DRAFT POND SITING REPORT

Florida Department of Transportation

District 1

Bradenton-Palmetto Connector

Limits of Project: US 41/SR 55

from US 301/SR 683 at 9th Street East to North of 25th Street East

Manatee, Florida

Financial Management Number: 444843-1-22-01

ETDM Number: 14507

Date: June 2026

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by the Florida Department of Transportation (FDOT) pursuant to 23 U.S.C. § 327 and a Memorandum of Understanding dated May 26, 2022 and executed by the Federal Highway Administration and FDOT.

EXECUTIVE SUMMARY

The Florida Department of Transportation (FDOT), District One (D1) is conducting a Project Development and Environment (PD&E) study, known as the Bradenton-Palmetto Connector (BPC), to evaluate capacity and mobility improvements to United States (US) 41/State Road (SR) 55/1st Street (St)/Tamiami Trail (Trl) and US 301/SR 683 including roadway widening, bridge reconstruction, new stormwater management facilities (SMF), new floodplain compensation (FPC) sites, and bicycle and pedestrian accommodations. This PD&E study begins at US 301/SR 683 at 9th St East in the City of Bradenton, Florida and continues north to US 41 north of 25th St East in the City of Palmetto, Florida. The project also crosses the Manatee River. The study limits extend approximately 4.5 miles, all within Manatee County.

In 2025, FDOT D1 completed a PD&E study for the Hernando DeSoto Bridge (structure #130053) Replacement from westbound SR 64 to Haben Boulevard (Blvd) in Manatee County, Florida (FPID 442630-1-22-01, ETDM 14510). That study evaluated replacing the existing four lane DeSoto Bridge with a new four lane bridge that included wider shoulders, upgraded pedestrian facilities and other safety features. The DeSoto Bridge Replacement PD&E study limits fall within the BPC PD&E study limits; however, it did not include adding lanes for capacity improvements. This BPC PD&E study does include adding additional lanes both on the roadway and the DeSoto Bridge to accommodate capacity needed within the project study area.

This Pond Siting Report (PSR) (Bradenton–Palmetto Connector, FPID: 444843-1-22-01) was prepared to evaluate alternative SMF locations and FPC sites associated with roadway capacity improvements along US 41/SR 55 in Manatee County, Florida.

The report is based on a comprehensive set of data collection and evaluation activities that included detailed field reviews and existing conditions assessments of drainage systems, storm sewer networks, roadside ditches, and direct discharge points to the Manatee River across multiple basins; hydrologic and hydraulic analyses using Southwest Florida Water Management District (SWFWMD) rainfall data, watershed modeling, and Federal Emergency management Agency (FEMA floodplain mapping; and geotechnical investigations utilizing the Natural Resources Conservation Service (NRCS) soil surveys and site-specific borings to characterize soil Improvements, groundwater elevations, and permeability. The project's Section number includes 12, 13, 24, 25, 26, 35, 36 with Township 34 South and Range 17 East. In addition, the study incorporated environmental and regulatory evaluations, including review of impaired water bodies, Outstanding Florida Waters (OFW) requirements, and Environmental Resource Permit (ERP) criteria, as well as an Environmental Technical Memorandum assessing potential impacts to wetlands, wildlife, and threatened species. A cultural resources survey confirmed no significant archaeological impact. These datasets were collectively used to evaluate stormwater management performance, water quality treatment, floodplain impacts, and long-term considerations such as sea level rise, ensuring compliance with FDOT and SWFWMD standards and supporting the identification of feasible stormwater management facility alternatives.

The evaluation found that a comprehensive stormwater management strategy can be implemented for both the Interim Improvements and Ultimate Alternative roadway improvements through a combination of dry retention ponds, wet detention ponds, vegetated buffers, and swales distributed across the project's drainage basins. These alternatives were demonstrated to meet regulatory requirements for water quality (95% nutrient removal for Interim and 80% for the Ultimate Alternative) and water quantity (maintaining post-development discharge at or below pre-development levels), while also providing necessary floodplain compensation south of the DeSoto Bridge and avoiding impacts in tidal areas. Facility sizes vary widely depending on basin characteristics, ranging from small vegetated systems to multi-acre pond sites, and most alternatives show low to moderate archaeological risk, generally low to moderate contamination risk, no wetland impacts, and moderate potential for species impacts, with no associated wetland mitigation costs identified. Environmental and cultural evaluations confirmed minimal constraints, with no significant archaeological resources affected and manageable ecological impacts. Overall, the comparative analysis of alternatives across basins indicates that multiple technically viable solutions exist, with Alternative One consistently emerging as the preferred option due to its balance of hydraulic performance, environmental compatibility, and constructability, while final considerations such as right-of-way costs and contamination assessments will be addressed in later project phases.

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SECTION 1 INTRODUCTION

1.1 PD&E STUDY PURPOSE

The objective of this Project Development & Environment (PD&E) study is to assist the Florida Department of Transportation (FDOT) Office of Environmental Management (OEM) in reaching a decision on the type, location, and conceptual design of the proposed improvements for the widening of United States (US) 41 and US 301. This study documents the need for improvements as well as the procedures utilized to develop and evaluate various improvements, including elements such as proposed typical sections, preliminary horizontal alignments, and intersection enhancements.

The PD&E study satisfies all applicable requirements, including the National Environmental Policy Act (NEPA), to qualify for federal-aid funding of subsequent development phases (design, right-of-way acquisition, and construction).

1.2 PROJECT PURPOSE AND NEED

The purpose of the project is to provide additional capacity and accommodate transportation demand across the Manatee River, specifically between the cities of Bradenton and Palmetto and the numerous communities in western Manatee County, as part of the regional transportation system. Another project goal is to enhance safety. The need for the project is based on the following criteria: capacity, transportation demand, and safety.

1.3 PROJECT DESCRIPTION

The FDOT District One (D1) is conducting a PD&E study, known as the Bradenton-Palmetto Connector (BPC), to evaluate capacity and mobility improvements to US 41/State Road (SR) 55/1st Street (St)/Tamiami Trail (Trl) and US 301/SR 683 including roadway widening, bridge reconstruction, new stormwater management facilities (SMF), new floodplain compensation (FPC) sites, and bicycle and pedestrian accommodations. The study limits begin at US 301/SR 683 from 9th St East, north of the City of Bradenton, Florida, and continue along US 41 to north of 25th St East, north of the City of Palmetto, Florida. The project also crosses the Manatee River. The study limits extend approximately 4.5 miles, all within Manatee County. The project location and study limits are shown in **Figure 1-1**.

In 2025, FDOT D1 completed a PD&E study for the Hernando DeSoto Bridge (structure #130053) Replacement from westbound SR 64 to Haben Boulevard (Blvd) in Manatee County, Florida (FPID 442630-1-22-01, ETDM 14510). That study evaluated replacing the existing four-lane DeSoto Bridge with a new four-lane bridge that included wider shoulders, upgraded pedestrian facilities and other safety features. The DeSoto Bridge Replacement PD&E study limits fall within the BPC PD&E study limits; however, it did not include adding lanes for capacity improvements. This BPC PD&E study does include adding additional lanes both on the roadway and the DeSoto Bridge to accommodate capacity needed within the project study area.

Figure 1-1 Project Location Map

1.4 EXISTING FACILITY AND PROPOSED IMPROVEMENTS

1.4.1 Existing Facility

The study begins on US 301 starting at 9th St East, where the alignment traverses west, turns north, and crosses the northbound leg South Tamiami Trl. US 301 then combines with US 41 north of the CSX Railroad at-grade crossing (RR#624712-B). US 301 is a four-lane divided roadway where the median alternates between grassed vegetation and a concrete barrier. The facility contains open drainage and paved shoulders. There are no bicycle lanes or sidewalks. A representation of the lane arrangement is shown in **Figure 1-2**.

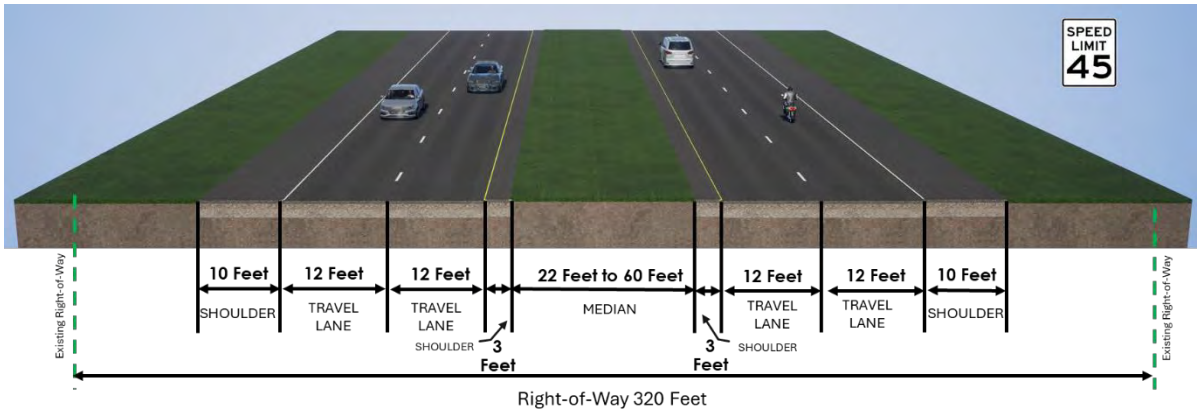


Figure 1-2 Existing Roadway Typical Section: US 301

North of the US 301 junction with US 41, from the CSX Railroad at-grade crossing (RR#624712-B) to north of westbound SR 64, the US 41/US 301 roadway varies between a maximum of four northbound lanes to a minimum of two northbound lanes and a maximum of three southbound lanes to a minimum of two southbound lanes. The median varies between a grassed median, concrete separator, and concrete barrier. Stormwater runoff is conveyed through a closed drainage system and there are sidewalk along both sides of the roadway until north of westbound SR 64 where there is no sidewalk on the east side and sporadic sidewalk on the west side. There are no bicycle lanes within these limits. Exclusive right- and left-turn lanes are used at select intersections, including all signalized intersections at 13th Avenue (Ave), 9th Ave, eastbound SR 64/6th Ave, and westbound SR 64. Although the roadway's right-of-way width varies, it is generally 125 feet wide. The posted speed limit is 45 miles per hour (mph). A representation of the lane arrangements is shown in **Figure 1-3**.

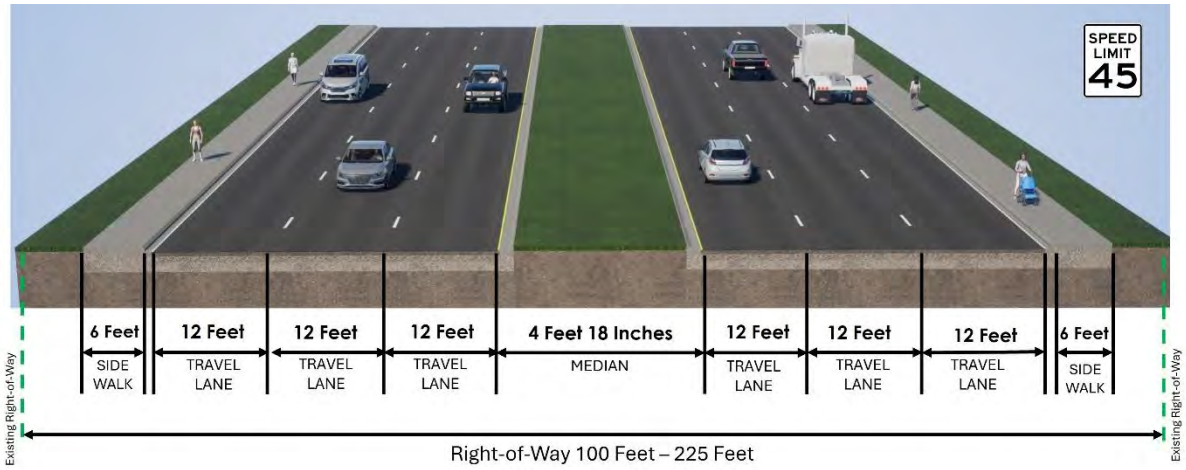


Figure 1-3 Existing Roadway Typical Section: South of DeSoto Bridge

North of westbound SR 64, US 41 continues as a four-lane divided roadway and crosses the Manatee River via the DeSoto Bridge. The bridge has substandard elements with design deficiencies, including narrow shoulders, discontinuous pedestrian facilities, and substandard bridge rails.

The existing typical section for the DeSoto Bridge is a divided four-lane highway comprised of two 12-foot travel lanes, a two-foot outside shoulder in each direction, and a four-foot raised median and barrier wall**,** as shown in **Figure 1-4**. The total bridge width is approximately 62 feet. The posted speed limit is 50 mph.

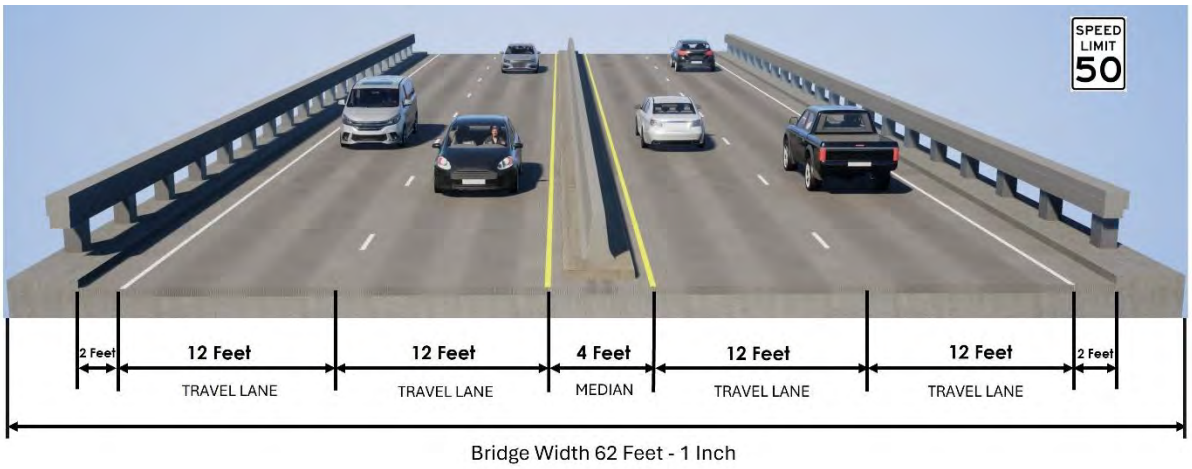


Figure 1-4 Existing Structure Typical Section: DeSoto Bridge

North of the DeSoto Bridge to north of 25th St E the typical roadway section consists of two 12-foot travel lanes in each direction. The median varies between a grass median and concrete traffic separator. The roadway transitions from paved shoulders and open drainage to curb and gutter and closed drainage north of the US 301/10th St East interchange. There are no sidewalks from north of the DeSoto bridge to 17th St East, there are continuous sidewalks from 17th St East to 25th St East, and there are no sidewalks north of 25th St East to the end of the project limits. There are no bicycle

lanes. The roadway's right-of-way width varies, but it is generally 120 feet. The posted speed limit is 50 mph. A representation of the lane arrangements is shown in **Figure 1-5**.

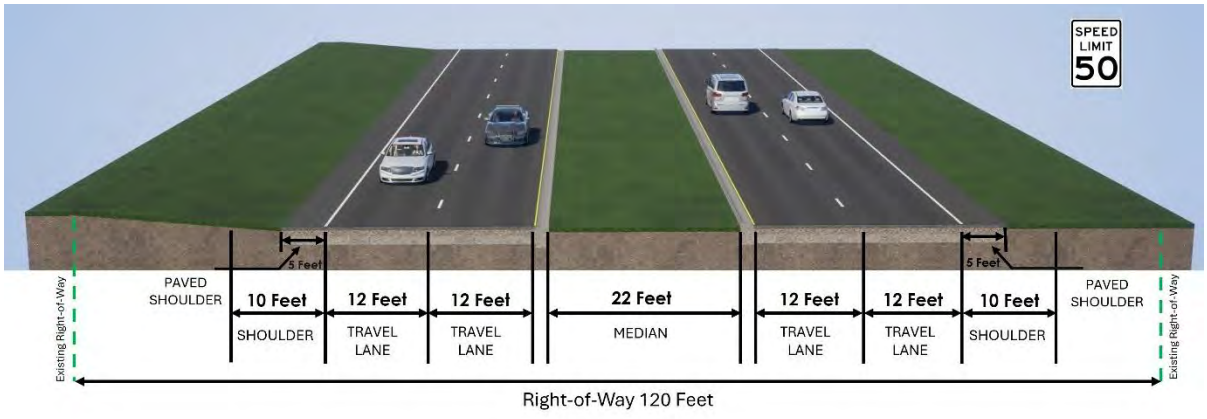


Figure 1-5 Existing Roadway Typical Section: North of DeSoto Bridge

1.4.2 Proposed Improvements

The proposed improvements associated with the Preferred Alternative include widening the roadway from four to six general-purpose lanes and adding two elevated proposed express lanes supported by median piers. Additional improvements include drainage upgrades and enhanced bicycle and pedestrian facilities, including sidewalks south of the DeSoto Bridge and shared use paths north of the DeSoto Bridge. In addition to the Preferred Alternative, due to funding constraints and the potential need to toll the Preferred Alternative's elevated lanes, an Interim Improvement is proposed between westbound SR 64 and US 301. The Interim Improvement would widen the roadway from four to six lanes and remove and replace the DeSoto Bridge with six travel lanes and a shared-use path on both sides. The Interim Improvements are 1.7 miles of the total project length and do not include the elevated proposed express lanes.

Analysis of the Preferred Alternative does not assume any of the Interim Improvements are constructed. Instead, the study compares the Preferred Alternative to the existing/No-Build condition. This PD&E study evaluates the No-Build alternative and the Preferred Alternative. However, this study also includes information on the Interim Improvements to clearly quantify impacts of both Preferred Alternative and Interim Improvements. The Preferred Improvement and Interim Improvement limits are shown in **Figure 1-6**.

Figure 1-6 Preferred Alternative and Interim Improvements

Preferred Alternative

Corridor improvements begin at US 301 and 9th St East, which travels west to intersect US 41, continues north, crossing the Manatee River and ends north of 25th St East. The improvements are divided into three typical sections: south of the DeSoto Bridge, the DeSoto Bridge, and north of the DeSoto Bridge, to demonstrate the roadway and bridge configurations along the Preferred Alternative.

South of the DeSoto Bridge: The proposed typical section consists of six 11-foot lanes divided by a median that widens to 22 feet to accommodate the elevated structure. The at-grade roadway includes six-foot sidewalks on both sides and no bicycle lanes. The proposed right-of-way is approximately 120 feet wide. The proposed design speed is 45 mph from 9th St East on US 301 to 13th Ave on US 41, 40 mph from 13th Ave to westbound SR 64, and 45 mph from westbound SR 64 to the Desoto Bridge. Two 15-foot proposed express lanes are provided in the US 301 median via an elevated structure that begins just west of 9th St East. The elevated structure follows US 301 through a northern curve near US 41/SR 45/S Tamiami Trail, where US 301 joins US 41. This typical section is shown in **Figure 1-7**.

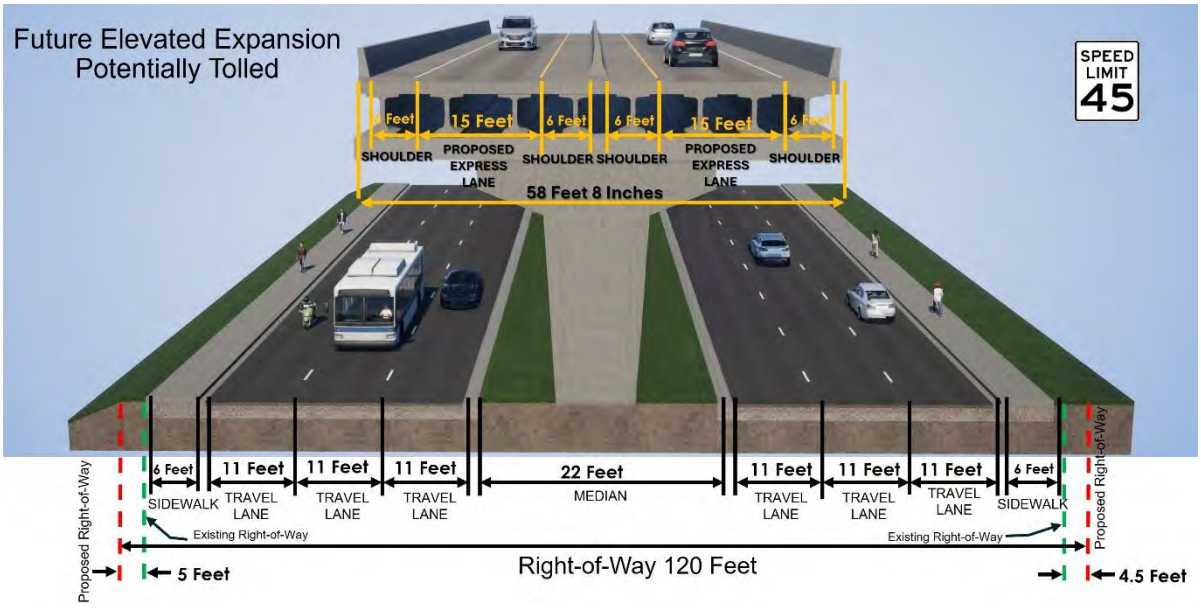


Figure 1-7 Preferred Roadway Typical Section: South of DeSoto Bridge

DeSoto Bridge: The proposed express lanes transition from an elevated structure to match the elevation of the travel lanes on DeSoto Bridge. The transition occurs just north of westbound SR 64. The new DeSoto Bridge consists of eight travel lanes (six travel lanes and two proposed express lanes), plus a barrier separated 12-foot shared-use path on both sides. The bridge is approximately 164 feet wide. The proposed design speed is 45 mph. In addition, the proposed express lanes are buffer separated from the travel lanes via flexible tubular markers as shown in **Figure 1-8**.

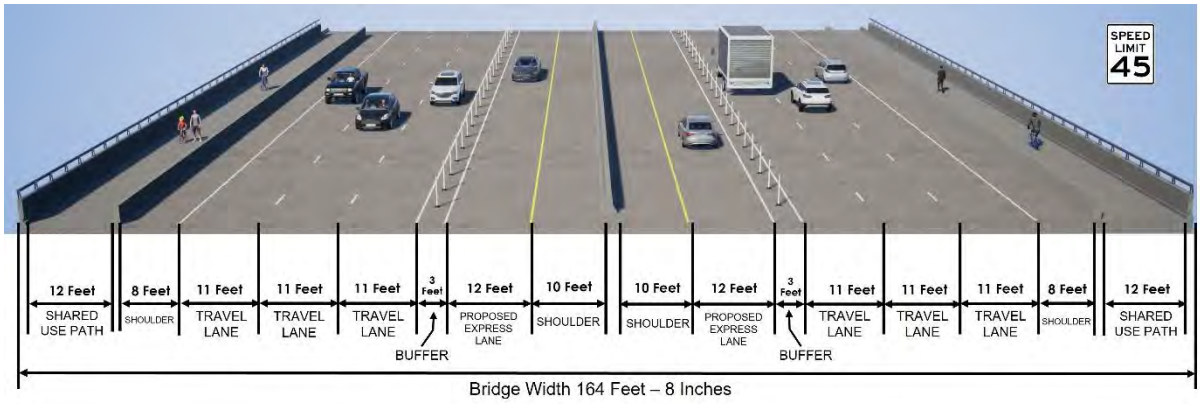


Figure 1-8 Preferred Roadway Typical Section: DeSoto Bridge

North of the DeSoto Bridge: This typical section is comprised of six 11-foot lanes divided by a median that widens to 32.5 feet to accommodate the elevated structure. The at-grade roadway includes a 12-foot shared use path on both sides of US 41. The proposed right-of-way is approximately 176 feet, and the proposed design speed is 45 mph. The proposed express lanes transition back to an elevated structure in the roadway median, north of the bridge over the CSX Railroad Short Line, spanning the intersections from 17th St East to 25th St East. A conceptual view of the proposed express lanes elevated over the travel lanes is shown in **Figure 1-9**.

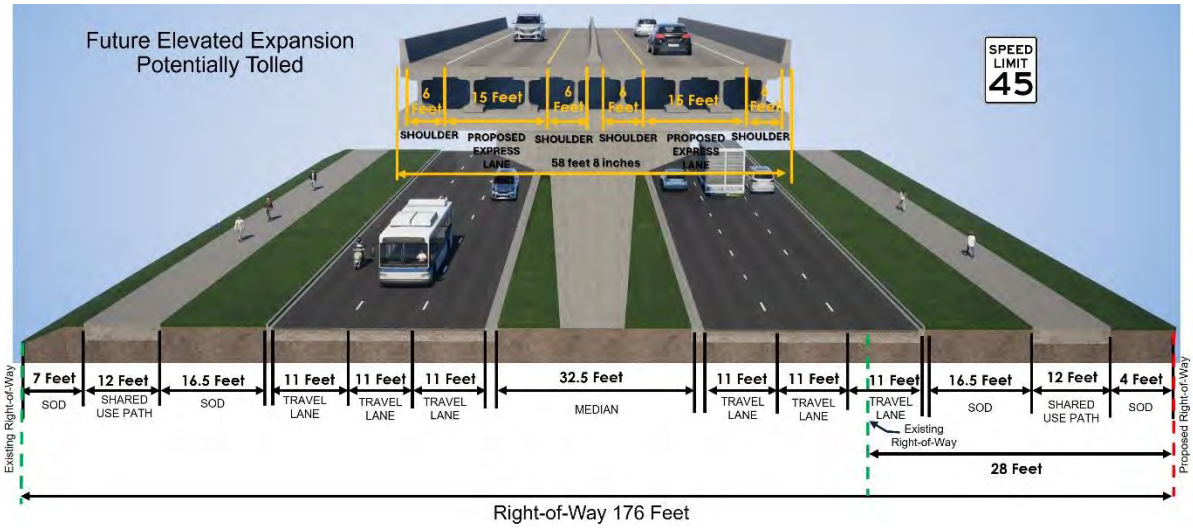


Figure 1-9 Preferred Roadway Typical Section: North of Desoto Bridge

Interim Improvements:

The limits of the Interim Improvements are from westbound SR 64 to US 301 as shown in **Figure 1-10**. The improvements are divided into three typical sections: south of the DeSoto Bridge, the DeSoto Bridge, and north of the DeSoto Bridge, to demonstrate the roadway and bridge configurations. The Interim Improvements are consistent with the full limits of the previously approved DeSoto Bridge Replacement PD&E Study (FPID 442630-1-22-01, ETDM 14510). The difference between the prior study and the Interim Improvements is the prior DeSoto Bridge Replacement PD&E studied only replacing the DeSoto Bridge with a new four-lane structure but did not evaluate capacity improvements. Whereas the Interim Improvements would widen the roadway from four to six lanes and remove and replace the DeSoto Bridge with six travel lanes and a shared-use path on both sides.

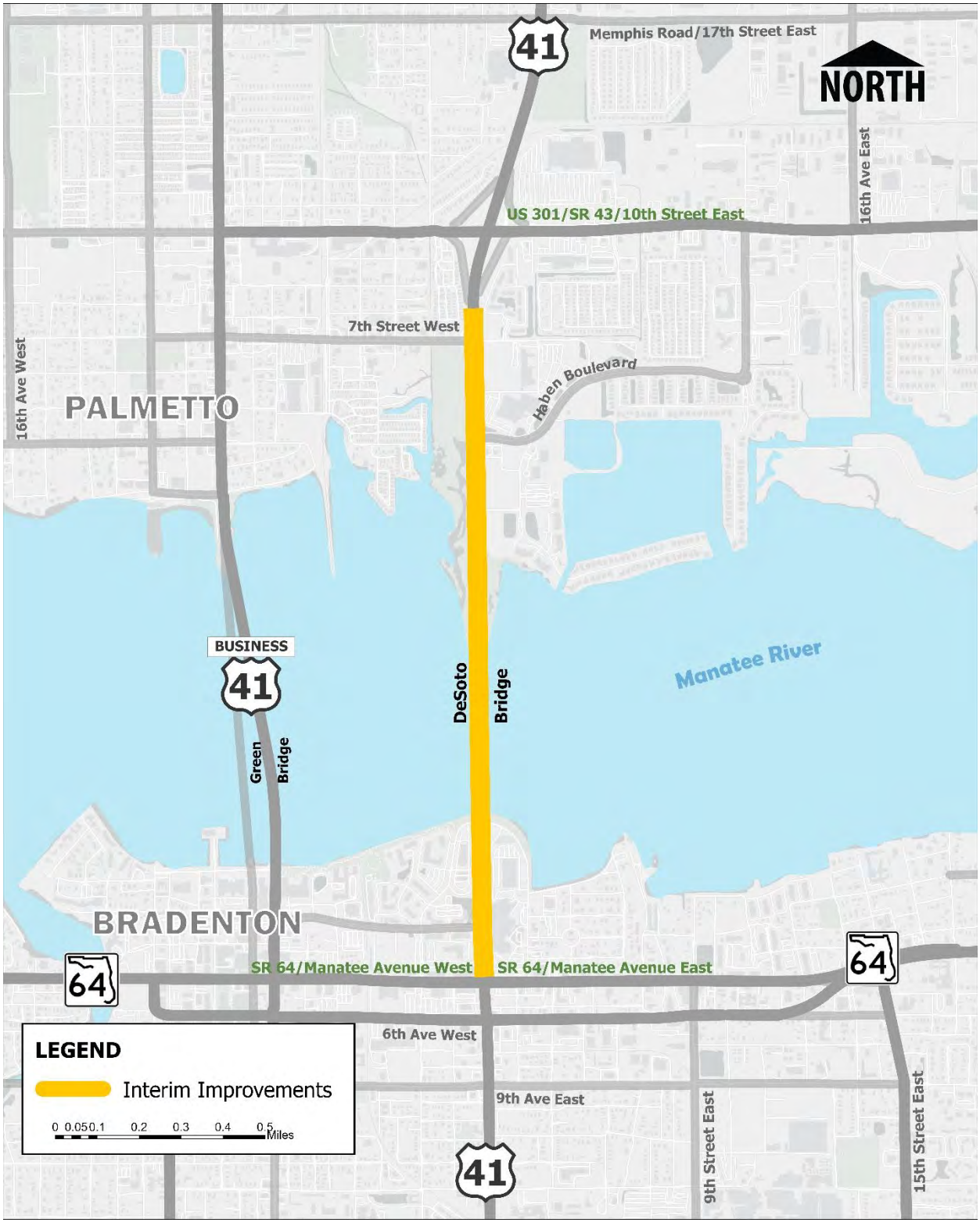


Figure 1-10 Interim Improvements Project Limits

South of the DeSoto Bridge: The typical section consists of six 11-foot travel lanes, divided by a median ranging from eight to 18 feet, and provides six-foot sidewalks on both sides of US 41 with no bike lanes. The proposed right-of-way is approximately 136 feet, sufficient to accommodate the elevated structure for future proposed express lanes when the Preferred Alternative is constructed. The proposed design speed is 45 mph. The conceptual lane arrangements for the Interim Improvements south of the DeSoto Bridge are shown in **Figure 1-11**.

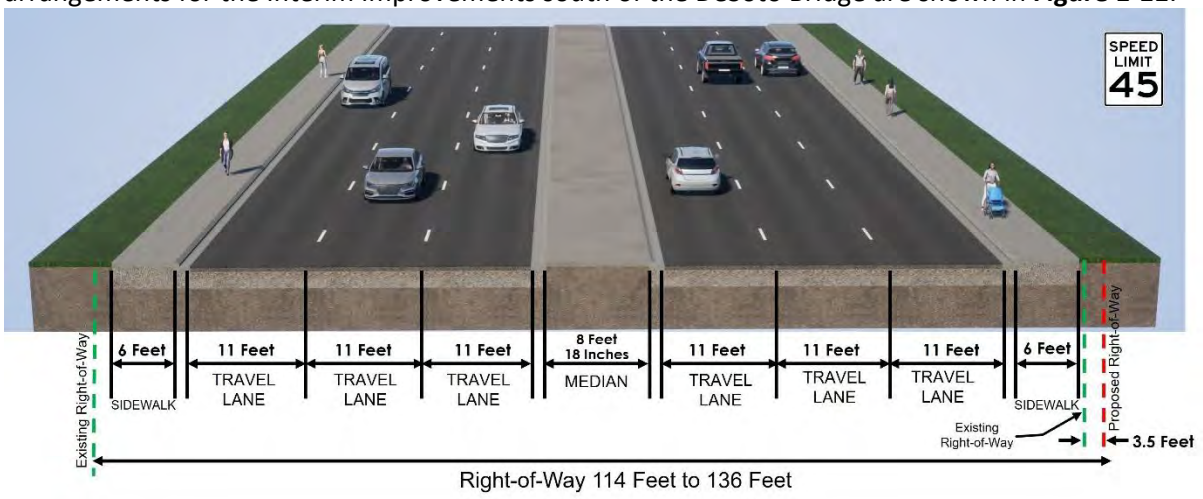


Figure 1-11 Interim Improvements South of DeSoto Bridge

DeSoto Bridge: The Interim Improvements include the replacement of the DeSoto Bridge in which six 11-foot travel lanes divided by a concrete barrier median, with eight-foot inside shoulders in each direction are proposed. The typical section also includes a 12-foot shared-use path and outside shoulders on both sides of the bridge. The bridge will be designed to accommodate future widening of the structure so proposed express lanes could be added when the Preferred Alternative is constructed. The proposed right-of-way is approximately 128 feet, and the proposed design speed is 45 mph. The lane arrangements on the DeSoto Bridge with the Interim Improvements are shown in **Figure 1-12**.

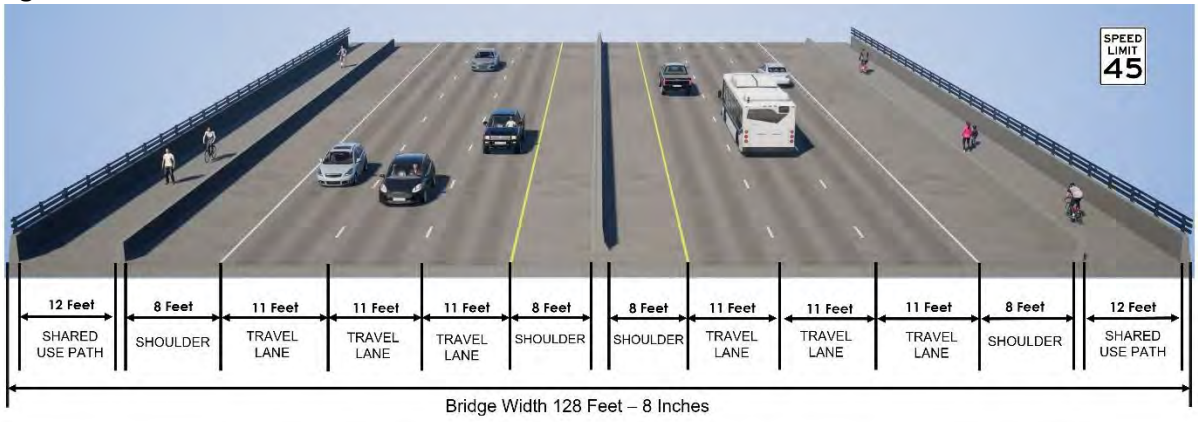


Figure 1-12 Interim Improvements DeSoto Bridge

North of the DeSoto Bridge: The typical section consists of six 11-foot travel lanes divided by a 32.5-foot median, which is wide enough to accommodate the elevated structure for future proposed

express lanes when the Preferred Alternative is constructed. A 12-foot shared use path is provided on both sides of the roadway. The proposed right-of-way is approximately 176 feet, and the proposed design speed is 45 mph. The conceptual lane arrangements for the Interim Improvements north of the DeSoto Bridge are shown in **Figure 1-13**.

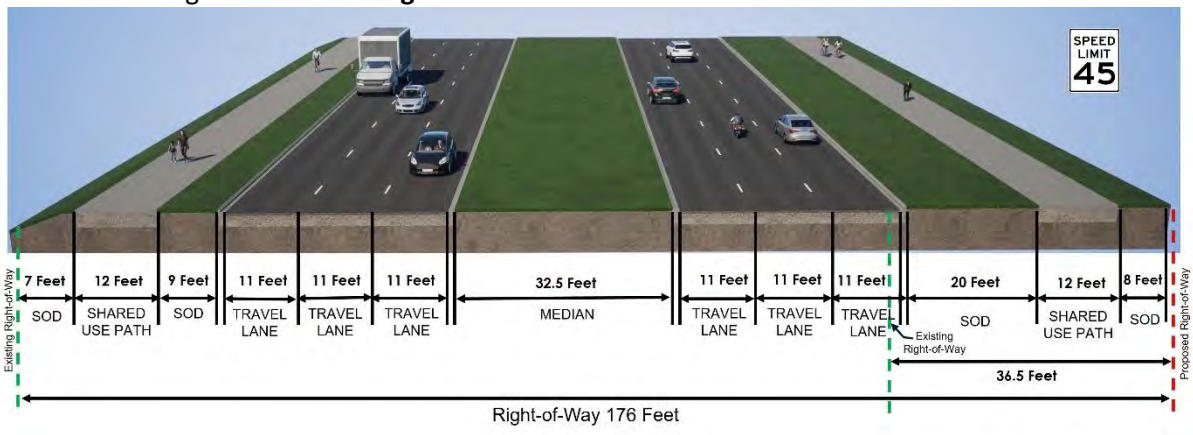


Figure 1-13 Interim Improvements North of DeSoto Bridge

1.5 REPORT PURPOSE

The purpose of this Pond Siting Report (PSR) is to document the evaluation and selection of alternative SMFs and FPC sites associated with the proposed improvements for the Bradenton-Palmetto Connector project along US 41/SR 55 in Manatee County, Florida. This PSR was conducted in accordance with the FDOT PD&E Manual, the FDOT Drainage Manual, FDOT Design Manual, Southwest Florida Water Management District (SWFWMD) Environmental Resource Permit (ERP) Applicant's Handbook Volumes I and II, and other applicable federal, state, and local regulations.

SECTION 2 EXISTING DRAINAGE CHARACTERISTICS

2.1 WATERSHED DESCRIPTION

The project corridor is located within the Manatee River – Warner Bayou Watershed. Please refer to Figure 1-3 Regional Drainage Map below.

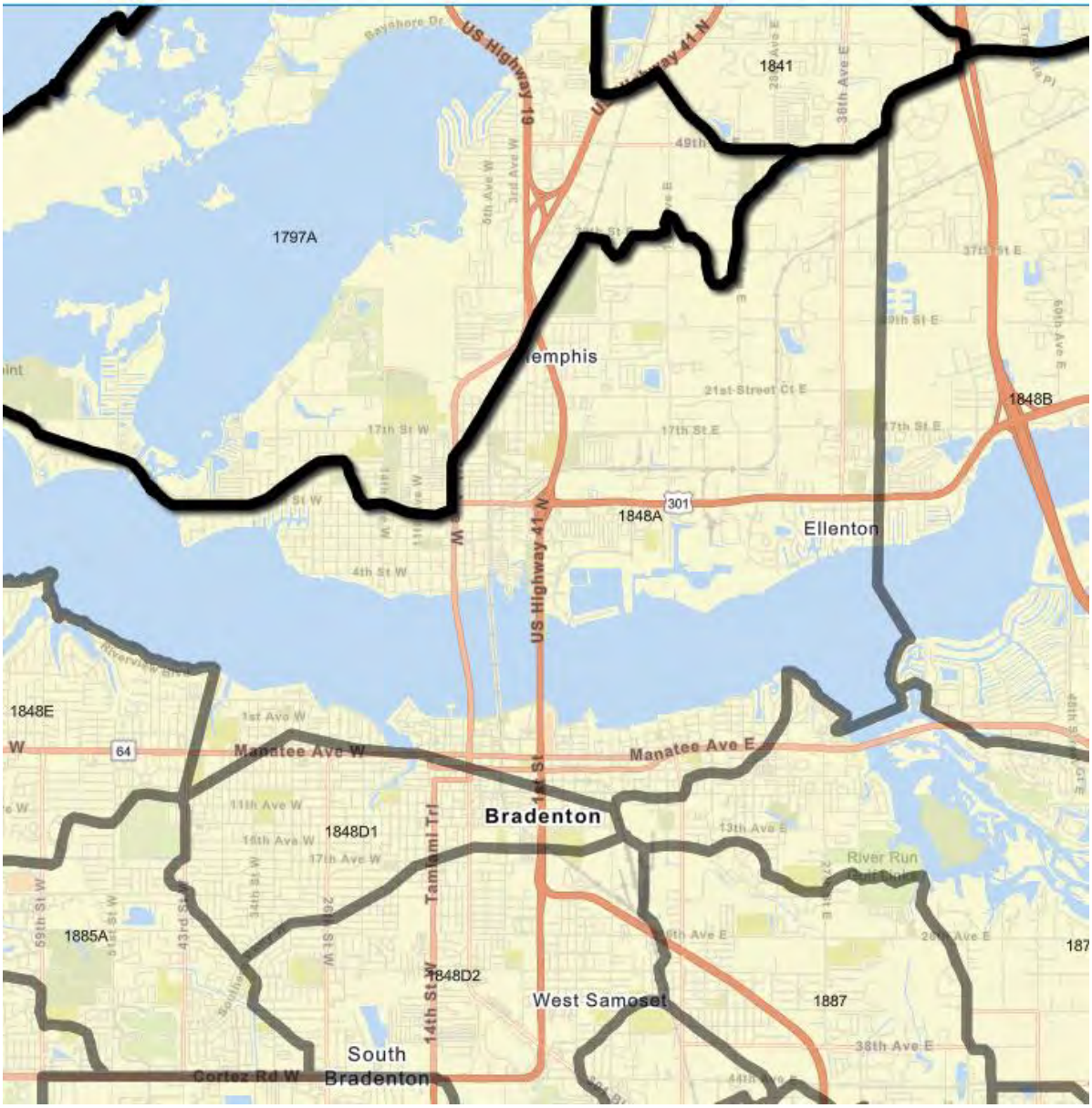


Figure 2-1 Regional Drainage Map

Water Body Identification (WBID) assigned by the Florida Department of Environmental Protection (FDEP) within the project limits are Tampa Bay Tributaries. The water bodies are Manatee River Below Braden River - 1848A, Wares Creek (Estuarine Segment) - 1848D1, and Wares Creek (Freshwater Segment) - 1848D2. WBID 1848A is listed as impaired for Nutrients (Chlorophyll-1); WBID 1848D1 is listed as impaired for Dissolved Oxygen, Chlorophyll-a, and Enterococci; WBID 1848D2 is listed as

impaired for Algal Mats, Fecal Coliform, and Biology. Therefore, impairing water quality stormwater rule is anticipated for BPC PD&E. Based on the 12-digit Hydrologic Unit Codes (HUC) map, Manatee River – Warner Bayou Watershed is encroaching to the Sarasota Bay Estuarine System Outstanding Florida Waters (OFW) and Emerson Point OFW at the downstream end. Therefore, OFW water quality stormwater rule from SWFWMD ERP Applicant's Handbook Volume I is anticipated for BPC PD&E. Please refer to the FDOT-SWFWMD Monthly Meeting Notes in Appendix H – Correspondence and HUC 12 Boundaries with OFWs in Appendix A – Figures.

2.2 SOILS INFORMATION

Based upon a review of the Natural Resources Conservation Service (NRCS) Web Soil Survey for Manatee County, Florida, soils south of the DeSoto Bridge are primarily sandy with drainage ranging from moderately well drained upland sands to poorly drained low-lying soils. The dominant soil is EauGallie–EauGallie wet fine sand (about 25.6%), with other common types including Canaveral (filled), Wabasso–Wabasso wet fine sand, Cassia, and Tavares fine sands. Please see Table 1-1Soil Types and Characteristics below with common soil types highlighted in yellow.

Hydrologic Soil Groups are mainly A/D, B/D, and C/D, with some Group A upland sands, indicating higher infiltration when drained but poor drainage under natural Improvements due to shallow groundwater. The seasonal high water table ranges from near the surface to over 57 inches deep, with poorly drained soils like Chobee and Floridana having shallow groundwater, and upland sands like Cassia and Tavares having deeper levels. Please refer to Appendix B – NRCS Soil Survey.

Table 2-1 Soil Types and Characteristics

Soil Symbol	Soil Name	Hydrologic Group	Depth to Seasonal High Ground Water
Manatee County, Florida			
45	Tavares fine sand, 0 to 5 percent slopes	A	1.5'-3.5'
36	Orlando fine sand, moderately wet, 0 to 2 percent slopes	A	3.5'-6.0'
20	EauGallie-EauGallie wet, fine sand, 0 to 2 percent slopes	A/D	0.5'-1.5'
54	Zolfo fine sand, 0 to 2 percent slopes	A	1.5'-3.5'
7	Canova, Anclote, and Okeelanta Soilds	A/D	>6.5'
25	Floridana fine sand, 0 to 2 percent slopes	C/D	0'
5	Bradenton fine sand, limestone substratum	B/D	0.0'-1.0'
48	Wabasso-Wabasso, wet, fine sand, 0 to 2 percent slopes	B/D	0.5'-1.5'
12	Cassia fine sand, moderately well drained	A	3.5'-5.0'
9	Canaveral sand, filled	A/D	1.0'-3.0'
21	Estero muck, tidal, 0 to 1 percent slopes	A/D	0.0'
13	Chobee loamy fine sand, frequently ponded, 0 to 1 percent slopes	C/D	0.0'
14	Chobee variant sandy clay loam	C/D	0.0'-1.0'
16	Delray complex	A/D	0.0'-0.5'

Additionally, a Preliminary Seasonal High Groundwater Table Report was prepared by Tierra at pond and FPC alternative locations for the Interim Improvements only. The seasonal high water table ranges from 1' to the surface to 2.5' deep with the horizontal permeability rate varies from 3.0 ft/day to 16.8 ft/day. The seasonal high water table data is consistent with NRCS web soil survey. Please refer to Appendix I – Geotechnical Memorandum for details.

2.3 FLOODPLAIN

The project's drainage design is to provide floodplain compensation in compliance with FEMA, SWFWMD, and FDOT guidelines. No net encroachment shall occur as a result of the proposed activity. All floodplain within the right-of-way is assumed to be completely impacted. This includes both existing right-of-way as well as areas where additional right-of-way has been proposed for roadway or use as stormwater management facilities.

The following floodplain information for the project area was reviewed:

- FEMA Flood Maps – The Flood Insurance Rate Map (FIRM) Community-Panel Number that includes the project area is 12081C0162F, 12081C0166F, 12081C0168F, 12081C0164F, 12081C0306F, 12081C0302F, effective August 10, 2021. Please refer to the project FEMA FIRMs included in Appendix A.
- City of Bradenton Watershed Study – The City of Bradenton Watershed model was used for floodplain evaluations and impacts for US 41, South of DeSoto Bridge. Please refer to Appendix A.

2.4 RAINFALL DATA

Rainfall amounts, which are used to estimated required attenuation volume, were obtained from the SWFWMD Applicant's Handbook Volume II. The rainfall amount is 8 inches for 24-hour 25-year open basin design and 7 inches for 24-hour 10-year storm sewer design. Please refer to Appendix A for SWFWMD Rainfall Map.

2.5 EXISTING DRAINAGE PATTERNS

The US 41 project corridor crosses the Manatee River between Bradenton and Palmetto via DeSoto Bridge. South of the bridge, the US 41 is urban in nature and consists of curb inlets and a storm sewer network extending from the US 301 bridge to the Manatee River. Drainage basins 1 and 2 located South of DeSoto Bridge, between US 301 at 9th Street and North of 8th Avenue discharge through a series of ditches, storm sewer connections, and channels that ultimately outfall to the Manatee River. Basin 3, starting North of 8th Avenue and continuing to the highpoint of DeSoto Bridge, directly discharges to the manatee River through a series of storm sewer systems. Basin 4, extending from the highpoint of DeSoto Bridge to North of the bridge, roadway runoff is primarily conveyed through roadside ditches. The ultimate outfall for both the northern and southern drainage systems is the Manatee River. Currently, no permitted stormwater management facilities serve the US 41 roadway or DeSoto Bridge. The bridge deck is drained through scuppers that allow runoff to discharge directly into the river below.

Basins 5 and 6, include the southwest and southeast quadrants of the US 41 and US 301 interchange North of DeSoto Bridge. These basins are conveyed through ditches and storm sewer systems and ultimately outfall to Manatee River.

Basin 7 is also conveyed through ditches and storm sewer systems, discharging to a canal located West, South of 10th Street West and ultimately discharge to the Manatee River. Basin 8 discharges through a cross drain, to an open ditch, and finally to a canal to the East and South of 10th Street West, ultimately outfalling to the Manatee River.

Basin 9 ultimately discharges through ditches and storm sewer systems to a 42" pipe that outfalls to the downstream channels crossing Lincoln Park and outfall to the Manatee River.

Basin 10, the northernmost basin within the project corridor, extends from approximately 19th Street in the south to the northern project limit at the intersection of US 41 and Bayshore Road. The general stormwater flow direction within this basin is from north to south, with the outfall located approximately 100 feet north of 19th Street on the east side of the roadway. Stormwater in this basin is primarily conveyed through a system of pipes, catch basins, and manholes.

Cross drains are present throughout the project corridor, particularly within the basins located farthest south of the DeSoto Bridge and north of the bridge beginning just before 7th Avenue and continuing further north along the corridor.

A review of available resources and field observations indicates the project does not receive any offsite runoff into the FDOT drainage system.

2.6 REFERENCE AND RESOURCE INFORMATION

Existing Studies/ Plans/ Reports:

- City of Bradenton Stormwater Facilities Plan, Feb. 2017
- FPID: 196126-1-52-01, Feb. 1998
- SR. 55 State Job No. 13130-3202-01-21, 1960

Technical Reference and Regulation Material:

- Drainage Manual, State of Florida Department of Transportation, January 2026
- Drainage Design Guide, State of Florida Department of Transportation, January 2024
- SWFWMD ERP Applicant's Handbook Volume II, October 2025
- Environmental Resource Permit Applicant's Handbook Volume I, June 2024
- FDOT Design Manual, January 2026

Maps & Surveys:

- Natural Resources Conservation Service Soil Survey of Manatee County, United States Department of Agriculture
- Project-specific aerials, 2025
- Project-specific survey

Websites:

- Manatee County Property Appraiser https://www.mymanatee.org/gisportal/apps/webappviewer/index.html?id=aed1bbeeb73a4657a8ce925d5c1ed18c
- National Oceanic Atmospheric Administration http://maps.csc.noaa.gov/
- Wetland Maps https://ca.dep.state.fl.us/mapdirect/?focus=standard
- Florida Department of Environmental Protection http://www.dep.state.fl.us/water/tmdl
- HUC 12 Boundaries with Impaired Waters and OFWs https://fdep.maps.arcgis.com/apps/mapviewer/index.html?webmap=30d481b5f3aa4750ad75797ac51cb3a1
- 2018 LiDAR-derived Digital Elevation Map (DEM) from the USGS (https://www.usgs.gov/the-national-map-data-delivery/gis-data-download)

SECTION 3 PROPOSED DRAINAGE DESIGN

The purpose of this section is to describe the drainage design criteria and approach that will effectively collect and manage stormwater runoff for the proposed roadway improvements. The stormwater runoff from the project limits will be collected and conveyed in roadside ditches or closed drainage systems to the proposed offsite wet detention and dry retention SMFs.

3.1 DESIGN CRITERIA

Agencies having jurisdiction over the design of the stormwater management facilities include the FDOT, and the SWFWMD.

Seasonal High Ground Water Establishment: The seasonal high ground water table (SHGWT) for each SMF alterative was established using United States Geological Survey (USGS) soil data and preliminary soil borings. Preliminary geotechnical data is included in Appendix B and I. Provide a minimum of one foot clearance from pond bottom to the SHGWT for dry retention ponds.

Water Quality Treatment: The alternative SMFs have been evaluated to provide treatment for the entire project limit in accordance with the impaired basin and OFW's State standards based on the ERP Applicant's Handbook Volume I (95% removal rate on both nitrogen and phosphorus). The following approach has been discussed and agreed upon with the District given the extended timeframe associated with the Ultimate Improvements's design phase,

- The Interim Improvements: 95% removal rate on both nitrogen and phosphorus.
- The Ultimate Improvements: 80% removal rate on both nitrogen and phosphorus.

Water Quantity: SWFWMD has water quantity criteria for open basins that must be satisfied.

- Southwest Florida Water Management District – The District's design storm event for construction activity is the 25-year/24-hour storm for open basins (40D-40, F.A.C.). It will be necessary to demonstrate that the post-development peak discharge from the design storm does not exceed the pre-development peak discharge for the same storm event for open basins.

Stormwater Management Facility Sizing: The SMF alternatives provide the required water quality treatment and water quantity attenuation while providing one-foot of freeboard between the design high water and the lower of the top of the berm (TOB) or the low edge of pavement based on the FDOT Design Manual. Note that this requirement does not apply for basins 2, 3, and 4 along the project corridor due to the directly discharging to the Manatee River. All ponds and swales were sized to be of varying depths, dependent upon the existing seasonal high-water elevation and corresponding low edge of pavement.

The SMF area identified within this report includes not only the storage area but also considers area for transitional grading and maintenance berm. In estimating the size of the offsite alternatives, the following were taken into consideration: 1:4 maximum transitional slopes from existing grade to outside berm, 15-foot maintenance berm, 1:4 maximum side slopes down to pond bottom and

ingress/egress access, if necessary. Pond alternatives located within the right-of-way consider the following: 1:4 maximum transitional slopes from existing grade to outside berm, a shared sidewalk/maintenance berm, 1:4 maximum side slopes down to the pond bottom (back slope) and 1:6 slopes from the pond bottom to the edge of shoulder (front slope).

Floodplain: Floodplain compensation storage is provided for all impacts due to the roadway improvements or proposed Stormwater Management Facilities (SMFs). Cup-for-cup method is utilized for sizing Floodplain Compensation (FPC) sites. Refer to Location Hydraulic Report (LHR) for detail.

Sea Level Impact: Sea Level Impact Projection (SLIP) study report was prepared and determined year 2100's High Sea level (6.69) will have adverse impacts to stormwater management facilities (higher than the pond design stage as well as the lowest US 41 edge of pavement) based on the regional sea level rise scenarios.

3.2 STORMWATER MANAGEMENT DESIGN APPROACH

The proposed drainage design strategies have been evaluated using the guidelines provided by the latest FDOT's Drainage Manual and Stormwater Management Handbook and SWFWMD's ERP Applicant Handbooks.

Water Quality Contributing Areas:

US 41 Mainline – Interim Impervious Width (South of DeSoto Bridge):
Includes 12 ft (two sidewalks), 4 ft (two curb and gutter sections), a variable-width median, and 66 ft (six travel lanes).

DeSoto Bridge Mainline – Interim Impervious Width:
Includes 24 ft (shared-use path), 6 ft (barrier wall), 32 ft (shoulders), and 44 ft (four travel lanes), for a total impervious width of 128.67 ft.

US 41 Mainline – Interim Impervious Width (North of DeSoto Bridge):
Includes 24 ft (two shared-use paths), 8 ft (two curb and gutter sections), and 66 ft (six travel lanes), for a total impervious width of 98 ft.

US 41 Mainline – Ultimate Impervious Width (South of DeSoto Bridge):
Includes 12 ft (two sidewalks), 4 ft (two curb and gutter sections), 32.5 ft (median treated as impervious due to the proposed impervious flyover over the median), and 66 ft (six travel lanes), for a total impervious width of 114.5 ft.

DeSoto Bridge Mainline – Ultimate Impervious Width:
Includes 40 ft (proposed widening for a shared-use path, shoulders, and barrier walls), 90 ft (travel lanes), 20 ft (shoulders), and 10 ft (buffers and barrier walls), for a total impervious width of 160 ft.

US 41 Mainline – Ultimate Impervious Width (North of DeSoto Bridge):
Includes 24 ft (two shared-use paths), 8 ft (two curb and gutter sections), 32.5 ft (median

treated as impervious due to the proposed impervious flyover over the median), and 66 ft (six travel lanes), for a total impervious width of 130.5 ft.

Water Quantity Attenuation: SCS method was used to estimate the required attenuation volume for Basins 1, and 5 through 10.

Attenuation is not required for Basin 2, 3, and 4, which are directly discharging to the Manatee River.

Floodplain: This project crosses several known floodplains. Floodplain impact storage is calculated by using volumetric method between the seasonal high water table and 100-year 24-hour base flood stage from City of Bradenton Watershed Model. The FPC site alternatives were sized to provide cup-for-cup compensation in order to avoid any net encroachment into the floodplain. To determine how the proposed roadway improvements would affect the 100-year floodplain a preliminary analysis was performed using City of Bradenton model. No watershed riverine model is available North of the Desoto Bridge. However, all floodplains at the Palmetto section are considered tidal influence areas, which will not be required to provide any FPC sites for any tidal floodplain impact. Please refer to the LHR for detail.

SMF and FPC alternatives: three SMF alternatives will be evaluated per basin and two FPC alternatives will be provided per base flood elevation impact for the Ultimate Alternative. One SMF alternative and one FPC alternative will be provided for the Interim Improvements.

Vegetated Buffers Methodology: Applicant Handbook Volume I's mythology on vegetated buffers focuses on Directly Connected Impervious Area (DCIA) reduction and claiming pretreatment credit, while BMPTrains focus on capturing fraction, bypass flow, and mass removal. BPC PD&E study focuses on the BMPTrains vegetated buffer methodology to produce realistic nutrient removal rates.

SECTION 4 ALTERNATIVE STORMWATER MANAGEMENT FACILITIES AND FLOODPLAIN COMPENSATION SITES FOR THE INTERIM IMPROVEMENTS

This section evaluates SMFs for one alternative located both within and outside the project right-of-way for the Interim Improvements.

FPC sites are proposed for areas South of DeSoto Bridge that impact the watershed floodplains. one FPC site per floodplain impact will be provided. North of DeSoto Bridge, the project falls within a FEMA tidal zone, avoiding the need to provide for any floodplain compensation.

The Interim Improvements contains Basin 3, Basin 4, Basin 5, and Basin 6. There are no improvements within Basin 5 and Basin 6 from 7th St. E. to US 301 for the Interim Improvements. Therefore, SMFs for Basin 5 and Basin 6 are not evaluated for the Interim Improvements.

4.1 BASIN 3

Basin 3 is an open basin that begins at station 163+06 and extends approximately to station 193+08. Basin 3 lies within the Manatee River Below Braden River waterbody (WBID 1848A). This basin is conveyed through storm sewers and discharges to Manatee River. No attenuation is required for Basin 3.

Basin 3 is proposed to be divided into a series of sub basins that discharge into roadside BMPs for treatment. Floodplain compensation is required for alternative one to accommodate for 0.14 acres of floodplain impact.

Stormwater Management Facilities

A total of 5 BMPs are proposed, with several operating in series prior to discharge to the Manatee River. This alternative includes 2 vegetated buffers and 3 treatment swales. All SMFs are proposed within the US 41 right-of-way. No additional parcel needed for Basin 3.

VB-1 begins at approximately Station 170+00 at existing southbound roadside ditch and ends near station 175+00 with a total contributing area of 3.69 ac. VB-1 discharges to Swale-2.

Swale-2 begins at approximately Station 175+60 at existing southbound roadside open space and ends near station 178+00 with a total contributing area of 3.01 ac. Swale-2 discharges to Swale-5.

Swale-5 begins at approximately Station 178+20 at existing southbound roadside open space and ends near station 182+20 with a total contributing area of 0.80 ac. Swale-5 discharges to the Manatee River.

Swale-4 begins at approximately Station 173+00 at existing northbound roadside open space and ends near station 177+60 with a total contributing area of 2.02 ac. Swale-4 discharges to VB-6.

VB-6 begins at approximately Station 179+80 at existing southbound ramp and ends near station 182+00 with a total contributing area of 0.82 ac. VB-6 discharges to the Manatee River.

FPC

Approximately 0.06 acres are required at this location to provide adequate floodplain compensation. FPC 3 Alternative One consists of a park greenspace located at the end of the off ramp to Riverfront Blvd. and encompasses approximately 0.06 acres, offering sufficient area to meet the compensation requirement. No additional right-of-way is needed.

4.2 BASIN 4

Basin 4 is an open basin extending from Station 193+08 to Station 243+25. It is located within the Manatee River Below Braden River waterbody (WBID 1848A). Runoff from the basin is conveyed through a system of ditches and storm sewers, ultimately discharging to the Manatee River, with some areas outfalling via the Palmetto Estuary Preserve. No attenuation is required for Basin 4.

The basin lies within a FEMA designated tidal flood zone; therefore, floodplain compensation is not required.

Stormwater Management Facilities

Dry Pond 3 begins near Station 223+00, east of US 41, north of DeSoto Bridge. The proposed facility will impact three vacant parcels owned by GDAWG Ventures LLC (Parcel IDs: 2581600759, 2581600809, 2581600879, 2581600709, and 3133700549). The pond encompasses approximately 4.71 acres.

SECTION 5 ALTERNATIVE STORMWATER MANAGEMENT FACILITIES AND FLOODPLAIN COMPENSATION SITES FOR THE ULTIMATE IMPROVEMENTS

This section evaluates SMFs for three different alternatives located both within and outside the project right-of-way. Alternative One is proposed to be the preferred alternative out of the three alternatives for all basins.

Two alternative FPC sites per floodplain impact are proposed for areas south of DeSoto Bridge that impact the watershed floodplains. North of DeSoto Bridge, the project falls within a FEMA tidal zone, avoiding the need to provide for any floodplain compensation.

5.1 BASIN 1

Basin 1 is an open basin that begins at US 301 with station 501+97 and extends approximately to US 41 with station 114+56. Basin 1 lies within Wares Creek waterbody (WBID 1848D2). Majority of this basin is conveyed through roadside ditches, existing downstream channels, then connects to existing storm sewers, and ultimately discharges to the Manatee River. The low edge of pavement (EOP) is approximately at EL. 26.0 near 9th St. E. intersection.

Basin 1 is subdivided into 4 smaller basins due to 4 different immediate outfall locations.

1. Basin 1A

   Basin 1A is located at the south side of the US 301 and US 41 interchange with area of 1.41 ac. Basin 1A starts at US 301 with station 522+58 and extends to US 41 with station 114+56. The immediate outfall is an existing ditch bottom inlet (DBI) located on the interchange field with an 18" outfall pipe, which connects to the trunkline system along US 41 and directly discharges to the Manatee River. No attenuation is required for Basin 1A. Basin 1A is being treated in the following SMFs for each alternative,

   - Dry Pond 1A Alt. 1 in alternative one
   - Dry Pond 1B Alt. 2 in alternative two
   - Dry Pond 1C Alt. 3 in alternative three

2. Basin 1B

   Basin 1B is located at the north side of the US 301 and US 41 interchange with area of 1.48 ac. Basin 1B starts at US 301 with station 515+50 and extends to US 41 with station 114+56. The immediate outfall is an existing roadside ditch. Runoff will flow north through "Tropicana" private property and connects to the existing channel north. Attenuation is required for Basin 1B. Basin 1B is being treated in the following SMFs for each alternative,

   - Dry Pond 1N Alt. 1 and Dry Pond 1S Alt. 1 in alternative one

- Dry Pond 1B Alt. 2 in alternative two
- Dry Pond 1C Alt. 3 in alternative three

3. Basin 1C & Basin 1D

   Basin 1C and Basin 1D have area of 7.60 ac. It first discharges to the roadside ditches on each side of the US 301. Basin 1C and Basin 1D start at US 301 with station 505+00 and extend to US 301 with station 522+58. Basin 1C will discharge through the existing double 36" cross drain at US 301 station 508+04 and meets Basin 1D at the downstream end of the double 36" cross drain. Both basins also flow north through "Tropicana" private property and connects to the existing channel north. Attenuation is required for Basin 1C and Basin 1D with the following treatment systems for each alternative,

   - Dry Pond 1N Alt. 1 and Dry Pond 1S Alt. 1 in alternative one
   - Dry Pond 1B Alt. 2 in alternative two
   - Dry Pond 1C Alt. 3 in alternative three

4. Basin 1E

   Basin 1E is located at the southeast corner of US 301 and 9th St. E. with area of 0.43. Basin 1E starts at US 301 with station 501+97 and extends to US 301 with station 505+00. Basin 1E discharges to a 54" storm sewer system that connects to the existing channel north. Attenuation is required for Basin 1E. Basin 1E is being treated in the following SMFs for each alternative,

   - Dry Pond 1N Alt. 1 and Dry Pond 1S Alt. 1 in alternative one
   - Dry Pond 1B Alt. 2 in alternative two
   - Dry Pond 1C Alt. 3 in alternative three

Stormwater Management Facilities Alternative One

Alternative one proposes three dry retention ponds within the existing US 301 right-of-way. No additional parcels are needed for SMFs.

Dry Pond 1S Alt. 1 and Dry Pond 1N Alt. 1 are designed to attenuate Basin 1B, Basin 1C, and Basin 1D as well as providing sufficient nutrient removal. Both ponds are interconnected and share the same pond vertical geometries with inside berm elevation of 25.00' and pond bottom at 22.50'. Dry Pond 1S Alt 1 has an area of 0.84 ac. And Dry Pond 1N Alt 1 has an area of 1.09 ac (total of 1.93 ac. shown on CN calculations). The seasonal high water elevation is assumed to be 21.50 feet for both ponds. Dry Pond 1S Alt. 1 and Dry Pond 1N Alt. 1 outfall to the downstream of CD-1.

Dry Pond 1A Alt. 1 is located at the US 301 and US 41 interchange field to treat Basin 1A. No attenuation is required since it's directly discharging to the Manatee River. Dry Pond 1A Alt. 1 has an inside berm elevation of 38.00 and bottom elevation of 36.50. Dry Pond 1A Alt. 1 has an area of 0.31 ac. The seasonal high water elevation is assumed to be 35.50. Dry Pond 1A Alt. 1 outfalls to the US 301 and US 41 interchange infield.

FPC Alternative One

Approximately 0.85 ac. are required along the roadside ditch to provide adequate floodplain compensation. No additional parcel is needed for FPC 1 Alt. 1.

Stormwater Management Facilities Alternative Two

Alternative two proposes one dry retention pond adjacent to the US 301 right-of-way near the upstream of the existing CD-1. Dry Pond 1B Alt. 2 is designed to attenuate Basin 1A, Basin 1B, Basin 1C, and Basin 1D as well as providing nutrient removals. Dry Pond 1B Alt. 2 has an inside berm elevation of 29.00' and pond bottom at 25.50'. Dry Pond 1B Alt. 2 has an area of 2.33 ac. with a parcel impact of 2.86 ac. The current parcels needed for Dry Pond 1B Alt. 2 are private duplex parcels with parcel ID of 4649600303 and 4649600071. Dry Pond 1B Alt. 2 is designed to outfall to the upstream of CD-1.

FPC Alternative Two

Approximately 0.65 acres are required along the roadside ditch to provide adequate floodplain compensation. No additional parcel is needed for FPC 1 Alt. 2.

Stormwater Management Facilities Alternative Three

Alternative three proposes one dry retention pond adjacent to the US 301 right-of-way east of 9th St. E. intersection. Dry Pond 1C Alt. 3 is designed to attenuate Basin 1A, Basin 1B, Basin 1C, and Basin 1D as well as providing nutrient removals. Dry Pond 1C Alt. 3 has an inside berm elevation of 26.00' and pond bottom at 23.0'. Dry Pond 1C Alt. 3 an area of 3.01 ac. with a parcel impact of 3.95 ac. The current parcel needed for Dry Pond 1C Alt. 3 is a government owned vacant municipal with parcel ID of 4687900059. Dry Pond 1C Alt. 3 is designed to outfall to the existing rail.

5.2 BASIN 2

Basin 2 is an open basin that begins at US 41 with station 114+56 and extends approximately to US 41 with station 155+27. Overall on-site basin area for Basin 2 is 13.30 ac. with varies SMF areas in each alternative. Basin 2 crosses Wares Creek waterbody 1848D2 and 14848D1, then to the Manatee River Below Braden River waterbody 1848A. Basin 2 is conveyed through existing 54" trunkline to Basin 3 and ultimately discharges to the Manatee River. The low EOP is approximately at EL. 17.0 near Dr. Martin Luther King W. intersection. No attenuation is required for Basin 2. Basin 2 is being treated in the following SMFs for each alternative,

- Dry Pond 2 Alt. 1 in alternative one
- Dry Pond 2A Alt. 2 in alternative two

- Dry Pond 2B Alt. 3 in alternative two

Stormwater Management Facilities Alternative One

Alternative one proposes one dry retention ponds adjacent to US 41 right-of-way at the southeast corner of 6th Ave. E. intersection. Dry Pond 2 Alt. 1 has an inside berm elevation of 18.00' and pond bottom at 14.00'. Dry Pond 2 Alt. 1 has an area of 1.43 ac. with a parcel impact of 1.65 ac. The current parcel needed for Dry Pond 2 Alt. 1 is a gas station with parcel ID of 3175000059. Dry Pond 1B Alt. 2 is designed to outfall to the US 41 trunkline.

FPC Alternative One

Approximately 0.70 ac. are required at the same gas station parcel to provide adequate floodplain compensation.

Stormwater Management Facilities Alternative Two

Alternative two proposes one dry retention offsite pond at the southeast corner of 3rd St. W. and 6th Ave. W. Dry Pond 2A Alt. 2 has an inside berm elevation of 18.00' and pond bottom at 14.00'. Dry Pond 2A Alt. 2 has an area of 1.06 ac. with a parcel impact of 1.36 ac. The current parcels needed for Dry Pond 2A Alt. 2 are government owned vacant municipals with parcels ID of 3267500001, 3267600009 and 3267300006. Dry Pond 2A Alt. 2 is designed to outfall to the US 41 trunkline.

No FPC is required due to no floodplain impact for alternative two.

Stormwater Management Facilities Alternative Three

Alternative three proposes one dry retention pond adjacent to the US 41 right-of-way at northeast corner of 9th Ave. E. intersection. Dry Pond 2B Alt. 3 has an inside berm elevation of 18.00' and pond bottom at 14.0'. Dry Pond 2B Alt. 3 has an area of 2.00 ac. with a parcel impact of 2.29 ac. The current parcels needed for Dry Pond 2B Alt. 3 are commercial buildings with parcel ID of 3183200009, 3183400005, 3183300007; church with parcel ID of 3183700057; vacant lands with parcels ID of 3183600158, 3183600109, 3183100109, and 3183100059. Dry Pond 2B Alt. 3 is designed to outfall to the US 41 Trunkline.

5.3 BASIN 3

Basin 3 is an open basin that begins at station 155+27 and extends approximately to station 191+61. Basin 3 lies within the Manatee River Below Braden River waterbody (WBID 1848A). This basin is conveyed through storm sewers and discharges to Manatee River. Water quantity and attenuation requirements do not apply to this basin.

Basin 3 is proposed to be divided into a series of sub basins that discharge into roadside or offsite BMPs to get treated for nutrient removal. Floodplain compensation is required for Alternative one to accommodate for 0.14 acres of floodplain impact.

Stormwater Management Facilities Alternative One

For Alternative one, a total of six BMPs are proposed, with several operating in series prior to discharge to the Manatee River. This alternative includes five vegetated buffer BMPs and one wet

detention pond. Vegetated buffers B, C, and D (VB-3B, VB-3C, and VB-3D) convey runoff to Wet Pond 3, which has a surface area of approximately 0.43 acres and a depth of three feet measured from the inside berm. The pond provides additional nutrient removal prior to discharge to the Manatee River.

VB-3A begins at approximately Station 164+00, encompasses 0.29 acres, and is proposed within a portion of the Manatee Memorial Hospital parking lot. This vegetated buffer treats a 4.11 acre area along US 41 approximately between Station 155+27 and 166+80, and directly discharges to Manatee River.

VB-3B encompasses approximately 0.21 acres and extends from about Station 167+00 to Station 169+00, treating the Southbound lanes of US 41 between Station 166+80 and 178+20, with a total area of 2.90 acres required to be treated. It currently primarily serves existing green space and a portion of the Aria Bradenton Apartments parking lot. This buffer is to convey runoff to Wet Pond 3 via a pipe connection that discharges near Station 175+00, where the pond is located.

VB-3C is located within FDOT right-of-way, beginning near Station 178+50, and encompasses approximately 0.31 acres. The vegetated buffer treats a total area of 3.53 acres that comprise the Southbound direction of US 41 approximately between Stations 178+20 and the high point of DeSoto Bridge, at around Station 191+50. This buffer conveys runoff to Wet Pond 3 through a pipe system for additional treatment prior to discharge to the river.

VB-3D encompasses approximately 1.88 acres within the Manatee Memorial Hospital parking area. Beginning near Station 174+50, it conveys runoff to Wet Pond 3 through a series of storm pipes, crossing US 41, to provide additional treatment prior to outfall to the Manatee River. This buffer treats a total of area of 5.58 acres, which includes the majority area of Northbound direction of US 41 between Stations 178+20 and 191+50.

VB-3E is proposed within an existing open green space adjacent to the northbound ramp to Riverfront Boulevard. The buffer begins near Station 180+00, encompasses approximately 0.22 acres, and is designed to treat a small portion of area (0.62 acres) on the northbound side of US 41 from Station 178+80 to Station 182+20. Runoff from VB-3E discharges directly to the Manatee River.

Stormwater Management Facilities Alternative Two

Alternative two proposes a total of four BMPs, each operating independently and discharging directly to the Manatee River.

Dry Pond 3A is a proposed dry retention facility located near Station 160+00 within a vacant area. The pond is assigned a total treatment area of 4.95 acres ranging between Station 155+30 to approximately Station 169+50 along US 41. Its construction would impact four parcels, three owned by Bradenton Centre LLC and one owned by Vott Partners LLC. The pond encompasses approximately 1.11 acres and is designed with a top of berm elevation of 16 feet, an inside berm elevation of 15 feet, and a pond bottom elevation of 12 feet. Side slopes are proposed at a 1:4 ratio from the inside berm to the pond bottom.

VB-3F is a vegetated buffer proposed east of US 41 near Station 175+50. This BMP is anticipated to impact approximately 0.52 acres of the Manatee Memorial Hospital parking lot. The total basin area

assigned to be treated by this buffer is 4.23 acres and includes US 41 between Stations 169+50 and approximately 178+20.

VB-3G is a vegetated buffer proposed west of US 41 near Station 174+00. It is located within an existing parking lot on a City of Bradenton parcel that primarily serves nearby medical offices. Approximately 0.72 acres of this parcel would be impacted. A total area measuring 3.86 acres and ranging between Stations 178+20 and 191+50 along the Southbound lanes of US 41, is assigned for treatment in vegetated buffer VB-3G.

VB-3H is the final vegetated buffer proposed under Alternative two. It is located east of US 41 near Station 178+50, encompasses approximately 1.28 acres, and is currently utilized as parking area within the Manatee Memorial Hospital vicinity. VB-3H treats a total of 4.15 acres and only includes the Northbound lanes for US 41 nearly between Stations 178+20 and 191+50.

Stormwater Management Facilities Alternative Three

Alternative three proposes two dry retention ponds.

Dry Pond 3B is proposed at approximately Station 165+00 within the southeastern portion of the Manatee Memorial Hospital parking lot and would result in impacts to existing parking spaces. The pond requires approximately 0.86 acres and is designed with a top of berm elevation of 11.50 feet, an inside berm elevation of 10.50 feet, and a pond bottom elevation of 8.50 feet. Side slopes are proposed at a 1:4 side slope from the inside berm to the pond bottom. Dry Pond 3B treats the area along US 41 from Station 155+30 to Station 169+60 for a total area of 4.95 acres.

Dry Pond 3C is proposed near Station 172+00 to occupy the entirety of a parking lot on a parcel owned by HPIII Sarasota LLC, which is currently used primarily for commercial purposes. This pond encompasses approximately 2.03 acres, with a top of berm elevation of 9.50 feet, an inside berm elevation of 8.50 feet, and a pond bottom elevation of 6.50 feet. Side slopes are proposed at a 1:4 side slope from the inside berm to the pond bottom. Dry Pond 3B treats the area along US 41 from Station 169+60 to the high point of DeSoto Bridge, for a total area of 12.24 acres.

FPC Alternative One

Approximately 0.06 acres are required at this location to provide adequate floodplain compensation. FPC 3 Alternative one consists of a park greenspace located at the end of the off ramp to Riverfront Blvd. and encompasses approximately 0.06 acres, offering sufficient area to meet the compensation requirement. No additional right-of-way is needed.

FPC Alternative Two

FPC 3 Alternative two proposes utilizing approximately 0.13 acres within an existing greenspace adjacent to the Manatee Memorial along the southbound of US 41. No additional right-of-way is needed.

5.4 BASIN 4

Basin 4 is an open basin extending from Station 191+61 to Station 243+25. It is located within the Manatee River Below Braden River waterbody (WBID 1848A). Runoff from the basin is conveyed through a system of ditches and storm sewers, ultimately discharging to the Manatee River, with some areas outfalling via the Palmetto Estuary Preserve. Water quantity and attenuation requirements do not apply to this basin.

The basin lies within a FEMA designated tidal flood zone; therefore, floodplain compensation is not required.

Stormwater Management Facilities Alternative One

Dry Pond 4 begins near Station 223+00, east of US 41, north of DeSoto Bridge. The proposed facility will impact three vacant parcels owned by GDAWG Ventures LLC (Parcel IDs: 2581600759, 2581600809, and 2581600879). The pond encompasses approximately 3.66 acres and provides a total storage capacity of 11.14 acre-feet.

Stormwater Management Facilities Alternative Two

For Alternative two, three vegetated buffers and one wet detention pond are proposed along the east side of US 41, north of DeSoto Bridge.

VB-4A is located near Station 218+00 and encompasses approximately 1.59 acres. It impacts Parcel 2581600369, owned by ALBA PALMS LLC. To provide additional nutrient removal for the sub-basin draining to VB-4A, runoff from the vegetated buffer will be routed to Wet Pond 4A, located near Station 217+00, impacting Parcel 2581600649, before discharging to the Manatee River. Wet Pond 4A measures 0.77 acres in area. The area from basin 4 that is to drain to VB-4A and Wet Pond 4A begins at the high point of the bridge at approximately Station 191+50 to near Station 212+00, an area measuring 17.49 acres.

VB-4B is located near Station 225+00 and measures approximately 1.24 acres. This vegetated buffer is proposed to impact two parcels (Parcel IDs 2581600759 and 2581600709) owned by GDAWG Ventures LLC. Discharge from VB-4B will flow directly to the Manatee River. This area assigned for treatment extends from Station 212+00 to 231+30 and measures 3.81 acres.

VB-4C is the third proposed vegetated buffer, beginning near Station 237+00, with a total area of approximately 1.79 acres. It impacts Parcel IDs 2603600159 and 2603600409, both owned by BACC Hotel LLC. The proposed buffer will affect approximately 1.79 acres of an existing hotel parking lot. This vegetated buffer basin extends approximately from Station 231+30 to 243+30 and measures 5.36 acres.

Stormwater Management Facilities Alternative Three

Alternative three includes two dry retention ponds East of US 41, impacting a total of three parcels.

Dry Pond 4B is proposed within Parcel 2581600879, owned by GDAWG Ventures LLC, beginning near Station 222+50. The pond encompasses approximately 2.08 acres, with a top of berm elevation of 9.0

feet and a pond bottom elevation of 5.50 feet. Side slopes are designed at a 1:4 ratio from the inside berm (elevation 11 feet) to the pond bottom. This pond treats a total area of 17.40 acres, extending between Stations 191+50 to 222+00.

Dry Pond 4C is proposed to impact Parcel 2581600709, owned by GDAWG Ventures LLC, as well as Parcel 3133701009, which contains a privately owned gas station. This pond begins near Station 227+00 and has an approximate area of 1.47 acres. It features a top of berm elevation of 9.0 feet and a pond bottom elevation of 5.50 feet. Side slopes are designed at a 1:4 ratio from the inside berm (elevation 11 feet) to the pond bottom. This pond treats a total area of 9.17 acres, extending between Stations 222+00 to around 243+30.

5.5 BASIN 5

Basin 5 is an open basin that begins at approximately station 243+25 and extends approximately to station 266+80. Basin 5 lies within the Manatee River Below Braden River waterbody (WBID 1848A). This basin is conveyed through open ditches and storm sewers and discharges to basins to the south and ultimately the Manatee River.

Basin 5 is proposed to be divided into a series of two sub basins (5S and 5N) that discharge into roadside or offsite BMPs to get treated for 80% nutrient removal. Per SWFWMD nutrient removal requirements, 80% nitrogen and 80% phosphorus removal are required for basin 5. There are no FEMA designated 100-year floodplain encroachments in Basin 5. Three BMPs were evaluated for Basin 5S and three BMPs for Basin 5N

Stormwater Management Facilities Alternative One

Basin 5S Alternative one includes a series of swales with ditch blocks along the outside of the proposed Shared Use Path on the west side of the roadway and discharges across 7th Street East to Basin 4. The estimated SHW varies from 4.0 at the south end to 8.0 at the north end. These swales begin at approximate station 244+00 and extend approximately to station 256+00. The swales also extend outside of the right-of-way into a mobile home community.

Dry Pond 5N Alternative one includes a Dry Retention pond discharging to Wet Pond Alternative one which is a Wet Detention pond as a treatment train. These are located in the infield area between SR 45 (US 41) and the southbound entrance ramp. The discharge is to a cross drain under the ramp and into Basin 5S. The estimated SHW is 8.0

Stormwater Management Facilities Alternative Two

Basin 5S Alternative two includes Vegetated Buffer Strip (VBS 5S Alt 2) discharging to a treatment swale (Swale 5S Alt 2) as a treatment train. These systems are located at the northwest corner of SR 45 (US 41) and 7th Street East on a parcel that is currently a small automobile outlet business. These systems will discharge to Basin 4. The estimated SHW is 4.0.

Basin 5N Alternative two includes a Dry Retention Pond (Dry Pond 5N Alt 2) that discharges to a Wet Detention Pond (Wet Pond 5N Alt 2) as a treatment train. The Dry Retention Pond is located in the infield area between SR 45 (US 41) and the southbound entrance ramp. The Wet Detention Pond is

located outside of the proposed Shared Use Path discharges to Basin 5S. The estimated SHW is 6.0. The Wet Detention Pond also extends outside of the right-of-way into a mobile home community.

Stormwater Management Facilities Alternative Three

Basin 5S Alternative three includes a Dry Retention Pond (Dry Pond 5S Alt 3) located at the northwest corner of SR 45 (US 41) and 7th Street East on a parcel that is currently a small automobile outlet business. This system discharges to Basin 4. The estimated SHW is 4.0.

Basin 5N Alternative three includes a Dry Retention Pond (Dry Pond 5N Alt 3) that discharges to a series of swales (Swale 5N Alt 3) with ditch blocks along the outside of the proposed Shared Use Path on the west side of the roadway and discharges across 7th Street East to Basin 4. The swales also extend outside of the right-of-way into a mobile home community.

5.6 BASIN 6

Basin 6 is an open basin that begins at approximate station 243+25 and extends approximately to station 259+40. Basin 3 lies within the Manatee River Below Braden River waterbody (WBID 1848A). This basin is conveyed through open ditches and storm sewers and discharges to basins to the south and ultimately the Manatee River.

Basin 6 is proposed to be divided into a series of two sub basins (6S and 6N) that discharge into roadside or offsite BMPs to get treated for 80% nutrient removal. Per SWFWMD nutrient removal requirements, 80% nitrogen and 80% phosphorus removal are required for basin 5. There are no FEMA designated 100-year floodplain encroachments in Basin 5. Three BMPs were evaluated for Basin 6S and three BMPs for Basin 6N.

Stormwater Management Facilities Alternative One

Basin 6S Alternative one includes a series of swales (Swale 6S Alt 1) along the outside of the Shared Use Path next to the northbound exit ramp. These swales begin at approximate station 244+00 and extend approximately to station 256+00. The swales also extend outside of the right-of-way into a wooded area. The estimated SHW varies from 4.0 at the south end to 8.0 at the north end. These swales will be discharged to Basin 4.

Basin 6N Alternative one includes a Dry Retention pond (Dry Pond 6N Alt 1) discharging to a Wet Detention pond (Wet Pond 6N Alt 1) as a treatment train. These are located in the infield area between SR 45 (US 41) and the northbound exit ramp. The discharge is to Basin 6S. The estimated SHW is 8.0.

Stormwater Management Facilities Alternative Two

Basin 6S Alternative two includes a Vegetated Buffer Strip (VBS 6S Alt 2) connected to a swale (Swale 6S Alt 2) as a treatment train. These are located at the northeast corner of SR 45 (US 41) and 7th Street East on vacant property. The SHW is estimated to be 4.0. These systems will be discharged to Basin 4.

Basin 6N Alternative two includes a Dry Retention Pond (Dry Pond 6N Alt 2) discharging to a Swale (Swale 6N Alt 2) as a treatment train. The Dry Retention Pond is located in the infield area between

SR 45 (US 41) and the northbound exit ramp. The Swale is located along the outside of the Shared Use Path next to the northbound exit ramp The discharge is to Basin 6S. The Dry Retention Pond has an estimated SHW of 8.0 and the Swale has an estimated SHW of 6.0.

Stormwater Management Facilities Alternative Three

Basin 6S Alternative three includes a Dry Retention Pond (Dry Pond 6S Alt 3) located at the northeast corner of SR 45 (US 41) 7th Street East on vacant property. The SHW is estimated to be 4.0. This pond will discharge to Basin 4.

Basin 6N Alternative three includes a Dry Retention Pond (Dry Pond 6N Alt 3) discharging to a Swale as a treatment train. The Dry Retention Pond is located in the infield area between SR 45 (US 41) and the northbound exit ramp. The Swale is located along the outside of the Shared Use Path next to the northbound exit ramp The discharge is to Basin 6S. The Dry Retention Pond has an estimated SHW of 8.0 and the Swale has an estimated SHW of 6.0.

5.7 BASIN 7

Basin 7 is an open basin that begins at approximate station 259+40 and extends approximately to station 266+80. Basin 7 lies within the Manatee River Below Braden River waterbody (WBID 1848A). This basin is conveyed through open ditches and storm sewers and discharges to a canal to the west and south of 10th Street West and ultimately the Manatee River.

Basin 7 is proposed to discharge into roadside or offsite BMPs to get treated for 80% nutrient removal. Per SWFWMD nutrient removal requirements, 80% nitrogen and 80% phosphorus removal are required for basin 7. There are no FEMA designated 100-year floodplain encroachments in Basin 7. Three BMPs were evaluated for Basin 7.

Stormwater Management Facilities Alternative One

Basin 7 Alternative one includes a Dry Retention Pond (Dry Pond 7 Alt 1) discharging to a Wet Detention Pond (Wet Pond 7 Alt 1) as a treatment train. These are located in the infield area between SR 45 (US 41) and the southbound exit ramp. The estimated SHW is 8.0.

Stormwater Management Facilities Alternative Two

Basin 7 Alternative two includes a Dry Retention Pond Dry Pond 7 Alt 2) discharging to a Vegetated Buffer Strip (VBS 7 Alt 2) as a treatment train. These are located in the infield area between SR 45 (US 41) and the southbound exit ramp. The estimated SHW is 8.0.

Stormwater Management Facilities Alternative Three

Basin 7 Alternative three includes a Dry Retention Pond (Dry Pond 7 Alt 3) discharging to Swales as a treatment train. The Dry Retention Pond is located in the infield area between SR 45 (US 41) and the southbound exit ramp. The Swales are located along the outside of the Shared Use Path next to the southbound exit ramp. The estimated SHW is 8.0.

5.8 BASIN 8

Basin 8 is an open basin that begins at approximate station 259+40 and extends approximately to station 266+80. Basin 8 lies within the Manatee River Below Braden River waterbody (WBID 1848A). This basin is conveyed through a cross drain followed by an open ditch along US 301and then to a canal to the west and south of 10th Street West and ultimately the Manatee River.

Basin 8 is proposed to discharge into roadside or offsite BMPs to get treated for 80% nutrient removal. Per SWFWMD nutrient removal requirements, 80% nitrogen and 80% phosphorus removal are required for basin 8. There are no FEMA designated 100-year floodplain encroachments in Basin 8. Three BMPs were evaluated for Basin 8.

Stormwater Management Facilities Alternative One

Basin 8 Alternative one includes a Dry Retention Pond (Dry Pond 8 Alt 1) discharging to a Wet Detention Pond (Wet Pond 8 Alt 1) as a treatment train. Both ponds are located in the infield area between SR 45 (US 41) and the northbound entrance ramp. The estimated SHW is 8.0.

Stormwater Management Facilities Alternative Two

Basin 8 Alternative two includes a Dry Retention Pond (Dry Pond 8 Alt 2) discharging to a Vegetated Buffer Strip (VBS 8 Alt 2) as a treatment train. The Dry Retention Pond is located in the infield area between SR 45 (US 41) and the northbound entrance ramp. The Vegetated Buffer Strip is located in an open area within the right-of-way outside of the Shared Use Path. The estimated SHW is 8.0.

Stormwater Management Facilities Alternative Three

Basin 8 Alternative three includes a Dry Retention Pond (Dry Pond 8 Alt 3) discharging to a Swale (Swale 8 Alt 3) as a treatment train. The Swale is located in the infield area between two northbound entrance ramps. The Swales are located along the outside of the Shared Use Path next to the southbound exit ramp. The estimated SHW is 8.0.

5.9 BASIN 9

Basin 9 is an open basin that begins at US 41 with station 265+76 and extends approximately to US 41 with station 293+26. Basin 9 lies within the Manatee River Below Braden River waterbody (WBID 1848A). This basin is conveyed through the mix of storm sewers and roadside ditches, then discharges through 42” outfall pipe to the downstream channels crossing the Lincoln Park, ultimately discharges to the Manatee River. Basin 9 has an overall on-site basin area of 10.80 ac. The low EOP is approximately at EL. 11.0 near station 280+00.

Stormwater Management Facilities Alternative One

Alternative one proposes four vegetated buffers adjacent to the US 41 right-of-way and three offsite wet detention ponds.

