

APPENDICES

Appendix A: Potential Contamination Site Descriptions

Appendix B: Historical Aerial Photographs

Appendix C: Definitions of Common Report Terms

Appendix D: Contamination Risk Potential Rating Descriptions

Appendix E: Table 2 – EDR City Directory Image Report Summary
EDR City Directory Image Report

Appendix F: EDR Radius Map Report with GeoCheck

Appendix G: FDEP Database List

Appendix H: Federal Database List

Appendix I: FDEP OCULUS, Map Direct, and Nexus Portal Information

Appendix J: Interview Documentation

EXECUTIVE SUMMARY

Geotechnical and Environmental Consultants, Inc. (GEC) has been retained by TranSystems Corporation (TranSystems), on behalf of the Florida Department of Transportation (FDOT), to provide a Contamination Screening Evaluation Report (CSER) for the South Sumter Connector Trail project.

The purpose of this evaluation was to assess the risk of encountering petroleum or hazardous substance contamination of soil, groundwater, surface water, or sediment that could adversely affect this project. The CSER activities included a review of public regulatory files and historical data sources, and a site reconnaissance of the project study area.

As a result of this evaluation, we have assigned Contamination Risk Potential Ratings (CRPR) to 27 sites. The 27 site locations are shown on **Figures 4A** through **4E** and the contamination status of each site is summarized in **Table 1**. A more detailed description and a photograph of each site are included in **Appendix A**.

Using the FDOT CRPRs presented in **Appendix D**, we have identified **8 Low Risk** sites, **14 Medium Risk** sites, and **5 High Risk** sites. Based on their proximity to the final trail alignment, Level 2 Contamination Impact Analyses (CIA) may be required at **9 Medium Risk** sites and the **5 High Risk** sites. GEC coordinated with the FDOT District 5 Contamination Impact Coordinator, Mr. Randy Stafford, on August 14, 2019 to evaluate the need for Level 2 CIAs.

1.0 PURPOSE

The purpose of this evaluation is the early identification of potential contamination sites that could impact this project...

The presence of contaminated environmental media (soil, groundwater, surface water, and sediment) can have a significant negative impact on the cost and schedule to complete a multi-use trail project. The purpose of this evaluation was the early identification of potential contamination sites that could impact this project and to provide valuable input for the design, right-of-way acquisition, and construction phases.

2.0 PROJECT DESCRIPTION

The following sections describe the current study area conditions, the project construction plans and elements of the project that could be impacted by soil or groundwater contamination. Common terms used in this report can be found in **Appendix C**.

2.1 Site Description

The South Sumter Connector Trail PD&E Study is being conducted to evaluate the multi-use trail between the Good Neighbor Trail and the Van Fleet Trail.

The South Sumter Connector Trail PD&E Study is being conducted to evaluate the multi-use trail that will close the 22-mile gap between the Good Neighbor Trail in Hernando County and the Van Fleet Trail in Sumter County. The South Sumter Connector Trail is part of the larger Coast to Coast Trail, which extends approximately 275 miles, connecting St. Petersburg on the west coast with Titusville on the east coast.

The corridor identified for this segment of the Coast to Coast Trail would connect to the Good Neighbor Trail on the western limit. The corridor would cross under I-75 and continue along CR 673 until US 301. Utilizing US 301 and the existing CR 478 alignment, the corridor continues along CR 478 until it reaches SR 471 and the City of Webster. The trail follows SR 471 south, connecting to SR 50. The project alignment is depicted on an excerpt of the U.S. Geological Survey (USGS) Saint Catherine, Florida and Webster, Florida Quadrangle Maps (**Figure 1**) in the **Appendix**.

2.2 Current Land Use

The current land uses within the study area are shown on the Southwest Florida Water Management District (SWFWMD) Map on **Figures 2A** through **2F** and are summarized as follows:

- Residential, Low Density
- Residential, Medium Density
- Residential, High Density
- Commercial and Services
- Industrial
- Extractive (mines)
- Institutional
- Open Land
- Cropland and Pastureland
- Nurseries and Vineyards
- Other Open Lands – Rural
- Mixed Rangeland
- Upland Coniferous Forest
- Upland Coniferous Forest - Pine, Oak
- Upland Hardwood Forest
- Streams and Waterways
- Reservoirs
- Stream and Lake Swamps
- Wetland Coniferous Forest
- Freshwater Marshes
- Wet Prairies
- Emergent Aquatic Vegetation
- Barren Land - Disturbed
- Transportation
- Utilities

2.3 Project Description

Based on our review of the project plans, we understand the following project elements are proposed along the project alignment:

- Construction of the multi-use trail
- Bridge crossings at the Withlacoochee River and US 301 / CSX railroad
- Drainage improvements and design
- Utility adjustments

2.4 Potential Contamination Impacts

The project elements that could be impacted by soil and/or groundwater contamination include the following:

- Right-of-way acquisition
- Soil excavation for pavement construction and structure foundations
- Soil excavation for drainage improvements and utility adjustments
- Dewatering activities

3.0 CONTAMINATION SCREENING METHODOLOGY

GEC conducted this evaluation in general accordance with Chapter 20 of the FDOT PD&E Manual dated January 14, 2019. The study area is defined by the following distances from the right of way:

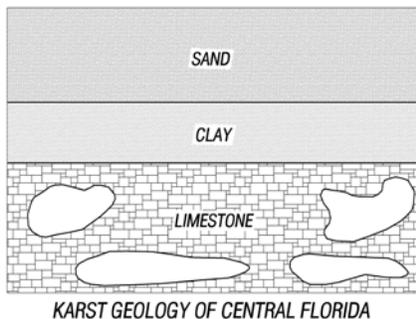
- All sites within 500 feet
- Non-landfill solid waste sites within 1,000 feet
- Solid waste landfills, CERCLA, or National Priorities List (NPL) sites within ½ mile

Relevant information from the FDEP, USEPA, and local agencies in Hernando and Sumter Counties was reviewed to identify known or potential contamination sites within the study area. Historical aerial photographs and other published historical sources were reviewed as part of this CSER. A site reconnaissance was performed for properties within the study area. Attempts were made to interview individuals with knowledge of the study area’s environmental status.

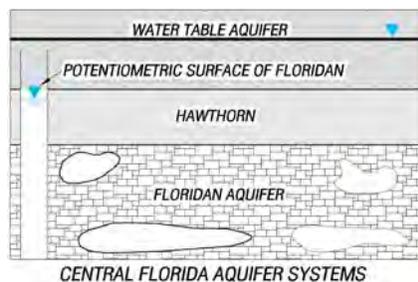
Based on the results of the contamination screening activities, Contamination Risk Potential Ratings (CRPRs) were assigned to sites. The contamination potential risk rating system was developed by FDOT and incorporates four levels of risk: **No, Low, Medium and High**. For a description of the four risk levels please refer to **Appendix D**.

4.0 GEOLOGIC AND GEOGRAPHIC CONDITIONS

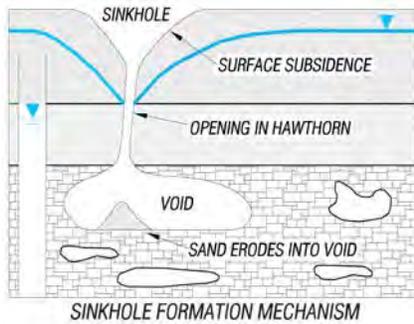
4.1 Central Florida Geology



Due to its prevalent geology, referred to as karst, Central Florida is prone to the formation of sinkholes, or large, circular depressions created by local subsidence of the ground surface. The nature and relationship of the three sedimentary layers typical of Central Florida geology cause sinkholes. The deepest, or basement, layer is a massive cavernous limestone formation known as the Floridan aquifer.



The Floridan aquifer limestone is overlain by a silty or clayey sand, clay, phosphate, and limestone aquitard (or flow-retarding layer) ranging in thickness from nearly absent to greater than 100 feet and locally referred to as the Hawthorn Group (Hawthorn). The Hawthorn is in turn overlain by a 40 to 70-foot thick surficial layer of sand, bearing the water table aquifer. The likelihood of sinkhole occurrence at a given site within the region is determined by the relationship among these three layers, specifically by the water (and soil)-transmitting capacity of the Hawthorn at that location.



The water table aquifer is comprised of Recent and Pleistocene sands and is separated from the Eocene limestone of the Floridan aquifer by the Miocene sands, clays and limestone of the Hawthorn. Since the thickness and consistency of the Hawthorn is variable across Central Florida, the likelihood of groundwater flow from the upper to the lower aquifer (known as aquifer recharge) will also vary by geographical location.

In areas where the Hawthorn is absent, water table groundwater (and associated sands) can flow downward to cavities within the limestone aquifer, like sand through an hourglass, recharging the Floridan aquifer, and sometimes causing the formation of surface sinkholes. This process of subsurface erosion associated with recharging the Floridan aquifer is known as raveling. Thus, in Central Florida, areas of effective groundwater recharge to the Floridan aquifer have a higher potential for the formation of surface sinkholes.

Based on the U.S. Geological Survey Map entitled “Recharge and Discharge Areas of the Floridan Aquifer in the St. Johns River Water Management District and Vicinity, Florida,” 1984, the study area lies in an area of low to moderate recharge; therefore, we can conclude based solely on this data that it also lies in an area where the relative risk of sinkhole formation is low to moderate compared to the overall risk across Central Florida.

4.2 USGS Quadrangle Map

The study area has been transposed onto the USGS St. Catherine and Webster, Florida Quadrangle maps for this area, as shown on **Figure 1**. The USGS Quadrangle map indicates that the topography within the study area ranges from approximately +55 to +90 feet above the National Geodetic Vertical Datum (NGVD). Numerous depressional features, small lakes, and wetlands are located throughout the project vicinity.

Two railroads are visible crossing and paralleling the trail alignment as described in Section 6.6, Railroad Corridors. The Atlantic Coast Line railroad is abandoned and CSX (formerly Seaboard Airline railroad) operates as an active line parallel to US 301.

A sand pit is visible on the east side of SR 471 about 500 feet east of SR 471 and 3,500 feet north of SR 50. This feature is visible on the NRCS Soil Survey and in the 1953 aerial. It currently contains residences and is not considered to have a significant contamination risk to this project.

No solid waste landfills are depicted that would represent potential contamination concerns on, or in the immediate vicinity of, the study area.

4.3 NRCS Soil Survey Review

The NRCS Soil Survey of Hernando and Sumter Counties, Florida was reviewed for information regarding near-surface soil conditions within the project limits, as shown on **Figures 3A** through **3F**. The following soil types were identified within the study area:

Unit No.	Hernando County
	Soil Name
6	Arredondo fine sand, 0 to 5 percent slopes
24	Floridana-Basinger association, occasionally flooded
31	Lake fine sand, 0 to 5 percent slopes
47	Sparr fine sand, 0 to 5 percent slopes
99	Water

Unit No.	Sumter County
	Soil Name
4	Candler sand, 0 to 5 percent slopes
5	Candler sand, 5 to 8 percent slopes
8	Lake fine sand, 0 to 5 percent slopes
9	Paisley fine sand, bouldery subsurface
10	Sparr fine sand, 0 to 5 percent slopes
11	Millhopper sand, 0 to 5 percent slopes
13	Tavares fine sand, 0 to 5 percent slopes
14	Lake fine sand, 5 to 8 percent slopes
15	Adamsville fine sand, boulder subsurface
18	Okeelanta muck
21	EauGallie fine sand bouldery subsurface
23	Ona-Ona, wet, fine sand, 0 to 2 percent slopes
24	Basinger fine sand
25	Kanapaha sand, bouldery subsurface
26	Wabasso fine sand, bouldery subsurface
27	Sumterville fine sand, bouldery subsurface, 0 to 5 percent slopes
28	Seffner fine sand, 0 to 2 percent slopes
29	Nittaw Muck, frequently flooded
30	Placid fine sand, frequently ponded, 0 to 1 percent slopes
31	Myakka-Myakka, wet, sands, 0 to 2 percent slopes
32	Pompano fine sand

Unit No.	Sumter County
	Soil Name
33	Sparr fine sand, bouldery subsurface, 0 to 5 percent slopes
35	Pompano fine sand, frequently ponded, 0 to 1 percent slopes
40	Millhopper sand, bouldery subsurface, 0 to 5 percent slopes
42	Adamsville fine sand, 0 to 2 percent slopes
45	Electra fine sand, bouldery subsurface
46	Ft. Green fine sand, bouldery subsurface
51	Pits-Dumps complex
53	Tavares fine sand, bouldery subsurface, 0 to 5 percent slopes
54	Monteocha fine sand, depressional
60	Delray fine sand, depressional
64	Gator muck, frequently ponded, 0 to 1 percent slopes
99	Water

No solid waste landfills are depicted that would be an obvious sign of deposition of hazardous substances or petroleum products.

Information contained in the NRCS Soil Survey is very general and may be outdated. It may not therefore be reflective of actual soil and groundwater conditions, particularly if recent development in the site vicinity has modified soil conditions or surface/subsurface drainage.

4.4 Geotechnical Investigation

A Preliminary Geotechnical Report, dated February 12, 2018, has been prepared as a separate document.

5.0 HISTORICAL DATA REVIEW

5.1 Historical Aerial Photographs

Historical aerial photographs of the study area were reviewed to evaluate past land use and to identify features that may indicate hazardous material or petroleum contamination. Available historical aerial photographs of the study area were accessed from Google Earth, the Florida Department of Transportation, and the University of Florida websites. Aerial photographs for the following years were reviewed: 1941, 1953, 1960, 1969, 1983, 1995, 1998, 2004, 2008, 2011, 2013, and 2017.

1941:

The trail alignment (SR 471, CR 478, US 301, and CR 673) is visible, along with portions of the CSX railroad. The alignment area west of US 301 is largely undeveloped, while the eastern portion contains crops, agricultural fields, and residential/small business structures, specifically in the vicinity of the intersections of Central Avenue and CR 478 with SR 471. The City of Webster appears to contain residential and commercial structures.

1953-1969

The northeast and northwest quadrants of the SR 471 and SR 50 intersection have been developed and an auto salvage yard is visible 0.25 miles north of the intersection. West of US 301, mining activity has begun north and south of CR 673 and the interchange of I-75 with CR 673 has been constructed. There is increased commercial development in Webster, visible along the northern portion of SR 471, with automotive usage at the intersections of Central Avenue, 3rd Avenue, and CR 478.

1983:

The southeast corner of the SR 471 and SR 50 intersection has been cleared.

1995-2017:

A lumber operation and gas station are visible on the southwest corner of the SR 471 and SR 50 intersection. Row crop land use has diminished by 1995. Aside from increased mining activity north of CR 673, the majority of the commercial development within the study area appears to have been constructed by 1995. In 1998, an apparent residence is constructed just east of Croom Rital Road. While there is some redevelopment activity, the study area does not appear to change significantly between 1995 and 2017.

Site details identified in the historical aerial photographs are included in the Potential Contamination Site Descriptions in **Appendix A**. The historical aerial photographs are provided in **Appendix B**.

5.2 City Directories

City Directories are historical listings of businesses and residences in a given area, similar to a standard telephone book. The site occupant and addresses listed for previous years can identify past land uses. The city directories for the study area were researched from 1977 through 2014 at approximately 5-year intervals.