In the proposed Improvements, portion of Basin 9 in alternative one first sheet flows to roadside vegetated buffers including VB-9A Alt. 1&2, VB-9B Alt. 1&2, VB-9C Alt. 1&2, and VB-9F Alt. 1 with a total area of 1.66 ac. Then discharges to three interconnected offsite wet detention ponds named

Wet Pond 9D Alt. 1, and Wet Pond 9E Alt. 1 with a total pond area of 1.11 ac., at 6th Ave. E. and 17th St. E. intersection. All two wet ponds in Alternative one have berm elevation of 13.00 and control elevation at 10.00. Parcels impact includes Manatee County school with parcel ID 2584200509 and 2584200209; Manatee County Park with parcel ID 2583500459; vacant commercials with parcel ID 2550300004 and 2550200006; Warehousing with parcel ID 2547400107; vacant lands with parcel ID 2583310004, and 2576300004; residentials with parcel ID 2583300039, and 2583300104. Another portion of Basin 9 in alternative one discharges to a Dry Pond 9F Alt. 1 with a total pond area of 1.67 ac. Parcels impact includes residentials with parcel ID 2556500003, 2556400006, 2556300008, 2556800007, 2556700009, and 2556600001. Basin 9 outfalls to the channel running along Lincoln Park.

Stormwater Management Facilities Alternative Two

Basin 9 SMF Alternative two has two smaller sub-basins Basin 9A and Basin 9B.

1. Basin 9A

   Basin 9A is located at the south side of the 17th St. E. with an on-site area of 5.73 ac. Basin 9A starts at US 41 with station 265+76 and extends to US 41 with station 285+01. Basin 9A in alternative two first sheet flows to roadside vegetated buffers including VB-9A Alt. 1&2, VB-9B Alt. 1&2, and VB-9C Alt. 1&2. Then discharges to 1 offsite wet detention pond named Wet Pond 9C Alt. 2 and outfalls to the existing downstream channel. Dry Pond 2A Alt. 2 has an inside berm elevation of 12.00' and control elevation at 8.25'. Wet Pond 9C Alt. 2 has an area of 1.83 ac. with a parcel impact of 2.02 ac. Attenuation is required for Basin 9A.

2. Basin 9B

   Basin 9B is located at the north side of the 17th St. E. with an on-site area of 2.34 ac. Basin 9B starts at US 41 with station 285+01 and extends to US 41 with station 293+26. Basin 9A in alternative two first discharges to 2 interconnected dry retention ponds Dry Pond 9A Alt. 2 and Dry Pond 9B Alt. 2 adjacent to US 41 right-of-way between 17th St. E. and 19th St. E. Then discharges to 1 offsite wet detention pond named Wet Pond 9C Alt. 2 and outfalls to the existing downstream channel. Dry Pond 9A Alt. 2 and Dry Pond 9B Alt. 2 have an inside berm elevation of 14.00' and pond bottom at 12.00'. Dry Pond 9A Alt. 2 has an area of 0.43 ac. with a parcel impact of 0.59 ac. Dry Pond 9B Alt. 2 has an area of 0.48 ac. with a parcel impact of 0.67 ac. Attenuation is required for Basin 9B.

Basin 9 SMF Alternative two's parcels impact includes Manatee County school with parcel ID 2584200509 and 2584200209; Manatee County Park with parcel ID 2583500459; vacant residentials with parcel ID 2556800007, 2556700009, 2556110100, and 2556100002; municipal land with parcel ID 2583500309.

Stormwater Management Facilities Alternative Three

Alternative three proposes 1 dry retention pond adjacent to the US 41 right-of-way next to Lincoln Park. Dry Pond 9 Alt. 3 is designed to attenuate Basin 9 as well as providing nutrient removals. Dry

Pond 9 Alt. 3 has an inside berm elevation of 12.00' and pond bottom at 9.50'. Dry Pond 9 Alt. 3 has an area of 4.19 ac. with a parcel impact of 4.73 ac. The current parcel needed for Dry Pond 9 Alt. 3 is a municipal land with parcel ID 2583500309. Dry Pond 9 Alt. 3 is designed to outfall to the existing downstream channel.

5.10 BASIN 10

Basin 10 is an open basin located along US 41, beginning at approximately Station 291.7 and extending about 3,300 feet to the end of the project at approximately Station 324.7. The basin generally spans from near 19th Street in the south to the northern project limit at the intersection of US 41 and Bayshore Road. This basin lies within the Manatee River Below Braden River waterbody (WBID 1848A).

Under existing conditions, Basin 10 consists of two subbasins: a primary basin of approximately 8.53 acres and a smaller subbasin of approximately 2.91 acres located on the northwest side near the northern project limit. The smaller subbasin extends from approximately Station 312.0 to Station 324.7 and covers only the west side of the roadway.

The overall stormwater flow direction is from north to south. Onsite stormwater is conveyed through a network of pipes, catch basins, and manholes to the basin outfall, which is located approximately 100 feet north of 19th Street on the east side of the roadway. From the outfall, stormwater discharges to existing channels along the east side of the roadway, flows south, and ultimately reaches the Manatee River. Stormwater from the smaller subbasin is collected through roadside ditches and pipe systems and discharges to existing channels on the west side before ultimately reaching the Manatee River.

Under proposed conditions, runoff from both subbasins will be redirected to discharge through the existing Basin 10 outfall, resulting in a total contributing drainage area of approximately 12.48 acres.

In addition to the onsite drainage area, an offsite basin of approximately 3.61 acres (Basin 10 Offsite), consisting of low-density residential land near the outfall, contributes flow to the system and must be considered for nutrient removal requirements.

The Seasonal High Groundwater Table (SHGWT) is shallow, approximately 1 to 1.5 feet below the ground surface. Due to these improvements, wet detention is the primary feasible option for stormwater attenuation, supplemented by additional Best Management Practices (BMPs) to meet treatment requirements. The following stormwater management facility (SMF) alternatives have been developed to attenuate the 25-year post-development discharge rate in accordance with the requirements of the Southwest Florida Water Management District.

No floodplain encroachment is anticipated within the basin.

<u>Stormwater Management Facilities Alternative One</u>

Alternative one includes Baffle Swale 10 Alt. 1 and Wet Pond 10 Alt. 1 to provide stormwater conveyance, treatment, and attenuation.

Baffle Swale 10 Alt. 1 captures runoff conveyed by a ditch receiving flow from onsite drainage systems and the Basin 10 Offsite area. The system has an approximate footprint of 1.67 acres and consists of 16 vegetated swale segments, each with an approximate 20-foot top width, 3:1 side slopes, and a longitudinal slope of 0.01. The swale system discharges into Wet Pond 10 Alt. 1.

Wet Pond 10 Alt. 1 is designed with an inside berm elevation of 15.00 ft and a control elevation of 12.00 ft, with an approximate surface area of 2.27 acres. Treated stormwater is discharged to the existing canal, which ultimately flows to the Manatee River.

Approximately 5.1463 acres across multiple parcels are required for this alternative. The baffled swale system would be located within the northern portion of a parcel owned by RaceTrac Petroleum Inc. (Parcel ID: 2550200059). The wet detention pond would extend across adjacent parcels, including Parcel ID: 2550500109 (county-owned), Parcel ID: 2550500059 (trustee-owned), Parcel ID: 2548100003 (privately owned), and Parcel ID: 2547900007 (privately owned).

Stormwater Management Facilities Alternative Two

Alternative two consists of Baffle Swale 10 Alt. 2 and Wet Pond 10A Alt. 2 to provide stormwater conveyance, treatment, and attenuation.

Baffle Swale 10 Alt. 2 captures flow from the basin outfall and the Basin 10 Offsite area. The system includes seven swale segments, each approximately 400 feet long, with a 20-foot top width, 3:1 side slopes, and a longitudinal slope of 0.01. The swales convey and treat stormwater before discharging into Wet Pond 10A Alt. 2.

Wet Pond 10A Alt. 2 is designed with an inside berm elevation of 16.00 ft and a control elevation of 13.00 ft, with an approximate surface area of 2.11 acres. Treated stormwater is discharged to the existing canal and ultimately flows to the Manatee River.

This alternative requires two parcels. The baffled swale system would be located within Parcel ID: 2550200059 (RaceTrac Petroleum Inc.), and the wet detention pond would be constructed within the southern portion of the same parcel.

Stormwater Management Facilities Alternative Three

Alternative three includes five vegetated buffer sections (VB-10 Alt. 3, VB-10A Alt. 3, VB-10B Alt. 3, VB-10C Alt. 3, and VB-10D Alt. 3) and two wet detention ponds (Wet Pond 10C Alt. 3 and Wet Pond 10B Alt. 3) to provide stormwater treatment and attenuation.

The vegetated buffer systems extend approximately 1,800 feet within roadway right-of-way and are designed to capture sheet flow from the roadway, provide attenuation, and convey runoff through longitudinal swales from north to south into Wet Pond 10C Alt. 3.

Wet Pond 10C Alt. 3 is designed with an inside berm elevation of 19.00 ft and a control elevation of 16.00 ft, with an approximate surface area of 0.73 acres. This pond discharges into Wet Pond 10B Alt. 3, which also captures runoff from a portion of the Basin 10 Offsite area.

Wet Pond 10B Alt. 3 is designed with an inside berm elevation of 18.00 ft and a control elevation of 14.00 ft, with an approximate surface area of 0.98 acres. Treated stormwater is discharged to the existing canal and ultimately flows to the Manatee River.

Implementation of this alternative requires use of right-of-way along US 41 between 25th Street and 21st Street. Wet Pond 10C Alt. 3 would require acquisition of Parcel ID: 2566800104 (vacant residential), while Wet Pond 10B Alt. 3 would require additional parcels, including Parcel ID: 2548500004, Parcel ID: 2548600002, and Parcel ID: 2548800008, which are privately owned within the Basin 10 Offsite area.

SECTION 6 OTHER PROJECT CONSIDERATIONS

6.1 NATURAL CHARACTERISTICS

Environmental Science Associates (ESA) has completed a review of SMFs and FPCs for BPC project and conducted an Environmental Technical Memorandum (ETM) summarizing potential impacts to threatened and endangered species, as well as potential impacts to wetlands and surface waters associated with the proposed improvements. The natural resources involvement for each assessed pond alternative is summarized in the pond matrix in Table 10-1, and the ETM can be found in Appendix J.

6.2 CULTURAL RESOURCES

A review of cultural resources was conducted by SEARCH. The survey found no archaeological sites or artifacts within the project's construction area and recommends no further archaeological work. It identified several historic buildings and linear resources, but only one previously recorded railroad corridor remains eligible for the National Register of Historic Places, with all newly recorded resources recommended as ineligible. Overall, the report concludes the project will result in No Historic Properties Affected, and no additional cultural resource studies are needed. Please refer to Appendix K – Cultural Resource Assessment Survey.

6.3 CONTAMINATION

This Level I Contamination Screening Evaluation Report (CSER) was prepared for the Florida Department of Transportation to support the Bradenton-Palmetto Connector US 41/SR 55 project in Manatee County, Florida, in accordance with the FDOT PD&E Manual (July 31, 2024). The evaluation identified potential contamination sites that could affect project costs, scheduling, design, right-of-way acquisition, and construction. Activities included reviews of regulatory records, historical resources, agency coordination, and field reconnaissance. Potential contamination sites and proposed pond locations were assigned risk ratings, and recommendations were provided for any additional assessment needed.

6.4 RIGHT-OF-WAY COST ESTIMATES

The right-of-way costs will be evaluated by the Department in the later phase.

SECTION 7 SELECTED ALTERNATIVE

The pond alternatives will be evaluated for the risk factors in a later phase and summarized in Table 10-1. Alternative one is the preferred alternative. The areas shown in the table are reflective of the actual parcel and not the minimum sizes calculated in the pond sizing calculations.

Table 7-1 Pond Evaluation Matrix for the Ultimate Improvements

Basin	1							2			
Alternative	1				2		3	1		2	3
Name	Dry Pond 1N Alt 1	Dry Pond 1S Alt 1	Dry Pond 1A Alt 1	FPC 1 Alt 1	Dry Pond 1B Alt 2	FPC 1 Alt 2	Dry Pond 1C Alt 3	Dry Pond 2 Alt 1	FPC 2 Alt 1	Dry Pond 2A Alt 2	Dry Pond 2B Alt 3
Size (ac.)	0.84	1.09	0.31	0.85	2.86	0.65	3.95	1.65	0.7	1.36	2.29
Archaeological Risk	Low	Low to moderate	Low to moderate	Low	Low to moderate	Low to moderate	Low	Low	Low	Low	Low to moderate
Contamination Risk	Medium	Medium	Medium	Low	Medium	Medium	Medium	Medium	Medium	Medium	Medium
Wetland Risk	None	None	None	None	None	None	None	None	None	None	None
Species Risk	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	None	None	None	None
Wetland Mitigation Cost	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Right-of-Way Cost	-	-			-			-			
Total Est. Cost											

Basin	3													
Alternative	1							2					3	
Name	VB-3A Alt 1	VB-3B Alt 1	VB-3C Alt 1	VB-3D Alt 1	VB-3E Alt 1	Wet Pond 3 Alt 1	FPC 3 Alt 1	Dry Pond 3A Alt 2	VF-3F Alt 2	VF-3G Alt 2	VB-3H Alt 2	FPC 3 Alt 2	Dry Pond 3B Alt 3	Dry Pond 3C ALT 3
Size (ac.)	0.29	0.21	0.31	1.88	0.22	0.43	0.06	1.11	0.52	0.72	1.28	0.13	0.86	2.03
Archaeological Risk	Low to mod.	Low	Low	Low to mod.	Low	Low to mod.	Low to mod.	Low to mod.	Low to mod.	Low	Low to mod.	Low to mod.	Low to mod.	Low
Contamination Risk	Medium	Medium	Low	Low	Low	Low	Low	Medium	Low	Low	Low	Low	Medium	Low
Wetland Risk	None	None	None	None	None	None	None	None	None	None	None	None	None	None
Species Risk	None	None	None	None	None	None	Mod.	None	None	None	Mod.	None	None	None
Wetland Mitigation Cost	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Right-of-Way Cost														
Total Est. Cost														

Basin	4								
Alternative	1	2				3		4	
Name	Dry Pond 4 Alt 1	Wet Pond 4A Alt 2	VB-4A Alt 2	VB-4B Alt 2	VB-4C Alt 2	Dry Pond 4B Alt 3	Dry Pond 4C Alt 3	Wet Pond 4D Alt 4	Wet Pond 4E Alt 4
Size (ac.)	3.66	0.77	1.59	1.24	1.79	2.08	1.47	1.41	1.33
Archaeological Risk	Low	Low	Low to moderate	Low to moderate	Low	Low	Low	Low	Low
Contamination Risk	Low	Low	Low	Medium	Medium	Low	Medium	Medium	Low
Wetland Risk	None	None	None	None	None	None	None	None	None
Species Risk	Moderate	Moderate	Moderate	Moderate	None	Moderate	None	Moderate	Moderate
Wetland Mitigation Cost	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Right-of-Way Cost									
Total Est. Cost						-			

Basin	5									
Alternative	1			2				3		
Name	Swale 5S Alt 1	Wet Pond 5N Alt 1	Dry Pond 5NA Alt 1, 2&3 *	Swale 5SA Alt 2	VFS-5S Alt 2	Wet Pond 5NB Alt 2	Dry Pond 5NA Alt 1, 2&3 *	Dry Pond 5SA Alt 3	Swale 5N Alt 3	Dry Pond 5NA Alt 1, 2&3 *
Size (ac.)	0.74	0.68	0.46	0.09	0.07	0.4	0.46	0.57	0.4	0.46
Archaeological Risk	Low to moderate	Low	Low	Low to moderate	Low to moderate	Low to moderate	Low	Low	Low	Low to moderate
Contamination Risk	High	Medium	Medium	High	High	Medium	Medium	High	Medium	Medium
Wetland Risk	None	None	None	None	None	None	None	None	None	None
Species Risk	Moderate	Moderate	Moderate	None	Moderate	None	Moderate	None	Moderate	Moderate
Wetland Mitigation Cost	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Right-of-Way Cost										
Total Est. Cost								-		

* Dry Pond 5NA Alt 1,2&3 applies to all alternatives

Basin	6								
Alternative	1			2				3	
Name	Swale 6S Alt 1	Wet Pond 6NA Alt 1	Dry Pond 6N Alt 1&3 *	Swale 6SA Alt 2	VFS-6S Alt 2	Swale 6N Alt 2	Dry Pond 6NA Alt 2	Dry Pond 6S Alt 3	Dry Pond 6N Alt 1&3 *
Size (ac.)	0.73	0.56	0.12	0.09	0.07	0.09	0.65	1.68	0.12
Archaeological Risk	Low	Low	Low	Low	Low	Low	Low	Low	Low
Contamination Risk	Medium	Low	Low	Medium	Medium	Low	Low	Medium	Low
Wetland Risk	None	None	None	None	None	None	None	None	None
Species Risk	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
Wetland Mitigation Cost	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Right-of-Way Cost									
Total Est. Cost								-	

* Dry Pond 6N Alt 1&3 applies to alternative one and alternative three

Basin	7						8						
Alternative	1		2		3		1		2		3		
Name	Wet Pond 7A Alt 1	Dry Pond 7 Alt 1,2&3 *	VFS-7 Alt 2	Dry Pond 7 Alt 1,2&3 *	Swale 7 Alt 3	Dry Pond 7 Alt 1,2&3 *	Dry Pond 8A Alt 1&2 **	Wet Pond 8 Alt 1	Dry Pond 8A Alt 1&2 **	VFS-8 Alt 2	Dry Pond 8B Alt 3	Swale 8 Alt 3	Swale 8A Alt 3
Size (ac.)	0.85	0.24	0.07	0.24	0.43	0.24	0.18	0.33	0.18	0.07	0.24	0.08	0.08
Archaeological Risk	Low	Low	Low	Low	Low to Mod.	Low	Low	Low	Low	Low	Low	Low	Low
Contamination Risk	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
Wetland Risk	None	None	None	None	None	None	None	None	None	None	None	None	None
Species Risk	Mod.	Mod.	Mod.	Mod.	Mod.	Mod.	Mod.	Mod.	Mod.	Mod.	Mod.	Mod.	Mod.
Wetland Mitigation Cost	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Right-of-Way Cost													
Total Est. Cost					-						-		

* Dry Pond 7 Alt 1,2&3 applies to all alternatives

** Dry Pond 8A Alt 1&2 applies to alternative one and alternative two

Basin	9													
Alternative	1							2						3
Name	VB-9A Alt 1&2 *	VB-9B Alt 1&2 *	VB-9C Alt 1&2 *	VB-9F Alt 1	Wet Pond 9D Alt 1	Wet Pond 9E Alt 1	Dry Pond 9F Alt 1	VB-9A Alt 1&2 *	VB-9B Alt 1&2 *	VB-9C Alt 1&2 *	Wet Pond 9C Alt 2	Dry Pond 9A Alt 2	Dry Pond 9B Alt 2	Dry Pond 9 Alt 3
Size (ac.)	0.41	0.58	0.37	0.3	0.72	0.74	1.67	0.41	0.58	0.37	2.02	0.59	0.67	4.73
Archaeological Risk	Low to Mod.	Low	Low	Low	Low	Low	Low	Low to Mod.	Low	Low	Low	Low to Mod.	Low	Low
Contamination Risk	Low	Mod.	Mod.	Mod.	Mod.	Mod.	Low	Low	Mod.	Mod.	Mod.	Low	Low	Mod.
Wetland Risk	None	None	None	None	None	None	None	None	None	None	None	None	None	None
Species Risk	Mod.	Mod.	Mod.	Mod.	None	Mod.	Mod.	Mod.	Mod.	Mod.	Mod.	None	None	Mod.
Wetland Mitigation Cost	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Right of Way Cost														
Total Est. Cost	-													

* VB-9A, B, C Alt 1&2 applies to alternative one and alternative two

Basin	10										
Alternative	1		2		3						
Name	Baffle Swale 10 Alt 1&2 *	Wet Pond 10 Alt 1	Baffle Swale 10 Alt 1&2 *	Wet Pond 10A Alt 2	Wet Pond 10B Alt 3	Wet Pond 10C Alt 3	VB-10 Alt 3	VB-10A Alt 3	VB-10B Alt 3	VB-10C Alt 3	VB-10D Alt 3
Size (ac.)	1.76	2.28	1.76	2.11	0.98	0.73	0.26	0.13	0.08	0.07	0.09
Archaeological Risk	Low	Low	Low	Low	Low to moderate	Low to moderate	Low	Low	Low to moderate	Low to moderate	Low to moderate
Contamination Risk	Medium	Low	Medium	Medium	Low	Low	Low	Low	Low	Low	Low
Wetland Risk	None	None	None	None	None	None	None	None	None	None	None
Species Risk	Moderate	Moderate	Moderate	None	Moderate	None	None	None	Moderate	None	None
Wetland Mitigation Cost	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Right-of-Way Cost											
Total Est. Cost					-						

* Baffle Swale 10 Alt 1&2 applies to alternative one and alternative two

APPENDICES

Appendix A Figures

- Wetland Map
- HUC Map
- SWFWMD Rainfall Data
- FEMA Map
- Watershed Model Map

Appendix B NRCS Soil Survey

Appendix C Typical Sections

Appendix D Pond Alternative Roll Plot

Appendix E Pre-Development Drainage Maps

- Interim Improvements
- Ultimate Improvements

Appendix F Pre-Development Drainage Maps

- Interim Improvements
- Ultimate Improvements

Appendix G Pond Summary and Calculations

Appendix H Correspondence

Appendix I Geotechnical Memorandum

Appendix J Environmental Technical Memorandum

Appendix K Cultural Resource Assessment Survey

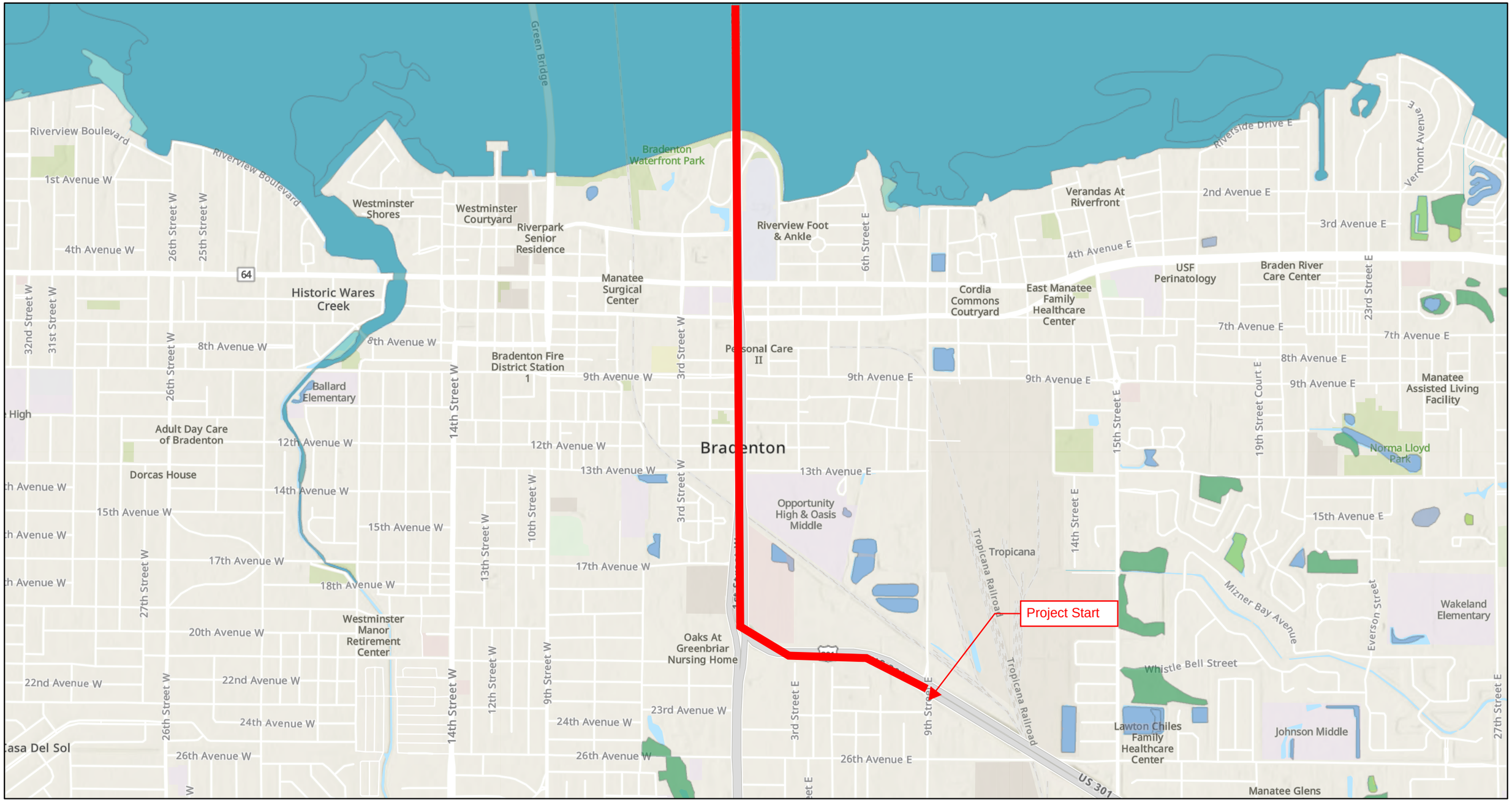
Appendix L Supplemental Documents

APPENDIX A

Figures

- Weland Map
- HUC Map
- SWFWMD Rainfall Data
- FEMA Map
- Watershed Model Map

Wetland Map 1



March 27, 2026

National Wetlands Inventory (areas)

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine

1:18,056

0 0.2 0.4 0.8 mi

0 0.3 0.6 1.2 km

FDEP, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community, Esri, NASA, NGA, USGS, FEMA

Map created by Map Direct, powered by ESRI.

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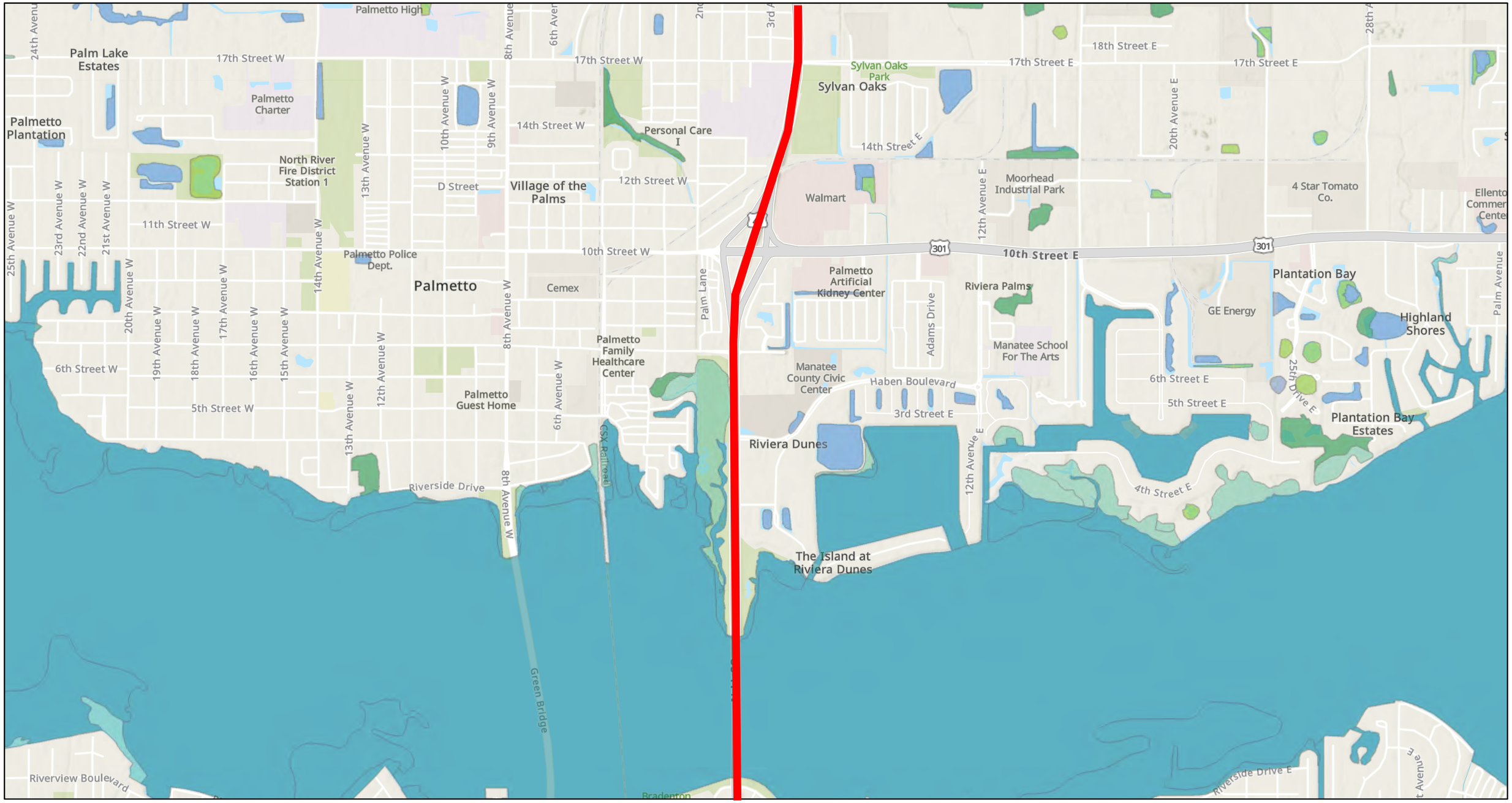
Wetland Map 2



March 27, 2026

National Wetlands Inventory (areas)

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond

1:18,056

0 0.2 0.4 0.8 mi

0 0.3 0.6 1.2 km

FDEP, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community, Esri, NASA, NGA, USGS, FEMA

Map created by Map Direct, powered by ESRI.

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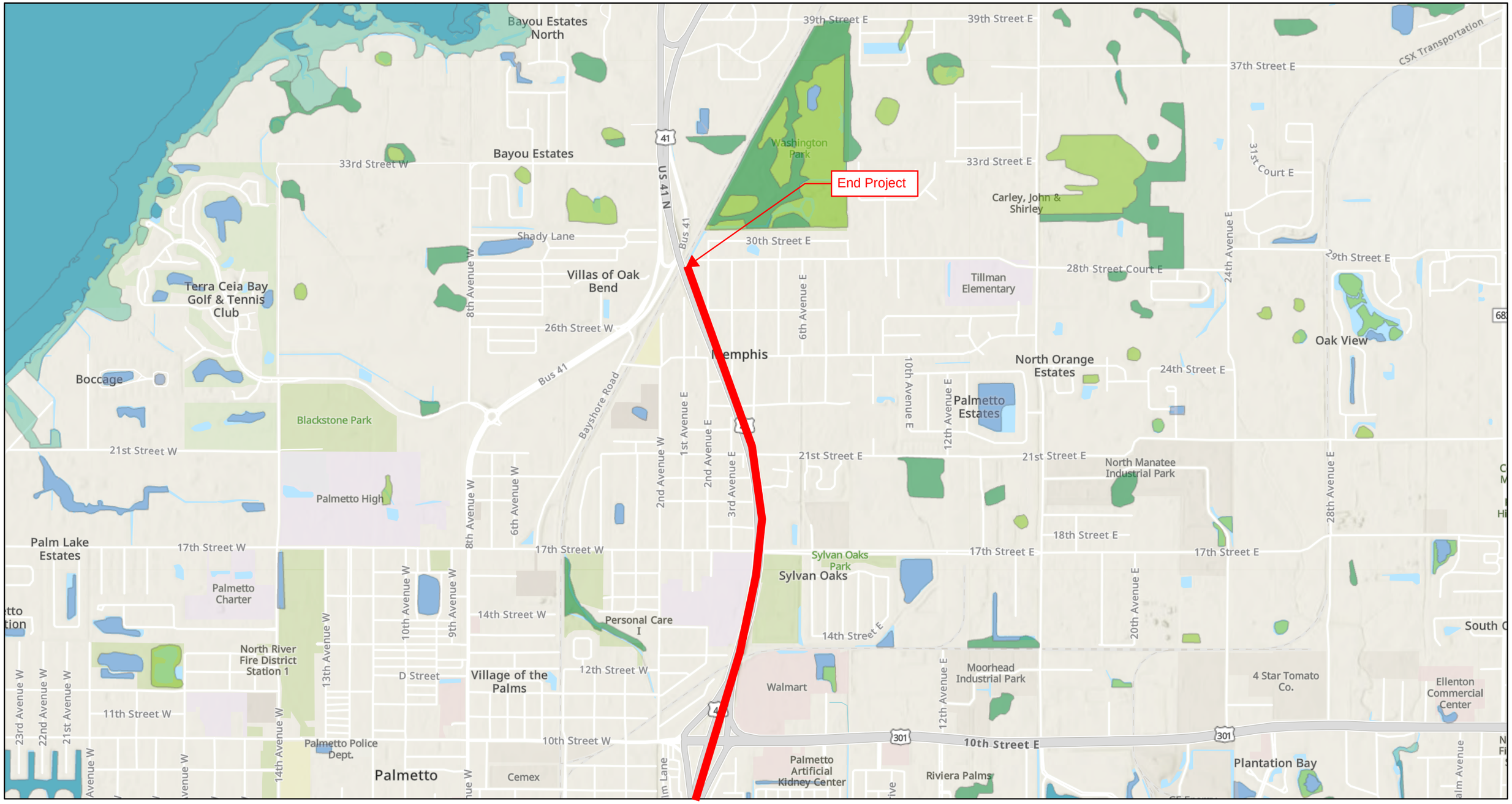
Wetland Map 3



March 27, 2026

National Wetlands Inventory (areas)

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond

1:18,056

0 0.2 0.4 0.8 mi

0 0.3 0.6 1.2 km

FDEP, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community, Esri, NASA, NGA, USGS, FEMA

Map created by Map Direct, powered by ESRI.

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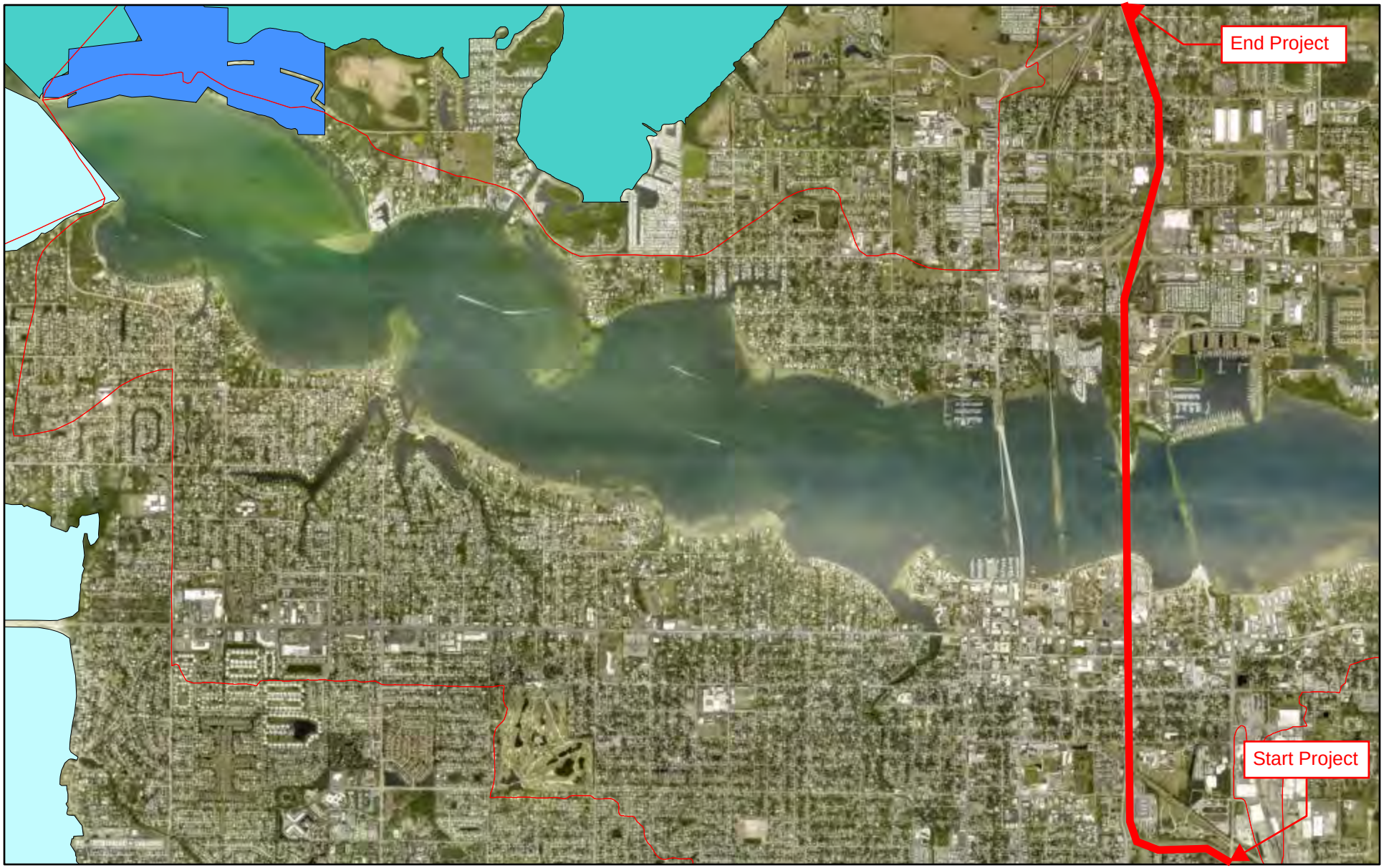
HUC 12 Boundaries with OFWs



3/23/2026

Sub Watershed (HUC12)

Outstanding Florida Waters

OFW Aquatic Preserves

Other OFWs

Special OFWs

Low Resolution 15m Imagery

High Resolution 60cm Imagery

High Resolution 30cm Imagery

Citations

9.6m Resolution Metadata

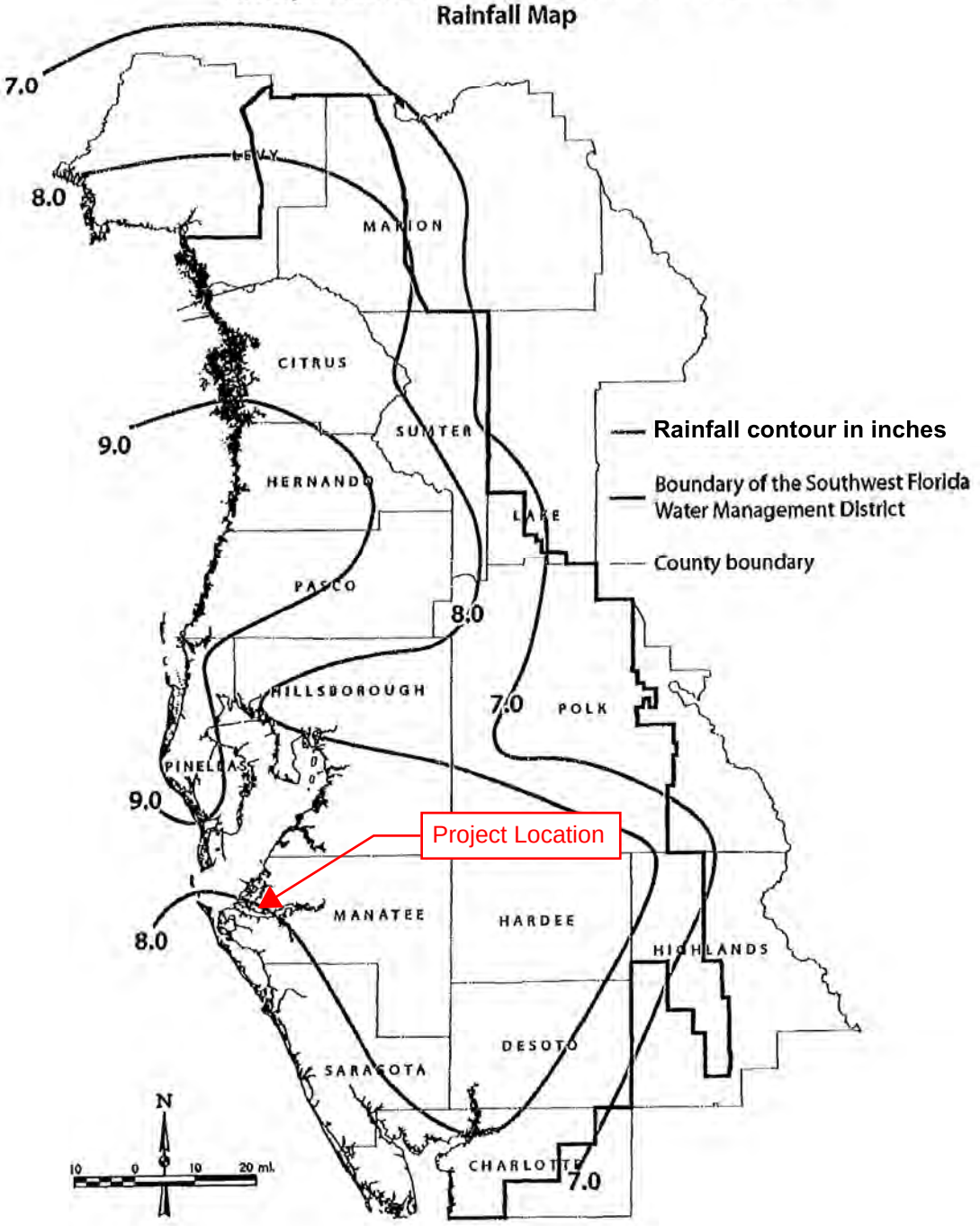
1:46,476

0 0.35 0.7 1.4 mi

0 0.5 1 2 km

DEP, State of Florida, Vantor

Figure D-5
Twenty-Four-Hour Twenty-Five-Year Return Period Rainfall Map



National Flood Hazard Layer FIRMette

FEMA

82°34'3"W 27°32'27"N

82°33'26"W 27°31'55"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

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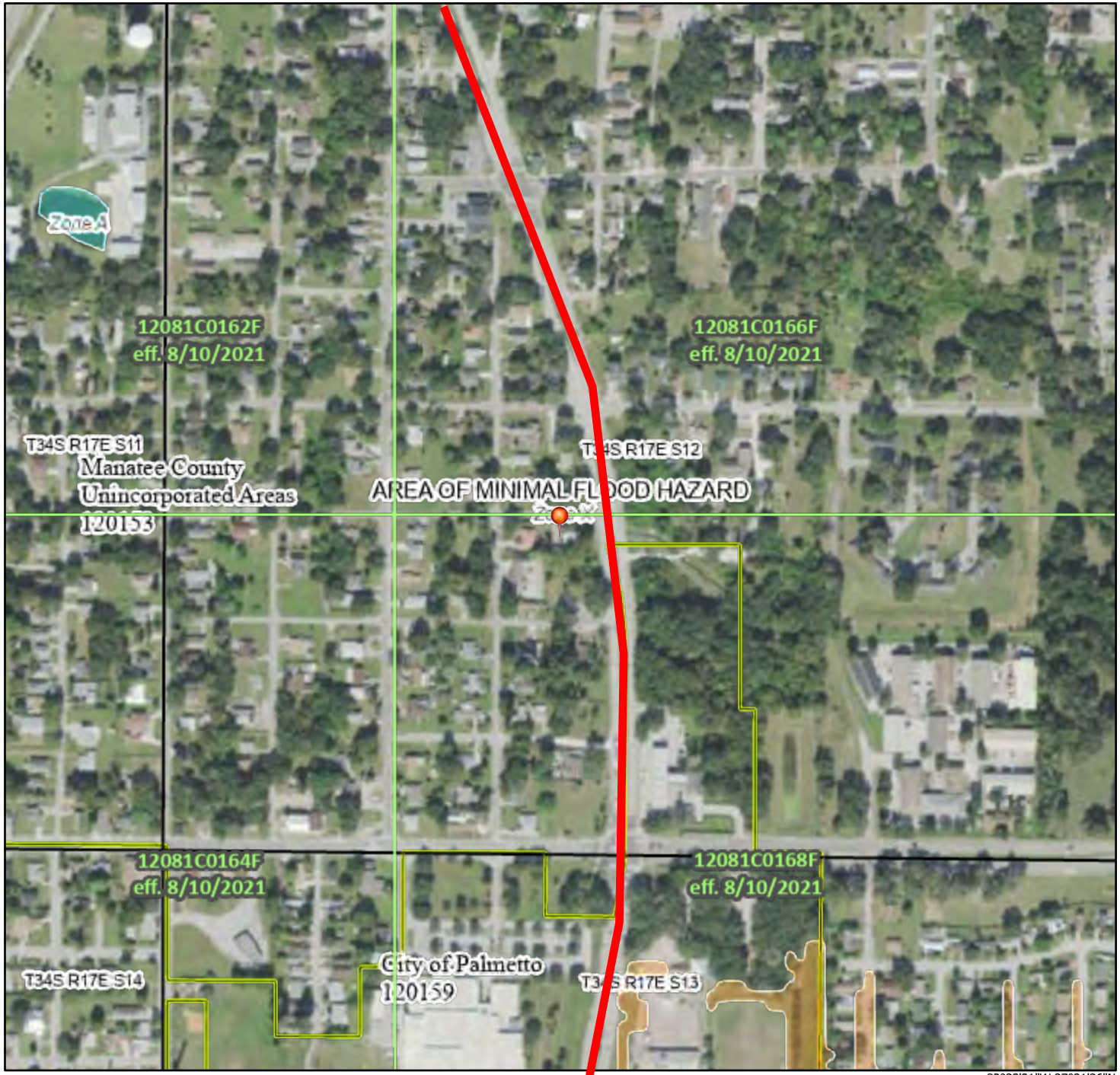
National Flood Hazard Layer FIRMette

FEMA

82°33'58"W 27°32'8"N



82°33'21"W 27°31'36"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
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- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

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OTHER FEATURES
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- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

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This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

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National Flood Hazard Layer FIRMette

FEMA

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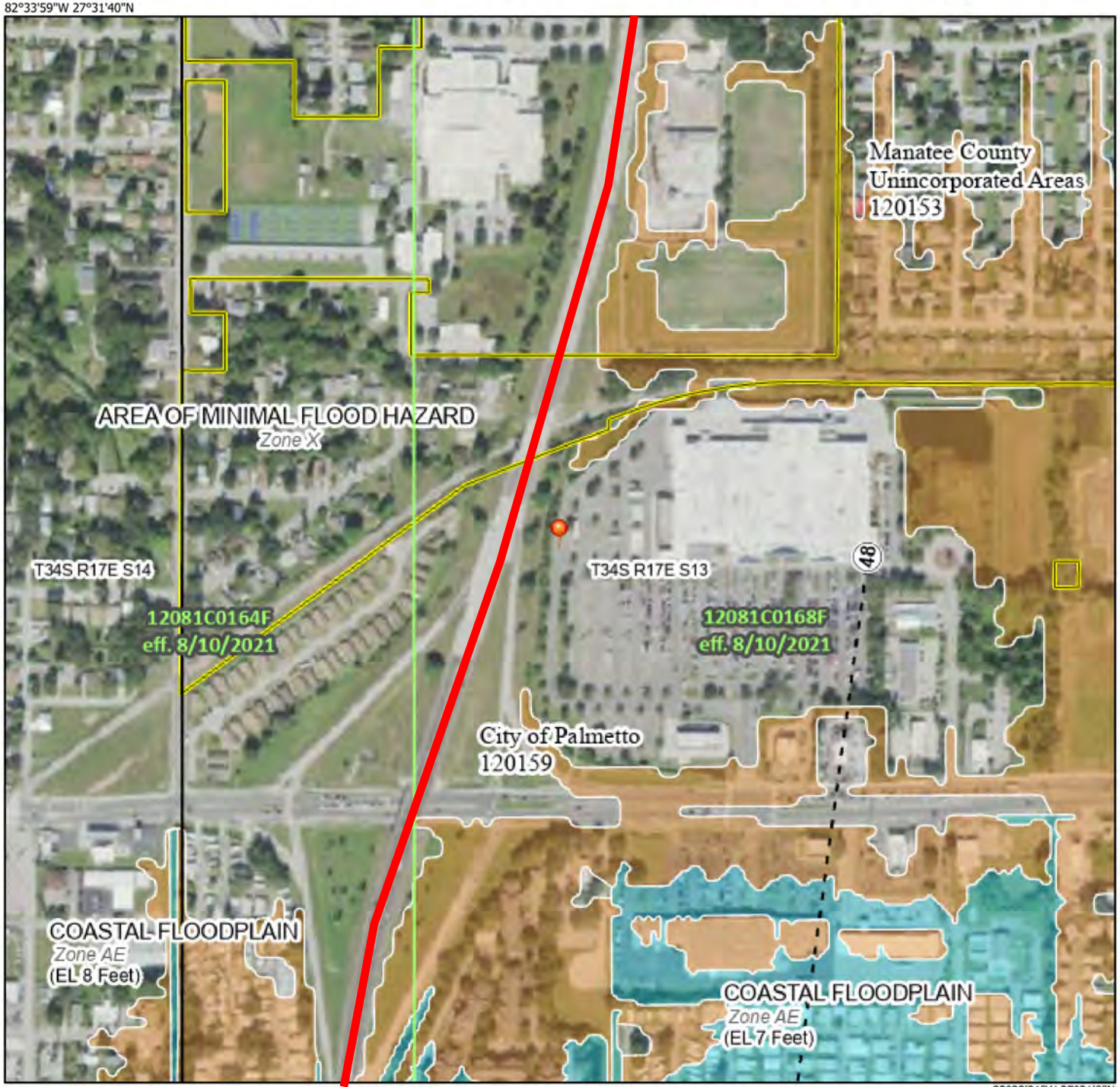

0 250 500 1,000 1,500 2,000 Feet

1:6,000

82°33'21"W 27°31'8"N

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
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OTHER FEATURES
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- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

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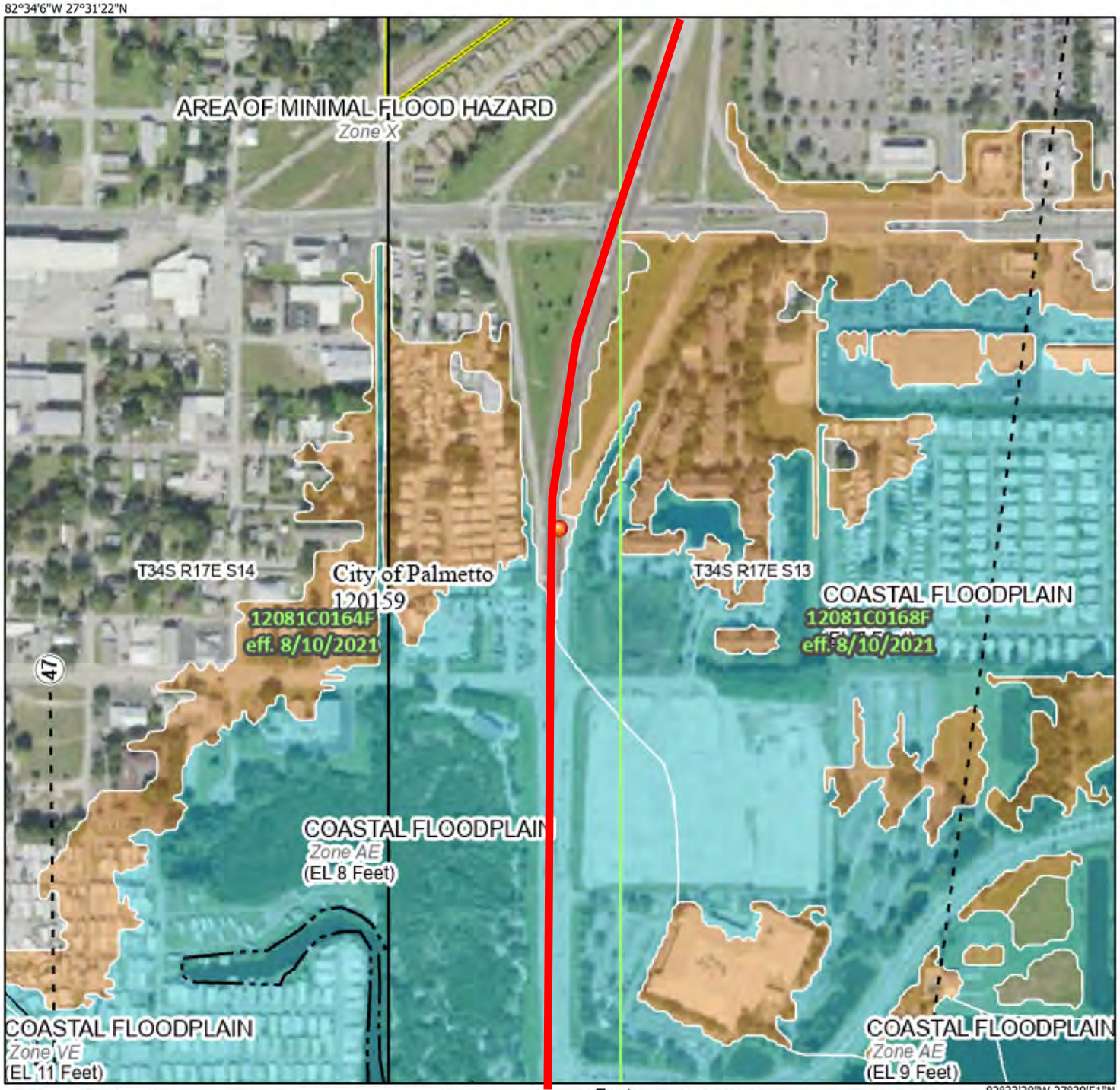
National Flood Hazard Layer FIRMette

FEMA



Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
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- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

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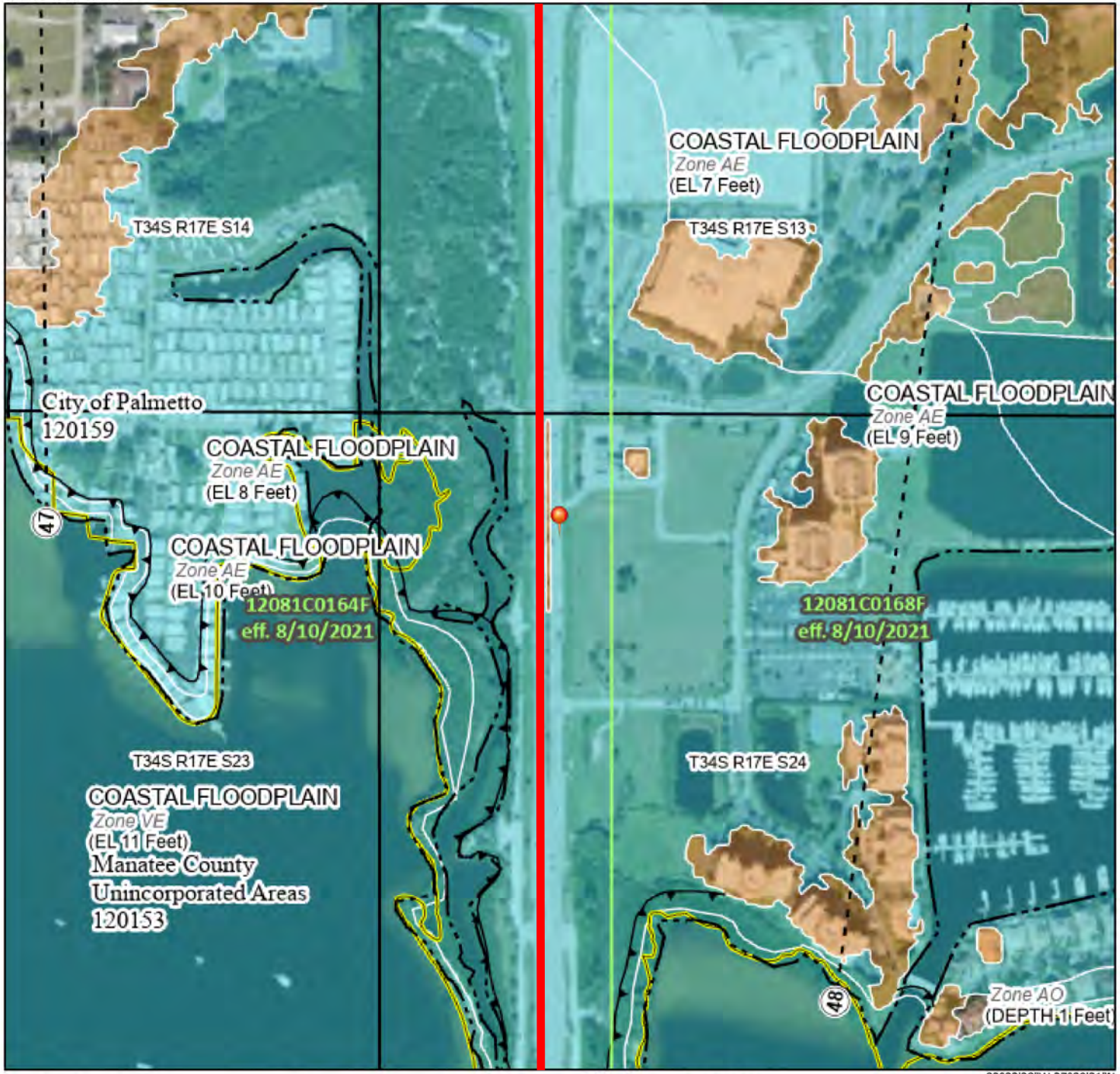
National Flood Hazard Layer FIRMette

FEMA



Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

- **SPECIAL FLOOD HAZARD AREAS**
  - Without Base Flood Elevation (BFE) *Zone A, V, A99*
  - With BFE or Depth *Zone AE, AO, AH, VE, AR*
  - Regulatory Floodway
- **OTHER AREAS OF FLOOD HAZARD**
  - 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
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  - Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
  - Area with Flood Risk due to Levee *Zone D*
- **OTHER AREAS**
  - NO SCREEN — Area of Minimal Flood Hazard *Zone X*
  - Effective LOMRs
  - Area of Undetermined Flood Hazard *Zone D*
- **GENERAL STRUCTURES**
  - Channel, Culvert, or Storm Sewer
  - Levee, Dike, or Floodwall
- **OTHER FEATURES**
  - 20.2 — Cross Sections with 1% Annual Chance
  - 17.5 — Water Surface Elevation
  - Coastal Transect
  - Base Flood Elevation Line (BFE)
  - Limit of Study
  - Jurisdiction Boundary
  - Coastal Transect Baseline
  - Profile Baseline
  - Hydrographic Feature
- **MAP PANELS**
  - Digital Data Available
  - No Digital Data Available
  - Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 1/14/2026 at 2:04 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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National Flood Hazard Layer FIRMette

FEMA

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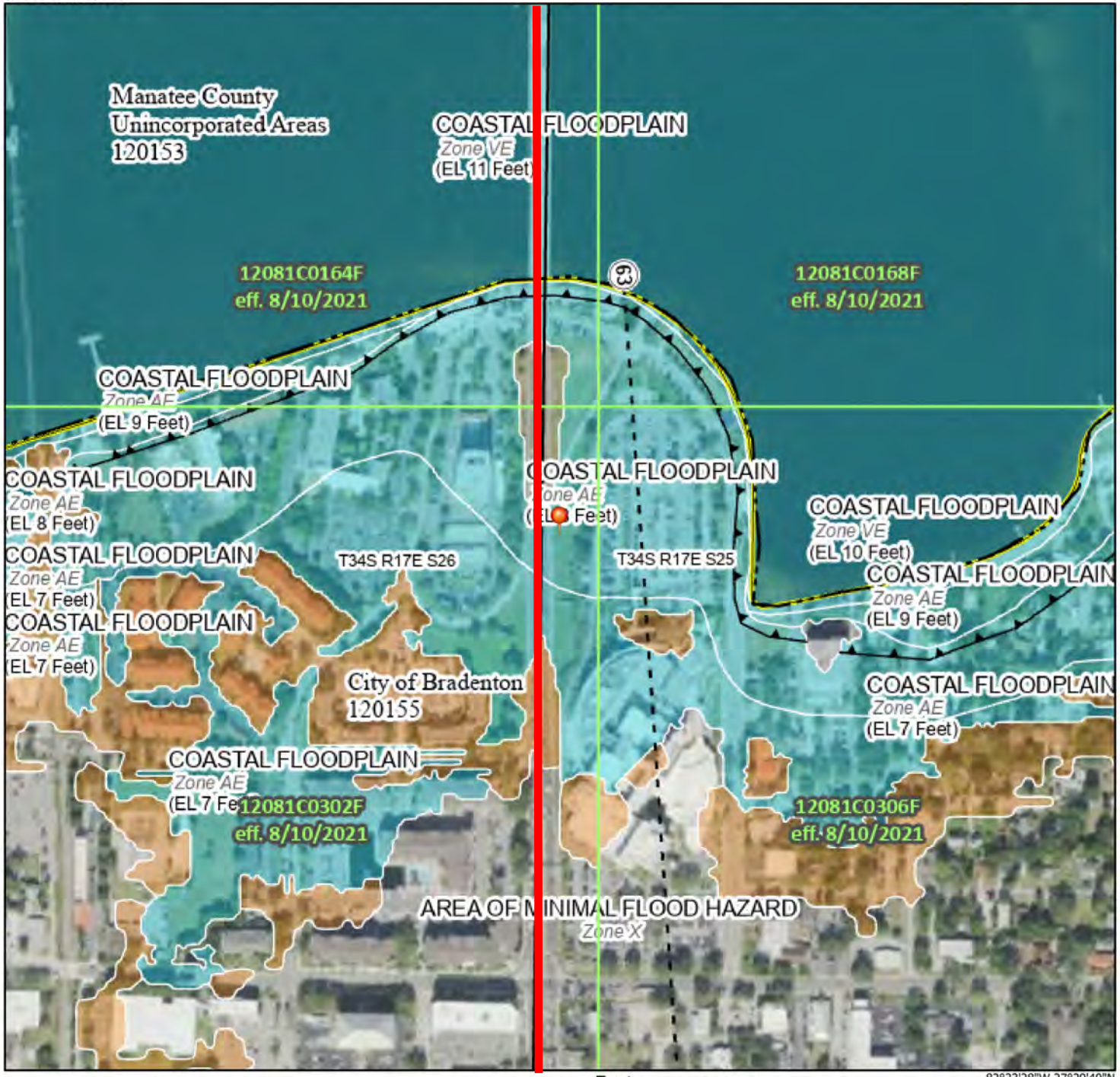

82°33'28"W 27°29'40"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN — Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 — Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 1/14/2026 at 2:03 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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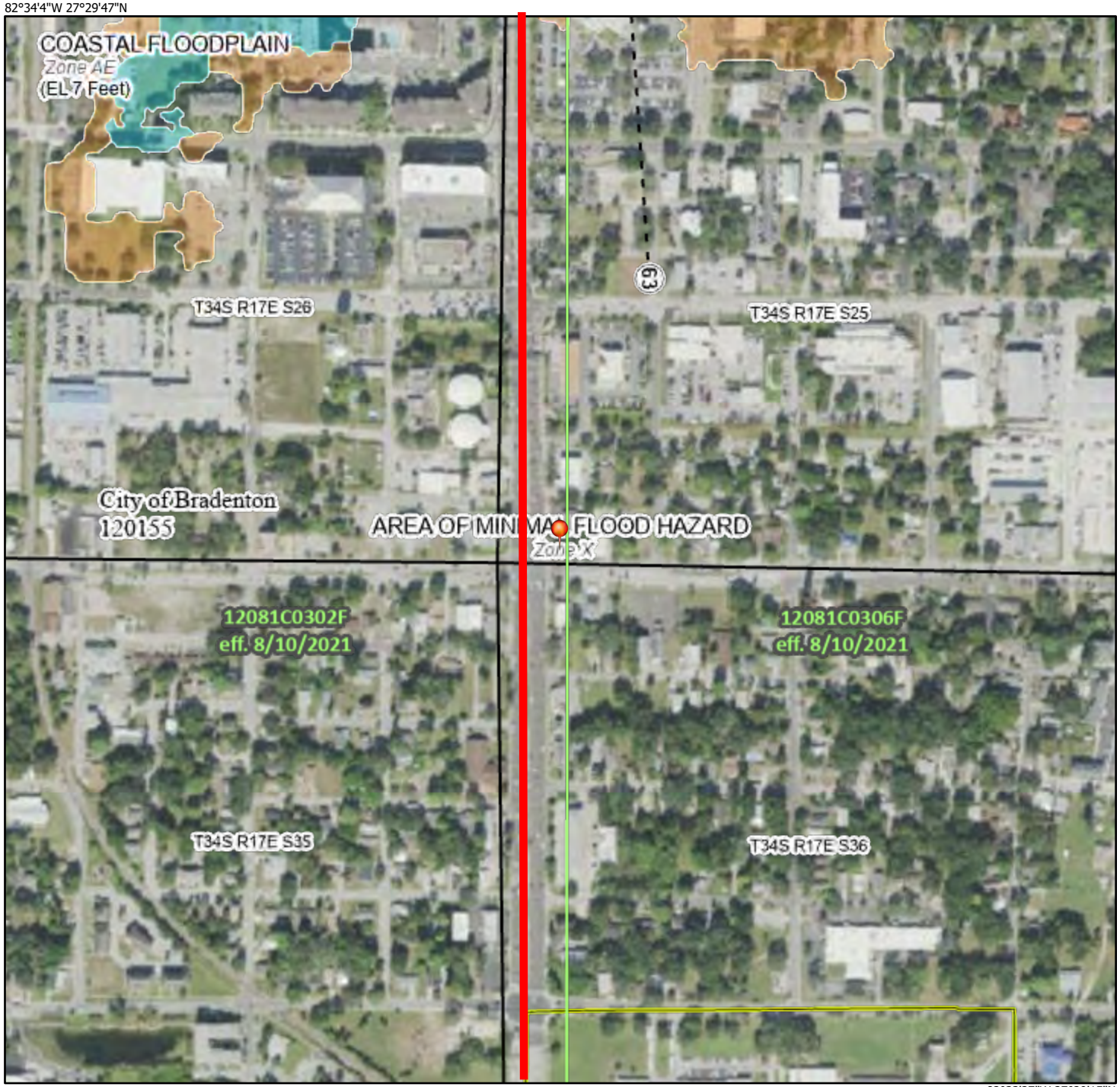
National Flood Hazard Layer FIRMette

FEMA

82°34'4"W 27°29'47"N



82°33'27"W 27°29'15"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

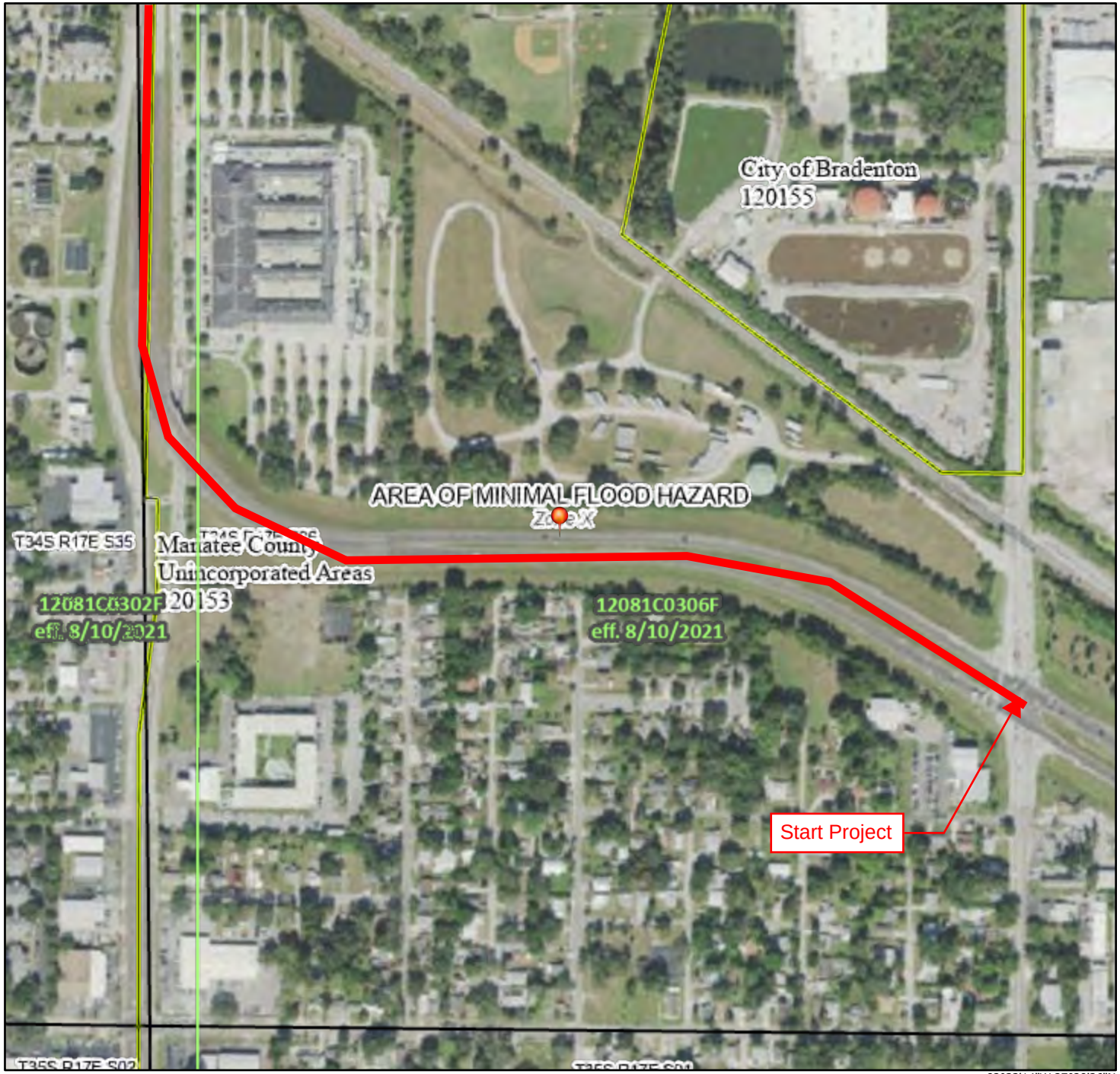
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 3/27/2026 at 2:06 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

National Flood Hazard Layer FIRMette

FEMA

82°33'52"W 27°29'8"N



82°33'14"W 27°28'36"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

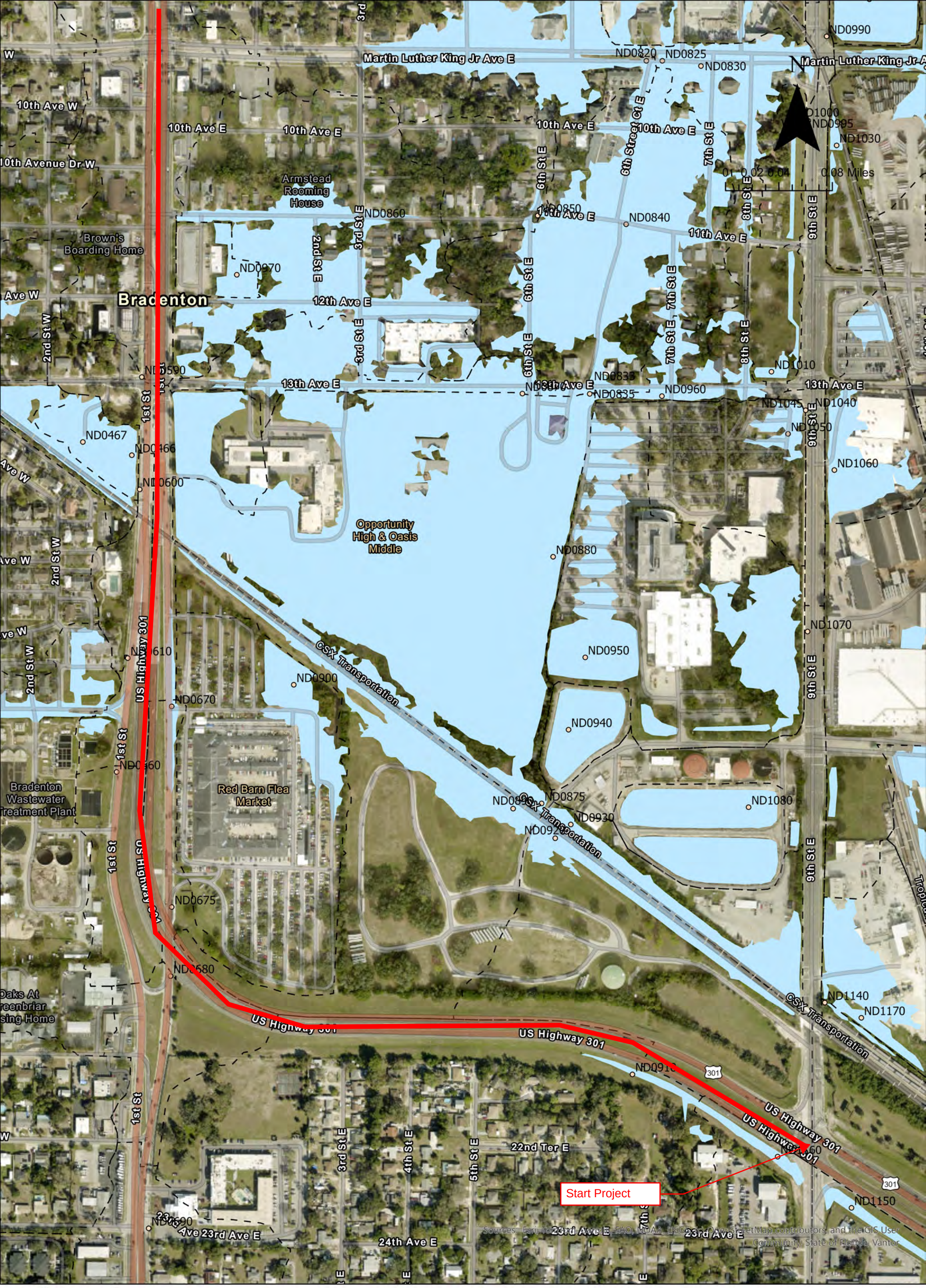
N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 3/27/2026 at 2:04 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



Legend

- ICPR_NODE
- ICPR_BASIN
- GWIS_FLOOD

City of Bradenton Watershed Map

Project Continues to the North

End of Watershed Model

N

0 0.02 0.04 0.08 Miles

Legend

- ICPR_NODE
- ICPR_BASIN
- GWIS_FLOOD

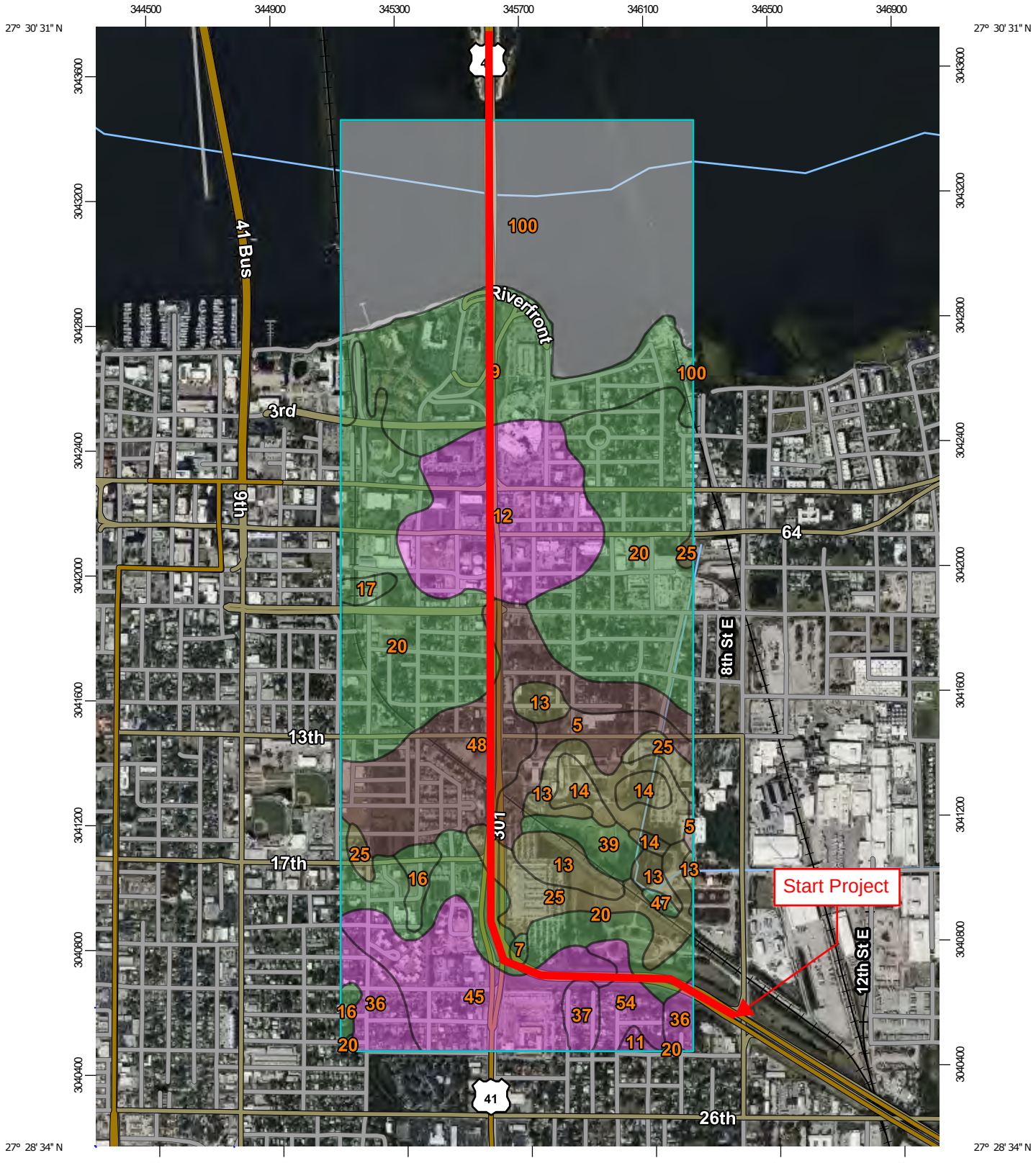
City of Bradenton Watershed Map

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, State of Florida, Microsoft, Vantor

APPENDIX B

NRCS Soil Survey

Hydrologic Soil Group—Manatee County, Florida
(South of DeSoto Bridge)



Map Scale: 1:17,500 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 250 500 1000 1500

Feet: 0 500 1000 2000 3000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A
A/D
B
B/D
C
C/D
D
Not rated or not available

Soil Rating Lines

A
A/D
B
B/D
C
C/D
D
Not rated or not available

Soil Rating Points

A
A/D
B
B/D
C
C/D
D
Not rated or not available

Water Features

Streams and Canals

Transportation

Rails
Interstate Highways
US Routes
Major Roads
Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Manatee County, Florida
Survey Area Data: Version 22, Aug 28, 2025

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jan 25, 2025—Feb 23, 2025

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
5	Bradenton fine sand, limestone substratum	B/D	20.0	2.4%
7	Canova, Anclote, and Okeelanta soils	A/D	1.1	0.1%
9	Canaveral sand, filled	A/D	82.8	9.9%
11	Cassia fine sand, 0 to 2 percent slopes	A	1.4	0.2%
12	Cassia fine sand, moderately well drained	A	72.1	8.6%
13	Chobee loamy fine sand, frequently ponded, 0 to 1 percent slopes	C/D	35.8	4.3%
14	Chobee variant sandy clay loam	C/D	11.2	1.3%
16	Delray complex	A/D	7.4	0.9%
17	Delray-EauGallie complex	A/D	3.3	0.4%
20	EauGallie-EauGallie wet, fine sand, 0 to 2 percent slopes	A/D	215.3	25.6%
25	Floridana fine sand, 0 to 2 percent slopes	C/D	31.6	3.8%
36	Orlando fine sand, moderately wet, 0 to 2 percent slopes	A	17.7	2.1%
37	Orsino fine sand, 0 to 5 percent slopes	A	5.9	0.7%
39	Parkwood variant-Chobee, limestone substratum-Parkwood complex	A/D	9.3	1.1%
45	Tavares fine sand, 0 to 5 percent slopes	A	54.1	6.4%
47	Tomoka muck, frequently ponded, 0 to 1 percent slopes	A/D	1.4	0.2%
48	Wabasso-Wabasso, wet, fine sand, 0 to 2 percent slopes	B/D	71.1	8.5%
54	Zolfo fine sand, 0 to 2 percent slopes	A	12.1	1.4%
100	Waters of the Gulf of America		186.6	22.2%

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Totals for Area of Interest			840.1	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

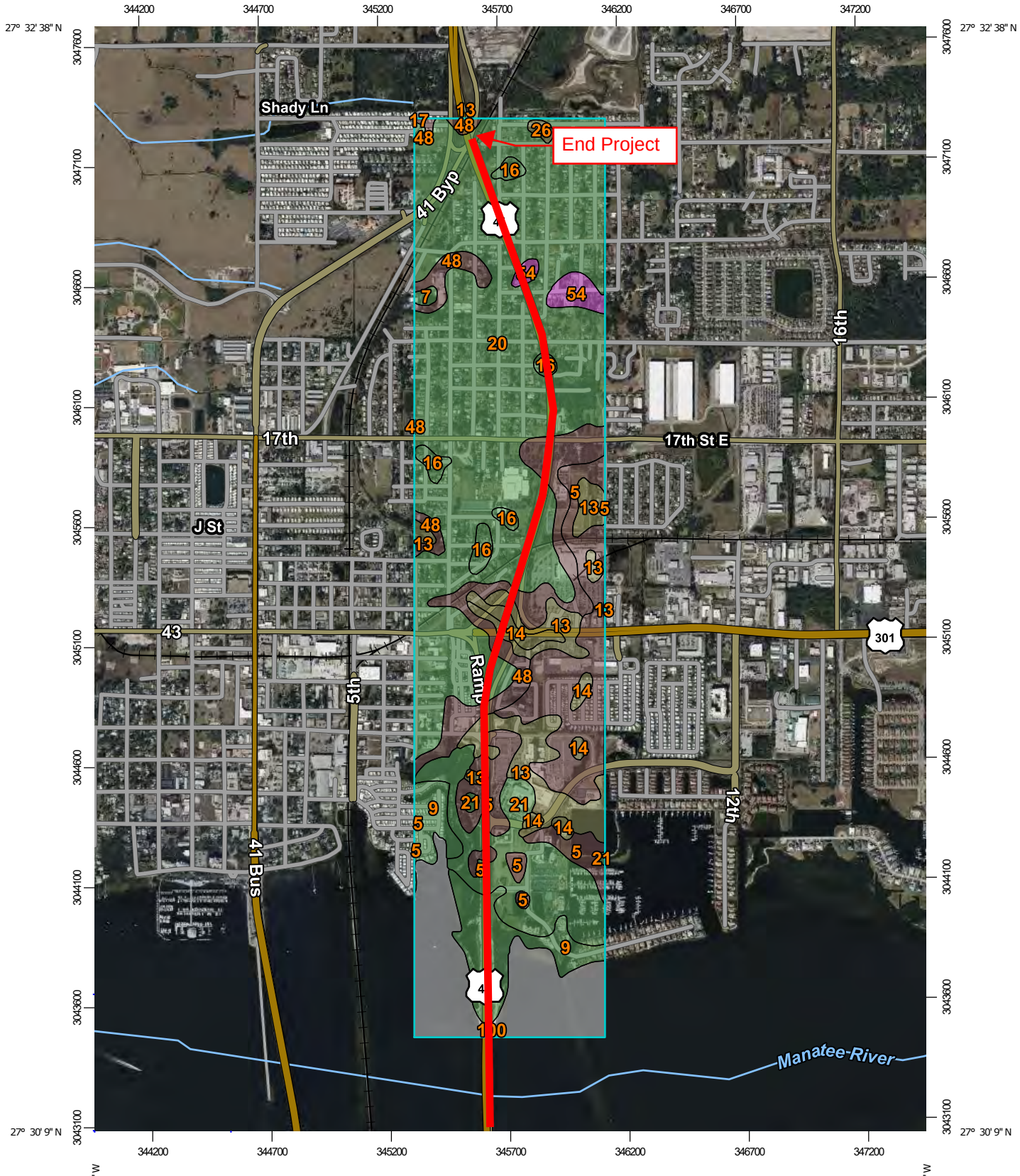
Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Hydrologic Soil Group—Manatee County, Florida
(North of DeSoto Bridge)



Map Scale: 1:22,500 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 300 600 1200 1800

Feet
0 1000 2000 4000 6000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Lines

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Points

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

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Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jan 25, 2025—Feb 23, 2025

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
5	Bradenton fine sand, limestone substratum	B/D	86.1	11.4%
7	Canova, Anclote, and Okeelanta soils	A/D	1.5	0.2%
9	Canaveral sand, filled	A/D	44.5	5.9%
13	Chobee loamy fine sand, frequently ponded, 0 to 1 percent slopes	C/D	48.6	6.4%
14	Chobee variant sandy clay loam	C/D	10.9	1.4%
16	Delray complex	A/D	12.1	1.6%
17	Delray-EauGallie complex	A/D	0.5	0.1%
20	EauGallie-EauGallie wet, fine sand, 0 to 2 percent slopes	A/D	349.4	46.1%
21	Estero muck, tidal, 0 to 1 percent slopes	A/D	58.6	7.7%
26	Floridana-Immokalee-Okeelanta association	C/D	1.7	0.2%
48	Wabasso-Wabasso, wet, fine sand, 0 to 2 percent slopes	B/D	60.6	8.0%
54	Zolfo fine sand, 0 to 2 percent slopes	A	9.2	1.2%
100	Waters of the Gulf of America		74.8	9.9%
Totals for Area of Interest			**758.3**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

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Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

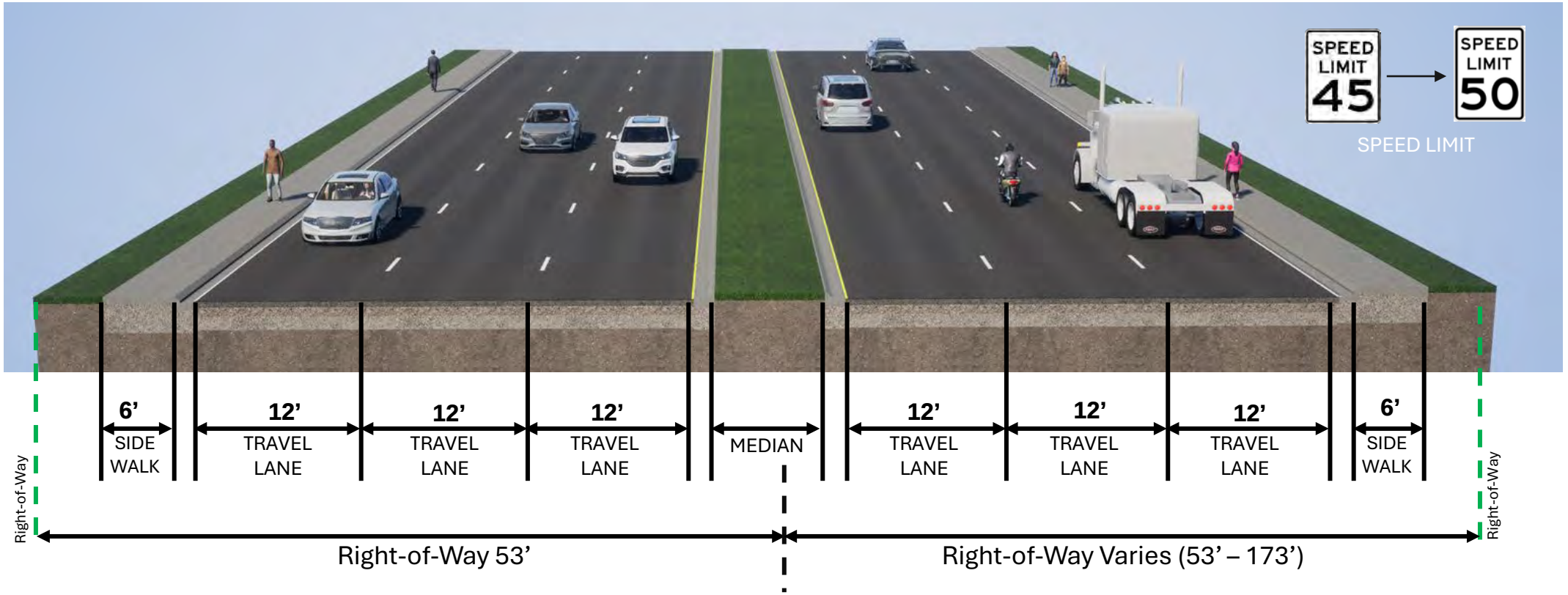
Tie-break Rule: Higher

APPENDIX C

Typical Sections

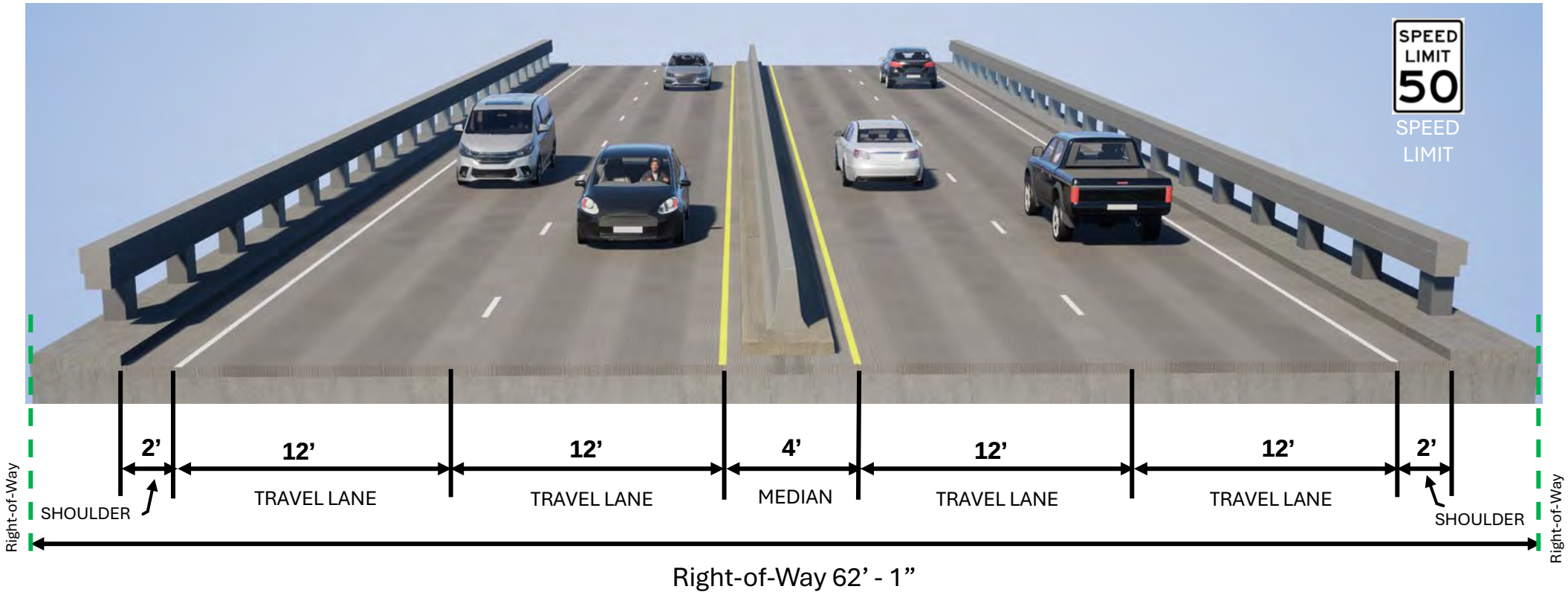
Existing conditions
Corridor A: No-Build

Existing Typical Section: South of Desoto Bridge



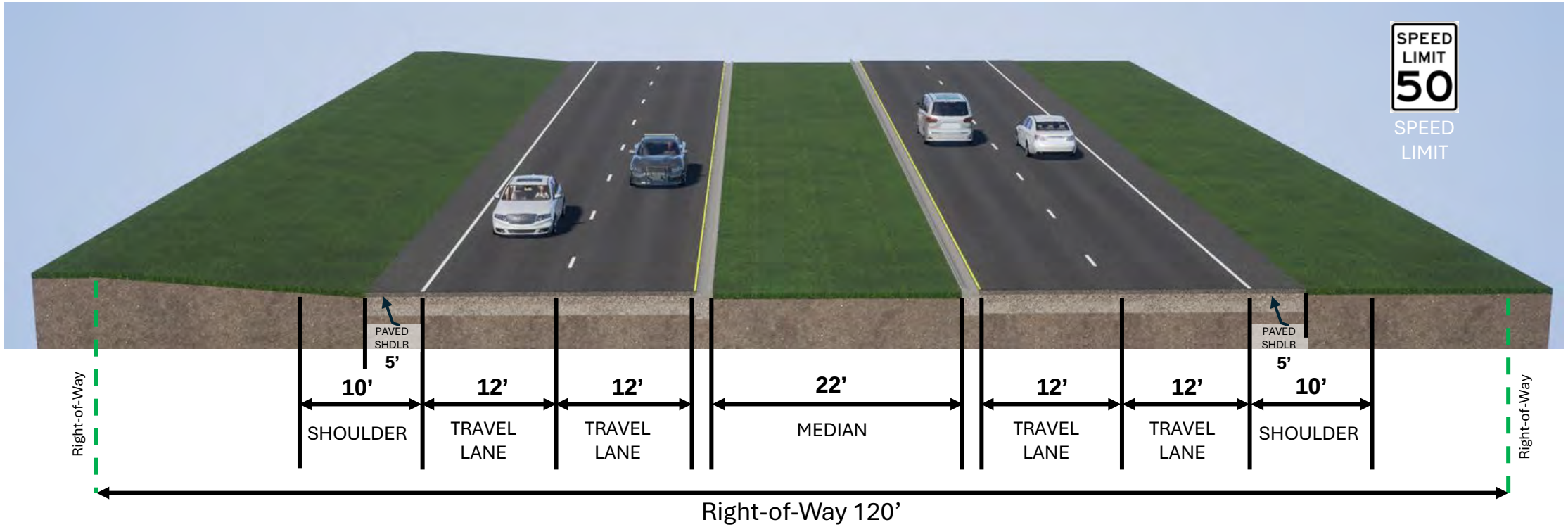
From 9th Street East to South of DeSoto Bridge

Existing Typical Section: Desoto Bridge



From South of DeSoto Bridge to North of DeSoto Bridge

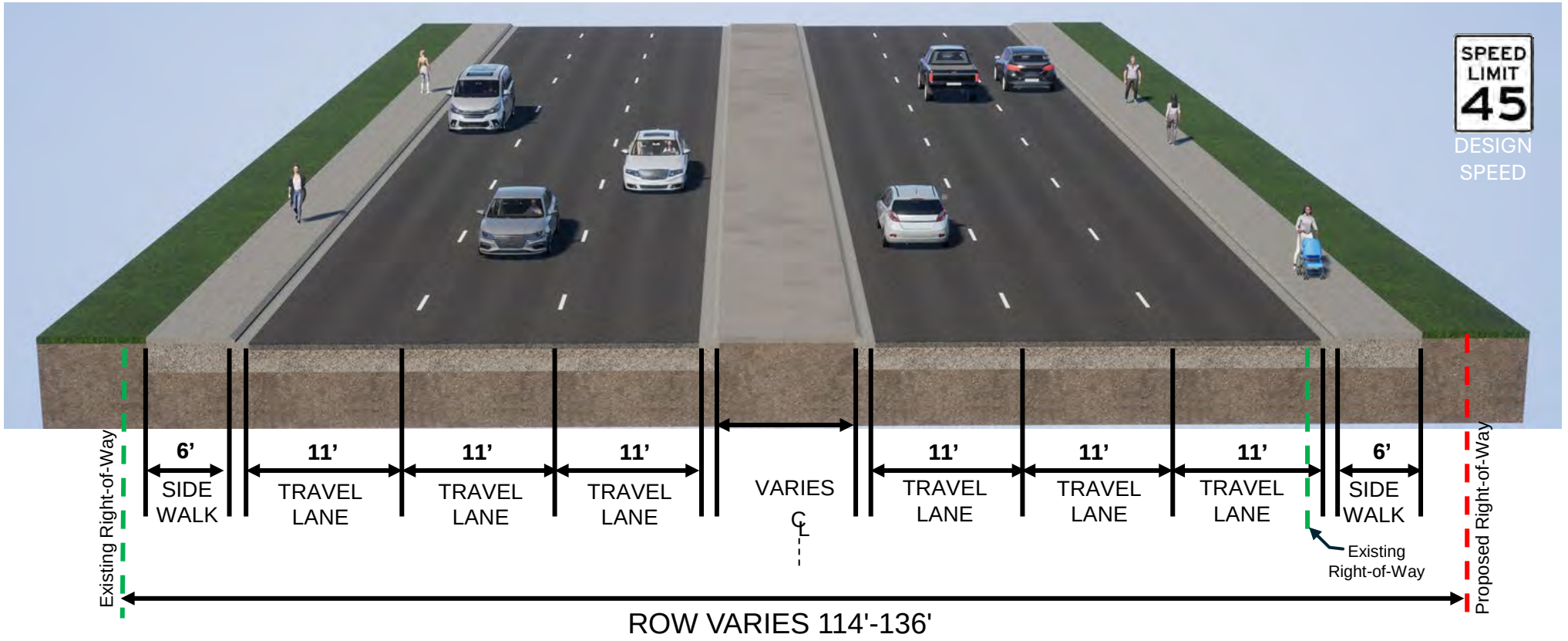
Existing Typical Section: North of Desoto Bridge



From North of DeSoto Bridge to CSX

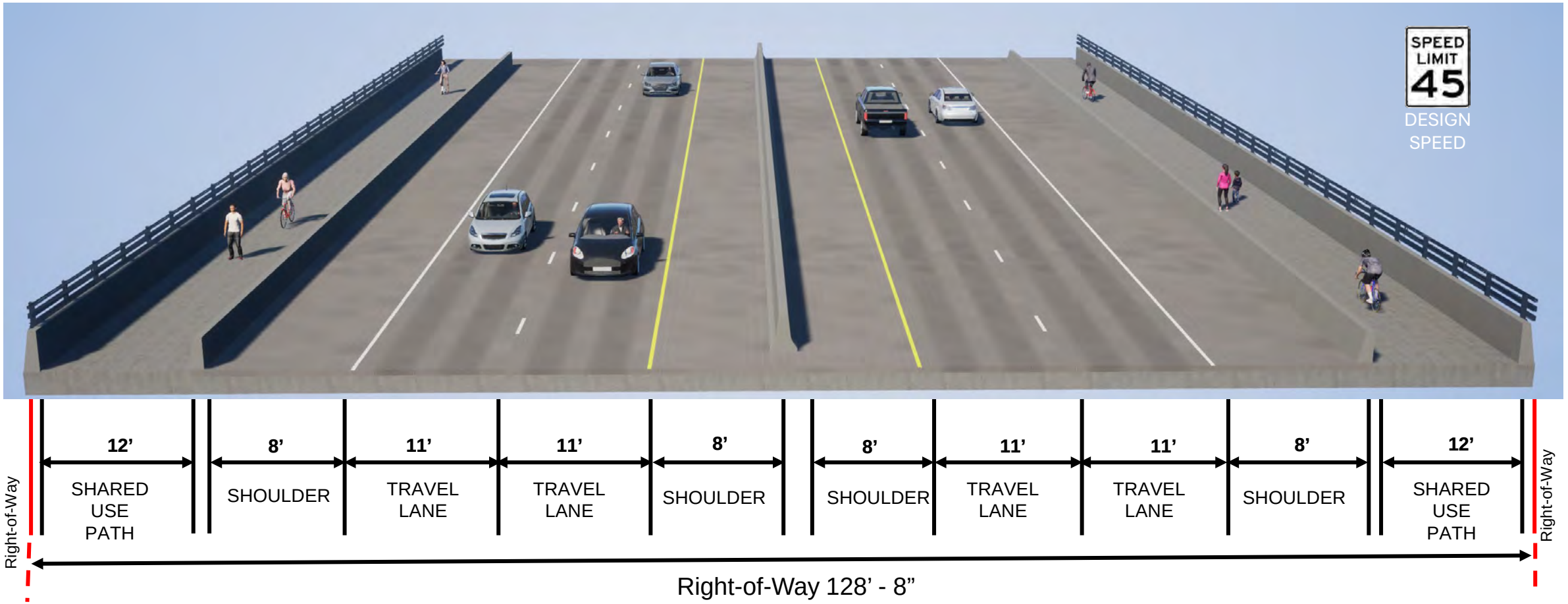
Proposed
Corridor A: 6-Lanes At-Grade (Interim)

Corridor A: 6-Lane At-Grade (Interim)
Typical Section: South of DeSoto Bridge

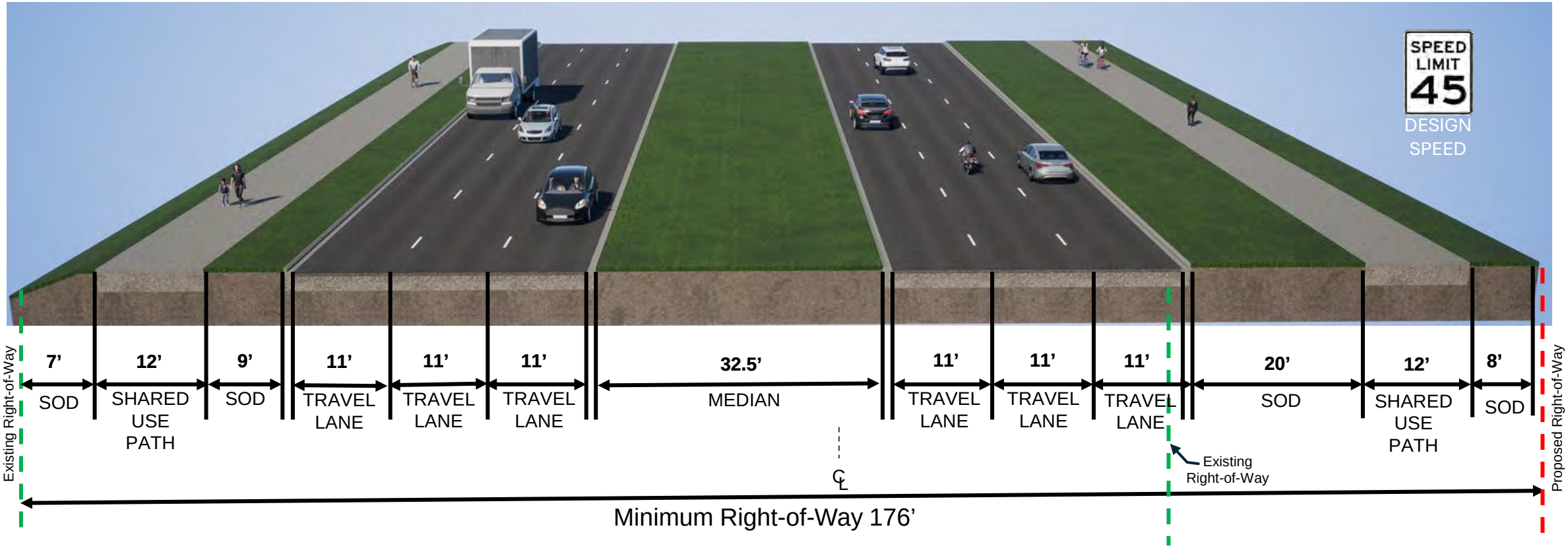


From S.R. 64/Manatee Avenue to South of DeSoto Bridge

Corridor A: 6-Lane At-Grade (Interim)
Typical Section: DeSoto Bridge



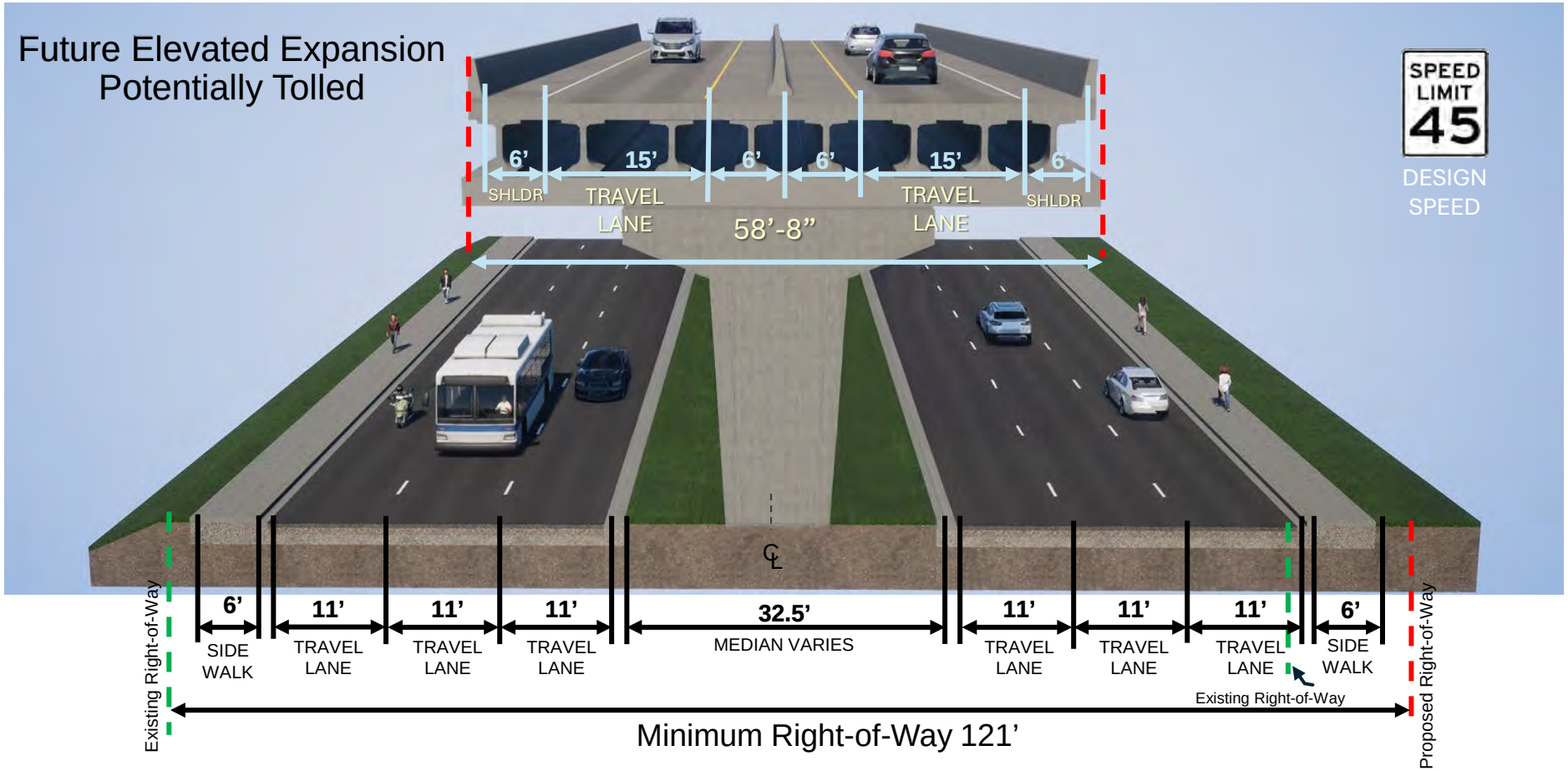
Corridor A: 6-Lane At-Grade (Interim)
Typical Section: North of DeSoto Bridge



From North of DeSoto Bridge to Haben Boulevard

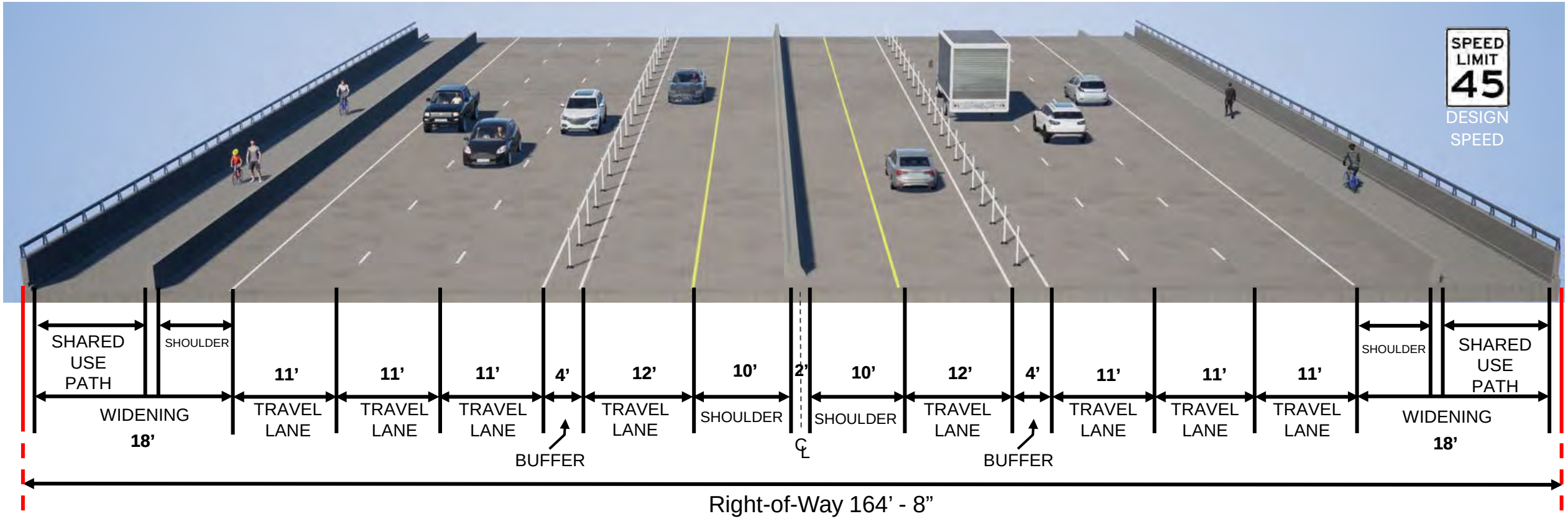
Proposed
Corridor A: 6-Lanes At-Grade + 2-Lanes Elevated (Ultimate)

Corridor A: 6-Lane At-Grade + 2-Lanes Elevated (Ultimate) Typical Section: South of DeSoto Bridge



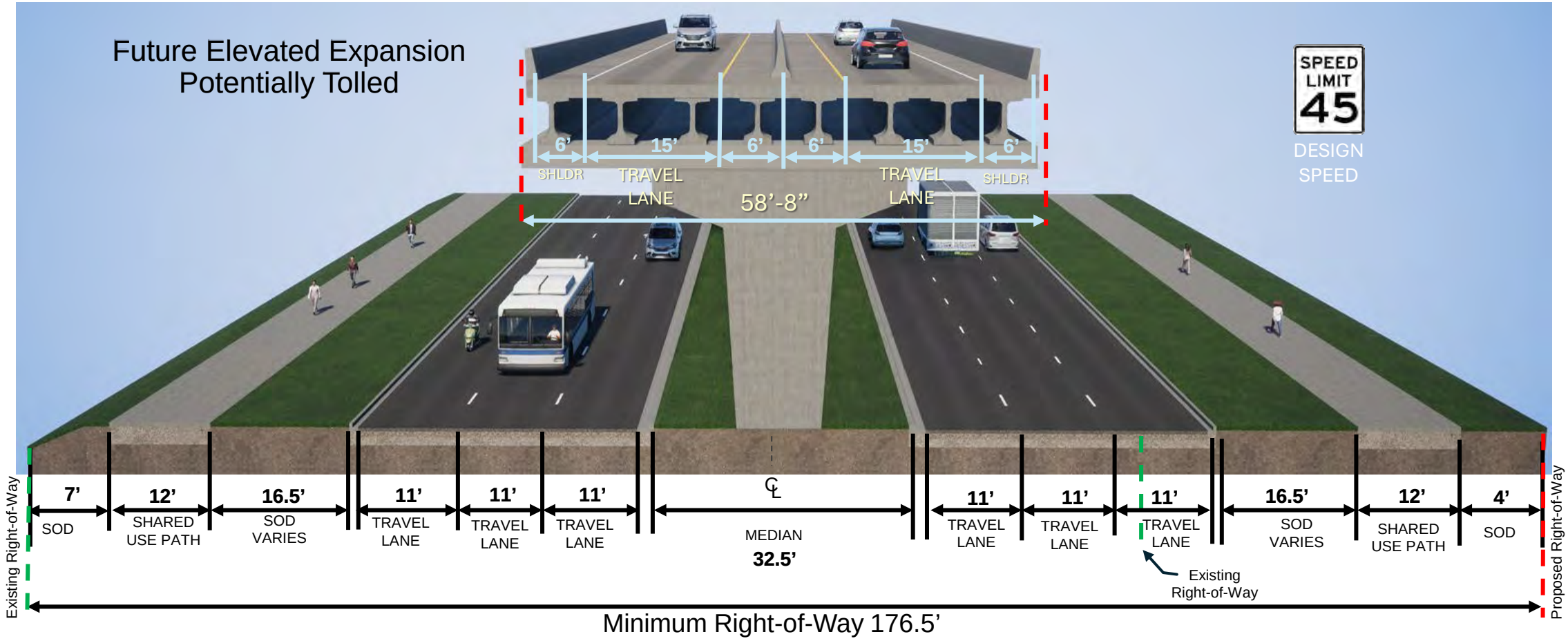
From 9th Street East to South of DeSoto Bridge

Corridor A: 6-Lane At-Grade + 2-Lanes Elevated (Ultimate)
Typical Section: DeSoto Bridge



From South of DeSoto Bridge to North of DeSoto Bridge

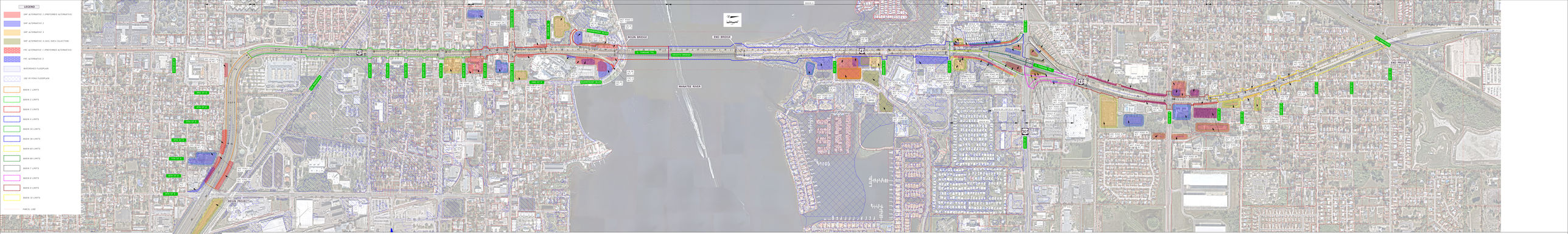
Corridor A: 6-Lane At-Grade + 2-Lanes Elevated (Ultimate)
Typical Section: North of DeSoto Bridge



From North of DeSoto Bridge to CSX

APPENDIX D

Pond Alternative Roll Plot



FPID: 444843-1-22-01 PALMETTO BRADENTON CONNECTOR PD&E POND ALTERNATIVE EXHIBIT

APPENDIX E

Pre-Development Drainage Maps

- Interim Improvements
- Ultimate Improvements

BASIN 3 (13.73 AC.)

BFE=6.76

BFE=5.83

BEGIN PROJECT

8TH AVE DR W

6TH AVE W

MANATEE AVE W

3RD AVE W

S TAMIAMI TRL

41

℄ SURVEY US 41

RIVERFRONT BLVD

8TH AVE E

6TH AVE E

MANATEE AVE E

RIVERFRONT BLVD

MATCHLINE SEE DRAINAGE MAP (2)

155 160 165 170 175

35 40 45

0 50 200

Feet

LEGEND

WATERSHED FLOODPLAIN

BASIN 3 LIMITS

PARCEL LINE

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

JIANYUN WANG, P.E.
LICENSE NUMBER: 86554
BURGESS & NIPLE, INC.
1511 N. WESTSHORE BLVD., SUITE 500
TAMPA, FL 33607

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

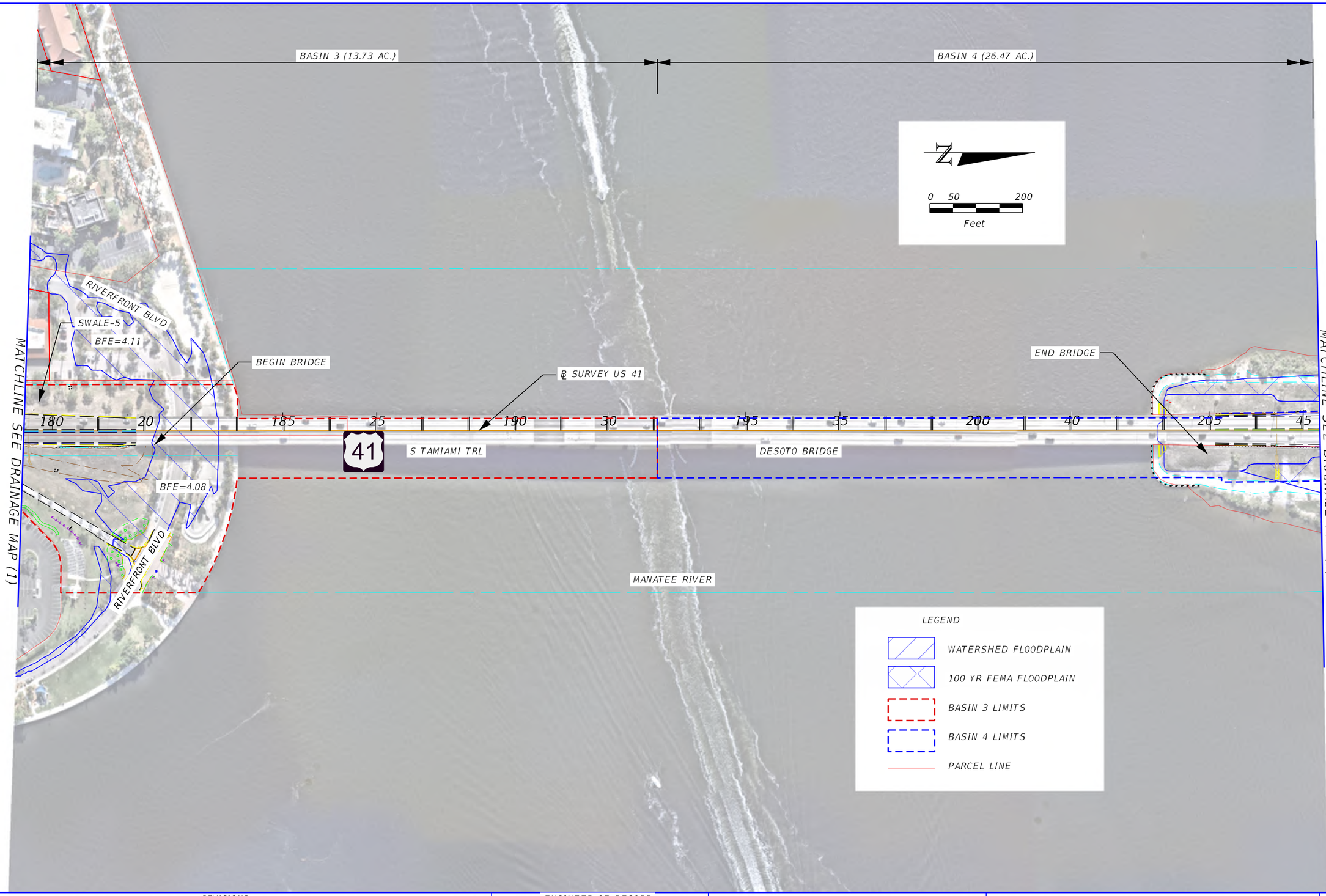
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
41	MANATEE	444843-1-22-01

PRE-DEVELOPMENT INTERIM DRAINAGE MAP (1)

SHEET NO. 1

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

P:\ORD_FDOT\Worksets_1012\FDOT\PR62999\Drainage\DRMPRD04.dgn : PLAN 1 [SHEET]
goldsmith 4/16/2026 4:20:12 PM



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

JIANYUN WANG, P.E.
LICENSE NUMBER: 86554
BURGESS & NIPLE, INC.
1511 N. WESTSHORE BLVD., SUITE 500
TAMPA, FL 33607

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
41	MANATEE	444843-1-22-01

PRE-DEVELOPMENT INTERIM DRAINAGE MAP (2)

SHEET NO. 2

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

P:\ORD_FDOT\Worksets_1012\FDOT\PR62999\Drainage\DRMPRD04.dgn : PLAN 2 [SHEET]
goldsmith 4/16/2026 4:20:14 PM

BASIN 4 (26.47 AC.)

COASTAL FLOODPLAIN ZONE (AE) EL.=8

COASTAL FLOODPLAIN ZONE (AE) EL.=10

℄ SURVEY US 41

41

S TAMIAMI TRL

1ST ST E

HABEN BLVD

RIVIERA DUNES WAY

MANATEE RIVER

210 215 220 225 230 235

50 55 60 65 70

N

0 50 200

Feet

MATCHLINE SEE DRAINAGE MAP (2)

MATCHLINE SEE DRAINAGE MAP (4)

LEGEND

100 YR FEMA FLOODPLAIN

BASIN 4 LIMITS

PARCEL LINE

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

JIANYUN WANG, P.E.
LICENSE NUMBER: 86554
BURGESS & NIPLE, INC.
1511 N. WESTSHORE BLVD., SUITE 500
TAMPA, FL 33607

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
41	MANATEE	444843-1-22-01

PRE-DEVELOPMENT INTERIM DRAINAGE MAP (3)

SHEET NO. 3

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P:\ORD_FDOT\Worksets_1012\FDOT\PR62999\Drainage\DRMPRD04.dgn : PLAN 3 [SHEET]
goldsmith 4/16/2026 4:20:17 PM

BASIN 4 (26.47)

0 50 200
Feet

COASTAL FLOODPLAIN ZONE (AE) EL.=8

7TH ST W

10TH ST W

MATCHLINE SEE DRAINAGE MAP (3)

75 80 85 240 245 250 255 260

41

S TAMIAMI TRL

℄ SURVEY US 41

END PROJECT

7TH ST E

COASTAL FLOODPLAIN ZONE (AE) EL.=7

301

LEGEND

100 YR FEMA FLOODPLAIN

BASIN 4 LIMITS

PARCEL LINE

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PRE-DEVELOPMENT INTERIM DRAINAGE MAP (4)

SHEET NO. 4

P:\ORD_FDOT\Worksets_1012\FDOT\PR62999\Drainage\DRMPRD04.dgn : PLAN 4 [SHEET]
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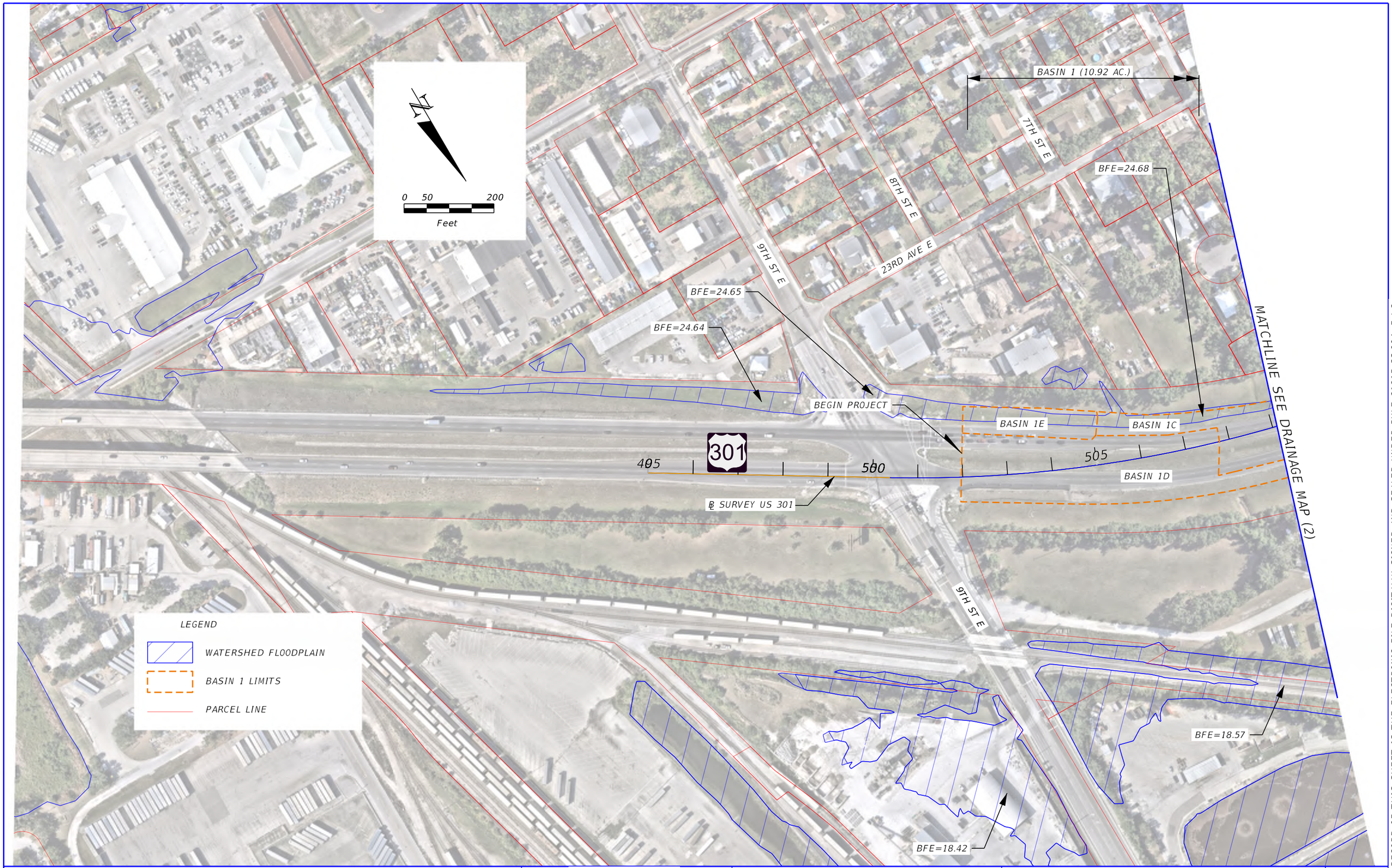

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41	MANATEE	444843-1-22-01

PRE-DEVELOPMENT ULTIMATE DRAINAGE MAP (1)

SHEET NO. 1

P:\ORD_FDOT\Worksets_1012\FDOT\PR62999\Drainage\DRMPRD02.dgn : PLAN 1 [SHEET]
goldsmith 4/16/2026 4:16:32 PM

BASIN 1 (10.92 AC.)

BASIN 2 (13.29 AC.)

S TAMIAMI TRL

3RD ST E

4TH ST E

5TH ST E

525 10

520 5

515 0

510

110

115

120

BASIN 1A

BASIN 1B

BASIN 1C

BASIN 1D

℄ SURVEY US 301

℄ SURVEY US 41

301

41

N

0 50 200

Feet

MATCHLINE SEE DRAINAGE MAP (1)

MATCHLINE SEE DRAINAGE MAP (3)

BFE=17.55

BFE=17.02

LEGEND

WATERSHED FLOODPLAIN

BASIN 1 LIMITS

BASIN 2 LIMITS

PARCEL LINE

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41	MANATEE	444843-1-22-01

PRE-DEVELOPMENT ULTIMATE DRAINAGE MAP (2)

SHEET NO. 2

P:\ORD_FDOT\Worksets_1012\FDOT\PR62999\Drainage\DRMPRD02.dgn : PLAN 2 [SHEET]
goldsmith 4/16/2026 4:16:35 PM

BASIN 2 (13.29 AC.)

0 50 200
Feet

MATCHLINE SEE DRAINAGE MAP (2)

MATCHLINE SEE DRAINAGE MAP (4)

13TH AVE W
12TH AVE W
11TH AVE W
10TH AVE DR W
10TH AVE W
9TH AVE W

125 130 135 140 145 150

41

S TAMIAMI TRL

℄ SURVEY US 41

13TH AVE E
12TH AVE E
11TH AVE E
10TH AVE E
9TH AVE E

LEGEND

WATERSHED FLOODPLAIN

BASIN 2 LIMITS

PARCEL LINE

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PRE-DEVELOPMENT ULTIMATE DRAINAGE MAP (3)

SHEET NO. 3

P:\ORD_FDOT\Worksets_1012\FDOT\PR62999\Drainage\DRMPRD02.dgn : PLAN 3 [SHEET]
goldsmith 4/16/2026 4:16:40 PM

BASIN 2 (13.29 AC.)

BASIN 3 (17.18 AC.)

LEGEND

WATERSHED FLOODPLAIN

BASIN 2 LIMITS

BASIN 3 LIMITS

PARCEL LINE

0 50 200

Feet

MATCHLINE SEE DRAINAGE MAP (3)

MATCHLINE SEE DRAINAGE MAP (5)

8TH AVE DR W

6TH AVE W

MANATEE AVE W

3RD AVE W

RIVERFRONT BLVD

S TAMIAMI TRL

℄ SURVEY US 41

8TH AVE E

6TH AVE E

MANATEE AVE E

2ND ST E

RIVERFRONT BLVD

RIVERSIDE DR E

41

155 160 165 170 175

35 40 45

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STATE OF FLORIDA
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PRE-DEVELOPMENT ULTIMATE DRAINAGE MAP (4)

SHEET NO. 4

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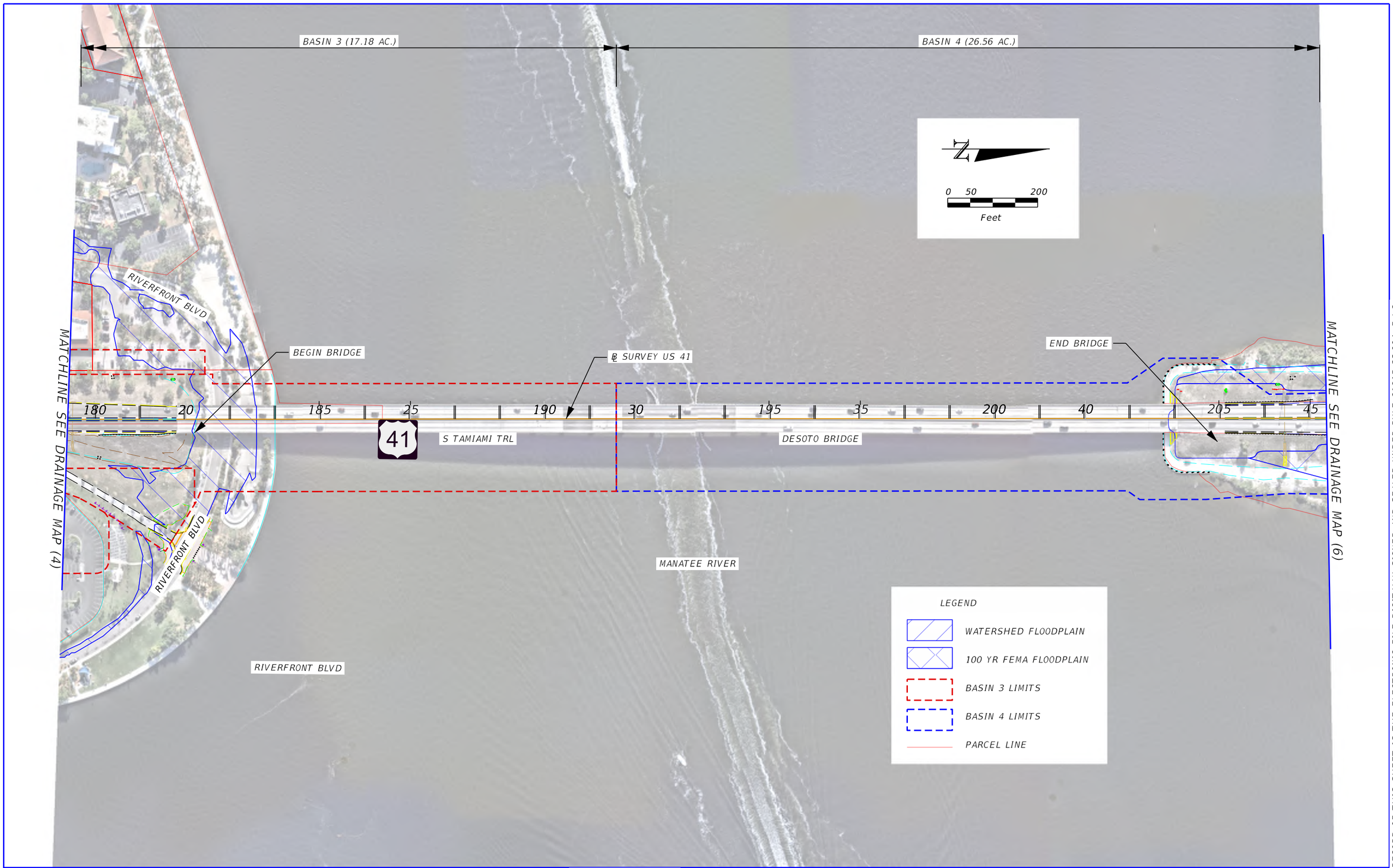

REVISIONS			
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ENGINEER OF RECORD

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
41	MANATEE	444843-1-22-01

PRE-DEVELOPMENT ULTIMATE DRAINAGE MAP (5)

SHEET NO. 5

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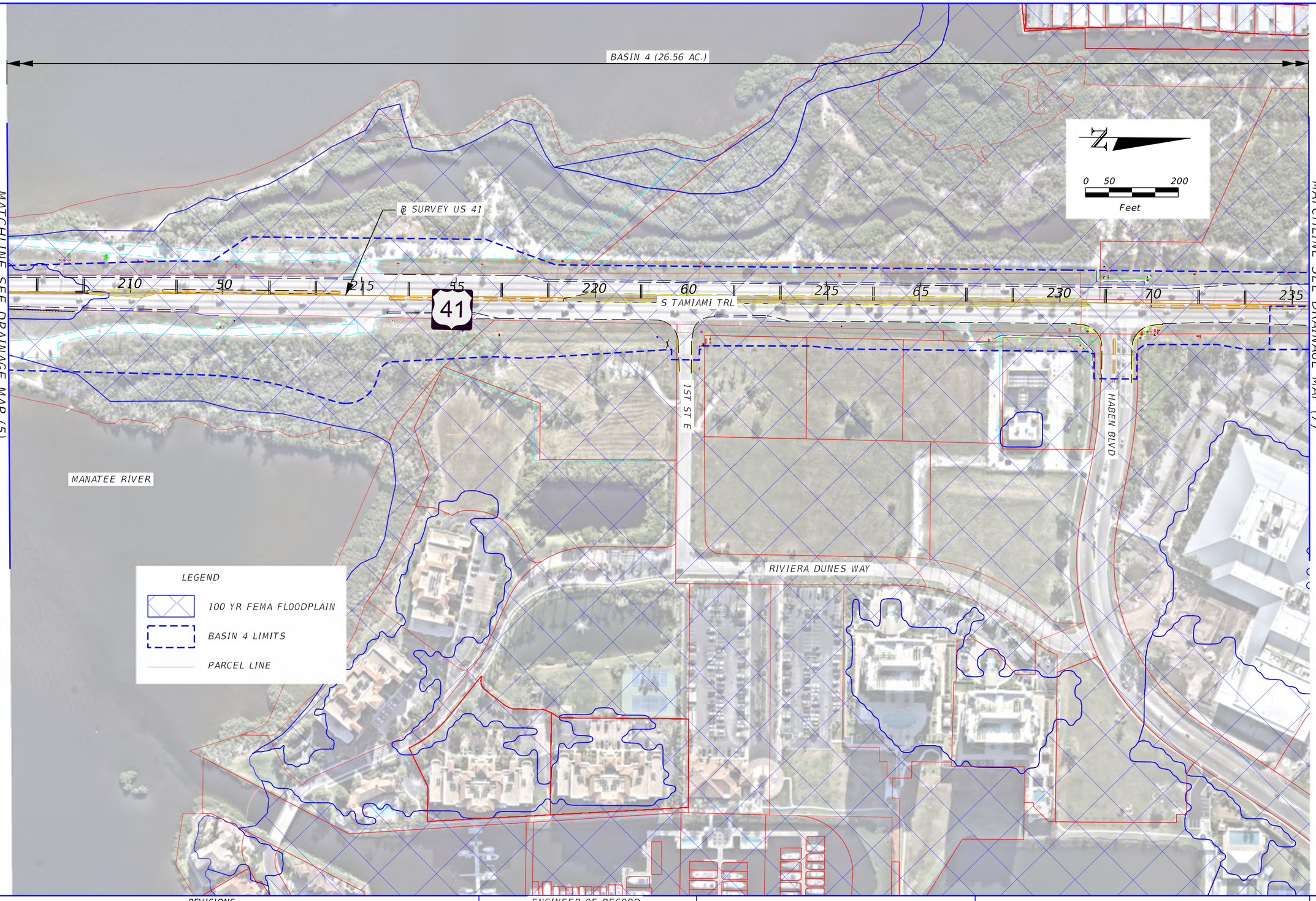

MATCHLINE SEE DRAINAGE MAP (5)

MATCHLINE SEE DRAINAGE MAP (7)

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STATE OF FLORIDA
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41	MANATEE	444843-1-22-01

PRE-DEVELOPMENT ULTIMATE DRAINAGE MAP (6)

SHEET NO. 6

P:\ORD_FDOT\Worksets_1012\FDOT\PR62999\Drainage\DRMPRD02.dgn : PLAN 6 [SHEET]
goldsmith 4/16/2026 4:16:48 PM

BASIN 4 (26.56 AC.)

BASIN 5S (2.99 AC.)

BASIN 5N (INFIELD AREA - 3.51 AC.)

BASIN 7 (5.73 AC.)

N

0 50 200

Feet

7TH ST W

10TH ST W

℄ SURVEY US 41

MATCHLINE SEE DRAINAGE MAP (6)

MATCHLINE SEE DRAINAGE MAP (8)

7TH ST E

75 80 240 245 85 250 255 260

41

S TAMIAMI TRL

301

BASIN 6N (INFIELD AREA - 3.28 AC.)

BASIN 8 (4.83 AC.)

BASIN 6S (3.72 AC.)

LEGEND

- 100 YR FEMA FLOODPLAIN
- BASIN 4 LIMITS
- BASIN 5S LIMITS
- BASIN 5N LIMITS
- BASIN 6S LIMITS
- BASIN 6N LIMITS
- BASIN 7 LIMITS
- BASIN 8 LIMITS
- PARCEL LINE

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REVISIONS			
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TAMPA, FL 33607

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
41	MANATEE	444843-1-22-01

PRE-DEVELOPMENT ULTIMATE DRAINAGE MAP (7)

SHEET NO. 7

P:\ORD_FDOT\Worksets_1012\FDOT\PR62999\Drainage\DRMPRD02.dgn : PLAN 7 [SHEET]
goldsmith 4/16/2026 4:16:51 PM

BASIN 7 (5.73 AC.)

BASIN 9 (10.79 AC.)

℄ SURVEY US 41

MATCHLINE SEE DRAINAGE MAP (7)

MATCHLINE SEE DRAINAGE MAP (9)

BASIN 9D

BASIN 8 (4.83 AC.)

41

S TAMIAMI TRL

17TH ST E

18TH ST E

17TH ST E

6TH AVE E

6TH AVE E

17TH ST CT E

16TH ST E

10

265

15

270

275

280

285

290

0 50 200

Feet

LEGEND

100 YR FEMA FLOODPLAIN

BASIN 7 LIMITS

BASIN 8 LIMITS

BASIN 9 LIMITS

PARCEL LINE

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REVISIONS			
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1511 N. WESTSHORE BLVD., SUITE 500
TAMPA, FL 33607

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
41	MANATEE	444843-1-22-01

PRE-DEVELOPMENT ULTIMATE DRAINAGE MAP (8)

SHEET NO. 8

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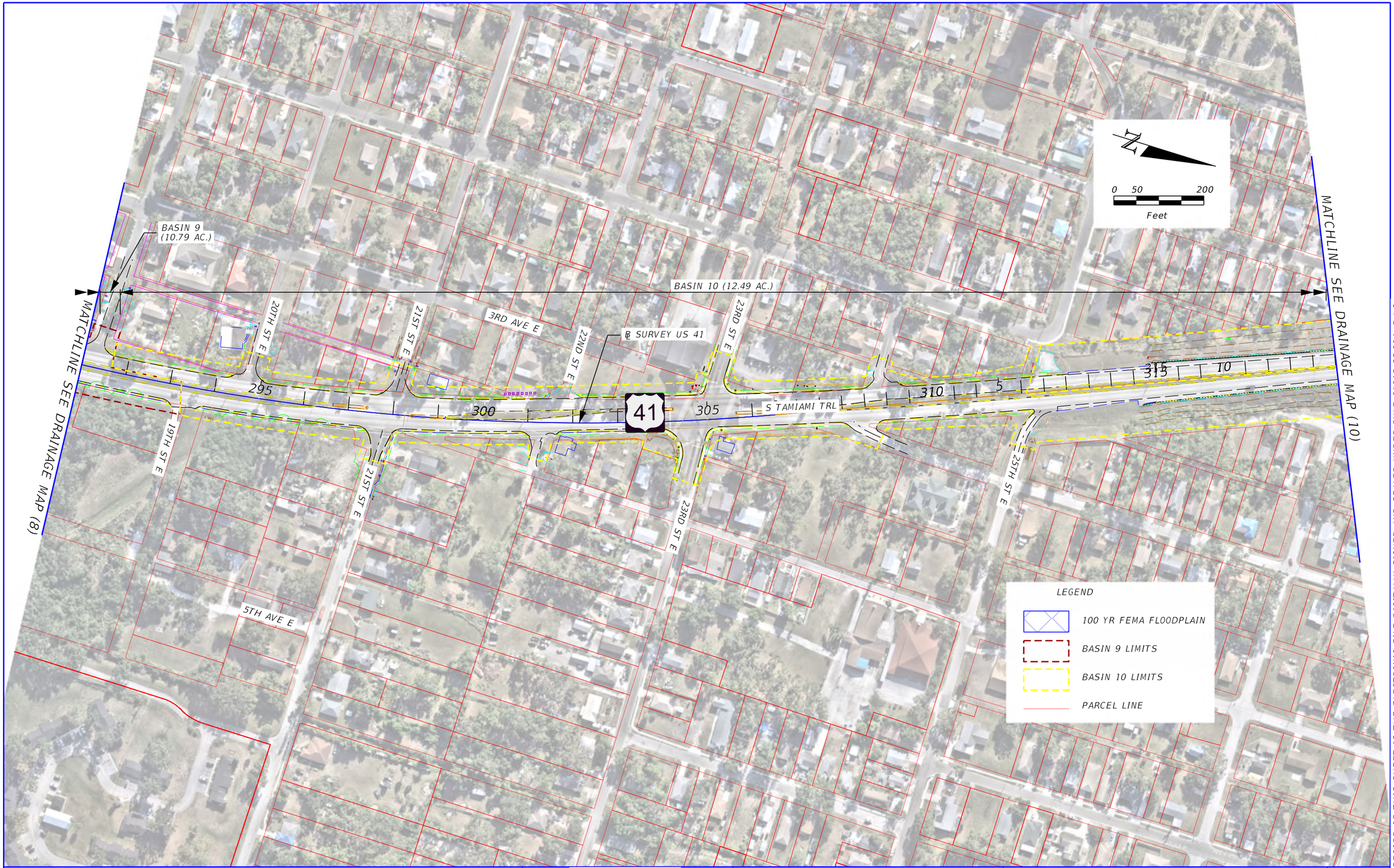

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

JIANYUN WANG, P.E.
LICENSE NUMBER: 86554
BURGESS & NIPLE, INC.
1511 N. WESTSHORE BLVD., SUITE 500
TAMPA, FL 33607

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
41	MANATEE	444843-1-22-01

PRE-DEVELOPMENT ULTIMATE DRAINAGE MAP (9)

SHEET NO. 9

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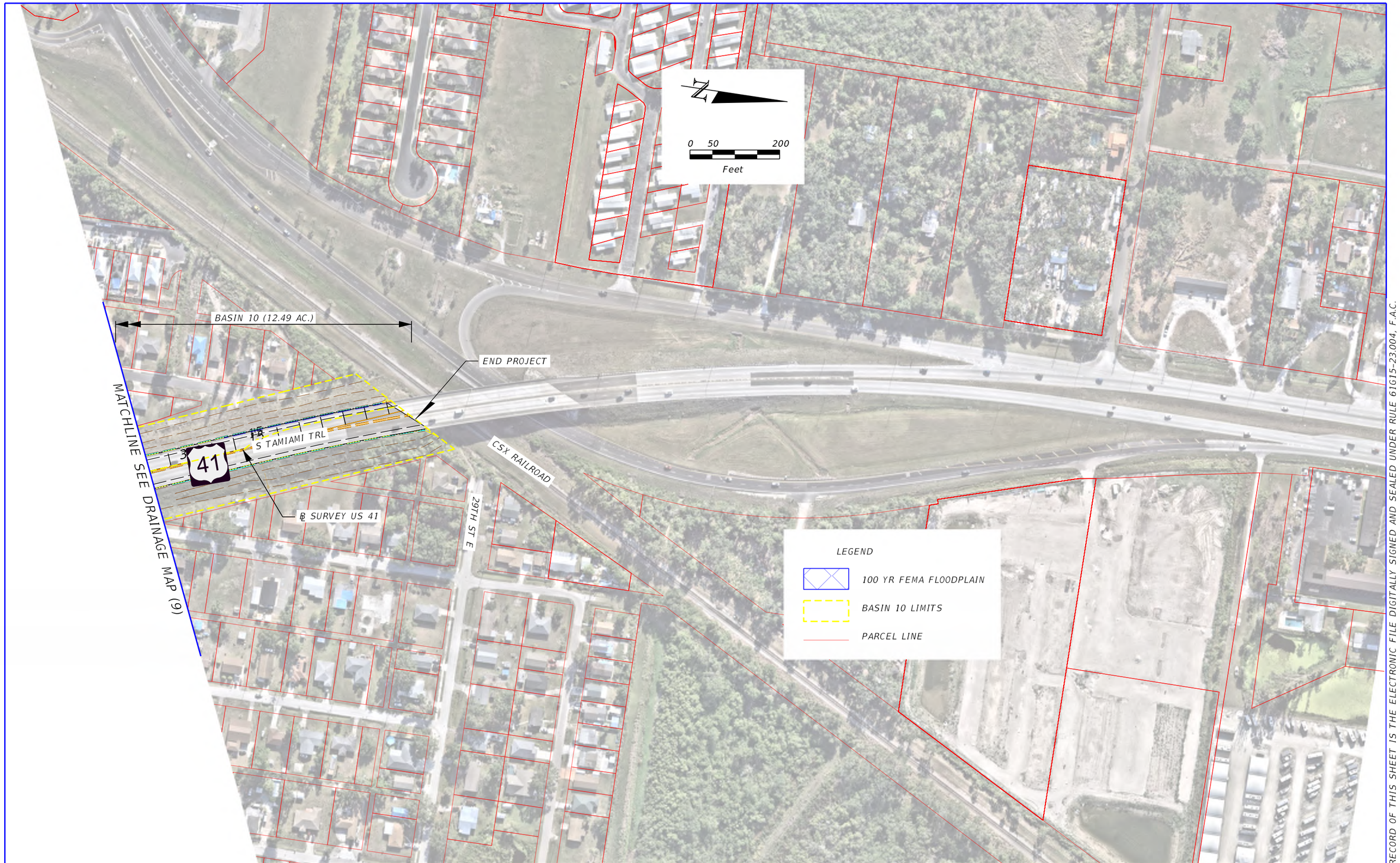

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DATE	DESCRIPTION	DATE	DESCRIPTION

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TAMPA, FL 33607

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
41	MANATEE	444843-1-22-01

PRE-DEVELOPMENT ULTIMATE DRAINAGE MAP (10)

SHEET NO. 10

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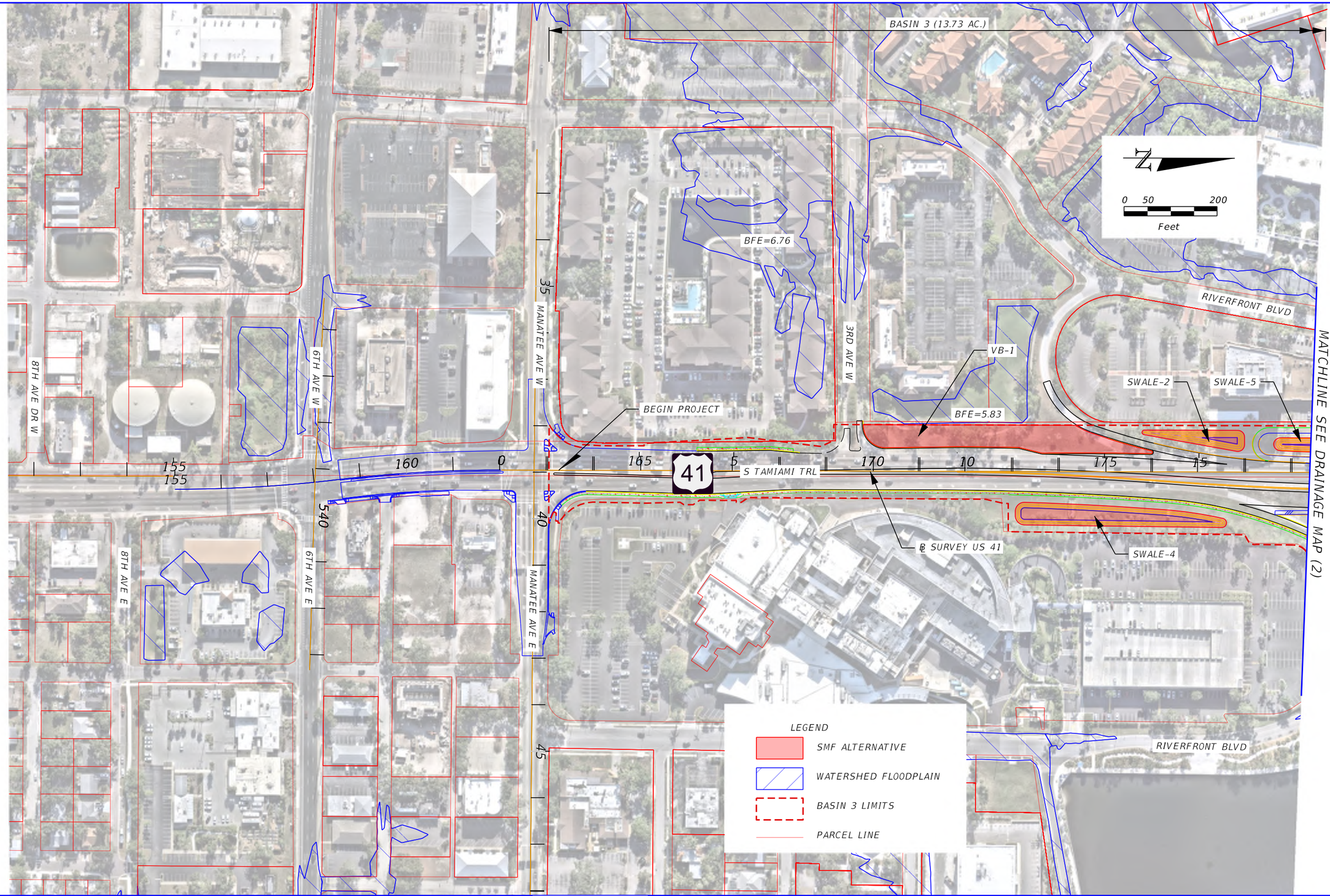
APPENDIX F

Post-Development Drainage Maps

- Interim Improvements
- Ultimate Improvements



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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
41	MANATEE	444843-1-22-01

POST-DEVELOPMENT INTERIM DRAINAGE MAP (1)

SHEET NO. 1

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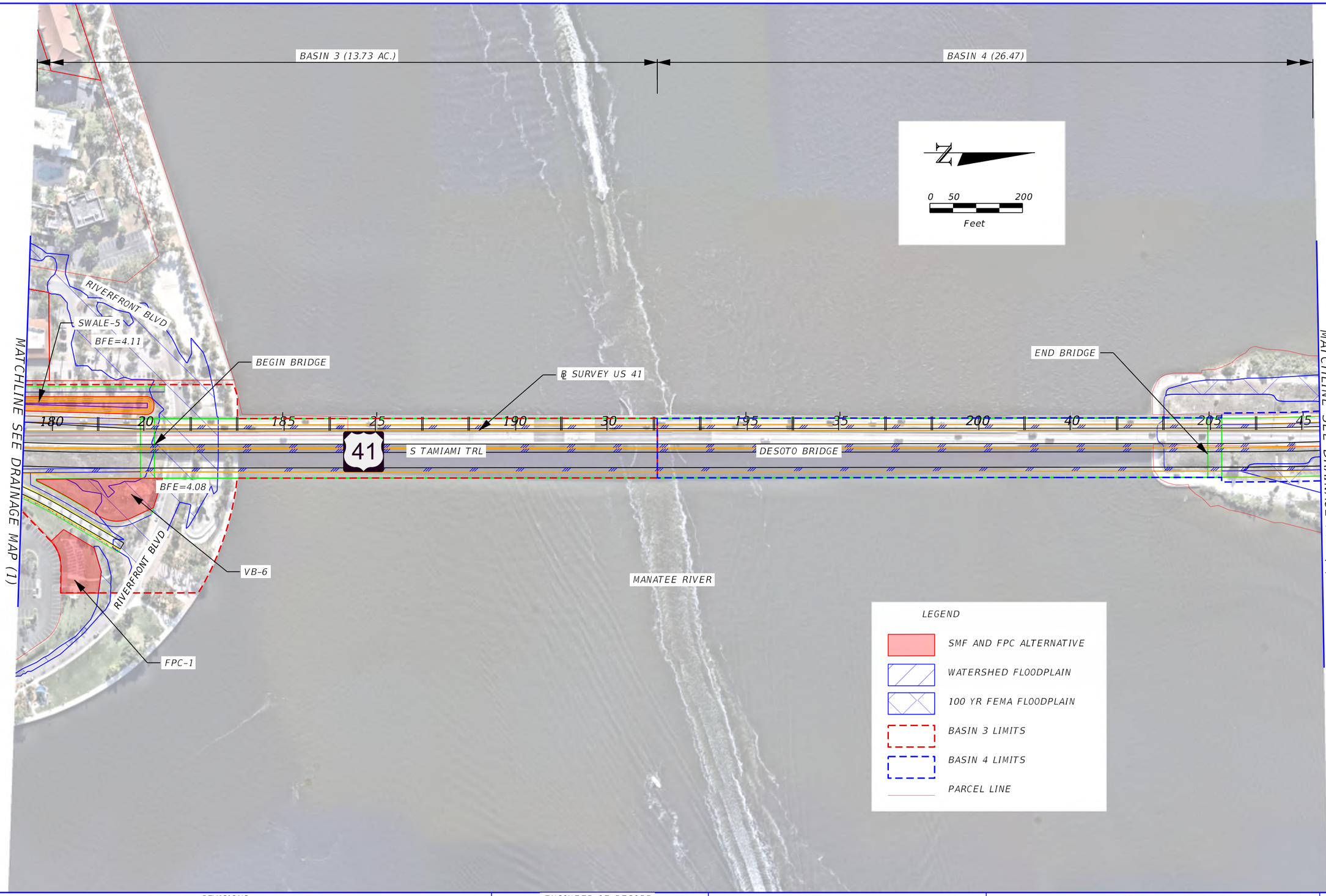

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41	MANATEE	444843-1-22-01

POST DEVELOPMENT INTERIM DRAINAGE MAP (2)

SHEET NO. 2

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P:\ORD_FDOT\Worksets_1012\FDOT\PR62999\Drainage\DRMPRD03.dgn : PLAN 2 [SHEET]
Goldsmith 6/19/2026 1:36:44 PM

BASIN 4 (26.47)

COASTAL FLOODPLAIN ZONE (AE) EL.=8

COASTAL FLOODPLAIN ZONE (AE) EL.=10

℄ SURVEY US 41

41

S TAMIAMI TRL

210 50 215 55 220 60 225 65 230 70 235

1ST ST E

HABEN BLVD

RIVIERA DUNES WAY

DRY POND 3

MANATEE RIVER

MATCHLINE SEE DRAINAGE MAP (2)

MATCHLINE SEE DRAINAGE MAP (4)

N

0 50 200

Feet

LEGEND

- SMF ALTERNATIVE
- 100 YR FEMA FLOODPLAIN
- BASIN 4 LIMITS
- PARCEL LINE

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REVISIONS			
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41	MANATEE	444843-1-22-01

POST-DEVELOPMENT INTERIM DRAINAGE MAP (3)

SHEET NO. 3

P:\ORD_FDOT\Worksets_1012\FDOT\PR62999\Drainage\DRMPRD03.dgn : PLAN 3 [SHEET]
Goldsmith 6/19/2026 1:36:47 PM

BASIN 4 (26.47)

0 50 200
Feet

7TH ST W

10TH ST W

COASTAL FLOODPLAIN
ZONE (AE) EL.=8

MATCHLINE SEE DRAINAGE MAP (3)

240 245 250 255 260

75 80 85 0 5

41

S TAMIAMI TRL

END PROJECT

℄ SURVEY US 41

7TH ST E

COASTAL FLOODPLAIN
ZONE (AE) EL.=7

LEGEND

100 YR FEMA FLOODPLAIN

BASIN 4 LIMITS

PARCEL LINE

301

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POST-DEVELOPMENT INTERIM DRAINAGE MAP (4)

SHEET NO. 4

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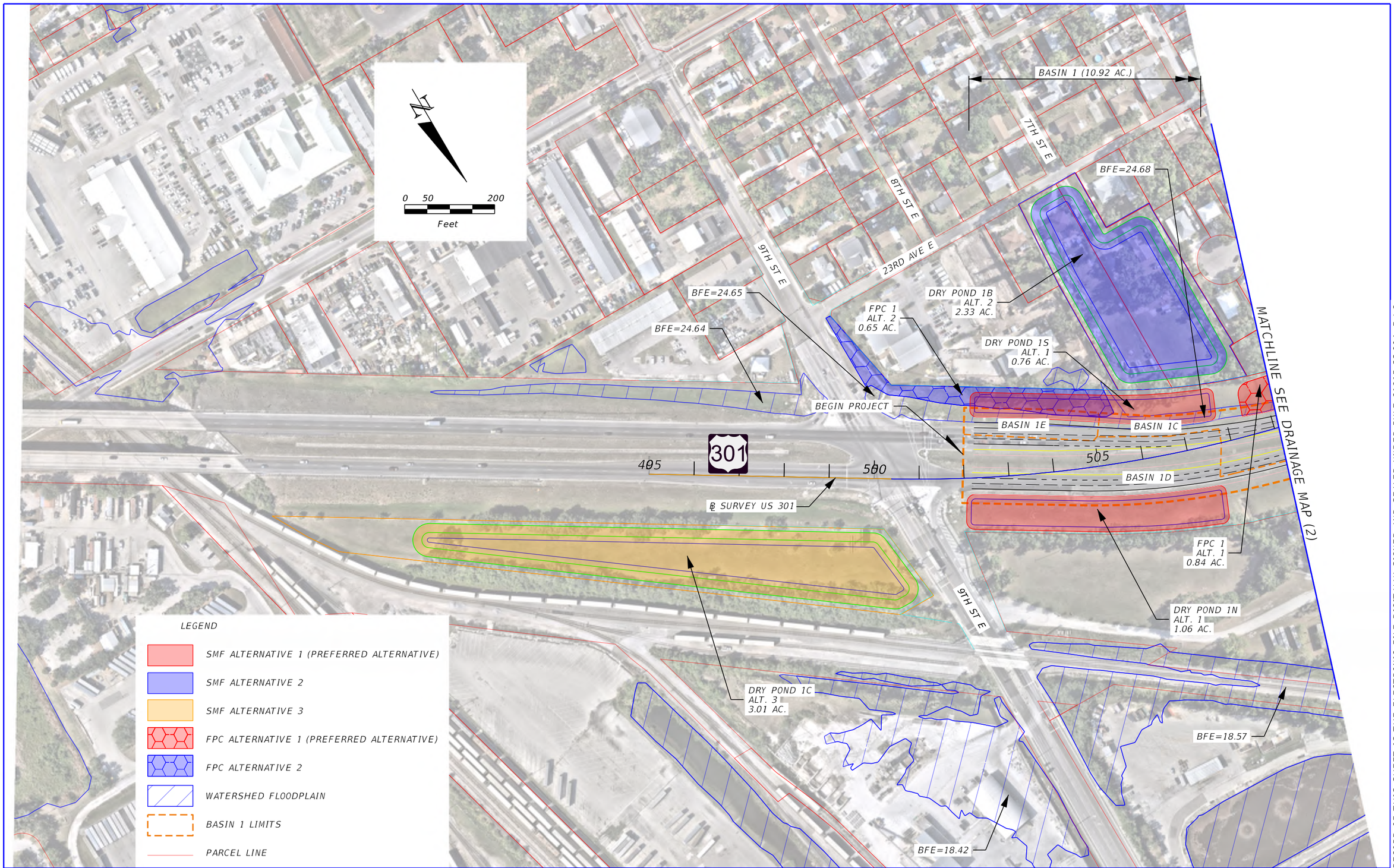

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POST-DEVELOPMENT ULTIMATE DRAINAGE MAP (1)

SHEET NO. 1

P:\ORD_FDOT\Worksets_1012\FDOT\PR62999\Drainage\DRMPRD01.dgn : PLAN 1 [SHEET]
Goldsmith 6/19/2026 2:28:56 PM

BASIN 1 (10.92 AC.)

BASIN 2 (13.29 AC.)

DRY POND 1A
ALT. 1
0.31 AC.

S TAMIAMI TRL

3RD ST E

4TH ST E

5TH ST E

525 10

520 5

515 0

510

110

115

120

BASIN 1A

BASIN 1B

BASIN 1C

BASIN 1D

℄ SURVEY US 301

℄ SURVEY US 41

301

41

FPC 1
ALT. 1
0.84 AC.

MATCHLINE SEE DRAINAGE MAP (1)

MATCHLINE SEE DRAINAGE MAP (3)

BFE=17.55

BFE=17.02

N

0 50 200
Feet

LEGEND

- SMF ALTERNATIVE 1 (PREFERRED ALTERNATIVE)
- FPC ALTERNATIVE 1 (PREFERRED ALTERNATIVE)
- WATERSHED FLOODPLAIN
- BASIN 1 LIMITS
- BASIN 2 LIMITS
- PARCEL LINE

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TAMPA, FL 33607

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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
41	MANATEE	444843-1-22-01

POST-DEVELOPMENT ULTIMATE DRAINAGE MAP (2)

SHEET NO. 2

P:\ORD_FDOT\Worksets_1012\FDOT\PR62999\Drainage\DRMPRD01.dgn : PLAN 2 [SHEET]
Goldsmith 6/19/2026 2:29:00 PM

BASIN 2 (13.29 AC.)

N

0 50 200

Feet

BFE=18.60

BFE=17.78

BFE=18.22

BFE=16.31

BFE=16.29

MATCHLINE SEE DRAINAGE MAP (2)

MATCHLINE SEE DRAINAGE MAP (4)

13TH AVE W

12TH AVE W

11TH AVE W

10TH AVE DR W

10TH AVE W

9TH AVE W

13TH AVE E

12TH AVE E

11TH AVE E

10TH AVE E

9TH AVE E

125 130 135 140 145 150

41

S TAMIAMI TRL

℄ SURVEY US 41

DRY POND 2B
ALT. 3
2.00 AC.

LEGEND

- SMF ALTERNATIVE 3
- WATERSHED FLOODPLAIN
- BASIN 2 LIMITS
- PARCEL LINE

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

JIANYUN WANG, P.E.
LICENSE NUMBER: 86554
BURGESS & NIPLE, INC.
1511 N. WESTSHORE BLVD., SUITE 500
TAMPA, FL 33607

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
41	MANATEE	444843-1-22-01

POST-DEVELOPMENT ULTIMATE DRAINAGE MAP (3)

SHEET NO. 3

P:\ORD_FDOT\Worksets_1012\FDOT\PR62999\Drainage\DRMPRD01.dgn : PLAN 3 [SHEET]
Goldsmith 6/19/2026 2:29:04 PM

BASIN 2 (13.29 AC.)

BASIN 3 (17.18 AC.)

DRY POND 2A
ALT. 2
1.06 AC.

BFE=6.76

DRY POND 3C
ALT. 3
2.03 AC.

VB-3G
ALT. 2
0.72 AC.

RIVERFRONT BLVD

WET POND 3
ALT. 1
0.43 AC.

VB-3C
ALT. 1
0.31 AC.

VB-3B
ALT. 1
0.21 AC.

BFE=5.83

BFE=14.77

8TH AVE DR W

6TH AVE W

35

MANATEE AVE W

3RD AVE W

MATCHLINE SEE DRAINAGE MAP (3)

MATCHLINE SEE DRAINAGE MAP (5)

155
155
160
0
165
5
170
10
175
15

41

S TAMIAMI TRL

℄ SURVEY US 41

540

40

8TH AVE E

6TH AVE E

MANATEE AVE E

45

VB-3A
ALT. 1
0.29 AC.

FPC-3
ALT. 2
0.13 AC.

VB-3D
ALT. 1
1.88 AC.

VB-3F
ALT. 2
0.52 AC.

VB-3H
ALT. 2
1.28 AC.

RIVERFRONT BLVD

FPC 2
ALT. 1
0.36 AC.

DRY POND 2
ALT. 1
1.44 AC.

DRY POND 3A
ALT. 2
1.11 AC.

DRY POND 2B
ALT. 3
2.00 AC.

BFE=16.63

DRY POND 3B
ALT. 3
0.86 AC.

N

0 50 200
Feet

LEGEND

- SMF ALTERNATIVE 1 (PREFERRED ALTERNATIVE)
- SMF ALTERNATIVE 2
- SMF ALTERNATIVE 3
- FPC ALTERNATIVE 1 (PREFERRED ALTERNATIVE)
- WATERSHED FLOODPLAIN
- BASIN 2 LIMITS
- BASIN 3 LIMITS
- PARCEL LINE

NOTES:

1. BASIN 3 SUB-BASIN DIVIDES SHOWN ON THIS DRAINAGE MAP ARE DESIGNED FOR ALTERNATIVE 1 ONLY.

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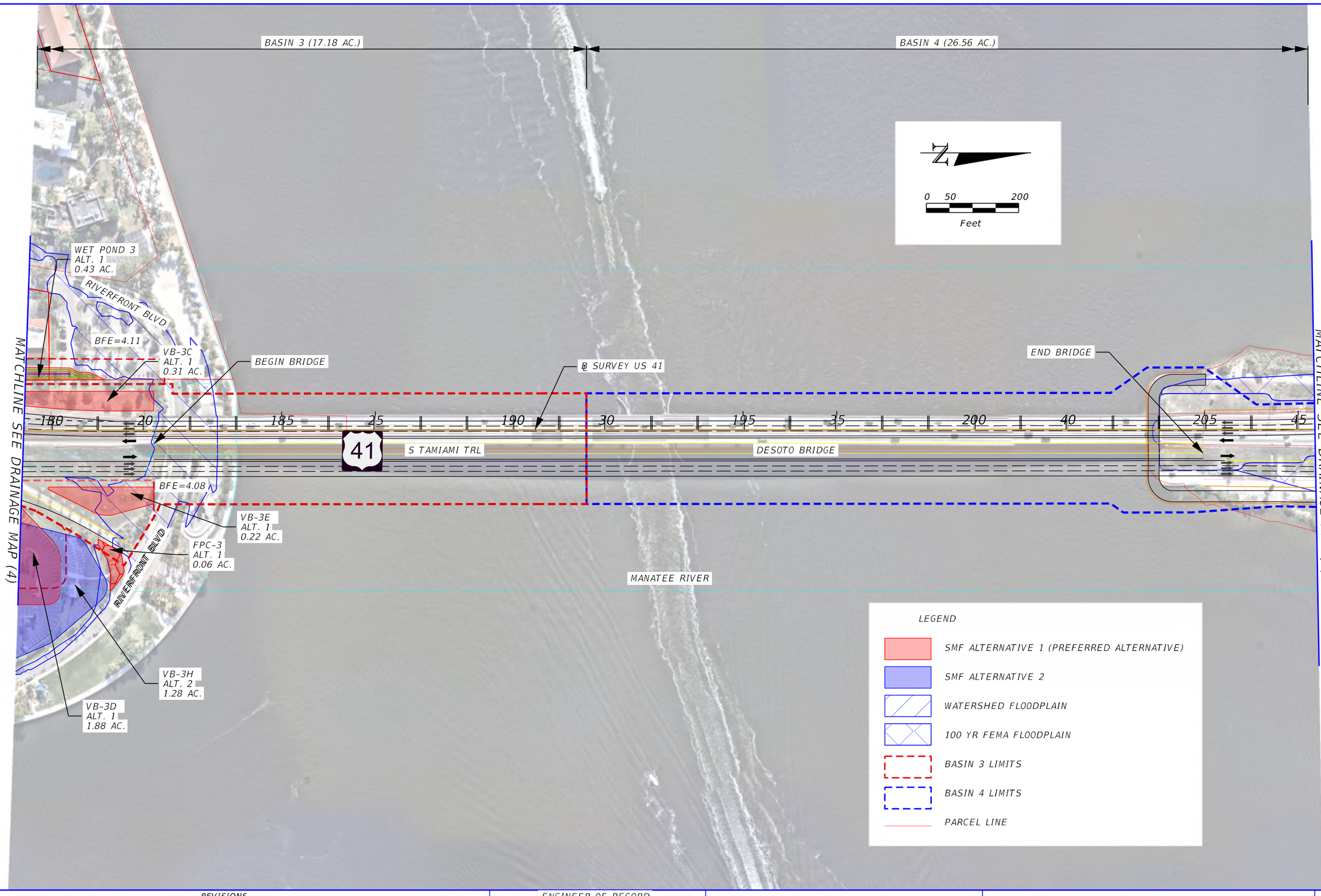
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
41	MANATEE	444843-1-22-01

POST-DEVELOPMENT ULTIMATE DRAINAGE MAP (4)

SHEET NO. 4

P:\ORD_FDOT\Worksets_1012\FDOT\PR62999\Drainage\DRMPRD01.dgn : PLAN 4 [SHEET]
Goldsmith 6/19/2026 2:29:07 PM



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

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1511 N. WESTSHORE BLVD., SUITE 500
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
41	MANATEE	444843-1-22-01

POST DEVELOPMENT ULTIMATE DRAINAGE MAP (5)

SHEET NO. 5

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P:\ORD_FDOT\Worksets_1012\FDOT\PR62999\Drainage\DRMPRD01.dgn : PLAN 5 [SHEET]
Goldsmith 6/19/2026 2:29:10 PM

BASIN 4 (26.56 AC.)

COASTAL FLOODPLAIN ZONE (AE) EL.=8

℄ SURVEY US 41

COASTAL FLOODPLAIN ZONE (AE) EL.=10

DRY POND 4 ALT. 1 3.66 AC.

VB-4B ALT. 2 1.24 AC.

210 50 215 55 220 60 225 65 230 70 235

41

S TAMIAMI TRL

1ST ST E

HABEN BLVD

MANATEE RIVER

WET POND 4A ALT. 2 0.77 AC.

VB-4A ALT. 2 1.59 AC.

DRY POND 4C ALT. 3 1.47 AC.

RIVIERA DUNES WAY

WET POND 4D ALT. 4 1.41 AC.

DRY POND 4B ALT. 3 2.08 AC.

WET POND 4E ALT. 4 1.33 AC.

N

0 50 200

Feet

MATCHLINE SEE DRAINAGE MAP (5)

MATCHLINE SEE DRAINAGE MAP (7)

LEGEND

- SMF ALTERNATIVE 1 (PREFERRED ALTERNATIVE)
- SMF ALTERNATIVE 2
- SMF ALTERNATIVE 3
- 100 YR FEMA FLOODPLAIN
- BASIN 4 LIMITS
- PARCEL LINE

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REVISIONS			
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
41	MANATEE	444843-1-22-01

POST-DEVELOPMENT ULTIMATE DRAINAGE MAP (6)

SHEET NO. 6

P:\ORD_FDOT\Worksets_1012\FDOT\PR62999\Drainage\DRMPRD01.dgn : PLAN 6 [SHEET]
Goldsmith 6/19/2026 2:29:13 PM

BASIN 4 (26.56 AC.)

BASIN 5S (2.99 AC.)

BASIN 5N (INFIELD AREA - 3.51 AC.)

BASIN 7 (5.73 AC.)

BASIN 6S (3.72 AC.)

BASIN 6N (INFIELD AREA - 3.28 AC.)

BASIN 8 (4.83 AC.)

0 50 200
Feet

7TH ST W

7TH ST E

10TH ST W

S TAMIAMI TRL

41

301

℄ SURVEY US 41

MATCHLINE SEE DRAINAGE MAP (6)

MATCHLINE SEE DRAINAGE MAP (8)

DRY POND 5S
ALT. 3
0.57 AC.

SWALE 5S
ALT. 2
0.09 AC.

VFS-5S
ALT. 2
0.07 AC.

COASTAL FLOODPLAIN
ZONE (AE) EL.=8

SWALE 5S
ALT. 1
WITH BLOCKS
EVERY 100-FT
0.74 AC.

WET POND 5N
ALT. 2
0.40 AC.

SWALE 5N
ALT. 3
WITH BLOCKS
EVERY 100-FT
0.40 AC.

WET POND 5N
ALT. 1
0.68 AC.

DRY POND 5N
ALT. 1,2&3
0.46 AC.

WET POND 7
ALT. 1
0.85 AC.

SWALE 7
ALT. 3
WITH BLOCKS
EVERY 100-FT
0.43 AC.

VFS-7
ALT. 2
0.07 AC.

DRY POND 7
ALT. 1,2&3
0.24 AC.

VFS-6S
ALT. 2
0.07 AC.

SWALE 6S
ALT. 2
0.09 AC.

SWALE-6S
ALT. 1
WITH BLOCKS
EVERY 100-FT
0.73 AC.

SWALE 6N
ALT. 2
0.09 AC.

DRY POND 6S
ALT. 3
1.68 AC.

VB-4C
ALT. 2
1.79 AC.

COASTAL FLOODPLAIN
ZONE (AE) EL.=7

DRY POND 6N
ALT. 2
0.65 AC.

WET POND 6N
ALT. 1
0.56 AC.

DRY POND 6N
ALT. 1&3
0.12 AC.

WET POND 8
ALT. 1
0.33 AC.

SWALE 8
ALT. 3
0.16 AC.

VFS-8
ALT. 2
0.07 AC.

DRY POND 8
ALT. 1&2
0.18 AC.

DRY POND 8
ALT. 3
0.24 AC.

240 245 250 255 260

80 85

15

LEGEND

- SMF ALTERNATIVE 1 (PREFERRED ALTERNATIVE)
- SMF ALTERNATIVE 2
- SMFALTERNATIVE 3
- 100 YR FEMA FLOODPLAIN
- BASIN 4 LIMITS
- BASIN 5S LIMITS
- BASIN 5N LIMITS
- BASIN 6S LIMITS
- BASIN 6N LIMITS
- BASIN 7 LIMITS
- BASIN 8 LIMITS
- PARCEL LINE

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

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1511 N. WESTSHORE BLVD., SUITE 500
TAMPA, FL 33607

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
41	MANATEE	444843-1-22-01

POST-DEVELOPMENT ULTIMATE DRAINAGE MAP (7)

SHEET NO. 7

P:\ORD_FDOT\Worksets_1012\FDOT\PR62999\Drainage\DRMPRD01.dgn : PLAN 7 [SHEET]
Goldsmith 6/19/2026 2:29:16 PM

BASIN 7 (5.73 AC.)

BASIN 9 (10.79 AC.)

MATCHLINE SEE DRAINAGE MAP (7)

MATCHLINE SEE DRAINAGE MAP (9)

℄ SURVEY US 41

VB-9A
ALT. 1&2
0.41 AC.

VB-9B
ALT. 1&2
0.58 AC.

DRY POND 9F
ALT. 1
1.67 AC.

DRY POND 9B
ALT. 1&2
0.49 AC.

DRY POND 9A
ALT. 2
0.44 AC.

17TH ST E

18TH ST E

BASIN 9D

10

265

45

270

275

41

S TAMIAMI TRL

280

285

290

VB-9F
ALT. 1
0.30 AC.

VFS-8
ALT. 2

VB-9C
ALT. 1&2
0.37 AC.

VB-9D
ALT. 1
0.15 AC.

BASIN 8 (4.83 AC.)

BAFFLE SWALE 10
ALT. 1&2
1.76 AC.

WET POND 10
ALT. 1
2.28 AC.

WET POND 10A
ALT. 2
2.11 AC.

0 50 200
Feet

DRY POND 9
ALT. 3
4.19 AC.

WET POND 9C
ALT. 2
1.83 AC.

6TH AVE E

WET POND 9E
ALT. 1
0.55 AC.

WET POND 9D
ALT. 1
0.56 AC.