Table 2 in **Appendix E** summarizes the historical city directory listings within the study area. The city directory review did not reveal any gas stations or other commercial/industrial land

uses that were not found in the site reconnaissance, environmental database searches, or historical aerial photograph reviews. The City Directory Report is included in **Appendix E**.

5.3 Fire Insurance Maps

Fire insurance maps are used by insurance companies in assessing fire risk. These maps contain details about building construction, business type, building contents, fuel storage tanks, and other factors affecting fire risk.

Historical fire insurance maps were not available for the study area.

5.4 Historical Quadrangle Maps

GEC reviewed historical quadrangle maps at the www.Historicaerials.com website. The maps for 1959, 1960, 1970, and 1987 were reviewed.

The trail alignment (SR 471, CR 478, US 301, and CR 673) and the CSX railroad system are visible in the quadrangle maps. Based on review of the maps, it is not evident when the Atlantic Coast Line railroad was abandoned. Many of the current Contamination Risk Potential Rating (CRPR) facility locations along the alignment are visible as buildings on the 1987 map.

The historical quadrangle maps do not depict solid waste landfills or other apparent features that would represent potential environmental concerns on or in the immediate vicinity, of the study area.

5.5 Historical Contamination Screening Evaluation Report

A Contamination Screening Evaluation Report, dated June 30, 2017, was performed for a portion of SR 50 beginning at US 301 in Hernando County, and extending to CR 33 (Bluff Lake Road) in Lake County, Florida. CRPRs identified in the June 2017 report that fall within the South Sumter Connector Trail study area, have been re-reviewed and are included in this report as described in **Table 1** and **Appendix A**.

6.0 PUBLIC RECORD REVIEW

A review of the public record was conducted for the study area including information obtained from the USEPA and the FDEP. As a part of our review, a regulatory database search was obtained. The Radius Map Report is included in **Appendix F**.

6.1 Florida Department of Environmental Protection (FDEP) Databases

The FDEP has compiled several databases that are useful in identifying potential sources of hazardous material or petroleum product contamination. The FDEP databases reviewed for this study and their common abbreviations are provided in **Appendix G**.

6.2 United States Environmental Protection Agency (USEPA) Databases

The federal government has compiled several databases that are useful in identifying potential sources of hazardous material or petroleum product contamination. The federal databases reviewed for this study and their common abbreviations are provided in **Appendix H**.

6.3 FDEP OCULUS Document Management System, Map Direct Website, and Nexus Portal

The FDEP uses the OCULUS Document Management System, Map Direct Website, and Nexus Portal to provide public record information for petroleum or hazardous material releases to the environment, generators of hazardous waste, and solid waste facilities. Information contained in this data management system includes the status of active and abandoned storage tanks, tank inspection reports, tank closure reports, environmental assessment reports, remedial action reports, hazardous waste generator compliance details, and solid waste facility compliance details.

The OCULUS Document Management System, Map Direct Website, and Nexus Portal were reviewed for sites within the search distances provided in Section 4.0. The results of the review have been incorporated in the Potential Contamination Site Descriptions in **Appendix A**. The FDEP OCULUS, Map Direct and Nexus Portal Information can be found in **Appendix I**.

6.4 EDB Delineated Areas

The Florida Legislature had the FDEP implement the Delineated Areas Program in 1988 under Chapter 62-524, FAC. The purpose of the program was to protect public health and groundwater resources by regulating potable water well construction and testing standards for areas of known groundwater contamination. During the period 1962 to 1980, the Florida Department of Agriculture and Consumer Services (FDACS) conducted widespread applications of ethylene dibromide (EDB), an agricultural pesticide, to control nematodes in citrus groves. In 1983, the FDEP began testing groundwater in potable wells throughout Florida due to the discovery of EDB in wells in other states. The delineated areas of EDB groundwater contamination are shown on the FDEP Map Direct website. The potable wells, agricultural or residential, with confirmed impacts were shown on the website with a 1,000-foot buffer zone in

an attempt to project future migration of contaminants. However, this does not mean that there is not EDB contamination outside of that 1,000-foot zone.

After reviewing these EDB-delineated areas on the FDEP Map Direct website, in the vicinity of the study area, no EDB-delineation areas appear within the study area.

6.5 Agricultural Land Use

Agricultural land uses are present within the study area in historical aerial photographs. These land uses typically have a number of environmental concerns associated with them. Concerns include pesticide/herbicide storage and usage, grove and nursery heating during cooler winter months (smudge pots and other heating equipment), tractor and equipment maintenance and fueling, underground and aboveground fuel storage tanks, irrigation pumps and maintenance, and asbestos irrigation lines. No obvious evidence of environmental impacts from agricultural usage was observed at the time of site reconnaissance.

Row crops and cattle pasture fields are located throughout the study area and a historical citrus grove was located east of Interstate 75 and south of SR 673, just east of Wild Cow Prairie. Agricultural land uses are identified as **Site No. 27** in **Appendix A**.

6.6 Railroad Corridors

The proposed trail alignment is paralleled and crossed by active and abandoned railroad lines currently owned by CSX and private property owners. The railroads are within the study area as follows:

Active Railroad (Formerly known as Seaboard Air Line)

- Runs along the east side of US 301 between CR 673 and CR 478

Abandoned Railroad (Formerly known as Atlantic Coast Line)

- Closely parallels the south side of CR 673 and CR 478
- Crosses SR 471 at Central Avenue
- Crosses under I-75 in state forest

Existing and historical rail lines have several common chemical constituents of concerns as follows:

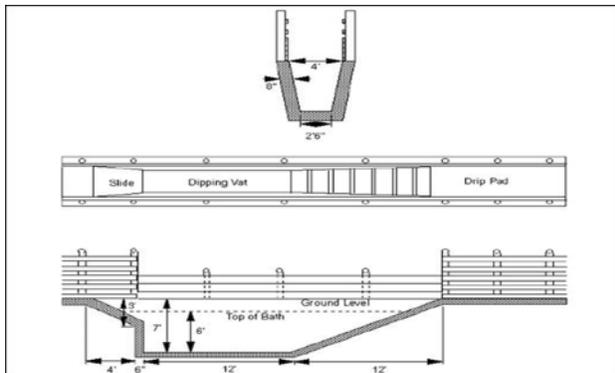
- **Arsenic:** The most commonly used arsenic-containing products were herbicides, pesticides, insecticides, and wood-treating agents such as chromated copper arsenate.
- **Creosote:** Creosote is used to coat railroad ties.
- **Polynuclear aromatic hydrocarbons:** Polynuclear aromatic hydrocarbons are a coal tar and creosote by-product. Coal tar is more commonly associated with rail yards.
- Other **inorganic constituents** used in herbicides.

Due to its residual nature, arsenic is the most commonly occurring chemical constituent related to railroad beds due to liberal applications of herbicides used to keep the railroad free of vegetation. The creosote and polynuclear aromatic hydrocarbons are commonly found associated with railroad ties and rail yards.

The railroad corridors are identified as **Site No. 26** in **Appendix A**.

6.7 Cattle Dip Vats

Cattle dip vats were a response to cattle tick fever in the 1890s. The USDA initiated the cattle dip vat program in 1906 and approximately 3,200 cattle dip vats had been constructed by 1940.



Cattle dip vats were used until the 1960s and many vats have not been located, or documented. Cattle dip vats were used to apply pesticides to cattle and other livestock, kill ticks, and thereby eliminate tick-borne diseases. The vats were typically constructed of concrete. They consisted of four sections; the entrance slide, dipping vat, exit stairs and drip pad. Cattle were funneled into a chute leading to the entrance slide, then slide down

into the pesticide-filled vat, swim or walk across the vat and walk up the exit stairs to the drip pad. The vats were roughly four feet wide, seven feet deep, and 40 feet long as shown on the following diagram.

Due to the relatively small size of the vat and the narrow profile, it is difficult to identify a cattle dip vat from aerial photographs, or in a wooded area. Cattle dip vats are typically identified when the land owner reveals the location, when they are located near historical cattle pens and chutes, and by happening upon them. To add to the difficulty in identifying historical cattle dip vats, many landowners removed the vats when the program was closed. They either dug up the vat or broke up the concrete and covered it with soil.

No cattle dip vats were identified within the study area through public record and database review, historical aerial photograph review, or site reconnaissance. Based on available information, we found no evidence that cattle dip vats within the study area contribute to contamination risk for this project.

7.0 INTERVIEWS

FDEP was contacted for an interview on January 4, 2018 and has not responded as of the date of this report. Interview documentation is included in **Appendix J**.

8.0 SITE RECONNAISSANCE

A reconnaissance of the study area was performed on December 27, 2017 and April 17, 2019. The purpose of the reconnaissance was to document existing conditions and evaluate whether current land uses could result in hazardous material or petroleum product contamination of environmental media.

The properties within the project study area were visually inspected for evidence of contamination such as stressed vegetation, underground tank vent and fill pipes, dumping, accumulated areas of debris, evidence of buried materials, and ground staining.

Details of the site reconnaissance are incorporated in the Potential Contamination Site Descriptions in **Appendix A**. Photographs obtained for each potential contamination site are also included in **Appendix A**.

9.0 CONCLUSIONS AND RECOMMENDATIONS

This CSER has identified the 27 sites that have some risk of contamination impacts to this project. The site locations are shown on **Figures 4A** through **4E**. **Table 1** summarizes the findings for each rated site.

9.1 Potential Contamination Sites

Low Risk Sites (8)

Site No.	Site Name	Site Address	Risk Potential
1	Sumter Oaks RV Park	4602 CR 673	Low
2	Historical Mine	3949 CR 673	Low
4	Graham Bros. Construction Inc.	3621 CR 673	Low
5	Quality Welding Service	9417 Southwest 17 th Way	Low

Site No.	Site Name	Site Address	Risk Potential
6	FL Tools, Inc.	2437 CR 478	Low
7	Walter Williams Site	9 th Avenue and 3 rd Street	Low
18	Lively's Custom Woodworking	3014 CR 774	Low
24	The Dumont Company/Hawkins Inc.	13825 SR 471	Low

Medium and High Risk Sites (19)

Site No.	Site Name	Site Address	Risk Potential
3	St. Catherine Mining	3919 CR 673	Medium
8	Joy Foods #663	381 North Market Boulevard (SR 471)	Medium
9	Shop & Go Superette #4	374 North Market Boulevard (SR 471)	Medium
10	Webster Auto Care	347 North Market Boulevard (SR 471)	Medium
11	Jackie's Market Sunoco	329 North Market Boulevard (SR 471)	Medium
12	Former Circle K #7068	281 North Market Boulevard (SR 471)	Medium
13	Studebaker Headquarters	248 North Market Boulevard (SR 471)	Medium
14	Shell-Sams	125 North Market Boulevard (SR 471)	Medium
15	Webster Farm Supply	120 North Market Boulevard (SR 471)	Medium
16	Shales Property	18 South Market Boulevard (SR 471)	Medium
17	Webster Elementary School	349 South Market Boulevard (SR 471)	Medium
19	Don's Tarrytown Auto Parts	13452 SR 471	High
20	South Sumter Grocery	13721 SR 471	High
21	Circle K #2707547	2986 SR 50	Medium
22	Sunoco-Webster	13801 SR 471	High
23	Cumberland Farms #1087	2985 SR 50	High
25	Robbins Manufacturing Co.	13904 SR 471	High
26	Seaboard Coast Line Railroads	Adjacent/Perpendicular	Medium
27	Agricultural Land Use	Adjacent	Medium

9.2 Level 2 Contamination Impact Analysis (CIA) Recommendations

Using the FDOT CRPRs presented in **Appendix D**, we have identified **8 Low Risk** sites, **14 Medium Risk** sites, and **5 High Risk** sites. Based on their proximity to the final trail alignment, Level 2 Contamination Impact Analyses (CIA) may be required at **9 Medium Risk** sites and the **5 High Risk** sites.

GEC coordinated with the FDOT District 5 Contamination Impact Coordinator, Mr. Randy Stafford, on August 14, 2019 to evaluate the need for Level 2 CIAs. Level 2 CIA's will not be required at **Medium Risk** Site Nos. 8, 9, 11, 14, and 16.

9.3 CSER Update

This CSER should be updated if right of way acquisition or construction will occur more than **one year** from the date of this report to determine if additional assessment is warranted due to significant changes in site conditions or project design.

10.0 LIMITATIONS

The findings, opinions, conclusions and recommendations presented herein are based in part on reasonably ascertainable information contained in the public record. GEC does not warrant or guarantee the accuracy or completeness of this information. Some of this public record information may be dated and not representative of conditions at the time of this report was prepared (December 2017 and January 2018), or in the future. Additional limitations are as follows:

- Not discussed in this report are properties that have been historically undeveloped land, are associated with residential use and do not appear to pose a contamination risk, or are professional/commercial establishments that are not associated with hazardous materials or petroleum products.
- This study also does not include surveys of wetlands, endangered species, asbestos containing materials, lead-based paints, or other potential hazardous building materials.

11.0 USE OF THIS REPORT

This report has been prepared for the exclusive use of our client, FDOT, and for application to this project. We will not be held responsible for any other party's interpretation or use of this report's data or recommendations without our written authorization.

We have performed the services described in this report in a manner consistent with that level of care and skill ordinarily exercised by members of our profession currently practicing in Central Florida. No other representation is made or implied in this document.

The conclusions and recommendations should be disregarded if the final project design differs from the project description in this report. If such changes are contemplated, we should be retained to review the new plans to assess the applicability of this report in light of proposed changes.