16TH ST E

17TH ST CT E

LEGEND

- SMF ALTERNATIVE 1 (PREFERRED ALTERNATIVE)
- SMF ALTERNATIVE 2
- SMF ALTERNATIVE 3
- 100 YR FEMA FLOODPLAIN
- BASIN 7 LIMITS
- BASIN 8 LIMITS
- BASIN 9 LIMITS
- PARCEL LINE

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REVISIONS			
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
41	MANATEE	444843-1-22-01

POST-DEVELOPMENT ULTIMATE DRAINAGE MAP (8)

SHEET NO. 8

P:\ORD_FDOT\Worksets_1012\FDOT\PR62999\Drainage\DRMPRD01.dgn : PLAN 8 [SHEET]
Goldsmith 6/19/2026 2:29:19 PM

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

JIANYUN WANG, P.E.
LICENSE NUMBER: 86554
BURGESS & NIPLE, INC.
1511 N. WESTSHORE BLVD., SUITE 500
TAMPA, FL 33607

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
41	MANATEE	444843-1-22-01

POST-DEVELOPMENT ULTIMATE DRAINAGE MAP (9)

SHEET NO. 9

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

P:\ORD_FDOT\Worksets_1012\FDOT\PR62999\Drainage\DRMPRD01.dgn : PLAN 9 [SHEET]
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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

JIANYUN WANG, P.E.
LICENSE NUMBER: 86554
BURGESS & NIPLE, INC.
1511 N. WESTSHORE BLVD., SUITE 500
TAMPA, FL 33607

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
41	MANATEE	444843-1-22-01

POST-DEVELOPMENT ULTIMATE DRAINAGE MAP (10)

SHEET NO. 10

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

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APPENDIX G

Pond Summary and Calculations

Interim Condition

Basin	3					4
Name	VB-1	VB-6	Swale-2	Swale-4	Swale-5	Dry Pond 3
Treatment Type	Vegetated Buffer		Treatment Swale			Dry Retention
P Removal Req. (%)	95					
P Removal Prov. (%)	97					
N Removal Req. (%)	95					
N Removal Prov. (%)	97					
Atten. Req. (ac.	N/A					
Total Prov. (ac-ft)	N/A					
SMF Size (ac.)	0.63	0.36	0.14	0.41	0.27	4.72
R/W Size (ac.)	0.63	0.36	0.14	0.41	0.27	4.72

PROJECT TITLE:	BPC PD&E Interim	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 3			**DATE**
POND DESIGNATION:	Manatee River	**MADE BY:**	JW	08-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**	CC	09-Apr-26

Pre-Development	NRCS				
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**	
Roadway Pre					
Outfall 3 (Direct discharging to Manatee Revier)					
VB-1					
Pavement		98	2.51	245.98	
Open Space Good Condition (grass cover >75%)	A	39	0.33	12.87	
Open Space Good Condition (grass cover >75%)	A/D	60	0.85	51.00	
Subtotal		84.0	*3.69*	309.85	DCIA %
Non DCIA		54.1	*1.18*	63.87	68.02%
Outfall 3					
Swale 2					
Pavement		98	2.58	252.84	
Open Space Good Condition (grass cover >75%)	A	39	0.00	0.00	
Open Space Good Condition (grass cover >75%)	A/D	60	0.43	25.80	
Subtotal		92.6	*3.01*	278.64	DCIA %
Non DCIA		60.0	*0.43*	25.80	85.71%
Outfall 3					
Swale 4					
Pavement		98	0.34	33.32	
Open Space Good Condition (grass cover >75%)	A	39	0.00	0.00	
Open Space Good Condition (grass cover >75%)	A/D	60	1.68	100.80	
Subtotal		66.4	*2.02*	134.12	DCIA %
Non DCIA		60.0	*1.68*	100.80	16.83%
Outfall 3					
Swale 5					
Pavement		98	0.14	13.72	
Open Space Good Condition (grass cover >75%)	A	39	0.00	0.00	
Open Space Good Condition (grass cover >75%)	A/D	60	0.66	39.60	
Subtotal		66.7	*0.80*	53.32	DCIA %
Non DCIA		60.0	*0.66*	39.60	17.50%
Outfall 3					
VB-6					
Pavement		98	0.11	10.78	
Open Space Good Condition (grass cover >75%)	A/D	60	0.71	42.60	
Subtotal		65.1	*0.82*	53.38	DCIA %
Non DCIA		60.0	*0.71*	42.60	13.41%
Total		**18.1**	**10.34**	**187.50**	

Summary		**18.1**	**10.34**	**187.50**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E Interim	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 3			**DATE**
POND DESIGNATION:	Manatee River	**MADE BY:**	JW	08-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	CC	09-Apr-26

Post-Development	NRCS				
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**	
Roadway Pre					
Outfall 3 (Direct discharging to Manatee Revier)					
VB-1					
Pavement		98	2.62	256.76	
Open Space Good Condition (grass cover >75%)	A	39	0.36	14.04	
Open Space Good Condition (grass cover >75%)	A/D	60	0.71	42.60	
Subtotal		84.9	*3.69*	313.40	DCIA %
Non DCIA		52.9	*1.07*	56.64	71.00%
Outfall 3					
Swale 2					
Pavement		98	2.63	257.74	
Open Space Good Condition (grass cover >75%)	A	39	0.00	0.00	
Open Space Good Condition (grass cover >75%)	A/D	60	0.38	22.80	
Subtotal		93.2	*3.01*	280.54	DCIA %
Non DCIA		60.0	*0.38*	22.80	87.38%
Outfall 3					
Swale 4					
Pavement		98	2.65	259.70	
Open Space Good Condition (grass cover >75%)	A	39	0.00	0.00	
Open Space Good Condition (grass cover >75%)	A/D	60	0.94	56.40	
Subtotal		88.1	*3.59*	316.10	DCIA %
Non DCIA		60.0	*0.94*	56.40	73.82%
Outfall 3					
Swale 5					
Pavement		98	0.24	23.52	
Open Space Good Condition (grass cover >75%)	A	39	0.00	0.00	
Open Space Good Condition (grass cover >75%)	A/D	60	0.56	33.60	
Subtotal		71.4	*0.80*	57.12	DCIA %
Non DCIA		60.0	*0.56*	33.60	30.00%
Outfall 3					
VB-6					
Pavement		98	0.41	40.18	
Open Space Good Condition (grass cover >75%)	A/D	60	0.41	24.60	
Subtotal		79.0	*0.82*	64.78	DCIA %
Non DCIA		60.0	*0.41*	24.60	50.00%
Total		**60.3**	**11.91**	**718.54**	

Summary		**60.3**	**11.91**	**718.54**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E Interim	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 4			**DATE**
POND DESIGNATION:	Manatee River	**MADE BY:**	JW	08-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**	CC	09-Apr-26

Pre-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Pre				
Outfall 4 (Direct discharging to Manatee Revier)				
Basin 4				
Pavement		98	9.33	914.34
Open Space Good Condition (grass cover >75%)	C	80	2.48	198.40
Subtotal		94.2	*11.81*	1112.74
Non DCIA		80.0	*2.48*	198.40
Outfall 4				
Dry Pond 3				
Water				0.00
Open Space Good Condition (grass cover >75%)		80	4.72	377.60
Subtotal		80.0	*4.72*	377.60
Non DCIA		80.0	*4.72*	377.60
Total		**90.2**	**16.53**	**1490.34**
Non DCIA		**80.0**	**7.20**	**576.00**

Summary		**90.2**	**16.53**	**1490.34**	**DCIA %**
Non DCIA		**80.0**	**7.20**	**576.00**	**56.44%**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E Interim	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 4			**DATE**
POND DESIGNATION:	Manatee River	**MADE BY:**	JW	08-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	CC	09-Apr-26

Post-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Pre				
Outfall 4 (Direct discharging to Manatee Revier)				
Basin 4				
Pavement		98	13.71	1343.58
Open Space Good Condition (grass cover >75%)	C	80	7.63	610.40
Open Space Good Condition (grass cover >75%)		60		0.00
Subtotal		91.6	*21.34*	1953.98
Non DCIA		80.0	*7.63*	610.40
Outfall 4				
Dry Pond 3				
Pavement		98		0.00
Open Space Good Condition (grass cover >75%)	A/D	60	4.72	283.20
Subtotal		60.0	*4.72*	283.20
Non DCIA		60.0	*4.72*	283.20
Total		**85.8**	**26.06**	**2237.18**
Non DCIA		**72.4**	**12.35**	**893.60**

Summary		**85.8**	**26.06**	**2237.18**	**DCIA %**
Non DCIA		**72.4**	**12.35**	**893.60**	**52.61%**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

Complete Report (not including cost) Ver 4.3.5

Project: BPC PD&E
Date: 4/8/2026 7:55:09 PM

Site and Catchment Information

Analysis: Specified Removal Efficiency

Catchment Name	VB-1	Swale 2	Dry Pond 3	Swale 4	Swale 5	VB-6
Rainfall Zone	Florida Zone 4	Florida Zone 4	Florida Zone 4	Florida Zone 4	Florida Zone 4	Florida Zone 4
Annual Mean Rainfall	52.00	52.00	52.00	52.00	52.00	52.00

Pre-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200
Area (acres)	3.69	3.01	16.53	2.02	0.80	0.82
Rational Coefficient (0-1)	0.57	0.71	0.52	0.17	0.18	0.15
Non DCIA Curve Number	54.10	60.00	80.00	60.00	60.00	60.00
DCIA Percent (0-100)	68.02	85.71	56.44	16.83	17.50	13.41
Nitrogen EMC (mg/l)	1.520	1.520	1.520	1.520	1.520	1.520
Phosphorus EMC (mg/l)	0.200	0.200	0.200	0.200	0.200	0.200

Runoff Volume (ac-ft/yr)	9.100	9.281	37.325	1.508	0.615	0.517
Groundwater N (kg/yr)	0.000	0.000	0.000	0.000	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000	0.000	0.000	0.000	0.000
Nitrogen Loading (kg/yr)	17.055	17.394	69.953	2.826	1.153	0.970
Phosphorus Loading (kg/yr)	2.244	2.289	9.204	0.372	0.152	0.128

Post-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200
Area (acres)	3.69	3.01	26.06	3.59	0.80	0.82
Rational Coefficient (0-1)	0.59	0.72	0.47	0.62	0.28	0.04
Non DCIA Curve Number	52.90	60.00	72.40	60.00	60.00	60.00
DCIA Percent (0-100)	71.00	87.38	52.61	73.82	30.00	0.50
Wet Pond Area (ac)	0.00	0.00	4.72	0.00	0.00	0.00

Nitrogen EMC (mg/l)	1.520	1.520	1.520	1.520	1.520	1.520
Phosphorus EMC (mg/l)	0.200	0.200	0.200	0.200	0.200	0.200
Runoff Volume (ac-□t/yr)	9.469	9.451	43.679	9.611	0.953	0.156
Groundwater N (kg/yr)	0.000	0.000	0.000	0.000	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000	0.000	0.000	0.000	0.000
Nitrogen Loading (kg/yr)	17.746	17.712	81.862	18.012	1.787	0.293
Phosphorus Loading (kg/yr)	2.335	2.331	10.771	2.370	0.235	0.039

Catchment Number: 1 Name: VB-1

Project: BPC PD&E
Date: 4/8/2026

Vegetated Natural Buffer with media Design

Buffer Width (□t)	50.000
Buffer Length (□t)	510.000
Storage Depth (□t)	0.900
Width o□Area Feeding Buffer (□t)	265.430
Water storage capacity o□soil (in/in)	0.200

Slope o Bu er Width (2%-6%)	0.020

Watershed Characteristics

Catchment Area (acres)	3.69
Contributing Area (acres)	3.690
Non-DCIA Curve Number	52.90
DCIA Percent	71.00
Rain all Zone	Florida Zone 4
Rain all (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	95
Provided TN Treatment Efficiency (%)	40
Required TP Treatment Efficiency (%)	95
Provided TP Treatment Efficiency (%)	40

Media Mix Information

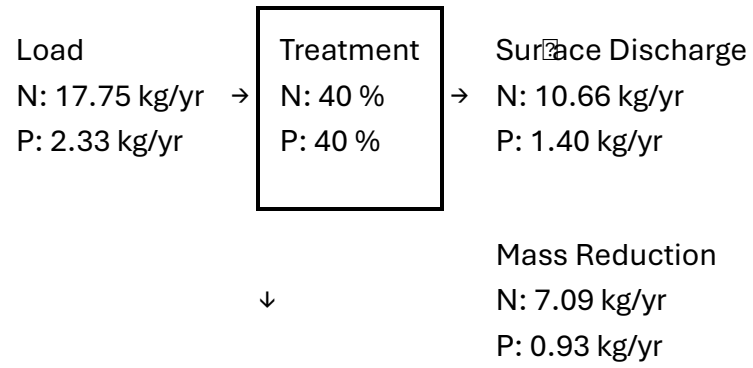
Type o Media Mix	B&G CTS24
Media N Reduction (%)	75
Media P Reduction (%)	95

Groundwater Discharge (Stand-Alone)

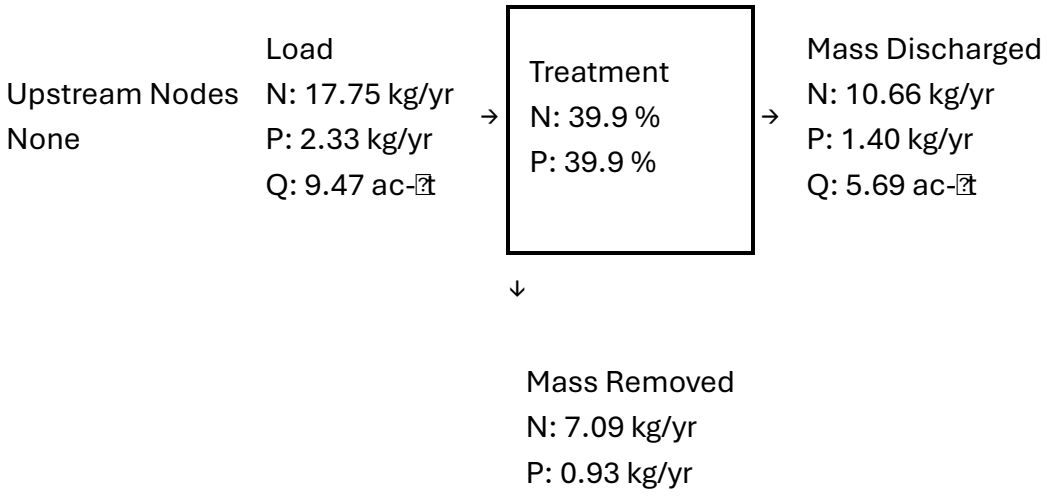
Treatment Rate (MG/yr)	1.232

TN Mass Load (kg/yr)	1.771
TN Concentration (mg/L)	0.380
TP Mass Load (kg/yr)	0.047
TP Concentration (mg/L)	0.010

Load Diagram for Vegetated Natural Buffer with media (stand-alone)



Load Diagram for Vegetated Natural Buffer (As Used In Routing)



Catchment Number: 2 Name: Swale 2

Project: BPC PD&E
Date: 4/8/2026

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	18.720
Swale Bottom Width - **B** (ft)	6.720
Swale Length - **L** (ft)	212.500
Average Impervious Length (ft)	1,635.960
Average Impervious Width (ft)	70.000
Average Pervious Width (ft)	77.200
Swale Slope (bot drop/bot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	3.400
Side Slope of Swale horizontal/vertical - **Z**	4.000
Average Height of Swale Block - **H**	2.000
Length of Berm Upstream of Crest - $\mathbf{L_b}$	1.000
Runoff Area (acres)	5.528
Number of Swale Blocks	1

Watershed Characteristics

Catchment Area (acres)	3.01
Contributing Area (acres)	3.010
Non-DCIA Curve Number	60.00

DCIA Percent	87.38
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	95
Provided TN Treatment Efficiency (%)	27
Required TP Treatment Efficiency (%)	95
Provided TP Treatment Efficiency (%)	27

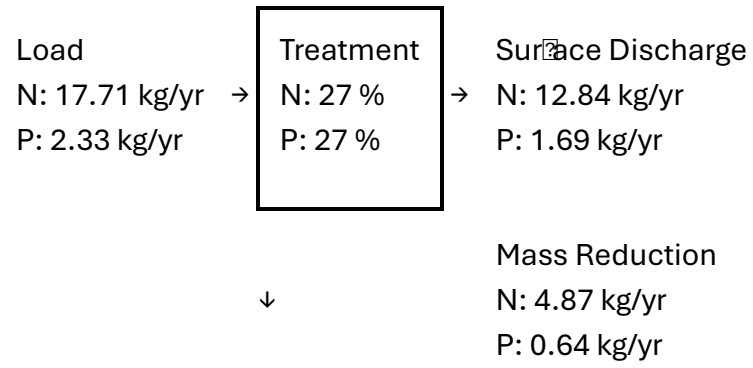
Media Mix Information

Type of Media Mix	B&G CTS24
Media N Reduction (%)	75
Media P Reduction (%)	95

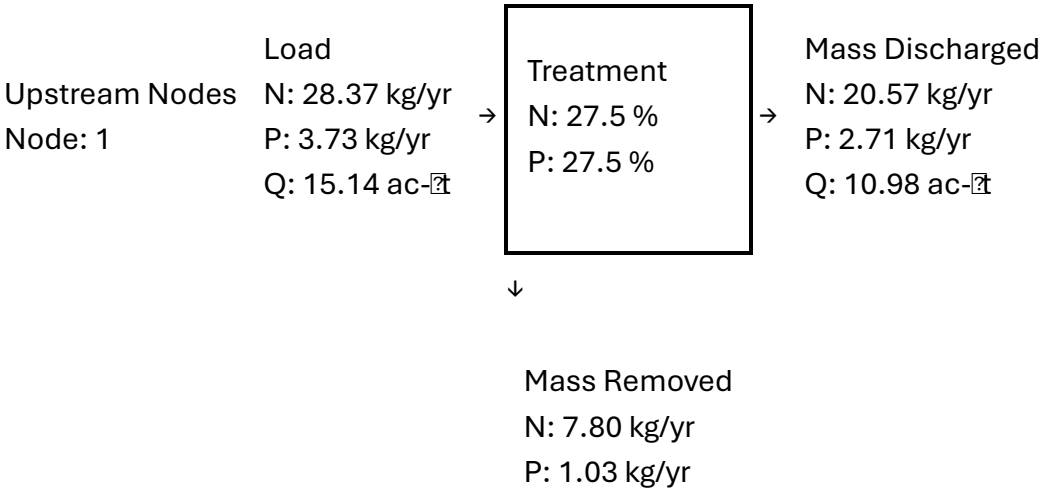
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.846
TN Mass Load (kg/yr)	1.217
TN Concentration (mg/L)	0.380
TP Mass Load (kg/yr)	0.032
TP Concentration (mg/L)	0.010

Load Diagram for Swale (stand-alone)



Load Diagram for Swale (As Used In Routing)



Catchment Number: 3 Name: Dry Pond 3

Project: BPC PD&E
Date: 4/8/2026

Retention Design

Retention Depth (in)	3.700
Retention Volume (ac-ft)	6.580

Watershed Characteristics

Catchment Area (acres)	26.06
Contributing Area (acres)	21.340
Non-DCIA Curve Number	72.40
DCIA Percent	52.61
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	95
Provided TN Treatment Efficiency (%)	97
Required TP Treatment Efficiency (%)	95
Provided TP Treatment Efficiency (%)	97

Media Mix Information

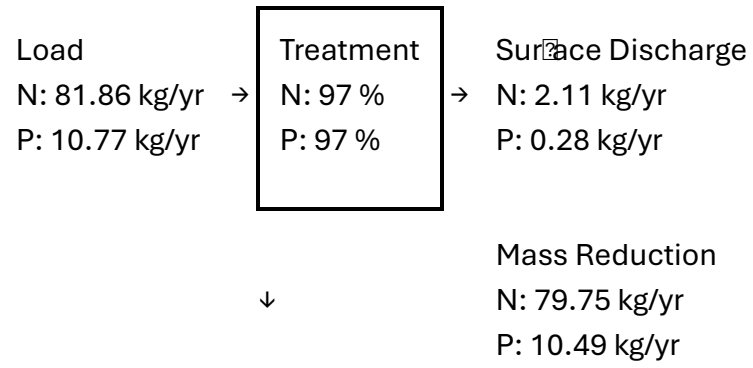
Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

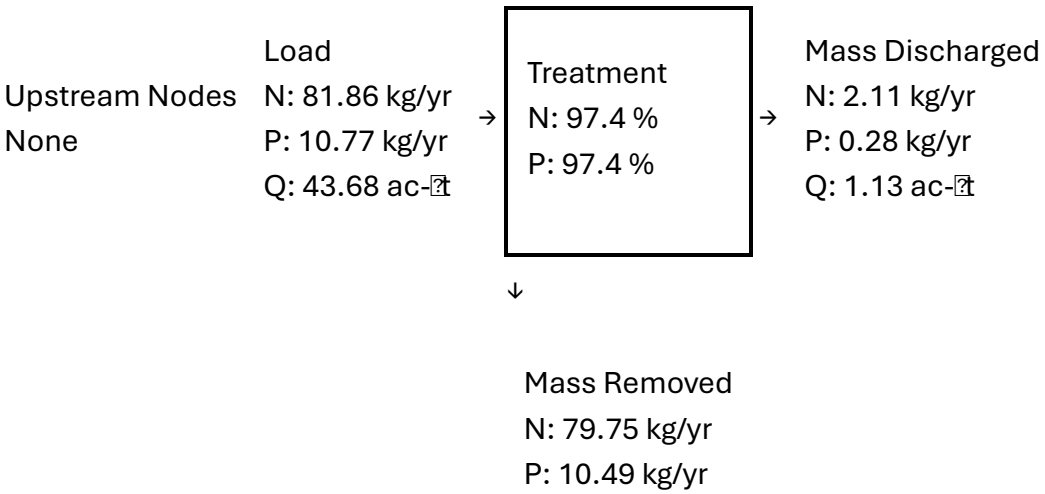
Treatment Rate (MG/yr)	14.113
TN Mass Load (kg/yr)	79.753

TN Concentration (mg/L)	1.520
TP Mass Load (kg/yr)	10.494
TP Concentration (mg/L)	0.200

Load Diagram for Retention (stand-alone)



Load Diagram for Retention (As Used In Routing)



Catchment Number: 4 Name: Swale 4

Project: BPC PD&E
Date: 4/8/2026

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	37.000
Swale Bottom Width - **B** (ft)	21.000
Swale Length - **L** (ft)	454.500
Average Impervious Length (ft)	1,800.310
Average Impervious Width (ft)	64.300
Average Pervious Width (ft)	89.760
Swale Slope (bot drop/bot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	2.100
Side Slope of Swale horizontal/vertical - **Z**	4.000
Average Height of Swale Block - **H**	2.000
Length of Berm Upstream of Crest - $\mathbf{L_b}$	1.000
Runoff Area (acres)	6.367
Number of Swale Blocks	1

Watershed Characteristics

Catchment Area (acres)	3.59
Contributing Area (acres)	3.590
Non-DCIA Curve Number	60.00
DCIA Percent	73.82

Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	95
Provided TN Treatment Efficiency (%)	66
Required TP Treatment Efficiency (%)	95
Provided TP Treatment Efficiency (%)	66

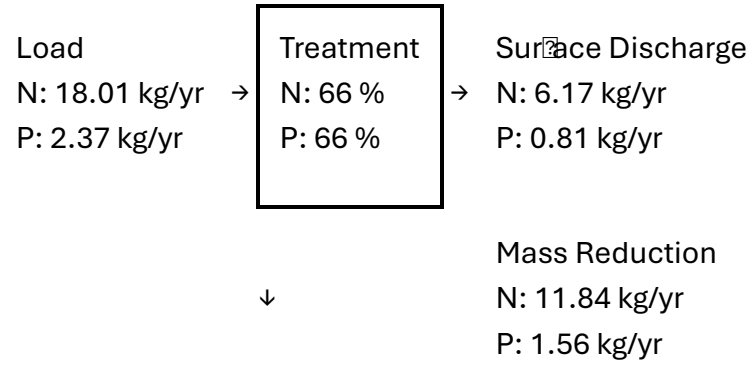
Media Mix Information

Type of Media Mix	B&G CTS24
Media N Reduction (%)	75
Media P Reduction (%)	95

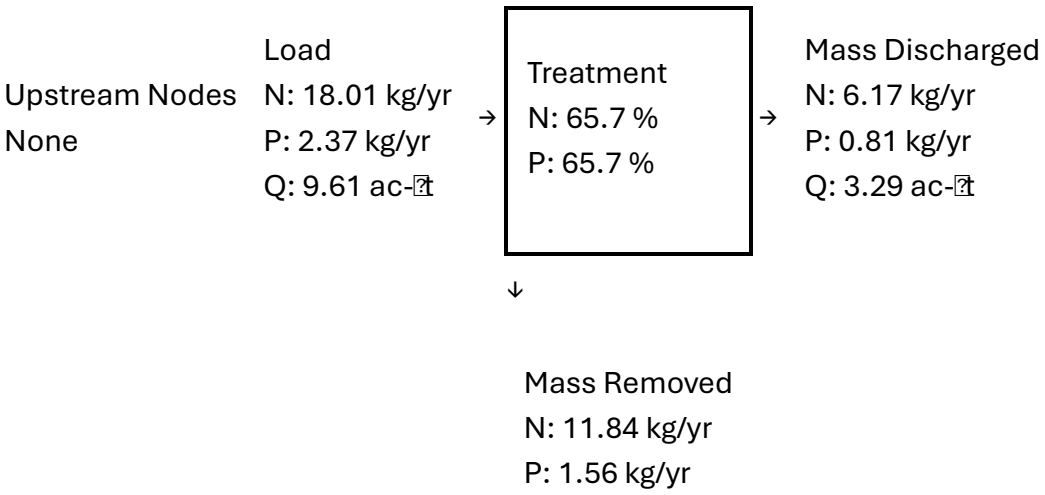
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	2.059
TN Mass Load (kg/yr)	2.960
TN Concentration (mg/L)	0.380
TP Mass Load (kg/yr)	0.078
TP Concentration (mg/L)	0.010

Load Diagram for Swale (stand-alone)



Load Diagram for Swale (As Used In Routing)



Catchment Number: 5 Name: Swale 5

Project: BPC PD&E
Date: 4/8/2026

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	21.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	350.000

Average Impervious Length (ft)	855.000
Average Impervious Width (ft)	12.000
Average Pervious Width (ft)	70.410
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	2.100
Side Slope of Swale horizontal/vertical - **Z**	4.000
Average Height of Swale Block - **H**	2.000
Length of Berm Upstream of Crest - $\mathbf{L_b}$	1.000
Runoff Area (acres)	1.618
Number of Swale Blocks	1

Watershed Characteristics

Catchment Area (acres)	0.80
Contributing Area (acres)	0.800
Non-DCIA Curve Number	60.00
DCIA Percent	30.00
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	95
Provided TN Treatment Efficiency (%)	95
Required TP Treatment Efficiency (%)	95

Provided TP Treatment Efficiency (%)	95

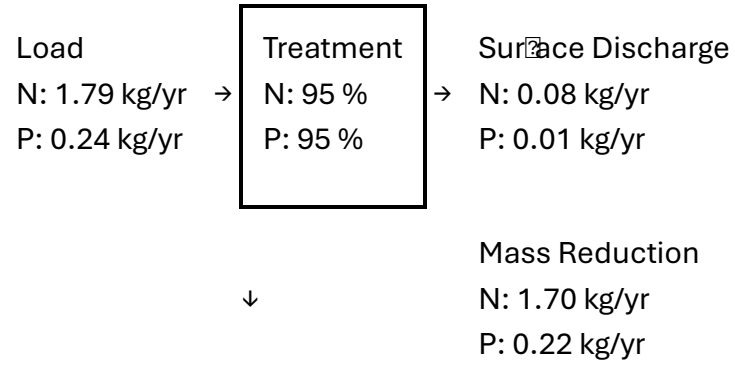
Media Mix Information

Type o Media Mix	B&G CTS24
Media N Reduction (%)	75
Media P Reduction (%)	95

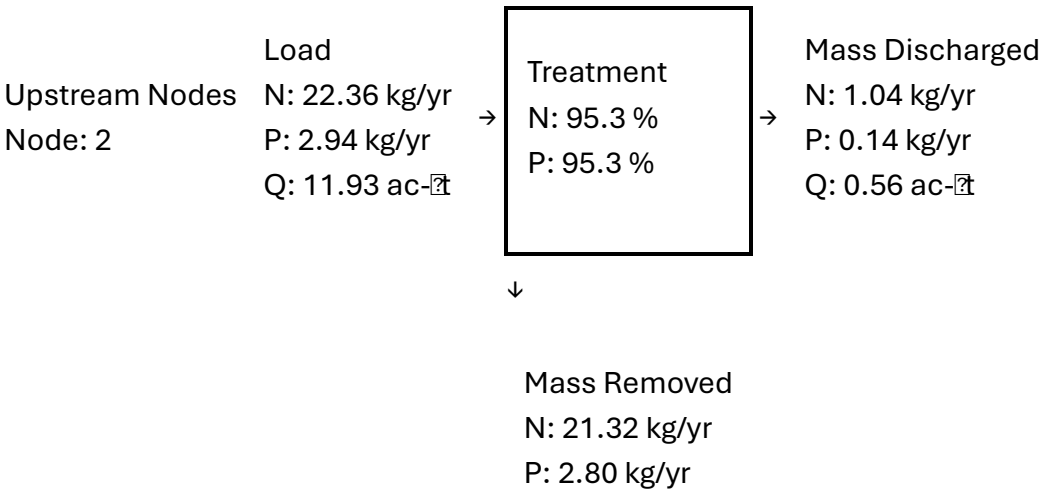
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.296
TN Mass Load (kg/yr)	0.426
TN Concentration (mg/L)	0.380
TP Mass Load (kg/yr)	0.011
TP Concentration (mg/L)	0.010

Load Diagram for Swale (stand-alone)



Load Diagram for Swale (As Used In Routing)



Catchment Number: 6 Name: VB-6

Project: BPC PD&E
Date: 4/8/2026

Vegetated Natural Buffer with media Design

Buffer Width (ft)	50.000
Buffer Length (ft)	210.000
Storage Depth (ft)	0.900
Width of Area Feeding Buffer (ft)	119.780
Water storage capacity of soil (in/in)	0.200
Slope of Buffer Width (2%-6%)	6.000

Watershed Characteristics

Catchment Area (acres)	0.82
Contributing Area (acres)	0.820

Non-DCIA Curve Number	60.00
DCIA Percent	0.50
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	95
Provided TN Treatment Efficiency (%)	81
Required TP Treatment Efficiency (%)	95
Provided TP Treatment Efficiency (%)	79

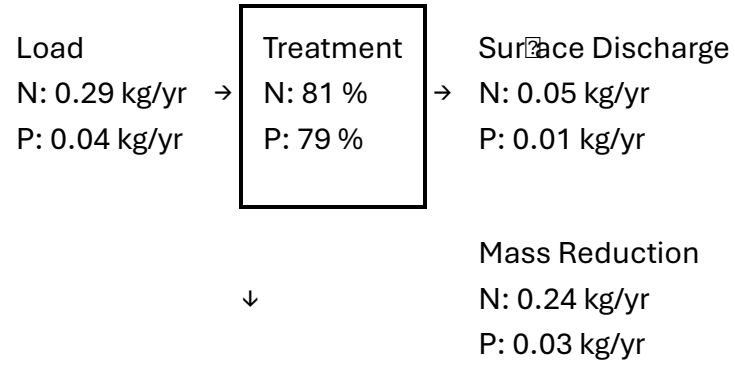
Media Mix Information

Type of Media Mix	B&G CTS24
Media N Reduction (%)	75
Media P Reduction (%)	95

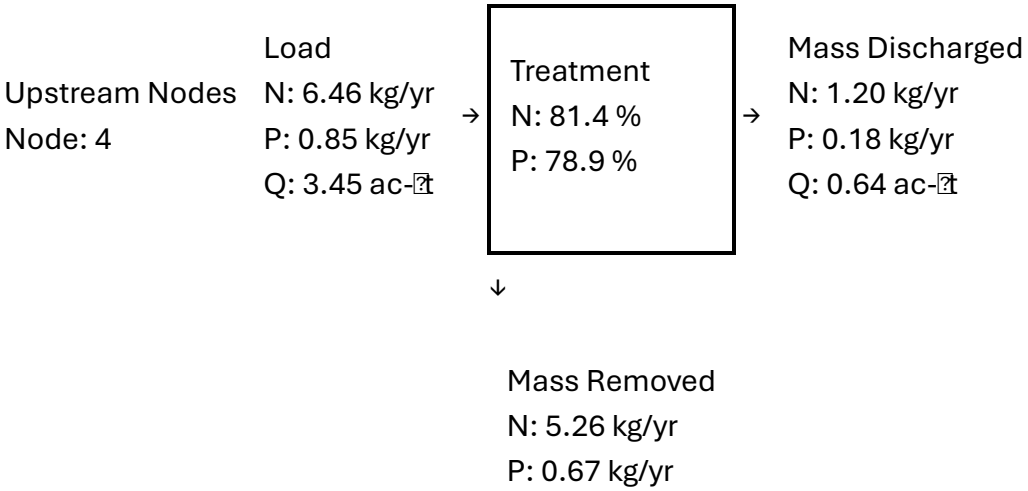
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.038
TN Mass Load (kg/yr)	0.055
TN Concentration (mg/L)	0.380
TP Mass Load (kg/yr)	0.001
TP Concentration (mg/L)	0.010

Load Diagram for Vegetated Natural Buffer with media (stand-alone)



Load Diagram for Vegetated Natural Buffer (As Used In Routing)



Summary Treatment Report Version: 4.3.5

Project: BPC PD&E	Date:4/8/2026
Analysis Type: Specified Removal Efficiency	**Routing Summary**
BMP Types:	Catchment 1 Routed to Catchment 2
Catchment 1 - (VB-1) Vegetated	Catchment 2 Routed to Catchment

Natural Buffer with media	5
Catchment 2 - (Swale 2) Swale	Catchment 3 Routed to Outlet
Catchment 3 - (Dry Pond 3)	Catchment 4 Routed to Catchment
Retention	6
Catchment 4 - (Swale 4) Swale	Catchment 5 Routed to Outlet
Catchment 5 - (Swale 5) Swale	Catchment 6 Routed to Outlet
Catchment 6 - (VB-6) Vegetated	
Natural Buffer with media	
Based on % removal values to the nearest percent	

Total nitrogen target removal met? **Yes**
Total phosphorus target removal met? **Yes**

Summary Report

Nitrogen

Surface Water Discharge

Total N pre load	109.35 kg/yr	
Total N post load	137.41 kg/yr	
Target N load reduction	95 %	
Target N discharge load	6.87 kg/yr	
Percent N load reduction	97 %	
Provided N discharge load	4.36 kg/yr	9.61 lb/yr
Provided N load removed	133.05 kg/yr	293.38 lb/yr

Phosphorus

Surface Water Discharge

Total P pre load	14.388 kg/yr

Total P post load	18.081 kg/yr	
Target P load reduction	95 %	
Target P discharge load	.904 kg/yr	
Percent P load reduction	97 %	
Provided P discharge load	.595 kg/yr	1.31 lb/yr
Provided P load removed	17.486 kg/yr	38.557 lb/yr

Ultimate Condition

Basin	1					2		
Alternative	1			2	3	1	2	3
Name	Dry Pond 1N Alt 1	Dry Pond 1S Alt 1	Dry Pond 1A Alt 1	Dry Pond 1B Alt 2	Dry Pond 1C Alt 3	Dry Pond 2 Alt 1	Dry Pond 2A Alt 2	Dry Pond 2B Alt 3
Treatment Type	Dry Retention			Dry Retention	Dry Retention	Dry Retention	Dry Retention	Dry Retention
P Removal Req. (%)	95			95	95	95	95	95
P Removal Prov. (%)	92			98	97	88	80	96
N Removal Req. (%)	95			95	95	95	95	95
N Removal Prov. (%)	92			98	97	88	80	96
Atten. Req. (ac.	1.91			2.69	2.21	N/A	N/A	N/A
Total Prov. (ac-ft)	2.29			3.67	3.07	N/A	N/A	N/A
SMF Size (ac.)	1.09	0.84	0.31	2.33	3.01	1.43	1.06	2.00
R/W Size (ac.)	1.09	0.84	0.31	2.86	3.95	1.65	1.36	2.29

Basin	3											
Alternative	1						2				3	
Name	VB-3A Alt 1	VB-3B Alt 1	VB-3C Alt 1	VB-3D Alt 1	VB-3E Alt 1	Wet Pond 3 Alt 1	Dry Pond 3A Alt 2	VB-3F Alt 2	VB-3G Alt 2	VB-3H Alt 2	Dry Pond 3B Alt 3	Dry Pond 3C ALT 3
Treatment Type	Vegetated Buffer					Wet Detention	Dry Retention	Vegetated Buffer			Dry Retention	
P Removal Req. (%)	95						95				95	
P Removal Prov. (%)	84						81				86	
N Removal Req. (%)	95						95				95	
N Removal Prov. (%)	84						89				86	
Atten. Req. (ac.	N/A						N/A				N/A	
Total Prov. (ac-ft)	N/A						N/A				N/A	
SMF Size (ac.)	0.29	0.21	0.31	1.88	0.22	0.32	0.88	0.52	0.72	1.28	0.67	1.82
R/W Size (ac.)	0.29	0.21	0.31	1.88	0.22	0.43	1.11	0.52	0.72	1.28	0.86	2.03

Basin	4						
Alternative	1	2				3	
Name	Dry Pond 4 Alt 1	Wet Pond 4A Alt 2	VB-4A Alt 2	VB-4B Alt 2	VB-4C Alt 2	Dry Pond 4B Alt 3	Dry Pond 4C Alt 3
Treatment Type	Dry Retention	Wet Detention	Vegetated Buffer			Dry Retention	
P Removal Req. (%)	95	95				95	
P Removal Prov. (%)	86	94				84	
N Removal Req. (%)	95	95				95	
N Removal Prov. (%)	86	93				84	
Atten. Req. (ac.	N/A	N/A				N/A	
Total Prov. (ac-ft)	N/A	N/A				N/A	
SMF Size (ac.)	3.24	0.59	1.59	1.24	1.79	1.75	1.19
R/W Size (ac.)	3.66	0.77	1.59	1.24	1.79	2.08	1.47

Basin	5S	5N		5S		5N		5S	5N	
Alternative	1			2				3		
Name	Swale 5S Alt 1	Wet Pond 5N Alt 1	Dry Pond 5NA Alt 1, 2&3 *	Swale 5SA Alt 2	VFS-5S Alt 2	Wet Pond 5NB Alt 2	Dry Pond 5NA Alt 1, 2&3 *	Dry Pond 5SA Alt 3	Swale 5N Alt 3	Dry Pond 5NA Alt 1, 2&3 *
Treatment Type	Treatment Swale	Wet Detention	Dry Retention	Treatment Swale	Vegetated Filter Strip	Wet Detention	Dry Retention	Dry Retention	Treatment Swale	Dry Retention
P Removal Req. (%)	95			95				95		
P Removal Prov. (%)	81	97		95		96		85	99	
N Removal Req. (%)	95			95				95		
N Removal Prov. (%)	81	92		95		92		85	99	
Atten. Req. (ac.	N/A	0.29		0.28		0.1		0.24	N/A	
Total Prov. (ac-ft)	N/A	1.2		0.57		0.38		0.55	0.55	
SMF Size (ac.)	0.74	0.24	0.46	0.09	0.07	0.29	0.46	0.39	0.40	0.46
R/W Size (ac.)	0.74	0.68	0.46	0.09	0.07	0.40	0.46	0.57	0.40	0.46

* Dry Pond 5NA Alt 1,2&3 applies to all alternatives

Basin	6S	6N		6S		6N		6S	6N
Alternative	1			2				3	
Name	Swale 6S Alt 1	Wet Pond 6NA Alt 1	Dry Pond 6N Alt 1&3 *	Swale 6SA Alt 2	VFS-6S Alt 2	Swale 6N Alt 2	Dry Pond 6NA Alt 2	Dry Pond 6S Alt 3	Dry Pond 6N Alt 1&3 *
Treatment Type	Treatment Swale	Wet Detention	Dry Retention	Treatment Swale	Vegetated Filter Strip	Treatment Swale	Dry Retention	Dry Retention	
P Removal Req. (%)	95	95	95	95	95	95	95	95	95
P Removal Prov. (%)	80	86		91		97		83	93
N Removal Req. (%)	95	95	95	95	95	95	95	95	95
N Removal Prov. (%)	80	91		91		97		83	93
Atten. Req. (ac.	0.21	0.49		0.61		0.51		0.31	0.51
Total Prov. (ac-ft)	0.33	0.63		0.57		0.29		0.33	0.25
SMF Size (ac.)	0.73	0.24	0.06	0.09	0.07	0.09	0.65	1.26	0.06
R/W Size (ac.)	0.73	0.56	0.12	0.09	0.07	0.09	0.65	1.68	0.12

* Dry Pond 6N Alt 1&3 applies to alternative 1 and alternative 3

Basin	7						8						
Alternative	1		2		3		1		2		3		
Name	Wet Pond 7A Alt 1	Dry Pond 7 Alt 1,2&3 *	VFS-7 Alt 2	Dry Pond 7 Alt 1,2&3 *	Swale 7 Alt 3	Dry Pond 7 Alt 1,2&3 *	Dry Pond 8A Alt 1&2 **	Wet Pond 8 Alt 1	Dry Pond 8A Alt 1&2 **	VFS-8 Alt 2	Dry Pond 8B Alt 3	Swale 8 Alt 3	Swale 8A Alt 3
Treatment Type	Wet Detention	Dry Retention	Vegetated Filter Strip	Dry Retention	Treatment Swale	Dry Retention	Dry Retention	Wet Detention	Dry Retention	Vegetated Filter Strip	Dry Retention	Treatment Swale	Treatment Swale
P Removal Req. (%)	95		95		95		95		95		95		
P Removal Prov. (%)	90		92		93		79		89		96		
N Removal Req. (%)	95		95		95		95		95		95		
N Removal Prov. (%)	86		85		93		88		97		96		
Atten. Req. (ac.	0.11		N/A		0.05		1.35		0.08		N/A		
Total Prov. (ac-ft)	1.2		0.38		0.29		0.67		0.38		0.55		
SMF Size (ac.)	0.33	0.24	0.07	0.24	0.23	0.24	0.13	0.16	0.13	0.07	0.18	0.08	0.08
R/W Size (ac.)	0.85	0.24	0.07	0.24	0.23	0.24	0.18	0.20	0.18	0.07	0.24	0.08	0.08

* Dry Pond 7 Alt 1,2&3 applies to all alternatives

** Dry Pond 8A Alt 1&2 applies to alternative 1 and alternative 2

Basin	9															
Alternative	1									2						3
Name	VB-9A Alt 1&2 *	VB-9B Alt 1&2 *	VB-9C Alt 1&2 *	VB-9D Alt 1	VB-9E Alt 1	VB-9F Alt 1	Wet Pond 9D Alt 1	Wet Pond 9E Alt 1	Wet Pond 9F Alt 1	VB-9A Alt 1&2 *	VB-9B Alt 1&2 *	VB-9C Alt 1&2 *	Wet Pond 9C Alt 2	Dry Pond 9A Alt 2	Dry Pond 9B Alt 2	Dry Pond 9 Alt 3
Treatment Type	Vegetated Buffer						Wet Detention			Vegetated Buffer			Wet Detention	Dry Retention		
P Removal Req. (%)	95									95						95
P Removal Prov. (%)	93									98						98
N Removal Req. (%)	95									95						95
N Removal Prov. (%)	87									90						98
Atten. Req. (ac.	2.98									3.19						2.44
Total Prov. (ac-ft)	3.55									3.53						4.76
SMF Size (ac.)	0.41	0.58	0.37	0.15	0.17	0.3	0.56	0.54	2.37	0.41	0.58	0.37	1.83	0.43	0.48	4.19
R/W Size (ac.)	0.41	0.58	0.37	0.15	0.17	0.3	0.72	0.74	2.71	0.41	0.58	0.37	2.02	0.59	0.67	4.73

* VB-9A, B, C Alt 1&2 applies to alternative 1 and alternative 2

Basin	10										
Alternative	1		2		3						
Name	Baffle Swale 10 Alt 1&2 *	Wet Pond 10 Alt 1	Baffle Swale 10 Alt 1&2 *	Wet Pond 10A Alt 2	Wet Pond 10B Alt 3	Wet Pond 10C Alt 3	VB-10 Alt 3	VB-10A Alt 3	VB-10B Alt 3	VB-10C Alt 3	VB-10D Alt 3
Treatment Type	Treatment Swale	Wet Detention	Treatment Swale	Wet Detention	Wet Detention		Vegetated Buffer				
P Removal Req. (%)	95		95		95						
P Removal Prov. (%)	97		99		89						
N Removal Req. (%)	95		95		95						
N Removal Prov. (%)	96		99		81						
Atten. Req. (ac.	2.43		2.42		2.42						
Total Prov. (ac-ft)	3.10		3.13		2.98						
SMF Size (ac.)	1.76	2.27	1.76	2.11	0.98	0.73	0.26	0.13	0.08	0.07	0.09
R/W Size (ac.)	1.76	2.27	1.76	2.11	0.98	0.73	0.26	0.13	0.08	0.07	0.09

* Baffle Swale 10 Alt 1&2 applies to alternative 1 and alternative 2

Basin 1

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 1			**DATE**
POND DESIGNATION:	Dry Pond 1N Alt.1, Dry Pond 1S Alt. 1	**MADE BY:**	JW	07-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**	CC	09-Apr-26

Pre-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Pre				
Outfall 1C				
Basin 1C				
Pavement		98	3.52	344.96
Open Space Good Condition (grass cover >75%)	A	39	2.92	113.88
Open Space Good Condition (grass cover >75%)	A/D	60	1.16	69.60
Subtotal		69.5	*7.60*	528.44
Non DCIA		45.0	*4.08*	183.48
Dry Pond 1N Alt.1, Dry Pond 1S Alt. 1				
Pavement		98	0.00	0.00
Open Space Good Condition (grass cover >75%)	A	39	1.18	46.02
Subtotal		39.0	*1.18*	46.02
Non DCIA		39.0	*1.18*	46.02
Total		**65.4**	**8.78**	**574.46**
Non DCIA		**43.6**	**5.26**	**229.50**

Summary		**65.4**	**8.78**	**574.46**	**DCIA %**
Non DCIA		**43.6**	**5.26**	**229.50**	**40.09%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.
2. Pond area on this page reflect the additional area beyond the Basin 1 limit, not the actual pond size.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 1			**DATE**
POND DESIGNATION:	Dry Pond 1N Alt.1, Dry Pond 1S Alt. 1	**MADE BY:**	JW	07-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	CC	09-Apr-26

Post-Development		NRCS		
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Pre				
Outfall 1B				
Basin 1B				
Pavement		98	0.92	90.16
Open Space Good Condition (grass cover >75%)	A	39	0.35	13.65
Open Space Good Condition (grass cover >75%)	A/D	60	0.21	12.60
Subtotal		78.7	*1.48*	116.41
Non DCIA		46.9	*0.56*	26.25
Outfall 1C				
Basin 1C				
Pavement		98	5.50	539.00
Open Space Good Condition (grass cover >75%)	A	39	1.40	54.60
Open Space Good Condition (grass cover >75%)	A/D	60	0.70	42.00
Subtotal		83.6	*7.60*	635.60
Non DCIA		46.0	*2.10*	96.60
Outfall 1D				
Basin 1D				
Pavement		98	0.29	28.42
Open Space Good Condition (grass cover >75%)	A	39	0.14	5.46
Open Space Good Condition (grass cover >75%)	A/D	60	0.00	0.00
Subtotal		78.8	*0.43*	33.88
Non DCIA		39.0	*0.14*	5.46
Dry Pond 1N Alt.1, Dry Pond 1S Alt. 1				
Pavement		98	0.00	0.00
Open Space Good Condition (grass cover >75%)	A	39	1.36	53.04
Subtotal		39.0	*1.36*	53.04
Non DCIA		39.0	*1.36*	53.04
Total		**77.2**	**10.87**	**838.93**
Non DCIA		**43.6**	**4.16**	**181.35**

Summary		**77.2**	**10.87**	**838.93**	**DCIA %**
Non DCIA		**43.6**	**4.16**	**181.35**	**61.73%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.
2. Pond area on this page reflect the additional area beyond the Basin 1 limit, not the actual pond size.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 1			**DATE**
POND DESIGNATION:	Dry Pond 1N Alt.1, Dry Pond 1S Alt. 1	**MADE BY:**	JW	07-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	CC	09-Apr-26

Dry Pond 1N Alt 1 + Dry Pond 1S Alt 1

Stage	Elevation (Ft)	Area (Ac)	Inc. Volume (Ac-Ft)	Total Volume (Ac-ft)
Berm (Inside)	25.00	1.93	1.81	4.10
Design High Water (DHW)	24.00	1.70	0.00	2.29
Weir (Design Low Water)	24.00	1.70	2.29	**2.29**
Control (wet)/Pond Bottom (dry)	22.50	1.35	0.00	0.00
Seasonal High Ground Water Elevation (SHGWT)*	21.50			

SHGWT Check (Dry Retention): ok
*SHGWT based on soil survey

Required Attenuation Volume

Attenuation required?	yes
Frequency	25-yr
Time	24-hr
Precipitation Depth	8.0 in.

1) Soil Storage (S) = (1000/CN) - 10 — S_{pre} = **5.28 in.** — S_{post} = **2.96 in.**
2) Runoff (R) = (P-0.2S)2/(P+0.8S) — Q_{pre} = **3.94 in.** — Q_{post} = **5.30 in.**
3) Runoff Volume (Vr) = R/12 * Area

Pre-Development Runoff	Vr_{pre} =	2.88 ac-ft *
Post-Development Runoff	Vr_{post} =	4.80 ac-ft
Attenuation volume required (Post-Pre)		**1.91 ac-ft**

*No existing basin discharging to the proposed pond location, therefore, Vr Pre = 0

Total Required Volume (Treatment + Attenuation) — ***1.91 ac-ft***

Total Provided Volume — ***2.29 ac-ft***

Check Total Volume Requirement: 1.91 is < or = 2.29 **Total Volume Requirement met**

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 1			**DATE**
POND DESIGNATION:	Dry Pond 1A Alt. 1	**MADE BY:**	JW	07-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**	CC	09-Apr-26

Pre-Development		NRCS		
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Pre				
Outfall 1A (Direct discharging to Manatee Revier)				
Basin 1A				
Pavement		98	1.08	105.84
Open Space Good Condition (grass cover >75%)	A	39	0.14	5.46
Open Space Good Condition (grass cover >75%)	A/D	60	0.19	11.40
Subtotal		87.0	*1.41*	122.70
Non DCIA		51.1	*0.33*	16.86
Dry Pond 1A Alt. 1				
Pavement		98	0.00	0.00
Open Space Good Condition (grass cover >75%)	A	39	0.31	12.09
Subtotal		39.0	*0.31*	12.09
Non DCIA		39.0	*0.31*	12.09
Total		**78.4**	**1.72**	**134.79**
Non DCIA		**45.2**	**0.64**	**28.95**

Summary		**78.4**	**1.72**	**134.79**	**DCIA %**
Non DCIA		**45.2**	**0.64**	**28.95**	**62.79%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	BURGESS & NIPLE		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 1			**DATE**
POND DESIGNATION:	Dry Pond 1A Alt. 1	**MADE BY:**	JW	07-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	CC	09-Apr-26

Post-Development		NRCS		
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Pre				
Outfall 1A (Direct discharging to Manatee Revier)				
Basin 1A				
Pavement		98	1.15	112.70
Open Space Good Condition (grass cover >75%)	A	39	0.09	3.51
Open Space Good Condition (grass cover >75%)	A/D	60	0.17	10.20
Subtotal		89.7	*1.41*	126.41
Non DCIA		52.7	*0.26*	13.71
Dry Pond 1A Alt. 1				
Pavement		98	0.00	0.00
Open Space Good Condition (grass cover >75%)	A	39	0.31	12.09
Subtotal		39.0	*0.31*	12.09
Non DCIA		39.0	*0.31*	12.09
Total		**80.5**	**1.72**	**138.50**
Non DCIA		**45.3**	**0.57**	**25.80**

Summary		**80.5**	**1.72**	**138.50**	**DCIA %**
Non DCIA		**45.3**	**0.57**	**25.80**	**66.86%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	BURGESS & NIPLE		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 1			**DATE**
POND DESIGNATION:	Dry Pond 1A Alt. 1	**MADE BY:**	JW	07-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	CC	09-Apr-26

Dry Pond 1A Alt. 1

Berm (Inside)	38.00	0.31	0.28	0.41
Design High Water (DHW)	37.00	0.26	0.00	0.12
Weir (Design Low Water)	37.00	0.26	0.12	**0.12**
Control (wet)/Pond Bottom (dry)	36.50	0.23	0.00	0.00
Seasonal High Ground Water Elevation (SHGWT)*	35.50			

SHGWT Check (Dry Retention): ok

*SHGWT based on soil survey

Complete Report (not including cost) Ver 4.3.5

Project: BPC PD&E
Date: 4/8/2026 8:37:16 AM

Site and Catchment Information

Analysis: Specified Removal Efficiency

Catchment Name	Dry Pond 1N Alt.1, Dry Pond 1S Alt. 1	Pre Pond 1A Alt. 1
Rainfall Zone	Florida Zone 4	Florida Zone 4
Annual Mean Rainfall	52.00	52.00

Pre-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200
Area (acres)	8.78	1.72
Rational Coefficient (0-1)	0.34	0.52
Non DCIA Curve Number	43.60	45.20
DCIA Percent (0-100)	40.09	62.79
Nitrogen EMC (mg/l)	1.520	1.520
Phosphorus EMC (mg/l)	0.200	0.200
Runoff Volume (ac-ft/yr)	12.893	3.894
Groundwater N (kg/yr)	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000
Nitrogen Loading (kg/yr)	24.164	7.298
Phosphorus Loading (kg/yr)	3.179	0.960

Post-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200
Area (acres)	10.87	1.72
Rational Coefficient (0-1)	0.51	0.56
Non DCIA Curve Number	43.60	45.30
DCIA Percent (0-100)	61.73	66.86
Wet Pond Area (ac)	0.00	0.00
Nitrogen EMC (mg/l)	1.520	1.520
Phosphorus EMC (mg/l)	0.200	0.200
Runoff Volume (ac-ft/yr)	24.182	4.140
Groundwater N (kg/yr)	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000
Nitrogen Loading (kg/yr)	45.320	7.758
Phosphorus Loading (kg/yr)	5.963	1.021

Catchment Number: 1 Name: Dry Pond 1N Alt.1, Dry Pond 1S Alt. 1

Project: BPC PD&E
Date: 4/8/2026

Retention Design

Retention Depth (in)	2.528
Retention Volume (ac-ft)	2.290

Watershed Characteristics

Catchment Area (acres)	10.87
Contributing Area (acres)	10.870
Non-DCIA Curve Number	43.60
DCIA Percent	61.73
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	96
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	96

Media Mix Information

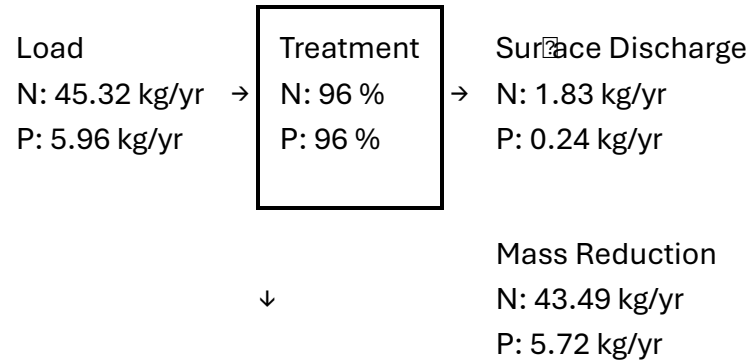
Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

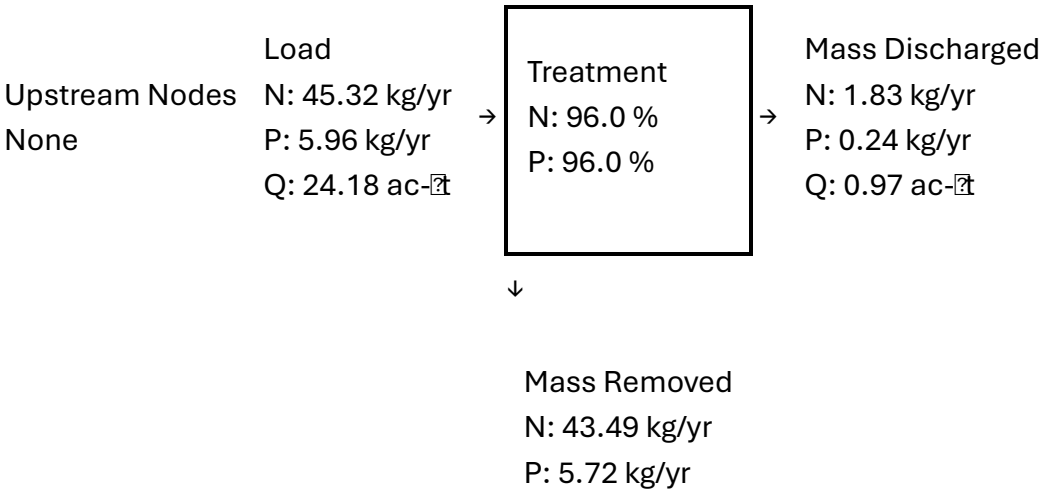
Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	43.494
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	5.723

TP Concentration (mg/L) 0.000

Load Diagram for Retention (stand-alone)



Load Diagram for Retention (As Used In Routing)



Catchment Number: 2 Name: Pre Pond 1A Alt. 1

Project: BPC PD&E
Date: 4/8/2026

Retention Design

Retention Depth (in)	0.835
Retention Volume (ac-ft)	0.120

Watershed Characteristics

Catchment Area (acres)	1.72
Contributing Area (acres)	1.720
Non-DCIA Curve Number	45.30
DCIA Percent	66.86
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	72
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	72

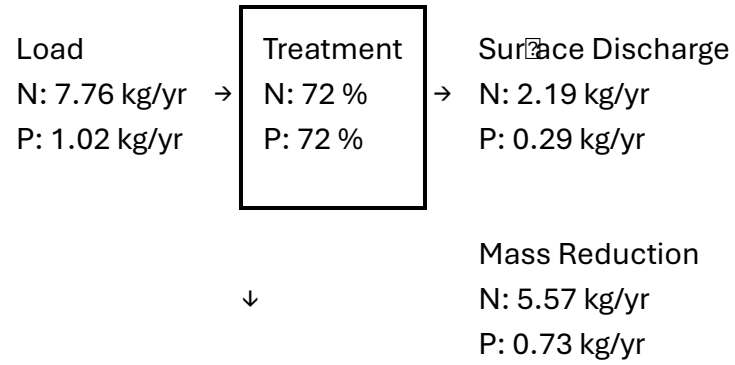
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

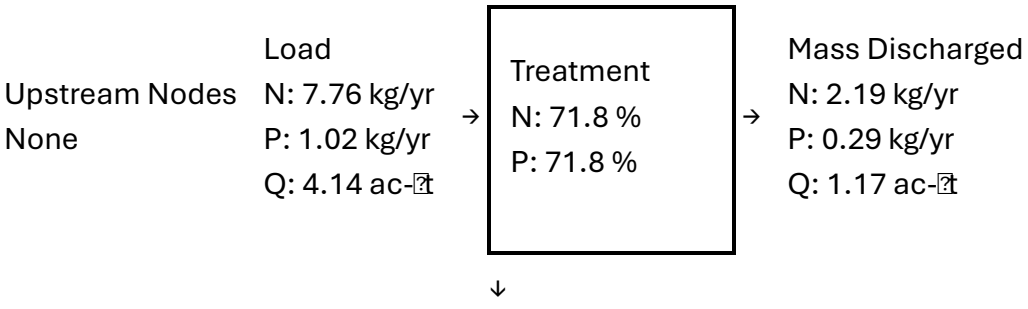
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	5.570
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.733
TP Concentration (mg/L)	0.000

Load Diagram for Retention (stand-alone)



Load Diagram for Retention (As Used In Routing)



Mass Removed
N: 5.57 kg/yr
P: 0.73 kg/yr

Summary Treatment Report Version: 4.3.5

Project: BPC PD&E

Analysis Type: Specified Removal Efficiency

Date:4/8/2026

BMP Types:

Catchment 1 - (Dry Pond 1N Alt.1, Dry Pond 1S Alt. 1) Retention

Catchment 2 - (Pre Pond 1A Alt. 1) Retention

Based on % removal values to the nearest percent

Routing Summary

Catchment 1 Routed to Outlet

Catchment 2 Routed to Outlet

Total nitrogen target removal met? **Yes**
Total phosphorus target removal met? **Yes**

Summary Report

Nitrogen

Surface Water Discharge

Total N pre load	31.46 kg/yr	
Total N post load	53.08 kg/yr	
Target N load reduction	80 %	
Target N discharge load	10.62 kg/yr	
Percent N load reduction	92 %	
Provided N discharge load	4.01 kg/yr	8.85 lb/yr

Provided N load removed	49.06 kg/yr	108.19 lb/yr

Phosphorus

Surface Water Discharge

Total P pre load	4.14 kg/yr	
Total P post load	6.984 kg/yr	
Target P load reduction	80 %	
Target P discharge load	1.397 kg/yr	
Percent P load reduction	92 %	
Provided P discharge load	.528 kg/yr	1.16 lb/yr
Provided P load removed	6.456 kg/yr	14.235 lb/yr

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 1			**DATE**
POND DESIGNATION:	Dry Pond 1B Alt. 2	**MADE BY:**	JW	07-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**	CC	09-Apr-26

Pre-Development		NRCS		
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Pre				
Outfall 1C				
Basin 1C				
Pavement		98	3.52	344.96
Open Space Good Condition (grass cover >75%)	A	39	2.92	113.88
Open Space Good Condition (grass cover >75%)	A/D	60	1.16	69.60
Subtotal		69.5	*7.60*	528.44
Non DCIA		45.0	*4.08*	183.48
Dry Pond 1B Alt. 2				
Pavement		98	0.00	0.00
Residential 1 acre	A	51	2.33	118.83
Subtotal		51.0	*2.33*	118.83
Non DCIA		51.0	*2.33*	118.83
Total		**65.2**	**9.93**	**647.27**
Non DCIA		**47.2**	**6.41**	**302.31**

Summary		**65.2**	**9.93**	**647.27**	**DCIA %**
Non DCIA		**47.2**	**6.41**	**302.31**	**35.45%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 1			**DATE**
POND DESIGNATION:	Dry Pond 1B Alt. 2	**MADE BY:**	JW	07-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	CC	09-Apr-26

Post-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Pre				
Outfall 1A (Direct discharging to Manatee Revier)				
Basin 1A				
Pavement		98	1.15	112.70
Open Space Good Condition (grass cover >75%)	A	39	0.09	3.51
Open Space Good Condition (grass cover >75%)	A/D	60	0.17	10.20
Subtotal		89.7	*1.41*	126.41
Non DCIA		52.7	*0.26*	13.71
Outfall 1B				
Basin 1B				
Pavement		98	0.92	90.16
Open Space Good Condition (grass cover >75%)	A	39	0.35	13.65
Open Space Good Condition (grass cover >75%)	A/D	60	0.21	12.60
Subtotal		78.7	*1.48*	116.41
Non DCIA		46.9	*0.56*	26.25
Outfall 1C				
Basin 1C				
Pavement		98	5.50	539.00
Open Space Good Condition (grass cover >75%)	A	39	1.40	54.60
Open Space Good Condition (grass cover >75%)	A/D	60	0.70	42.00
Subtotal		83.6	*7.60*	635.60
Non DCIA		46.0	*2.10*	96.60
Outfall 1D				
Basin 1D				
Pavement		98	0.29	28.42
Open Space Good Condition (grass cover >75%)	A	39	0.14	5.46
Open Space Good Condition (grass cover >75%)	A/D	60	0.00	0.00
Subtotal		78.8	*0.43*	33.88
Non DCIA		39.0	*0.14*	5.46
Dry Pond 1B Alt. 2				
Pavement		98	0.00	0.00
Residential 1 acre	A	51	2.33	118.83
Subtotal		51.0	*2.33*	118.83
Non DCIA		51.0	*2.33*	118.83
Total		**77.8**	**13.25**	**1031.13**
Non DCIA		**48.4**	**5.39**	**260.85**

Summary		**77.8**	**13.25**	**1031.13**	**DCIA %**
Non DCIA		**48.4**	**5.39**	**260.85**	**59.32%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 1			**DATE**
POND DESIGNATION:	Dry Pond 1B Alt. 2	**MADE BY:**	JW	07-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	CC	09-Apr-26

Dry Pond 1B Alt. 2

Stage	Elevation (Ft)	Area (Ac)	Inc. Volume (Ac-Ft)	Total Volume (Ac-ft)
Berm (Outside)	29.00	2.33	0.00	5.34
Berm (Inside)	29.00	1.72	1.66	5.34
Design High Water (DHW)	28.00	1.61	0.00	3.67
Weir (Design Low Water)	28.00	1.61	3.67	**3.67**
Control (wet)/Pond Bottom (dry)	25.50	1.33	0.00	0.00
Seasonal High Ground Water Elevation (SHGWT)*	24.25			

SHGWT Check (Dry Retention): ok
*SHGWT based on soil survey

Required Attenuation Volume

Attenuation required?	yes
Frequency	25-yr
Time	24-hr
Precipitation Depth	8.0 in.

1) Soil Storage (S) = (1000/CN) - 10 — S_{pre} = **5.34 in.** — S_{post} = **2.85 in.**
2) Runoff (R) = (P-0.2S)2/(P+0.8S) — Q_{pre} = **3.91 in.** — Q_{post} = **5.37 in.**
3) Runoff Volume (Vr) = R/12 * Area

Pre-Development Runoff	Vr_{pre} =	3.24 ac-ft	*
Post-Development Runoff	Vr_{post} =	5.93 ac-ft	
Attenuation volume required (Post-Pre)		**2.69 ac-ft**	

*No existing basin discharging to the proposed pond location, therefore, Vr Pre = 0

Total Required Volume (Treatment + Attenuation) ***2.69 ac-ft***

Total Provided Volume ***3.67 ac-ft***

Check Total Volume Requirement: 2.69 is < or = 3.67 **Total Volume Requirement met**

Complete Report (not including cost) Ver 4.3.5

Project: BPC PD&E
Date: 4/8/2026 8:37:55 AM

Site and Catchment Information

Analysis: Specified Removal Efficiency

Catchment Name	Dry Pond 1B Alt. 2
Rainfall Zone	Florida Zone 4
Annual Mean Rainfall	52.00

Pre-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200
Area (acres)	9.93
Rational Coefficient (0-1)	0.30
Non DCIA Curve Number	47.20
DCIA Percent (0-100)	35.45
Nitrogen EMC (mg/l)	1.520
Phosphorus EMC (mg/l)	0.200
Runoff Volume (ac-ft/yr)	13.056
Groundwater N (kg/yr)	0.000
Groundwater P (kg/yr)	0.000
Nitrogen Loading (kg/yr)	24.469
Phosphorus Loading (kg/yr)	3.220

Post-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200

Area (acres)	13.25
Rational Coefficient (0-1)	0.50
Non DCIA Curve Number	48.40
DCIA Percent (0-100)	59.32
Wet Pond Area (ac)	0.00
Nitrogen EMC (mg/l)	1.520
Phosphorus EMC (mg/l)	0.200
Runoff Volume (ac-□t/yr)	28.513
Groundwater N (kg/yr)	0.000
Groundwater P (kg/yr)	0.000
Nitrogen Loading (kg/yr)	53.438
Phosphorus Loading (kg/yr)	7.031

Catchment Number: 1 Name: Dry Pond 1B Alt. 2

Project: BPC PD&E
Date: 4/8/2026

Retention Design

Retention Depth (in)	3.324
Retention Volume (ac-□t)	3.670

Watershed Characteristics

Catchment Area (acres)	13.25
Contributing Area (acres)	13.250
Non-DCIA Curve Number	48.40

DCIA Percent	59.32
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	98
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	98

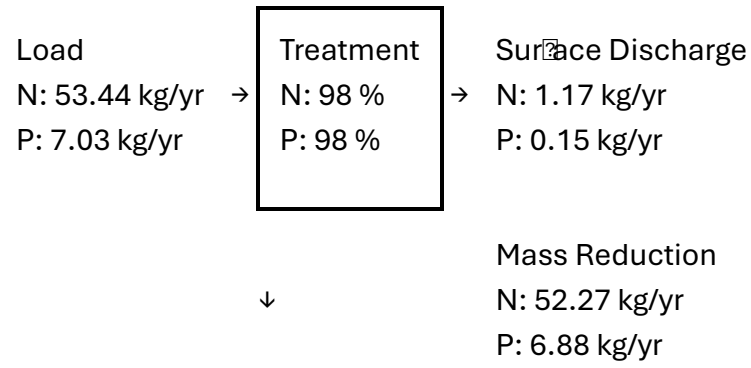
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

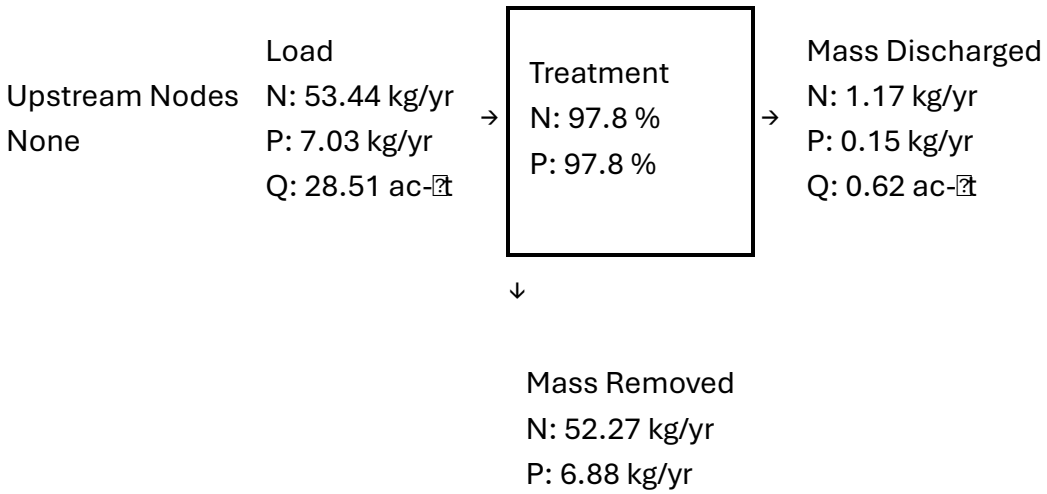
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	52.273
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	6.878
TP Concentration (mg/L)	0.000

Load Diagram for Retention (stand-alone)



Load Diagram for Retention (As Used In Routing)



Summary Treatment Report Version: 4.3.5

Project: BPC PD&E

Date:4/8/2026

Analysis Type: Specified Removal Efficiency

BMP Types:

Catchment 1 - (Dry Pond 1B Alt. 2) Retention

Routing Summary

Catchment 1 Routed to Outlet

Based on % removal values to the nearest percent

Total nitrogen target removal met? **Yes**
Total phosphorus target removal met? **Yes**

Summary Report

Nitrogen

Surface Water Discharge

Total N pre load	24.47 kg/yr	
Total N post load	53.44 kg/yr	
Target N load reduction	80 %	
Target N discharge load	10.69 kg/yr	
Percent N load reduction	98 %	
Provided N discharge load	1.17 kg/yr	2.57 lb/yr
Provided N load removed	52.27 kg/yr	115.26 lb/yr

Phosphorus

Surface Water Discharge

Total P pre load	3.22 kg/yr	
Total P post load	7.031 kg/yr	
Target P load reduction	80 %	
Target P discharge load	1.406 kg/yr	
Percent P load reduction	98 %	
Provided P discharge load	.153 kg/yr	.34 lb/yr

Provided P load removed	6.878 kg/yr	15.166 lb/yr

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 1			**DATE**
POND DESIGNATION:	Dry Pond 1C Alt 3	**MADE BY:**	JW	07-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**	CC	09-Apr-26

Pre-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Pre				
Outfall 1B				
Basin 1B				
Pavement		98	0.26	25.48
Open Space Good Condition (grass cover >75%)	A	39	0.86	33.54
Open Space Good Condition (grass cover >75%)	A/D	60	0.36	21.60
Subtotal		54.5	*1.48*	80.62
Non DCIA		45.2	*1.22*	55.14
Outfall 1C				
Basin 1C				
Pavement		98	3.52	344.96
Open Space Good Condition (grass cover >75%)	A	39	2.92	113.88
Open Space Good Condition (grass cover >75%)	A/D	60	1.16	69.60
Subtotal		69.5	*7.60*	528.44
Non DCIA		45.0	*4.08*	183.48
Outfall 1D				
Basin 1D				
Pavement		98	0.17	16.66
Open Space Good Condition (grass cover >75%)	A	39	0.26	10.14
Open Space Good Condition (grass cover >75%)	A/D	60	0.00	0.00
Subtotal		62.3	*0.43*	26.80
Non DCIA		39.0	*0.26*	10.14
Dry Pond 1C Alt 3				
Pavement		98	0.00	0.00
Open Space Good Condition (grass cover >75%)	A	39	3.01	117.39
Subtotal		39.0	*3.01*	117.39
Non DCIA		39.0	*3.01*	117.39
Total		**60.2**	**12.52**	**753.25**
Non DCIA		**42.7**	**8.57**	**366.15**

Summary		**60.2**	**12.52**	**753.25**	**DCIA %**
Non DCIA		**42.7**	**8.57**	**366.15**	**31.55%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 1			**DATE**
POND DESIGNATION:	Dry Pond 1C Alt 3	**MADE BY:**	JW	07-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	CC	09-Apr-26

Post-Development	NRCS				
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**	
Roadway Pre					
Outfall 1A (Direct discharging to Manatee Revier)					
Basin 1A					
Pavement		98	1.15	112.70	
Open Space Good Condition (grass cover >75%)	A	39	0.09	3.51	
Open Space Good Condition (grass cover >75%)	A/D	60	0.17	10.20	
Subtotal		89.7	*1.41*	126.41	
Non DCIA		52.7	*0.26*	13.71	
Outfall 1B					
Basin 1B					
Pavement		98	0.92	90.16	
Open Space Good Condition (grass cover >75%)	A	39	0.35	13.65	
Open Space Good Condition (grass cover >75%)	A/D	60	0.21	12.60	
Subtotal		78.7	*1.48*	116.41	
Non DCIA		46.9	*0.56*	26.25	
Outfall 1C					
Basin 1C					
Pavement		98	5.50	539.00	
Open Space Good Condition (grass cover >75%)	A	39	1.40	54.60	
Open Space Good Condition (grass cover >75%)	A/D	60	0.70	42.00	
Subtotal		83.6	*7.60*	635.60	
Non DCIA		46.0	*2.10*	96.60	
Outfall 1D					
Basin 1D					
Pavement		98	0.29	28.42	
Open Space Good Condition (grass cover >75%)	A	39	0.14	5.46	
Open Space Good Condition (grass cover >75%)	A/D	60	0.00	0.00	
Subtotal		78.8	*0.43*	33.88	
Non DCIA		39.0	*0.14*	5.46	
Dry Pond 1C Alt 3					
Pavement		98	0.00	0.00	
Open Space Good Condition (grass cover >75%)	A	39	3.01	117.39	
Subtotal		39.0	*3.01*	117.39	
Non DCIA		39.0	*3.01*	117.39	
Total		**73.9**	**13.93**	**1029.69**	
Non DCIA		**42.7**	**6.07**	**259.41**	

Summary		**73.9**	**13.93**	**1029.69**	**DCIA %**
Non DCIA		**42.7**	**6.07**	**259.41**	**56.42%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 1			**DATE**
POND DESIGNATION:	Dry Pond 1C Alt 3	**MADE BY:**	JW	07-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	CC	09-Apr-26

Dry Pond 1C Alt 3

Stage	Elevation (Ft)	Area (Ac)	Inc. Volume (Ac-Ft)	Total Volume (Ac-ft)
Berm (Outside)	26.00	3.01	0.00	4.91
Berm (Inside)	26.00	1.94	1.84	4.91
Design High Water (DHW)	25.00	1.74	0.00	3.07
Weir (Design Low Water)	25.00	1.74	3.07	**3.07**
Control (wet)/Pond Bottom (dry)	23.00	1.33	0.00	0.00
Seasonal High Ground Water Elevation (SHGWT)*	22.00			

SHGWT Check (Dry Retention): ok
*SHGWT based on soil survey

Required Attenuation Volume

Attenuation required?	yes
Frequency	25-yr
Time	24-hr
Precipitation Depth	8.0 in.

1) Soil Storage (S) = (1000/CN) - 10 — S_{pre} = **6.62 in.** — S_{post} = **3.53 in.**
2) Runoff (R) = (P-0.2S)2/(P+0.8S) — Q_{pre} = **3.35 in.** — Q_{post} = **4.92 in.**
3) Runoff Volume (Vr) = R/12 * Area

Pre-Development Runoff	Vr_{pre} =	3.50 ac-ft	*
Post-Development Runoff	Vr_{post} =	5.71 ac-ft	
Attenuation volume required (Post-Pre)		**2.21 ac-ft**	

*No existing basin discharging to the proposed pond location, therefore, Vr Pre = 0

Total Required Volume (Treatment + Attenuation) — ***2.21 ac-ft***

Total Provided Volume — ***3.07 ac-ft***

Check Total Volume Requirement: 2.21 is < or = 3.07 **Total Volume Requirement met**

Complete Report (not including cost) Ver 4.3.5

Project: BPC PD&E
Date: 4/8/2026 8:38:40 AM

Site and Catchment Information

Analysis: Specified Removal Efficiency

Catchment Name	Dry Pond 1C Alt 3
Rainfall Zone	Florida Zone 4
Annual Mean Rainfall	52.00

Pre-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200
Area (acres)	12.52
Rational Coefficient (0-1)	0.27
Non DCIA Curve Number	42.70
DCIA Percent (0-100)	31.55
Nitrogen EMC (mg/l)	1.520
Phosphorus EMC (mg/l)	0.200
Runoff Volume (ac-ft/yr)	14.578
Groundwater N (kg/yr)	0.000
Groundwater P (kg/yr)	0.000
Nitrogen Loading (kg/yr)	27.322
Phosphorus Loading (kg/yr)	3.595

Post-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200

Area (acres)	13.93
Rational Coefficient (0-1)	0.47
Non DCIA Curve Number	42.70
DCIA Percent (0-100)	56.42
Wet Pond Area (ac)	0.00
Nitrogen EMC (mg/l)	1.520
Phosphorus EMC (mg/l)	0.200
Runoff Volume (ac-ft/yr)	28.397
Groundwater N (kg/yr)	0.000
Groundwater P (kg/yr)	0.000
Nitrogen Loading (kg/yr)	53.221
Phosphorus Loading (kg/yr)	7.003

Catchment Number: 1 Name: Dry Pond 1C Alt 3

Project: BPC PD&E
Date: 4/8/2026

Retention Design

Retention Depth (in)	2.645
Retention Volume (ac-ft)	3.070

Watershed Characteristics

Catchment Area (acres)	13.93
Contributing Area (acres)	13.930
Non-DCIA Curve Number	42.70

DCIA Percent	56.42
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	97
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	97

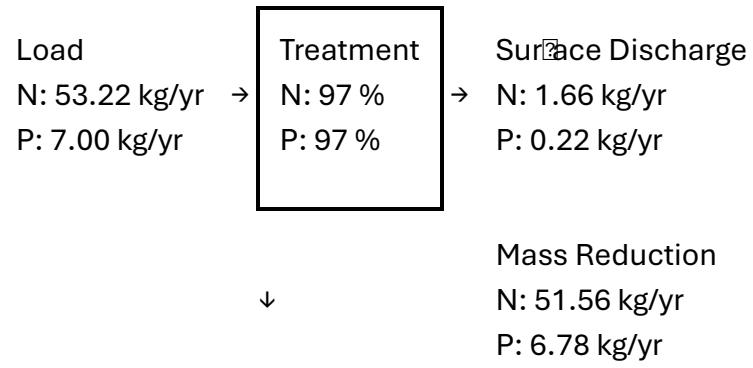
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

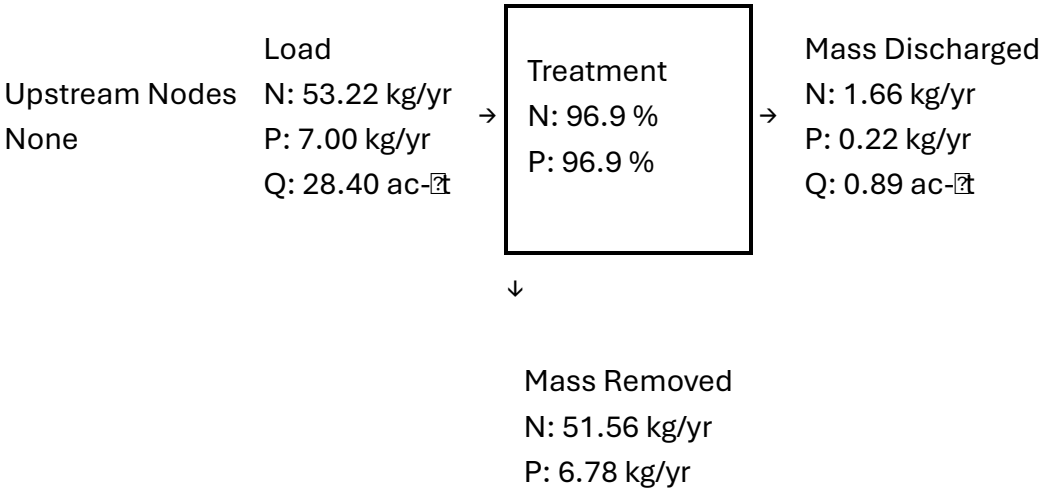
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	51.560
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	6.784
TP Concentration (mg/L)	0.000

Load Diagram for Retention (stand-alone)



Load Diagram for Retention (As Used In Routing)



Summary Treatment Report Version: 4.3.5

Project: BPC PD&E

Date:4/8/2026

Analysis Type: Specified Removal Efficiency

BMP Types:

Catchment 1 - (Dry Pond 1C Alt 3) Retention

Routing Summary

Catchment 1 Routed to Outlet

Based on % removal values to the nearest percent

Total nitrogen target removal met? **Yes**
Total phosphorus target removal met? **Yes**

Summary Report

Nitrogen

Surface Water Discharge

Total N pre load	27.32 kg/yr	
Total N post load	53.22 kg/yr	
Target N load reduction	80 %	
Target N discharge load	10.64 kg/yr	
Percent N load reduction	97 %	
Provided N discharge load	1.66 kg/yr	3.66 lb/yr
Provided N load removed	51.56 kg/yr	113.69 lb/yr

Phosphorus

Surface Water Discharge

Total P pre load	3.595 kg/yr	
Total P post load	7.003 kg/yr	
Target P load reduction	80 %	
Target P discharge load	1.401 kg/yr	
Percent P load reduction	97 %	
Provided P discharge load	.219 kg/yr	.48 lb/yr

Provided P load removed	6.784 kg/yr	14.959 lb/yr

Basin 2

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 2			**DATE**
POND DESIGNATION:	Dry Pond 2 Alt. 1	**MADE BY:**	JW	07-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**	CC	09-Apr-26

Pre-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Pre				
Outfall 2				
Basin 2 Alt 1				
Pavement		98	11.59	1135.82
Open Space Good Condition (grass cover >75%)	A/D	60	0.58	34.80
Open Space Good Condition (grass cover >75%)	C/D	77	0.31	23.87
Open Space Good Condition (grass cover >75%)	B/D	71	0.67	47.57
Open Space Good Condition (grass cover >75%)	A	39	0.15	5.85
Subtotal		93.8	*13.30*	1247.91
Non DCIA		65.5	*1.71*	112.09
Dry Pond 2 Alt. 1				
Pavement		98	0.00	0.00
Commercial and Business Areas (85% impervious)	A	89	1.43	127.27
Subtotal		89.0	*1.43*	127.27
Non DCIA		89.0	*1.43*	127.27
Total		**93.4**	**14.73**	**1375.18**
Non DCIA		**76.2**	**3.14**	**239.36**

Summary		**93.4**	**14.73**	**1375.18**	**DCIA %**
Non DCIA		**76.2**	**3.14**	**239.36**	**78.68%**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 2			**DATE**
POND DESIGNATION:	Dry Pond 2 Alt. 1	**MADE BY:**	JW	07-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	CC	09-Apr-26

Post-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Post				
Basin 2				
Pavement		98	11.89	1165.22
Open Space Good Condition (grass cover >75%)	A/D	60	0.61	36.60
Open Space Good Condition (grass cover >75%)	C/D	77	0.30	23.10
Open Space Good Condition (grass cover >75%)	B/D	71	0.41	29.11
Open Space Good Condition (grass cover >75%)	A	39	0.09	3.51
Subtotal		94.6	*13.30*	1257.54
Non DCIA		65.5	*1.41*	92.32
Dry Pond 2 Alt. 1				
Water		100	0.00	0.00
Open Space Good Condition (grass cover >75%)	A	39	1.43	55.77
Subtotal		39.0	*1.43*	55.77
Non DCIA		39.0	*1.43*	55.77
Total		**89.2**	**14.73**	**1313.31**
Non DCIA		**52.1**	**2.84**	**148.09**

Summary		**89.2**	**14.73**	**1313.31**	**DCIA %**
Non DCIA		**52.1**	**2.84**	**148.09**	**80.72%**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 2			**DATE**
POND DESIGNATION:	Dry Pond 2 Alt. 1	**MADE BY:**	JW	07-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	CC	09-Apr-26

Dry Pond 2 Alt 1 Stage/Area

Stage	Elevation (Ft)	Area (Ac)	Inc. Volume (Ac-Ft)	Total Volume (Ac-ft)
Berm (Outside)	18.00	1.43	0.00	3.08
Berm (Inside)	18.00	0.95	0.91	3.08
Design High Water (DHW)	17.00	0.86	0.00	2.18
Weir (Design Low Water)	17.00	0.86	2.18	**2.18**
Control (wet)/Pond Bottom (dry)	14.00	0.59	0.00	0.00
Seasonal High Ground Water Elevation (SHGWT)*	12.75			

SHGWT Check (Dry Retention): ok

*SHGWT based on soil survey

Complete Report (not including cost) Ver 4.3.5

Project: BPC PD&E
Date: 4/7/2026 7:34:17 PM

Site and Catchment Information

Analysis: Specified Removal Efficiency

Catchment Name	Dry Pond 2 Alt. 1
Rainfall Zone	Florida Zone 4
Annual Mean Rainfall	52.00

Pre-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200
Area (acres)	14.73
Rational Coefficient (0-1)	0.67
Non DCIA Curve Number	76.20
DCIA Percent (0-100)	78.68
Nitrogen EMC (mg/l)	1.520
Phosphorus EMC (mg/l)	0.200
Runoff Volume (ac-ft/yr)	42.757
Groundwater N (kg/yr)	0.000
Groundwater P (kg/yr)	0.000
Nitrogen Loading (kg/yr)	80.134
Phosphorus Loading (kg/yr)	10.544

Post-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200

Area (acres)	14.73
Rational Coefficient (0-1)	0.67
Non DCIA Curve Number	52.10
DCIA Percent (0-100)	80.72
Wet Pond Area (ac)	0.00
Nitrogen EMC (mg/l)	1.520
Phosphorus EMC (mg/l)	0.200
Runoff Volume (ac-ft/yr)	42.714
Groundwater N (kg/yr)	0.000
Groundwater P (kg/yr)	0.000
Nitrogen Loading (kg/yr)	80.052
Phosphorus Loading (kg/yr)	10.533

Catchment Number: 1 Name: Dry Pond 2 Alt. 1

Project: BPC PD&E
Date: 4/7/2026

Retention Design

Retention Depth (in)	1.776
Retention Volume (ac-ft)	2.180

Watershed Characteristics

Catchment Area (acres)	14.73
Contributing Area (acres)	14.730
Non-DCIA Curve Number	52.10

DCIA Percent	80.72
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	88
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	88

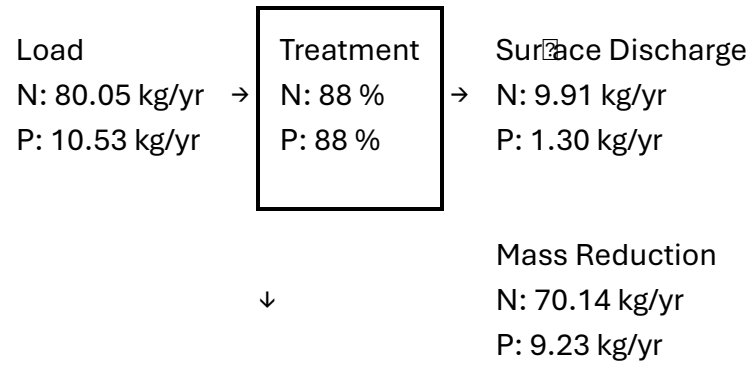
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

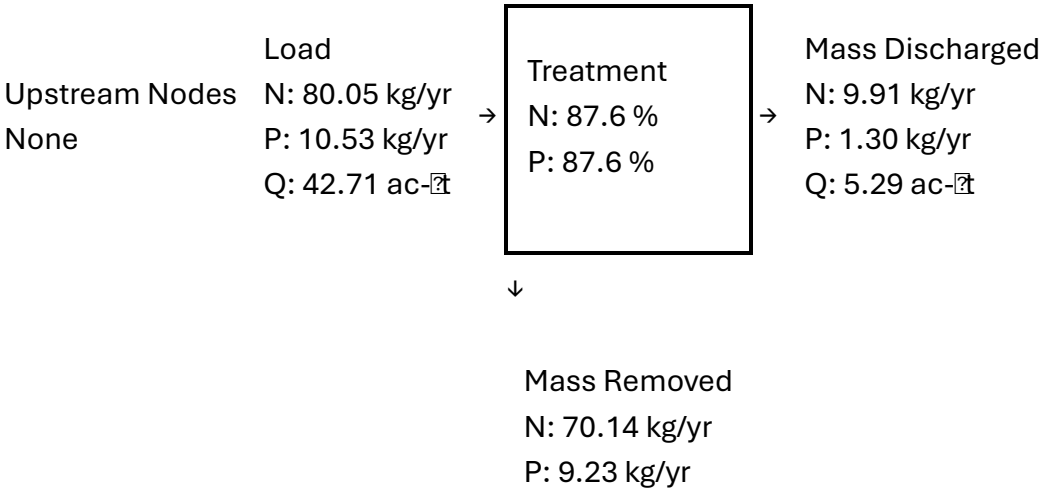
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	70.144
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	9.229
TP Concentration (mg/L)	0.000

Load Diagram for Retention (stand-alone)



Load Diagram for Retention (As Used In Routing)



Summary Treatment Report Version: 4.3.5

Project: BPC PD&E

Date:4/7/2026

Analysis Type: Specified Removal Efficiency

BMP Types:

Catchment 1 - (Dry Pond 2 Alt. 1) Retention

Routing Summary

Catchment 1 Routed to Outlet

Based on % removal values to the nearest percent

Total nitrogen target removal met? **Yes**
Total phosphorus target removal met? **Yes**

Summary Report

Nitrogen

Surface Water Discharge

Total N pre load	80.13 kg/yr	
Total N post load	80.05 kg/yr	
Target N load reduction	80 %	
Target N discharge load	16.01 kg/yr	
Percent N load reduction	88 %	
Provided N discharge load	9.91 kg/yr	21.85 lb/yr
Provided N load removed	70.14 kg/yr	154.67 lb/yr

Phosphorus

Surface Water Discharge

Total P pre load	10.544 kg/yr	
Total P post load	10.533 kg/yr	
Target P load reduction	80 %	
Target P discharge load	2.107 kg/yr	
Percent P load reduction	88 %	
Provided P discharge load	1.304 kg/yr	2.87 lb/yr

Provided P load removed	9.229 kg/yr	20.351 lb/yr

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 2			**DATE**
POND DESIGNATION:	Dry Pond 2A Alt 2	**MADE BY:**	JW	07-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**	CC	09-Apr-26

Pre-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Pre				
Outfall 2				
Basin 2 Alt 2				
Pavement		98	11.59	1135.82
Open Space Good Condition (grass cover >75%)	A/D	60	0.58	34.80
Open Space Good Condition (grass cover >75%)	C/D	77	0.31	23.87
Open Space Good Condition (grass cover >75%)	B/D	71	0.67	47.57
Open Space Good Condition (grass cover >75%)	A	39	0.15	5.85
Subtotal		93.8	*13.30*	1247.91
Non DCIA		65.5	*1.71*	112.09
Dry Pond 2A Alt 2				
Pavement		98	0.00	0.00
Open Space Good Condition (grass cover >75%)	A	39	1.06	41.34
Subtotal		39.0	*1.06*	41.34
Non DCIA		39.0	*1.06*	41.34
Total		**89.8**	**14.36**	**1289.25**
Non DCIA		**55.4**	**2.77**	**153.43**

Summary		**89.8**	**14.36**	**1289.25**	**DCIA %**
Non DCIA		**55.4**	**2.77**	**153.43**	**80.71%**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 2			**DATE**
POND DESIGNATION:	Dry Pond 2A Alt 2	**MADE BY:**	JW	07-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	CC	09-Apr-26

Post-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Post				
Basin 2 Alt 2				
Pavement		98	11.89	1165.22
Open Space Good Condition (grass cover >75%)	A/D	60	0.61	36.60
Open Space Good Condition (grass cover >75%)	C/D	77	0.30	23.10
Open Space Good Condition (grass cover >75%)	B/D	71	0.41	29.11
Open Space Good Condition (grass cover >75%)	A	39	0.09	3.51
Subtotal		94.6	*13.30*	1257.54
Non DCIA		65.5	*1.41*	92.32
Dry Pond 2A Alt 2				
Pavement		98	0.00	0.00
Open Space Good Condition (grass cover >75%)	A	39	1.06	41.34
Subtotal		39.0	*1.06*	41.34
Non DCIA		39.0	*1.06*	41.34
Total		**90.5**	**14.36**	**1298.88**
Non DCIA		**54.1**	**2.47**	**133.66**