FIGURES

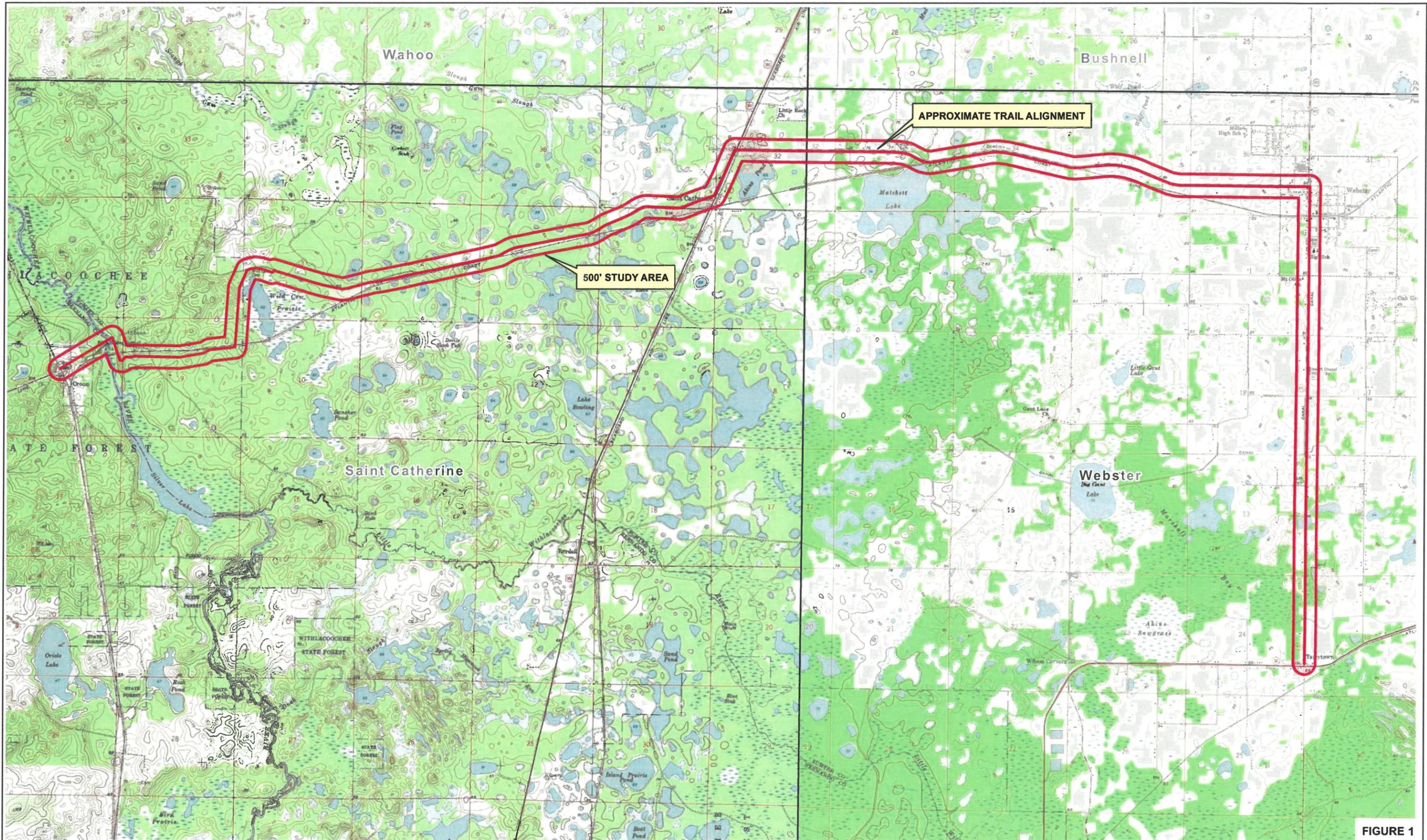
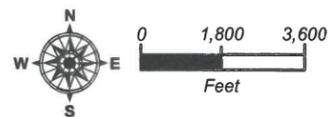


FIGURE 1



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	SUMTER HERNANDO	4354471-1-22-01

USGS QUADRANGLE MAP

SHEET NO.

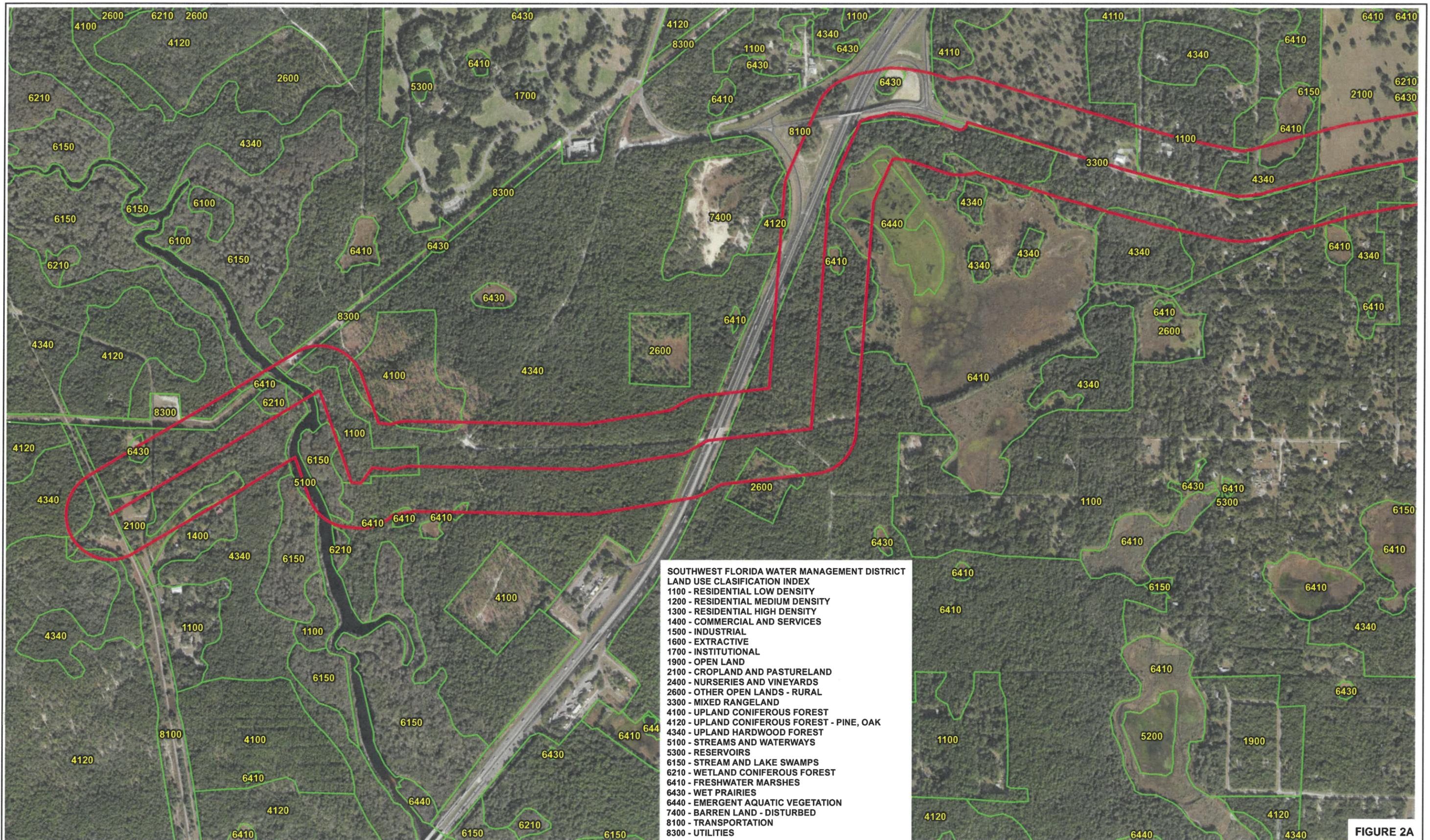
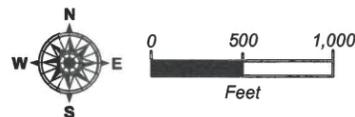


FIGURE 2A



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LAND USE MAP

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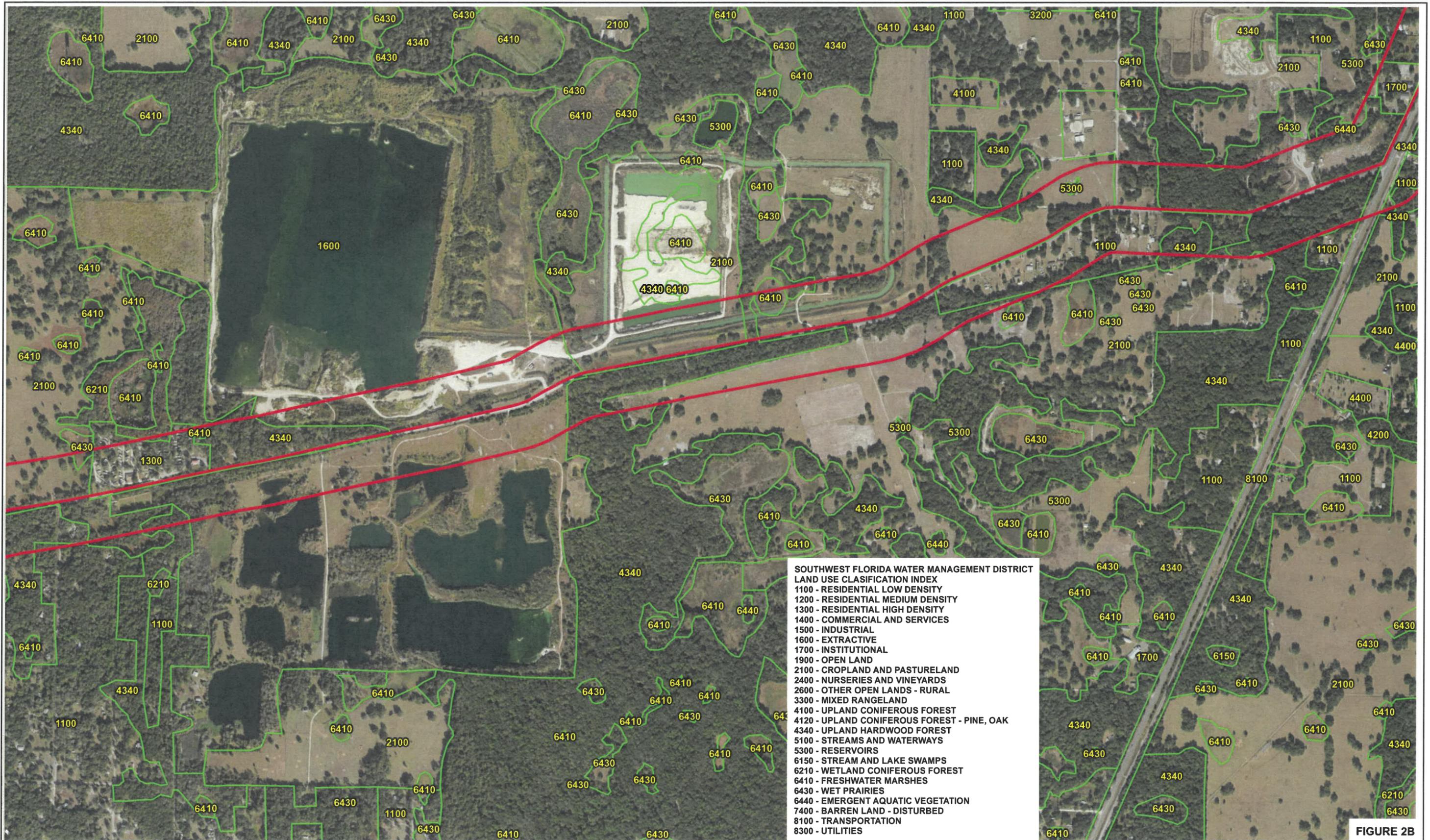
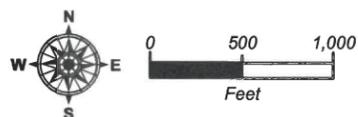


FIGURE 2B



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LAND USE MAP

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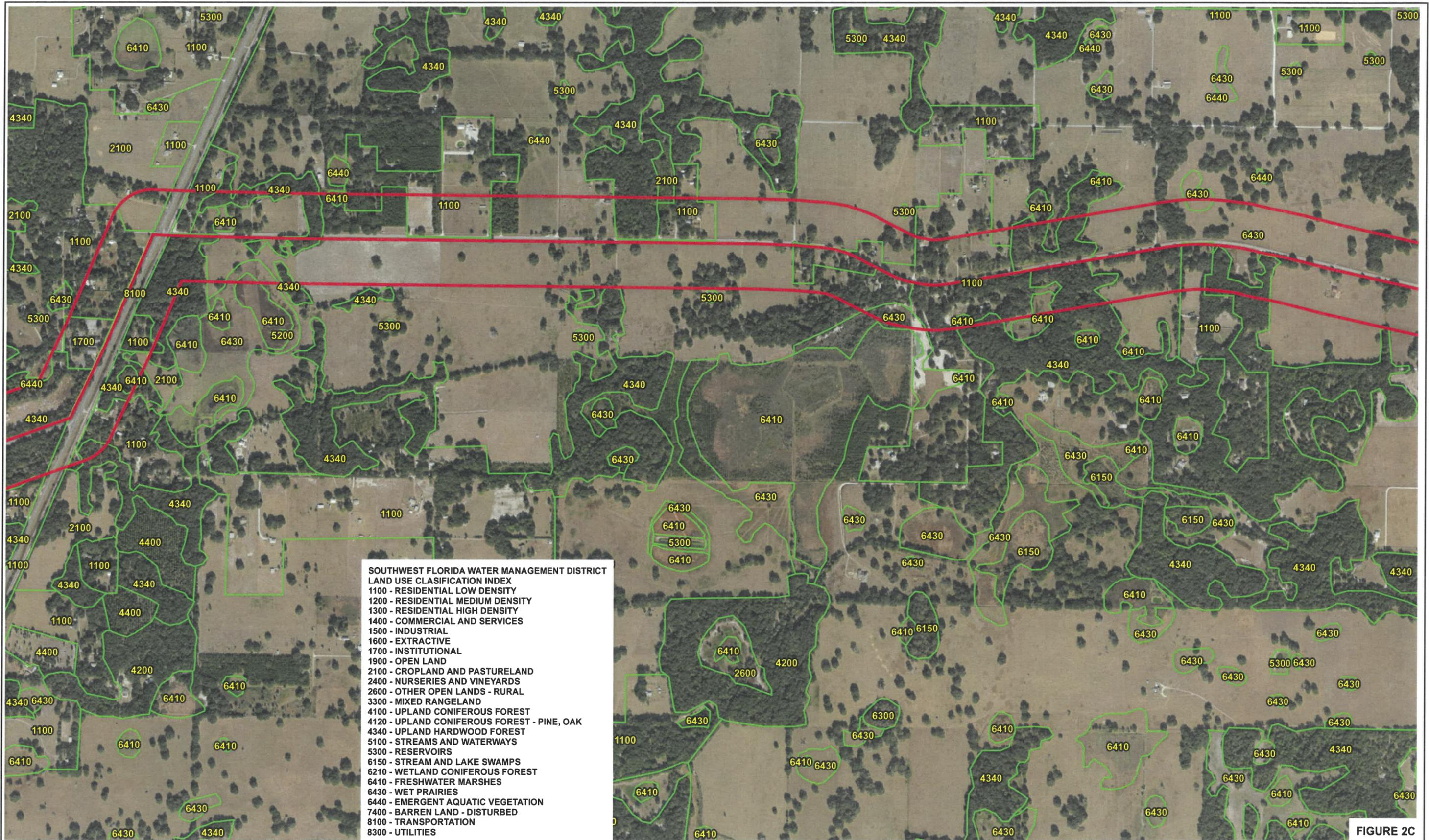
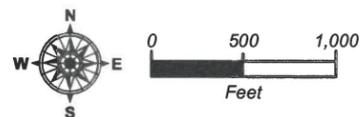


FIGURE 2C



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LAND USE MAP

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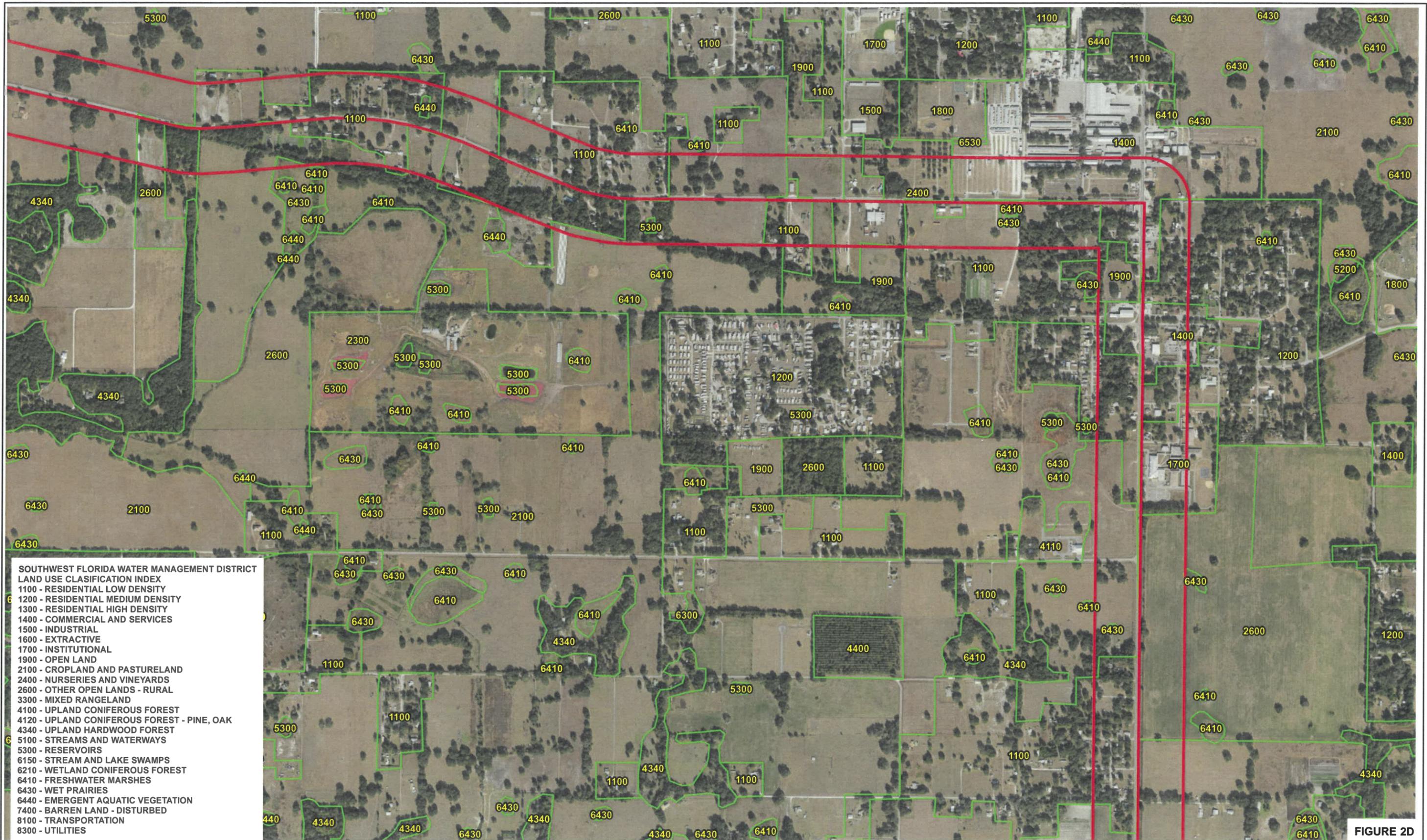
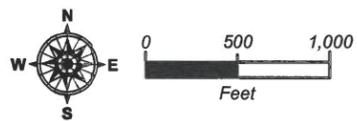


FIGURE 2D

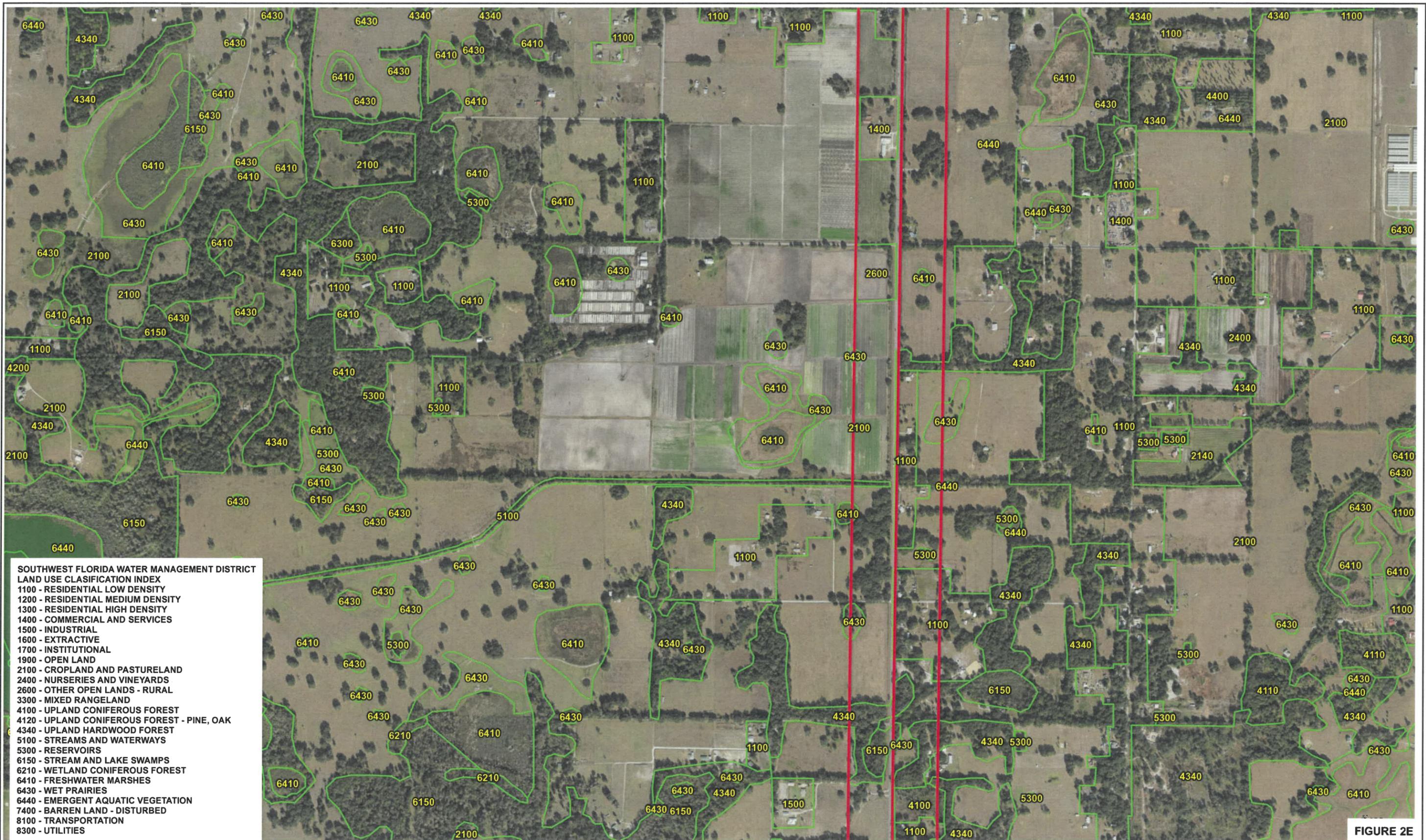


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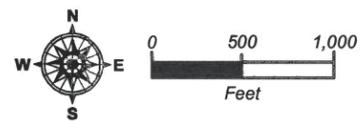
LAND USE MAP

SHEET
NO.



- SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
LAND USE CLASIFICATION INDEX**
- 1100 - RESIDENTIAL LOW DENSITY
 - 1200 - RESIDENTIAL MEDIUM DENSITY
 - 1300 - RESIDENTIAL HIGH DENSITY
 - 1400 - COMMERCIAL AND SERVICES
 - 1500 - INDUSTRIAL
 - 1600 - EXTRACTIVE
 - 1700 - INSTITUTIONAL
 - 1900 - OPEN LAND
 - 2100 - CROPLAND AND PASTURELAND
 - 2400 - NURSERIES AND VINEYARDS
 - 2600 - OTHER OPEN LANDS - RURAL
 - 3300 - MIXED RANGELAND
 - 4100 - UPLAND CONIFEROUS FOREST
 - 4120 - UPLAND CONIFEROUS FOREST - PINE, OAK
 - 4340 - UPLAND HARDWOOD FOREST
 - 5100 - STREAMS AND WATERWAYS
 - 5300 - RESERVOIRS
 - 6150 - STREAM AND LAKE SWAMPS
 - 6210 - WETLAND CONIFEROUS FOREST
 - 6410 - FRESHWATER MARSHES
 - 6430 - WET PRAIRIES
 - 6440 - EMERGENT AQUATIC VEGETATION
 - 7400 - BARREN LAND - DISTURBED
 - 8100 - TRANSPORTATION
 - 8300 - UTILITIES

FIGURE 2E

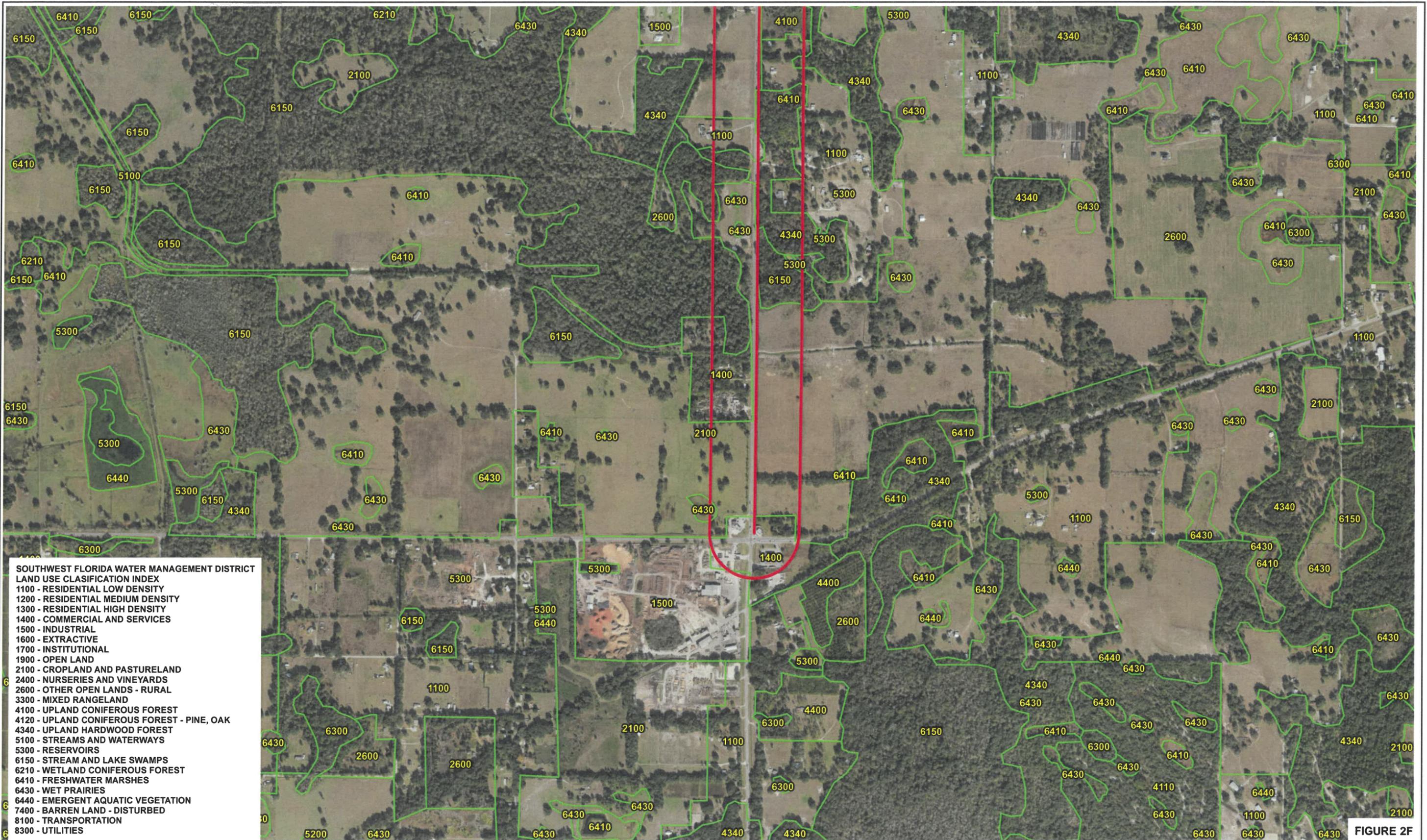


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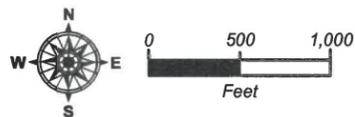
LAND USE MAP

SHEET
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- SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
LAND USE CLASSIFICATION INDEX**
- 1100 - RESIDENTIAL LOW DENSITY
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 - 6430 - WET PRAIRIES
 - 6440 - EMERGENT AQUATIC VEGETATION
 - 7400 - BARREN LAND - DISTURBED
 - 8100 - TRANSPORTATION
 - 8300 - UTILITIES

FIGURE 2F

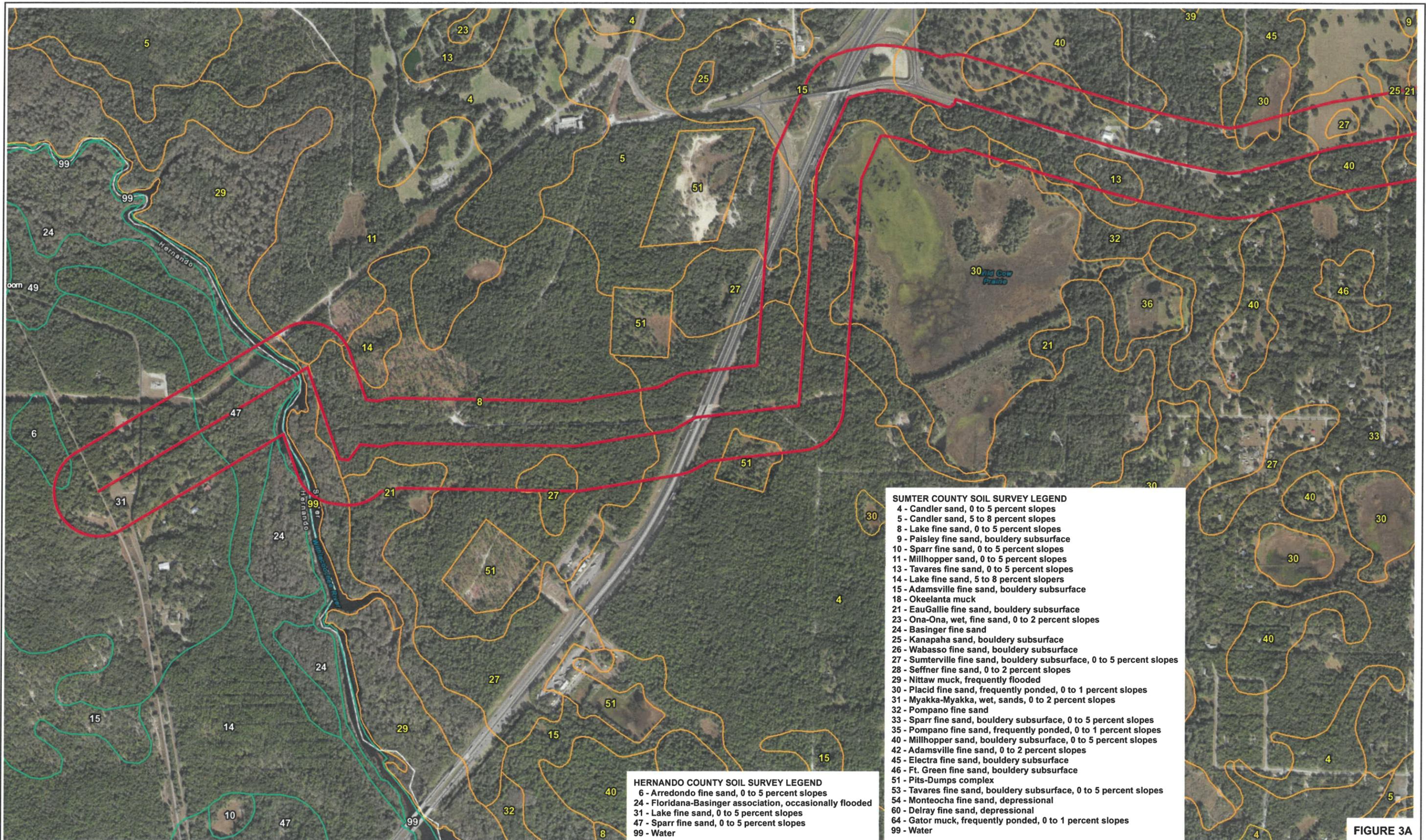


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LAND USE MAP

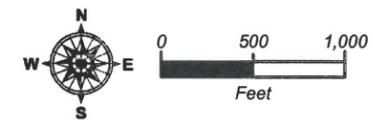
SHEET NO.