Summary		**90.5**	**14.36**	**1298.88**	**DCIA %**
Non DCIA		**54.1**	**2.47**	**133.66**	**82.80%**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 2			**DATE**
POND DESIGNATION:	Dry Pond 2A Alt 2	**MADE BY:**	JW	07-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	CC	09-Apr-26

Dry Pond 2A Alt 2 Stage/Area

Stage	Elevation (Ft)	Area (Ac)	Inc. Volume (Ac-Ft)	Total Volume (Ac-ft)
Berm (Outside)	18.00	1.06	0.00	2.30
Berm (Inside)	18.00	0.70	0.67	2.30
Design High Water (DHW)	17.00	0.64	0.00	1.63
Weir (Design Low Water)	17.00	0.64	1.63	**1.63**
Control (wet)/Pond Bottom (dry)	14.00	0.45	0.00	0.00
Seasonal High Ground Water Elevation (SHGWT)*	12.75			

SHGWT Check (Dry Retention): ok

*SHGWT based on soil survey

Complete Report (not including cost) Ver 4.3.5

Project: BPC PD&E
Date: 4/7/2026 7:45:20 PM

Site and Catchment Information

Analysis: Specified Removal Efficiency

Catchment Name	Dry Pond 2A Alt 2
Rainfall Zone	Florida Zone 4
Annual Mean Rainfall	52.00

Pre-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200
Area (acres)	14.36
Rational Coefficient (0-1)	0.67
Non DCIA Curve Number	55.40
DCIA Percent (0-100)	80.71
Nitrogen EMC (mg/l)	1.520
Phosphorus EMC (mg/l)	0.200
Runoff Volume (ac-ft/yr)	41.686
Groundwater N (kg/yr)	0.000
Groundwater P (kg/yr)	0.000
Nitrogen Loading (kg/yr)	78.127
Phosphorus Loading (kg/yr)	10.280

Post-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200

Area (acres)	14.36
Rational Coefficient (0-1)	0.69
Non DCIA Curve Number	54.10
DCIA Percent (0-100)	82.80
Wet Pond Area (ac)	0.00
Nitrogen EMC (mg/l)	1.520
Phosphorus EMC (mg/l)	0.200
Runoff Volume (ac-ft/yr)	42.701
Groundwater N (kg/yr)	0.000
Groundwater P (kg/yr)	0.000
Nitrogen Loading (kg/yr)	80.029
Phosphorus Loading (kg/yr)	10.530

Catchment Number: 1 Name: Dry Pond 2A Alt 2

Project: BPC PD&E
Date: 4/7/2026

Retention Design

Retention Depth (in)	1.362
Retention Volume (ac-ft)	1.630

Watershed Characteristics

Catchment Area (acres)	14.36
Contributing Area (acres)	14.360
Non-DCIA Curve Number	54.10

DCIA Percent	82.80
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	80
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	80

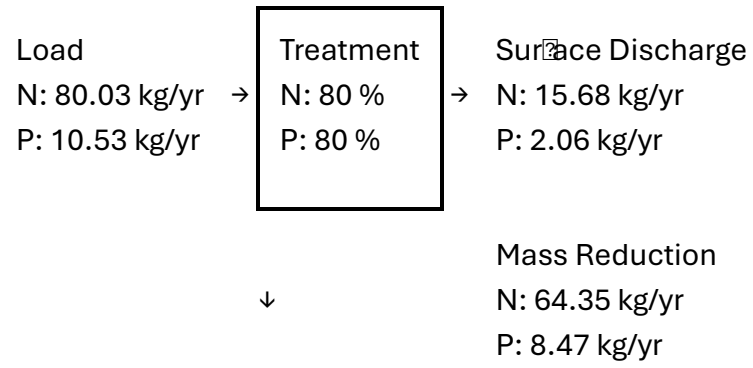
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

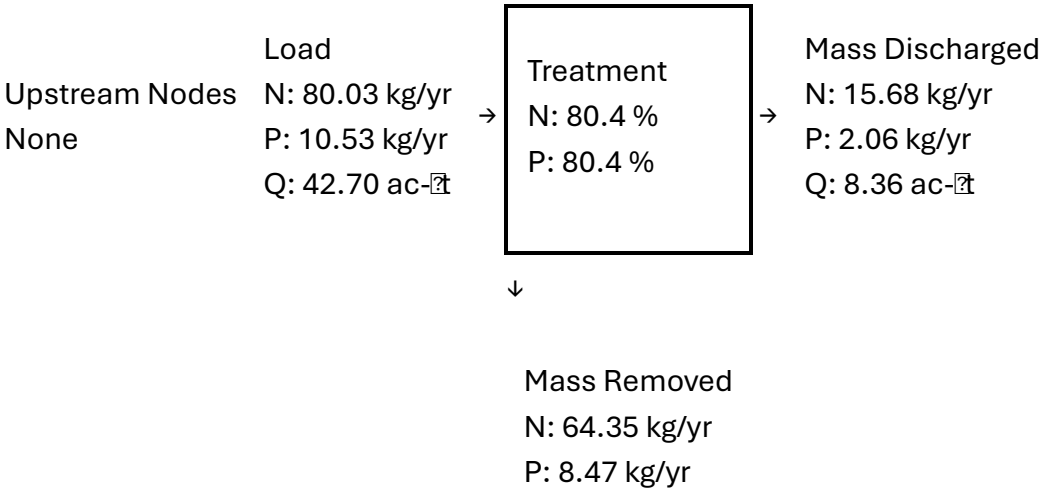
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	11.216
TN Mass Load (kg/yr)	64.352
TN Concentration (mg/L)	1.520
TP Mass Load (kg/yr)	8.467
TP Concentration (mg/L)	0.200

Load Diagram for Retention (stand-alone)



Load Diagram for Retention (As Used In Routing)



Summary Treatment Report Version: 4.3.5

Project: BPC PD&E

Date:4/7/2026

Analysis Type: Specified Removal Efficiency

BMP Types:

Catchment 1 - (Dry Pond 2A Alt 2) Retention

Routing Summary

Catchment 1 Routed to Outlet

Based on % removal values to the nearest percent

Total nitrogen target removal met? **Yes**
Total phosphorus target removal met? **Yes**

Summary Report

Nitrogen

Surface Water Discharge

Total N pre load	78.13 kg/yr	
Total N post load	80.03 kg/yr	
Target N load reduction	80 %	
Target N discharge load	16.01 kg/yr	
Percent N load reduction	80 %	
Provided N discharge load	15.68 kg/yr	34.57 lb/yr
Provided N load removed	64.35 kg/yr	141.9 lb/yr

Phosphorus

Surface Water Discharge

Total P pre load	10.28 kg/yr	
Total P post load	10.53 kg/yr	
Target P load reduction	80 %	
Target P discharge load	2.106 kg/yr	
Percent P load reduction	80 %	
Provided P discharge load	2.063 kg/yr	4.55 lb/yr

Provided P load removed	8.467 kg/yr	18.67 lb/yr

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 2 Alt 3			**DATE**
POND DESIGNATION:	Dry Pond 2B Alt. 3	**MADE BY:**	JW	07-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**	CS	09-Apr-26

Pre-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Pre				
Outfall 2				
Basin 2 Alt 3				
Pavement		98	11.59	1135.82
Open Space Good Condition (grass cover >75%)	A/D	60	0.58	34.80
Open Space Good Condition (grass cover >75%)	C/D	77	0.31	23.87
Open Space Good Condition (grass cover >75%)	B/D	71	0.67	47.57
Open Space Good Condition (grass cover >75%)	A	39	0.15	5.85
Subtotal		93.8	*13.30*	1247.91
Non DCIA		65.5	*1.71*	112.09
Dry Pond 2B Alt. 3				
Pavement		98	0.00	0.00
Commercial	A	89	2.00	178.00
Subtotal		89.0	*2.00*	178.00
Non DCIA		89.0	*2.00*	178.00
Total		**93.2**	**15.30**	**1425.91**
Non DCIA		**78.2**	**3.71**	**290.09**

Summary		**93.2**	**15.30**	**1425.91**	**DCIA %**
Non DCIA		**78.2**	**3.71**	**290.09**	**75.75%**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 2 Alt 3			**DATE**
POND DESIGNATION:	Dry Pond 2B Alt. 3	**MADE BY:**	JW	07-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	CS	09-Apr-26

Post-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Post				
Basin 2 Alt 3				
Pavement		98	11.89	1165.22
Open Space Good Condition (grass cover >75%)	A/D	60	0.61	36.60
Open Space Good Condition (grass cover >75%)	C/D	77	0.30	23.10
Open Space Good Condition (grass cover >75%)	B/D	71	0.41	29.11
Open Space Good Condition (grass cover >75%)	A	39	0.09	3.51
Subtotal		94.6	*13.30*	1257.54
Non DCIA		65.5	*1.41*	92.32
Dry Pond 2B Alt. 3				
Water		100	0.00	0.00
Open Space Good Condition (grass cover >75%)	A	39	2.00	78.00
Subtotal		39.0	*2.00*	78.00
Non DCIA		39.0	*2.00*	78.00
Total		**87.3**	**15.30**	**1335.54**
Non DCIA		**49.9**	**3.41**	**170.32**

Summary		**87.3**	**15.30**	**1335.54**	**DCIA %**
Non DCIA		**49.9**	**3.41**	**170.32**	**77.71%**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 2 Alt 3			**DATE**
POND DESIGNATION:	Dry Pond 2B Alt. 3	**MADE BY:**	JW	07-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	CS	09-Apr-26

Dry Pond 2 Alt. 3 Stage/Area

Stage	Elevation (Ft)	Area (Ac)	Inc. Volume (Ac-Ft)	Total Volume (Ac-ft)
Berm (Outside)	18.00	2.00	0.00	5.38
Berm (Inside)	18.00	1.52	1.48	5.38
Design High Water (DHW)	17.00	1.43	0.00	3.90
Weir (Design Low Water)	17.00	1.43	3.90	**3.90**
Control (wet)/Pond Bottom (dry)	14.00	1.17	0.00	0.00
Seasonal High Ground Water Elevation (SHGWT)*	12.75			

SHGWT Check (Dry Retention): ok

*SHGWT based on soil survey

Complete Report (not including cost) Ver 4.3.5

Project: BPC PD&E
Date: 4/7/2026 8:37:45 PM

Site and Catchment Information

Analysis: Specified Removal Efficiency

Catchment Name	Dry Pond 2B Alt. 3
Rainfall Zone	Florida Zone 4
Annual Mean Rainfall	52.00

Pre-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200
Area (acres)	15.30
Rational Coefficient (0-1)	0.65
Non DCIA Curve Number	78.20
DCIA Percent (0-100)	75.75
Nitrogen EMC (mg/l)	1.520
Phosphorus EMC (mg/l)	0.200
Runoff Volume (ac-ft/yr)	43.229
Groundwater N (kg/yr)	0.000
Groundwater P (kg/yr)	0.000
Nitrogen Loading (kg/yr)	81.018
Phosphorus Loading (kg/yr)	10.660

Post-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200

Area (acres)	15.30
Rational Coefficient (0-1)	0.64
Non DCIA Curve Number	49.90
DCIA Percent (0-100)	77.71
Wet Pond Area (ac)	0.00
Nitrogen EMC (mg/l)	1.520
Phosphorus EMC (mg/l)	0.200
Runoff Volume (ac-ft/yr)	42.740
Groundwater N (kg/yr)	0.000
Groundwater P (kg/yr)	0.000
Nitrogen Loading (kg/yr)	80.102
Phosphorus Loading (kg/yr)	10.540

Catchment Number: 1 Name: Dry Pond 2B Alt. 3

Project: BPC PD&E
Date: 4/7/2026

Retention Design

Retention Depth (in)	3.059
Retention Volume (ac-ft)	3.900

Watershed Characteristics

Catchment Area (acres)	15.30
Contributing Area (acres)	15.300
Non-DCIA Curve Number	49.90

DCIA Percent	77.71
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	96
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	96

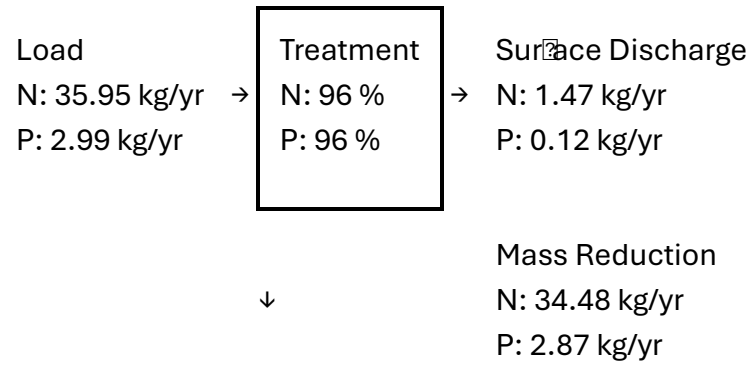
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

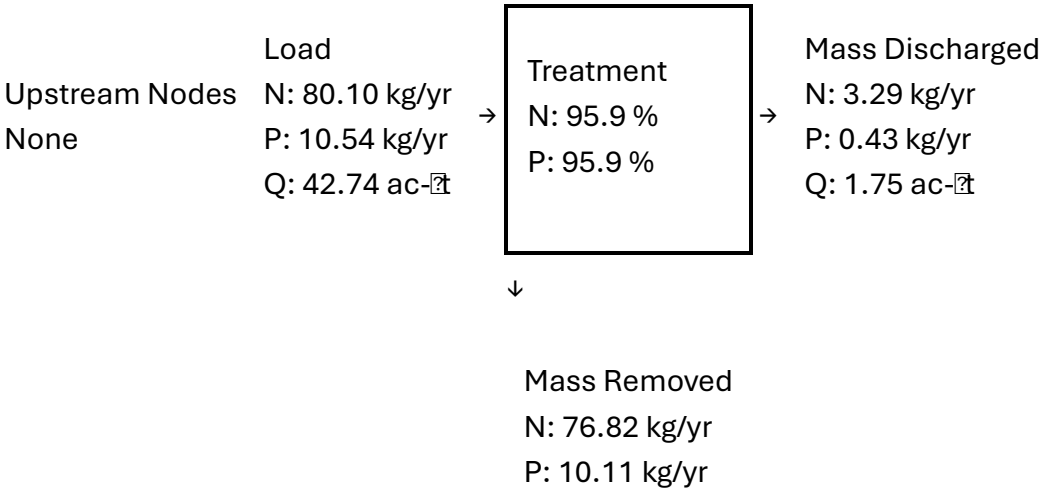
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	11.216
TN Mass Load (kg/yr)	76.817
TN Concentration (mg/L)	1.520
TP Mass Load (kg/yr)	10.107
TP Concentration (mg/L)	0.200

Load Diagram for Retention (stand-alone)



Load Diagram for Retention (As Used In Routing)



Summary Treatment Report Version: 4.3.5

Project: BPC PD&E

Date:4/7/2026

Analysis Type: Specified Removal Efficiency

BMP Types:

Catchment 1 - (Dry Pond 2B Alt. 3) Retention

Routing Summary

Catchment 1 Routed to Outlet

Based on % removal values to the nearest percent

Total nitrogen target removal met? **Yes**
Total phosphorus target removal met? **Yes**

Summary Report

Nitrogen

Surface Water Discharge

Total N pre load	81.02 kg/yr	
Total N post load	80.1 kg/yr	
Target N load reduction	80 %	
Target N discharge load	16.02 kg/yr	
Percent N load reduction	96 %	
Provided N discharge load	3.29 kg/yr	7.24 lb/yr
Provided N load removed	76.82 kg/yr	169.38 lb/yr

Phosphorus

Surface Water Discharge

Total P pre load	10.66 kg/yr	
Total P post load	10.54 kg/yr	
Target P load reduction	80 %	
Target P discharge load	2.108 kg/yr	
Percent P load reduction	96 %	
Provided P discharge load	.432 kg/yr	.95 lb/yr

Provided P load removed	10.107 kg/yr	22.287 lb/yr

Basin 3

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 3			**DATE**
POND DESIGNATION:	VB-3A Alt.1	**MADE BY:**	YA	08-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**		08-Apr-26

Pre-Development		NRCS		
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Pre				
Basin 3				
Pavement		98	3.88	380.24
Open Space Good Condition (grass cover >75%)	A	39	0.23	8.97
Subtotal		94.7	*4.11*	389.21
Non DCIA		39.0	*0.23*	8.97
VB-3A				
Pavement		98	0.27	26.46
Open Space Good Condition (grass cover >75%)	A	39	0.02	0.78
Subtotal		93.9	*0.29*	27.24
Non DCIA		39.0	*0.02*	0.78
Total		**94.6**	**4.40**	**416.45**
Non DCIA		**39.0**	**0.25**	**9.75**

Summary		**94.6**	**4.40**	**416.45**	**DCIA %**
Non DCIA		**39.0**	**0.25**	**9.75**	**94.32%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 3			**DATE**
POND DESIGNATION:	VB-3A Alt.1	**MADE BY:**	YA	08-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		08-Apr-26

Post-Development		NRCS		
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Post				
Basin 3				
Pavement		98	3.77	369.46
Open Space Good Condition (grass cover >75%)	A	39	0.34	13.26
Subtotal		93.1	*4.11*	382.72
Non DCIA		39.0	*0.34*	13.26
VB-3A				
Open Space Good Condition (grass cover >75%)	A	39	0.29	11.31
Subtotal		39.0	*0.29*	11.31
Non DCIA		39.0	*0.29*	11.31
Total		**89.6**	**4.40**	**394.03**
Non DCIA		**39.0**	**0.63**	**24.57**

Summary		**89.6**	**4.40**	**394.03**	**DCIA %**
Non DCIA		**39.0**	**0.63**	**24.57**	**85.68%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 3			**DATE**
POND DESIGNATION:	VB-3B Alt.1	**MADE BY:**	YA	08-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**		08-Apr-26

Pre-Development		NRCS		
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Pre				
Basin 3				
Pavement		98	1.79	175.42
Open Space Good Condition (grass cover >75%)	A	39	0.16	6.24
Open Space Good Condition (grass cover >75%)	A/D	60	0.96	57.60
Subtotal		82.2	*2.91*	239.26
Non DCIA		57.0	*1.12*	63.84
VB-3B				
Pavement		98	0.14	13.72
Open Space Good Condition (grass cover >75%)	A	39	0.07	2.73
Subtotal		78.3	*0.21*	16.45
Non DCIA		39.0	*0.07*	2.73
Total		**82.0**	**3.12**	**255.71**
Non DCIA		**55.9**	**1.19**	**66.57**

Summary		**82.0**	**3.12**	**255.71**	**DCIA %**
Non DCIA		**55.9**	**1.19**	**66.57**	**61.86%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 3			**DATE**
POND DESIGNATION:	VB-3B Alt.1	**MADE BY:**	YA	08-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		08-Apr-26

Post-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Post				
Basin 3				
Pavement		98	2.36	231.28
Open Space Good Condition (grass cover >75%)	A	39	0.15	5.85
Open Space Good Condition (grass cover >75%)	A/D	60	0.39	23.40
Subtotal		89.8	*2.90*	260.53
Non DCIA		54.2	*0.54*	29.25
VB-3B				
Open Space Good Condition (grass cover >75%)	A	39	0.21	8.19
Subtotal		39.0	*0.21*	8.19
Non DCIA		39.0	*0.21*	8.19
Total		**86.4**	**3.11**	**268.72**
Non DCIA		**49.9**	**0.75**	**37.44**

Summary		**86.4**	**3.11**	**268.72**	**DCIA %**
Non DCIA		**49.9**	**0.75**	**37.44**	**75.88%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 3			**DATE**
POND DESIGNATION:	VB-3C Alt.1	**MADE BY:**	YA	08-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**		08-Apr-26

Pre-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Pre				
Basin 3				
Pavement		98	3.16	309.68
Open Space Good Condition (grass cover >75%)	A/D	60	0.38	22.80
Subtotal		93.9	*3.54*	332.48
Non DCIA		60.0	*0.38*	22.80
VB-3C				
Open Space Good Condition (grass cover >75%)	A	60	0.31	18.60
Subtotal		60.0	*0.31*	18.60
Non DCIA		60.0	*0.31*	18.60
Total		**91.2**	**3.85**	**351.08**
Non DCIA		**60.0**	**0.69**	**41.40**

Summary		**91.2**	**3.85**	**351.08**	**DCIA %**
Non DCIA		**60.0**	**0.69**	**41.40**	**82.08%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 3			**DATE**
POND DESIGNATION:	VB-3C Alt.1	**MADE BY:**	YA	08-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		08-Apr-26

Post-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Post				
Basin 3				
Pavement		98	3.53	345.94
Open Space Good Condition (grass cover >75%)	A	39		0.00
Open Space Good Condition (grass cover >75%)	A/D	60		0.00
Subtotal		98.0	*3.53*	345.94
Non DCIA		0.0	*0.00*	0.00
VB-3C				
Water		100		0.00
Open Space Good Condition (grass cover >75%)	A	60	0.31	18.60
Subtotal		60.0	*0.31*	18.60
Non DCIA		60.0	*0.31*	18.60
Total		**94.9**	**3.84**	**364.54**
Non DCIA		**60.0**	**0.31**	**18.60**

Summary		**94.9**	**3.84**	**364.54**	**DCIA %**
Non DCIA		**60.0**	**0.31**	**18.60**	**91.93%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 3			**DATE**
POND DESIGNATION:	VB-3D Alt.1	**MADE BY:**	YA	08-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**		08-Apr-26

Pre-Development		NRCS		
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Pre				
Basin 3				
Pavement		98	1.13	110.74
Open Space Good Condition (grass cover >75%)	A	39	0.07	2.73
Open Space Good Condition (grass cover >75%)	A/D	60	1.81	108.60
Subtotal		73.8	*3.01*	222.07
Non DCIA		59.2	*1.88*	111.33
VB-3D				
Pavement		98	1.70	166.60
Open Space Good Condition (grass cover >75%)	A/D	60	0.18	10.80
Subtotal		94.4	*1.88*	177.40
Non DCIA		60.0	*0.18*	10.80
Total		**81.7**	**4.89**	**399.47**
Non DCIA		**59.3**	**2.06**	**122.13**

Summary		**81.7**	**4.89**	**399.47**	**DCIA %**
Non DCIA		**59.3**	**2.06**	**122.13**	**57.87%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 3			**DATE**
POND DESIGNATION:	VB-3D Alt.1	**MADE BY:**	YA	08-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		08-Apr-26

Post-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Post				
Basin 3				
Pavement		98	5.39	528.22
Open Space Good Condition (grass cover >75%)	A	39	0.03	1.17
Open Space Good Condition (grass cover >75%)	A/D	60	0.16	9.60
Subtotal		96.6	*5.58*	538.99
Non DCIA		56.7	*0.19*	10.77
VB-3D				
Water		100		0.00
Open Space Good Condition (grass cover >75%)	A	60	1.88	112.80
Subtotal		60.0	*1.88*	112.80
Non DCIA		60.0	*1.88*	112.80
Total		**87.4**	**7.46**	**651.79**
Non DCIA		**59.7**	**2.07**	**123.57**

Summary		**87.4**	**7.46**	**651.79**	**DCIA %**
Non DCIA		**59.7**	**2.07**	**123.57**	**72.25%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 3			**DATE**
POND DESIGNATION:	VB-3E Alt.1	**MADE BY:**	YA	08-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**		08-Apr-26

Pre-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Pre				
Basin 3				
Pavement		98	0.14	13.72
Open Space Good Condition (grass cover >75%)	A/D	60	0.48	28.80
Subtotal		68.6	*0.62*	42.52
Non DCIA		60.0	*0.48*	28.80
VB-3E				
Open Space Good Condition (grass cover >75%)	A	60	0.22	13.20
Subtotal		60.0	*0.22*	13.20
Non DCIA		60.0	*0.22*	13.20
Total		**66.3**	**0.84**	**55.72**
Non DCIA		**60.0**	**0.70**	**42.00**

Summary		**66.3**	**0.84**	**55.72**	**DCIA %**
Non DCIA		**60.0**	**0.70**	**42.00**	**16.67%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 3			**DATE**
POND DESIGNATION:	VB-3E Alt.1	**MADE BY:**	YA	08-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		08-Apr-26

Post-Development		NRCS		
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Post				
Basin 3				
Pavement		98	0.36	35.28
Open Space Good Condition (grass cover >75%)	A/D	60	0.26	15.60
Subtotal		82.1	*0.62*	50.88
Non DCIA		60.0	*0.26*	15.60
VB-3E				
Open Space Good Condition (grass cover >75%)	A/D	60	0.22	13.20
Subtotal		60.0	*0.22*	13.20
Non DCIA		60.0	*0.22*	13.20
Total		**76.3**	**0.84**	**64.08**
Non DCIA		**60.0**	**0.48**	**28.80**

Summary		**76.3**	**0.84**	**64.08**	**DCIA %**
Non DCIA		**60.0**	**0.48**	**28.80**	**42.86%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 3			**DATE**
POND DESIGNATION:	Wet Pond 3 Alt 1	**MADE BY:**	YA	08-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**		08-Apr-26

Pre-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Pre				
Basin 3				
Pavement		98	0.80	78.40
Open Space Good Condition (grass cover >75%)	A/D	60	0.18	10.80
Subtotal		91.0	*0.98*	89.20
Non DCIA		60.0	*0.18*	10.80
Wet Pond 3				
Open Space Good Condition (grass cover >75%)	A/D	60	0.05	3.00
Subtotal		60.0	*0.05*	3.00
Non DCIA		60.0	*0.05*	3.00
Total		**89.5**	**1.03**	**92.20**
Non DCIA		**60.0**	**0.23**	**13.80**

Summary		**89.5**	**1.03**	**92.20**	**DCIA %**
Non DCIA		**60.0**	**0.23**	**13.80**	**77.67%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 3			**DATE**
POND DESIGNATION:	Wet Pond 3 Alt 1	**MADE BY:**	YA	08-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		08-Apr-26

Post-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Post				
Basin 3				
Pavement		98	0.24	23.52
Open Space Good Condition (grass cover >75%)	A/D	60	0.37	22.20
Subtotal		75.0	*0.61*	45.72
Non DCIA		60.0	*0.37*	22.20
Wet Pond 3				
Water		100		0.00
Open Space Good Condition (grass cover >75%)	A/D	60	0.43	25.80
Subtotal		60.0	*0.43*	25.80
Non DCIA		60.0	*0.43*	25.80
Total		**68.8**	**1.04**	**71.52**
Non DCIA		**60.0**	**0.80**	**48.00**

Summary		**68.8**	**1.04**	**71.52**	**DCIA %**
Non DCIA		**60.0**	**0.80**	**48.00**	**23.08%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.

Complete Report (not including cost) Ver 4.3.5

Project: Basin 3 Ultimate Alt 1
Date: 4/9/2026 7:48:36 AM

Site and Catchment Information

Analysis: Specified Removal Efficiency

Catchment Name	VB-3A Alt.1	VB-3B Alt.1	VB-3C Alt.1	VB-3D Alt.1	VB-3E Alt.1	Wet Pond 3 Alt.1
Rainfall Zone	Florida Zone 1	Florida Zone 1	Florida Zone 1	Florida Zone 1	Florida Zone 1	Florida Zone 1
Annual Mean Rainfall	52.00	52.00	52.00	52.00	52.00	52.00

Pre-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200
Area (acres)	4.40	3.12	3.85	4.89	0.84	1.03
Rational Coefficient (0-1)	0.80	0.54	0.71	0.51	0.19	0.67
Non DCIA Curve Number	39.00	55.90	60.00	59.30	60.00	60.00
DCIA Percent (0-100)	94.32	61.86	82.08	57.87	16.67	77.67
Nitrogen EMC (mg/l)	1.520	1.520	1.520	1.520	1.520	1.520
Phosphorus EMC (mg/l)	0.200	0.200	0.200	0.200	0.200	0.200
Runoff Volume (ac-ft/yr)	15.293	7.317	11.789	10.873	0.675	2.997
Groundwater N (kg/yr)	0.000	0.000	0.000	0.000	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000	0.000	0.000	0.000	0.000
Nitrogen Loading (kg/yr)	28.662	13.713	22.095	20.378	1.265	5.616
Phosphorus Loading (kg/yr)	3.771	1.804	2.907	2.681	0.166	0.739

Post-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200
Area (acres)	4.40	3.12	3.85	7.46	0.84	1.04
Rational Coefficient (0-1)	0.73	0.65	0.79	0.63	0.39	0.24
Non DCIA Curve Number	39.00	49.90	60.00	59.70	60.00	60.00
DCIA Percent (0-100)	85.68	75.88	91.93	72.25	42.86	23.08
Wet Pond Area (ac)	0.00	0.00	0.00	0.34	0.00	0.23
Nitrogen EMC (mg/l)	1.520	1.520	1.520	1.520	1.520	1.520
Phosphorus EMC (mg/l)	0.200	0.200	0.200	0.200	0.200	0.200
Runoff Volume (ac-ft/yr)	13.909	8.804	13.104	19.369	1.434	0.831
Groundwater N (kg/yr)	0.000	0.000	0.000	0.000	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000	0.000	0.000	0.000	0.000
Nitrogen Loading (kg/yr)	26.068	16.500	24.559	36.301	2.687	1.557
Phosphorus Loading (kg/yr)	3.430	2.171	3.231	4.776	0.354	0.205

Catchment Number: 1 Name: VB-3A Alt.1

Project: Basin 3 Ultimate Alt 1
Date: 4/9/2026

Vegetated Natural Buffer with media Design

Buffer Width (ft)	44.920
Buffer Length (ft)	297.010
Storage Depth (ft)	0.900
Width of Area Feeding Buffer (ft)	600.390
Water storage capacity of soil (in/in)	0.200

Slope of Bufer Width (2%-6%)	2.000

Watershed Characteristics

Catchment Area (acres)	4.40
Contributing Area (acres)	4.400
Non-DCIA Curve Number	39.00
DCIA Percent	85.68
Rainfall Zone	Florida Zone 1
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	69
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	59

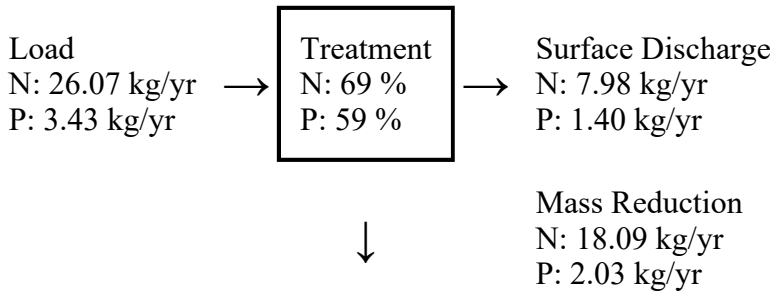
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

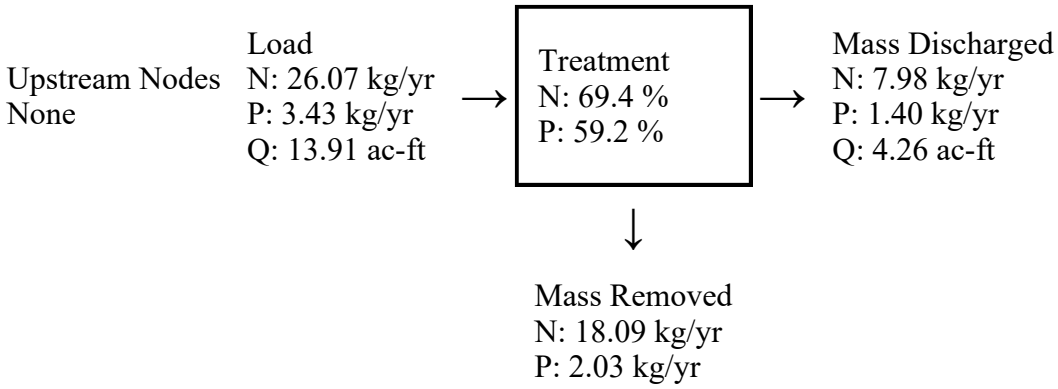
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.680
TN Mass Load (kg/yr)	18.088
TN Concentration (mg/L)	1.520
TP Mass Load (kg/yr)	2.029
TP Concentration (mg/L)	0.200

Load Diagram for Vegetated Natural Buffer with media (stand-alone)



Load Diagram for Vegetated Natural Buffer (As Used In Routing)



Catchment Number: 2 Name: VB-3B Alt.1

Project: Basin 3 Ultimate Alt 1
Date: 4/9/2026

Vegetated Natural Buffer with media Design

Buffer Width (ft)	40.330
Buffer Length (ft)	229.860
Storage Depth (ft)	0.900
Width of Area Feeding Buffer (ft)	550.930
Water storage capacity of soil (in/in)	0.200
Slope of Bufer Width (2%-6%)	2.000

Watershed Characteristics

Catchment Area (acres)	3.12
Contributing Area (acres)	3.120
Non-DCIA Curve Number	49.90
DCIA Percent	75.88
Rainfall Zone	Florida Zone 1
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	69
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	57

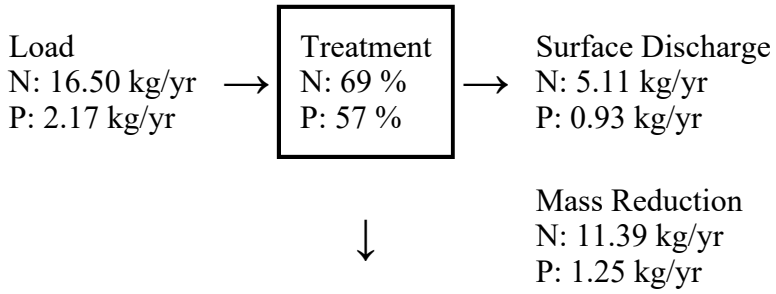
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

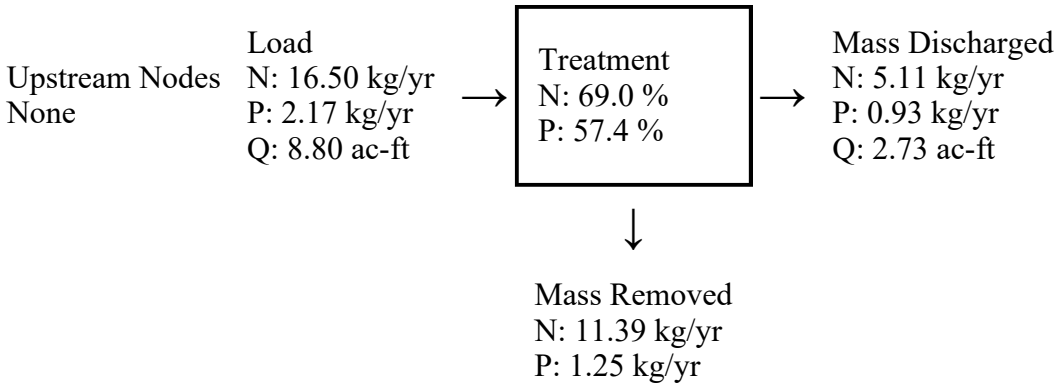
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.461
TN Mass Load (kg/yr)	11.385
TN Concentration (mg/L)	1.520
TP Mass Load (kg/yr)	1.245
TP Concentration (mg/L)	0.200

Load Diagram for Vegetated Natural Buffer with media (stand-alone)



Load Diagram for Vegetated Natural Buffer (As Used In Routing)



Catchment Number: 3 Name: VB-3C Alt.1

Project: Basin 3 Ultimate Alt 1
Date: 4/9/2026

Vegetated Natural Buffer with media Design

Buffer Width (ft)	41.130
Buffer Length (ft)	390.130
Storage Depth (ft)	0.900
Width of Area Feeding Buffer (ft)	114.000
Water storage capacity of soil (in/in)	0.200
Slope of Bufer Width (2%-6%)	2.000

Watershed Characteristics

Catchment Area (acres)	3.85
Contributing Area (acres)	3.850
Non-DCIA Curve Number	60.00
DCIA Percent	91.93
Rainfall Zone	Florida Zone 1
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	79
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	72

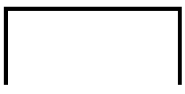
Media Mix Information

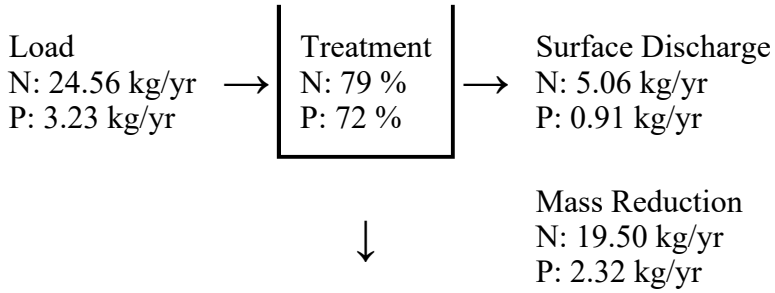
Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

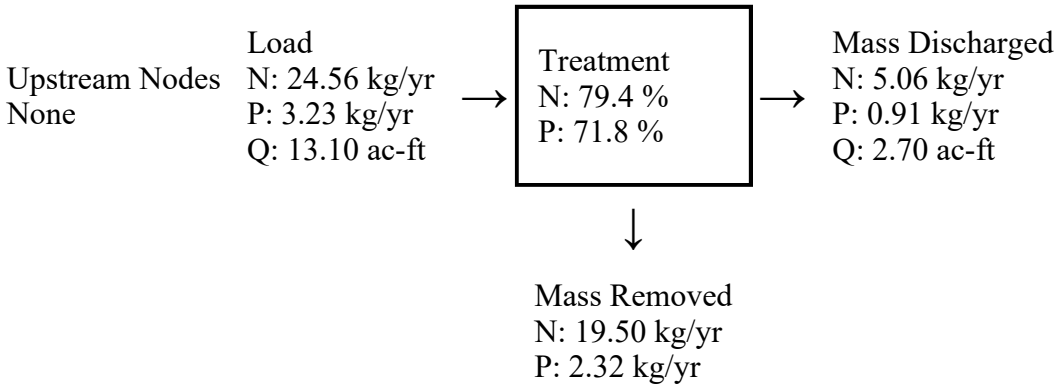
Treatment Rate (MG/yr)	1.877
TN Mass Load (kg/yr)	19.501
TN Concentration (mg/L)	1.520
TP Mass Load (kg/yr)	2.321
TP Concentration (mg/L)	0.200

Load Diagram for Vegetated Natural Buffer with media (stand-alone)





Load Diagram for Vegetated Natural Buffer (As Used In Routing)



Catchment Number: 4 Name: VB-3D Alt.1

Project: Basin 3 Ultimate Alt 1
Date: 4/9/2026

Vegetated Natural Buffer with media Design

Buffer Width (ft)	159.330
Buffer Length (ft)	378.470
Storage Depth (ft)	0.900
Width of Area Feeding Buffer (ft)	645.680
Water storage capacity of soil (in/in)	0.200
Slope of Bufer Width (2%-6%)	2.000

Watershed Characteristics

Catchment Area (acres)	7.46
Contributing Area (acres)	7.120
Non-DCIA Curve Number	59.70
DCIA Percent	72.25
Rainfall Zone	Florida Zone 1
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	87
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	77

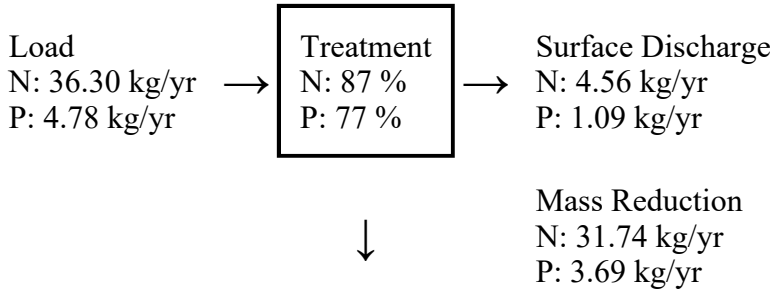
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

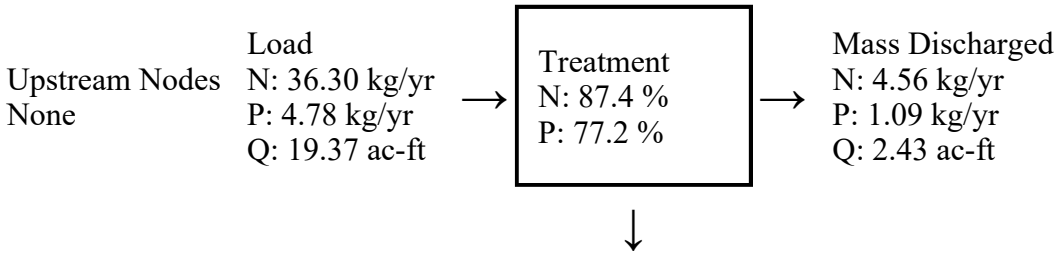
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	2.232
TN Mass Load (kg/yr)	31.738
TN Concentration (mg/L)	1.520
TP Mass Load (kg/yr)	3.690
TP Concentration (mg/L)	0.200

Load Diagram for Vegetated Natural Buffer with media (stand-alone)



Load Diagram for Vegetated Natural Buffer (As Used In Routing)



Mass Removed
N: 31.74 kg/yr
P: 3.69 kg/yr

Catchment Number: 5 Name: VB-3E Alt.1

Project: Basin 3 Ultimate Alt 1
Date: 4/9/2026

Vegetated Natural Buffer with media Design

Buffer Width (ft)	59.600
Buffer Length (ft)	351.070
Storage Depth (ft)	0.900
Width of Area Feeding Buffer (ft)	45.000
Water storage capacity of soil (in/in)	0.200
Slope of Bufer Width (2%-6%)	2.000

Watershed Characteristics

Catchment Area (acres)	0.84
Contributing Area (acres)	0.840
Non-DCIA Curve Number	60.00
DCIA Percent	42.86
Rainfall Zone	Florida Zone 1
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	95
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	93

Media Mix Information

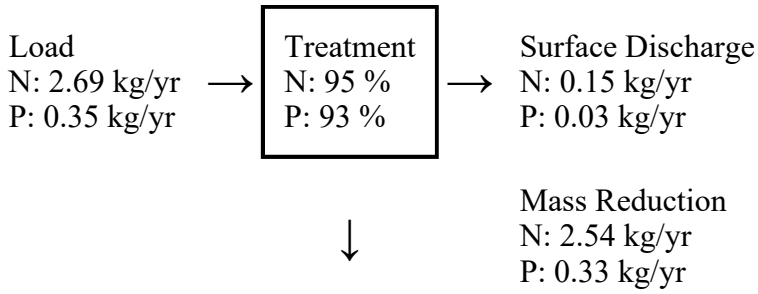
Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

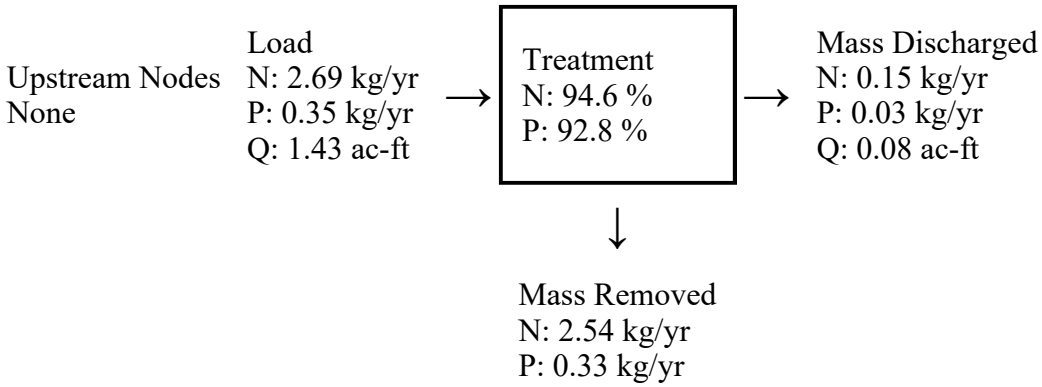
Treatment Rate (MG/yr)	0.413
TN Mass Load (kg/yr)	2.542
TN Concentration (mg/L)	1.520
TP Mass Load (kg/yr)	0.328

TP Concentration (mg/L) 0.200

Load Diagram for Vegetated Natural Buffer with media (stand-alone)



Load Diagram for Vegetated Natural Buffer (As Used In Routing)



Catchment Number: 6 Name: Wet Pond 3 Alt.1

Project: Basin 3 Ultimate Alt 1
Date: 4/9/2026

Wet Detention with Littoral Shelf Design

Permanent Pool Volume (ac-ft)	0.140
Permanent Pool Volume (ac-ft) for 31 days residence	0.071
Annual Residence Time (days)	62
Littoral Zone Efficiency Credit	10
Wetland Efficiency Credit	

Watershed Characteristics

Catchment Area (acres)	1.04

Contributing Area (acres)	0.810
Non-DCIA Curve Number	60.00
DCIA Percent	23.08
Rainfall Zone	Florida Zone 1
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	47
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	73

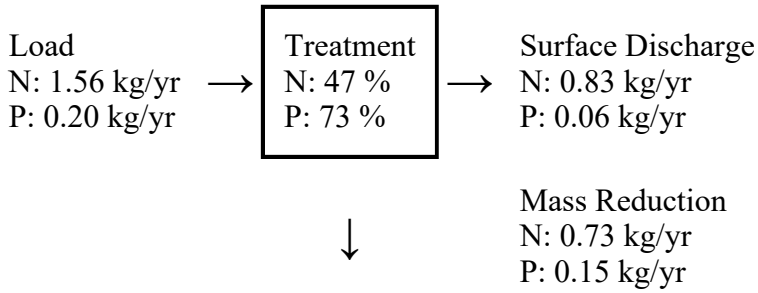
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

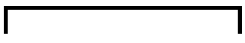
Groundwater Discharge (Stand-Alone)

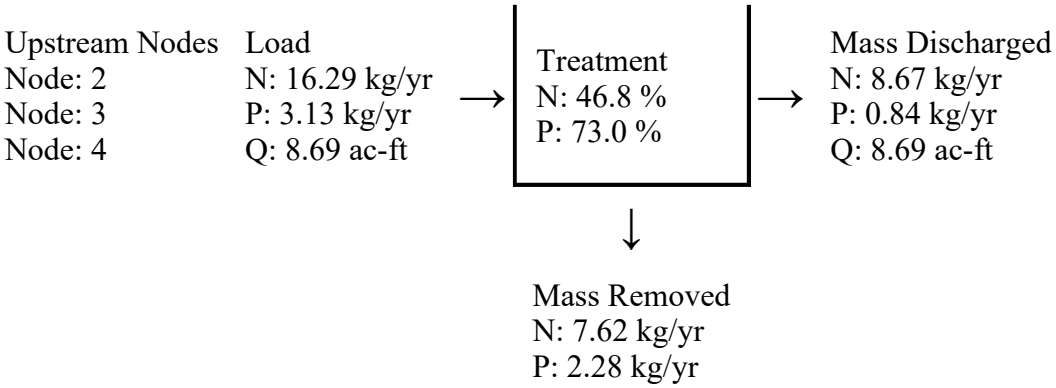
Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000
TP Concentration (mg/L)	0.000

Load Diagram for Wet Detention with Littoral Shelf (stand-alone)



Load Diagram for Wet Detention (As Used In Routing)





Summary Treatment Report Version: 4.3.5

Project: Basin 3 Ultimate Alt 1

Analysis Type: Specified Removal Efficiency
BMP Types:
Catchment 1 - (VB-3A Alt.1)
Vegetated Natural Buffer with media
Catchment 2 - (VB-3B Alt.1)
Vegetated Natural Buffer with media
Catchment 3 - (VB-3C Alt.1)
Vegetated Natural Buffer with media
Catchment 4 - (VB-3D Alt.1)
Vegetated Natural Buffer with media
Catchment 5 - (VB-3E Alt.1)
Vegetated Natural Buffer with media
Catchment 6 - (Wet Pond 3 Alt.1)
Wet Detention with Littoral Shelf
Based on % removal values to the nearest percent

Date:4/9/2026

Routing Summary
Catchment 1 Routed to Outlet
Catchment 2 Routed to Catchment 6
Catchment 3 Routed to Catchment 6
Catchment 4 Routed to Catchment 6
Catchment 5 Routed to Outlet
Catchment 6 Routed to Outlet

Total nitrogen target removal met? **Yes**
Total phosphorus target removal met? **Yes**

Summary Report

Nitrogen

Surface Water Discharge		
Total N pre load	91.73 kg/yr	
Total N post load	107.67 kg/yr	
Target N load reduction	80 %	
Target N discharge load	21.53 kg/yr	
Percent N load reduction	84 %	
Provided N discharge load	16.8 kg/yr	37.04 lb/yr

Provided N load removed	90.87 kg/yr	200.37 lb/yr

Phosphorus

Surface Water Discharge

Total P pre load	12.069 kg/yr	
Total P post load	14.167 kg/yr	
Target P load reduction	80 %	
Target P discharge load	2.833 kg/yr	
Percent P load reduction	84 %	
Provided P discharge load	2.271 kg/yr	5.01 lb/yr
Provided P load removed	11.896 kg/yr	26.231 lb/yr

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 3			**DATE**
POND DESIGNATION:	Dry Pond 3A Alt 2	**MADE BY:**	YA	08-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**		08-Apr-26

Pre-Development		NRCS		
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Pre				
Basin 3				
Pavement		98	4.64	454.72
Open Space Good Condition (grass cover >75%)	A	39	0.31	12.09
Open Space Good Condition (grass cover >75%)	A/D	60	0.01	0.60
Subtotal		94.2	*4.96*	467.41
Non DCIA		39.7	*0.32*	12.69
Dry Pond 3A				
Pavement		98	0.10	9.80
Open Space Good Condition (grass cover >75%)	A	39	1.01	39.39
Subtotal		44.3	*1.11*	49.19
Non DCIA		39.0	*1.01*	39.39
Total		**85.1**	**6.07**	**516.60**
Non DCIA		**39.2**	**1.33**	**52.08**

Summary		**85.1**	**6.07**	**516.60**	**DCIA %**
Non DCIA		**39.2**	**1.33**	**52.08**	**78.09%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 3			**DATE**
POND DESIGNATION:	Dry Pond 3A Alt 2	**MADE BY:**	YA	08-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		08-Apr-26

Post-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Post				
Basin 3				
Pavement		98	4.56	446.88
Open Space Good Condition (grass cover >75%)	A	39	0.38	14.82
Open Space Good Condition (grass cover >75%)	A/D	60	0.01	0.60
Subtotal		93.4	*4.95*	462.30
Non DCIA		39.5	*0.39*	15.42
Dry Pond 3A				
Water		100		0.00
Open Space Good Condition (grass cover >75%)	A	39	1.11	43.29
Subtotal		39.0	*1.11*	43.29
Non DCIA		39.0	*1.11*	43.29
Total		**83.4**	**6.06**	**505.59**
Non DCIA		**39.1**	**1.50**	**58.71**

Summary		**83.4**	**6.06**	**505.59**	**DCIA %**
Non DCIA		**39.1**	**1.50**	**58.71**	**75.25%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 3			**DATE**
POND DESIGNATION:	Dry Pond 3A Alt 2	**MADE BY:**	YA	08-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		08-Apr-26

Pond Stage/Area

Stage	Elevation (Ft)	Area (Ac)	Inc. Volume (Ac-Ft)	Total Volume (Ac-ft)
Berm (Outside)	16.00	1.11	1.00	3.32
Berm (Inside)	15.00	0.88	0.85	2.33
Design High Water (DHW)	14.00	0.81	0.00	1.48
Weir (Design Low Water)	14.00	0.81	1.48	**1.48**
Control (wet)/Pond Bottom (dry)	12.00	0.67	0.00	0.00
Seasonal High Ground Water Elevation (SHGWT)*	11.00			

SHGWT Check (Dry Retention): ok
*SHGWT based on soil survey

Required Treatment Volume

Treatment type: dry retention

1) Runoff Treatment =	2.75	impervious	1.05 ac-ft	
OR	0.5	total area	0.25 ac-ft	*
+ 2) An Additional 50% for discharge to Class I, II, OFWs or Shellfishing waters			+ 0.00 ac-ft	
*** Required Treatment**			**1.05 ac-ft**	

Volume between Control and Weir = ***1.48 ac-ft***

Check Treatment Volume Requirement: 1.05 is < or = 1.48 **Treatment Volume Requirement met**

Required Attenuation Volume

Attenuation required?	yes
Frequency	25-yr
Time	24-hr
Precipitation Depth	8.0 in.

1) Soil Storage (S) = (1000/CN) - 10 — S_{pre} = **1.75 in.** — S_{post} = **1.99 in.**
2) Runoff (R) = (P-0.2S)2/(P+0.8S) — Q_{pre} = **6.23 in.** — Q_{post} = **6.03 in.**
3) Runoff Volume (Vr) = R/12 * Area

Pre-Development Runoff	Vr_{pre} =	3.15 ac-ft	*
Post-Development Runoff	Vr_{post} =	3.04 ac-ft	
Attenuation volume required (Post-Pre)		**-0.11 ac-ft**	

*No existing basin discharging to the proposed pond location, therefore, Vr Pre = 0

Total Required Volume (Treatment + Attenuation) ***-0.11 ac-ft***

Total Provided Volume ***1.48 ac-ft***

Check Total Volume Requirement: -0.11 is < or = 1.48 **Total Volume Requirement met**

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 3			**DATE**
POND DESIGNATION:	VB-3F Alt 2	**MADE BY:**	YA	08-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**		08-Apr-26

Pre-Development		NRCS		
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Pre				
Basin 3				
Pavement		98	2.15	210.70
Open Space Good Condition (grass cover >75%)	A/D	60	2.07	124.20
Subtotal		79.4	*4.22*	334.90
Non DCIA		60.0	*2.07*	124.20
VB-3F				
Pavement		98	0.52	50.96
Subtotal		98.0	*0.52*	50.96
Non DCIA		0.0	*0.00*	0.00
Total		**81.4**	**4.74**	**385.86**
Non DCIA		**60.0**	**2.07**	**124.20**

Summary		**81.4**	**4.74**	**385.86**	**DCIA %**
Non DCIA		**60.0**	**2.07**	**124.20**	**56.33%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 3			**DATE**
POND DESIGNATION:	VB-3F Alt 2	**MADE BY:**	YA	08-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		08-Apr-26

Post-Development		NRCS		
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Post				
Basin 3				
Pavement		98	3.69	361.62
Open Space Good Condition (grass cover >75%)	A/D	60	0.54	32.40
Subtotal		93.1	*4.23*	394.02
Non DCIA		60.0	*0.54*	32.40
VB-3F				
Pavement		98	0.52	50.96
Subtotal		98.0	*0.52*	50.96
Non DCIA		0.0	*0.00*	0.00
Total		**93.7**	**4.75**	**444.98**
Non DCIA		**60.0**	**0.54**	**32.40**

Summary		**93.7**	**4.75**	**444.98**	**DCIA %**
Non DCIA		**60.0**	**0.54**	**32.40**	**88.63%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 3			**DATE**
POND DESIGNATION:	VB-3G Alt 2	**MADE BY:**	YA	08-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**		08-Apr-26

Pre-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Pre				
Basin 3				
Pavement		98	3.18	311.64
Open Space Good Condition (grass cover >75%)	A/D	60	0.69	41.40
Subtotal		91.2	*3.87*	353.04
Non DCIA		60.0	*0.69*	41.40
VB-3G				
Pavement		98	0.72	70.56
Subtotal		98.0	*0.72*	70.56
Non DCIA		0.0	*0.00*	0.00
Total		**92.3**	**4.59**	**423.60**
Non DCIA		**60.0**	**0.69**	**41.40**

Summary		**92.3**	**4.59**	**423.60**	**DCIA %**
Non DCIA		**60.0**	**0.69**	**41.40**	**84.97%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 3			**DATE**
POND DESIGNATION:	VB-3G Alt 2	**MADE BY:**	YA	08-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		08-Apr-26

Post-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Post				
Basin 3				
Pavement		98	2.77	271.46
Open Space Good Condition (grass cover >75%)	A/D	60	1.09	65.40
Subtotal		87.3	*3.86*	336.86
Non DCIA		87.3	*3.86*	336.86
VB-3G				
Pavement		98	0.72	70.56
Subtotal		98.0	*0.72*	70.56
Non DCIA		0.0	*0.00*	0.00
Total		**89.0**	**4.58**	**407.42**
Total		**87.3**	**3.86**	**336.86**

Summary		**89.0**	**4.58**	**407.42**	**DCIA %**
Summary		**87.3**	**3.86**	**336.86**	**76.20%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 3			**DATE**
POND DESIGNATION:	VB-3H Alt 2	**MADE BY:**	YA	08-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**		08-Apr-26

Pre-Development		NRCS		
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Pre				
Basin 3				
Pavement		98	0.18	17.64
Open Space Good Condition (grass cover >75%)	A/D	60	1.44	86.40
Subtotal		64.2	*1.62*	104.04
Non DCIA		60.0	*1.44*	86.40
VB-3H				
Pavement		98	1.01	98.98
Open Space Good Condition (grass cover >75%)	A/D	60	0.27	16.20
Subtotal		90.0	*1.28*	115.18
Non DCIA		60.0	*0.27*	16.20
Total		**75.6**	**2.90**	**219.22**
Non DCIA		**60.0**	**1.71**	**102.60**

Summary		**75.6**	**2.90**	**219.22**	**DCIA %**
Non DCIA		**60.0**	**1.71**	**102.60**	**41.03%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 3			**DATE**
POND DESIGNATION:	VB-3H Alt 2	**MADE BY:**	YA	08-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		08-Apr-26

Post-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Post				
Basin 3				
Pavement		98	3.56	348.88
Open Space Good Condition (grass cover >75%)	A/D	60	0.59	35.40
Subtotal		92.6	*4.15*	384.28
Non DCIA		60.0	*0.59*	35.40
VB-3H				
Water		100		0.00
Open Space Good Condition (grass cover >75%)	A/D	60	1.28	76.80
Subtotal		60.0	*1.28*	76.80
Non DCIA		60.0	*1.28*	76.80
Total		**84.9**	**5.43**	**461.08**
Non DCIA		**60.0**	**1.87**	**112.20**

Summary		**84.9**	**5.43**	**461.08**	**DCIA %**
Non DCIA		**60.0**	**1.87**	**112.20**	**65.56%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.

Complete Report (not including cost) Ver 4.3.5

Project: Basin 3 Ultimate Alt 2
Date: 4/9/2026 8:42:00 AM

Site and Catchment Information

Analysis: Specified Removal Efficiency

Catchment Name	Dry Pond 3A Alt. 2	VB-3F Alt. 2	VB-3G Alt. 2	VB-3H Alt. 2
Rainfall Zone	Florida Zone 4	Florida Zone 4	Florida Zone 4	Florida Zone 4
Annual Mean Rainfall	52.00	52.00	52.00	52.00

Pre-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200
Area (acres)	6.07	4.74	4.59	2.90
Rational Coefficient (0-1)	0.65	0.48	0.71	0.36
Non DCIA Curve Number	39.20	60.00	60.00	60.00
DCIA Percent (0-100)	78.09	56.33	84.97	41.03
Nitrogen EMC (mg/l)	1.520	1.520	1.520	1.520
Phosphorus EMC (mg/l)	0.200	0.200	0.200	0.200
Runoff Volume (ac-ft/yr)	16.970	9.887	14.038	4.540
Groundwater N (kg/yr)	0.000	0.000	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000	0.000	0.000
Nitrogen Loading (kg/yr)	31.805	18.531	26.309	8.508
Phosphorus Loading (kg/yr)	4.185	2.438	3.462	1.119

Post-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200
Area (acres)	6.06	4.75	4.58	5.43

Rational Coefficient (0-1)	0.62	0.73	0.68	0.55
Non DCIA Curve Number	39.10	60.00	87.30	60.00
DCIA Percent (0-100)	75.25	88.63	76.20	65.56
Wet Pond Area (ac)	0.00	0.00	0.00	0.00
Nitrogen EMC (mg/l)	1.520	1.520	1.520	1.520
Phosphorus EMC (mg/l)	0.200	0.200	0.200	0.200
Runoff Volume (ac-ft/yr)	16.330	15.115	13.494	13.021
Groundwater N (kg/yr)	0.000	0.000	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000	0.000	0.000
Nitrogen Loading (kg/yr)	30.606	28.327	25.289	24.403
Phosphorus Loading (kg/yr)	4.027	3.727	3.328	3.211

Catchment Number: 1 Name: Dry Pond 3A Alt. 2

Project: Basin 3 Ultimate Alt 2
Date: 4/9/2026

Retention Design

Retention Depth (in)	2.750
Retention Volume (ac-ft)	1.389

Watershed Characteristics

Catchment Area (acres)	6.06
Contributing Area (acres)	6.060
Non-DCIA Curve Number	39.10
DCIA Percent	75.25
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	95
Required TP Treatment Efficiency (%)	80

Provided TP Treatment Efficiency (%) 95

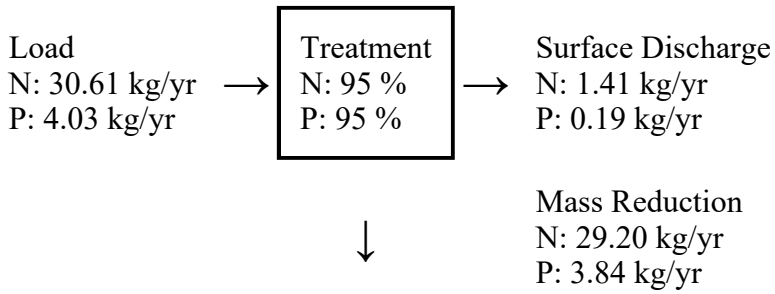
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

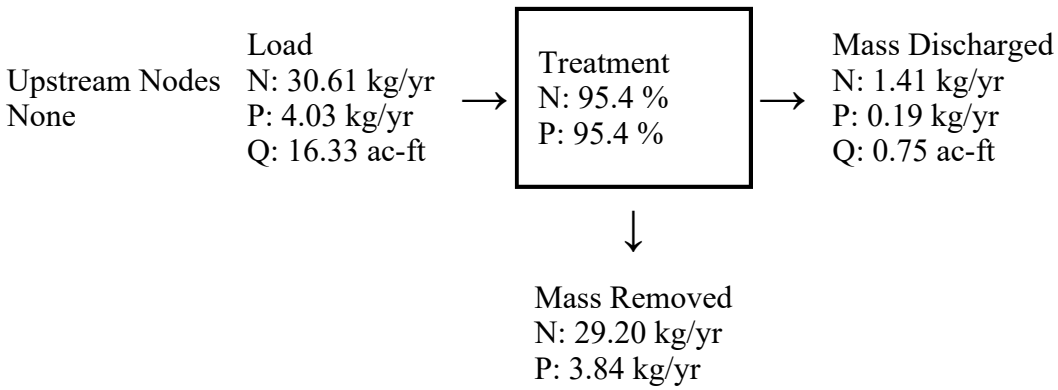
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	5.149
TN Mass Load (kg/yr)	29.195
TN Concentration (mg/L)	1.520
TP Mass Load (kg/yr)	3.841
TP Concentration (mg/L)	0.200

Load Diagram for Retention (stand-alone)



Load Diagram for Retention (As Used In Routing)



Catchment Number: 2 Name: VB-3F Alt. 2

Project: Basin 3 Ultimate Alt 2
Date: 4/9/2026

Vegetated Natural Buffer with media Design

Buffer Width (ft)	100.060
Buffer Length (ft)	197.550
Storage Depth (ft)	0.900
Width of Area Feeding Buffer (ft)	932.720
Water storage capacity of soil (in/in)	0.200
Slope of Bufer Width (2%-6%)	2.000

Watershed Characteristics

Catchment Area (acres)	4.75
Contributing Area (acres)	4.750
Non-DCIA Curve Number	60.00
DCIA Percent	88.63
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	81
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	69

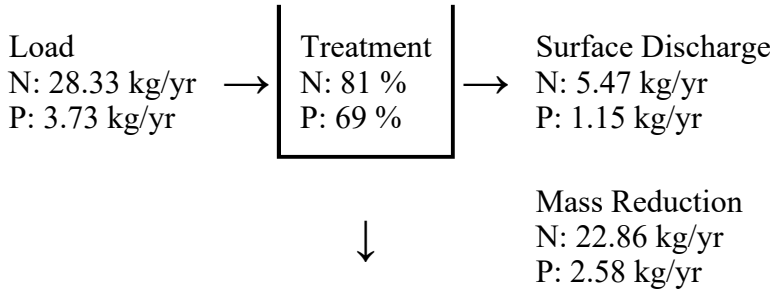
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

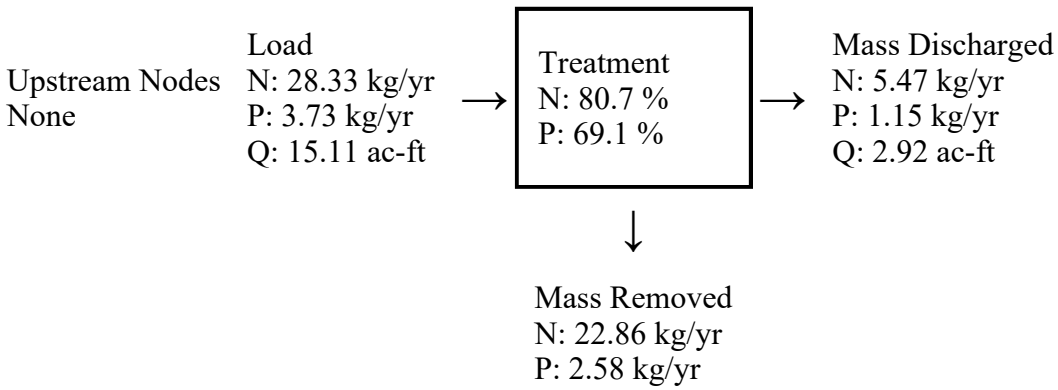
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	1.144
TN Mass Load (kg/yr)	22.860
TN Concentration (mg/L)	1.520
TP Mass Load (kg/yr)	2.576
TP Concentration (mg/L)	0.200

Load Diagram for Vegetated Natural Buffer with media (stand-alone)



Load Diagram for Vegetated Natural Buffer (As Used In Routing)



Catchment Number: 3 Name: VB-3G Alt. 2

Project: Basin 3 Ultimate Alt 2
Date: 4/9/2026

Vegetated Natural Buffer with media Design

Buffer Width (ft)	239.490
Buffer Length (ft)	127.660
Storage Depth (ft)	0.900
Width of Area Feeding Buffer (ft)	1,317.100
Water storage capacity of soil (in/in)	0.200
Slope of Bufer Width (2%-6%)	2.000

Watershed Characteristics

Catchment Area (acres)	4.58
Contributing Area (acres)	4.580
Non-DCIA Curve Number	87.30
DCIA Percent	76.20
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	89
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	76

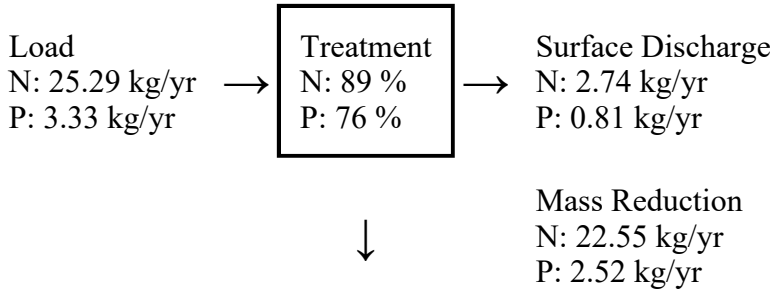
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

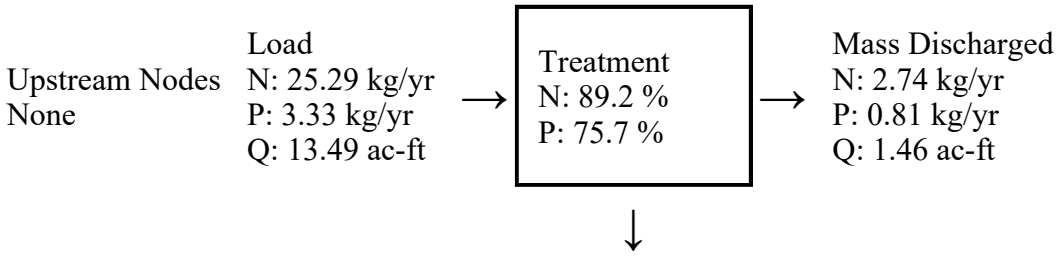
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	1.344
TN Mass Load (kg/yr)	22.547
TN Concentration (mg/L)	0.608
TP Mass Load (kg/yr)	2.520
TP Concentration (mg/L)	0.020

Load Diagram for Vegetated Natural Buffer with media (stand-alone)



Load Diagram for Vegetated Natural Buffer (As Used In Routing)



Mass Removed
N: 22.55 kg/yr
P: 2.52 kg/yr

Catchment Number: 4 Name: VB-3H Alt. 2

Project: Basin 3 Ultimate Alt 2
Date: 4/9/2026

Vegetated Natural Buffer with media Design

Buffer Width (ft)	242.715
Buffer Length (ft)	199.100
Storage Depth (ft)	0.900
Width of Area Feeding Buffer (ft)	907.960
Water storage capacity of soil (in/in)	0.200
Slope of Bufer Width (2%-6%)	2.000

Watershed Characteristics

Catchment Area (acres)	5.43
Contributing Area (acres)	5.430
Non-DCIA Curve Number	60.00
DCIA Percent	65.56
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	92
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	82

Media Mix Information

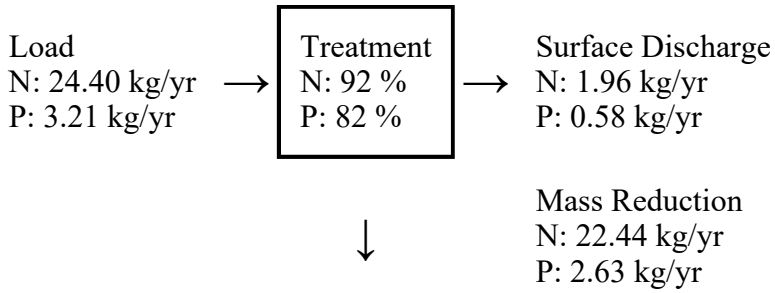
Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

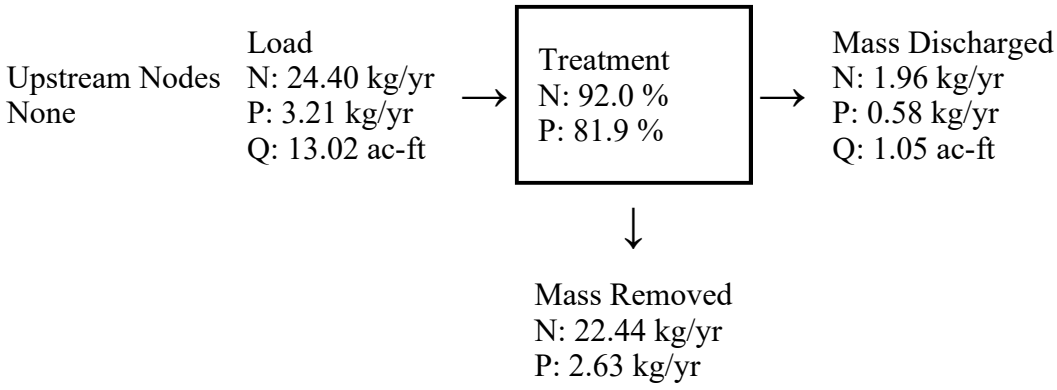
Treatment Rate (MG/yr)	1.825
TN Mass Load (kg/yr)	22.443
TN Concentration (mg/L)	0.608
TP Mass Load (kg/yr)	2.628

TP Concentration (mg/L) 0.020

Load Diagram for Vegetated Natural Buffer with media (stand-alone)



Load Diagram for Vegetated Natural Buffer (As Used In Routing)



Summary Treatment Report Version: 4.3.5

Project: Basin 3 Ultimate Alt 2

Date:4/9/2026

Analysis Type: Specified Removal Efficiency
BMP Types:
Catchment 1 - (Dry Pond 3A Alt. 2) Retention
Catchment 2 - (VB-3F Alt. 2) Vegetated Natural Buffer with media
Catchment 3 - (VB-3G Alt. 2) Vegetated Natural Buffer with media

Routing Summary
Catchment 1 Routed to Outlet
Catchment 2 Routed to Outlet
Catchment 3 Routed to Outlet
Catchment 4 Routed to Outlet

Catchment 4 - (VB-3H Alt. 2)
Vegetated Natural Buffer with media
Based on % removal values to the nearest percent

Total nitrogen target removal met? **Yes**
Total phosphorus target removal met? **Yes**

Summary Report

Nitrogen

Surface Water Discharge		
Total N pre load	85.15 kg/yr	
Total N post load	108.63 kg/yr	
Target N load reduction	80 %	
Target N discharge load	21.73 kg/yr	
Percent N load reduction	89 %	
Provided N discharge load	11.58 kg/yr	25.53 lb/yr
Provided N load removed	97.05 kg/yr	213.99 lb/yr

Phosphorus

Surface Water Discharge		
Total P pre load	11.204 kg/yr	
Total P post load	14.293 kg/yr	
Target P load reduction	80 %	
Target P discharge load	2.859 kg/yr	
Percent P load reduction	81 %	
Provided P discharge load	2.727 kg/yr	6.01 lb/yr
Provided P load removed	11.566 kg/yr	25.503 lb/yr

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 3			**DATE**
POND DESIGNATION:	Dry Pond 3B Alt 3	**MADE BY:**	YA	08-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**		08-Apr-26

Pre-Development		NRCS		
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Pre				
Basin 3				
Pavement		98	4.64	454.72
Open Space Good Condition (grass cover >75%)	A	39	0.31	12.09
Open Space Good Condition (grass cover >75%)	A/D	60	0.01	0.60
Subtotal		94.2	*4.96*	467.41
Non DCIA		39.7	*0.32*	12.69
Dry Pond 3B				
Pavement		98	0.86	84.28
Subtotal		98.0	*0.86*	84.28
Non DCIA		0.0	*0.00*	0.00
Total		**94.8**	**5.82**	**551.69**
Non DCIA		**39.7**	**0.32**	**12.69**

Summary		**94.8**	**5.82**	**551.69**	**DCIA %**
Non DCIA		**39.7**	**0.32**	**12.69**	**94.50%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 3			**DATE**
POND DESIGNATION:	Dry Pond 3B Alt 3	**MADE BY:**	YA	08-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		08-Apr-26

Post-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Post				
Basin 3				
Pavement		98	4.56	446.88
Open Space Good Condition (grass cover >75%)	A	39	0.38	14.82
Open Space Good Condition (grass cover >75%)	A/D	60	0.01	0.60
Subtotal		93.4	*4.95*	462.30
Non DCIA		39.5	*0.39*	15.42
Dry Pond 3B				
Water		100		0.00
Open Space Good Condition (grass cover >75%)	A	39	0.86	33.54
Subtotal		39.0	*0.86*	33.54
Non DCIA		39.0	*0.86*	33.54
Total		**85.3**	**5.81**	**495.84**
Non DCIA		**39.2**	**1.25**	**48.96**

Summary		**85.3**	**5.81**	**495.84**	**DCIA %**
Non DCIA		**39.2**	**1.25**	**48.96**	**78.49%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 3			**DATE**
POND DESIGNATION:	Dry Pond 3B Alt 3	**MADE BY:**	YA	08-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		08-Apr-26

Dry Pond 3B Stage/Area

Stage	Elevation (Ft)	Area (Ac)	Inc. Volume (Ac-Ft)	Total Volume (Ac-ft)
Berm (Outside)	11.50	0.86	0.77	1.99
Berm (Inside)	10.50	0.67	0.64	1.22
Design High Water (DHW)	9.50	0.61	0.00	0.58
Weir (Design Low Water)	9.50	0.61	0.58	**0.58**
Control (wet)/Pond Bottom (dry)	8.50	0.55	0.00	0.00
Seasonal High Ground Water Elevation (SHGWT)*	7.50			

SHGWT Check (Dry Retention): ok
*SHGWT based on soil survey

Required Treatment Volume

Treatment type: dry retention

1) Runoff Treatment =	1.5	impervious	0.57 ac-ft	
OR	0.5	total area	0.24 ac-ft	*
+ 2) An Additional 50% for discharge to Class I, II, OFWs or Shellfishing waters			+ 0.00 ac-ft	
*** Required Treatment**			**0.57 ac-ft**	

Volume between Control and Weir = ***0.58 ac-ft***

Check Treatment Volume Requirement: 0.57 is < or = 0.58 **Treatment Volume Requirement met**

Required Attenuation Volume

Attenuation required?	yes
Frequency	25-yr
Time	24-hr
Precipitation Depth	8.0 in.

1) Soil Storage (S) = (1000/CN) - 10 — S_{pre} = **0.55 in.** — S_{post} = **1.72 in.**
2) Runoff (R) = (P-0.2S)2/(P+0.8S) — Q_{pre} = **7.38 in.** — Q_{post} = **6.25 in.**
3) Runoff Volume (Vr) = R/12 * Area

Pre-Development Runoff	Vr_{pre} =	3.58 ac-ft	*
Post-Development Runoff	Vr_{post} =	3.03 ac-ft	
Attenuation volume required (Post-Pre)		**-0.55 ac-ft**	

*No existing basin discharging to the proposed pond location, therefore, Vr Pre = 0

Total Required Volume (Treatment + Attenuation) ***-0.55 ac-ft***

Total Provided Volume ***0.58 ac-ft***

Check Total Volume Requirement: -0.55 is < or = 0.58 **Total Volume Requirement met**

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 3			**DATE**
POND DESIGNATION:	Dry Pond 3C Alt 3	**MADE BY:**	YA	08-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**		08-Apr-26

Pre-Development		NRCS		
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Pre				
Basin 3				
Pavement		98	5.49	538.02
Open Space Good Condition (grass cover >75%)	A/D	60	4.20	252.00
Subtotal		81.5	*9.69*	790.02
Non DCIA		60.0	*4.20*	252.00
Dry Pond 3C				
Pavement		98	2.03	198.94
Subtotal		98.0	*2.03*	198.94
Non DCIA		0.0	*0.00*	0.00
Total		**84.4**	**11.72**	**988.96**
Non DCIA		**60.0**	**4.20**	**252.00**

Summary		**84.4**	**11.72**	**988.96**	**DCIA %**
Non DCIA		**60.0**	**4.20**	**252.00**	**64.16%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 3			**DATE**
POND DESIGNATION:	Dry Pond 3C Alt 3	**MADE BY:**	YA	08-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		08-Apr-26

Post-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Post				
Basin 3				
Pavement		98	10.84	1062.32
Open Space Good Condition (grass cover >75%)	A/D	60	1.40	84.00
Subtotal		93.7	*12.24*	1146.32
Non DCIA		60.0	*1.40*	84.00
Dry Pond 3C				
Water		100		0.00
Open Space Good Condition (grass cover >75%)	A/D	60	2.03	121.80
Subtotal		60.0	*2.03*	121.80
Non DCIA		60.0	*2.03*	121.80
Total		**88.9**	**14.27**	**1268.12**
Non DCIA		**60.0**	**3.43**	**205.80**

Summary		**88.9**	**14.27**	**1268.12**	**DCIA %**
Non DCIA		**60.0**	**3.43**	**205.80**	**75.96%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 3			**DATE**
POND DESIGNATION:	Dry Pond 3C Alt 3	**MADE BY:**	YA	08-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		08-Apr-26

Dry Pond 3C Stage/Area

Stage	Elevation (Ft)	Area (Ac)	Inc. Volume (Ac-Ft)	Total Volume (Ac-ft)
Berm (Outside)	9.50	2.03	1.92	5.34
Berm (Inside)	8.50	1.81	1.76	3.42
Design High Water (DHW)	7.50	1.71	0.00	1.66
Weir (Design Low Water)	7.50	1.71	1.66	**1.66**
Control (wet)/Pond Bottom (dry)	6.50	1.61	0.00	0.00
Seasonal High Ground Water Elevation (SHGWT)*	5.50			

SHGWT Check (Dry Retention): ok
*SHGWT based on soil survey

Required Treatment Volume

Treatment type: dry retention

1) Runoff Treatment =	1.6	impervious		1.45 ac-ft	
OR	0.5	total area		0.59 ac-ft	*
+ 2) An Additional 50% for discharge to Class I, II, OFWs or Shellfishing waters			+	0.00 ac-ft	
*** Required Treatment**				**1.45 ac-ft**	

Volume between Control and Weir = ***1.66 ac-ft***

Check Treatment Volume Requirement: 1.45 is < or = 1.66 **Treatment Volume Requirement met**

Required Attenuation Volume

Attenuation required?	yes
Frequency	25-yr
Time	24-hr
Precipitation Depth	8.0 in.

1) Soil Storage (S) = (1000/CN) - 10 — S_{pre} = **1.85 in.** — S_{post} = **1.25 in.**
2) Runoff (R) = (P-0.2S)2/(P+0.8S) — Q_{pre} = **6.14 in.** — Q_{post} = **6.67 in.**
3) Runoff Volume (Vr) = R/12 * Area

Pre-Development Runoff	Vr_{pre} =	6.00 ac-ft	*
Post-Development Runoff	Vr_{post} =	7.93 ac-ft	
Attenuation volume required (Post-Pre)		**1.94 ac-ft**	

*No existing basin discharging to the proposed pond location, therefore, Vr Pre = 0

Total Required Volume (Treatment + Attenuation) ***1.94 ac-ft***

Total Provided Volume ***1.66 ac-ft***

Check Total Volume Requirement: 1.94 > 1.66 **FALSE**

Complete Report (not including cost) Ver 4.3.5

Project: Basin 3 Ultimate Alt 3
Date: 4/9/2026 8:47:03 AM

Site and Catchment Information

Analysis: Specified Removal Efficiency

Catchment Name	Dry Pond 3B Alt. 3	Dry Pond 3C Alt. 3
Rainfall Zone	Florida Zone 4	Florida Zone 4
Annual Mean Rainfall	52.00	52.00

Pre-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200
Area (acres)	5.82	11.72
Rational Coefficient (0-1)	0.78	0.54
Non DCIA Curve Number	39.70	60.00
DCIA Percent (0-100)	94.50	64.16
Nitrogen EMC (mg/l)	1.520	1.520
Phosphorus EMC (mg/l)	0.200	0.200
Runoff Volume (ac-ft/yr)	19.621	27.549
Groundwater N (kg/yr)	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000
Nitrogen Loading (kg/yr)	36.773	51.631
Phosphorus Loading (kg/yr)	4.839	6.794

Post-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200
Area (acres)	5.81	14.27
Rational Coefficient (0-1)	0.65	0.63
Non DCIA Curve Number	39.20	60.00
DCIA Percent (0-100)	78.49	75.96
Wet Pond Area (ac)	0.00	0.00
Nitrogen EMC (mg/l)	1.520	1.520
Phosphorus EMC (mg/l)	0.200	0.200
Runoff Volume (ac-ft/yr)	16.326	39.246
Groundwater N (kg/yr)	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000
Nitrogen Loading (kg/yr)	30.598	73.554
Phosphorus Loading (kg/yr)	4.026	9.678

Catchment Number: 1 Name: Dry Pond 3B Alt. 3

Project: Basin 3 Ultimate Alt 3
Date: 4/9/2026

Retention Design

Retention Depth (in)	1.500
Retention Volume (ac-ft)	0.726

Watershed Characteristics

Catchment Area (acres)	5.81
Contributing Area (acres)	5.810
Non-DCIA Curve Number	39.20
DCIA Percent	78.49
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	85
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	85

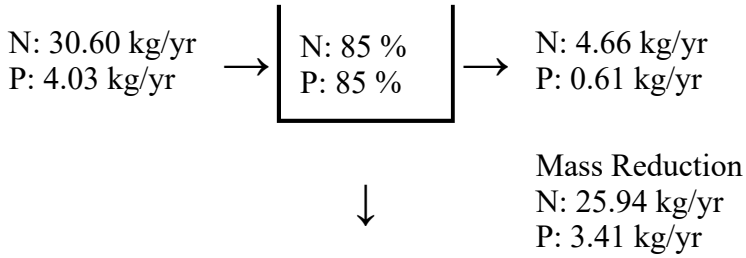
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

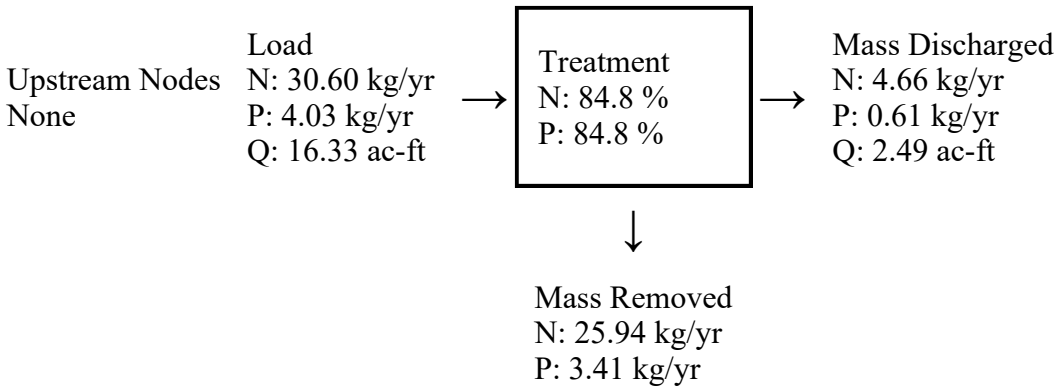
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	25.937
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	3.413
TP Concentration (mg/L)	0.000

Load Diagram for Retention (stand-alone)



Load Diagram for Retention (As Used In Routing)



Catchment Number: 2 Name: Dry Pond 3C Alt. 3

Project: Basin 3 Ultimate Alt 3
Date: 4/9/2026

Retention Design

Retention Depth (in)	1.600
Retention Volume (ac-ft)	1.903

Watershed Characteristics

Catchment Area (acres)	14.27
Contributing Area (acres)	14.270
Non-DCIA Curve Number	60.00
DCIA Percent	75.96
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	86
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	86

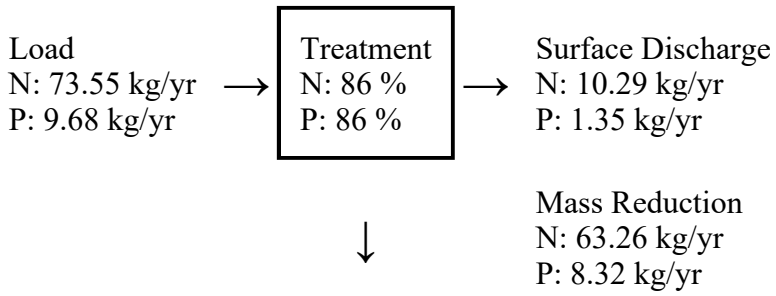
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

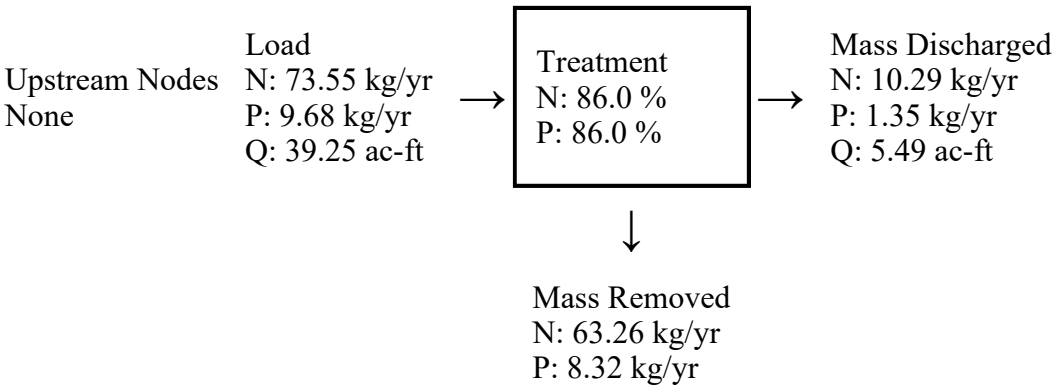
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	63.260
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	8.324
TP Concentration (mg/L)	0.000

Load Diagram for Retention (stand-alone)



Load Diagram for Retention (As Used In Routing)



Summary Treatment Report Version: 4.3.5

Project: Basin 3 Ultimate Alt 3

Analysis Type: Specified Removal Efficiency

Date:4/9/2026

BMP Types:

Catchment 1 - (Dry Pond 3B Alt. 3) Retention

Catchment 2 - (Dry Pond 3C Alt. 3) Retention

Routing Summary

Catchment 1 Routed to Outlet

Catchment 2 Routed to Outlet

Based on % removal values to the nearest percent

Total nitrogen target removal met? **Yes**

Total phosphorus target removal met? **Yes**

Summary Report

Nitrogen

Surface Water Discharge		
Total N pre load	88.4 kg/yr	
Total N post load	104.15 kg/yr	
Target N load reduction	80 %	
Target N discharge load	20.83 kg/yr	
Percent N load reduction	86 %	
Provided N discharge load	14.95 kg/yr	32.97 lb/yr
Provided N load removed	89.2 kg/yr	196.68 lb/yr

Phosphorus

Surface Water Discharge		
Total P pre load	11.632 kg/yr	
Total P post load	13.704 kg/yr	
Target P load reduction	80 %	
Target P discharge load	2.741 kg/yr	
Percent P load reduction	86 %	
Provided P discharge load	1.968 kg/yr	4.34 lb/yr
Provided P load removed	11.737 kg/yr	25.879 lb/yr

Basin 4

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 4			**DATE**
POND DESIGNATION:	Dry Pond 4 Alt 1	**MADE BY:**	YA	08-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**		08-Apr-26

Pre-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Pre				
Basin 4				
Pavement		98	12.08	1183.84
Open Space Good Condition (grass cover >75%)	C/D	77	0.73	56.21
Open Space Good Condition (grass cover >75%)	A/D	60	8.39	503.40
Open Space Good Condition (grass cover >75%)	B/D	71	2.14	151.94
Subtotal		81.2	*23.34*	1895.39
Non DCIA		63.2	*11.26*	711.55
Dry Pond 4				
Open Space Good Condition (grass cover >75%)	B/D	71	1.68	119.28
Open Space Good Condition (grass cover >75%)	A/D	60	1.98	118.80
Subtotal		65.0	*3.66*	238.08
Non DCIA		65.0	*3.66*	238.08
Total		**79.0**	**27.00**	**2133.47**
Non DCIA		**63.6**	**14.92**	**949.63**

Summary		**79.0**	**27.00**	**2133.47**	**DCIA %**
Non DCIA		**63.6**	**14.92**	**949.63**	**44.74%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 4			**DATE**
POND DESIGNATION:	Dry Pond 4 Alt 1	**MADE BY:**	YA	08-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		08-Apr-26

Post-Development		NRCS		
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Post				
Basin 4				
Pavement		98	22.34	2189.32
Open Space Good Condition (grass cover >75%)	C/D	77	0.47	36.19
Open Space Good Condition (grass cover >75%)	A/D	60	2.85	171.00
Open Space Good Condition (grass cover >75%)	B/D	71	0.90	63.90
Subtotal		92.6	*26.56*	2460.41
Non DCIA		64.2	*4.22*	271.09
Dry Pond 4				
Water		100		0.00
Open Space Good Condition (grass cover >75%)	A/D	60	1.98	118.80
Open Space Good Condition (grass cover >75%)	B/D	71	1.68	119.28
Subtotal		65.0	*3.66*	238.08
Non DCIA		65.0	*3.66*	238.08
Total		**89.3**	**30.22**	**2698.49**
Non DCIA		**64.6**	**7.88**	**509.17**

Summary		**89.3**	**30.22**	**2698.49**	**DCIA %**
Non DCIA		**64.6**	**7.88**	**509.17**	**73.92%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 4			**DATE**
POND DESIGNATION:	Dry Pond 4 Alt 1	**MADE BY:**	YA	08-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		08-Apr-26

Dry Pond 4 Stage/Area

Stage	Elevation (Ft)	Area (Ac)	Inc. Volume (Ac-Ft)	Total Volume (Ac-ft)
Berm (Outside)	9.00	3.66	3.45	11.14
Berm (Inside)	8.00	3.24	3.18	7.69
Design High Water (DHW)	7.00	3.11	0.00	4.52
Weir (Design Low Water)	7.00	3.11	4.52	**4.52**
Control (wet)/Pond Bottom (dry)	5.50	2.91	0.00	0.00
Seasonal High Ground Water Elevation (SHGWT)*	4.20			

SHGWT Check (Dry Retention): ok
*SHGWT based on soil survey

Required Treatment Volume

Treatment type: dry retention

1) Runoff Treatment =	2	impervious	3.72 ac-ft	
OR	0.5	total area	1.26 ac-ft	*
+ 2) An Additional 50% for discharge to Class I, II, OFWs or Shellfishing waters			+ 0.00 ac-ft	
	*** Required Treatment**		**3.72 ac-ft**	

Volume between Control and Weir = ***4.52 ac-ft***

Check Treatment Volume Requirement: 3.72 is < or = 4.52 **Treatment Volume Requirement met**

Required Attenuation Volume

Attenuation required?	yes
Frequency	25-yr
Time	24-hr
Precipitation Depth	8.0 in.