- SUMTER COUNTY SOIL SURVEY LEGEND**
- 4 - Candler sand, 0 to 5 percent slopes
 - 5 - Candler sand, 5 to 8 percent slopes
 - 8 - Lake fine sand, 0 to 5 percent slopes
 - 9 - Paisley fine sand, bouldery subsurface
 - 10 - Sparr fine sand, 0 to 5 percent slopes
 - 11 - Millhopper sand, 0 to 5 percent slopes
 - 13 - Tavares fine sand, 0 to 5 percent slopes
 - 14 - Lake fine sand, 5 to 8 percent slopes
 - 15 - Adamsville fine sand, bouldery subsurface
 - 18 - Okeelanta muck
 - 21 - Eau Gallie fine sand, bouldery subsurface
 - 23 - Ona-Ona, wet, fine sand, 0 to 2 percent slopes
 - 24 - Basinger fine sand
 - 25 - Kanapaha sand, bouldery subsurface
 - 26 - Wabasso fine sand, bouldery subsurface
 - 27 - Sumterville fine sand, bouldery subsurface, 0 to 5 percent slopes
 - 28 - Seffner fine sand, 0 to 2 percent slopes
 - 29 - Nittaw muck, frequently flooded
 - 30 - Placid fine sand, frequently ponded, 0 to 1 percent slopes
 - 31 - Myakka-Myakka, wet, sands, 0 to 2 percent slopes
 - 32 - Pompano fine sand
 - 33 - Sparr fine sand, bouldery subsurface, 0 to 5 percent slopes
 - 35 - Pompano fine sand, frequently ponded, 0 to 1 percent slopes
 - 40 - Millhopper sand, bouldery subsurface, 0 to 5 percent slopes
 - 42 - Adamsville fine sand, 0 to 2 percent slopes
 - 45 - Electra fine sand, bouldery subsurface
 - 46 - Ft. Green fine sand, bouldery subsurface
 - 51 - Pits-Dumps complex
 - 53 - Tavares fine sand, bouldery subsurface, 0 to 5 percent slopes
 - 54 - Montechoa fine sand, depressional
 - 60 - Delray fine sand, depressional
 - 64 - Gator muck, frequently ponded, 0 to 1 percent slopes
 - 99 - Water

- HERNANDO COUNTY SOIL SURVEY LEGEND**
- 6 - Arredondo fine sand, 0 to 5 percent slopes
 - 24 - Floridana-Basinger association, occasionally flooded
 - 31 - Lake fine sand, 0 to 5 percent slopes
 - 47 - Sparr fine sand, 0 to 5 percent slopes
 - 99 - Water

FIGURE 3A

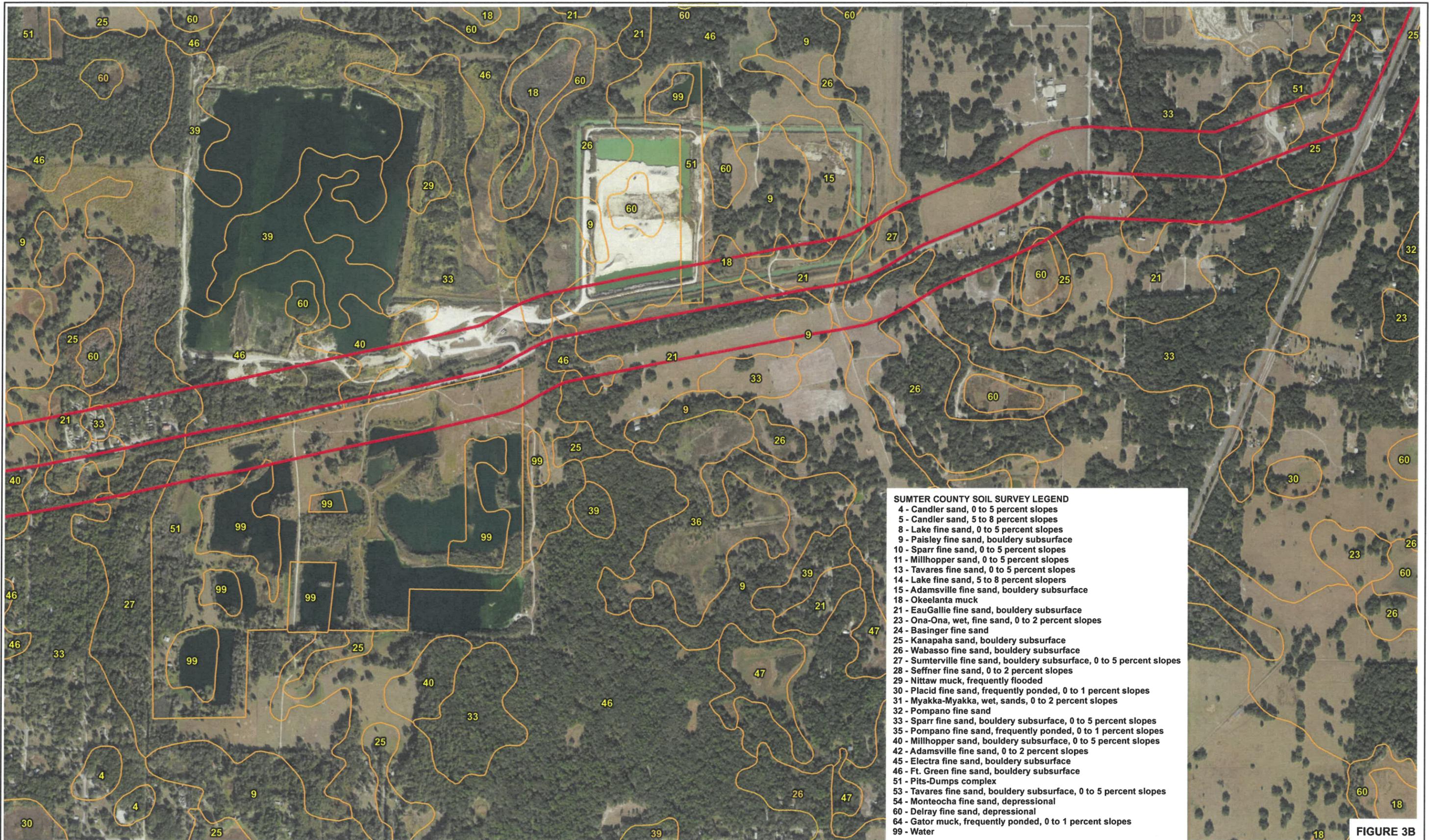


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NRCS SOIL SURVEY MAP

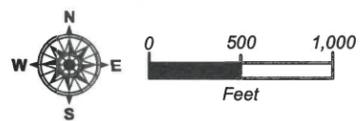
SHEET NO.



SUMTER COUNTY SOIL SURVEY LEGEND

- 4 - Candler sand, 0 to 5 percent slopes
- 5 - Candler sand, 5 to 8 percent slopes
- 8 - Lake fine sand, 0 to 5 percent slopes
- 9 - Paisley fine sand, bouldery subsurface
- 10 - Sparr fine sand, 0 to 5 percent slopes
- 11 - Millhopper sand, 0 to 5 percent slopes
- 13 - Tavares fine sand, 0 to 5 percent slopes
- 14 - Lake fine sand, 5 to 8 percent slopes
- 15 - Adamsville fine sand, bouldery subsurface
- 18 - Okeelanta muck
- 21 - EauGallie fine sand, bouldery subsurface
- 23 - Ona-Ona, wet, fine sand, 0 to 2 percent slopes
- 24 - Basinger fine sand
- 25 - Kanapaha sand, bouldery subsurface
- 26 - Wabasso fine sand, bouldery subsurface
- 27 - Sumterville fine sand, bouldery subsurface, 0 to 5 percent slopes
- 28 - Seffner fine sand, 0 to 2 percent slopes
- 29 - Nittaw muck, frequently flooded
- 30 - Placid fine sand, frequently ponded, 0 to 1 percent slopes
- 31 - Myakka-Myakka, wet, sands, 0 to 2 percent slopes
- 32 - Pompano fine sand
- 33 - Sparr fine sand, bouldery subsurface, 0 to 5 percent slopes
- 35 - Pompano fine sand, frequently ponded, 0 to 1 percent slopes
- 40 - Millhopper sand, bouldery subsurface, 0 to 5 percent slopes
- 42 - Adamsville fine sand, 0 to 2 percent slopes
- 45 - Electra fine sand, bouldery subsurface
- 46 - Ft. Green fine sand, bouldery subsurface
- 51 - Pits-Dumps complex
- 53 - Tavares fine sand, bouldery subsurface, 0 to 5 percent slopes
- 54 - Montecocha fine sand, depressional
- 60 - Delray fine sand, depressional
- 64 - Gator muck, frequently ponded, 0 to 1 percent slopes
- 99 - Water

FIGURE 3B



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NRCS SOIL SURVEY MAP

SHEET NO.

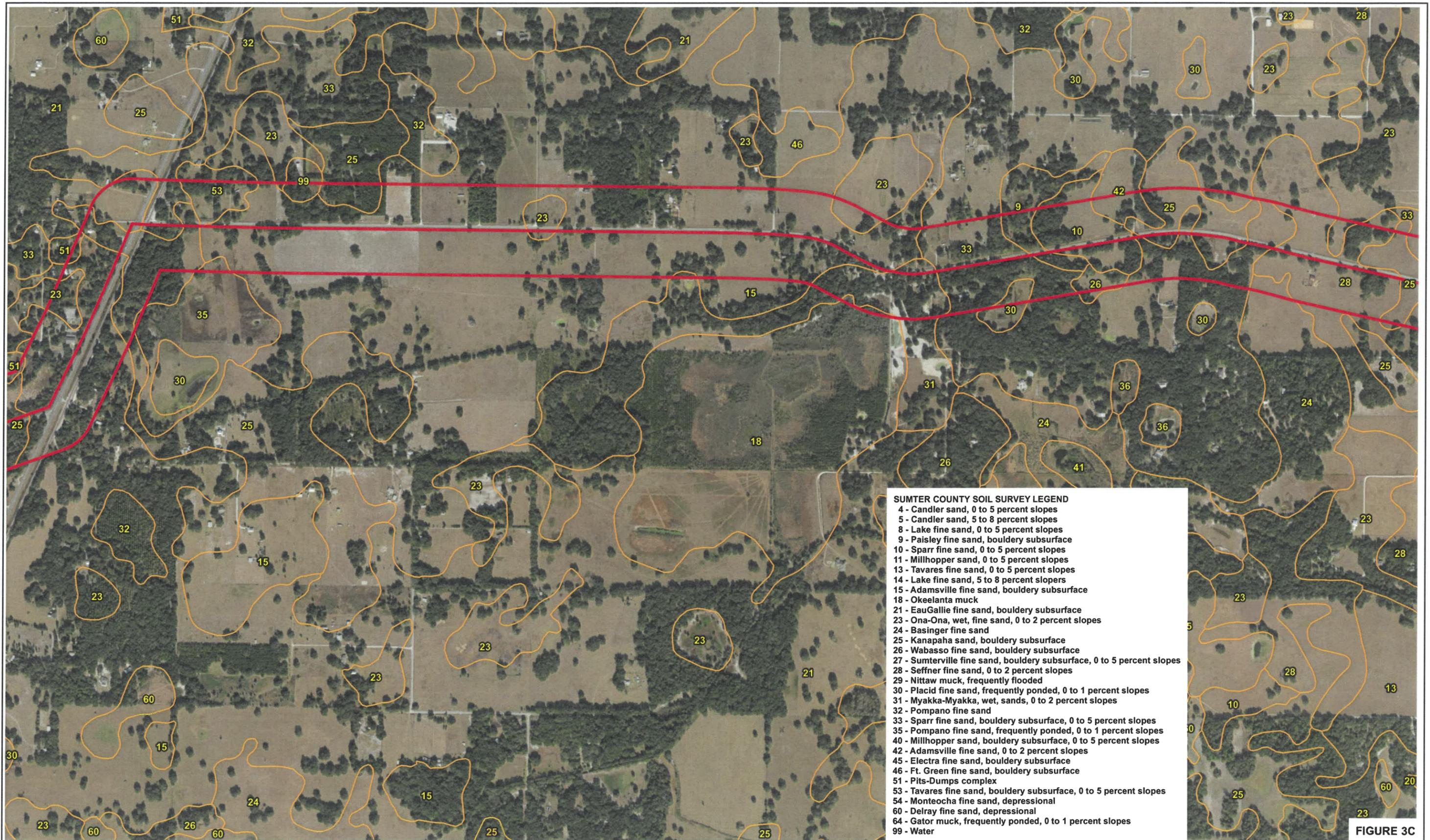
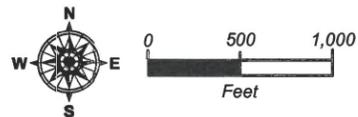


FIGURE 3C



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NRCS SOIL SURVEY MAP

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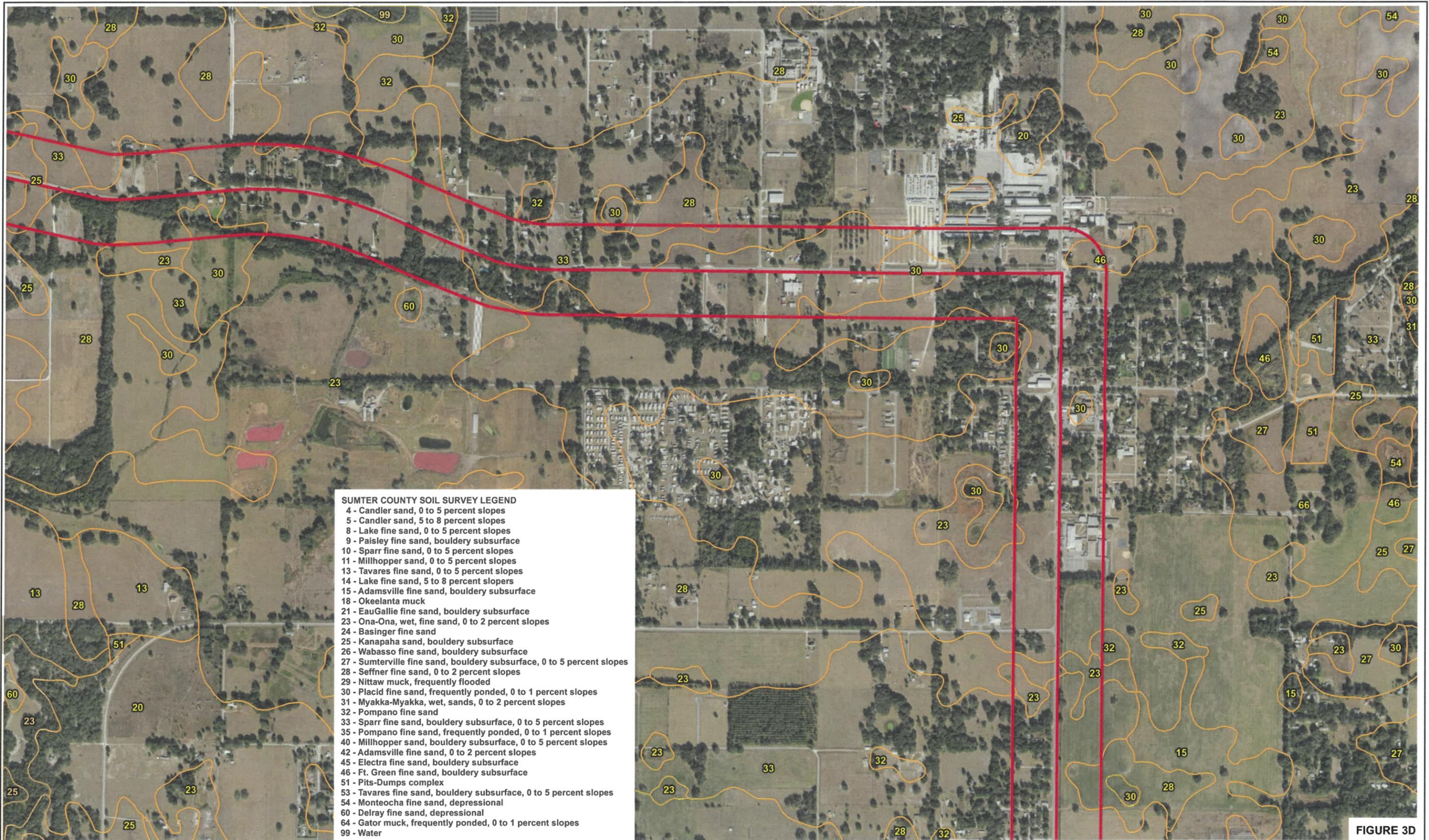
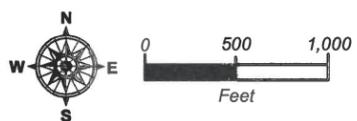


FIGURE 3D

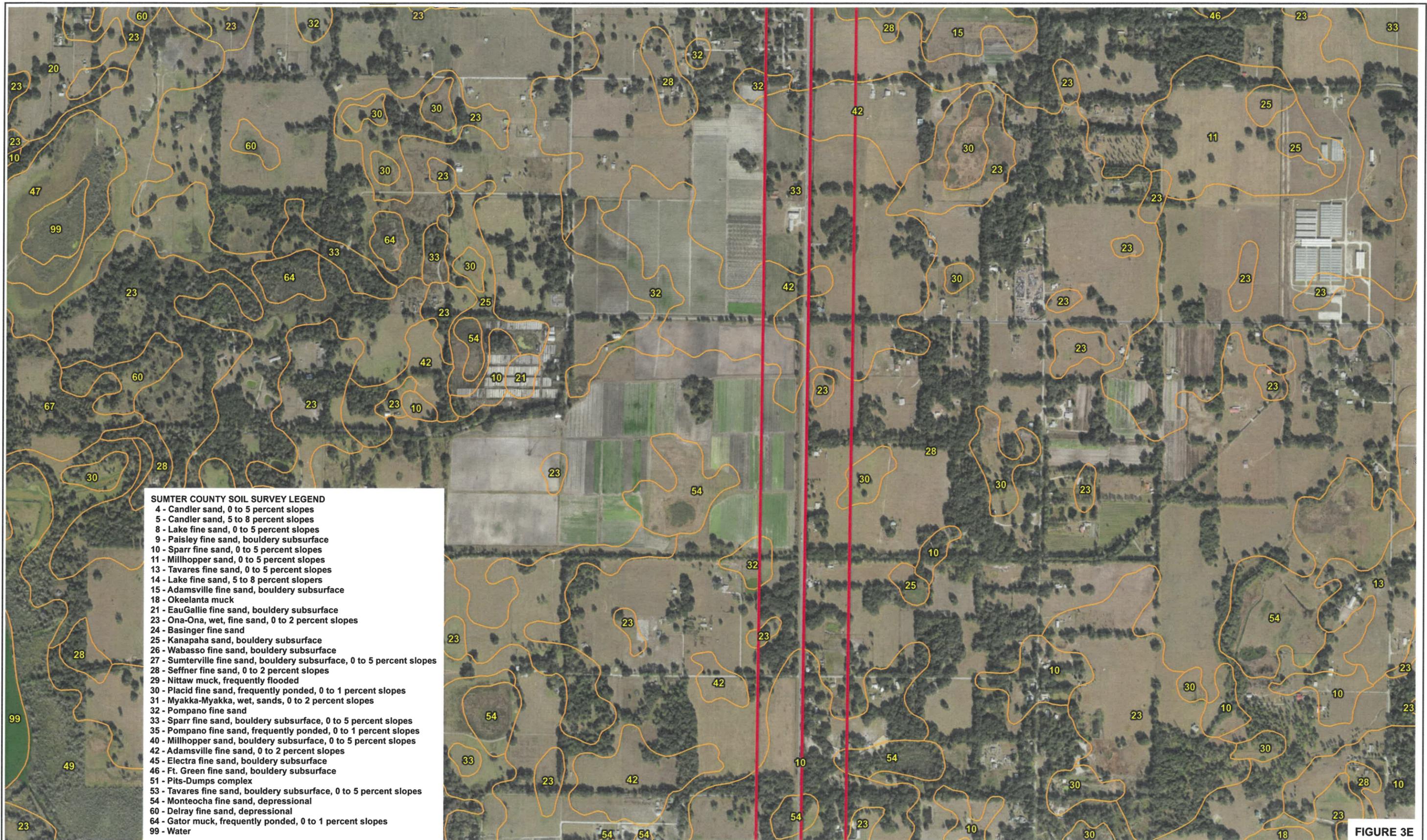


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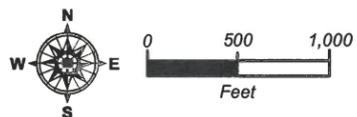
NRCS SOIL SURVEY MAP

SHEET NO.



- SUMTER COUNTY SOIL SURVEY LEGEND**
- 4 - Candler sand, 0 to 5 percent slopes
 - 5 - Candler sand, 5 to 8 percent slopes
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 - 21 - EauGallie fine sand, bouldery subsurface
 - 23 - Ona-Ona, wet, fine sand, 0 to 2 percent slopes
 - 24 - Basinger fine sand
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 - 26 - Wabasso fine sand, bouldery subsurface
 - 27 - Sumterville fine sand, bouldery subsurface, 0 to 5 percent slopes
 - 28 - Seffner fine sand, 0 to 2 percent slopes
 - 29 - Nittaw muck, frequently flooded
 - 30 - Placid fine sand, frequently ponded, 0 to 1 percent slopes
 - 31 - Myakka-Myakka, wet, sands, 0 to 2 percent slopes
 - 32 - Pompano fine sand
 - 33 - Sparr fine sand, bouldery subsurface, 0 to 5 percent slopes
 - 35 - Pompano fine sand, frequently ponded, 0 to 1 percent slopes
 - 40 - Millhopper sand, bouldery subsurface, 0 to 5 percent slopes
 - 42 - Adamsville fine sand, 0 to 2 percent slopes
 - 45 - Electra fine sand, bouldery subsurface
 - 46 - Ft. Green fine sand, bouldery subsurface
 - 51 - Pits-Dumps complex
 - 53 - Tavares fine sand, bouldery subsurface, 0 to 5 percent slopes
 - 54 - Monteocha fine sand, depressional
 - 60 - Delray fine sand, depressional
 - 64 - Gator muck, frequently ponded, 0 to 1 percent slopes
 - 99 - Water

FIGURE 3E



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STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
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NRCS SOIL SURVEY MAP

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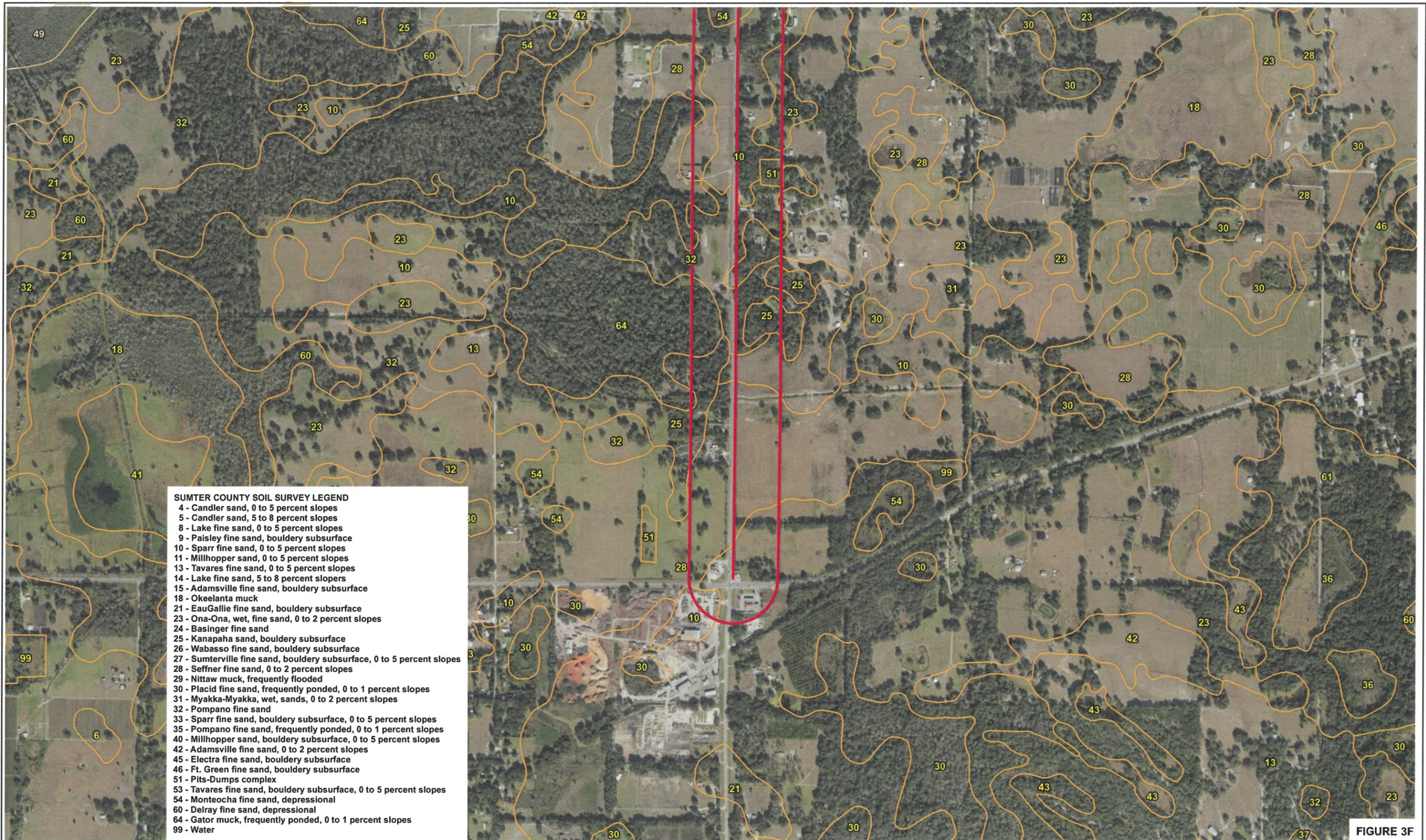
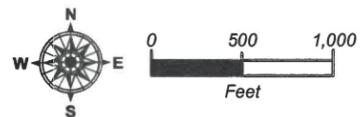


FIGURE 3F



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NRCS SOIL SURVEY MAP

SHEET NO.

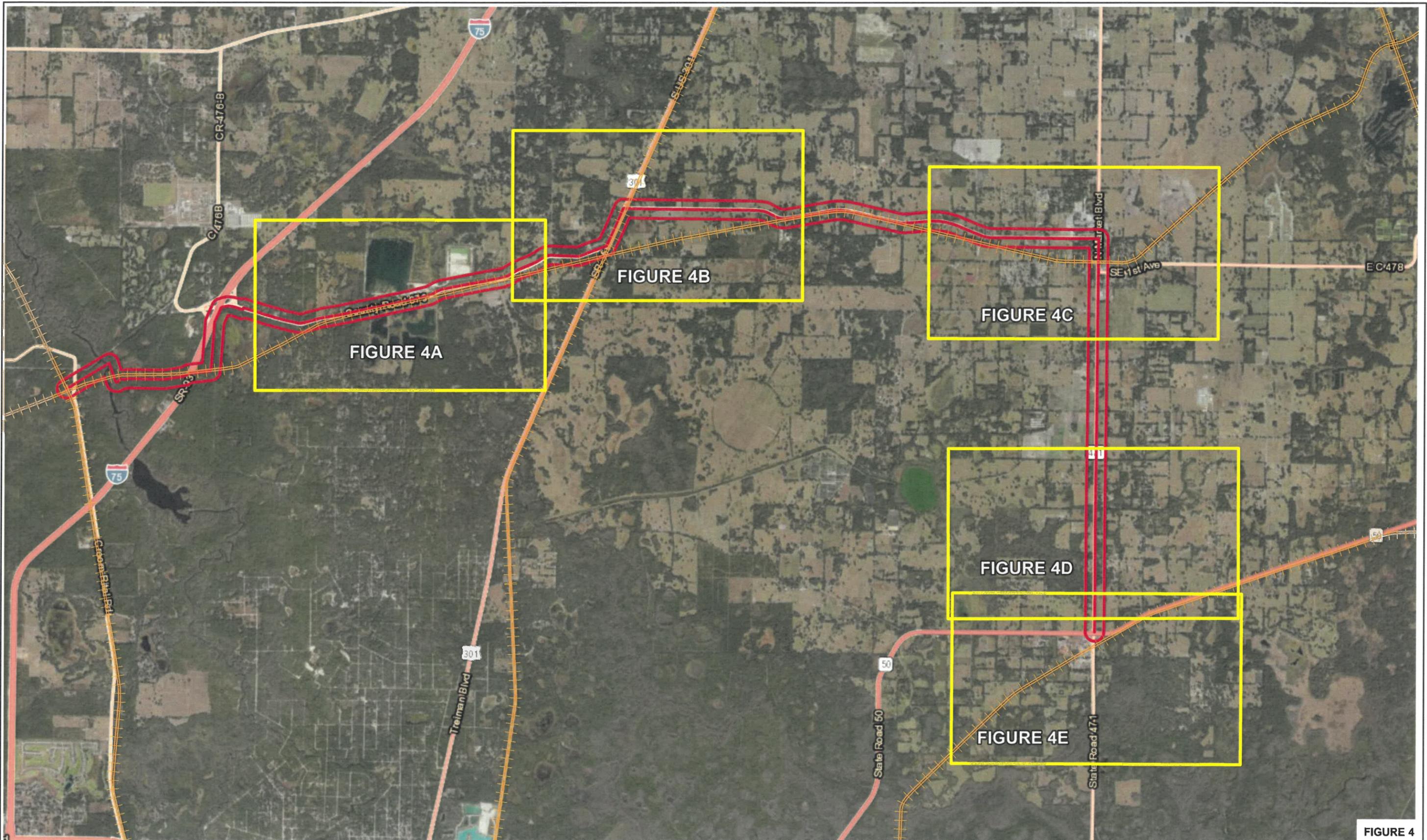
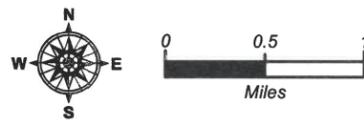


FIGURE 4



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**POTENTIAL CONTAMINATION
SITES - INDEX MAP**

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NO.