1) Soil Storage (S) = (1000/CN) - 10 — S_{pre} = **2.66 in.** — S_{post} = **1.20 in.**
2) Runoff (R) = (P-0.2S)2/(P+0.8S) — Q_{pre} = **5.51 in.** — Q_{post} = **6.72 in.**
3) Runoff Volume (Vr) = R/12 * Area

Pre-Development Runoff	Vr_{pre} =	12.40 ac-ft *
Post-Development Runoff	Vr_{post} =	16.93 ac-ft
Attenuation volume required (Post-Pre)		**4.53 ac-ft**

*No existing basin discharging to the proposed pond location, therefore, Vr Pre = 0

Total Required Volume (Treatment + Attenuation) ***4.53 ac-ft***

Total Provided Volume ***4.52 ac-ft***

Check Total Volume Requirement: 4.53 > 4.52 **FALSE**

Complete Report (not including cost) Ver 4.3.5

Project: Basin 4 Ultimate Alt 1
Date: 4/9/2026 8:35:58 AM

Site and Catchment Information

Analysis: Specified Removal Efficiency

Catchment Name	Dry Pond 4 Alt. 1
Rainfall Zone	Florida Zone 1
Annual Mean Rainfall	52.00

Pre-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200
Area (acres)	27.00
Rational Coefficient (0-1)	0.42
Non DCIA Curve Number	63.60
DCIA Percent (0-100)	44.74
Nitrogen EMC (mg/l)	1.520
Phosphorus EMC (mg/l)	0.200
Runoff Volume (ac-ft/yr)	48.606
Groundwater N (kg/yr)	0.000
Groundwater P (kg/yr)	0.000
Nitrogen Loading (kg/yr)	91.096
Phosphorus Loading (kg/yr)	11.986

Post-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200
Area (acres)	30.22
Rational Coefficient (0-1)	0.65
Non DCIA Curve Number	64.60
DCIA Percent (0-100)	73.92
Wet Pond Area (ac)	0.00
Nitrogen EMC (mg/l)	1.520
Phosphorus EMC (mg/l)	0.200
Runoff Volume (ac-ft/yr)	84.496
Groundwater N (kg/yr)	0.000
Groundwater P (kg/yr)	0.000
Nitrogen Loading (kg/yr)	158.359
Phosphorus Loading (kg/yr)	20.837

Catchment Number: 1 Name: Dry Pond 4 Alt. 1

Project: Basin 4 Ultimate Alt 1
Date: 4/9/2026

Retention Design

Retention Depth (in)	2.000
Retention Volume (ac-ft)	5.037

Watershed Characteristics

Catchment Area (acres)	30.22
Contributing Area (acres)	30.220
Non-DCIA Curve Number	64.60
DCIA Percent	73.92
Rainfall Zone	Florida Zone 1
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	86
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	86

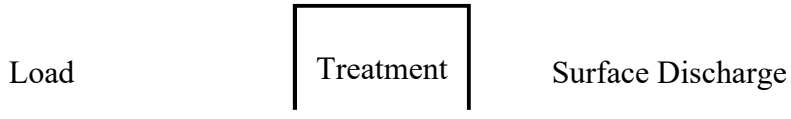
Media Mix Information

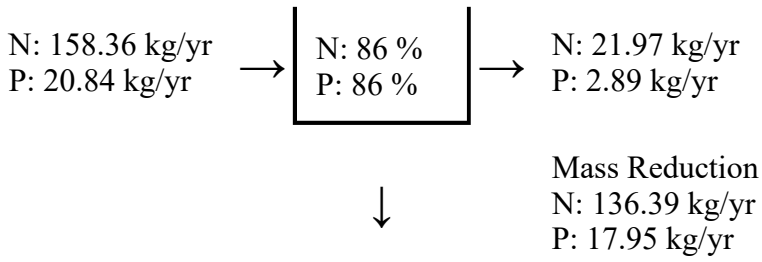
Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

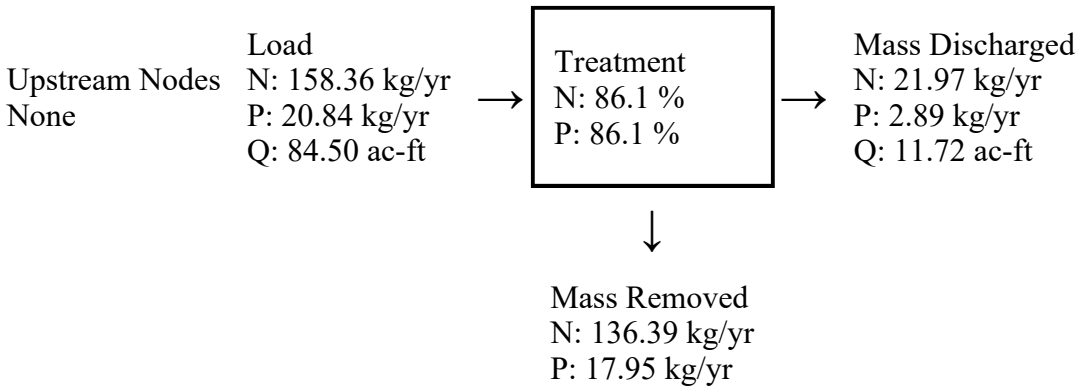
Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	136.392
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	17.946
TP Concentration (mg/L)	0.000

Load Diagram for Retention (stand-alone)





Load Diagram for Retention (As Used In Routing)



Summary Treatment Report Version: 4.3.5

Project: Basin 4 Ultimate Alt 1

Analysis Type: Specified Removal Efficiency

Date:4/9/2026

BMP Types:

Catchment 1 - (Dry Pond 4 Alt. 1) Retention
Based on % removal values to the nearest percent

Routing Summary
Catchment 1 Routed to Outlet

Total nitrogen target removal met? **Yes**
Total phosphorus target removal met? **Yes**

Summary Report

Nitrogen

Surface Water Discharge

Total N pre load	91.1 kg/yr
Total N post load	158.36 kg/yr
Target N load reduction	80 %

Target N discharge load	31.67 kg/yr	
Percent N load reduction	86 %	
Provided N discharge load	21.97 kg/yr	48.44 lb/yr
Provided N load removed	136.39 kg/yr	300.74 lb/yr

Phosphorus

Surface Water Discharge

Total P pre load	11.986 kg/yr	
Total P post load	20.837 kg/yr	
Target P load reduction	80 %	
Target P discharge load	4.167 kg/yr	
Percent P load reduction	86 %	
Provided P discharge load	2.89 kg/yr	6.37 lb/yr
Provided P load removed	17.946 kg/yr	39.572 lb/yr

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 4			**DATE**
POND DESIGNATION:	VB-4A Alt 2	**MADE BY:**	YA	08-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**		08-Apr-26

Pre-Development		NRCS		
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Pre				
Basin 4				
Pavement		98	7.11	696.78
Open Space Good Condition (grass cover >75%)	A/D	60	7.07	424.20
Subtotal		79.1	*14.18*	1120.98
Non DCIA		60.0	*7.07*	424.20
VB-4A				
Open Space Good Condition (grass cover >75%)	A/D	60	1.59	95.40
Subtotal		60.0	*1.59*	95.40
Non DCIA		60.0	*1.59*	95.40
Total		**77.1**	**15.77**	**1216.38**
Non DCIA		**60.0**	**8.66**	**519.60**

Summary		**77.1**	**15.77**	**1216.38**	**DCIA %**
Non DCIA		**60.0**	**8.66**	**519.60**	**45.09%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 4			**DATE**
POND DESIGNATION:	VB-4A Alt 2	**MADE BY:**	YA	08-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		08-Apr-26

Post-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Post				
Basin 4				
Pavement		98	15.16	1485.68
Open Space Good Condition (grass cover >75%)	A/D	60	2.33	139.80
Subtotal		92.9	*17.49*	1625.48
Non DCIA		60.0	*2.33*	139.80
VB-4A				
Open Space Good Condition (grass cover >75%)	A/D	60	1.59	95.40
Subtotal		60.0	*1.59*	95.40
Non DCIA		60.0	*1.59*	95.40
Total		**90.2**	**19.08**	**1720.88**
Non DCIA		**60.0**	**3.92**	**235.20**

Summary		**90.2**	**19.08**	**1720.88**	**DCIA %**
Non DCIA		**60.0**	**3.92**	**235.20**	**79.45%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 4			**DATE**
POND DESIGNATION:	VB-4B Alt 2	**MADE BY:**	YA	08-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**		08-Apr-26

Pre-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Pre				
Basin 4				
Pavement		98	1.96	192.08
Open Space Good Condition (grass cover >75%)	B/D	71	0.66	46.86
Open Space Good Condition (grass cover >75%)	A/D	60	1.19	71.40
Subtotal		81.5	*3.81*	310.34
Non DCIA		63.9	*1.85*	118.26
VB-4B				
Open Space Good Condition (grass cover >75%)	A/D	60	1.24	74.40
Subtotal		60.0	*1.24*	74.40
Non DCIA		60.0	*1.24*	74.40
Total		**76.2**	**5.05**	**384.74**
Non DCIA		**62.3**	**3.09**	**192.66**

Summary		**76.2**	**5.05**	**384.74**	**DCIA %**
Non DCIA		**62.3**	**3.09**	**192.66**	**38.81%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 4			**DATE**
POND DESIGNATION:	VB-4B Alt 2	**MADE BY:**	YA	08-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		08-Apr-26

Post-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Post				
Basin 4				
Pavement		98	3.01	294.98
Open Space Good Condition (grass cover >75%)	A/D	60	0.44	26.40
Open Space Good Condition (grass cover >75%)	B/D	71	0.36	25.56
Subtotal		91.1	*3.81*	346.94
Non DCIA		65.0	*0.80*	51.96
VB-4B				
Open Space Good Condition (grass cover >75%)	A/D	60	1.24	74.40
Subtotal		60.0	*1.24*	74.40
Non DCIA		60.0	*1.24*	74.40
Total		**83.4**	**5.05**	**421.34**
Non DCIA		**61.9**	**2.04**	**126.36**

Summary		**83.4**	**5.05**	**421.34**	**DCIA %**
Non DCIA		**61.9**	**2.04**	**126.36**	**59.60%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 4			**DATE**
POND DESIGNATION:	VB-4C Alt 2	**MADE BY:**	YA	08-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**		08-Apr-26

Pre-Development		NRCS		
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Pre				
Basin 4				
Pavement		98	2.93	287.14
Open Space Good Condition (grass cover >75%)	C/D	77	0.73	56.21
Open Space Good Condition (grass cover >75%)	A/D	60	0.06	3.60
Open Space Good Condition (grass cover >75%)	B/D	71	1.64	116.44
Subtotal		86.5	*5.36*	463.39
Non DCIA		72.5	*2.43*	176.25
VB-4C				
Pavement		98	1.35	132.30
Open Space Good Condition (grass cover >75%)	B/D	71	0.38	26.98
Open Space Good Condition (grass cover >75%)	C/D	77	0.06	4.62
Subtotal		17.7	*1.79*	31.60
Non DCIA		71.8	*0.44*	31.60
Total		**69.2**	**7.15**	**494.99**
Non DCIA		**72.4**	**2.87**	**207.85**

Summary		**69.2**	**7.15**	**494.99**	**DCIA %**
Non DCIA		**72.4**	**2.87**	**207.85**	**59.86%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 4			**DATE**
POND DESIGNATION:	VB-4C Alt 2	**MADE BY:**	YA	08-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		08-Apr-26

Post-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Post				
Basin 4				
Pavement		98	4.12	403.76
Open Space Good Condition (grass cover >75%)	C/D	77	0.47	36.19
Open Space Good Condition (grass cover >75%)	A/D	60	0.05	3.00
Open Space Good Condition (grass cover >75%)	A/D	71	0.72	51.12
Subtotal		92.2	*5.36*	494.07
Non DCIA		72.8	*1.24*	90.31
VB-4C				
Open Space Good Condition (grass cover >75%)	C/D	77	0.23	17.71
Open Space Good Condition (grass cover >75%)	B/D	71	1.56	110.76
Subtotal		71.8	*1.79*	128.47
Non DCIA		71.8	*1.79*	128.47
Total		**87.1**	**7.15**	**622.54**
Non DCIA		**72.2**	**3.03**	**218.78**

Summary		**87.1**	**7.15**	**622.54**	**DCIA %**
Non DCIA		**72.2**	**3.03**	**218.78**	**57.62%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 4			**DATE**
POND DESIGNATION:	Wet Pond 4A Alt 2	**MADE BY:**	YA	08-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**		08-Apr-26

Pre-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Pre				
Basin 4				
Open Space Good Condition (grass cover >75%)	A/D	60	0.28	16.80
Subtotal		60.0	*0.28*	16.80
Non DCIA		60.0	*0.28*	16.80
Wet Pond 4A				
Open Space Good Condition (grass cover >75%)	A/D	60	0.49	29.40
Subtotal		60.0	*0.49*	29.40
Non DCIA		60.0	*0.49*	29.40
Total		**60.0**	**0.77**	**46.20**
Non DCIA		**60.0**	**0.77**	**46.20**

Summary		**60.0**	**0.77**	**46.20**	**DCIA %**
Non DCIA		**60.0**	**0.77**	**46.20**	**0.00%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 4			**DATE**
POND DESIGNATION:	Wet Pond 4A Alt 2	**MADE BY:**	YA	08-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		08-Apr-26

Post-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Post				
Basin 4				
Open Space Good Condition (grass cover >75%)	A/D	60	0.28	16.80
Subtotal		60.0	*0.28*	16.80
Non DCIA		60.0	*0.28*	16.80
Wet Pond 4A				
Open Space Good Condition (grass cover >75%)	A/D	60	0.49	29.40
Subtotal		60.0	*0.49*	29.40
Non DCIA		60.0	*0.49*	29.40
Total		**60.0**	**0.77**	**46.20**
Non DCIA		**60.0**	**0.77**	**46.20**

Summary		**60.0**	**0.77**	**46.20**	**DCIA %**
Non DCIA		**60.0**	**0.77**	**46.20**	**0.00%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.

Complete Report (not including cost) Ver 4.3.5

Project: Basin 4 Ultimate Alt 2
Date: 4/9/2026 8:25:36 AM

Site and Catchment Information

Analysis: Specified Removal Efficiency

Catchment Name	VB-4C Alt. 2	VB-4B Alt. 2	VB-4A Alt. 2	Wet Pond 4A Alt. 2
Rainfall Zone	Florida Zone 4	Florida Zone 4	Florida Zone 4	Florida Zone 4
Annual Mean Rainfall	52.00	52.00	52.00	52.00

Pre-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200
Area (acres)	7.15	5.05	15.77	0.77
Rational Coefficient (0-1)	0.53	0.35	0.39	0.04
Non DCIA Curve Number	72.40	62.30	60.00	60.00
DCIA Percent (0-100)	59.86	38.81	45.09	0.00
Nitrogen EMC (mg/l)	1.520	1.520	1.520	1.520
Phosphorus EMC (mg/l)	0.200	0.200	0.200	0.200
Runoff Volume (ac-ft/yr)	16.290	7.612	26.904	0.133
Groundwater N (kg/yr)	0.000	0.000	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000	0.000	0.000
Nitrogen Loading (kg/yr)	30.531	14.267	50.423	0.250
Phosphorus Loading (kg/yr)	4.017	1.877	6.635	0.033

Post-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200

Area (acres)	7.15	5.05	19.08	0.77
Rational Coefficient (0-1)	0.51	0.51	0.66	0.04
Non DCIA Curve Number	72.20	61.90	60.00	60.00
DCIA Percent (0-100)	57.62	59.60	79.45	0.00
Wet Pond Area (ac)	0.00	0.00	0.00	0.49
Nitrogen EMC (mg/l)	1.520	1.520	1.520	1.520
Phosphorus EMC (mg/l)	0.200	0.200	0.200	0.200
Runoff Volume (ac-ft/yr)	15.770	11.134	54.784	0.049
Groundwater N (kg/yr)	0.000	0.000	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000	0.000	0.000
Nitrogen Loading (kg/yr)	29.556	20.868	102.674	0.091
Phosphorus Loading (kg/yr)	3.889	2.746	13.510	0.012

Catchment Number: 1 Name: VB-4C Alt. 2

Project: Basin 4 Ultimate Alt 2
Date: 4/9/2026

Vegetated Natural Buffer with media Design

Buffer Width (ft)	133.920
Buffer Length (ft)	582.110
Storage Depth (ft)	0.900
Width of Area Feeding Buffer (ft)	401.120
Water storage capacity of soil (in/in)	0.200
Slope of Bufer Width (2%-6%)	2.000

Watershed Characteristics

Catchment Area (acres)	7.15
Contributing Area (acres)	7.150
Non-DCIA Curve Number	72.20
DCIA Percent	57.62
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	91
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	84

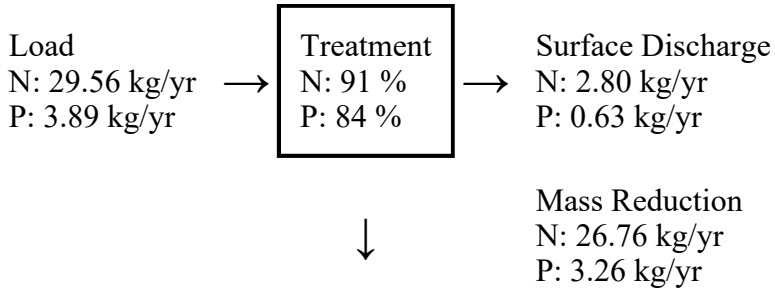
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

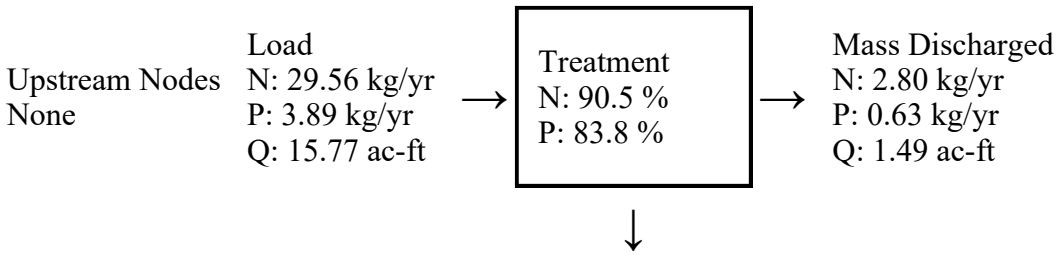
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	26.757
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	3.258
TP Concentration (mg/L)	0.000

Load Diagram for Vegetated Natural Buffer with media (stand-alone)



Load Diagram for Vegetated Natural Buffer (As Used In Routing)



Mass Removed
N: 26.76 kg/yr
P: 3.26 kg/yr

Catchment Number: 2 Name: VB-4B Alt. 2

Project: Basin 4 Ultimate Alt 2
Date: 4/9/2026

Vegetated Natural Buffer with media Design

Buffer Width (ft)	178.490
Buffer Length (ft)	576.500
Storage Depth (ft)	0.900
Width of Area Feeding Buffer (ft)	295.300
Water storage capacity of soil (in/in)	0.200
Slope of Bufer Width (2%-6%)	2.000

Watershed Characteristics

Catchment Area (acres)	5.05
Contributing Area (acres)	5.050
Non-DCIA Curve Number	61.90
DCIA Percent	59.60
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	94
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	90

Media Mix Information

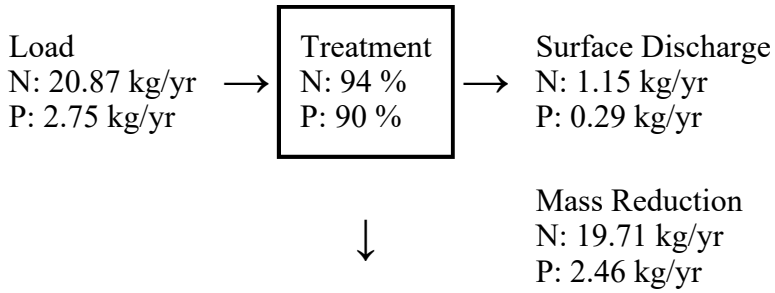
Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

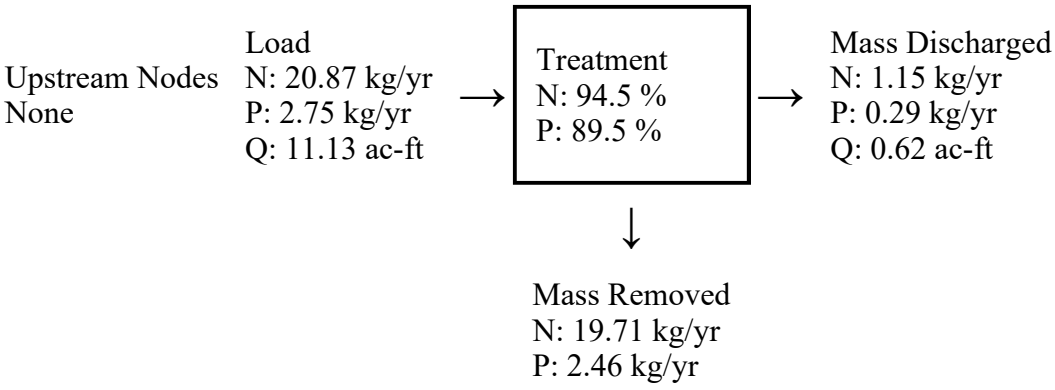
Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	19.713
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	2.458

TP Concentration (mg/L) 0.000

Load Diagram for Vegetated Natural Buffer with media (stand-alone)



Load Diagram for Vegetated Natural Buffer (As Used In Routing)



Catchment Number: 3 Name: VB-4A Alt. 2

Project: Basin 4 Ultimate Alt 2
Date: 4/9/2026

Vegetated Natural Buffer with media Design

Buffer Width (ft)	276.080
Buffer Length (ft)	430.400
Storage Depth (ft)	0.900
Width of Area Feeding Buffer (ft)	1,792.860
Water storage capacity of soil (in/in)	0.020
Slope of Bufer Width (2%-6%)	2.000

Watershed Characteristics

Catchment Area (acres)	19.08
Contributing Area (acres)	19.080
Non-DCIA Curve Number	60.00
DCIA Percent	79.45
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	86
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	65

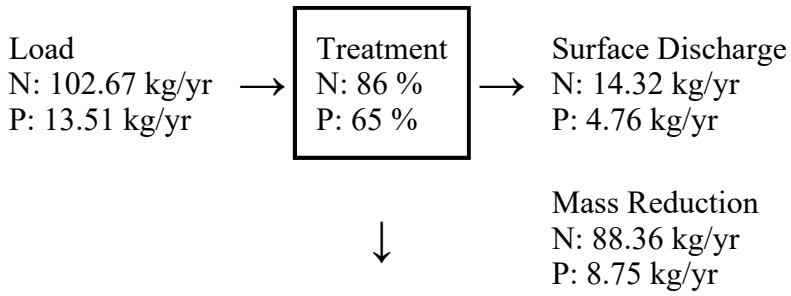
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

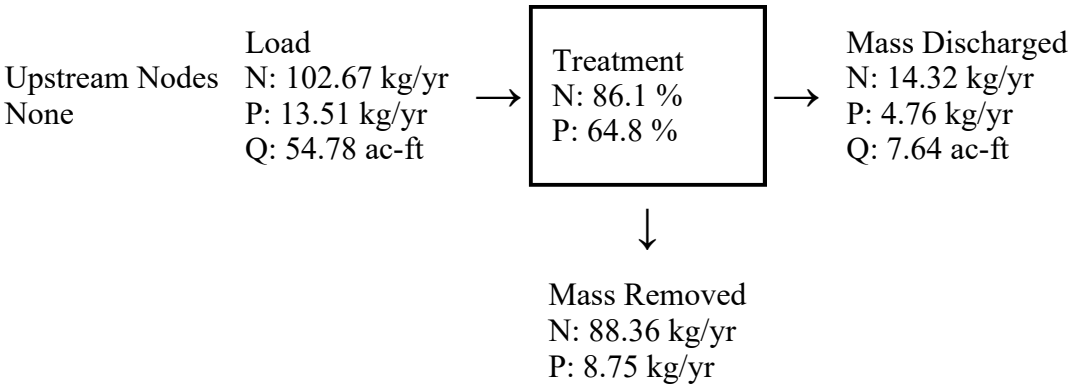
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	88.357
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	8.749
TP Concentration (mg/L)	0.000

Load Diagram for Vegetated Natural Buffer with media (stand-alone)



Load Diagram for Vegetated Natural Buffer (As Used In Routing)



Catchment Number: 4 Name: Wet Pond 4A Alt. 2

Project: Basin 4 Ultimate Alt 2
Date: 4/9/2026

Wet Detention with Littoral Shelf Design

Permanent Pool Volume (ac-ft)	0.144
Permanent Pool Volume (ac-ft) for 31 days residence	0.004
Annual Residence Time (days)	1083
Littoral Zone Efficiency Credit	10
Wetland Efficiency Credit	

Watershed Characteristics

Catchment Area (acres)	0.77
Contributing Area (acres)	0.280
Non-DCIA Curve Number	60.00
DCIA Percent	0.00
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	49
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	96

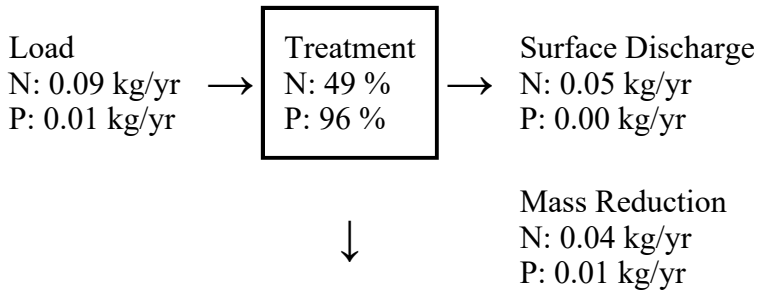
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

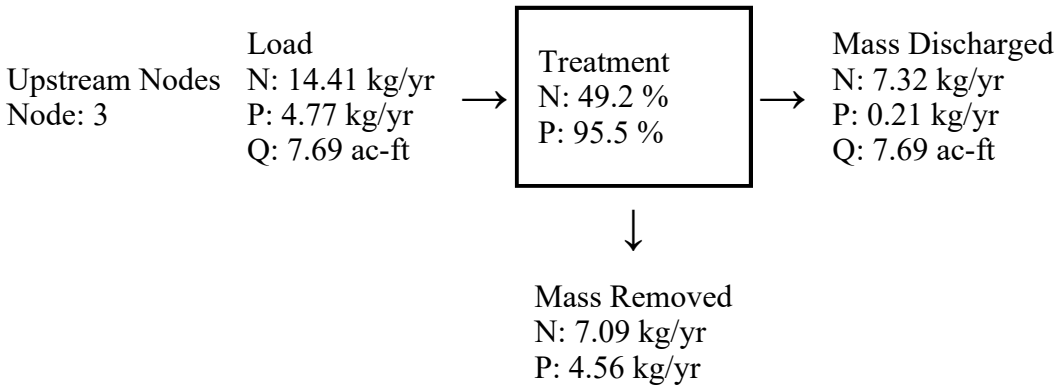
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000
TP Concentration (mg/L)	0.000

Load Diagram for Wet Detention with Littoral Shelf (stand-alone)



Load Diagram for Wet Detention (As Used In Routing)



Summary Treatment Report Version: 4.3.5

Project: Basin 4 Ultimate Alt 2

Analysis Type: Specified Removal Efficiency

BMP Types:
Catchment 1 - (VB-4C Alt. 2)
Vegetated Natural Buffer with media
Catchment 2 - (VB-4B Alt. 2)
Vegetated Natural Buffer with media
Catchment 3 - (VB-4A Alt. 2)
Vegetated Natural Buffer with media
Catchment 4 - (Wet Pond 4A Alt. 2)
Wet Detention with Littoral Shelf
Based on % removal values to the nearest percent

Date:4/9/2026

Routing Summary
Catchment 1 Routed to Outlet
Catchment 2 Routed to Outlet
Catchment 3 Routed to Catchment 4
Catchment 4 Routed to Outlet

Total nitrogen target removal met? **Yes**
Total phosphorus target removal met? **Yes**

Summary Report

Nitrogen

Surface Water Discharge		
Total N pre load	95.47 kg/yr	
Total N post load	153.19 kg/yr	
Target N load reduction	80 %	
Target N discharge load	30.64 kg/yr	
Percent N load reduction	93 %	
Provided N discharge load	11.27 kg/yr	24.85 lb/yr
Provided N load removed	141.92 kg/yr	312.93 lb/yr

Phosphorus

Surface Water Discharge		
Total P pre load	12.562 kg/yr	
Total P post load	20.156 kg/yr	
Target P load reduction	80 %	
Target P discharge load	4.031 kg/yr	
Percent P load reduction	94 %	
Provided P discharge load	1.131 kg/yr	2.49 lb/yr
Provided P load removed	19.026 kg/yr	41.952 lb/yr

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 4			**DATE**
POND DESIGNATION:	Dry Pond 4C Alt 3	**MADE BY:**	YA	08-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**		08-Apr-26

Pre-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Pre				
Basin 4				
Pavement		98	4.95	485.10
Open Space Good Condition (grass cover >75%)	B/D	71	2.18	154.78
Open Space Good Condition (grass cover >75%)	C/D	77	0.73	56.21
Open Space Good Condition (grass cover >75%)	A/D	60	1.30	78.00
Subtotal		84.5	*9.16*	774.09
Non DCIA		68.6	*4.21*	288.99
Dry Pond 4C				
Pavement		98	0.78	76.44
Open Space Good Condition (grass cover >75%)	B/D	71	0.15	10.65
Open Space Good Condition (grass cover >75%)	A/D	60	0.54	32.40
Subtotal		81.3	*1.47*	119.49
Non DCIA		62.4	*0.69*	43.05
Total		**84.1**	**10.63**	**893.58**
Non DCIA		**67.8**	**4.90**	**332.04**

Summary		**84.1**	**10.63**	**893.58**	**DCIA %**
Non DCIA		**67.8**	**4.90**	**332.04**	**53.90%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 4			**DATE**
POND DESIGNATION:	Dry Pond 4C Alt 3	**MADE BY:**	YA	08-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		08-Apr-26

Post-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Post				
Basin 4				
Pavement		98	7.13	698.74
Open Space Good Condition (grass cover >75%)	C/D	77	0.47	36.19
Open Space Good Condition (grass cover >75%)	B/D	71	0.96	68.16
Open Space Good Condition (grass cover >75%)	A/D	60	0.61	36.60
Subtotal		91.6	*9.17*	839.69
Non DCIA		69.1	*2.04*	140.95
Dry Pond 4C				
Water		100		0.00
Open Space Good Condition (grass cover >75%)	B/D	71	0.48	34.08
Open Space Good Condition (grass cover >75%)	A/D	60	0.99	59.40
Subtotal		63.6	*1.47*	93.48
Non DCIA		63.6	*1.47*	93.48
Total		**87.7**	**10.64**	**933.17**
Non DCIA		**66.8**	**3.51**	**234.43**

Summary		**87.7**	**10.64**	**933.17**	**DCIA %**
Non DCIA		**66.8**	**3.51**	**234.43**	**67.01%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 4			**DATE**
POND DESIGNATION:	Dry Pond 4C Alt 3	**MADE BY:**	YA	08-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		08-Apr-26

Dry Pond 4C Stage/Area

Stage	Elevation (Ft)	Area (Ac)	Inc. Volume (Ac-Ft)	Total Volume (Ac-ft)
Berm (Outside)	9.00	1.47	1.33	4.04
Berm (Inside)	8.00	1.19	1.15	2.71
Design High Water (DHW)	7.00	1.10	0.00	1.56
Weir (Design Low Water)	7.00	1.10	1.56	**1.56**
Control (wet)/Pond Bottom (dry)	5.50	0.98	0.00	0.00
Seasonal High Ground Water Elevation (SHGWT)*	4.20			

SHGWT Check (Dry Retention): ok
*SHGWT based on soil survey

Required Treatment Volume

Treatment type: dry retention

1) Runoff Treatment =	1.75	impervious		1.04	ac-ft
OR	0.5	total area		0.44	ac-ft *
+ 2) An Additional 50% for discharge to Class I, II, OFWs or Shellfishing waters			+	0.00	ac-ft
*** Required Treatment**				**1.04**	**ac-ft**

Volume between Control and Weir = ***1.56 ac-ft***

Check Treatment Volume Requirement: 1.04 is < or = 1.56 **Treatment Volume Requirement met**

Required Attenuation Volume

Attenuation required?	yes
Frequency	25-yr
Time	24-hr
Precipitation Depth	8.0 in.

1) Soil Storage (S) = (1000/CN) - 10 — S_{pre} = **1.90 in.** — S_{post} = **1.40 in.**
2) Runoff (R) = (P-0.2S)2/(P+0.8S) — Q_{pre} = **6.10 in.** — Q_{post} = **6.53 in.**
3) Runoff Volume (Vr) = R/12 * Area

Pre-Development Runoff	Vr_{pre} =	5.41	ac-ft *
Post-Development Runoff	Vr_{post} =	5.79	ac-ft
Attenuation volume required (Post-Pre)		**0.39**	**ac-ft**

*No existing basin discharging to the proposed pond location, therefore, Vr Pre = 0

Total Required Volume (Treatment + Attenuation) ***0.39 ac-ft***

Total Provided Volume ***1.56 ac-ft***

Check Total Volume Requirement: 0.39 is < or = 1.56 **Total Volume Requirement met**

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 4			**DATE**
POND DESIGNATION:	Dry Pond 4B Alt 3	**MADE BY:**	YA	08-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**		08-Apr-26

Pre-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Pre				
Basin 4				
Pavement		98	7.11	696.78
Open Space Good Condition (grass cover >75%)	A/D	60	7.07	424.20
Subtotal		79.1	*14.18*	1120.98
Non DCIA		60.0	*7.07*	424.20
Dry Pond 4B				
Open Space Good Condition (grass cover >75%)	B/D	71	1.66	117.86
Open Space Good Condition (grass cover >75%)	A/D	60	0.42	25.20
Subtotal		68.8	*2.08*	143.06
Non DCIA		68.8	*2.08*	143.06
Total		**77.7**	**16.26**	**1264.04**
Non DCIA		**62.0**	**9.15**	**567.26**

Summary		**77.7**	**16.26**	**1264.04**	**DCIA %**
Non DCIA		**62.0**	**9.15**	**567.26**	**43.73%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 4			**DATE**
POND DESIGNATION:	Dry Pond 4B Alt 3	**MADE BY:**	YA	08-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		08-Apr-26

Post-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Post				
Basin 4				
Pavement		98	15.07	1476.86
Open Space Good Condition (grass cover >75%)	A/D	60	2.33	139.80
Subtotal		92.9	*17.40*	1616.66
Non DCIA		60.0	*2.33*	139.80
Dry Pond 4B				
Water		100		0.00
Open Space Good Condition (grass cover >75%)	A	60	0.42	25.20
Open Space Good Condition (grass cover >75%)	B/D	71	1.66	117.86
Subtotal		68.8	*2.08*	143.06
Non DCIA		60.0	*0.42*	25.20
Total		**90.3**	**19.48**	**1759.72**
Non DCIA		**60.0**	**2.75**	**165.00**

Summary		**90.3**	**19.48**	**1759.72**	**DCIA %**
Non DCIA		**60.0**	**2.75**	**165.00**	**77.36%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	BURGESS & NIPLE		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 4			**DATE**
POND DESIGNATION:	Dry Pond 4B Alt 3	**MADE BY:**	YA	08-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		08-Apr-26

Dry Pond 4B Stage/Area

Stage	Elevation (Ft)	Area (Ac)	Inc. Volume (Ac-Ft)	Total Volume (Ac-ft)
Berm (Outside)	9.00	2.08	1.91	6.47
Berm (Inside)	8.00	1.74	1.69	4.56
Design High Water (DHW)	7.00	1.64	0.00	2.87
Weir (Design Low Water)	7.00	2.35	2.87	**2.87**
Control (wet)/Pond Bottom (dry)	5.50	1.48	0.00	0.00
Seasonal High Ground Water Elevation (SHGWT)*	4.20			

SHGWT Check (Dry Retention): ok
*SHGWT based on soil survey

Required Treatment Volume

Treatment type: dry retention

1) Runoff Treatment =	1.8	impervious		2.26	ac-ft
OR	0.5	total area		0.81	ac-ft *
+ 2) An Additional 50% for discharge to Class I, II, OFWs or Shellfishing waters			+	0.00	ac-ft
*** Required Treatment**				**2.26**	**ac-ft**

Volume between Control and Weir = ***2.87 ac-ft***

Check Treatment Volume Requirement: 2.26 is < or = 2.87 **Treatment Volume Requirement met**

Required Attenuation Volume

Attenuation required?	yes
Frequency	25-yr
Time	24-hr
Precipitation Depth	8.0 in.

1) Soil Storage (S) = (1000/CN) - 10 — S_{pre} = **2.86 in.** — S_{post} = **1.07 in.**
2) Runoff (R) = (P-0.2S)2/(P+0.8S) — Q_{pre} = **5.36 in.** — Q_{post} = **6.85 in.**
3) Runoff Volume (Vr) = R/12 * Area

Pre-Development Runoff	Vr_{pre} =	7.26	ac-ft *
Post-Development Runoff	Vr_{post} =	11.11	ac-ft
Attenuation volume required (Post-Pre)		**3.85**	**ac-ft**

*No existing basin discharging to the proposed pond location, therefore, Vr Pre = 0

Total Required Volume (Treatment + Attenuation) ***3.85 ac-ft***

Total Provided Volume ***2.87 ac-ft***

Check Total Volume Requirement: 3.85 > 2.87 **FALSE**

Complete Report (not including cost) Ver 4.3.5

Project: Basin 4 Ultimate Alt 3
Date: 4/9/2026 8:33:19 AM

Site and Catchment Information

Analysis: Specified Removal Efficiency

Catchment Name	Dry Pond 4C Alt. 3	Dry Pond 4B Alt. 3
Rainfall Zone	Florida Zone 1	Florida Zone 1
Annual Mean Rainfall	52.00	52.00

Pre-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200
Area (acres)	10.63	16.26
Rational Coefficient (0-1)	0.50	0.40
Non DCIA Curve Number	67.80	62.00
DCIA Percent (0-100)	53.90	43.73
Nitrogen EMC (mg/l)	1.520	1.520
Phosphorus EMC (mg/l)	0.200	0.200
Runoff Volume (ac-ft/yr)	22.814	28.504
Groundwater N (kg/yr)	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000
Nitrogen Loading (kg/yr)	42.756	53.421
Phosphorus Loading (kg/yr)	5.626	7.029

Post-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200
Area (acres)	10.64	19.48
Rational Coefficient (0-1)	0.59	0.67
Non DCIA Curve Number	66.80	60.00
DCIA Percent (0-100)	67.01	77.36
Wet Pond Area (ac)	0.00	0.00
Nitrogen EMC (mg/l)	1.520	1.520
Phosphorus EMC (mg/l)	0.200	0.200
Runoff Volume (ac-ft/yr)	27.406	56.462
Groundwater N (kg/yr)	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000
Nitrogen Loading (kg/yr)	51.364	105.820
Phosphorus Loading (kg/yr)	6.758	13.924

Catchment Number: 1 Name: Dry Pond 4C Alt. 3

Project: Basin 4 Ultimate Alt 3
Date: 4/9/2026

Retention Design

Retention Depth (in)	1.750
Retention Volume (ac-ft)	1.552

Watershed Characteristics

Catchment Area (acres)	10.64
Contributing Area (acres)	10.640
Non-DCIA Curve Number	66.80
DCIA Percent	67.01
Rainfall Zone	Florida Zone 1
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	84
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	84

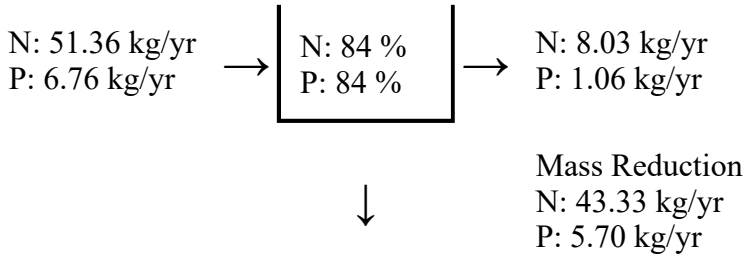
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

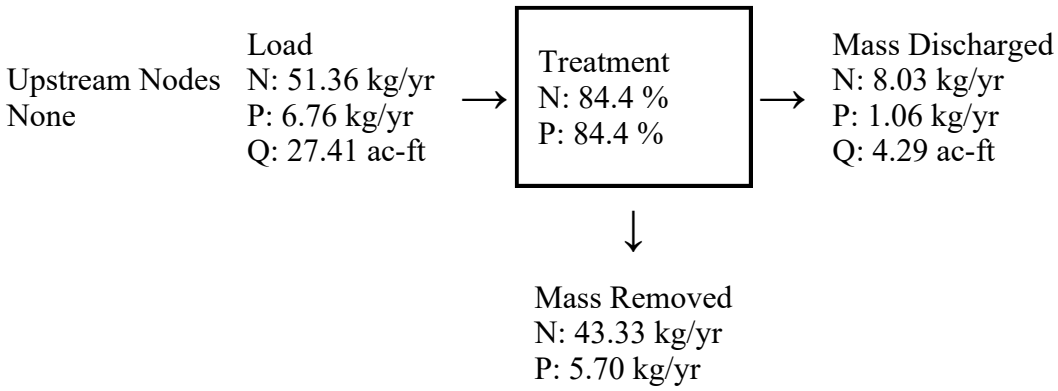
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	43.331
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	5.701
TP Concentration (mg/L)	0.000

Load Diagram for Retention (stand-alone)



Load Diagram for Retention (As Used In Routing)



Catchment Number: 2 Name: Dry Pond 4B Alt. 3

Project: Basin 4 Ultimate Alt 3
Date: 4/9/2026

Retention Design

Retention Depth (in)	1.800
Retention Volume (ac-ft)	2.922

Watershed Characteristics

Catchment Area (acres)	19.48
Contributing Area (acres)	19.480
Non-DCIA Curve Number	60.00
DCIA Percent	77.36
Rainfall Zone	Florida Zone 1
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	83
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	83

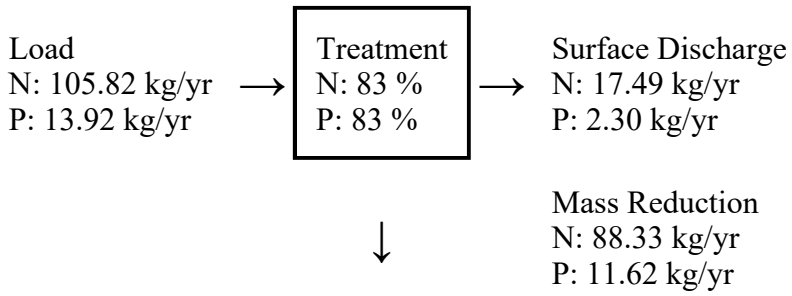
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

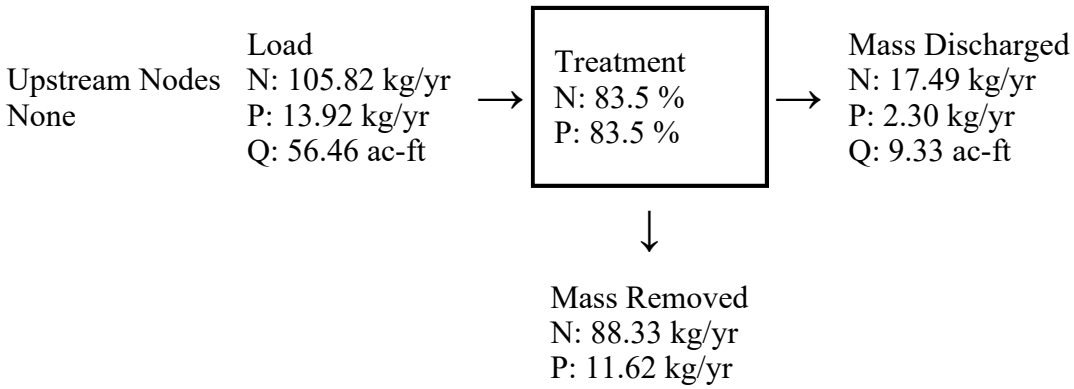
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	88.328
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	11.622
TP Concentration (mg/L)	0.000

Load Diagram for Retention (stand-alone)



Load Diagram for Retention (As Used In Routing)



Summary Treatment Report Version: 4.3.5

Project: Basin 4 Ultimate Alt 3

Analysis Type: Specified Removal Efficiency

Date:4/9/2026

BMP Types:

Catchment 1 - (Dry Pond 4C Alt. 3) Retention

Catchment 2 - (Dry Pond 4B Alt. 3) Retention

Routing Summary

Catchment 1 Routed to Outlet

Catchment 2 Routed to Outlet

Based on % removal values to the nearest percent

Total nitrogen target removal met? **Yes**

Total phosphorus target removal met? **Yes**

Summary Report

Nitrogen

Surface Water Discharge		
Total N pre load	96.18 kg/yr	
Total N post load	157.18 kg/yr	
Target N load reduction	80 %	
Target N discharge load	31.44 kg/yr	
Percent N load reduction	84 %	
Provided N discharge load	25.52 kg/yr	56.28 lb/yr
Provided N load removed	131.66 kg/yr	290.31 lb/yr

Phosphorus

Surface Water Discharge		
Total P pre load	12.655 kg/yr	
Total P post load	20.682 kg/yr	
Target P load reduction	80 %	
Target P discharge load	4.136 kg/yr	
Percent P load reduction	84 %	
Provided P discharge load	3.359 kg/yr	7.41 lb/yr
Provided P load removed	17.324 kg/yr	38.198 lb/yr

Basin 5N

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 5N			**DATE**
POND DESIGNATION:	Dry Pond 5N Alt 1, Wet Pond 5N Alt 1	**MADE BY:**	CBC	08-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**	JW	09-Apr-26

Pre-Development		NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**	
Roadway Pre					
Dry Pond 5N Alt 1					
Pavement		98	0.73	71.54	**DCIA %**
Non DCIA		#DIV/0!	*0.00*	0.00	**100.00%**
Wet Pond 5N Alt 1					
Pavement		98	0.19	18.62	
Open Space Good Condition (grass cover >75%)	C/D	77	0.00	0.00	
Open Space Good Condition (grass cover >75%)	B/D	71	0.22	15.62	
Open Space Good Condition (grass cover >75%)	A/D	60	1.81	108.60	
Subtotal		64.3	*2.22*	142.84	**DCIA %**
Non DCIA		61.2	*2.03*	124.22	**8.56%**
Ponds Alt 1 locations are included in the areas above (within the existing drainage area)		98	0.00	0.00	
Total		**72.7**	**2.95**	**214.38**	

Summary		**72.7**	**2.95**	**214.38**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 5N			**DATE**
POND DESIGNATION:	Dry Pond 5N Alt 1, Wet Pond 5N Alt 1	**MADE BY:**	CBC	08-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	JW	09-Apr-26

Post-Development	NRCS				
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**	
Roadway Post					
Dry Pond 5N Alt 1					
Pavement		98	1.29	126.42	
Dry Retention Pond	A/D	60	0.50	30.00	
Subtotal		87.4	1.79	156.42	**DCIA %**
Non DCIA		60.0	*0.50*	30.00	**72.07%**
Wet Pond 5N Alt 1					
Pavement		98	0.19	18.62	
Open Space Good Condition (grass cover >75%)	C/D	77	0.00	0.00	
Open Space Good Condition (grass cover >75%)	B/D	71	0.20	14.20	
Open Space Good Condition (grass cover >75%)	A/D	60	1.15	69.00	
Subtotal		66.1	*1.54*	101.82	
Wet Retention Pond					
Water		100	0.18	18.00	
Open Space Good Condition (grass cover >75%)	A/D	60	0.00	0.00	
Subtotal		100.0	*0.18*	18.00	
Total Wet Pond 5N Alt 1		**69.7**	**1.72**	**119.82**	**DCIA %**
Non DCIA		**61.6**	**1.35**	**83.20**	**11.05%**
Total		**78.7**	**3.51**	**276.24**	

Summary		**78.7**	**3.51**	**276.24**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 5N			**DATE**
POND DESIGNATION:	Dry Pond 5N Alt 1, Wet Pond 5N Alt 1	**MADE BY:**	CBC	08-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	JW	09-Apr-26

Dry Pond 5N Alt 1 Stage/Area

Dry Retention (for treatment only)				
Stage	**Elevation (Ft)**	**Area (Ac)**	**Inc. Volume (Ac-Ft)**	**Total Volume (Ac-ft)**
Berm (Crowned Berm)	NA	0.00		
Berm (Inside)	11.00	0.50	0.00	0.85
Design High Water (DHW)	11.00	0.50	0.00	0.85
Weir (Design Low Water)	11.00	0.50	0.85	**0.850**
Control (wet)/Pond Bottom (dry)	9.00	0.35	0.00	0.00
Seasonal High Ground Water Elevation (SHGWT)*	8.00			

SHGWT Check (Dry Retention): ok

*SHGWT based on soil survey 8

Wet Pond 5N Alt 1 Stage/Area

Wet Detention				
Stage	**Elevation (Ft)**	**Area (Ac)**	**Inc. Volume (Ac-Ft)**	**Total Volume (Ac-ft)**
Berm (Outside)	10.50	NA		
Berm (Inside)	10.50	0.62	0.59	1.79
Design High Water (DHW)	9.50	0.56	0.77	1.20
Weir (Design Low Water)	8.00	0.46	0.43	**0.43**
Control (wet)/Pond Bottom (dry)	7.00	0.40	0.00	0.00
Seasonal High Ground Water Elevation (SHGWT)*	8.00			

Required Attenuation Volume

Attenuation required?	yes
Frequency	25-yr
Time	24-hr
Precipitation Depth	8.0 in.

1) Soil Storage (S) = (1000/CN) - 10 S_{pre} = **3.76 in.** S_{post} = **2.71 in.**

2) Runoff (R) = (P-0.2S)2/(P+0.8S) Q_{pre} = **4.77 in.** Q_{post} = **5.47 in.**

3) Runoff Volume (Vr) = R/12 * Area

Pre-Development Runoff	Vr_{pre} =	1.17 ac-ft	*
Post-Development Runoff	Vr_{post} =	1.60 ac-ft	
Attenuation volume required (Post-Pre)		**0.43 ac-ft**	

*No existing basin discharging to the proposed pond location, therefore, Vr Pre = 0

Total Required Volume (Treatment + Attenuation) ***0.43 ac-ft***

Total Provided Volume ***1.20 ac-ft***

Check Total Volume Requirement: 0.43 is < or = 1.20 **Total Volume Requirement met**

Complete Report (not including cost) Ver 4.3.5

Project: BPC Basin 5N Alt 1
Date: 4/9/2026 10:23:52 PM

Site and Catchment Information

Analysis: Specified Removal Efficiency

Catchment Name	Dry Pond 5N Alt 1	Wet Pond 5N Alt 1
Rainfall Zone	Florida Zone 4	Florida Zone 4
Annual Mean Rainfall	52.00	52.00

Pre-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200
Area (acres)	0.73	2.22
Rational Coefficient (0-1)	0.82	0.11
Non DCIA Curve Number	60.00	61.20
DCIA Percent (0-100)	100.00	8.56
Nitrogen EMC (mg/l)	1.520	1.520
Phosphorus EMC (mg/l)	0.200	0.200
Runoff Volume (ac-ft/yr)	2.603	1.064
Groundwater N (kg/yr)	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000
Nitrogen Loading (kg/yr)	4.879	1.995
Phosphorus Loading (kg/yr)	0.642	0.262

Post-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200

Area (acres)	1.79	1.72
Rational Coefficient (0-1)	0.60	0.13
Non DCIA Curve Number	60.00	61.60
DCIA Percent (0-100)	72.07	11.05
Wet Pond Area (ac)	0.00	0.18
Nitrogen EMC (mg/l)	1.520	1.520
Phosphorus EMC (mg/l)	0.200	0.200
Runoff Volume (ac-□t/yr)	4.686	0.874
Groundwater N (kg/yr)	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000
Nitrogen Loading (kg/yr)	8.783	1.638
Phosphorus Loading (kg/yr)	1.156	0.216

Catchment Number: 1 Name: Dry Pond 5N Alt 1

Project: BPC Basin 5N Alt 1
Date: 4/9/2026

Retention Design

Retention Depth (in)	5.700
Retention Volume (ac-□t)	0.850

Watershed Characteristics

Catchment Area (acres)	1.79
Contributing Area (acres)	1.790
Non-DCIA Curve Number	60.00

DCIA Percent	72.07
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	98
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	98

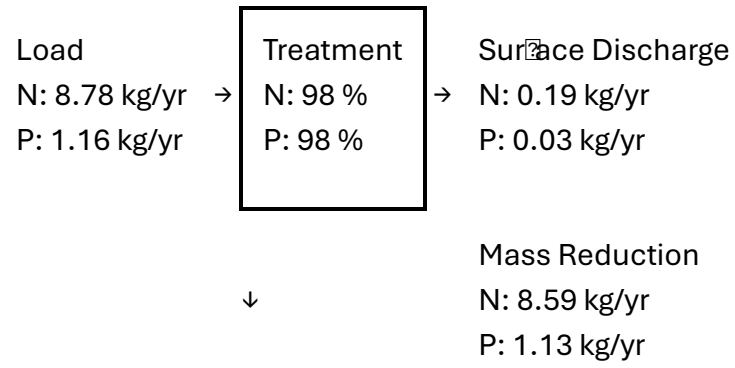
Media Mix Information

Type of Media Mix	B&G CTS24
Media N Reduction (%)	75
Media P Reduction (%)	95

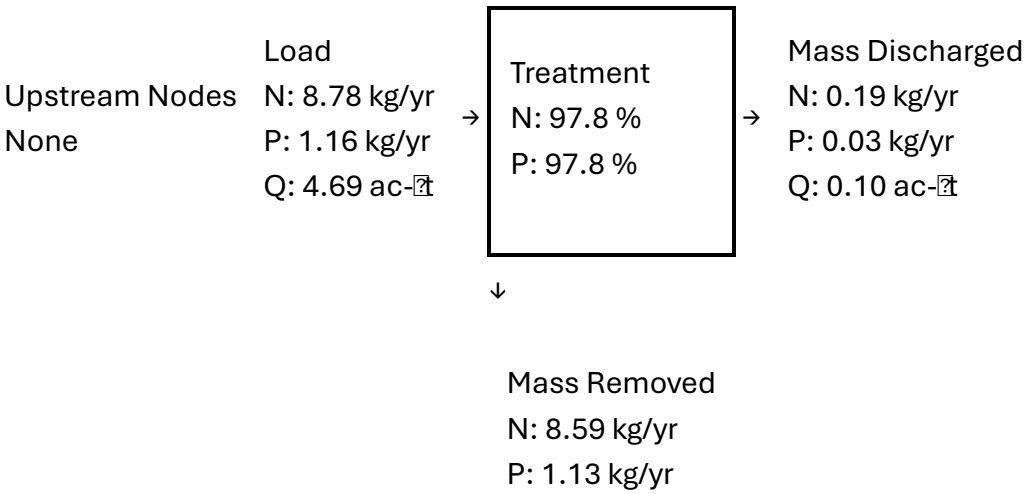
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	1.494
TN Mass Load (kg/yr)	2.148
TN Concentration (mg/L)	0.380
TP Mass Load (kg/yr)	0.057
TP Concentration (mg/L)	0.010

Load Diagram for Retention (stand-alone)



Load Diagram for Retention (As Used In Routing)



Catchment Number: 2 Name: Wet Pond 5N Alt 1

Project: BPC Basin 5N Alt 1
Date: 4/9/2026

Wet Detention with Littoral Shelf Design

Permanent Pool Volume (ac-ft)	0.430
Permanent Pool Volume (ac-ft) for 31 days residence	0.074

Annual Residence Time (days)	180
Littoral Zone Efficiency Credit	25
Wetland Efficiency Credit	

Watershed Characteristics

Catchment Area (acres)	1.72
Contributing Area (acres)	1.540
Non-DCIA Curve Number	61.60
DCIA Percent	11.05
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	56
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	83

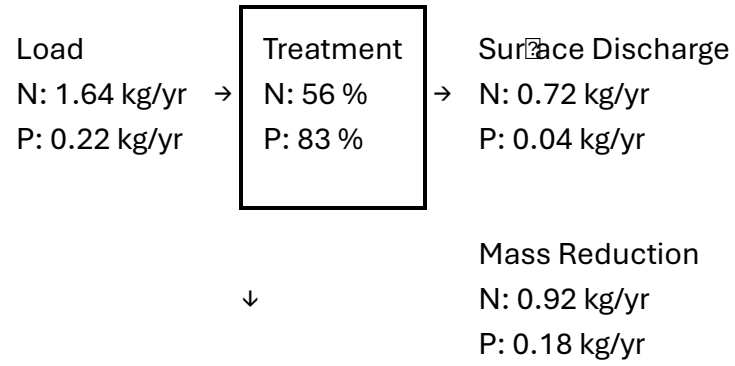
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

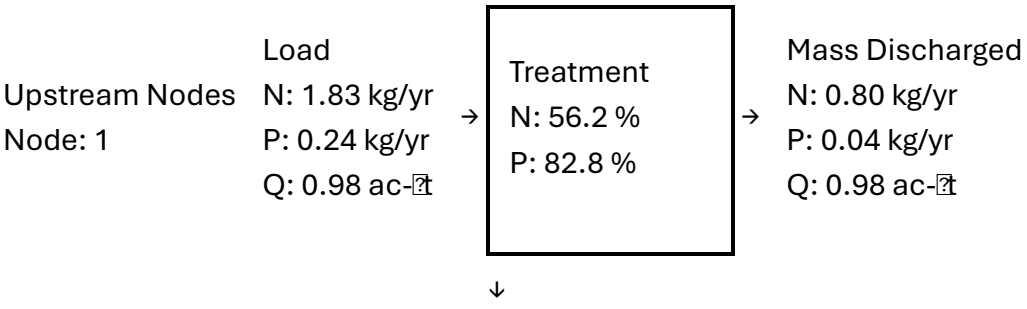
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000
TP Concentration (mg/L)	0.000

Load Diagram for Wet Detention with Littoral Shelf (stand-alone)



Load Diagram for Wet Detention (As Used In Routing)



Mass Removed
N: 1.03 kg/yr
P: 0.20 kg/yr

Summary Treatment Report Version: 4.3.5

Project: BPC Basin 5N Alt 1

Analysis Type: Specified Removal Efficiency

Date:4/9/2026

BMP Types:

Catchment 1 - (Dry Pond 5N Alt 1) Retention

Catchment 2 - (Wet Pond 5N Alt 1) Wet Detention with Littoral Shel

Based on % removal values to the nearest percent

Routing Summary

Catchment 1 Routed to Catchment 2

Catchment 2 Routed to Outlet

Total nitrogen target removal met? **Yes**

Total phosphorus target removal met? **Yes**

Summary Report

Nitrogen

Surface Water Discharge

Total N pre load	6.87 kg/yr	
Total N post load	10.42 kg/yr	
Target N load reduction	80 %	
Target N discharge load	2.08 kg/yr	
Percent N load reduction	92 %	
Provided N discharge load	.8 kg/yr	1.77 lb/yr

Provided N load removed	9.62 kg/yr	21.21 lb/yr

Phosphorus

Surface Water Discharge

Total P pre load	.904 kg/yr	
Total P post load	1.371 kg/yr	
Target P load reduction	80 %	
Target P discharge load	.274 kg/yr	
Percent P load reduction	97 %	
Provided P discharge load	.042 kg/yr	.09 lb/yr
Provided P load removed	1.33 kg/yr	2.932 lb/yr

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 5N			**DATE**
POND DESIGNATION:	Dry Pond 5N Alt 2, Wet Pond 5N Alt 2	**MADE BY:**	CBC	08-Apr-26
BASIN ANALYSIS (PRE/POST):	Pre	**CHECKED BY:**	JW	09-Apr-26

Pre-Development		NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**	
Roadway Pre					
Dry Pond 5N Alt 2					
Pavement		98	0.73	71.54	**DCIA %**
Non DCIA		#DIV/0!	*0.00*	0.00	**100.00%**
Wet Pond 5N Alt 2					
Pavement		98	0.57	55.86	
Open Space Good Condition (grass cover >75%)	C/D	77	0.00	0.00	
Open Space Good Condition (grass cover >75%)	B/D	71	0.22	15.62	
Open Space Good Condition (grass cover >75%)	A/D	60	1.81	108.60	
Subtotal		69.3	*2.60*	180.08	**DCIA %**
Non DCIA		61.2	*2.03*	124.22	**21.92%**
Dry Pond location is included in the areas above (within the existing drainage area)		98	0.00	0.00	
Total		**75.6**	**3.33**	**251.62**	
Summary		**75.6**	**3.33**	**251.62**	

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 5N			**DATE**
POND DESIGNATION:	Dry Pond 5N Alt 2, Wet Pond 5N Alt 2	**MADE BY:**	CBC	08-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	JW	09-Apr-26

Post-Development	NRCS				
Cover Description	**Soil Group**	**CN**		**Area (Ac)**	**CN x Area (Ac)**
Roadway Post					
Dry Pond Alt 2, Wet Pond Alt 2					
Dry Pond 5N Alt 2					
Pavement		98		1.29	126.42
Dry Retention Pond	A/D	60		0.50	30.00
Subtotal		87.4		1.79	156.42
Non DCIA		60.0		*0.50*	30.00
Wet Pond 5N Alt 2					
Water		100		0.19	19.00
Open Space Good Condition (grass cover >75%)	C/D	77		0.00	0.00
Open Space Good Condition (grass cover >75%)	B/D	71		0.20	14.20
Open Space Good Condition (grass cover >75%)	A/D	60		1.33	79.80
Subtotal		65.7		*1.72*	113.00
Non DCIA		61.4		*1.53*	94.00
Total		**76.8**		**3.51**	**269.42**

DCIA %				
72.07%				
DCIA %				
0.00%				

Summary		**76.8**	**3.51**	**269.42**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

Dry Pond 5N Alt 2

Dry Retention (for treatment only)				
Stage	**Elevation (Ft)**	**Area (Ac)**	**Inc. Volume (Ac-Ft)**	**Total Volume (Ac-ft)**
Berm (Crowned Berm)	NA	0.00		
Berm (Inside)	11.00	0.50	0.00	0.85
Design High Water (DHW)	11.00	0.50	0.00	0.85
Weir (Design Low Water)	11.00	0.50	0.85	**0.850**
Control (wet)/Pond Bottom (dry)	9.00	0.35	0.00	0.00
Seasonal High Ground Water Elevation (SHGWT)*	8.00			

SHGWT Check (Dry Retention): ok

*SHGWT based on soil survey 8

Wet Pond 5N Alt 2

Wet Detention				
Stage	**Elevation (Ft)**	**Area (Ac)**	**Inc. Volume (Ac-Ft)**	**Total Volume (Ac-ft)**
Berm (Outside)	10.00	0.97		
Berm (Inside)	9.00	0.39	0.34	0.72
Design High Water (DHW)	8.00	0.29	0.24	0.38
Weir (Design Low Water)	7.00	0.19	0.14	**0.14**
Control (wet)/Pond Bottom (dry)	6.00	0.09	0.00	0.00
Seasonal High Ground Water Elevation (SHGWT)*	6.00			

Required Attenuation Volume

Attenuation required?	yes
Frequency	25-yr
Time	24-hr
Precipitation Depth	8.0 in.

BURGESS & NIPLE

1) Soil Storage (S) = (1000/CN) - 10 S_{pre} = **3.23 in.** S_{post} = **3.03 in.**

2) Runoff (R) = (P-0.2S)2/(P+0.8S) Q_{pre} = **5.11 in.** Q_{post} = **5.25 in.**

3) Runoff Volume (Vr) = R/12 * Area

Pre-Development Runoff	Vr_{pre} =	1.42 ac-ft	*
Post-Development Runoff	Vr_{post} =	1.53 ac-ft	
Attenuation volume required (Post-Pre)		**0.12 ac-ft**	

*No existing basin discharging to the proposed pond location, therefore, Vr Pre = 0

Total Required Volume (Treatment + Attenuation) ***0.12 ac-ft***

Total Provided Volume ***0.38 ac-ft***

Check Total Volume Requirement: 0.12 is < or = 0.38 **Total Volume Requirement met**

Complete Report (not including cost) Ver 4.3.5

Project: BPC Basin 5N Alt 2
Date: 4/9/2026 10:38:42 PM

Site and Catchment Information

Analysis: Specified Removal Efficiency

Catchment Name	Dry Pond 5N Alt 2	Wet Pond 5N Alt 2
Rainfall Zone	Florida Zone 4	Florida Zone 4
Annual Mean Rainfall	52.00	52.00
Pre-Condition Landuse Information		
Landuse	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200
Area (acres)	0.73	2.60
Rational Coefficient (0-1)	0.82	0.21
Non DCIA Curve Number	29.90	61.20
DCIA Percent (0-100)	100.00	21.92
Nitrogen EMC (mg/l)	1.520	1.520
Phosphorus EMC (mg/l)	0.200	0.200
Runoff Volume (ac-ft/yr)	2.603	2.417
Groundwater N (kg/yr)	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000
Nitrogen Loading (kg/yr)	4.879	4.530
Phosphorus Loading (kg/yr)	0.642	0.596
Post-Condition Landuse Information		
Landuse	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200

Area (acres)	1.79	1.72
Rational Coefficient (0-1)	0.60	0.13
Non DCIA Curve Number	60.00	61.40
DCIA Percent (0-100)	72.10	11.05
Wet Pond Area (ac)	0.00	0.19
Nitrogen EMC (mg/l)	1.520	1.520
Phosphorus EMC (mg/l)	0.200	0.200
Runoff Volume (ac-ft/yr)	4.688	0.865
Groundwater N (kg/yr)	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000
Nitrogen Loading (kg/yr)	8.786	1.621
Phosphorus Loading (kg/yr)	1.156	0.213

Catchment Number: 1 Name: Dry Pond 5N Alt 2

Project: BPC Basin 5N Alt 2
Date: 4/9/2026

Retention Design

Retention Depth (in)	5.700
Retention Volume (ac-ft)	0.850

Watershed Characteristics

Catchment Area (acres)	1.79
Contributing Area (acres)	1.790
Non-DCIA Curve Number	60.00

DCIA Percent	72.10
Rain all Zone	Florida Zone 4
Rain all (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	98
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	98

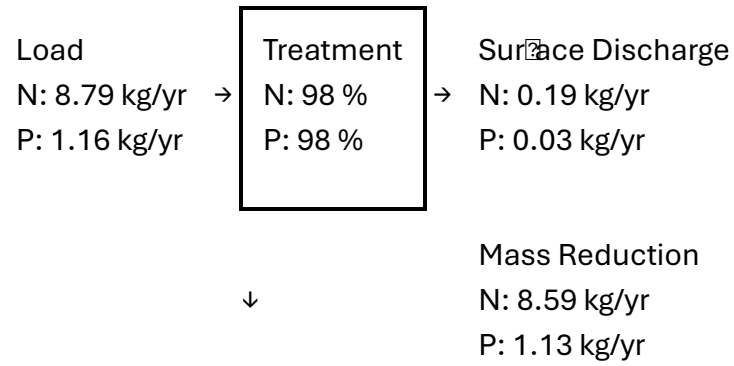
Media Mix Information

Type o Media Mix	B&G CTS24
Media N Reduction (%)	75
Media P Reduction (%)	95

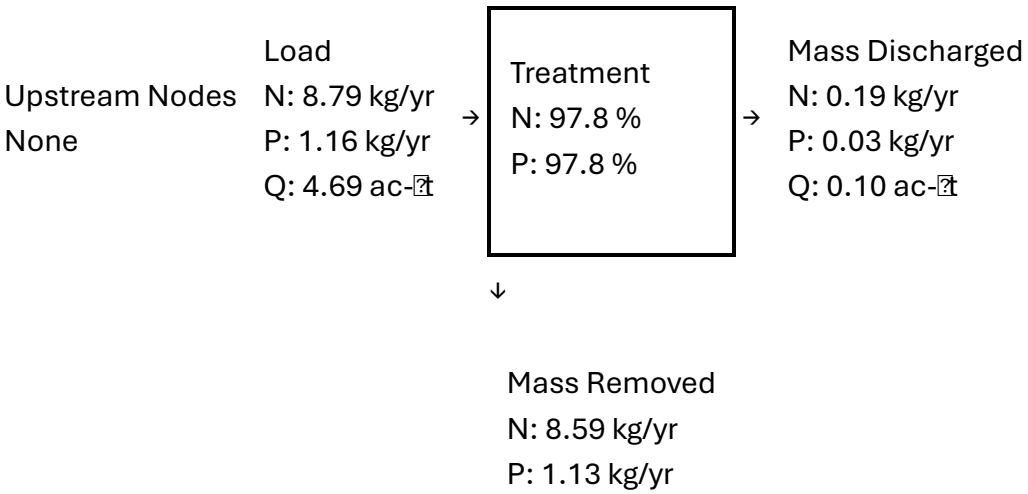
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	1.494
TN Mass Load (kg/yr)	2.149
TN Concentration (mg/L)	0.380
TP Mass Load (kg/yr)	0.057
TP Concentration (mg/L)	0.010

Load Diagram for Retention (stand-alone)



Load Diagram for Retention (As Used In Routing)



Catchment Number: 2 Name: Wet Pond 5N Alt 2

Project: BPC Basin 5N Alt 2
Date: 4/9/2026

Wet Detention with Littoral Shelf Design

Permanent Pool Volume (ac-ft)	0.140
Permanent Pool Volume (ac-ft) for 31 days residence	0.073

Annual Residence Time (days)	59
Littoral Zone Efficiency Credit	25
Wetland Efficiency Credit	

Watershed Characteristics

Catchment Area (acres)	1.72
Contributing Area (acres)	1.530
Non-DCIA Curve Number	61.40
DCIA Percent	11.05
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	54
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	76

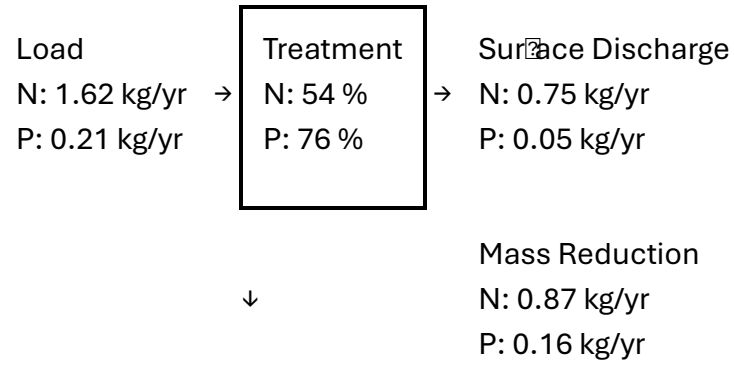
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

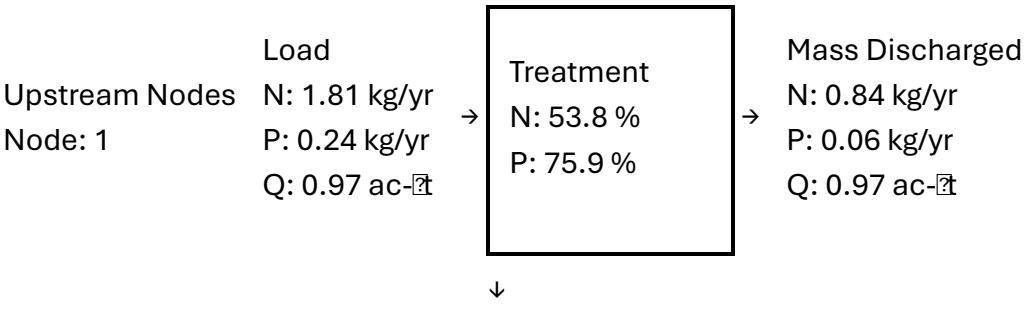
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000
TP Concentration (mg/L)	0.000

Load Diagram for Wet Detention with Littoral Shelf (stand-alone)



Load Diagram for Wet Detention (As Used In Routing)



Mass Removed
N: 0.98 kg/yr
P: 0.18 kg/yr

Summary Treatment Report Version: 4.3.5

Project: BPC Basin 5N Alt 2

Analysis Type: Specified Removal Efficiency

Date:4/9/2026

BMP Types:

Catchment 1 - (Dry Pond 5N Alt 2) Retention

Catchment 2 - (Wet Pond 5N Alt 2) Wet Detention with Littoral Shel

Based on % removal values to the nearest percent

Routing Summary

Catchment 1 Routed to Catchment 2

Catchment 2 Routed to Outlet

Total nitrogen target removal met? **Yes**

Total phosphorus target removal met? **Yes**

Summary Report

Nitrogen

Surface Water Discharge

Total N pre load	9.41 kg/yr	
Total N post load	10.41 kg/yr	
Target N load reduction	80 %	
Target N discharge load	2.08 kg/yr	
Percent N load reduction	92 %	
Provided N discharge load	.84 kg/yr	1.85 lb/yr

Provided N load removed	9.57 kg/yr	21.1 lb/yr

Phosphorus

Surface Water Discharge

Total P pre load	1.238 kg/yr	
Total P post load	1.369 kg/yr	
Target P load reduction	80 %	
Target P discharge load	.274 kg/yr	
Percent P load reduction	96 %	
Provided P discharge load	.058 kg/yr	.13 lb/yr
Provided P load removed	1.312 kg/yr	2.893 lb/yr

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 5N			**DATE**
POND DESIGNATION:	Dry Pond 5N Alt 3, Swales 5N Alt 3	**MADE BY:**	CBC	08-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**	JW	09-Apr-26

Pre-Development		NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**	
Roadway Pre					
Dry Pond 5N Alt 3					
Pavement		98	0.73	71.54	
Subtotal		98.0	*0.73*	71.54	**DCIA %**
Non DCIA		#DIV/0!	*0.00*	0.00	**100.00%**
Swales 5N Alt 3					
Pavement		98	0.73	71.54	
Open Space Good Condition (grass cover >75%)	C/D	77	0.00	0.00	
Open Space Good Condition (grass cover >75%)	B/D	71	0.22	15.62	
Open Space Good Condition (grass cover >75%)	A/D	60	1.81	108.60	
Subtotal		70.9	*2.76*	195.76	**DCIA %**
Non DCIA		61.2	*2.03*	124.22	**26.45%**
Dry Pond 5N Alt 3 and Swale 5N Alt 3 locations are included in the areas above (within the existing drainage area)					
Total		**76.6**	**3.49**	**267.30**	

Summary		**76.6**	**3.49**	**267.30**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 5N			**DATE**
POND DESIGNATION:	Dry Pond 5N Alt 3, Swales 5N Alt 3	**MADE BY:**	CBC	08-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	JW	09-Apr-26

Post-Development	NRCS				
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**	
Dry Pond 5N Alt 3					
Pavement		98	0.73	71.54	
Subtotal		98.0	*0.73*	71.54	**DCIA %**
Non DCIA		#DIV/0!	*0.00*	0.00	**100.00%**
Swales 5N Alt 3					
Pavement		98	0.19	18.62	
Open Space Good Condition (grass cover >75%)	C/D	77	0.00	0.00	
Open Space Good Condition (grass cover >75%)	B/D	71	0.22	15.62	
Open Space Good Condition (grass cover >75%)	A/D	60	1.81	108.60	
Subtotal		64.3	*2.22*	142.84	**DCIA %**
Non DCIA		61.2	*2.03*	124.22	**8.56%**
Total		**64.3**	**2.22**	**142.84**	

Summary		**64.3**	**2.22**	**142.84**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 5N			**DATE**
POND DESIGNATION:	Dry Pond 5N Alt 3, Swales 5N Alt 3	**MADE BY:**	CBC	08-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	JW	09-Apr-26

Dry Pond 5N Alt 3 Stage/Area

Stage	Elevation (Ft)	Area (Ac)	Inc. Volume (Ac-Ft)	Total Volume (Ac-ft)	Elevation (Ft)
Berm (Outside)	8.50	0.00			
Berm (Inside)	7.80	0.40	0.38	0.93	
Design High Water (DHW)	6.80	0.35	0.26	0.55	6.00
Weir (Design Low Water)	6.00	0.31	0.29	**0.29**	5.50
Control (wet)/Pond Bottom (dry)	5.00	0.27	0.00	0.00	5.00
Seasonal High Ground Water Elevation (SHGWT)*	4.00				4.00

SHGWT Check (Dry Retention): ok

*SHGWT based on soil survey 4

Required Attenuation Volume

Attenuation required?	yes
Frequency	25-yr
Time	24-hr
Precipitation Depth	8.0 in.

1) Soil Storage (S) = (1000/CN) - 10 S_{pre} = **3.06 in.** S_{post} = **5.54 in.**

2) Runoff (R) = (P-0.2S)2/(P+0.8S) Q_{pre} = **5.23 in.** Q_{post} = **3.82 in.**

3) Runoff Volume (Vr) = R/12 * Area

Pre-Development Runoff	Vr_{pre} =	1.52 ac-ft	*
Post-Development Runoff	Vr_{post} =	0.71 ac-ft	
Attenuation volume required (Post-Pre)		**-0.81 ac-ft**	

*No existing basin discharging to the proposed pond location, therefore, Vr Pre = 0

Total Required Volume (Treatment + Attenuation) ***-0.81 ac-ft***

Total Provided Volume ***0.55 ac-ft***

Check Total Volume Requirement: -0.81 is < or = 0.55 **Total Volume Requirement met**

Complete Report (not including cost) Ver 4.3.5

Project: BPC Basin 5N Alt 3
Date: 4/8/2026 8:50:59 PM

Site and Catchment Information

Analysis: Specified Removal Efficiency

Catchment Name	Dry Pond 5N Alt 3	Swale 5N Alt 3
Rainfall Zone	Florida Zone 4	Florida Zone 4
Annual Mean Rainfall	52.00	52.00

Pre-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200
Area (acres)	0.73	2.76
Rational Coefficient (0-1)	0.82	0.25
Non DCIA Curve Number	60.00	61.20
DCIA Percent (0-100)	100.00	26.50
Nitrogen EMC (mg/l)	1.520	1.520
Phosphorus EMC (mg/l)	0.200	0.200
Runoff Volume (ac-ft/yr)	2.603	2.991
Groundwater N (kg/yr)	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000
Nitrogen Loading (kg/yr)	4.879	5.606
Phosphorus Loading (kg/yr)	0.642	0.738

Post-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200
Area (acres)	0.73	2.22
Rational Coefficient (0-1)	0.82	0.11
Non DCIA Curve Number	60.00	61.40
DCIA Percent (0-100)	100.00	8.60
Wet Pond Area (ac)	0.00	0.00
Nitrogen EMC (mg/l)	1.520	1.520
Phosphorus EMC (mg/l)	0.200	0.200
Runoff Volume (ac-ft/yr)	2.603	1.072

Groundwater N (kg/yr)	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000
Nitrogen Loading (kg/yr)	4.879	2.009
Phosphorus Loading (kg/yr)	0.642	0.264

Catchment Number: 1 Name: Dry Pond 5N Alt 3

Project: BPC Basin 5N Alt 3
Date: 4/8/2026

Retention Design

Retention Depth (in)	7.900
Retention Volume (ac-ft)	0.481

Watershed Characteristics

Catchment Area (acres)	0.73
Contributing Area (acres)	0.730
Non-DCIA Curve Number	60.00
DCIA Percent	100.00
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	97
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	97

Media Mix Information

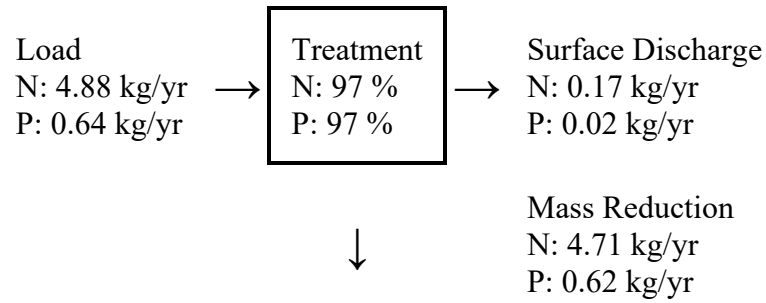
Type of Media Mix	B&G CTS24
Media N Reduction (%)	75
Media P Reduction (%)	95

Groundwater Discharge (Stand-Alone)

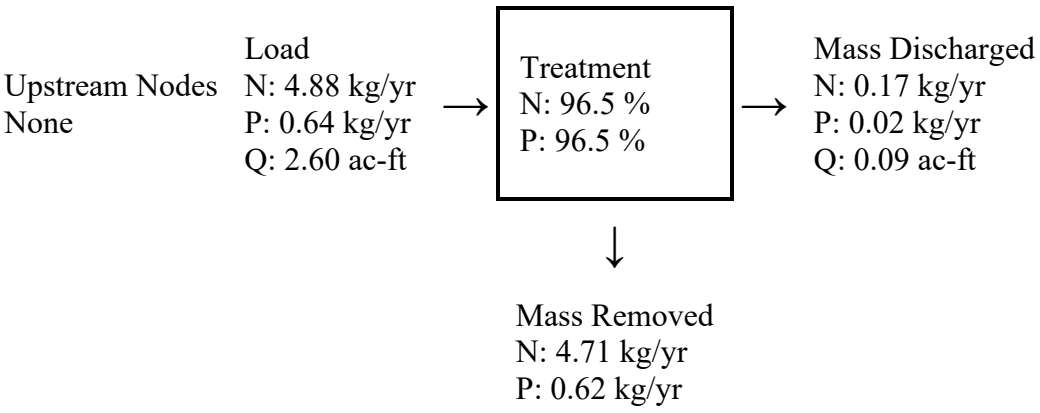
Treatment Rate (MG/yr)	0.819
TN Mass Load (kg/yr)	1.177
TN Concentration (mg/L)	0.380

TP Mass Load (kg/yr)	0.031
TP Concentration (mg/L)	0.010

Load Diagram for Retention (stand-alone)



Load Diagram for Retention (As Used In Routing)



Catchment Number: 2 Name: Swale 5N Alt 3

Project: BPC Basin 5N Alt 3
Date: 4/8/2026

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	30.000
Swale Bottom Width - **B** (ft)	50.000
Swale Length - **L** (ft)	640.000

Average Impervious Length (ft)	640.000
Average Impervious Width (ft)	38.000
Average Pervious Width (ft)	68.000
Swale Slope (foot drop/foot length) - **S**	0.200
Mannings N	0.060
Soil Infiltration Rate (in/hr)	6.000
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	100.000
Runoff Area (acres)	1.557
Number of Swale Blocks	7

Watershed Characteristics

Catchment Area (acres)	2.22
Contributing Area (acres)	2.220
Non-DCIA Curve Number	61.40
DCIA Percent	8.60
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	98
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	98

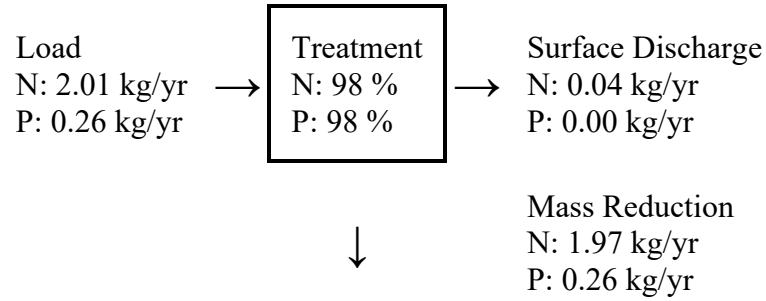
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

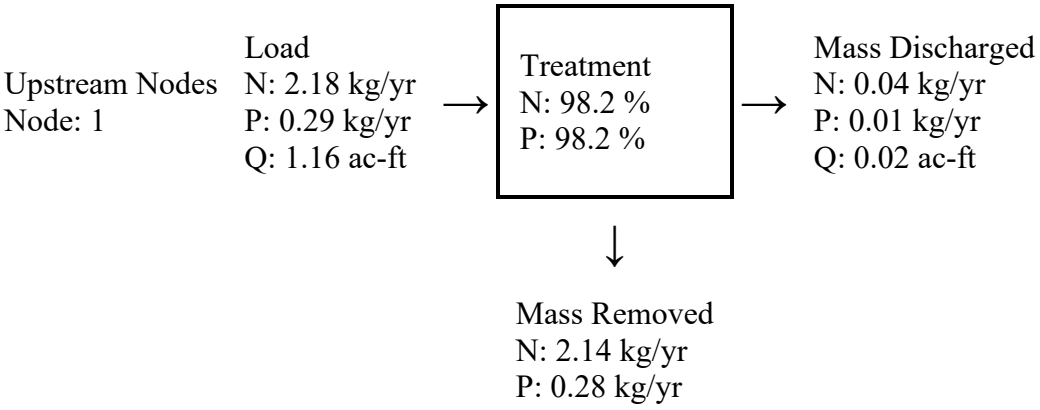
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.345
TN Mass Load (kg/yr)	1.972
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.259
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



Load Diagram for Swale (As Used In Routing)



Summary Treatment Report Version: 4.3.5

Project: BPC Basin 5N Alt 3

Analysis Type: Specified Removal Efficiency

Date:4/8/2026

BMP Types:

Catchment 1 - (Dry Pond 5N Alt 3) Retention

Catchment 2 - (Swale 5N Alt 3) Swale

Routing Summary

Catchment 1 Routed to Catchment 2

Catchment 2 Routed to Outlet

Based on % removal values to the nearest percent

Total nitrogen target removal met? **Yes**
Total phosphorus target removal met? **Yes**

Summary Report

Nitrogen

Surface Water Discharge

Total N pre load	10.49 kg/yr	
Total N post load	6.89 kg/yr	
Target N load reduction	80 %	
Target N discharge load	1.38 kg/yr	
Percent N load reduction	99 %	
Provided N discharge load	.04 kg/yr	.09 lb/yr
Provided N load removed	6.85 kg/yr	15.1 lb/yr

Phosphorus

Surface Water Discharge

Total P pre load	1.38 kg/yr	
Total P post load	.906 kg/yr	
Target P load reduction	80 %	
Target P discharge load	.181 kg/yr	
Percent P load reduction	99 %	
Provided P discharge load	.005 kg/yr	.01 lb/yr
Provided P load removed	.901 kg/yr	1.987 lb/yr

Basin 5S

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 5S			**DATE**
POND DESIGNATION:	Swale 5S Alt 1	**MADE BY:**	CBC	09-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**	JW	09-Apr-26

Pre-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Pre				
Outfall Roadside Ditch				
Swale 5S Alt 1				
Pavement		98	1.29	126.42
Open Space Good Condition (grass cover >75%)	C/D	77	0.17	13.09
Open Space Good Condition (grass cover >75%)	B/D	71	0.17	12.07
Open Space Good Condition (grass cover >75%)	A/D	60	0.90	54.00
Subtotal		81.3	*2.53*	205.58
Non DCIA		63.8	*1.24*	79.16
Swale 5S Alt 1 location is included in the areas above (within the existing drainage area)				
Total		**81.3**	**2.53**	**205.58**
Non DCIA		**63.8**	**1.24**	**79.16**

Summary		**81.3**	**2.53**	**205.58**	**DCIA %**
Non DCIA		**63.8**	**1.24**	**79.16**	**50.99%**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 5S			**DATE**
POND DESIGNATION:	Swale 5S Alt 1	**MADE BY:**	CBC	09-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	JW	09-Apr-26

Post-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Post				
Swale 5S Alt 1				
Pavement		98	2.01	196.98
Open Space Good Condition (grass cover >75%)	C/D	77	0.17	13.09
Open Space Good Condition (grass cover >75%)	B/D	71	0.02	1.42
Open Space Good Condition (grass cover >75%)	A/D	60	0.29	17.40
Subtotal		91.9	*2.49*	228.89
Non DCIA		66.5	*0.48*	31.91
Swale 5S Alt 1 is included in the areas above (within the existing drainage area)		100	0.00	0.00
Total		**91.9**	**2.49**	**228.89**
Non DCIA		**66.5**	**0.48**	**31.91**

Summary		**91.9**	**2.49**	**228.89**	**DCIA %**
Non DCIA		**66.5**	**0.48**	**31.91**	**80.72%**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 5S			**DATE**
POND DESIGNATION:	Swale 5S Alt 1	**MADE BY:**	CBC	09-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	JW	09-Apr-26

Swale 5S Alt 1 Stage/Area

Stage	Elevation (Ft)	Area (Ac)	Inc. Volume (Ac-Ft)	Total Volume (Ac-ft)	Elevation (Ft)
Berm (Outside)	NA	0.00			
Berm (Inside)	7.00	0.11	0.09	0.14	
Design High Water (DHW)	6.00	0.07	0.03	0.05	6.00
Weir (Design Low Water)	5.50	0.05	0.02	**0.02**	5.50
Control (wet)/Pond Bottom (dry)	5.00	0.03	0.00	0.00	5.00
Seasonal High Ground Water Elevation (SHGWT)*	4.00				4.00

SHGWT Check (Dry Retention): ok

*SHGWT based on soil survey 4

		Storage Outside of Ponds/Swales			
Stage	**Elevation (Ft)**	**Area (Ac)**	**Inc. Volume (Ac-Ft)**	**Total Volume (Ac-ft)**	**Combined Total Volume (Ac-ft)**
Downstream elevations	NA			`	
Berm (Inside)	7.00				
	6.00	0.62	0.26	0.57	0.62
	5.50	0.42	0.16	0.31	0.33
	5.00	0.23	0.15	0.15	0.15
	4.00	0.06	0		

0.24 ac-ft at elevation 5.27

Required Attenuation Volume

Attenuation required?	yes
Frequency	25-yr
Time	24-hr
Precipitation Depth	8.0 in.

1) Soil Storage (S) = (1000/CN) - 10 S_{pre} = **2.31 in.** S_{post} = **0.88 in.**

2) Runoff (R) = (P-0.2S)2/(P+0.8S) Q_{pre} = **5.77 in.** Q_{post} = **7.03 in.**

3) Runoff Volume (Vr) = R/12 * Area

Pre-Development Runoff	Vr_{pre} =	1.22	ac-ft *
Post-Development Runoff	Vr_{post} =	1.46	ac-ft
Attenuation volume required (Post-Pre)		**0.24**	**ac-ft**

*No existing basin discharging to the proposed pond location, therefore, Vr Pre = 0

Total Required Volume (Treatment + Attenuation) ***0.24 ac-ft***

Total Provided Volume ***0.36 ac-ft***

Check Total Volume Requirement: 0.24 is < or = 0.36 **Total Volume Requirement met**

Complete Report (not including cost) Ver 4.3.5

Project: BPC Basin 5S Alt 1 Swale
Date: 4/8/2026 1:33:05 PM

Site and Catchment Information

Analysis: Specified Removal Efficiency

Catchment Name	Swale 5S Alt 1
Rainfall Zone	Florida Zone 4
Annual Mean Rainfall	52.00

Pre-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200
Area (acres)	2.53
Rational Coefficient (0-1)	0.44
Non DCIA Curve Number	63.80
DCIA Percent (0-100)	51.00
Nitrogen EMC (mg/l)	1.520
Phosphorus EMC (mg/l)	0.200
Runoff Volume (ac-ft/yr)	4.872
Groundwater N (kg/yr)	0.000
Groundwater P (kg/yr)	0.000
Nitrogen Loading (kg/yr)	9.130
Phosphorus Loading (kg/yr)	1.201

Post-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200
Area (acres)	2.49
Rational Coefficient (0-1)	0.68
Non DCIA Curve Number	66.50
DCIA Percent (0-100)	80.70
Wet Pond Area (ac)	0.00
Nitrogen EMC (mg/l)	1.520
Phosphorus EMC (mg/l)	0.200
Runoff Volume (ac-ft/yr)	7.289

Groundwater N (kg/yr)	0.000
Groundwater P (kg/yr)	0.000
Nitrogen Loading (kg/yr)	13.662
Phosphorus Loading (kg/yr)	1.798

Catchment Number: 1 Name: Swale 5S Alt 1

Project: BPC Basin 5S Alt 1 Swale
Date: 4/8/2026

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	27.000
Swale Bottom Width - **B** (ft)	15.000
Swale Length - **L** (ft)	1,000.000
Average Impervious Length (ft)	1,380.000
Average Impervious Width (ft)	64.000
Average Pervious Width (ft)	32.000
Swale Slope (foot drop/foot length) - **S**	0.005
Mannings N	0.060
Soil Infiltration Rate (in/hr)	6.000
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	100.000
Runoff Area (acres)	3.041
Number of Swale Blocks	9

Watershed Characteristics

Catchment Area (acres)	2.49
Contributing Area (acres)	2.490
Non-DCIA Curve Number	66.50
DCIA Percent	80.70
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	81
Required TP Treatment Efficiency (%)	80

Provided TP Treatment Efficiency (%) 81

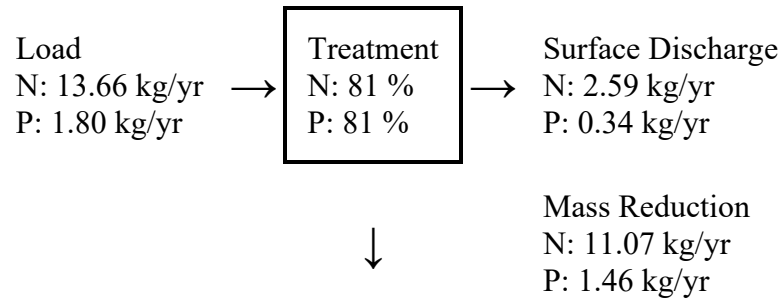
Media Mix Information

Type of Media Mix	B&G CTS24
Media N Reduction (%)	75
Media P Reduction (%)	95

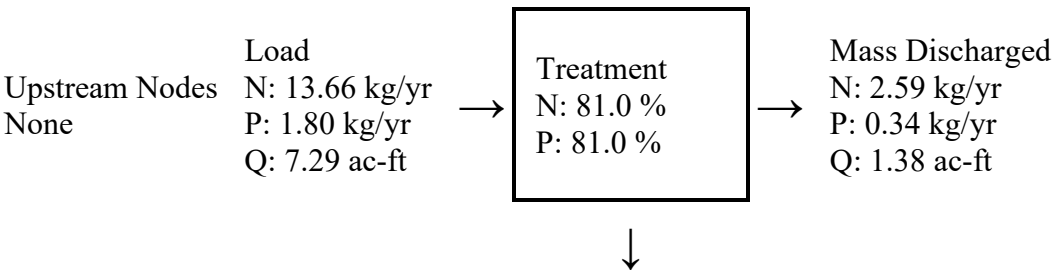
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	1.925
TN Mass Load (kg/yr)	2.768
TN Concentration (mg/L)	0.380
TP Mass Load (kg/yr)	0.073
TP Concentration (mg/L)	0.010

Load Diagram for Swale (stand-alone)



Load Diagram for Swale (As Used In Routing)



Mass Removed
N: 11.07 kg/yr
P: 1.46 kg/yr

Summary Treatment Report Version: 4.3.5

Project: BPC Basin 5S Alt 1
Swale

Analysis Type: Specified Removal Efficiency

Date:4/8/2026

BMP Types:

Catchment 1 - (Swale 5S Alt 1) Swale

Based on % removal values to the nearest percent

Routing Summary
Catchment 1 Routed to Outlet

Total nitrogen target removal met? **Yes**
Total phosphorus target removal met? **Yes**

Summary Report

Nitrogen

Surface Water Discharge		
Total N pre load	9.13 kg/yr	
Total N post load	13.66 kg/yr	
Target N load reduction	80 %	
Target N discharge load	2.73 kg/yr	
Percent N load reduction	81 %	
Provided N discharge load	2.59 kg/yr	5.71 lb/yr
Provided N load removed	11.07 kg/yr	24.41 lb/yr

Phosphorus

Surface Water Discharge	
Total P pre load	1.201 kg/yr
Total P post load	1.798 kg/yr
Target P load reduction	80 %
Target P discharge load	.36 kg/yr

Percent P load reduction	81 %	
Provided P discharge load	.341 kg/yr	.75 lb/yr
Provided P load removed	1.457 kg/yr	3.212 lb/yr

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 5S			**DATE**
POND DESIGNATION:	VFS 5S Alt 2, Swale 5S Alt2	**MADE BY:**	CBC	08-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**	JW	09-Apr-26

Pre-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Pre				
Roadside Ditch				
Pavement		98	1.29	126.42
Open Space Good Condition (grass cover >75%)	C/D	77	0.17	13.09
Open Space Good Condition (grass cover >75%)	B/D	71	0.17	12.07
Open Space Good Condition (grass cover >75%)	A/D	60	0.90	54.00
Subtotal		81.3	*2.53*	205.58
Non DCIA		63.8	*1.24*	79.16
VFS 5S Alt 2, Swale 5S Alt2				
Pavement		98	0.18	17.64
Open Space Good Condition (grass cover >75%)	A/D	60	0.00	0.00
Subtotal		98.0	*0.18*	17.64
Non DCIA				
Total		**82.4**	**2.71**	**223.22**
Non DCIA		**68.2**	**1.42**	**96.80**

Summary		**82.4**	**2.71**	**223.22**	**DCIA %**
Non DCIA		**68.2**	**1.42**	**96.80**	**54.24%**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 5S			**DATE**
POND DESIGNATION:	VFS 5S Alt 2, Swale 5S Alt2	**MADE BY:**	CBC	08-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	JW	09-Apr-26

Post-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Post				
Roadside Ditch				
Pavement		98	2.01	196.98
Impervious Area (non DCIA)	NA	98	0.00	0.00
Open Space Good Condition (grass cover >75%)	C/D	77	0.17	13.09
Open Space Good Condition (grass cover >75%)	B/D	71	0.02	1.42
Open Space Good Condition (grass cover >75%)	A/D	60	0.29	17.40
Subtotal		91.9	*2.49*	228.89

VFS 5S Alt 2, Swale 5S Alt2				
Water		100	0.00	0.00
Open Space Good Condition (grass cover >75%)	A/D	60	0.57	34.20
Subtotal		60.0	*0.57*	34.20
Total		**86.0**	**3.06**	**263.09**
Non DCIA		**86.0**	**3.06**	**263.09**

Summary		**86.0**	**3.06**	**263.09**	**DCIA %**
Non DCIA		**86.0**	**3.06**	**263.09**	**65.69%**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 5S			**DATE**
POND DESIGNATION:	VFS 5S Alt 2, Swale 5S Alt2	**MADE BY:**	CBC	08-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	JW	09-Apr-26

Swale 5S Alt 2 Stage/ Area

Stage	Elevation (Ft)	Area (Ac)	Inc. Volume (Ac-Ft)	Total Volume (Ac-ft)		
Berm (Outside)	NA	0.57				
Berm (Inside)	7.10	0.39	0.56	1.12	0.28	ac-ft
Design High Water (DHW)	6.00	0.62	0.26	0.57	6.05	at elevation
Weir (Design Low Water)	5.50	0.42	0.16	0.31		
Control (wet)/Pond Bottom (dry)	5.00	0.23	0.15	0.15		
Seasonal High Ground Water Elevation (SHGWT)*	4.00	0.06	0			
SHGWT Check (Dry Retention):		ok				
*SHGWT based on soil survey	4					

Required Attenuation Volume

Attenuation required?	yes
Frequency	25-yr
Time	24-hr
Precipitation Depth	8.0 in.

1) Soil Storage (S) = (1000/CN) - 10 — S_{pre} = **2.14 in.** — S_{post} = **1.63 in.**

2) Runoff (R) = (P-0.2S)2/(P+0.8S) — Q_{pre} = **5.90 in.** — Q_{post} = **6.33 in.**

3) Runoff Volume (Vr) = R/12 * Area

Pre-Development Runoff	Vr_{pre} =	1.33 ac-ft	*
Post-Development Runoff	Vr_{post} =	1.61 ac-ft	
Attenuation volume required (Post-Pre)		**0.28 ac-ft**	

*No existing basin discharging to the proposed pond location, therefore, Vr Pre = 0

Total Required Volume (Treatment + Attenuation) — ***0.28 ac-ft***

Total Provided Volume — ***0.57 ac-ft***

Check Total Volume Requirement: 0.28 is < or = 0.57 **Total Volume Requirement met**

Complete Report (not including cost) Ver 4.3.5

Project: BCP Basin 5S Alt 2 Veg Filter
Date: 4/8/2026 1:21:58 PM

Site and Catchment Information

Analysis: Specified Removal Efficiency

Catchment Name	VFS 5S Alt 2, Swale 5S Alt 2
Rainfall Zone	Florida Zone 4
Annual Mean Rainfall	52.00

Pre-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200
Area (acres)	2.71
Rational Coefficient (0-1)	0.48
Non DCIA Curve Number	68.20
DCIA Percent (0-100)	54.20
Nitrogen EMC (mg/l)	1.520
Phosphorus EMC (mg/l)	0.200
Runoff Volume (ac-ft/yr)	5.590
Groundwater N (kg/yr)	0.000
Groundwater P (kg/yr)	0.000
Nitrogen Loading (kg/yr)	10.476
Phosphorus Loading (kg/yr)	1.378

Post-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200
Area (acres)	3.06
Rational Coefficient (0-1)	0.61
Non DCIA Curve Number	86.00
DCIA Percent (0-100)	65.70
Wet Pond Area (ac)	0.00
Nitrogen EMC (mg/l)	1.520
Phosphorus EMC (mg/l)	0.200
Runoff Volume (ac-ft/yr)	8.078

Groundwater N (kg/yr)	0.000
Groundwater P (kg/yr)	0.000
Nitrogen Loading (kg/yr)	15.139
Phosphorus Loading (kg/yr)	1.992

Catchment Number: 1 Name: VFS 5S Alt 2, Swale 5S Alt 2

Project: BCP Basin 5S Alt 2 Veg Filter
Date: 4/8/2026

Multiple BMP in Series Design Parameters

BMP in Series Number: 1
BMP Type: Vegetated Filter Strip

VFS Width (ft)	30.000
VFS Length (ft)	150.000
VFS Depth (ft)	2.000
Width of Area Feeding Buffer (ft)	68.000
Water storage capacity of soil (in/in)	0.200
Slope of VFS (< 20%)	2.000
Annual Capture Percentage	82

BMP in Series Number: 2
BMP Type: Swale

Swale Top Width for Flood Conditions - **W** (ft)	40.000
Swale Bottom Width - **B** (ft)	20.000
Swale Length - **L** (ft)	140.000
Average Impervious Length (ft)	140.000
Average Impervious Width (ft)	70.000
Average Pervious Width (ft)	40.000
Swale Slope (foot drop/foot length) - **S**	0.200
Mannings N	0.060
Soil Infiltration Rate (in/hr)	6.000
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	70.000
Runoff Area (acres)	0.354
Number of Swale Blocks	2

BMP in Series Number: 3
BMP Type: None

BMP in Series Number: 4
BMP Type: None

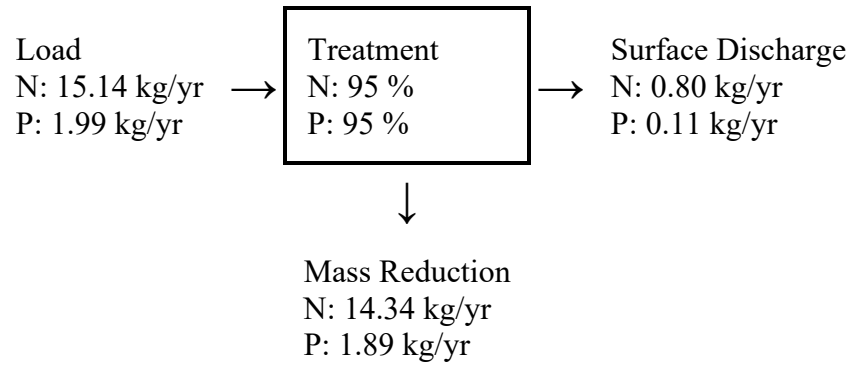
Watershed Characteristics

Catchment Area (acres)	3.06
Contributing Area (acres)	3.060
Non-DCIA Curve Number	86.00
DCIA Percent	65.70
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

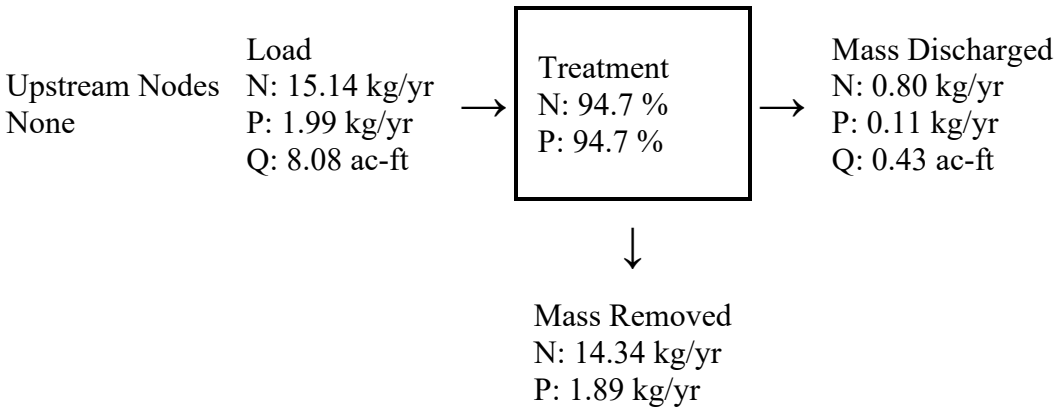
Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	95
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	95

Load for Multiple BMP in Series



Load Diagram for Multiple BMP (As Used In Routing)



Summary Treatment Report Version: 4.3.5

Project: BCP Basin 5S Alt 2
Veg Filter

Analysis Type: Specified Removal Efficiency

Date:4/8/2026

BMP Types:

Catchment 1 - (VFS 5S Alt 2, Swale 5S Alt 2) Multiple BMP
Based on % removal values to the nearest percent

Routing Summary
Catchment 1 Routed to Outlet

Total nitrogen target removal met? **Yes**
Total phosphorus target removal met? **Yes**

Summary Report

Nitrogen

Surface Water Discharge

Total N pre load	10.48 kg/yr	
Total N post load	15.14 kg/yr	
Target N load reduction	80 %	
Target N discharge load	3.03 kg/yr	
Percent N load reduction	95 %	
Provided N discharge load	.8 kg/yr	1.77 lb/yr
Provided N load removed	14.34 kg/yr	31.61 lb/yr

Phosphorus

Surface Water Discharge

Total P pre load	1.378 kg/yr	
Total P post load	1.992 kg/yr	
Target P load reduction	80 %	
Target P discharge load	.398 kg/yr	
Percent P load reduction	95 %	
Provided P discharge load	.106 kg/yr	.23 lb/yr
Provided P load removed	1.886 kg/yr	4.16 lb/yr

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 5S			**DATE**
POND DESIGNATION:	Dry Pond 5S Alt 3	**MADE BY:**	CBC	08-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**	JW	09-Apr-26

Pre-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Pre				
Roadside Ditch				
Pavement		98	1.29	126.42
Open Space Good Condition (grass cover >75%)	C/D	77	0.17	13.09
Open Space Good Condition (grass cover >75%)	B/D	71	0.17	12.07
Open Space Good Condition (grass cover >75%)	A/D	60	0.90	54.00
Subtotal		81.3	*2.53*	205.58
Non DCIA		63.8	*1.24*	79.16
Pond Site				
Pavement		98	0.34	33.32
Open Space Good Condition (grass cover >75%)	A/D	60	0.23	13.80
Subtotal		82.7	*0.57*	47.12
Non DCIA		60.0	*0.23*	13.80
Total		**81.5**	**3.10**	**252.70**
Non DCIA		**63.2**	**1.47**	**92.96**

Summary		**81.5**	**3.10**	**252.70**	**DCIA %**
Non DCIA		**63.2**	**1.47**	**92.96**	**52.58%**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E			
PROJECT NUMBER:	444843-1	**BURGESS & NIPLE**		
BASIN DESIGNATION:	Basin 5S			**DATE**
POND DESIGNATION:	Dry Pond 5S Alt 3	**MADE BY:**	CBC	08-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	JW	09-Apr-26

Post-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Post				
Roadside Ditch				
Pavement		98	2.01	196.98
Open Space Good Condition (grass cover >75%)	C/D	77	0.17	13.09
Open Space Good Condition (grass cover >75%)	B/D	71	0.02	1.42
Open Space Good Condition (grass cover >75%)	A/D	60	0.29	17.40
Subtotal		91.9	*2.49*	228.89
Non DCIA		66.5	*0.48*	31.91
Dry Detention 5S Alt 3				
Water		100	0.00	0.00
Open Space Good Condition (grass cover >75%)	A/D	60	0.57	34.20
Subtotal		60.0	*0.57*	34.20
Non DCIA		60.0	*0.57*	34.20
Total		**86.0**	**3.06**	**263.09**
Non DCIA		**63.0**	**1.05**	**66.11**

Summary		**86.0**	**3.06**	**263.09**	**DCIA %**
Non DCIA		**63.0**	**1.05**	**66.11**	**65.69%**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 5S			**DATE**
POND DESIGNATION:	Dry Pond 5S Alt 3	**MADE BY:**	CBC	08-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	JW	09-Apr-26

Dry Pond 5S Alt 3 Stage/ Storage

Stage	Elevation (Ft)	Area (Ac)	Inc. Volume (Ac-Ft)	Total Volume (Ac-ft)	Elevation (Ft)
Berm (Outside)	8.50	0.00			
Berm (Inside)	7.80	0.40	0.38	0.93	
Design High Water (DHW)	6.80	0.35	0.26	0.55	6.00
Weir (Design Low Water)	6.00	0.31	0.29	**0.29**	5.50
Control (wet)/Pond Bottom (dry)	5.00	0.27	0.00	0.00	5.00
Seasonal High Ground Water Elevation (SHGWT)*	4.00				4.00

SHGWT Check (Dry Retention): ok

*SHGWT based on soil survey 4

Required Attenuation Volume

Attenuation required?	yes
Frequency	25-yr
Time	24-hr
Precipitation Depth	8.0 in.

1) Soil Storage (S) = (1000/CN) - 10 S_{pre} = **2.27 in.** S_{post} = **1.63 in.**

2) Runoff (R) = (P-0.2S)2/(P+0.8S) Q_{pre} = **5.80 in.** Q_{post} = **6.33 in.**

3) Runoff Volume (Vr) = R/12 * Area

Pre-Development Runoff	Vr_{pre} =	1.50 ac-ft	*
Post-Development Runoff	Vr_{post} =	1.61 ac-ft	
Attenuation volume required (Post-Pre)		**0.11 ac-ft**	

*No existing basin discharging to the proposed pond location, therefore, Vr Pre = 0

Total Required Volume (Treatment + Attenuation) ***0.11 ac-ft***

Total Provided Volume ***0.55 ac-ft***

Check Total Volume Requirement: 0.11 is < or = 0.55 **Total Volume Requirement met**

Complete Report (not including cost) Ver 4.3.5

Project: BPC Basin 5S Alt 3 Retention
Date: 4/8/2026 2:01:50 PM

Site and Catchment Information

Analysis: Specified Removal Efficiency

Catchment Name	Basin 5S Alt 3 Dry Retention
Rainfall Zone	Florida Zone 4
Annual Mean Rainfall	52.00

Pre-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200
Area (acres)	3.10
Rational Coefficient (0-1)	0.46
Non DCIA Curve Number	63.20
DCIA Percent (0-100)	52.60
Nitrogen EMC (mg/l)	1.520
Phosphorus EMC (mg/l)	0.200
Runoff Volume (ac-ft/yr)	6.127
Groundwater N (kg/yr)	0.000
Groundwater P (kg/yr)	0.000
Nitrogen Loading (kg/yr)	11.483
Phosphorus Loading (kg/yr)	1.511

Post-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200
Area (acres)	3.06
Rational Coefficient (0-1)	0.56
Non DCIA Curve Number	63.00
DCIA Percent (0-100)	65.70
Wet Pond Area (ac)	0.00
Nitrogen EMC (mg/l)	1.520
Phosphorus EMC (mg/l)	0.200
Runoff Volume (ac-ft/yr)	7.391

Groundwater N (kg/yr)	0.000
Groundwater P (kg/yr)	0.000
Nitrogen Loading (kg/yr)	13.852
Phosphorus Loading (kg/yr)	1.823

Catchment Number: 1 Name: Basin 5S Alt 3 Dry Retention

Project: BPC Basin 5S Alt 3 Retention
Date: 4/8/2026

Retention Design

Retention Depth (in)	1.400
Retention Volume (ac-ft)	0.357

Watershed Characteristics

Catchment Area (acres)	3.06
Contributing Area (acres)	3.060
Non-DCIA Curve Number	63.00
DCIA Percent	65.70
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	85
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	85

Media Mix Information

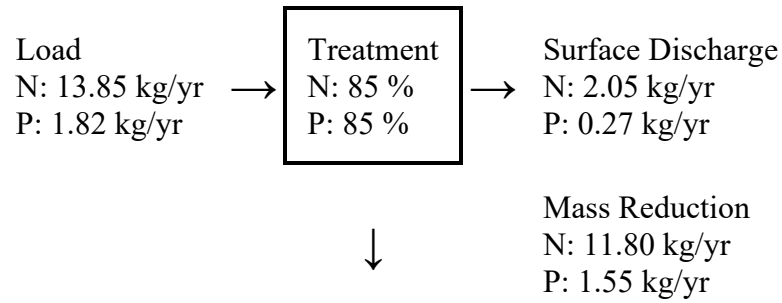
Type of Media Mix	B&G CTS24
Media N Reduction (%)	75
Media P Reduction (%)	95

Groundwater Discharge (Stand-Alone)

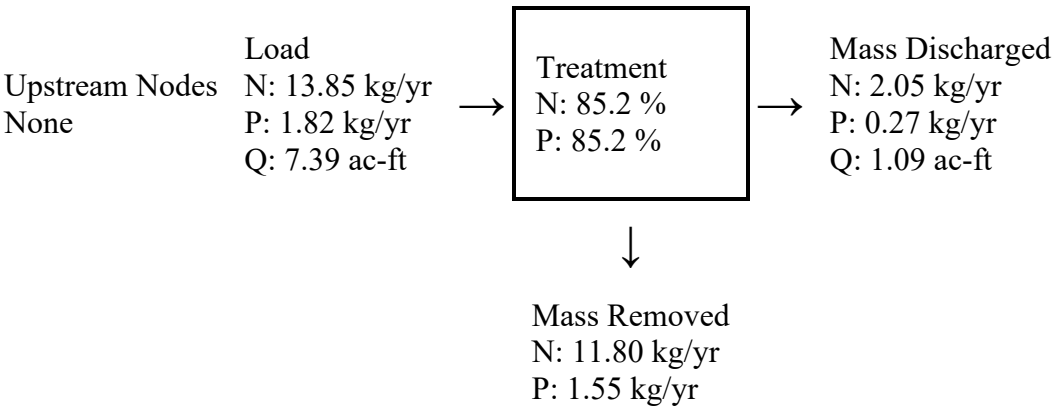
Treatment Rate (MG/yr)	2.052
TN Mass Load (kg/yr)	2.950
TN Concentration (mg/L)	0.380

TP Mass Load (kg/yr)	0.078
TP Concentration (mg/L)	0.010

Load Diagram for Retention (stand-alone)



Load Diagram for Retention (As Used In Routing)



Summary Treatment Report Version: 4.3.5

Project: BPC Basin 5S Alt 3 Retention

Date:4/8/2026

Analysis Type: Specified Removal Efficiency

BMP Types:

Routing Summary
Catchment 1 Routed to Outlet

Catchment 1 - (Basin 5S Alt 3 Dry Retention) Retention Based on % removal values to the nearest percent

Total nitrogen target removal met? **Yes**
Total phosphorus target removal met? **Yes**

Summary Report

Nitrogen

Surface Water Discharge

Total N pre load	11.48 kg/yr	
Total N post load	13.85 kg/yr	
Target N load reduction	80 %	
Target N discharge load	2.77 kg/yr	
Percent N load reduction	85 %	
Provided N discharge load	2.05 kg/yr	4.52 lb/yr
Provided N load removed	11.8 kg/yr	26.02 lb/yr

Phosphorus

Surface Water Discharge

Total P pre load	1.511 kg/yr	
Total P post load	1.823 kg/yr	
Target P load reduction	80 %	
Target P discharge load	.365 kg/yr	
Percent P load reduction	85 %	
Provided P discharge load	.27 kg/yr	.6 lb/yr
Provided P load removed	1.553 kg/yr	3.423 lb/yr

Basin 6N

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 6N			**DATE**
POND DESIGNATION:	Dry Pond 6N Alt 1, Wet Pond 6N Alt 1	**MADE BY:**	CBC	09-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**	JW	09-Apr-26

Pre-Development		NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**	
Roadway Pre					
Treatment Train					
Dry Pond 6N Alt 1					
Pavement		98	0.69	67.62	**DCIA %**
Non DCIA		#DIV/0!	*0.00*	0.00	**100.00%**
Wet Pond 6N Alt 1					
Pavement		98	0.16	15.68	
Impervious Area (non DCIA)	NA	98	0.00	0.00	
Open Space Good Condition (grass cover >75%)	C/D	77	0.29	22.33	
Open Space Good Condition (grass cover >75%)	B/D	71	0.99	70.29	
Open Space Good Condition (grass cover >75%)	A/D	60	0.91	54.60	
Subtotal		69.3	*2.35*	162.90	**DCIA %**
Non DCIA		67.2	*2.19*	147.22	**6.81%**
Total Catchment 2		**75.8**	**3.04**	**230.52**	

Summary		**75.8**	**3.04**	**230.52**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 6N			**DATE**
POND DESIGNATION:	Dry Pond 6N Alt 1, Wet Pond 6N Alt 1	**MADE BY:**	CBC	09-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	JW	09-Apr-26

Post-Development	NRCS				
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**	
Roadway Post					
Treatment Train					
Dry Pond 6N Alt 1					
Pavement		98	1.83	179.34	**DCIA %**
Non DCIA		#DIV/0!	*0.00*	0.00	**100.00%**
Wet Pond 6N Alt 1					
Pavement		98	0.13	12.74	
Impervious Area (non DCIA)	NA	98	0.00	0.00	
Open Space Good Condition (grass cover >75%)	C/D	77	0.29	22.33	
Open Space Good Condition (grass cover >75%)	B/D	71	0.69	48.99	
Open Space Good Condition (grass cover >75%)	A/D	60	0.35	21.00	
Subtotal		72.0	*1.46*	105.06	**DCIA %**
Non DCIA		69.4	*1.33*	92.32	**8.90%**
Total		**86.4**	**3.29**	**284.40**	

Summary		**86.4**	**3.29**	**284.40**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 6N			**DATE**
POND DESIGNATION:	Dry Pond 6N Alt 1, Wet Pond 6N Alt 1	**MADE BY:**	CBC	09-Feb-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	JW	09-Apr-26

Dry Pond 6N Alt 1 Stage/Area

Dry Retention (for treatment only)				
Stage	**Elevation (Ft)**	**Area (Ac)**	**Inc. Volume (Ac-Ft)**	**Total Volume (Ac-ft)**
Berm (Outside)	NA	0.00		
Berm (Inside)	10.50	0.46	0.19	0.42
Design High Water (DHW)	10.00	0.29	0.00	0.23
Weir (Design Low Water)	10.00	0.34	0.23	**0.230**
Control (wet)/Pond Bottom (dry)	9.00	0.12	0.00	0.00
Seasonal High Ground Water Elevation (SHGWT)*	8.00			

SHGWT Check (Dry Retention): ok

*SHGWT based on soil survey 8

Wet Pond 6N Alt 1

Wet Detention				
Stage	**Elevation (Ft)**	**Area (Ac)**	**Inc. Volume (Ac-Ft)**	**Total Volume (Ac-ft)**
Berm (Outside)	10.50	NA		
Berm (Inside)	10.50	0.39	0.36	0.99
Design High Water (DHW)	9.50	0.32	0.42	0.63
Weir (Design Low Water)	8.00	0.24	0.21	**0.21**
Control (wet)/Pond Bottom (dry)	7.00	0.18	0.00	0.00
Seasonal High Ground Water Elevation (SHGWT)*	8.00			

Required Attenuation Volume

Attenuation required?	yes
Frequency	25-yr
Time	24-hr
Precipitation Depth	8.0 in.

1) Soil Storage (S) = (1000/CN) - 10 — S_{pre} = **3.19 in.** — S_{post} = **1.57 in.**

2) Runoff (R) = (P-0.2S)2/(P+0.8S) — Q_{pre} = **5.14 in.** — Q_{post} = **6.38 in.**

3) Runoff Volume (Vr) = R/12 * Area

Pre-Development Runoff	Vr_{pre} =	1.30 ac-ft	
Post-Development Runoff	Vr_{post} =	1.75 ac-ft	
Attenuation volume required (Post-Pre)		**0.45 ac-ft**	0.13 Acres shiftedto Basin 8R

Total Required Volume (Treatment + Attenuation) ***0.45 ac-ft***

Total Provided Volume ***0.63 ac-ft***

Check Total Volume Requirement: 0.45 is < or = 0.63 **Total Volume Requirement met**

Complete Report (not including cost) Ver 4.3.5

Project: BPC Basin 6N Alt 1
Date: 4/9/2026 11:09:47 PM

Site and Catchment Information

Analysis: Specified Removal Efficiency

Catchment Name	Dry Pond 6N Alt 1	Wet Pond 6N Alt 1
Rainfall Zone	Florida Zone 4	Florida Zone 4
Annual Mean Rainfall	52.00	52.00
Pre-Condition Landuse Information		
Landuse	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200
Area (acres)	0.69	2.35
Rational Coefficient (0-1)	0.82	0.11
Non DCIA Curve Number	29.90	67.20
DCIA Percent (0-100)	100.00	6.81
Nitrogen EMC (mg/l)	1.520	1.520
Phosphorus EMC (mg/l)	0.200	0.200
Runoff Volume (ac-ft/yr)	2.461	1.155
Groundwater N (kg/yr)	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000
Nitrogen Loading (kg/yr)	4.612	2.165
Phosphorus Loading (kg/yr)	0.607	0.285
Post-Condition Landuse Information		
Landuse	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200

Area (acres)	1.83	1.46
Rational Coefficient (0-1)	0.82	0.14
Non DCIA Curve Number	29.90	69.40
DCIA Percent (0-100)	100.00	8.90
Wet Pond Area (ac)	0.00	0.18
Nitrogen EMC (mg/l)	1.520	1.520
Phosphorus EMC (mg/l)	0.200	0.200
Runoff Volume (ac-ft/yr)	6.526	0.758
Groundwater N (kg/yr)	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000
Nitrogen Loading (kg/yr)	12.231	1.421
Phosphorus Loading (kg/yr)	1.609	0.187

Catchment Number: 1 Name: Dry Pond 6N Alt 1

Project: BPC Basin 6N Alt 1
Date: 4/9/2026

Retention Design

Retention Depth (in)	1.510
Retention Volume (ac-ft)	0.230

Watershed Characteristics

Catchment Area (acres)	1.83
Contributing Area (acres)	1.830
Non-DCIA Curve Number	29.90

DCIA Percent	100.00
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	79
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	79

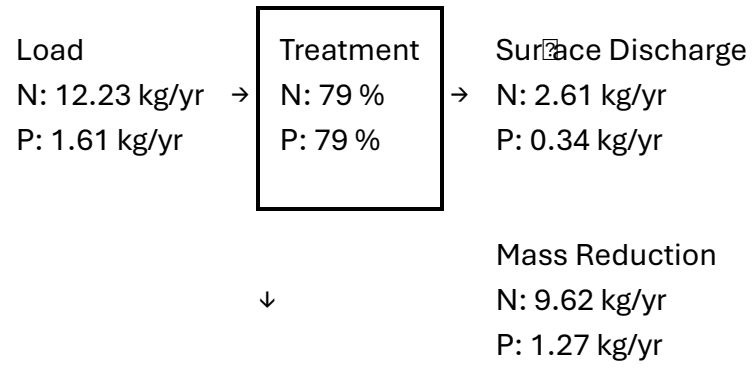
Media Mix Information

Type of Media Mix	B&G CTS24
Media N Reduction (%)	75
Media P Reduction (%)	95

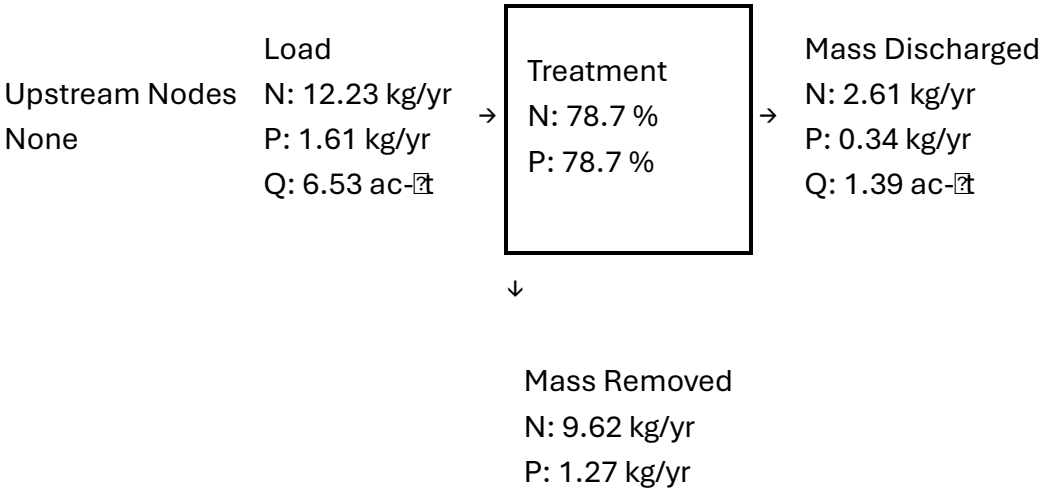
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	1.673
TN Mass Load (kg/yr)	2.406
TN Concentration (mg/L)	0.380
TP Mass Load (kg/yr)	0.063
TP Concentration (mg/L)	0.010

Load Diagram for Retention (stand-alone)



Load Diagram for Retention (As Used In Routing)



Catchment Number: 2 Name: Wet Pond 6N Alt 1

Project: BPC Basin 6N Alt 1
Date: 4/9/2026

Wet Detention with Littoral Shelf Design

Permanent Pool Volume (ac-ft)	0.210
Permanent Pool Volume (ac-ft) for 31 days residence	0.064

Annual Residence Time (days)	101
Littoral Zone Efficiency Credit	25
Wetland Efficiency Credit	

Watershed Characteristics

Catchment Area (acres)	1.46
Contributing Area (acres)	1.280
Non-DCIA Curve Number	69.40
DCIA Percent	8.90
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	51
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	69

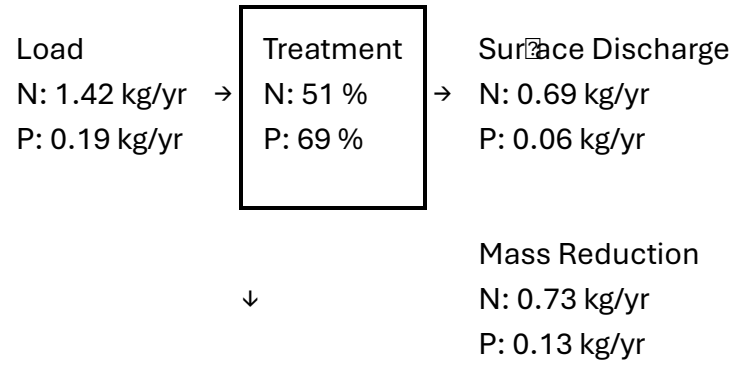
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

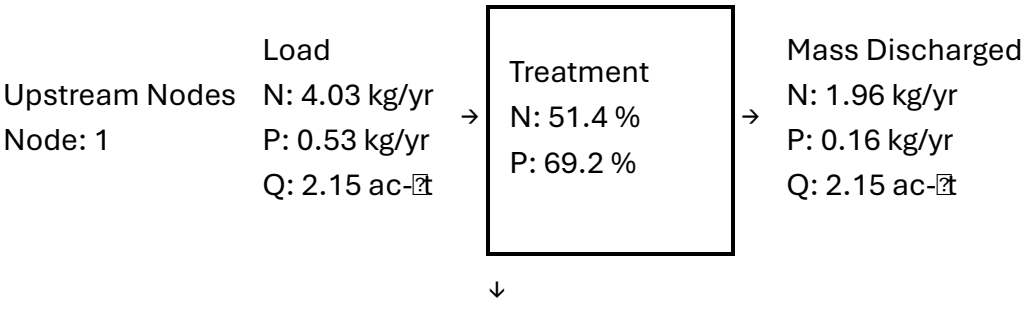
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000
TP Concentration (mg/L)	0.000

Load Diagram for Wet Detention with Littoral Shelf (stand-alone)



Load Diagram for Wet Detention (As Used In Routing)



Mass Removed
N: 2.07 kg/yr
P: 0.37 kg/yr

Summary Treatment Report Version: 4.3.5

Project: BPC Basin 6N Alt 1

Analysis Type: Specified Removal Efficiency

Date:4/9/2026

BMP Types:

Catchment 1 - (Dry Pond 6N Alt 1) Retention

Catchment 2 - (Wet Pond 6N Alt 1) Wet Detention with Littoral Shel

Based on % removal values to the nearest percent

Routing Summary

Catchment 1 Routed to Catchment 2

Catchment 2 Routed to Outlet

Total nitrogen target removal met? **Yes**

Total phosphorus target removal met? **Yes**

Summary Report

Nitrogen

Surface Water Discharge

Total N pre load	6.78 kg/yr	
Total N post load	13.65 kg/yr	
Target N load reduction	80 %	
Target N discharge load	2.73 kg/yr	
Percent N load reduction	86 %	
Provided N discharge load	1.96 kg/yr	4.32 lb/yr

Provided N load removed	11.7 kg/yr	25.79 lb/yr

Phosphorus

Surface Water Discharge

Total P pre load	.892 kg/yr	
Total P post load	1.796 kg/yr	
Target P load reduction	80 %	
Target P discharge load	.359 kg/yr	
Percent P load reduction	91 %	
Provided P discharge load	.163 kg/yr	.36 lb/yr
Provided P load removed	1.633 kg/yr	3.601 lb/yr

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 6N			**DATE**
POND DESIGNATION:	Dry Pond 6N Alt 2, Swale 6N Alt 2	**MADE BY:**	CBC	09-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**	JW	09-Apr-26

Pre-Development		NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**	
Roadway Pre					
Treatment Train					
Dry Pond 6N Alt 2					
Pavement		98	0.69	67.62	**DCIA %**
Non DCIA		#DIV/0!	*0.00*	0.00	**100.00%**
Swale 6N Alt 2					
Pavement		98	0.16	15.68	
Impervious Area	NA	98	0.00	0.00	
Open Space Good Condition (grass cover >75%)	C/D	77	0.29	22.33	
Open Space Good Condition (grass cover >75%)	B/D	71	0.99	70.29	
Open Space Good Condition (grass cover >75%)	A/D	60	0.91	54.60	**DCIA %**
Subtotal		69.3	*2.35*	162.90	**6.81%**
Non DCIA		67.2	*2.19*	147.22	
Total		**75.8**	**3.04**	**230.52**	

Summary		**75.8**	**3.04**	**230.52**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 6N			**DATE**
POND DESIGNATION:	Dry Pond 6N Alt 2, Swale 6N Alt 2	**MADE BY:**	CBC	09-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	JW	09-Apr-26

Post-Development	NRCS				
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**	
Roadway Post					
Treatment Train					
Dry Pond 6N Alt 2					
Pavement		98	1.83	179.34	**DCIA %**
Non DCIA		#DIV/0!	*0.00*	0.00	**100.00%**
Swale 6N Alt 2					
Pavement		98	0.13	12.74	
Impervious Area (non DCIA)	NA	98	0.00	0.00	
Open Space Good Condition (grass cover >75%)	C/D	77	0.29	22.33	
Open Space Good Condition (grass cover >75%)	B/D	71	0.69	48.99	
Open Space Good Condition (grass cover >75%)	A/D	60	0.44	26.40	
Subtotal		71.3	*1.55*	110.46	**DCIA %**
Non DCIA		68.8	*1.42*	97.72	**8.39%**
Total		**85.7**	**3.38**	**289.80**	

Summary		**85.7**	**3.38**	**289.80**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 6N			**DATE**
POND DESIGNATION:	Dry Pond 6N Alt 2, Swale 6N Alt 2	**MADE BY:**	CBC	09-Feb-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	JW	09-Apr-26

Dry Pond 6N Alt 2 Stage/Area

Dry Retention (for treatment only)				
Stage	**Elevation (Ft)**	**Area (Ac)**	**Inc. Volume (Ac-Ft)**	**Total Volume (Ac-ft)**
Berm (Outside)	NA	0.00		
Berm (Inside)	11.50	0.46	0.56	1.11
Design High Water (DHW)	10.50	0.66	0.31	0.55
Weir (Design Low Water)	10.00	0.57	0.25	**0.25**
Control (wet)/Pond Bottom (dry)	9.50	0.41	0.00	0.00
Seasonal High Ground Water Elevation (SHGWT)*	8.00			

SHGWT Check (Dry Retention): ok

*SHGWT based on soil survey 8

Swale 6N Alt 2 Stage/Area

Swale				
Stage	**Elevation (Ft)**	**Area (Ac)**	**Inc. Volume (Ac-Ft)**	**Total Volume (Ac-ft)**
Berm (Outside)	10.00	0.11		
Berm (Inside)	9.00	0.09	0.00	0.18
Design High Water (DHW)	8.00	0.07	0.00	0.10
Weir (Design Low Water)	7.00	0.05	0.00	**0.04**
Control (wet)/Pond Bottom (dry)	6.00	0.03	0.00	0.00
Seasonal High Ground Water Elevation (SHGWT)*	5.00			

Required Attenuation Volume

Attenuation required?	yes
Frequency	25-yr
Time	24-hr
Precipitation Depth	8.0 in.

1) Soil Storage (S) = (1000/CN) - 10 — S_{pre} = **3.19 in.** — S_{post} = **1.66 in.**

2) Runoff (R) = (P-0.2S)2/(P+0.8S) — Q_{pre} = **5.14 in.** — Q_{post} = **6.30 in.**

3) Runoff Volume (Vr) = R/12 * Area

Pre-Development Runoff	Vr_{pre} =	1.30 ac-ft
Post-Development Runoff	Vr_{post} =	1.77 ac-ft
Attenuation volume required (Post-Pre)		**0.47 ac-ft**

Total Required Volume (Treatment + Attenuation) ***0.47 ac-ft***

Total Provided Volume ***0.65 ac-ft***

Check Total Volume Requirement: 0.47 is < or = 0.65 **Total Volume Requirement met**

Complete Report (not including cost) Ver 4.3.5

Project: BPC PD&E
Date: 4/9/2026 11:36:18 PM

Site and Catchment Information

Analysis: Specified Removal Efficiency

Catchment Name	Dry Pond 6N Alt 2	Swale 6N Alt 2
Rainfall Zone	Florida Zone 4	Florida Zone 4
Annual Mean Rainfall	52.00	52.00

Pre-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200
Area (acres)	0.69	2.35
Rational Coefficient (0-1)	0.82	0.11
Non DCIA Curve Number	29.90	67.20
DCIA Percent (0-100)	100.00	6.81
Nitrogen EMC (mg/l)	1.520	1.520
Phosphorus EMC (mg/l)	0.200	0.200
Runoff Volume (ac-ft/yr)	2.461	1.155
Groundwater N (kg/yr)	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000
Nitrogen Loading (kg/yr)	4.612	2.165
Phosphorus Loading (kg/yr)	0.607	0.285

Post-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200

Area (acres)	1.83	1.55
Rational Coefficient (0-1)	0.82	0.13
Non DCIA Curve Number	29.90	68.80
DCIA Percent (0-100)	100.00	8.39
Wet Pond Area (ac)	0.00	0.00
Nitrogen EMC (mg/l)	1.520	1.520
Phosphorus EMC (mg/l)	0.200	0.200
Runoff Volume (ac-ft/yr)	6.526	0.879
Groundwater N (kg/yr)	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000
Nitrogen Loading (kg/yr)	12.231	1.647
Phosphorus Loading (kg/yr)	1.609	0.217

Catchment Number: 1 Name: Dry Pond 6N Alt 2

Project: BPC PD&E
Date: 4/9/2026

Retention Design

Retention Depth (in)	3.605
Retention Volume (ac-ft)	0.550

Watershed Characteristics

Catchment Area (acres)	1.83
Contributing Area (acres)	1.830
Non-DCIA Curve Number	29.90

DCIA Percent	100.00
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	96
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	96

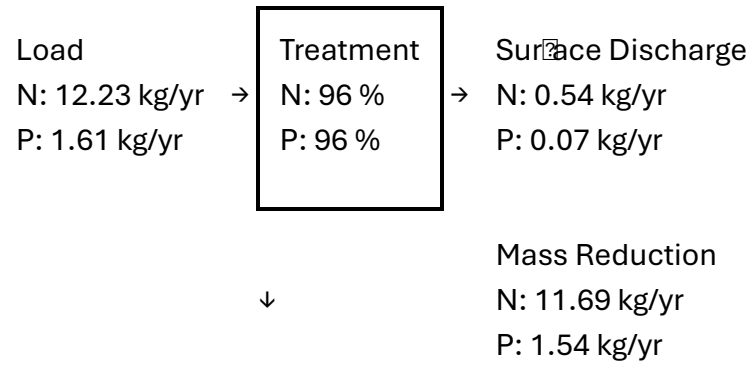
Media Mix Information

Type of Media Mix	B&G CTS24
Media N Reduction (%)	75
Media P Reduction (%)	95

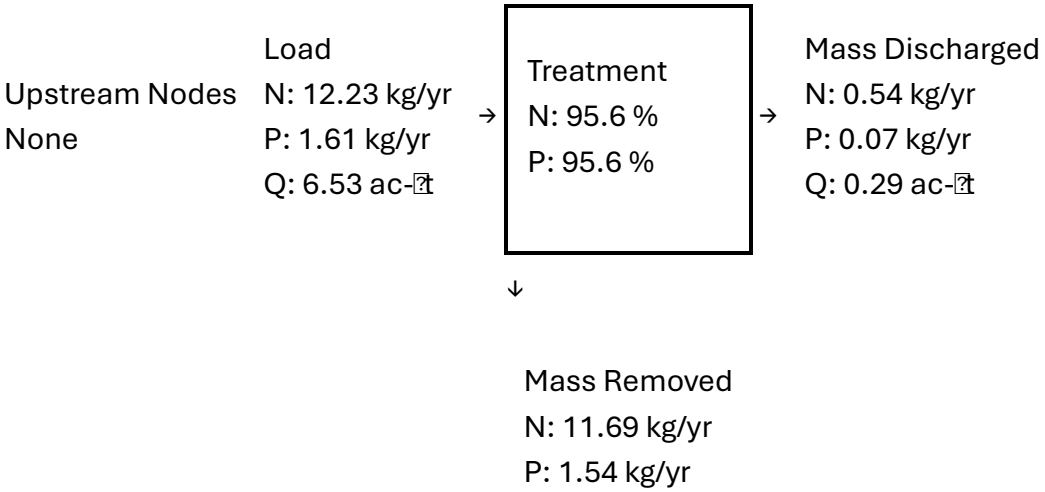
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	2.033
TN Mass Load (kg/yr)	2.923
TN Concentration (mg/L)	0.380
TP Mass Load (kg/yr)	0.077
TP Concentration (mg/L)	0.010

Load Diagram for Retention (stand-alone)



Load Diagram for Retention (As Used In Routing)



Catchment Number: 2 Name: Swale 6N Alt 2

Project: BPC PD&E
Date: 4/9/2026

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	30.000
Swale Bottom Width - **B** (ft)	15.000

Swale Length - **L** (ft)	100.000
Average Impervious Length (ft)	200.000
Average Impervious Width (ft)	39.000
Average Pervious Width (ft)	78.000
Swale Slope (bot drop/bot length) - **S**	2.000
Mannings N	0.060
Soil Infiltration Rate (in/hr)	6.000
Side Slope o Swale horizontal/vertical - **Z**	6.000
Average Height o Swale Block - **H**	0.500
Length o Berm Upstream o Crest - $\mathbf{L_b}$	100.000
Runoff Area (acres)	0.537
Number o Swale Blocks	1

Watershed Characteristics

Catchment Area (acres)	1.55
Contributing Area (acres)	1.550
Non-DCIA Curve Number	68.80
DCIA Percent	8.39
Rain all Zone	Florida Zone 4
Rain all (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	84

Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	84

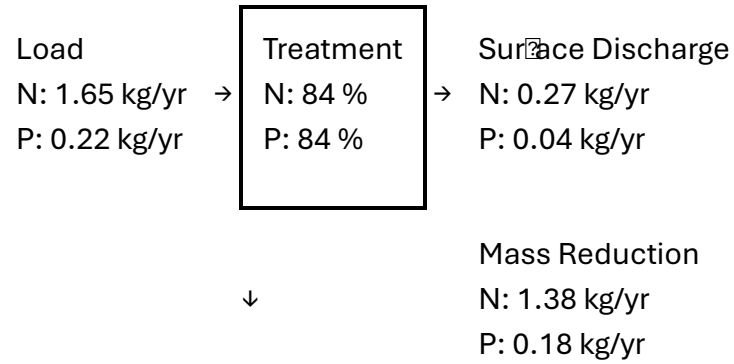
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

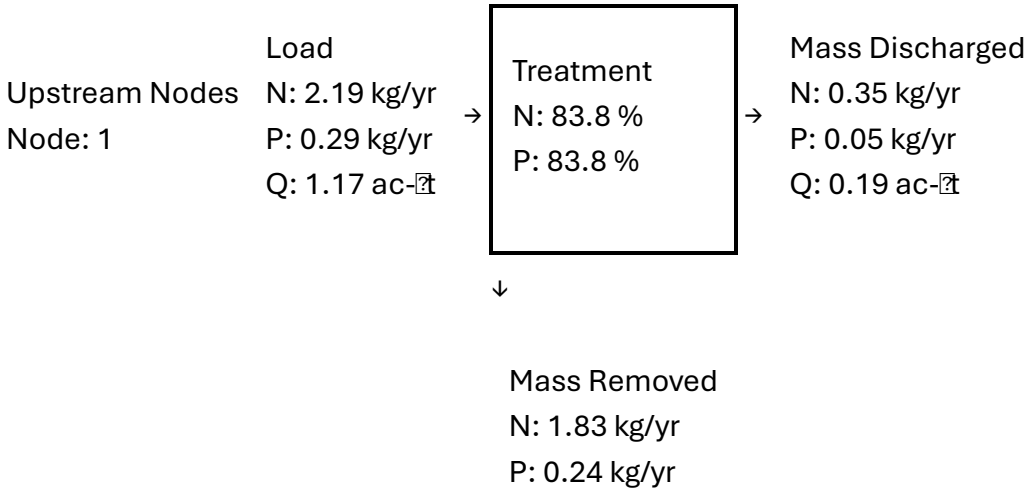
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.254
TN Mass Load (kg/yr)	1.380
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.182
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



Load Diagram for Swale (As Used In Routing)



Summary Treatment Report Version: 4.3.5

Project: BPC PD&E

Analysis Type: Specified Removal Efficiency

Date:4/9/2026

BMP Types:

Catchment 1 - (Dry Pond 6N Alt 2) Retention

Catchment 2 - (Swale 6N Alt 2) Swale

Based on % removal values to the nearest percent

Routing Summary

Catchment 1 Routed to Catchment 2

Catchment 2 Routed to Outlet

Total nitrogen target removal met? **Yes**

Total phosphorus target removal met? **Yes**

Summary Report

Nitrogen

Surface Water Discharge

Total N pre load	6.78 kg/yr	
Total N post load	13.88 kg/yr	
Target N load reduction	80 %	
Target N discharge load	2.78 kg/yr	
Percent N load reduction	97 %	
Provided N discharge load	.35 kg/yr	.78 lb/yr
Provided N load removed	13.52 kg/yr	29.82 lb/yr

Phosphorus

Surface Water Discharge

Total P pre load	.892 kg/yr	
Total P post load	1.826 kg/yr	
Target P load reduction	80 %	
Target P discharge load	.365 kg/yr	
Percent P load reduction	97 %	
Provided P discharge load	.047 kg/yr	.1 lb/yr
Provided P load removed	1.78 kg/yr	3.924 lb/yr

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 6N			**DATE**
POND DESIGNATION:	Dry Pond 6N Alt 3, Swales 6N Alt 3	**MADE BY:**	CBC	09-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**	JW	09-Apr-26

Pre-Development		NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**	
Roadway Pre					
Treatment Train					
Dry Pond 6N Alt 3					
Pavement		98	0.69	67.62	**DCIA %**
Non DCIA		#DIV/0!	*0.00*	0.00	**100.00%**
Swales 6N Alt 3					
Pavement		98	0.16	15.68	
Impervious Area	NA	98	0.00	0.00	
Open Space Good Condition (grass cover >75%)	C/D	77	0.29	22.33	
Open Space Good Condition (grass cover >75%)	B/D	71	0.99	70.29	
Open Space Good Condition (grass cover >75%)	A/D	60	0.91	54.60	
Subtotal		69.3	*2.35*	162.90	**DCIA %**
Non DCIA		67.2	*2.19*	147.22	**6.81%**
Total		**75.8**	**3.04**	**230.52**	

Summary		**75.8**	**3.04**	**230.52**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 6N			**DATE**
POND DESIGNATION:	Dry Pond 6N Alt 3, Swales 6N Alt 3	**MADE BY:**	CBC	09-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	JW	09-Apr-26

Post-Development	NRCS				
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**	
Roadway Post					
Treatment Train					
Dry Pond 6N Alt 3					
Pavement		98	1.83	179.34	**DCIA %**
Non DCIA		#DIV/0!	*0.00*	0.00	**100.00%**
Swales 6N Alt 3					
Pavement		98	0.13	12.74	
Impervious Area (non DCIA)	NA	98	0.00	0.00	
Open Space Good Condition (grass cover >75%)	C/D	77	0.29	22.33	
Open Space Good Condition (grass cover >75%)	B/D	71	0.69	48.99	
Open Space Good Condition (grass cover >75%)	A/D	60	0.44	26.40	
Subtotal		71.3	*1.55*	110.46	**DCIA %**
Non DCIA		68.8	*1.42*	97.72	**8.39%**
Total		**85.7**	**3.38**	**289.80**	

Summary		**85.7**	**3.38**	**289.80**

BURGESS & NIPLE

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	BURGESS & NIPLE		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 6N			**DATE**
POND DESIGNATION:	Dry Pond 6N Alt 3, Swales 6N Alt 3	**MADE BY:**	CBC	09-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	JW	09-Apr-26

Dry Pond 6N Alt 3 Stage/Area

Dry Retention (for treatment only)				
Stage	**Elevation (Ft)**	**Area (Ac)**	**Inc. Volume (Ac-Ft)**	**Total Volume (Ac-ft)**
Berm (Outside)	NA	0.00		
Berm (Inside)	11.50	0.46	0.56	1.11
Design High Water (DHW)	10.50	0.66	0.31	0.55
Weir (Design Low Water)	10.00	0.57	0.25	**0.25**
Control (wet)/Pond Bottom (dry)	9.50	0.41	0.00	0.00
Seasonal High Ground Water Elevation (SHGWT)*	8.00			

SHGWT Check (Dry Retention): ok

*SHGWT based on soil survey 8

Required Attenuation Volume

Attenuation required?	yes
Frequency	25-yr
Time	24-hr
Precipitation Depth	8.0 in.

1) Soil Storage (S) = (1000/CN) - 10 — S_{pre} = **3.19 in.** — S_{post} = **1.66 in.**

2) Runoff (R) = (P-0.2S)2/(P+0.8S) — Q_{pre} = **5.14 in.** — Q_{post} = **6.30 in.**

3) Runoff Volume (Vr) = R/12 * Area

Pre-Development Runoff	Vr_{pre} =	1.30	ac-ft
Post-Development Runoff	Vr_{post} =	1.77	ac-ft
Attenuation volume required (Post-Pre)		**0.47**	**ac-ft**

0.13 Acres shifted to B

Total Required Volume (Treatment + Attenuation) ***0.47*** ***ac-ft***

Total Provided Volume ***0.55 ac-ft***

Check Total Volume Requirement: 0.47 is < or = 0.55 **Total Volume Requirement met**

Complete Report (not including cost) Ver 4.3.5

Project: BPC Basin 6N Alt 3 Retention _ Swales
Date: 4/9/2026 11:44:19 PM

Site and Catchment Information

Analysis: Specified Removal Efficiency

Catchment Name	Dry Pond 6N Alt 3	Swales 6N Alt 3
Rainfall Zone	Florida Zone 4	Florida Zone 4
Annual Mean Rainfall	52.00	52.00

Pre-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200
Area (acres)	0.69	2.35
Rational Coefficient (0-1)	0.82	0.11
Non DCIA Curve Number	100.00	67.20
DCIA Percent (0-100)	100.00	6.81
Nitrogen EMC (mg/l)	1.520	1.520
Phosphorus EMC (mg/l)	0.200	0.200
Runoff Volume (ac-ft/yr)	2.461	1.155
Groundwater N (kg/yr)	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000
Nitrogen Loading (kg/yr)	4.612	2.165
Phosphorus Loading (kg/yr)	0.607	0.285

Post-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200

Area (acres)	1.83	1.55
Rational Coefficient (0-1)	0.04	0.13
Non DCIA Curve Number	60.00	68.80
DCIA Percent (0-100)	0.00	8.39
Wet Pond Area (ac)	0.00	0.00
Nitrogen EMC (mg/l)	1.520	1.520
Phosphorus EMC (mg/l)	0.200	0.200
Runoff Volume (ac-ft/yr)	0.317	0.879
Groundwater N (kg/yr)	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000
Nitrogen Loading (kg/yr)	0.594	1.647
Phosphorus Loading (kg/yr)	0.078	0.217

Catchment Number: 1 Name: Dry Pond 6N Alt 3

Project: BPC Basin 6N Alt 3 Retention _ Swales
Date: 4/9/2026

Retention Design

Retention Depth (in)	3.605
Retention Volume (ac-ft)	0.550

Watershed Characteristics

Catchment Area (acres)	1.83
Contributing Area (acres)	1.830
Non-DCIA Curve Number	60.00

DCIA Percent	0.00
Rain all Zone	Florida Zone 4
Rain all (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	97
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	97

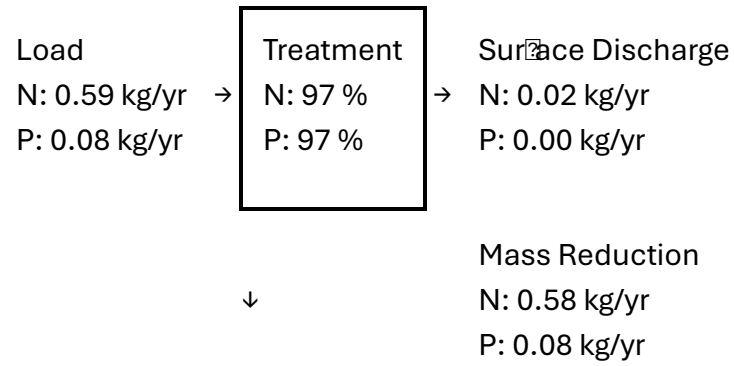
Media Mix Information

Type o Media Mix	B&G CTS24
Media N Reduction (%)	75
Media P Reduction (%)	95

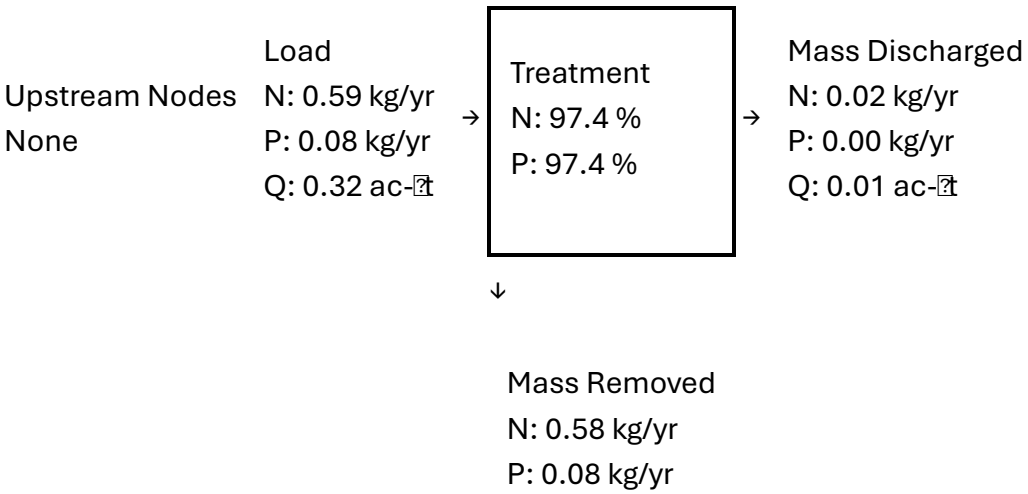
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.101
TN Mass Load (kg/yr)	0.145
TN Concentration (mg/L)	0.380
TP Mass Load (kg/yr)	0.004
TP Concentration (mg/L)	0.010

Load Diagram for Retention (stand-alone)



Load Diagram for Retention (As Used In Routing)



Catchment Number: 2 Name: Swales 6N Alt 3

Project: BPC Basin 6N Alt 3 Retention _ Swales
Date: 4/9/2026

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	30.000
Swale Bottom Width - **B** (ft)	15.000

Swale Length - **L** (ft)	200.000
Average Impervious Length (ft)	200.000
Average Impervious Width (ft)	39.000
Average Pervious Width (ft)	78.000
Swale Slope (bot drop/bot length) - **S**	2.000
Mannings N	0.060
Soil Infiltration Rate (in/hr)	6.000
Side Slope o Swale horizontal/vertical - **Z**	6.000
Average Height o Swale Block - **H**	0.500
Length o Berm Upstream o Crest - $\mathbf{L_b}$	100.000
Runoff Area (acres)	0.537
Number o Swale Blocks	2

Watershed Characteristics

Catchment Area (acres)	1.55
Contributing Area (acres)	1.550
Non-DCIA Curve Number	68.80
DCIA Percent	8.39
Rain all Zone	Florida Zone 4
Rain all (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	91

Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	91

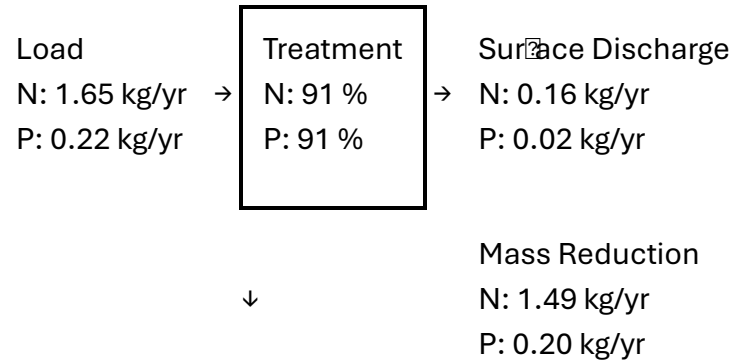
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

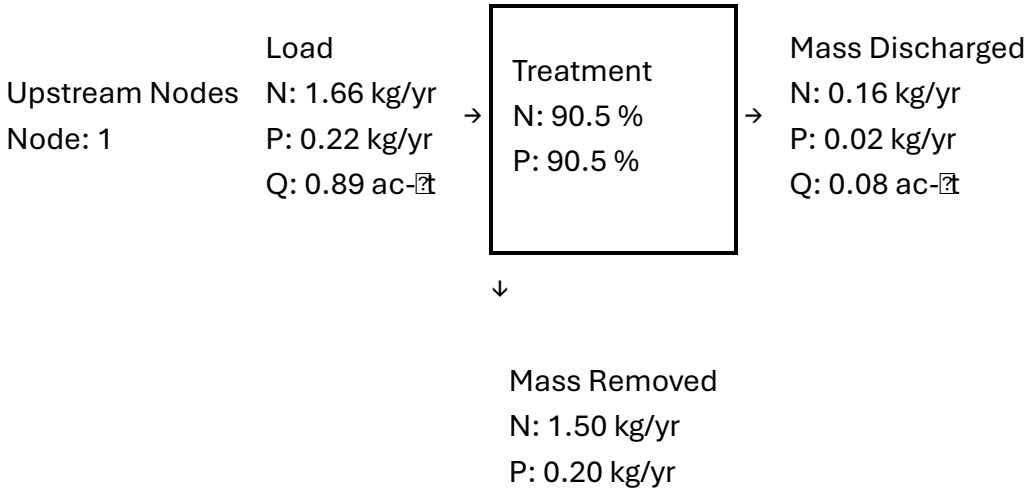
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.267
TN Mass Load (kg/yr)	1.491
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.196
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



Load Diagram for Swale (As Used In Routing)



Summary Treatment Report Version: 4.3.5

Project: BPC Basin 6N Alt 3
Retention _ Swales

Date:4/9/2026

Analysis Type: Specified Removal Efficiency

BMP Types:

Catchment 1 - (Dry Pond 6N Alt 3) Retention

Catchment 2 - (Swales 6N Alt 3) Swale

Based on % removal values to the nearest percent

Routing Summary

Catchment 1 Routed to Catchment 2

Catchment 2 Routed to Outlet

Total nitrogen target removal met? **Yes**
Total phosphorus target removal met? **Yes**

Summary Report

Nitrogen

Surface Water Discharge

Total N pre load	6.78 kg/yr	
Total N post load	2.24 kg/yr	
Target N load reduction	80 %	
Target N discharge load	.45 kg/yr	
Percent N load reduction	93 %	
Provided N discharge load	.16 kg/yr	.35 lb/yr
Provided N load removed	2.08 kg/yr	4.59 lb/yr

Phosphorus

Surface Water Discharge

Total P pre load	.892 kg/yr	
Total P post load	.295 kg/yr	
Target P load reduction	80 %	
Target P discharge load	.059 kg/yr	
Percent P load reduction	93 %	
Provided P discharge load	.021 kg/yr	.05 lb/yr
Provided P load removed	.274 kg/yr	.605 lb/yr

Basin 6S

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 6S			**DATE**
POND DESIGNATION:	Swale 6S Alt 1	**MADE BY:**	CBC	09-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**	JW	09-Apr-26

Pre-Development	NRCS				
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**	
Roadway Pre					
Roadside Ditch					
Pavement		98	1.39	136.22	
Open Space Good Condition (grass cover >75%)	C/D	77	0.62	47.74	
Open Space Good Condition (grass cover >75%)	B/D	71	0.62	44.02	
Open Space Good Condition (grass cover >75%)	A/D	60	0.79	47.40	
Subtotal		80.5	*3.42*	275.38	
Non DCIA		68.6	*2.03*	139.16	
Total		**80.5**	**3.42**	**275.38**	**DCIA %**
Non DCIA		**68.6**	**2.03**	**139.16**	**40.64%**
VFS 6S Alt 1					
Water		100	0.00	0.00	
Open Space Good Condition (grass cover >75%)	A/D	60	0.62	37.20	
Subtotal		60.0	*0.62*	37.20	
Total		**77.4**	**4.04**	**312.58**	
Non DCIA		**68.6**	**2.03**	**139.16**	

Summary		**77.4**	**4.04**	**312.58**	**DCIA %**
Non DCIA		**68.6**	**2.03**	**139.16**	**34.41%**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 6S			**DATE**
POND DESIGNATION:	Swale 6S Alt 1	**MADE BY:**	CBC	09-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	JW	09-Apr-26

Post-Development	NRCS				
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**	
Roadway Post					
Roadside Ditch					
Pavement		98	2.46	241.08	
Open Space Good Condition (grass cover >75%)	C/D	77	0.34	26.18	
Open Space Good Condition (grass cover >75%)	B/D	71	0.37	26.27	
Open Space Good Condition (grass cover >75%)	A/D	60	0.46	27.60	
Subtotal		88.5	*3.63*	321.13	
Non DCIA		68.4	*1.17*	80.05	
Total		**88.5**	**3.63**	**321.13**	**DCIA %**
Non DCIA		**68.4**	**1.17**	**80.05**	**67.77%**

Summary		**88.5**	**3.63**	**321.13**	**DCIA %**
Non DCIA		**68.4**	**1.17**	**80.05**	**67.77%**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 6S			**DATE**
POND DESIGNATION:	Swale 6S Alt 1	**MADE BY:**	CBC	08-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	JW	09-Apr-26

Swale 6S Stage/Area

Stage	Elevation (Ft)	Area (Ac)	Inc. Volume (Ac-Ft)	Total Volume (Ac-ft)
Berm (Outside)	NA	0.00		
Berm (Inside)	7.00	0.11	0.09	0.14
Design High Water (DHW)	6.00	0.07	0.03	0.05
Weir (Design Low Water)	5.50	0.05	0.02	**0.02**
Control (wet)/Pond Bottom (dry)	5.00	0.03	0.00	0.00
Seasonal High Ground Water Elevation (SHGWT)*	4.00			

SHGWT Check (Dry Retention): ok

*SHGWT based on soil survey 4

Storage Outside of Ponds/Swales						
Elevation (Ft)	**Area (Ac)**	**Inc. Volume (Ac-Ft)**	**Total Volume (Ac-ft)**	**Combined Total Volume (Ac-ft)**		
6.00	0.62	0.26	0.57	0.62	0.21	ac-ft
5.50	0.42	0.16	0.31	0.33	5.19	at elevation
5.00	0.23	0.15	0.15	0.15		
4.00	0.06	0				

Required Treatment Volume

Treatment type: dry retention

1) Runoff Treatment = 0.5 impervious — 0.10 ac-ft (Not applicable / Using swale / with BAM)

*** Required Treatment** **0.10 ac-ft**

Volume between Control and Weir = ***0.02 ac-ft***

Check Treatment Volume Requirement

0.10 > 0.02 **FALSE** Not applicable / Using swale / with BAM

Required Attenuation Volume

Attenuation required?	yes
Frequency	25-yr
Time	24-hr
Precipitation Depth	8.0 in.

1) Soil Storage (S) = (1000/CN) - 10 — S_{pre} = **2.92 in.** — S_{post} = **1.30 in.**

2) Runoff (R) = (P-0.2S)2/(P+0.8S) — Q_{pre} = **5.32 in.** — Q_{post} = **6.62 in.**

3) Runoff Volume (Vr) = R/12 * Area

Pre-Development Runoff	Vr_{pre} =	1.79 ac-ft	*
Post-Development Runoff	Vr_{post} =	2.00 ac-ft	
Attenuation volume required (Post-Pre)		**0.21 ac-ft**	

*No existing basin discharging to the proposed pond location, therefore, Vr Pre = 0

Complete Report (not including cost) Ver 4.3.5

Project: BPC Basn 6S Alt 1 Swale
Date: 4/9/2026 5:55:00 AM

Site and Catchment Information

Analysis: Specified Removal Efficiency

Catchment Name	Swale 6S Alt 1
Rainfall Zone	Florida Zone 4
Annual Mean Rainfall	52.00

Pre-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200
Area (acres)	3.42
Rational Coefficient (0-1)	0.37
Non DCIA Curve Number	68.60
DCIA Percent (0-100)	40.60
Nitrogen EMC (mg/l)	1.520
Phosphorus EMC (mg/l)	0.200
Runoff Volume (ac-ft/yr)	5.539
Groundwater N (kg/yr)	0.000
Groundwater P (kg/yr)	0.000
Nitrogen Loading (kg/yr)	10.381
Phosphorus Loading (kg/yr)	1.366

Post-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200
Area (acres)	3.63
Rational Coefficient (0-1)	0.58
Non DCIA Curve Number	68.40
DCIA Percent (0-100)	67.80
Wet Pond Area (ac)	0.00
Nitrogen EMC (mg/l)	1.520
Phosphorus EMC (mg/l)	0.200
Runoff Volume (ac-ft/yr)	9.113

Groundwater N (kg/yr)	0.000
Groundwater P (kg/yr)	0.000
Nitrogen Loading (kg/yr)	17.080
Phosphorus Loading (kg/yr)	2.247

Catchment Number: 1 Name: Swale 6S Alt 1

Project: BPC Basn 6S Alt 1 Swale
Date: 4/9/2026

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	27.000
Swale Bottom Width - **B** (ft)	15.000
Swale Length - **L** (ft)	1,000.000
Average Impervious Length (ft)	1,246.000
Average Impervious Width (ft)	86.000
Average Pervious Width (ft)	72.800
Swale Slope (foot drop/foot length) - **S**	0.005
Mannings N	0.060
Soil Infiltration Rate (in/hr)	6.000
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	100.000
Runoff Area (acres)	4.542
Number of Swale Blocks	10

Watershed Characteristics

Catchment Area (acres)	3.63
Contributing Area (acres)	3.630
Non-DCIA Curve Number	68.40
DCIA Percent	67.80
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	80
Required TP Treatment Efficiency (%)	80

Provided TP Treatment Efficiency (%) 80

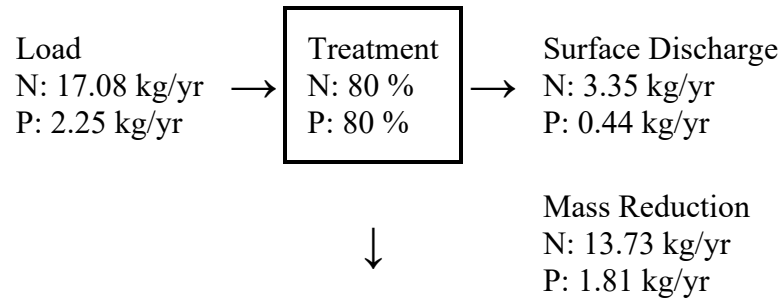
Media Mix Information

Type of Media Mix	B&G CTS24
Media N Reduction (%)	75
Media P Reduction (%)	95

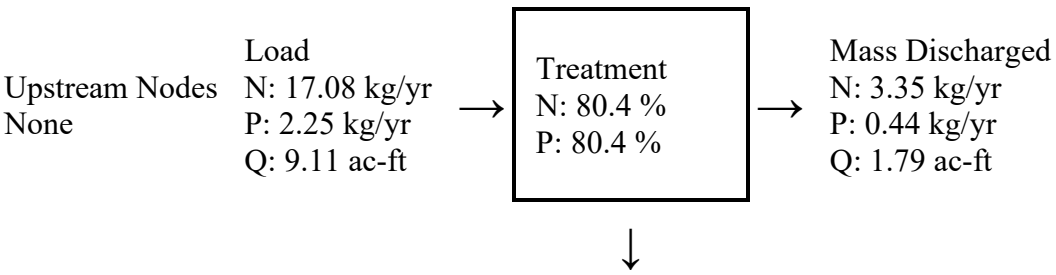
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	2.387
TN Mass Load (kg/yr)	3.432
TN Concentration (mg/L)	0.380
TP Mass Load (kg/yr)	0.090
TP Concentration (mg/L)	0.010

Load Diagram for Swale (stand-alone)



Load Diagram for Swale (As Used In Routing)



Mass Removed
N: 13.73 kg/yr
P: 1.81 kg/yr

Summary Treatment Report Version: 4.3.5

Project: BPC Basn 6S Alt 1
Swale

Analysis Type: Specified Removal Efficiency

Date:4/9/2026

BMP Types:

Catchment 1 - (Swale 6S Alt 1) Swale

Based on % removal values to the nearest percent

Routing Summary
Catchment 1 Routed to Outlet

Total nitrogen target removal met? **Yes**
Total phosphorus target removal met? **Yes**

Summary Report

Nitrogen

Surface Water Discharge		
Total N pre load	10.38 kg/yr	
Total N post load	17.08 kg/yr	
Target N load reduction	80 %	
Target N discharge load	3.42 kg/yr	
Percent N load reduction	80 %	
Provided N discharge load	3.35 kg/yr	7.39 lb/yr
Provided N load removed	13.73 kg/yr	30.27 lb/yr

Phosphorus

Surface Water Discharge	
Total P pre load	1.366 kg/yr
Total P post load	2.247 kg/yr
Target P load reduction	80 %
Target P discharge load	.449 kg/yr

Percent P load reduction	80 %	
Provided P discharge load	.441 kg/yr	.97 lb/yr
Provided P load removed	1.806 kg/yr	3.983 lb/yr

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 6S			**DATE**
POND DESIGNATION:	VBS 6S Alt 2, Swale 6S Alt 2	**MADE BY:**	CBC	09-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**	JW	09-Apr-26

Pre-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Pre				
Roadside Ditch				
Pavement		98	1.39	136.22
Open Space Good Condition (grass cover >75%)	C/D	77	0.61	46.97
Open Space Good Condition (grass cover >75%)	B/D	71	0.61	43.31
Open Space Good Condition (grass cover >75%)	A/D	60	0.81	48.60
Subtotal		80.4	*3.42*	275.10
Non DCIA		68.4	*2.03*	138.88
Total		**80.4**	**3.42**	**275.10**
Non DCIA		**68.4**	**2.03**	**138.88**

Summary		**80.4**	**3.42**	**275.10**	**DCIA %**
Non DCIA		**68.4**	**2.03**	**138.88**	**40.64%**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 6S			**DATE**
POND DESIGNATION:	VBS 6S Alt 2, Swale 6S Alt 2	**MADE BY:**	CBC	09-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	JW	09-Apr-26

Post-Development	NRCS				
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**	
Roadway Post					
Roadside Ditch					
Pavement		98	2.46	241.08	
Impervious Area (non DCIA)	NA	98	0.34	33.32	
Open Space Good Condition (grass cover >75%)	C/D	77	0.37	28.49	
Open Space Good Condition (grass cover >75%)	B/D	71	0.46	32.66	
Open Space Good Condition (grass cover >75%)	A/D	60	0.29	17.40	
Subtotal		90.0	*3.92*	352.95	
Non DCIA		70.1	*1.12*	78.55	
Total		**90.0**	**3.92**	**352.95**	**DCIA %**
Non DCIA		**70.1**	**1.12**	**78.55**	**62.76%**

Summary		**90.0**	**3.92**	**352.95**	**DCIA %**
Non DCIA		**70.1**	**1.12**	**78.55**	**62.76%**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 6S			**DATE**
POND DESIGNATION:	VBS 6S Alt 2, Swale 6S Alt 2	**MADE BY:**	CBC	09-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	JW	09-Apr-26

Swale 6S Stage/Area

Stage	Elevation (Ft)	Area (Ac)	Inc. Volume (Ac-Ft)	Total Volume (Ac-ft)
Berm (Outside)	NA	0.00		
Berm (Inside)	7.10	0.11	0.40	0.97
Design High Water (DHW)	6.00	0.62	0.26	0.57
Weir (Design Low Water)	5.50	0.42	0.16	0.31
Control (wet)/Pond Bottom (dry)	5.00	0.23	0.15	0.15
Seasonal High Ground Water Elevation (SHGWT)*	4.00	0.06	0	

0.61 ac-ft
6.97 at elevation

SHGWT Check (Dry Retention): ok
*SHGWT based on soil survey 4

Required Treatment Volume

Treatment type: dry retention

1) Runoff Treatment = 0.5 impervious — 0.10 ac-ft — Not applicable / Using VBS

*** Required Treatment** **0.10 ac-ft**

Volume between Control and Weir = ***0.31 ac-ft***

Check Treatment Volume Requirement: 0.10 is < or = 0.31 **Treatment Volur** Not applicable / Using VBS

Required Attenuation Volume

Attenuation required?	yes
Frequency	25-yr
Time	24-hr
Precipitation Depth	8.0 in.

1) Soil Storage (S) = (1000/CN) - 10 — S_{pre} = **2.43 in.** — S_{post} = **1.11 in.**
2) Runoff (R) = (P-0.2S)2/(P+0.8S) — Q_{pre} = **5.68 in.** — Q_{post} = **6.81 in.**
3) Runoff Volume (Vr) = R/12 * Area

Pre-Development Runoff	Vr_{pre} =	1.62	ac-ft *
Post-Development Runoff	Vr_{post} =	2.22	ac-ft
Attenuation volume required (Post-Pre)		**0.61**	**ac-ft**

*No existing basin discharging to the proposed pond location, therefore, Vr Pre = 0

Total Required Volume (Treatment + Attenuation) ***0.61 ac-ft***

Total Provided Volume ***0.57 ac-ft***

Check Total Volume Requirement: 0.61 > 0.57 **FALSE**

Complete Report (not including cost) Ver 4.3.5

Project: Basin 6S Alt 2
Date: 4/9/2026 6:57:10 AM

Site and Catchment Information

Analysis: Net Improvement

Catchment Name	BPC Basin 6S Alt 2
Rainfall Zone	Florida Zone 4
Annual Mean Rainfall	52.00

Pre-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200
Area (acres)	3.42
Rational Coefficient (0-1)	0.37
Non DCIA Curve Number	68.40
DCIA Percent (0-100)	40.60
Nitrogen EMC (mg/l)	1.520
Phosphorus EMC (mg/l)	0.200
Runoff Volume (ac-ft/yr)	5.533
Groundwater N (kg/yr)	0.000
Groundwater P (kg/yr)	0.000
Nitrogen Loading (kg/yr)	10.370
Phosphorus Loading (kg/yr)	1.364

Post-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200
Area (acres)	3.92
Rational Coefficient (0-1)	0.54
Non DCIA Curve Number	70.10
DCIA Percent (0-100)	62.80
Wet Pond Area (ac)	0.00
Nitrogen EMC (mg/l)	1.520
Phosphorus EMC (mg/l)	0.200
Runoff Volume (ac-ft/yr)	9.232

Groundwater N (kg/yr)	0.000
Groundwater P (kg/yr)	0.000
Nitrogen Loading (kg/yr)	17.301
Phosphorus Loading (kg/yr)	2.276

Catchment Number: 1 Name: BPC Basin 6S Alt 2

Project: Basin 6S Alt 2
Date: 4/9/2026

Multiple BMP in Series Design Parameters

BMP in Series Number: 1
BMP Type: Vegetated Filter Strip

VFS Width (ft)	30.000
VFS Length (ft)	100.000
VFS Depth (ft)	2.000
Width of Area Feeding Buffer (ft)	86.000
Water storage capacity of soil (in/in)	0.200
Slope of VFS (< 20%)	2.000
Annual Capture Percentage	82

BMP in Series Number: 2
BMP Type: Swale

Swale Top Width for Flood Conditions - **W** (ft)	40.000
Swale Bottom Width - **B** (ft)	20.000
Swale Length - **L** (ft)	100.000
Average Impervious Length (ft)	200.000
Average Impervious Width (ft)	86.000
Average Pervious Width (ft)	66.000
Swale Slope (foot drop/foot length) - **S**	0.200
Mannings N	0.060
Soil Infiltration Rate (in/hr)	6.000
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	200.000
Runoff Area (acres)	0.698
Number of Swale Blocks	1

BMP in Series Number: 3
BMP Type: None

BMP in Series Number: 4
BMP Type: None

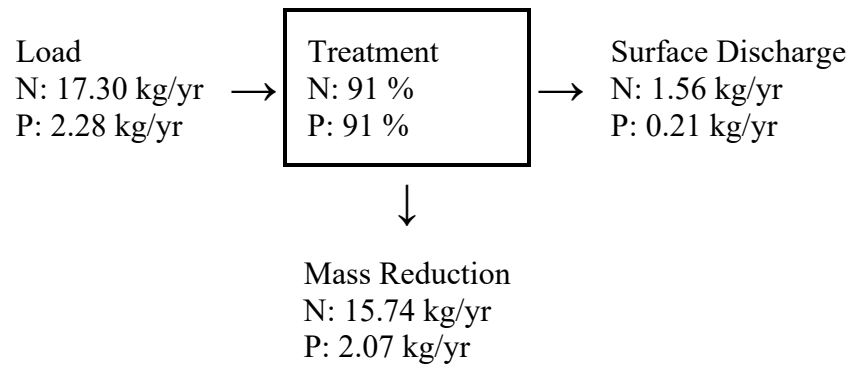
Watershed Characteristics

Catchment Area (acres)	3.92
Contributing Area (acres)	3.920
Non-DCIA Curve Number	70.10
DCIA Percent	62.80
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

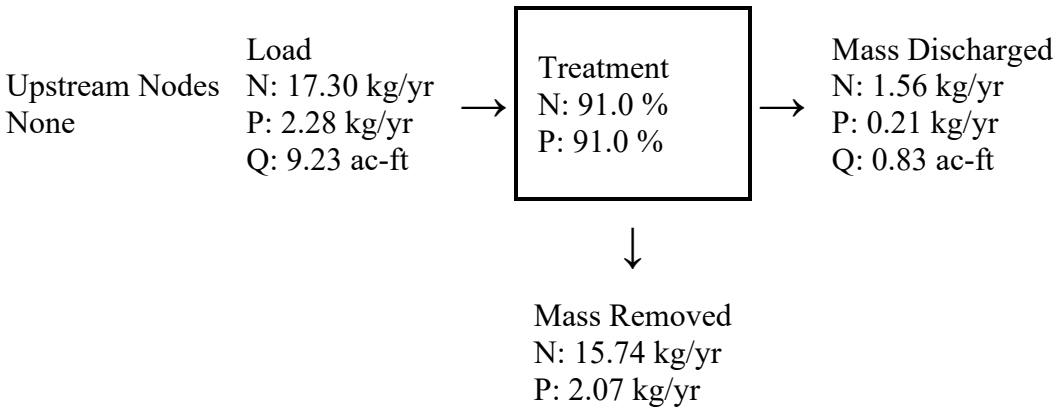
Surface Water Discharge

Required TN Treatment Efficiency (%)	40
Provided TN Treatment Efficiency (%)	91
Required TP Treatment Efficiency (%)	40
Provided TP Treatment Efficiency (%)	91

Load for Multiple BMP in Series



Load Diagram for Multiple BMP (As Used In Routing)



Summary Treatment Report Version: 4.3.5

Project: Basin 6S Alt 2

Analysis Type: Net Improvement

Date:4/9/2026

BMP Types:

Catchment 1 - (BPC Basin 6S Alt 2) Multiple BMP
Based on % removal values to the nearest percent

Routing Summary
Catchment 1 Routed to Outlet

Total nitrogen target removal met? **Yes**
Total phosphorus target removal met? **Yes**

Summary Report

Nitrogen

Surface Water Discharge

Total N pre load	10.37 kg/yr	
Total N post load	17.3 kg/yr	
Target N load reduction	40 %	
Target N discharge load	10.37 kg/yr	
Percent N load reduction	91 %	
Provided N discharge load	1.56 kg/yr	3.45 lb/yr
Provided N load removed	15.74 kg/yr	34.7 lb/yr

Phosphorus

Surface Water Discharge

Total P pre load	1.364 kg/yr	
Total P post load	2.276 kg/yr	
Target P load reduction	40 %	
Target P discharge load	1.364 kg/yr	
Percent P load reduction	91 %	
Provided P discharge load	.206 kg/yr	.45 lb/yr
Provided P load removed	2.071 kg/yr	4.566 lb/yr

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 6S			**DATE**
POND DESIGNATION:	Dry Pond 6S Alt 3	**MADE BY:**	CBC	09-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**	JW	09-Apr-26

Pre-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Pre				
Roadside Ditch				
Pavement		98	1.39	136.22
Open Space Good Condition (grass cover >75%)	C/D	77	0.61	46.97
Open Space Good Condition (grass cover >75%)	B/D	71	0.61	43.31
Open Space Good Condition (grass cover >75%)	A/D	60	0.81	48.60
Subtotal		80.4	*3.42*	275.10
Non DCIA		68.4	*2.03*	138.88
Total		**80.4**	**3.42**	**275.10**
Non DCIA		**68.4**	**2.03**	**138.88**

Summary		**80.4**	**3.42**	**275.10**	**DCIA %**
Non DCIA		**68.4**	**2.03**	**138.88**	**40.64%**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	BURGESS & NIPLE		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 6S			**DATE**
POND DESIGNATION:	Dry Pond 6S Alt 3	**MADE BY:**	CBC	09-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	JW	09-Apr-26

Post-Development	NRCS				
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**	
Roadway Post					
Roadside Ditch					
Pavement		98	2.46	241.08	
Impervious Area (non DCIA)	NA	98	0.00	0.00	
Open Space Good Condition (grass cover >75%)	C/D	77	0.30	23.10	
Open Space Good Condition (grass cover >75%)	B/D	71	0.28	19.88	
Open Space Good Condition (grass cover >75%)	A/D	60	0.36	21.60	
Subtotal		89.9	*3.40*	305.66	
Non DCIA		68.7	*0.94*	64.58	
Total		**89.9**	**3.40**	**305.66**	**DCIA %**
Non DCIA		**68.7**	**0.94**	**64.58**	**72.35%**

Summary		**89.9**	**3.40**	**305.66**	**DCIA %**
Non DCIA		**68.7**	**0.94**	**64.58**	**8.24%**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 6S			**DATE**
POND DESIGNATION:	Dry Pond 6S Alt 3	**MADE BY:**	CBC	09-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	JW	09-Apr-26

Pond 21-1 Stage/Area

Stage	Elevation (Ft)	Area (Ac)	Inc. Volume (Ac-Ft)	Total Volume (Ac-ft)
Berm (Outside)	8.00	0.68		
Berm (Inside)	7.00	0.40	0.38	0.70
Design High Water (DHW)	6.00	0.35	0.17	0.33
Weir (Design Low Water)	5.50	0.33	0.16	**0.16**
Control (wet)/Pond Bottom (dry)	5.00	0.30	0.00	0.00
Seasonal High Ground Water Elevation (SHGWT)*	4.00	.		