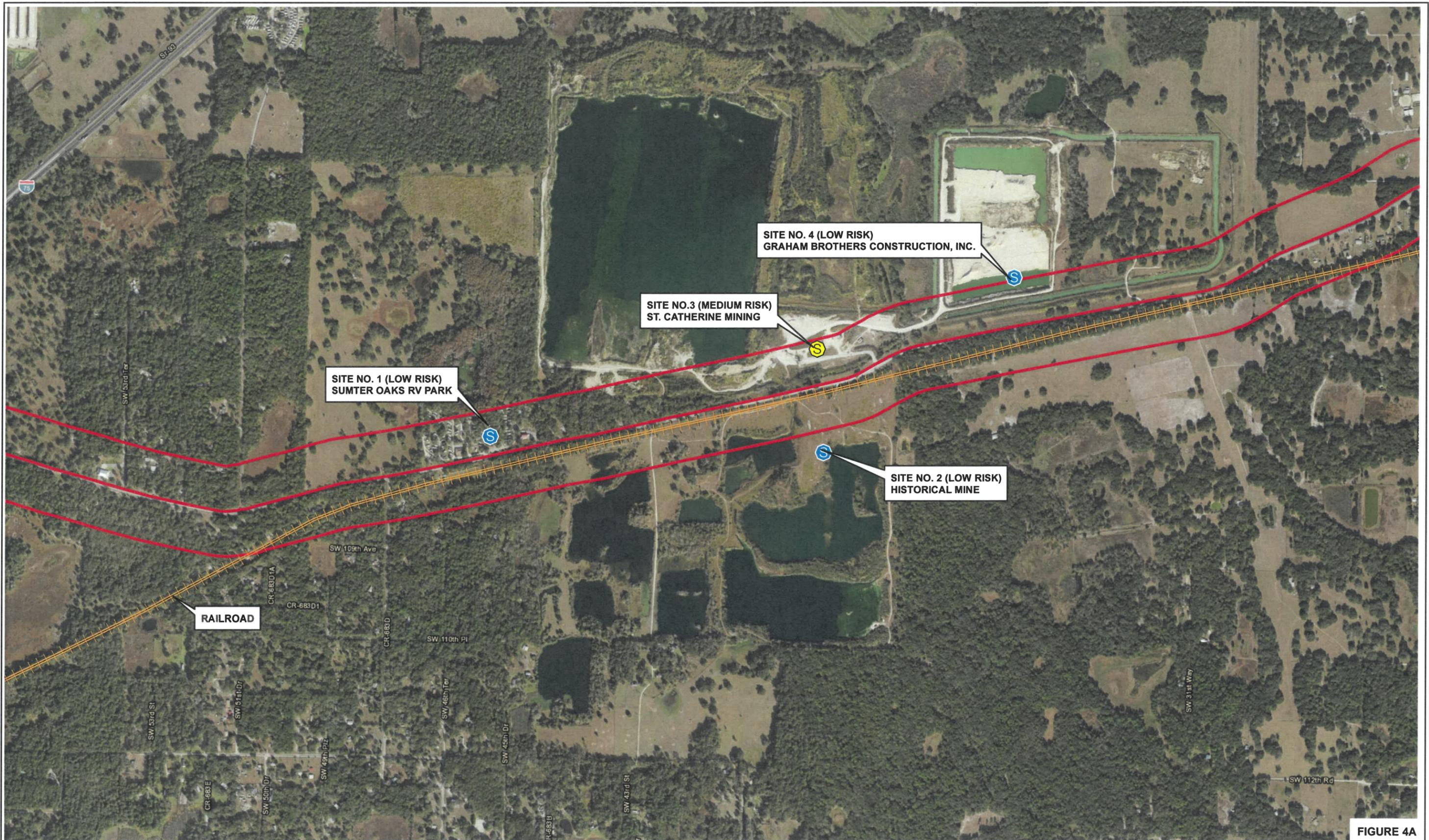
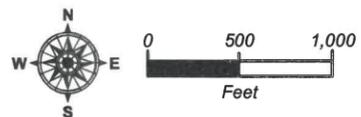


FIGURE 4A

RISK RATING LEGEND

- S HIGH
- S MEDIUM
- S LOW



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*POTENTIAL CONTAMINATION
SITES*

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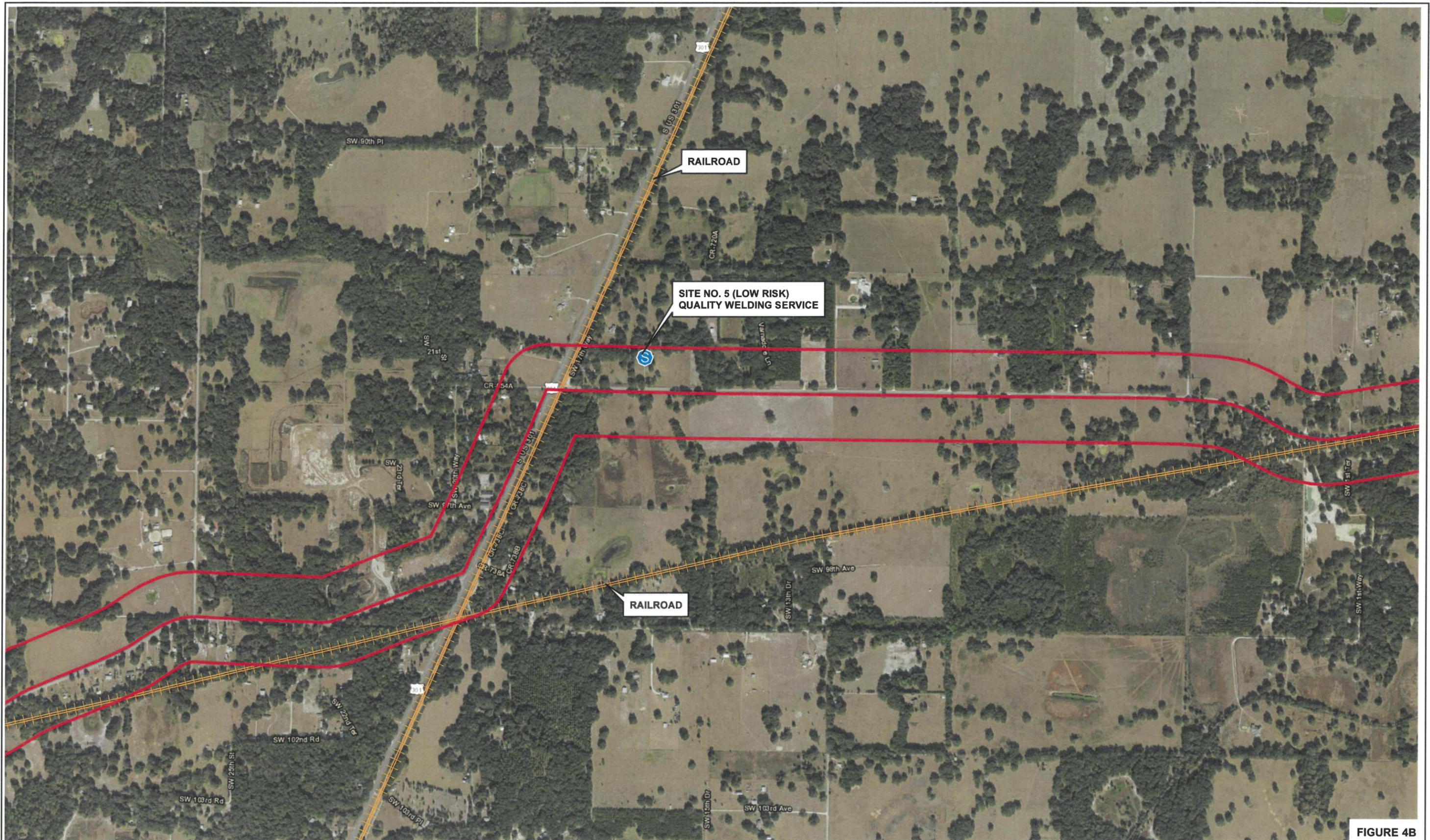
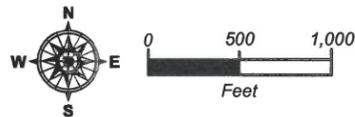


FIGURE 4B

RISK RATING LEGEND

- S HIGH
- S MEDIUM
- S LOW



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POTENTIAL CONTAMINATION
SITES

SHEET
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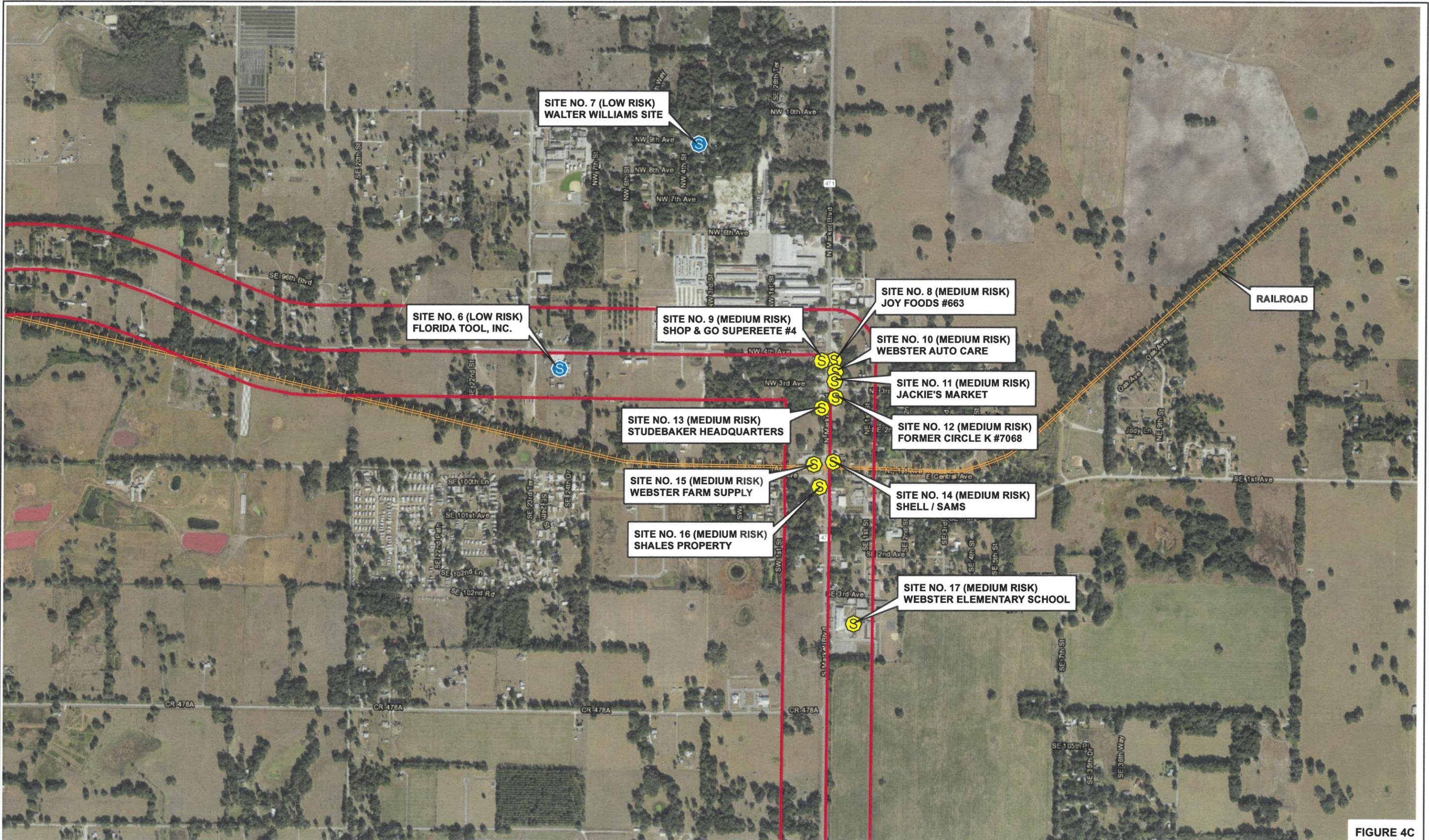
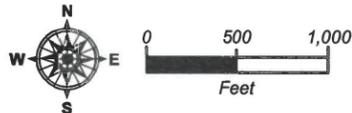


FIGURE 4C

RISK RATING LEGEND

- S HIGH
- S MEDIUM
- S LOW



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SITES

SHEET
NO.

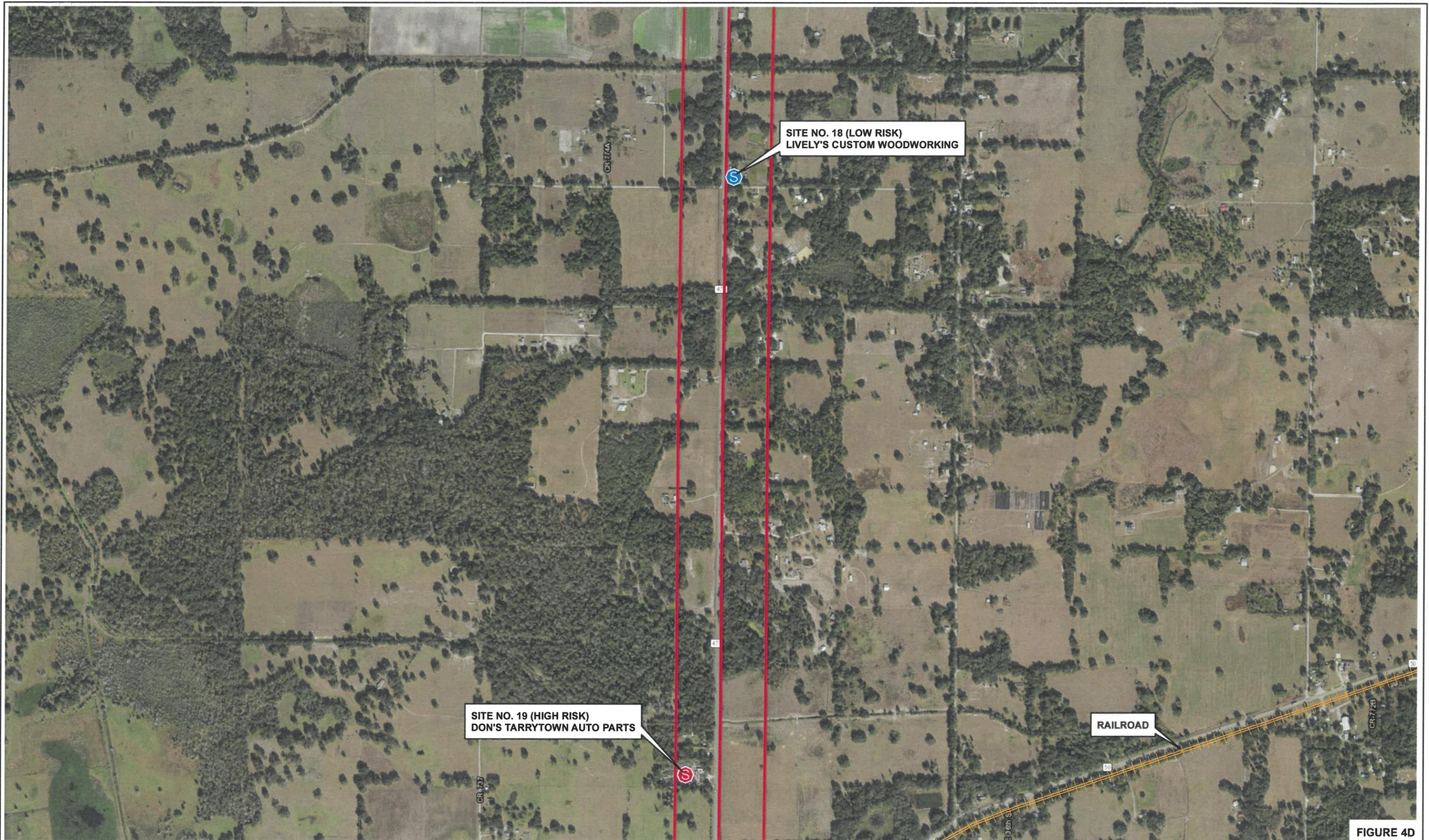
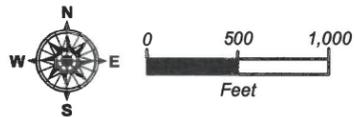


FIGURE 4D

RISK RATING LEGEND

- S HIGH
- S MEDIUM
- S LOW



RICHARD P. McCORMICK, P.G.
 P.G. LICENSE NUMBER 2096
 GEOTECHNICAL AND ENVIRONMENTAL
 CONSULTANTS, INC.
 919 LAKE BALDWIN LANE
 ORLANDO, FL 32814
 CERTIFICATE OF AUTHORIZATION 00005882

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTIES	FINANCIAL PROJECT ID
	SUMTER HERNANDO	4354471-1-22-01

POTENTIAL CONTAMINATION
SITES

SHEET
NO.

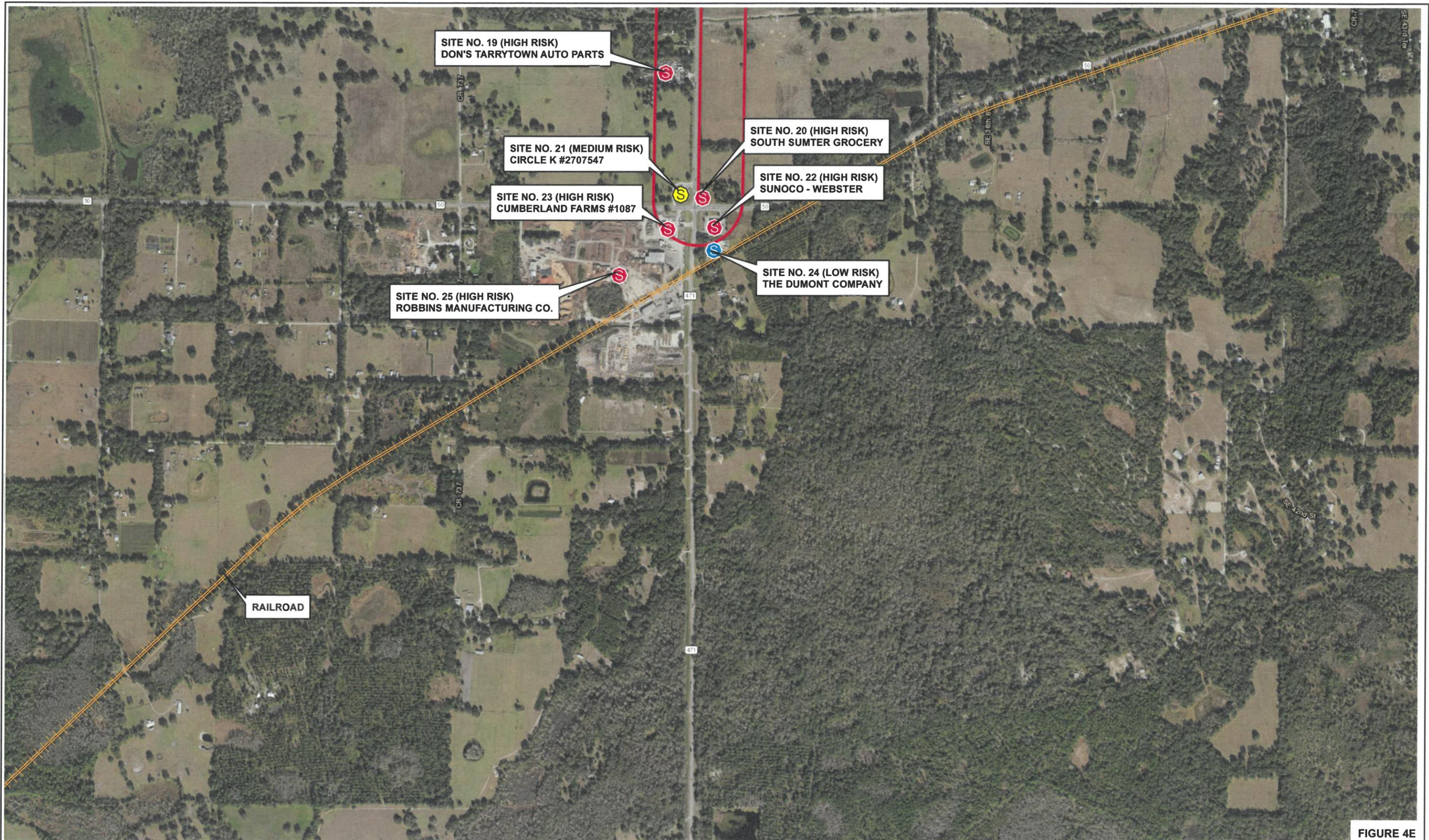


FIGURE 4E

RISK RATING LEGEND

- S HIGH
- S MEDIUM
- S LOW



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ROAD NO.	COUNTIES	FINANCIAL PROJECT ID
	SUMTER HERNANDO	4354471-1-22-01

*POTENTIAL CONTAMINATION
SITES*

SHEET
NO.

TABLES

Table 1
 Potential Contamination Site Summary
SOUTH SUMTER CONNECTOR TRAIL PD&E STUDY
From Withlacoochee State Trail to James A. Van Fleet Trail
 Financial Project ID 435471-1-22-01
 GEC Project No. 4037E
 Page 1 of 3

Site No.	Site Name	Site Address	Facility ID	Contaminants of Concern	Active Storage Tanks (Y/N)	Distance/Direction from ROW	Database Source	Location Verified (Y/N)	Risk Potential	Comments
1	Sumter Oaks RV Park	4602 CR 673	FLA013499	Hazardous Materials and Petroleum Products	N	Adjacent/N	NPDES	Y	Low	EDR listed this location as obtaining a National Pollutant Discharge Elimination System (NPDES) permit in May 2015, expiration in May 2020. This location is not documented as being contaminated.
2	Historical Mine	3949 CR 673	N/A	Hazardous Materials and Petroleum Products	N	Adjacent/S	Historical Aerials, Site Reconnaissance	Y	Low	During the historical aerial review, this site was identified as a mining operation dating back to the 1960's.
3	St. Catherine Mining	3919 CR 673	8628240, 9400508, 8736421	Petroleum Products	Y	Adjacent/N	UST, AST, TIER 2	Y	Medium	No inspections or assessment information was available within the public record regarding the removal of the underground and aboveground storage tanks.
4	Graham Bros. Construction Inc.	3621 CR 673	9811031	Petroleum Products	N	Adjacent/N	AST	Y	Low	No contamination impacts were observed during the tank removal.
5	Quality Welding Service	9417 Southwest 17 th Way	94948	Hazardous Materials	N	275 feet/NW	Map Direct	Y	Low	The site was identified as a welding repair service (Quality Welding Service) with a non-generator of hazardous waste designation.
6	FL Tools, Inc.	2437 CR 478	95231	Hazardous Materials	N	Adjacent/S	Map Direct	Y	Low	The site was identified as an out-of-business company (FL Tools, Inc.) with a non-generator of hazardous waste designation.
7	Walter Williams Site	9 th Avenue and 3 rd Street	101120	Hazardous Materials and Petroleum Products	N	0.45 miles/N	SWF/LF	Y	Low	Based on the quadrangle map review, this site has been identified as being approximately 0.5 miles downgradient of the proposed alignment.
8	Joy Foods #663	381 North Market Boulevard (SR 471)	8521923	Petroleum Products	N	Adjacent/E	LUST, UST, DWM CONTAM	Y	Medium	Issued an SRCO in December 2011. Historically operated as a gas station.
9	Shop & Go Superette #4	374 North Market Boulevard (SR 471)	8628237	Petroleum Products	Y	Adjacent/W	LUST, UST, RGA LUST	Y	Medium	Issued an SRCO in March 2008. Currently operates as a gas station.

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 Page 2 of 3

Site No.	Site Name	Site Address	Facility ID	Contaminants of Concern	Active Storage Tanks (Y/N)	Distance/Direction from ROW	Database Source	Location Verified (Y/N)	Risk Potential	Comments
10	Webster Auto Care	347 North Market Boulevard (SR 471)	95010	Hazardous Materials and Petroleum Products	N	Adjacent/E	Map Direct	Y	Medium	The site was identified as an out-of-business auto store (Webster Wholesale Auto Parts and Rogers Auto Care) with an apparent history of truck and automotive repair.
11	Jackie's Market Sunoco	329 North Market Boulevard (SR 471)	8521888	Petroleum Products	Y	Adjacent/E	LUST, UST	Y	Medium	Issued an SRCO in January 2003. Currently operates as a gas station.
12	Former Circle K #7068	281 North Market Boulevard (SR 471)	8516862	Petroleum Products	N	Adjacent/E	Map Direct	Y	Medium	No inspections or assessment information was available within the public record regarding the removal of the storage tanks.
13	Studebaker Headquarters	248 North Market Boulevard (SR 471)	N/A	Petroleum Products	N	Adjacent/W	Site Reconnaissance, City Directories	Y	Medium	Between 2010 and 2014, the city directories list this site as a historical automotive facility under the name Studebaker Headquarters.
14	Shell-Sams	125 North Market Boulevard (SR 471)	8521925	Petroleum Products	N	Adjacent/E	LUST, UST, DWM CONTAM	Y	Medium	Issued an SRCO in January 2014. Historically operated as a gas station.
15	Webster Farm Supply	120 North Market Boulevard (SR 471)	8628246	Petroleum Products	N	Adjacent/W	Map Direct	Y	Medium	No inspections or assessment information was available within the public record regarding the removal of the storage tank.
16	Shales Property	18 South Market Boulevard (SR 471)	9200692	Petroleum Products	N	Adjacent/W	LUST, UST	Y	Medium	Issued an SRCO in June 2006. Currently operates as an automotive repair facility.
17	Webster Elementary School	349 South Market Boulevard (SR 471)	8521883, 9813096	Petroleum Products	Y	Adjacent/E	UST, AST	Y	Medium	No inspections or assessment information was available within the public record regarding the removal of the storage tanks.
18	Lively's Custom Woodworking	3014 CR 774	95312	Hazardous Materials	N	Adjacent/E	Map Direct	Y	Low	The site was identified as an out of business woodworking manufacturer (Lively's Custom Woodworking) with a non-generator of hazardous waste designation.

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Page 3 of 3

Site No.	Site Name	Site Address	Facility ID	Contaminants of Concern	Active Storage Tanks (Y/N)	Distance/Direction from ROW	Database Source	Location Verified (Y/N)	Risk Potential	Comments
19	Don's Tarrytown Auto Parts	13452 SR 471	95111	Hazardous Materials and Petroleum Products	Y	Adjacent/W	Map Direct, Site Reconnaissance, Historical Aerials	Y	High	Currently operating as an automotive repair shop and auto salvage yard under the name Pro-Car Auto & Truck Repair.
20	South Sumter Grocery	13721 SR 471	8516864	Petroleum Products	N	Adjacent/E	LUST, UST, CLEANUP SITE, DWM CONTAM	Y	High	Petroleum impacts are documented around the former fuel island and beneath the SR 471 and SR 50 intersection.
21	Circle K #2707547	2986 SR 50	9046125	Petroleum Products	Y	Adjacent/W	LUST, UST, DWM CONTAM	Y	Medium	Issued SRCOs in February and September 2011. Currently operates as a gas station.
22	Sunoco-Webster	13801 SR 471	9807631	Petroleum Products	Y	Adjacent/SE	LUST, UST, CLEANUP SITE	Y	High	A leak was discovered at the diesel fill port, soil contamination was identified, and a site assessment has been requested by FDEP.
23	Cumberland Farms #1087	2985 SR 50	FLD984225169, 8631423	Hazardous Materials and Petroleum Products	N	Adjacent/SW	RCRA NonGen / NLR, LUST, UST, CLEANUP SITE, DWM CONTAM	Y	High	A July 2016 Natural Attenuation Monitoring Report Year 1, Annual documents a southeasterly groundwater flow and groundwater samples exceeding cleanup target levels.
24	The Dumont Company/Hawkins Inc.	13825 SR 471	FLT090080284, FLR000165381, 43227, 44560, 9809491	Hazardous Materials	Y	330 feet/S	RCRA-CESQG, EPA WATCH LIST, SPILLS, TIER 2, RESP PARTY	Y	Low	FDEP closed cleanup site.
25	Robbins Manufacturing Co.	13904 SR 471	9814417, FLR000179945	Hazardous Materials and Petroleum Products	Y	Adjacent/SW	RCRA-LQG	Y	High	Wood treated on-site using chromated copper arsenate.
26	Seaboard Coast Line Railroads	Adjacent and perpendicular to the proposed trail alignment	N/A	Hazardous Materials and Petroleum Products	N	Adjacent/Perpendicular	Historical Aerials, Site Reconnaissance	Y	Medium	The proposed trail alignment is paralleled and crossed by active and abandoned Seaboard Coast Line Railroad tracks, which are currently owned by CSX and private property owners.
27	Agricultural Land Use	Adjacent to the proposed trail alignment	N/A	Hazardous Materials and Petroleum Products	N	Adjacent	Historical Aerials, Site Reconnaissance	Y	Medium	Potential for the application, or historical application of agricultural chemicals (pesticides, herbicides, fungicides).