SHGWT Check (Dry Retention): ok

*SHGWT based on soil survey 4

Required Attenuation Volume

Attenuation required?	yes
Frequency	25-yr
Time	24-hr
Precipitation Depth	8.0 in.

1) Soil Storage (S) = (1000/CN) - 10 S_{pre} = **2.43 in.** S_{post} = **1.12 in.**

2) Runoff (R) = (P-0.2S)2/(P+0.8S) Q_{pre} = **5.68 in.** Q_{post} = **6.79 in.**

3) Runoff Volume (Vr) = R/12 * Area

Pre-Development Runoff	Vr_{pre} =	1.62 ac-ft	*
Post-Development Runoff	Vr_{post} =	1.92 ac-ft	
Attenuation volume required (Post-Pre)		**0.31 ac-ft**	

*No existing basin discharging to the proposed pond location, therefore, Vr Pre = 0

Total Required Volume (Treatment + Attenuation) ***0.31 ac-ft***

Total Provided Volume ***0.33 ac-ft***

Check Total Volume Requirement: 0.31 is < or = 0.33 **Total Volume Requirement met**

Complete Report (not including cost) Ver 4.3.5

Project: BPC Basin 6S Alt 3 Retention
Date: 4/9/2026 7:17:50 AM

Site and Catchment Information

Analysis: Specified Removal Efficiency

Catchment Name	Basin 6S Alt 3 Dry Retention
Rainfall Zone	Florida Zone 4
Annual Mean Rainfall	52.00

Pre-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200
Area (acres)	3.42
Rational Coefficient (0-1)	0.37
Non DCIA Curve Number	68.40
DCIA Percent (0-100)	40.60
Nitrogen EMC (mg/l)	1.520
Phosphorus EMC (mg/l)	0.200
Runoff Volume (ac-ft/yr)	5.533
Groundwater N (kg/yr)	0.000
Groundwater P (kg/yr)	0.000
Nitrogen Loading (kg/yr)	10.370
Phosphorus Loading (kg/yr)	1.364

Post-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200
Area (acres)	3.40
Rational Coefficient (0-1)	0.61
Non DCIA Curve Number	68.70
DCIA Percent (0-100)	72.40
Wet Pond Area (ac)	0.00
Nitrogen EMC (mg/l)	1.520
Phosphorus EMC (mg/l)	0.200
Runoff Volume (ac-ft/yr)	9.053

Groundwater N (kg/yr)	0.000
Groundwater P (kg/yr)	0.000
Nitrogen Loading (kg/yr)	16.967
Phosphorus Loading (kg/yr)	2.232

Catchment Number: 1 Name: Basin 6S Alt 3 Dry Retention

Project: BPC Basin 6S Alt 3 Retention
Date: 4/9/2026

Retention Design

Retention Depth (in)	1.400
Retention Volume (ac-ft)	0.397

Watershed Characteristics

Catchment Area (acres)	3.40
Contributing Area (acres)	3.400
Non-DCIA Curve Number	68.70
DCIA Percent	72.40
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	83
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	83

Media Mix Information

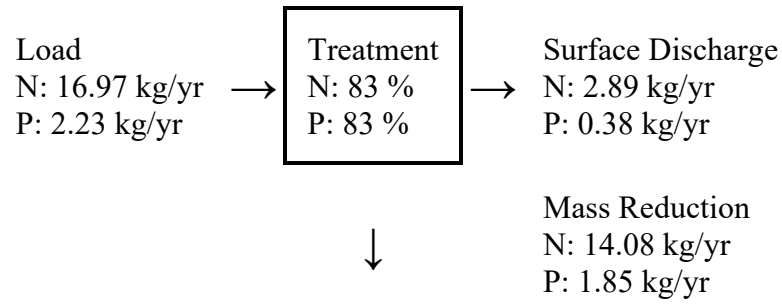
Type of Media Mix	B&G CTS24
Media N Reduction (%)	75
Media P Reduction (%)	95

Groundwater Discharge (Stand-Alone)

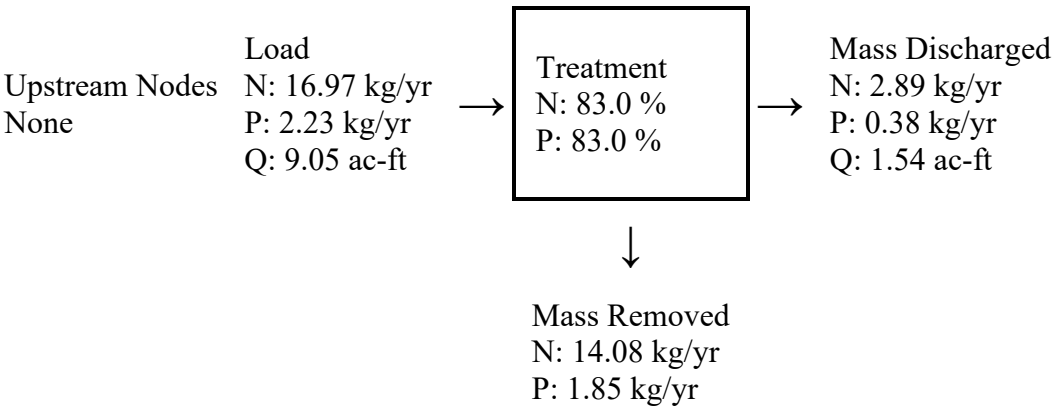
Treatment Rate (MG/yr)	2.447
TN Mass Load (kg/yr)	3.519
TN Concentration (mg/L)	0.380

TP Mass Load (kg/yr)	0.093
TP Concentration (mg/L)	0.010

Load Diagram for Retention (stand-alone)



Load Diagram for Retention (As Used In Routing)



Summary Treatment Report Version: 4.3.5

Project: BPC Basin 6S Alt 3 Retention

Date:4/9/2026

Analysis Type: Specified Removal Efficiency

BMP Types:

Routing Summary
Catchment 1 Routed to Outlet

Catchment 1 - (Basin 6S Alt 3 Dry Retention) Retention Based on % removal values to the nearest percent

Total nitrogen target removal met? **Yes**
Total phosphorus target removal met? **Yes**

Summary Report

Nitrogen

Surface Water Discharge

Total N pre load	10.37 kg/yr	
Total N post load	16.97 kg/yr	
Target N load reduction	80 %	
Target N discharge load	3.39 kg/yr	
Percent N load reduction	83 %	
Provided N discharge load	2.89 kg/yr	6.37 lb/yr
Provided N load removed	14.08 kg/yr	31.04 lb/yr

Phosphorus

Surface Water Discharge

Total P pre load	1.364 kg/yr	
Total P post load	2.232 kg/yr	
Target P load reduction	80 %	
Target P discharge load	.446 kg/yr	
Percent P load reduction	83 %	
Provided P discharge load	.38 kg/yr	.84 lb/yr
Provided P load removed	1.852 kg/yr	4.084 lb/yr

Basin 7

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 7			**DATE**
POND DESIGNATION:	Dry Pond 7 Alt. 1, Wet Pond 7 Alt. 1	**MADE BY:**	CBC	09-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**	JW	09-Apr-26

Pre-Development	NRCS				
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**	
Roadway Pre					
Treatment Train					
Dry Pond 7 Alt. 1					
Catchment 1					
Pavement		98	0.39	38.22	**DCIA %**
Non DCIA			*0.00*	0.00	**100.00%**
Wet Pond 7 Alt. 1					
Catchment 2					
Pavement		98	0.99	97.02	
Impervious Area (non DCIA)	NA	98	0.00	0.00	
Open Space Good Condition (grass cover >75%)	C/D	77	2.57	197.89	
Open Space Good Condition (grass cover >75%)	B/D	71	1.88	133.48	
Open Space Good Condition (grass cover >75%)	A/D	60	0.00	0.00	
Subtotal		78.7	*5.44*	428.39	**DCIA %**
Non DCIA		74.5	*4.45*	331.37	**18.20%**
Total		**80.0**	**5.83**	**466.61**	

Summary		**80.0**	**5.83**	**466.61**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 7			**DATE**
POND DESIGNATION:	Dry Pond 7 Alt. 1, Wet Pond 7 Alt. 1	**MADE BY:**	CBC	09-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	JW	09-Apr-26

Post-Development	NRCS				
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**	
Roadway Post					
Treatment Train					
Dry Pond 7 Alt. 1					
Catchment 1					
Pavement		98	1.61	157.78	**DCIA %**
Non DCIA			*0.00*	0.00	**100.00%**
Wet Pond 7 Alt. 1					
Catchment 2					
Pavement		98	0.73	71.54	
Impervious Area (non DCIA)	NA	98	0.00	0.00	
Open Space Good Condition (grass cover >75%)	C/D	77	0.00	0.00	
Open Space Good Condition (grass cover >75%)	B/D	71	1.70	120.70	
Open Space Good Condition (grass cover >75%)	A/D	60	1.67	100.20	
Subtotal		71.3	*4.10*	292.44	**DCIA %**
Non DCIA		65.5	*3.37*	220.90	**17.80%**
Total		**78.8**	**5.71**	**450.22**	

Summary		**78.8**	**5.71**	**450.22**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 7			**DATE**
POND DESIGNATION:	Dry Pond 7 Alt. 1, Wet Pond 7 Alt. 1	**MADE BY:**	CBC	09-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	JW	09-Apr-26

Dry Pond 7 Alt. 1

Dry Retention (for treatment only)				
Stage	**Elevation (Ft)**	**Area (Ac)**	**Inc. Volume (Ac-Ft)**	**Total Volume (Ac-ft)**
Berm (Outside)	14.00	1.09		
Berm (Inside)	13.00	0.18	0.23	0.84
Design High Water (DHW)	12.00	0.28	0.28	0.61
Weir (Design Low Water)	11.00	0.28	0.33	**0.330**
Control (wet)/Pond Bottom (dry)	10.00	0.38	0.00	0.00
Seasonal High Ground Water Elevation (SHGWT)*	8.00			

SHGWT Check (Dry Retention): ok

*SHGWT based on soil survey 8

Wet Pond 7 Alt. 1

Wet Detention				
Stage	**Elevation (Ft)**	**Area (Ac)**	**Inc. Volume (Ac-Ft)**	**Total Volume (Ac-ft)**
Berm (Outside)	10.50	NA		
Berm (Inside)	10.50	0.62	0.59	1.79
Design High Water (DHW)	9.50	0.56	0.77	1.20
Weir (Design Low Water)	8.00	0.46	0.43	**0.43**
Control (wet)/Pond Bottom (dry)	7.00	0.40	0.00	0.00
Seasonal High Ground Water Elevation (SHGWT)*	8.00			

Required Attenuation Volume

Attenuation required?	yes
Frequency	25-yr
Time	24-hr
Precipitation Depth	8.0 in.

1) Soil Storage (S) = (1000/CN) - 10 — S_{pre} = **2.49 in.** S_{post} = **2.68 in.**

2) Runoff (R) = (P-0.2S)2/(P+0.8S) — Q_{pre} = **5.63 in.** Q_{post} = **5.49 in.**

3) Runoff Volume (Vr) = R/12 * Area

Pre-Development Runoff	Vr_{pre} =	2.73	ac-ft	*
Post-Development Runoff	Vr_{post} =	2.61	ac-ft	
Attenuation volume required (Post-Pre)		**-0.12**	**ac-ft**	0.13 Acres shiftedto

*No existing basin discharging to the proposed pond location, therefore, Vr Pre = 0

Total Required Volume (Treatment + Attenuation) ***-0.12 ac-ft***

Total Provided Volume ***1.20 ac-ft***

Check Total Volume Requirement: -0.12 is < or = 1.20 **Total Volume Requirement met**

Complete Report (not including cost) Ver 4.3.5

Project: BPC Basin 6N Alt 1 Retention
Date: 4/9/2026 3:11:22 PM

Site and Catchment Information

Analysis: Specified Removal Efficiency

Catchment Name	Dry Pond 7 Alt 1	Wet Pond 7 Alt 1
Rainfall Zone	Florida Zone 4	Florida Zone 4
Annual Mean Rainfall	52.00	52.00

Pre-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200
Area (acres)	0.73	5.44
Rational Coefficient (0-1)	0.82	0.23
Non DCIA Curve Number	60.00	74.50
DCIA Percent (0-100)	100.00	18.20
Nitrogen EMC (mg/l)	1.520	1.520
Phosphorus EMC (mg/l)	0.200	0.200
Runoff Volume (ac-ft/yr)	2.603	5.329
Groundwater N (kg/yr)	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000
Nitrogen Loading (kg/yr)	4.879	9.988
Phosphorus Loading (kg/yr)	0.642	1.314

Post-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200
Area (acres)	50.00	4.10
Rational Coefficient (0-1)	0.82	0.19
Non DCIA Curve Number	60.00	65.50
DCIA Percent (0-100)	100.00	17.80
Wet Pond Area (ac)	0.00	0.43
Nitrogen EMC (mg/l)	1.520	1.520
Phosphorus EMC (mg/l)	0.200	0.200
Runoff Volume (ac-ft/yr)	178.317	3.058

Groundwater N (kg/yr)	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000
Nitrogen Loading (kg/yr)	334.194	5.731
Phosphorus Loading (kg/yr)	43.973	0.754

Catchment Number: 1 Name: Dry Pond 7 Alt 1

Project: BPC Basin 6N Alt 1 Retention
Date: 4/9/2026

Retention Design

Retention Depth (in)	1.800
Retention Volume (ac-ft)	7.500

Watershed Characteristics

Catchment Area (acres)	50.00
Contributing Area (acres)	50.000
Non-DCIA Curve Number	60.00
DCIA Percent	100.00
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	83
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	83

Media Mix Information

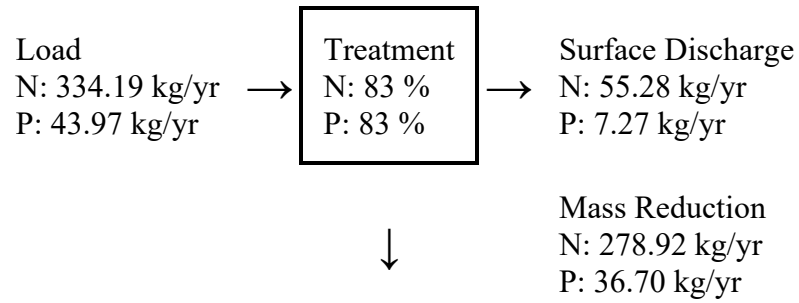
Type of Media Mix	B&G CTS24
Media N Reduction (%)	75
Media P Reduction (%)	95

Groundwater Discharge (Stand-Alone)

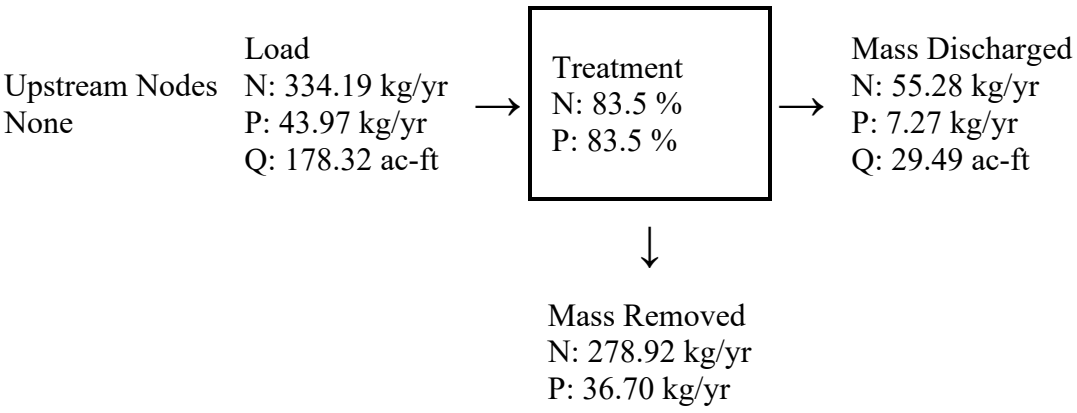
Treatment Rate (MG/yr)	48.497
TN Mass Load (kg/yr)	69.730
TN Concentration (mg/L)	0.380

TP Mass Load (kg/yr)	1.835
TP Concentration (mg/L)	0.010

Load Diagram for Retention (stand-alone)



Load Diagram for Retention (As Used In Routing)



Catchment Number: 2 Name: Wet Pond 7 Alt 1

Project: BPC Basin 6N Alt 1 Retention
Date: 4/9/2026

Wet Detention Design

Permanent Pool Volume (ac-ft)	0.430
Permanent Pool Volume (ac-ft) for 31 days residence	0.260
Annual Residence Time (days)	51

Littoral Zone Efficiency Credit	
Wetland Efficiency Credit	

Watershed Characteristics

Catchment Area (acres)	4.10
Contributing Area (acres)	3.670
Non-DCIA Curve Number	65.50
DCIA Percent	17.80
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	20
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	44

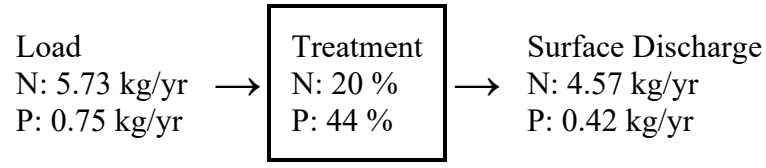
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000
TP Concentration (mg/L)	0.000

Load Diagram for Wet Detention (stand-alone)



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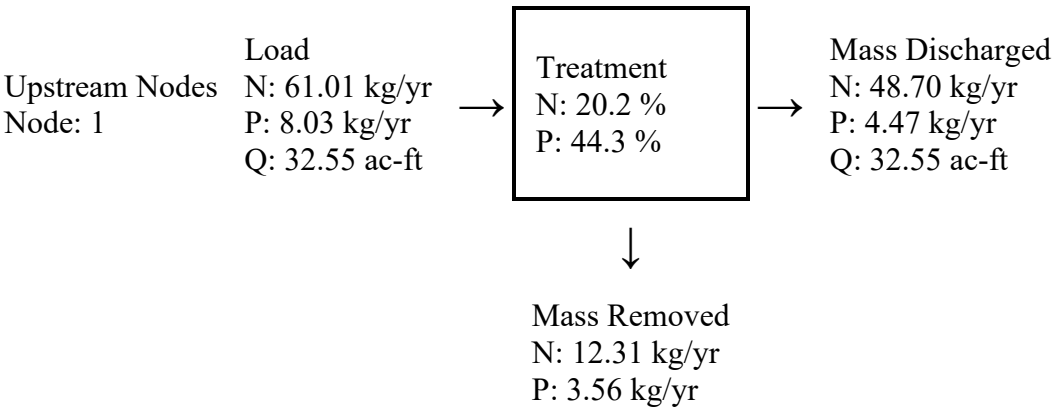
Mass Reduction
N: 1.16 kg/yr
P: 0.33 kg/yr

Load Diagram for Wet Detention (As Used In Routing)



Summary Treatment Report Version: 4.3.5

Project: BPC Basin 6N Alt 1 Retention

Analysis Type: Specified Removal Efficiency

Date:4/9/2026

BMP Types:

Catchment 1 - (Dry Pond 7 Alt 1) Retention

Catchment 2 - (Wet Pond 7 Alt 1) Wet Detention

Based on % removal values to the nearest percent

Routing Summary
Catchment 1 Routed to Catchment 2
Catchment 2 Routed to Outlet

Total nitrogen target removal met? **Yes**
Total phosphorus target removal met? **Yes**

Summary Report

Nitrogen

Surface Water Discharge

Total N pre load	14.87 kg/yr	
Total N post load	339.93 kg/yr	
Target N load reduction	80 %	
Target N discharge load	67.99 kg/yr	
Percent N load reduction	86 %	
Provided N discharge load	48.7 kg/yr	107.37 lb/yr
Provided N load removed	291.23 kg/yr	642.16 lb/yr

Phosphorus

Surface Water Discharge

Total P pre load	1.956 kg/yr	
Total P post load	44.727 kg/yr	
Target P load reduction	80 %	
Target P discharge load	8.945 kg/yr	
Percent P load reduction	90 %	
Provided P discharge load	4.471 kg/yr	9.86 lb/yr
Provided P load removed	40.256 kg/yr	88.764 lb/yr

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 7			**DATE**
POND DESIGNATION:	Dry Pond 7 Alt 2, VFS-7 Alt 2	**MADE BY:**	CBC	09-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**	JW	09-Apr-26

Pre-Development		NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**	
Roadway Pre					
Treatment Train					
Dry Pond 7 Alt 2					
Catchmeent 1					
Pavement		98	0.39	38.22	**DCIA %**
Non DCIA			*0.00*	0.00	**100.00%**
VFS-7 Alt 2					
Catchment 2					
Pavement		98	0.73	71.54	
Impervious Area (non DCIA)	NA	98	0.00	0.00	
Open Space Good Condition (grass cover >75%)	C/D	77	2.53	194.81	
Open Space Good Condition (grass cover >75%)	B/D	71	1.84	130.64	
Open Space Good Condition (grass cover >75%)	A/D	60	0.00	0.00	
Subtotal		77.8	*5.10*	396.99	**DCIA %**
Non DCIA		74.5	*4.37*	325.45	**14.31%**
Total		**79.3**	**5.49**	**435.21**	

Summary		**79.3**	**5.49**	**435.21**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 7			**DATE**
POND DESIGNATION:	Dry Pond 7 Alt 2, VFS-7 Alt 2	**MADE BY:**	CBC	09-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	JW	09-Apr-26

Post-Development	NRCS				
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**	
Roadway Post					
Treatment Train					
Dry Pond 7 Alt 2					
Catchment 1					
Pavement		98	1.29	126.42	**DCIA %**
Non DCIA			*0.00*	0.00	**100.00%**
VFS-7 Alt 2					
Pavement		98.0	0.73	71.54	
Open Space Good Condition (grass cover >75%)	C/D	77	0.00	0.00	
Open Space Good Condition (grass cover >75%)	B/D	71	1.70	120.70	
Open Space Good Condition (grass cover >75%)	A/D	60	1.67	100.20	
Subtotal		71.3	*4.10*	292.44	**DCIA %**
Non DCIA		65.5	*3.37*	220.90	**17.80%**
Total		**77.7**	**5.39**	**418.86**	

Summary		**77.7**	**5.39**	**418.86**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 7			**DATE**
POND DESIGNATION:	Dry Pond 7 Alt 2, VFS-7 Alt 2	**MADE BY:**	CBC	09-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	JW	09-Apr-26

Dry Pond 7 Alt 2

Dry Retention (for treatment only)				
Stage	**Elevation (Ft)**	**Area (Ac)**	**Inc. Volume (Ac-Ft)**	**Total Volume (Ac-ft)**
Berm (Outside)	NA	0.00		
Berm (Inside)	10.50	0.46	0.18	0.42
Design High Water (DHW)	10.10	0.42	0.00	0.24
Weir (Design Low Water)	10.10	0.42	0.24	**0.24**
Control (wet)/Pond Bottom (dry)	9.50	0.38	0.00	0.00
Seasonal High Ground Water Elevation (SHGWT)*	8.00			

SHGWT Check (Dry Retention): ok

*SHGWT based on soil survey 8

Required Attenuation Volume

Attenuation required?	yes
Frequency	25-yr
Time	24-hr
Precipitation Depth	8.0 in.

1) Soil Storage (S) = (1000/CN) - 10 S_{pre} = **2.61 in.** S_{post} = **2.87 in.**

2) Runoff (R) = (P-0.2S)2/(P+0.8S) Q_{pre} = **5.54 in.** Q_{post} = **5.36 in.**

3) Runoff Volume (Vr) = R/12 * Area

Pre-Development Runoff	Vr_{pre} =	2.53 ac-ft	*
Post-Development Runoff	Vr_{post} =	2.41 ac-ft	
Attenuation volume required (Post-Pre)		**-0.13 ac-ft**	0.13 Acres shifted to B

*No existing basin discharging to the proposed pond location, therefore, Vr Pre = 0

Total Required Volume (Treatment + Attenuation) ***-0.13 ac-ft***

Total Provided Volume ***0.24 ac-ft***

Check Total Volume Requirement: -0.13 is < or = 0.24 **Total Volume Requirement met**

Complete Report (not including cost) Ver 4.3.5

Project: BPC Basin 7 Alt 2 Retention VBS
Date: 4/9/2026 4:03:18 PM

Site and Catchment Information

Analysis: Specified Removal Efficiency

Catchment Name	Basin 7 Alt 2 Dry Retention	VSB 7 Alt 2
Rainfall Zone	Florida Zone 4	Florida Zone 4
Annual Mean Rainfall	52.00	52.00

Pre-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200
Area (acres)	0.39	5.10
Rational Coefficient (0-1)	0.82	0.22
Non DCIA Curve Number	60.00	77.80
DCIA Percent (0-100)	100.00	14.30
Nitrogen EMC (mg/l)	1.520	1.520
Phosphorus EMC (mg/l)	0.200	0.200
Runoff Volume (ac-ft/yr)	1.391	4.778
Groundwater N (kg/yr)	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000
Nitrogen Loading (kg/yr)	2.607	8.955
Phosphorus Loading (kg/yr)	0.343	1.178

Post-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200
Area (acres)	1.29	4.10
Rational Coefficient (0-1)	0.82	0.19
Non DCIA Curve Number	60.00	65.50
DCIA Percent (0-100)	100.00	17.80
Wet Pond Area (ac)	0.00	0.00
Nitrogen EMC (mg/l)	1.520	1.520
Phosphorus EMC (mg/l)	0.200	0.200
Runoff Volume (ac-ft/yr)	4.601	3.416

Groundwater N (kg/yr)	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000
Nitrogen Loading (kg/yr)	8.622	6.403
Phosphorus Loading (kg/yr)	1.135	0.842

Catchment Number: 1 Name: Basin 7 Alt 2 Dry Retention

Project: BPC Basin 7 Alt 2 Retention VBS
Date: 4/9/2026

Retention Design

Retention Depth (in)	1.800
Retention Volume (ac-ft)	0.194

Watershed Characteristics

Catchment Area (acres)	1.29
Contributing Area (acres)	1.290
Non-DCIA Curve Number	60.00
DCIA Percent	100.00
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	83
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	83

Media Mix Information

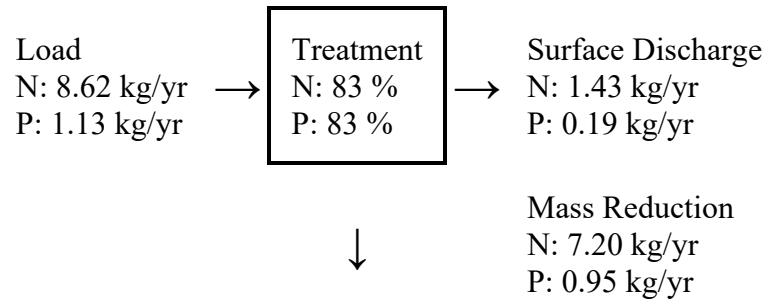
Type of Media Mix	B&G CTS24
Media N Reduction (%)	75
Media P Reduction (%)	95

Groundwater Discharge (Stand-Alone)

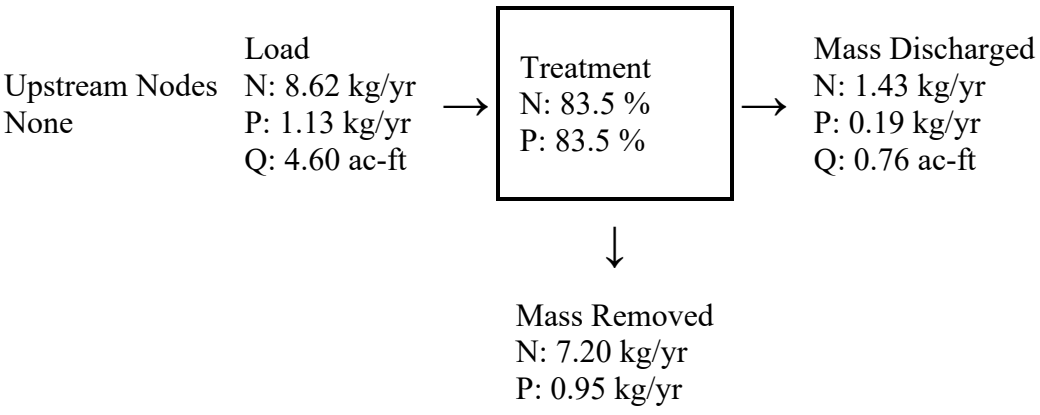
Treatment Rate (MG/yr)	1.251
TN Mass Load (kg/yr)	1.799
TN Concentration (mg/L)	0.380

TP Mass Load (kg/yr)	0.047
TP Concentration (mg/L)	0.010

Load Diagram for Retention (stand-alone)



Load Diagram for Retention (As Used In Routing)



Catchment Number: 2 Name: VSB 7 Alt 2

Project: BPC Basin 7 Alt 2 Retention VBS
Date: 4/9/2026

Vegetated Filter Strip with media Design

VFS Width (ft)	30.000
VFS Length (ft)	100.000
VFS Depth (ft)	2.000

Width of Area Feeding Buffer (ft)	175.000
Water storage capacity of soil (in/in)	0.200
Slope of VFS (< 20%)	2.000
Annual Capture Percentage	80

Watershed Characteristics

Catchment Area (acres)	4.10
Contributing Area (acres)	0.471
Non-DCIA Curve Number	65.50
DCIA Percent	17.80
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	72
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	84

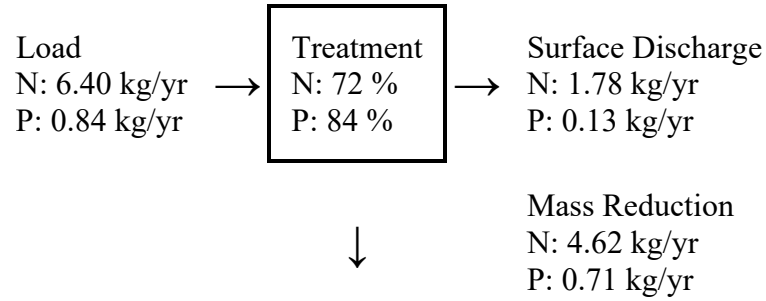
Media Mix Information

Type of Media Mix	B&G CTS24
Media N Reduction (%)	75
Media P Reduction (%)	95

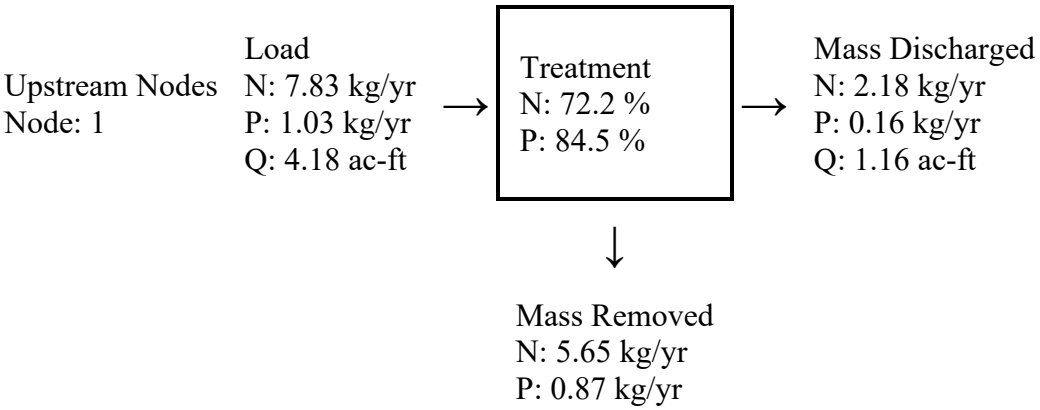
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.888
TN Mass Load (kg/yr)	1.277
TN Concentration (mg/L)	0.380
TP Mass Load (kg/yr)	0.034
TP Concentration (mg/L)	0.010

Load Diagram for Vegetated Filter Strip with media (stand-alone)



Load Diagram for Vegetated Filter Strip (As Used In Routing)



Summary Treatment Report Version: 4.3.5

Project: BPC Basin 7 Alt 2 Retention VBS

Analysis Type: Specified Removal Efficiency

Date:4/9/2026

BMP Types:

Catchment 1 - (Basin 7 Alt 2 Dry Retention) Retention

Catchment 2 - (VSB 7 Alt 2) Vegetated Filter Strip with media

Based on % removal values to the nearest percent

Routing Summary

Catchment 1 Routed to Catchment 2

Catchment 2 Routed to Outlet

Total nitrogen target removal met? **Yes**
Total phosphorus target removal met? **Yes**

Summary Report

Nitrogen

Surface Water Discharge

Total N pre load	11.56 kg/yr	
Total N post load	15.02 kg/yr	
Target N load reduction	80 %	
Target N discharge load	3 kg/yr	
Percent N load reduction	85 %	
Provided N discharge load	2.18 kg/yr	4.8 lb/yr
Provided N load removed	12.85 kg/yr	28.33 lb/yr

Phosphorus

Surface Water Discharge

Total P pre load	1.521 kg/yr	
Total P post load	1.977 kg/yr	
Target P load reduction	80 %	
Target P discharge load	.395 kg/yr	
Percent P load reduction	92 %	
Provided P discharge load	.16 kg/yr	.35 lb/yr
Provided P load removed	1.817 kg/yr	4.007 lb/yr

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 7			**DATE**
POND DESIGNATION:	Dry Pond 7 Alt 3, Swale 7 Alt 3	**MADE BY:**	CBC	09-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**	JW	09-Apr-26

Pre-Development		NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**	
Roadway Pre					
Treatment Train					
Dry Pond 7 Alt 3					
Pavement		98	0.39	38.22	**DCIA %**
Non DCIA			*0.00*	0.00	**100.00%**
Swale 7 Alt 3					
Pavement		98	0.73	71.54	
Impervious Area (non DCIA)	NA	98	0.00	0.00	
Open Space Good Condition (grass cover >75%)	C/D	77	2.53	194.81	
Open Space Good Condition (grass cover >75%)	B/D	71	1.84	130.64	
Open Space Good Condition (grass cover >75%)	A/D	60	0.00	0.00	
Subtotal		77.8	*5.10*	396.99	**DCIA %**
Non DCIA		74.5	*4.37*	325.45	**14.31%**
Total		**79.3**	**5.49**	**435.21**	

Summary		**79.3**	**5.49**	**435.21**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 7			**DATE**
POND DESIGNATION:	Dry Pond 7 Alt 3, Swale 7 Alt 3	**MADE BY:**	CBC	09-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	JW	09-Apr-26

Post-Development	NRCS				
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**	
Roadway Post					
Treatment Train					
Dry Pond 7 Alt 3					
Pavement		98	1.29	126.42	**DCIA %**
Non DCIA			*0.00*	0.00	**100.00%**
Swale 7 Alt 3					
Pavement		98.0	0.73	71.54	
Impervious Area (non DCIA)	NA	98	0.00	0.00	
Open Space Good Condition (grass cover >75%)	C/D	77	0.00	0.00	
Open Space Good Condition (grass cover >75%)	B/D	71	1.70	120.70	
Open Space Good Condition (grass cover >75%)	A/D	60	1.67	100.20	
Subtotal		71.3	*4.10*	292.44	**DCIA %**
Non DCIA		65.5	*3.37*	220.90	**17.80%**
Total		**77.7**	**5.39**	**418.86**	

Summary		**77.7**	**5.39**	**418.86**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 7			**DATE**
POND DESIGNATION:	Dry Pond 7 Alt 3, Swale 7 Alt 3	**MADE BY:**	CBC	09-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	JW	09-Apr-26

Dry Pond 7 Alt 3

Dry Retention (for treatment only)					
Stage	**Elevation (Ft)**	**Area (Ac)**	**Inc. Volume (Ac-Ft)**	**Total Volume (Ac-ft)**	
Berm (Outside)	NA	0.00			
Berm (Inside)	10.50	0.46	0.18	0.42	
Design High Water (DHW)	10.10	0.42	0.00	0.24	
Weir (Design Low Water)	10.10	0.42	0.24	**0.24**	
Control (wet)/Pond Bottom (dry)	9.50	0.38	0.00	0.00	
Seasonal High Ground Water Elevation (SHGWT)*	8.00				

SHGWT Check (Dry Retention): ok

*SHGWT based on soil survey 8

Swale 7 Alt 3

Stage	**Elevation (Ft)**	**Area (Ac)**	**Inc. Volume (Ac-Ft)**	**Total Volume (Ac-ft)**	**Elevation (Ft)**
Berm (Outside)	8.50	0.00			
Berm (Inside)	7.80	0.40	0.38	0.93	
Design High Water (DHW)	6.80	0.35	0.26	0.55	6.00
Weir (Design Low Water)	6.00	0.31	0.29	**0.29**	5.50
Control (wet)/Pond Bottom (dry)	5.00	0.27	0.00	0.00	5.00
Seasonal High Ground Water Elevation (SHGWT)*	4.00				4.00

SHGWT Check (Dry Retention): ok

*SHGWT based on soil survey 4

Required Attenuation Volume

Attenuation required?	yes
Frequency	25-yr
Time	24-hr
Precipitation Depth	8.0 in.

1) Soil Storage (S) = (1000/CN) - 10 — S_{pre} = **2.61 in.** S_{post} = **2.87 in.**

2) Runoff (R) = (P-0.2S)2/(P+0.8S) — Q_{pre} = **5.54 in.** Q_{post} = **5.36 in.**

3) Runoff Volume (Vr) = R/12 * Area

Pre-Development Runoff	Vr_{pre} =	2.53 ac-ft	*
Post-Development Runoff	Vr_{post} =	2.41 ac-ft	
Attenuation volume required (Post-Pre)		**-0.13 ac-ft**	

*No existing basin discharging to the proposed pond location, therefore, Vr Pre = 0

Total Required Volume (Treatment + Attenuation) ***-0.13 ac-ft***

Total Provided Volume ***0.53 ac-ft***

Check Total Volume Requirement: -0.13 is < or = 0.53 **Total Volume Requirement met**

Complete Report (not including cost) Ver 4.3.5

Project: BPC Basin 7 Alt 3 Retention with Swale
Date: 4/10/2026 12:10:06 AM

Site and Catchment Information

Analysis: Specified Removal Efficiency

Catchment Name	Dry Pond 7 Alt 3	Swale 7 Alt 3
Rainfall Zone	Florida Zone 4	Florida Zone 4
Annual Mean Rainfall	52.00	52.00

Pre-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200
Area (acres)	0.39	5.10
Rational Coefficient (0-1)	0.82	0.20
Non DCIA Curve Number	100.00	74.50
DCIA Percent (0-100)	100.00	14.31
Nitrogen EMC (mg/l)	1.520	1.520
Phosphorus EMC (mg/l)	0.200	0.200
Runoff Volume (ac-ft/yr)	1.391	4.371
Groundwater N (kg/yr)	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000
Nitrogen Loading (kg/yr)	2.607	8.192
Phosphorus Loading (kg/yr)	0.343	1.078

Post-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200

Area (acres)	1.29	4.10
Rational Coefficient (0-1)	0.82	0.19
Non DCIA Curve Number	60.00	65.50
DCIA Percent (0-100)	100.00	17.80
Wet Pond Area (ac)	0.00	0.00
Nitrogen EMC (mg/l)	1.520	1.520
Phosphorus EMC (mg/l)	0.200	0.200
Runoff Volume (ac-ft/yr)	4.601	3.416
Groundwater N (kg/yr)	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000
Nitrogen Loading (kg/yr)	8.622	6.403
Phosphorus Loading (kg/yr)	1.135	0.842

Catchment Number: 1 Name: Dry Pond 7 Alt 3

Project: BPC Basin 7 Alt 3 Retention with Swale
Date: 4/10/2026

Retention Design

Retention Depth (in)	2.230
Retention Volume (ac-ft)	0.240

Watershed Characteristics

Catchment Area (acres)	1.29
Contributing Area (acres)	1.290
Non-DCIA Curve Number	60.00

DCIA Percent	100.00
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	88
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	88

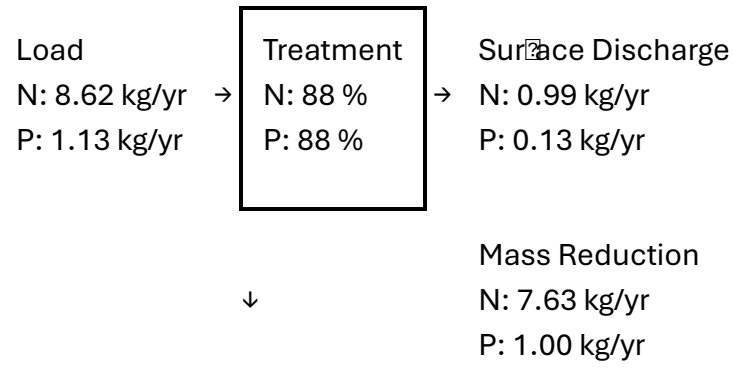
Media Mix Information

Type of Media Mix	B&G CTS24
Media N Reduction (%)	75
Media P Reduction (%)	95

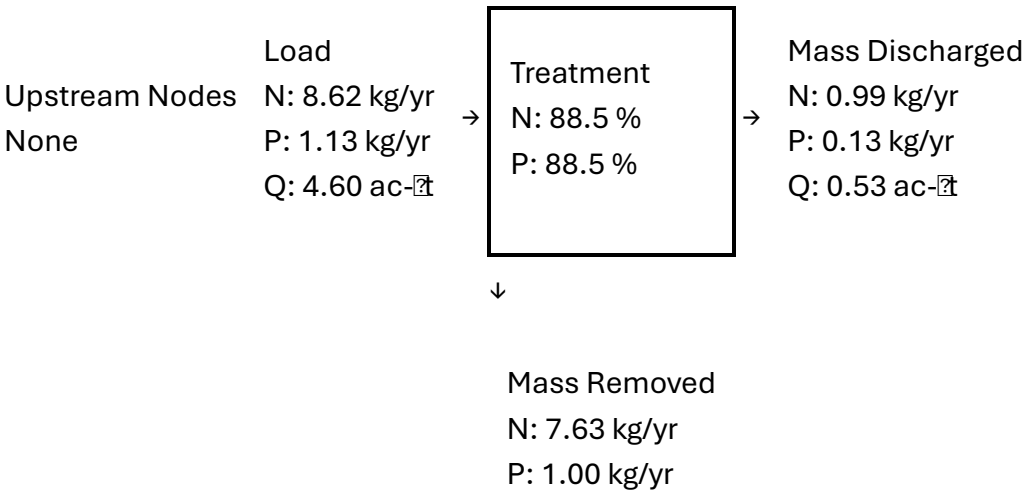
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	1.327
TN Mass Load (kg/yr)	1.907
TN Concentration (mg/L)	0.380
TP Mass Load (kg/yr)	0.050
TP Concentration (mg/L)	0.010

Load Diagram for Retention (stand-alone)



Load Diagram for Retention (As Used In Routing)



Catchment Number: 2 Name: Swale 7 Alt 3

Project: BPC Basin 7 Alt 3 Retention with Swale
Date: 4/10/2026

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	30.000
Swale Bottom Width - **B** (ft)	15.000

Swale Length - **L** (ft)	350.000
Average Impervious Length (ft)	1,120.000
Average Impervious Width (ft)	30.000
Average Pervious Width (ft)	30.000
Swale Slope (bot drop/bot length) - **S**	0.200
Mannings N	0.060
Soil Infiltration Rate (in/hr)	6.000
Side Slope o Swale horizontal/vertical - **Z**	6.000
Average Height o Swale Block - **H**	0.500
Length o Berm Upstream o Crest - $\mathbf{L_b}$	350.000
Runoff Area (acres)	1.543
Number o Swale Blocks	1

Watershed Characteristics

Catchment Area (acres)	4.10
Contributing Area (acres)	4.100
Non-DCIA Curve Number	65.50
DCIA Percent	17.80
Rain all Zone	Florida Zone 4
Rain all (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	86

Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	86

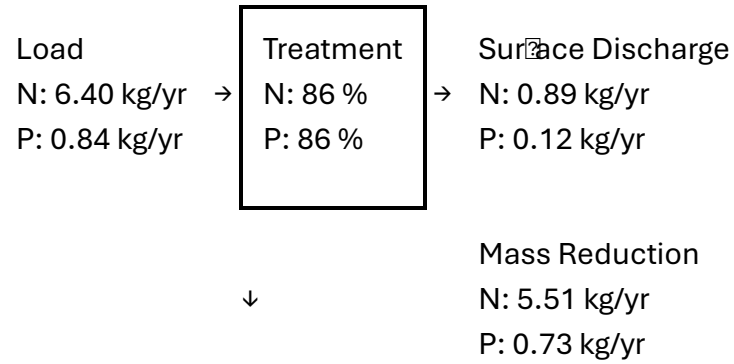
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

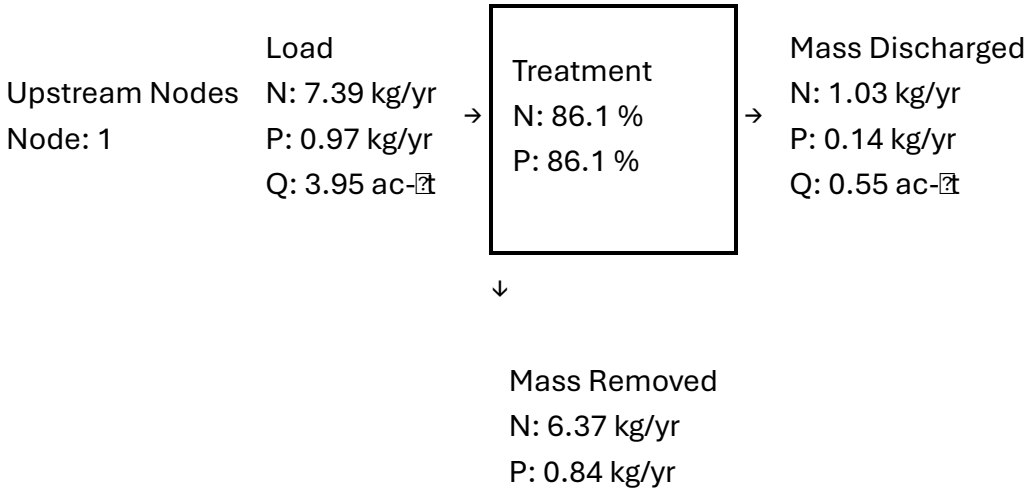
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	1.005
TN Mass Load (kg/yr)	5.511
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.725
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



Load Diagram for Swale (As Used In Routing)



Summary Treatment Report Version: 4.3.5

Project: BPC Basin 7 Alt 3 Retention with Swale

Date:4/10/2026

Analysis Type: Specified Removal Efficiency

BMP Types:

Catchment 1 - (Dry Pond 7 Alt 3) Retention

Catchment 2 - (Swale 7 Alt 3) Swale

Based on % removal values to the nearest percent

Routing Summary

Catchment 1 Routed to Catchment 2

Catchment 2 Routed to Outlet

Total nitrogen target removal met? **Yes**
Total phosphorus target removal met? **Yes**

Summary Report

Nitrogen

Surface Water Discharge

Total N pre load	10.8 kg/yr	
Total N post load	15.02 kg/yr	
Target N load reduction	80 %	
Target N discharge load	3 kg/yr	
Percent N load reduction	93 %	
Provided N discharge load	1.03 kg/yr	2.27 lb/yr
Provided N load removed	14 kg/yr	30.86 lb/yr

Phosphorus

Surface Water Discharge

Total P pre load	1.421 kg/yr	
Total P post load	1.977 kg/yr	
Target P load reduction	80 %	
Target P discharge load	.395 kg/yr	
Percent P load reduction	93 %	
Provided P discharge load	.135 kg/yr	.3 lb/yr
Provided P load removed	1.841 kg/yr	4.06 lb/yr

Basin 8

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 8			**DATE**
POND DESIGNATION:	Dry Pond 8 Alt 1, Wet Pond 8 Alt 1	**MADE BY:**	CBC	08-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**	JW	08-Apr-26

Pre-Development	NRCS				
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**	
Roadway Pre					
Treatment Train					
Dry Pond 8 Alt 1					
Pavement		98	0.71	69.58	DCIA %
Non DCIA			*0.00*	0.00	100.00%
Wet Pond 8 Alt 1					
Pavement		98	0.65	63.70	
Open Space Good Condition (grass cover >75%)	C/D	77	2.01	154.77	
Open Space Good Condition (grass cover >75%)	B/D	71	1.48	105.08	
Open Space Good Condition (grass cover >75%)	A/D	60	0.00	0.00	
Subtotal		78.2	*4.14*	323.55	DCIA %
Non DCIA		74.5	*3.49*	259.85	15.70%
Ponds 8 Alt 1are included in the areas above (within the existing drainage area)					
Total		**81.1**	**4.85**	**393.13**	

Summary		**81.1**	**4.85**	**393.13**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 8			**DATE**
POND DESIGNATION:	Dry Pond 8 Alt 1, Wet Pond 8 Alt 1	**MADE BY:**	CBC	08-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	JW	08-Apr-26

Post-Development	NRCS				
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**	
Roadway Post					
Treatment Train					
Dry Pond 8 Alt 1					
Catchment 1					
Pavement		98	1.61	157.78	DCIA %
Dry Retention	A/D	60.0	*0.18*	10.80	89.94%
Total Catchment 1		**94.2**	**1.79**	**168.58**	
Non DCIA		**60.0**	**0.18**	**10.80**	
Wet Pond 8 Alt 1					
Catchment 2					
Pavement		98	0.73	71.54	
Open Space Good Condition (grass cover >75%)	C/D	77	1.17	90.09	
Open Space Good Condition (grass cover >75%)	B/D	71	1.16	82.36	
Open Space Good Condition (grass cover >75%)	A/D	60	0.00	0.00	
Subtotal		79.7	*3.06*	243.99	DCIA %
Non DCIA		74.0	*2.33*	172.45	23.86%
Total Catchment 2		**85.1**	**4.85**	**412.57**	

Summary		**85.1**	**4.85**	**412.57**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 8			**DATE**
POND DESIGNATION:	Dry Pond 8 Alt 1, Wet Pond 8 Alt 1	**MADE BY:**	CBC	08-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	JW	08-Apr-26

Dry Pond 8 Alt 1

Dry Retention (for treatment only)				
Stage	**Elevation (Ft)**	**Area (Ac)**	**Inc. Volume (Ac-Ft)**	**Total Volume (Ac-ft)**
Berm (Outside)	13.00	0.24		
Berm (Inside)	12.00	0.18	0.16	0.32
Design High Water (DHW)	11.00	0.13	0.11	0.16
Weir (Design Low Water)	10.00	0.08	0.06	**0.055**
Control (wet)/Pond Bottom (dry)	9.00	0.03	0.00	0.00
Seasonal High Ground Water Elevation (SHGWT)*	8.00			

SHGWT Check (Dry Retention): ok

*SHGWT based on soil survey 8

Wet Pond 8 Alt 1

Wet Detention				
Stage	**Elevation (Ft)**	**Area (Ac)**	**Inc. Volume (Ac-Ft)**	**Total Volume (Ac-ft)**
Berm (Outside)	14.00	NA		
Berm (Inside)	13.50	0.20	0.18	0.69
Design High Water (DHW)	12.50	0.16	0.30	0.51
Weir (Design Low Water)	10.50	0.14	0.21	**0.21**
Control (wet)/Pond Bottom (dry)	8.00	0.03	0.00	0.00
Seasonal High Ground Water Elevation (SHGWT)*	8.00			

Required Attenuation Volume

Attenuation required?	yes
Frequency	25-yr
Time	24-hr
Precipitation Depth	8.0 in.

1) Soil Storage (S) = (1000/CN) - 10 — S_{pre} = **2.34 in.** S_{post} = **1.76 in.**

2) Runoff (R) = (P-0.2S)2/(P+0.8S) — Q_{pre} = **5.75 in.** Q_{post} = **6.22 in.**

3) Runoff Volume (Vr) = R/12 * Area

Pre-Development Runoff	Vr_{pre} =	2.32 ac-ft	*
Post-Development Runoff	Vr_{post} =	2.51 ac-ft	
Attenuation volume required (Post-Pre)		**0.19 ac-ft**	

*No existing basin discharging to the proposed pond location, therefore, Vr Pre = 0

Total Required Volume (Treatment + Attenuation) ***0.19 ac-ft***

Total Provided Volume ***0.67 ac-ft***

Check Total Volume Requirement: 0.19 is < or = 0.67 **Total Volume Requirement met**

Summary Treatment Report Version: 4.3.5

Project: BPC Basin 8 Alt 1
Retention

Analysis Type: Specified Removal Efficiency

Date:4/9/2026

BMP Types:

Catchment 1 - (Dry Pond 8 Alt 1) Retention

Catchment 2 - (Wet Pond 8 Alt 1) Wet Detention with Littoral Shelf

Based on % removal values to the nearest percent

Routing Summary
Catchment 1 Routed to Catchment 2
Catchment 2 Routed to Outlet

Total nitrogen target removal met? **No**
Total phosphorus target removal met? **Yes**

Summary Report

Nitrogen

Surface Water Discharge

Total N pre load	11.74 kg/yr	
Total N post load	16.15 kg/yr	
Target N load reduction	80 %	
Target N discharge load	3.23 kg/yr	
Percent N load reduction	79 %	
Provided N discharge load	3.36 kg/yr	7.42 lb/yr
Provided N load removed	12.78 kg/yr	28.19 lb/yr

Phosphorus

Surface Water Discharge

Total P pre load	1.544 kg/yr	
Total P post load	2.124 kg/yr	
Target P load reduction	80 %	
Target P discharge load	.425 kg/yr	
Percent P load reduction	88 %	
Provided P discharge load	.264 kg/yr	.58 lb/yr

Provided P load removed	1.861 kg/yr	4.103 lb/yr

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 8			**DATE**
POND DESIGNATION:	Dry Pond 8 Alt. 2, VFS-8 Alt. 2	**MADE BY:**	CBC	09-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**	JW	09-Apr-26

Pre-Development		NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**	
Roadway Pre					
Treatment Train					
Dry Pond 8 Alt. 2					
Pavement		98	0.71	69.58	DCIA %
Non DCIA		#DIV/0!	*0.00*	0.00	100.00%
VFS-8 Alt. 2					
Pavement		98	0.65	63.70	
Open Space Good Condition (grass cover >75%)	C/D	77	2.01	154.77	
Open Space Good Condition (grass cover >75%)	B/D	71	1.48	105.08	
Open Space Good Condition (grass cover >75%)	A/D	60	0.00	0.00	
Subtotal		78.2	*4.14*	323.55	DCIA %
Non DCIA		74.5	*3.49*	*259.85*	15.70%
Total Catchment 2		**81.1**	**4.85**	**393.13**	

Summary		**81.1**	**4.85**	**393.13**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 8			**DATE**
POND DESIGNATION:	Dry Pond 8 Alt. 2, VFS-8 Alt. 2	**MADE BY:**	CBC	09-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	JW	09-Apr-26

Post-Development	NRCS				
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**	
Roadway Post					
Treatment Train					
Dry Pond 8 Alt. 2					
Catchment 1					
Pavement		98	1.61	157.78	DCIA %
Dry Retention	A/D	60.0	*0.18*	10.80	89.94%
Total Catchment 1		**94.2**	**1.79**	**168.58**	
Non DCIA		**60.0**	**0.18**	**10.80**	
VFS-8 Alt. 2					
Catchment 2					
Pavement		98	0.73	71.54	
Open Space Good Condition (grass cover >75%)	C/D	77	1.17	90.09	
Open Space Good Condition (grass cover >75%)	B/D	71	1.16	82.36	
Open Space Good Condition (grass cover >75%)	A/D	60	0.00	0.00	
Subtotal		79.7	*3.06*	243.99	DCIA %
Non DCIA		74.0	*2.33*	*172.45*	23.86%
Total		**85.1**	**4.85**	**412.57**	

Summary		**85.1**	**4.85**	**412.57**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 8			**DATE**
POND DESIGNATION:	Dry Pond 8 Alt. 2, VFS-8 Alt. 2	**MADE BY:**	CBC	09-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	JW	09-Apr-26

Dry Pond 8 Alt. 2

Dry Retention (for treatment only)				
Stage	**Elevation (Ft)**	**Area (Ac)**	**Inc. Volume (Ac-Ft)**	**Total Volume (Ac-ft)**
Berm (Outside)	NA	0.00		
Berm (Inside)	10.50	0.46	0.18	0.42
Design High Water (DHW)	10.10	0.42	0.00	0.24
Weir (Design Low Water)	10.10	0.42	0.24	**0.24**
Control (wet)/Pond Bottom (dry)	9.50	0.38	0.00	0.00
Seasonal High Ground Water Elevation (SHGWT)*	8.00			

SHGWT Check (Dry Retention): ok

*SHGWT based on soil survey 8

VFS-8 Alt. 2

VFS-8 Alt. 2				
Stage	**Elevation (Ft)**	**Area (Ac)**	**Inc. Volume (Ac-Ft)**	**Total Volume (Ac-ft)**
Berm (Outside)	10.00	0.97		
Berm (Inside)	9.00	0.39	0.34	0.72
Design High Water (DHW)	8.00	0.29	0.24	0.38
Weir (Design Low Water)	7.00	0.19	0.14	**0.14**
Control (wet)/Pond Bottom (dry)	6.00	0.09	0.00	0.00
Seasonal High Ground Water Elevation (SHGWT)*	6.00			

Required Attenuation Volume

Attenuation required?	yes
Frequency	25-yr
Time	24-hr
Precipitation Depth	8.0 in.

1) Soil Storage (S) = (1000/CN) - 10 — S_{pre} = **2.34 in.** — S_{post} = **1.76 in.**

2) Runoff (R) = (P-0.2S)2/(P+0.8S) — Q_{pre} = **5.75 in.** — Q_{post} = **6.22 in.**

3) Runoff Volume (Vr) = R/12 * Area

Pre-Development Runoff	Vr_{pre} =	2.32 ac-ft	*
Post-Development Runoff	Vr_{post} =	2.51 ac-ft	
Attenuation volume required (Post-Pre)		**0.19 ac-ft**	0.13 Acres shifted to Basin 7

*No existing basin discharging to the proposed pond location, therefore, Vr Pre = 0

Total Required Volume (Treatment + Attenuation) ***0.19 ac-ft***

Total Provided Volume ***0.38 ac-ft***

Check Total Volume Requirement: 0.19 is < or = 0.38 **Total Volume Requirement met**

Complete Report (not including cost) Ver 4.3.5

Project: BPC Basin 8 Alt 2 Retention
Date: 4/9/2026 2:17:12 PM

Site and Catchment Information

Analysis: Specified Removal Efficiency

Catchment Name	Basin 8 Alt 2 Dry Retention	Catchment 2 Basin 8 Alt 2
Rainfall Zone	Florida Zone 4	Florida Zone 4
Annual Mean Rainfall	52.00	52.00

Pre-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200
Area (acres)	0.71	4.14
Rational Coefficient (0-1)	0.82	0.24
Non DCIA Curve Number	60.00	74.50
DCIA Percent (0-100)	100.00	20.70
Nitrogen EMC (mg/l)	1.520	1.520
Phosphorus EMC (mg/l)	0.200	0.200
Runoff Volume (ac-ft/yr)	2.532	4.380
Groundwater N (kg/yr)	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000
Nitrogen Loading (kg/yr)	4.746	8.209
Phosphorus Loading (kg/yr)	0.624	1.080

Post-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200
Area (acres)	1.79	3.06
Rational Coefficient (0-1)	0.74	0.27
Non DCIA Curve Number	60.00	74.00
DCIA Percent (0-100)	89.90	23.90
Wet Pond Area (ac)	0.00	0.00
Nitrogen EMC (mg/l)	1.520	1.520
Phosphorus EMC (mg/l)	0.200	0.200
Runoff Volume (ac-ft/yr)	5.773	3.520

Groundwater N (kg/yr)	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000
Nitrogen Loading (kg/yr)	10.819	6.596
Phosphorus Loading (kg/yr)	1.424	0.868

Catchment Number: 1 Name: Basin 8 Alt 2 Dry Retention

Project: BPC Basin 8 Alt 2 Retention
Date: 4/9/2026

Retention Design

Retention Depth (in)	2.000
Retention Volume (ac-ft)	0.298

Watershed Characteristics

Catchment Area (acres)	1.79
Contributing Area (acres)	1.790
Non-DCIA Curve Number	60.00
DCIA Percent	89.90
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	88
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	88

Media Mix Information

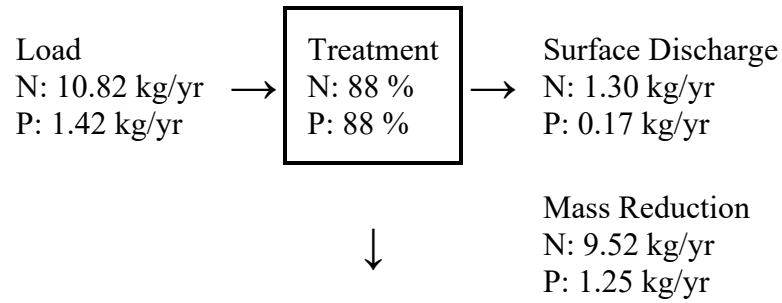
Type of Media Mix	B&G CTS24
Media N Reduction (%)	75
Media P Reduction (%)	95

Groundwater Discharge (Stand-Alone)

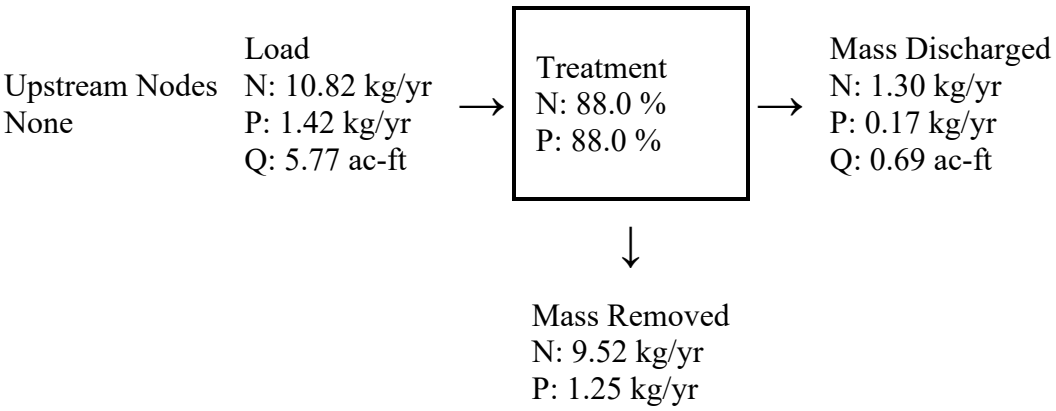
Treatment Rate (MG/yr)	1.656
TN Mass Load (kg/yr)	2.381
TN Concentration (mg/L)	0.380

TP Mass Load (kg/yr)	0.063
TP Concentration (mg/L)	0.010

Load Diagram for Retention (stand-alone)



Load Diagram for Retention (As Used In Routing)



Catchment Number: 2 Name: Catchment 2 Basin 8 Alt 2

Project: BPC Basin 8 Alt 2 Retention
Date: 4/9/2026

Vegetated Filter Strip with media Design

VFS Width (ft)	30.000
VFS Length (ft)	100.000
VFS Depth (ft)	2.000

Width of Area Feeding Buffer (ft)	40.000
Water storage capacity of soil (in/in)	2.000
Slope of VFS (< 20%)	2.000
Annual Capture Percentage	98

Watershed Characteristics

Catchment Area (acres)	3.06
Contributing Area (acres)	0.161
Non-DCIA Curve Number	74.00
DCIA Percent	23.90
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	75
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	94

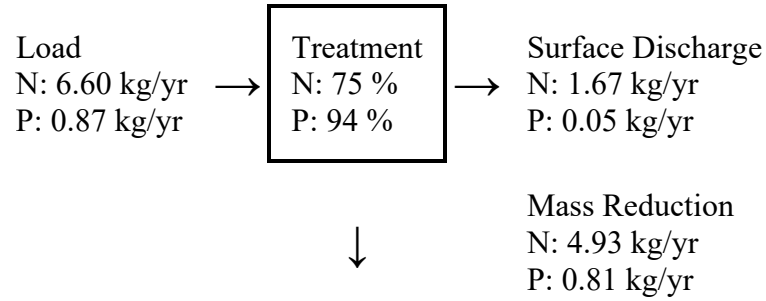
Media Mix Information

Type of Media Mix	B&G CTS24
Media N Reduction (%)	75
Media P Reduction (%)	95

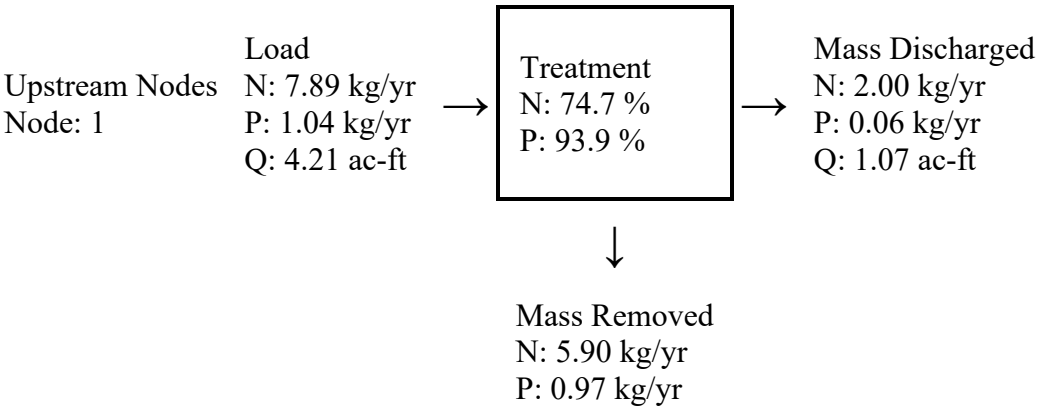
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	1.122
TN Mass Load (kg/yr)	1.614
TN Concentration (mg/L)	0.380
TP Mass Load (kg/yr)	0.042
TP Concentration (mg/L)	0.010

Load Diagram for Vegetated Filter Strip with media (stand-alone)



Load Diagram for Vegetated Filter Strip (As Used In Routing)



Summary Treatment Report Version: 4.3.5

Project: BPC Basin 8 Alt 2 Retention

Analysis Type: Specified Removal Efficiency

Date:4/9/2026

BMP Types:

Catchment 1 - (Basin 8 Alt 2 Dry Retention) Retention

Catchment 2 - (Catchment 2 Basin 8 Alt 2) Vegetated Filter Strip with media

Based on % removal values to the nearest percent

Routing Summary

Catchment 1 Routed to Catchment 2

Catchment 2 Routed to Outlet

Total nitrogen target removal met? **Yes**
Total phosphorus target removal met? **Yes**

Summary Report

Nitrogen

Surface Water Discharge

Total N pre load	12.95 kg/yr	
Total N post load	17.42 kg/yr	
Target N load reduction	80 %	
Target N discharge load	3.48 kg/yr	
Percent N load reduction	89 %	
Provided N discharge load	2 kg/yr	4.4 lb/yr
Provided N load removed	15.42 kg/yr	34 lb/yr

Phosphorus

Surface Water Discharge

Total P pre load	1.705 kg/yr	
Total P post load	2.291 kg/yr	
Target P load reduction	80 %	
Target P discharge load	.458 kg/yr	
Percent P load reduction	97 %	
Provided P discharge load	.064 kg/yr	.14 lb/yr
Provided P load removed	2.228 kg/yr	4.913 lb/yr

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 8			**DATE**
POND DESIGNATION:	Dry Pond 8B Alt. 3, Swale 8 Alt. 3	**MADE BY:**	CBC	09-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**	JW	09-Apr-26

Pre-Development	NRCS				
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**	
Roadway Pre					
Roadside Ditch					
Dry Pond 8B Alt. 3					
Pavement		98	0.71	69.58	DCIA %
Non DCIA			*0.00*	0.00	100.00%
Swale 8 Alt. 3					
Pavement		98	0.65	63.70	
Open Space Good Condition (grass cover >75%)	C/D	77	2.01	154.77	
Open Space Good Condition (grass cover >75%)	B/D	71	1.48	105.08	
Open Space Good Condition (grass cover >75%)	A/D	60	0.00	0.00	
Subtotal		78.2	*4.14*	323.55	DCIA %
Non DCIA		74.5	*3.49*	*259.85*	15.70%
Total		**81.1**	**4.85**	**393.13**	

Summary		**81.1**	**4.85**	**393.13**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 8			**DATE**
POND DESIGNATION:	Dry Pond 8B Alt. 3, Swale 8 Alt. 3	**MADE BY:**	CBC	09-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	JW	09-Apr-26

Post-Development	NRCS				
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**	
Roadway Post					
Dry Pond 8B Alt. 3					
Catchment 1					
Pavement		98	1.61	157.78	DCIA %
Dry Retention	A/D	60.0	*0.18*	10.80	89.94%
Total Catchment 1		**94.2**	**1.79**	**168.58**	
Non DCIA		**60.0**	**0.18**	**10.80**	
Catchment 2					
Pavement		98	0.73	71.54	
Open Space Good Condition (grass cover >75%)	C/D	77	1.17	90.09	
Open Space Good Condition (grass cover >75%)	B/D	71	1.16	82.36	
Open Space Good Condition (grass cover >75%)	A/D	60	0.00	0.00	
Subtotal		79.7	*3.06*	243.99	DCIA %
Non DCIA		74.0	*2.33*	*172.45*	23.86%
Total Catchment 2		**85.1**	**4.85**	**412.57**	

Summary		**85.1**	**4.85**	**412.57**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 8			**DATE**
POND DESIGNATION:	Dry Pond 8B Alt. 3, Swale 8 Alt. 3	**MADE BY:**	CBC	09-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	JW	09-Apr-26

Dry Pond 8B Alt. 3

Stage	Elevation (Ft)	Area (Ac)	Inc. Volume (Ac-Ft)	Total Volume (Ac-ft)
Berm (Outside)	8.50	0.00		
Berm (Inside)	7.80	0.40	0.38	0.93
Design High Water (DHW)	6.80	0.35	0.26	0.55
Weir (Design Low Water)	6.00	0.31	0.29	**0.29**
Control (wet)/Pond Bottom (dry)	5.00	0.27	0.00	0.00
Seasonal High Ground Water Elevation (SHGWT)*	4.00			

SHGWT Check (Dry Retention): ok

*SHGWT based on soil survey 4

Required Attenuation Volume

Attenuation required?	yes
Frequency	25-yr
Time	24-hr
Precipitation Depth	8.0 in.

1) Soil Storage (S) = (1000/CN) - 10 S_{pre} = **2.34 in.** S_{post} = **1.76 in.**

2) Runoff (R) = (P-0.2S)2/(P+0.8S) Q_{pre} = **5.75 in.** Q_{post} = **6.22 in.**

3) Runoff Volume (Vr) = R/12 * Area

Pre-Development Runoff	Vr_{pre} =	2.32 ac-ft	*
Post-Development Runoff	Vr_{post} =	2.51 ac-ft	
Attenuation volume required (Post-Pre)		**0.19 ac-ft**	

*No existing basin discharging to the proposed pond location, therefore, Vr Pre = 0

Total Required Volume (Treatment + Attenuation) ***0.19 ac-ft***

Total Provided Volume ***0.55 ac-ft***

Check Total Volume Requirement: 0.19 is < or = 0.55 **Total Volume Requirement met**

Complete Report (not including cost) Ver 4.3.5

Project: BPC Basin 8 Alt 3 Retention
Date: 4/9/2026 2:34:43 PM

Site and Catchment Information

Analysis: Specified Removal Efficiency

Catchment Name	Dry Pond 8 Alt 3	Catchment 2 Basin 8 Alt 3
Rainfall Zone	Florida Zone 4	Florida Zone 4
Annual Mean Rainfall	52.00	52.00

Pre-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200
Area (acres)	0.71	4.14
Rational Coefficient (0-1)	0.82	0.23
Non DCIA Curve Number	60.00	78.20
DCIA Percent (0-100)	100.00	15.70
Nitrogen EMC (mg/l)	1.520	1.520
Phosphorus EMC (mg/l)	0.200	0.200
Runoff Volume (ac-ft/yr)	2.532	4.098
Groundwater N (kg/yr)	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000
Nitrogen Loading (kg/yr)	4.746	7.680
Phosphorus Loading (kg/yr)	0.624	1.011

Post-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200
Area (acres)	1.79	1.79
Rational Coefficient (0-1)	0.74	0.27
Non DCIA Curve Number	60.00	74.00
DCIA Percent (0-100)	89.90	23.90
Wet Pond Area (ac)	0.00	0.00
Nitrogen EMC (mg/l)	1.520	1.520
Phosphorus EMC (mg/l)	0.200	0.200
Runoff Volume (ac-ft/yr)	5.773	2.059

Groundwater N (kg/yr)	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000
Nitrogen Loading (kg/yr)	10.819	3.859
Phosphorus Loading (kg/yr)	1.424	0.508

Catchment Number: 1 Name: Dry Pond 8 Alt 3

Project: BPC Basin 8 Alt 3 Retention
Date: 4/9/2026

Retention Design

Retention Depth (in)	1.000
Retention Volume (ac-ft)	0.149

Watershed Characteristics

Catchment Area (acres)	1.79
Contributing Area (acres)	1.790
Non-DCIA Curve Number	60.00
DCIA Percent	89.90
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	69
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	69

Media Mix Information

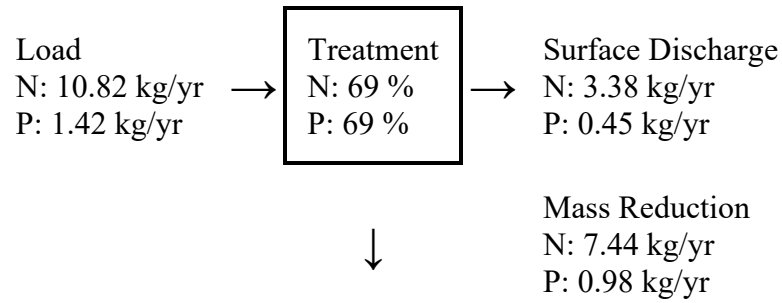
Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

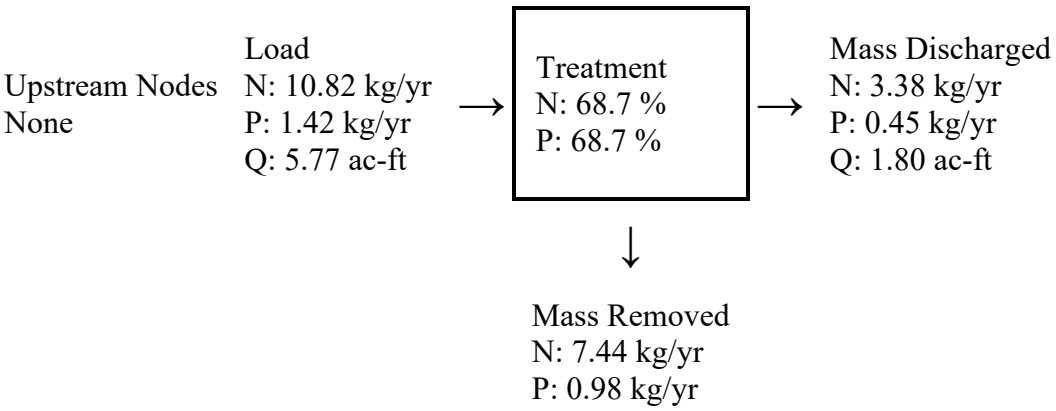
Treatment Rate (MG/yr)	1.227
TN Mass Load (kg/yr)	7.436
TN Concentration (mg/L)	1.520

TP Mass Load (kg/yr)	0.978
TP Concentration (mg/L)	0.200

Load Diagram for Retention (stand-alone)



Load Diagram for Retention (As Used In Routing)



Catchment Number: 2 Name: Catchment 2 Basin 8 Alt 3

Project: BPC Basin 8 Alt 3 Retention
Date: 4/9/2026

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	30.000
Swale Bottom Width - **B** (ft)	15.000
Swale Length - **L** (ft)	200.000

Average Impervious Length (ft)	200.000
Average Impervious Width (ft)	40.000
Average Pervious Width (ft)	30.000
Swale Slope (foot drop/foot length) - **S**	0.200
Mannings N	0.060
Soil Infiltration Rate (in/hr)	6.000
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	100.000
Runoff Area (acres)	0.321
Number of Swale Blocks	2

Watershed Characteristics

Catchment Area (acres)	1.79
Contributing Area (acres)	1.790
Non-DCIA Curve Number	74.00
DCIA Percent	23.90
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	91
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	91

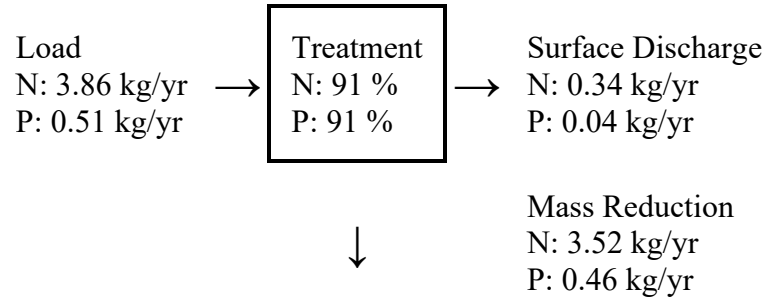
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

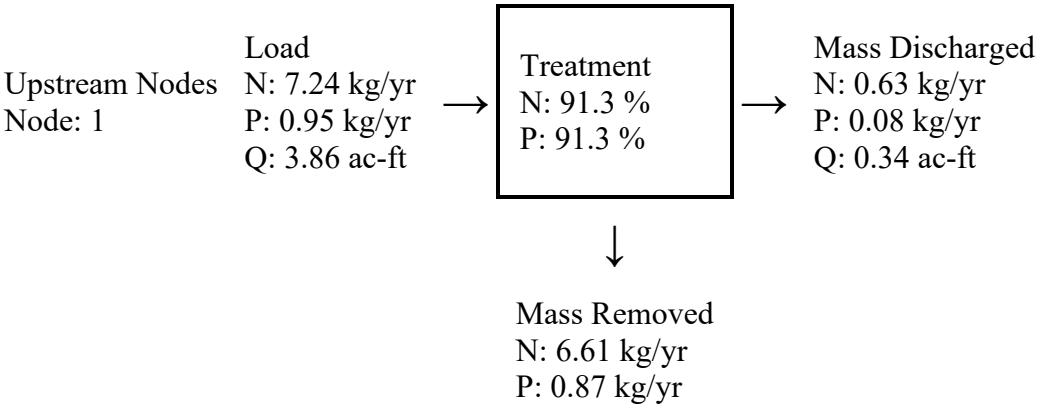
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.630
TN Mass Load (kg/yr)	3.522
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.463
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



Load Diagram for Swale (As Used In Routing)



Summary Treatment Report Version: 4.3.5

Project: BPC Basin 8 Alt 3 Retention

Date:4/9/2026

Analysis Type: Specified Removal Efficiency

BMP Types:

Catchment 1 - (Dry Pond 8 Alt 3) Retention

Catchment 2 - (Catchment 2 Basin 8 Alt 3) Swale

Routing Summary

Catchment 1 Routed to Catchment 2

Catchment 2 Routed to Outlet

Based on % removal values to the nearest percent

Total nitrogen target removal met? **Yes**
Total phosphorus target removal met? **Yes**

Summary Report

Nitrogen

Surface Water Discharge

Total N pre load	12.43 kg/yr	
Total N post load	14.68 kg/yr	
Target N load reduction	80 %	
Target N discharge load	2.94 kg/yr	
Percent N load reduction	96 %	
Provided N discharge load	.63 kg/yr	1.39 lb/yr
Provided N load removed	14.05 kg/yr	30.97 lb/yr

Phosphorus

Surface Water Discharge

Total P pre load	1.635 kg/yr	
Total P post load	1.931 kg/yr	
Target P load reduction	80 %	
Target P discharge load	.386 kg/yr	
Percent P load reduction	96 %	
Provided P discharge load	.083 kg/yr	.18 lb/yr
Provided P load removed	1.848 kg/yr	4.075 lb/yr

Basin 9

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 9			**DATE**
POND DESIGNATION:	Wet Pond 9D, 9E, 9F Alt. 1	**MADE BY:**	JW	07-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**	CC	09-Apr-26

Pre-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Pre				
Outfall 9A				
Basin 9A Alt 3				
Pavement		98	4.50	441.00
Open Space Good Condition (grass cover >75%)	A/D	60	2.68	160.80
Open Space Good Condition (grass cover >75%)	C/D	77	0.00	0.00
Open Space Good Condition (grass cover >75%)	B/D	71	0.89	63.19
Open Space Good Condition (grass cover >75%)	A	39	0.00	0.00
Subtotal		82.4	*8.07*	664.99
Non DCIA		62.7	*3.57*	*223.99*
VB-9A, 9B, 9C, 9D, 9E, 9F Alt. 1				
Pavement		98	0.00	0.00
Open Space Good Condition (grass cover >75%)	A/D	60	0.62	37.20
Open Space Good Condition (grass cover >75%)	B/D	71	0.46	32.66
Wood (good cover)	A/D	51	0.25	12.75
Subtotal		62.1	*1.33*	82.61
Non DCIA		62.1	*1.33*	*82.61*
Wet Pond 9D, 9E, 9F Alt. 1				
Pavement		98	0.00	0.00
Open Space Good Condition (grass cover >75%)	A/D	60	0.30	18.00
Open Space Good Condition (grass cover >75%)	B/D	71	2.02	143.42
Residential, 1/4 arce	B/D	81	1.16	93.96
Subtotal		73.4	*3.48*	255.38
Non DCIA		73.4	*3.48*	255.38
Total		**77.9**	**12.88**	**1002.98**
Non DCIA		**67.1**	**8.38**	**561.98**

Summary		**77.9**	**12.88**	**1002.98**	**DCIA %**
Non DCIA		**67.1**	**8.38**	**561.98**	**34.94%**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.
2. Vegetated buffer areas on this page reflect the additional area beyond the Basin 9 limit, not the actual vegetated buffer size.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 9			**DATE**
POND DESIGNATION:	Wet Pond 9D, 9E, 9F Alt. 1	**MADE BY:**	JW	07-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	CC	09-Apr-26

Post-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Post				
Basin 9 Alt 3				
Pavement		98	9.69	949.62
Open Space Good Condition (grass cover >75%)	A/D	60	0.73	43.80
Open Space Good Condition (grass cover >75%)	C/D	77	0.00	0.00
Open Space Good Condition (grass cover >75%)	B/D	71	0.38	26.98
Open Space Good Condition (grass cover >75%)	A	39	0.00	0.00
Subtotal		94.5	*10.80*	1020.40
Non DCIA		63.8	*1.11*	*70.78*
VB-9A, 9B, 9C, 9D, 9E, 9F Alt. 1				
Pavement		98	0.00	0.00
Open Space Good Condition (grass cover >75%)	A/D	60	0.87	52.20
Open Space Good Condition (grass cover >75%)	B/D	71	0.46	32.66
Subtotal		63.8	*1.33*	84.86
Non DCIA		63.8	*1.33*	*84.86*
Wet Pond 9D, 9E, 9F Alt. 1				
Water		100	1.55	155.00
Open Space Good Condition (grass cover >75%)	A/D	60	0.24	14.40
Open Space Good Condition (grass cover >75%)	B/D	71	1.69	119.99
Subtotal		83.2	*3.48*	289.39
Non DCIA		69.6	*1.93*	134.39
Total		**89.3**	**15.61**	**1394.65**
Non DCIA		**67.3**	**3.26**	**219.25**

Summary		**89.3**	**15.61**	**1394.65**	**DCIA %**
Non DCIA		**67.3**	**3.26**	**219.25**	**62.08%**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.
2. Vegetated buffer areas on this page reflect the additional area beyond the Basin 9 limit, not the actual vegetated buffer size.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 9			**DATE**
POND DESIGNATION:	Wet Pond 9D, 9E, 9F Alt. 1	**MADE BY:**	JW	07-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	CC	09-Apr-26

Wet Pond 9D, 9E, 9F Alt. 1 Stage/Area

Stage	Elevation (Ft)	Area (Ac)	Inc. Volume (Ac-Ft)	Total Volume (Ac-ft)
Berm (Outside)	13.00	3.48	0.00	5.66
Berm (Inside)	13.00	2.22	2.11	5.66
Design High Water (DHW)	12.00	2.00	0.00	3.55
Weir (Design Low Water)	12.00	2.00	3.55	**3.55**
Control (wet)/Pond Bottom (dry)	10.00	1.55	0.00	0.00
Seasonal High Ground Water Elevation (SHGWT)*	10.00			

SHGWT Check (Dry Retention): N/A

*SHGWT based on soil survey

Required Attenuation Volume

Attenuation required?	yes
Frequency	25-yr
Time	24-hr
Precipitation Depth	8.0 in.

1) Soil Storage (S) = (1000/CN) - 10 — S_{pre} = **2.84 in.** — S_{post} = **1.19 in.**

2) Runoff (R) = (P-0.2S)2/(P+0.8S) — Q_{pre} = **5.38 in.** — Q_{post} = **6.73 in.**

3) Runoff Volume (Vr) = R/12 * Area

Pre-Development Runoff (Vr_{pre} =)	5.77	ac-ft
Post-Development Runoff (Vr_{post} =)	8.75	ac-ft
Attenuation volume required (Post-Pre)	**2.98**	**ac-ft**

Total Required Volume (Attenuation) ***2.98 ac-ft***

Total Provided Volume ***3.55 ac-ft***

Check Total Volume Requirement: 2.98 is < or = 3.55 **Total Volume Requirement met**

Complete Report (not including cost) Ver 4.3.5

Project: BPC PD&E
Date: 4/7/2026 9:43:16 PM

Site and Catchment Information

Analysis: Specified Removal Efficiency

Catchment Name	Wet Pond 9D, 9E, 9F Alt. 1
Rainfall Zone	Florida Zone 4
Annual Mean Rainfall	52.00

Pre-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200
Area (acres)	12.88
Rational Coefficient (0-1)	0.33
Non DCIA Curve Number	67.10
DCIA Percent (0-100)	34.94
Nitrogen EMC (mg/l)	1.520
Phosphorus EMC (mg/l)	0.200
Runoff Volume (ac-ft/yr)	18.284
Groundwater N (kg/yr)	0.000
Groundwater P (kg/yr)	0.000
Nitrogen Loading (kg/yr)	34.266
Phosphorus Loading (kg/yr)	4.509

Post-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200

Area (acres)	15.61
Rational Coefficient (0-1)	0.53
Non DCIA Curve Number	67.30
DCIA Percent (0-100)	62.08
Wet Pond Area (ac)	1.55
Nitrogen EMC (mg/l)	1.520
Phosphorus EMC (mg/l)	0.200
Runoff Volume (ac-□t/yr)	32.550
Groundwater N (kg/yr)	0.000
Groundwater P (kg/yr)	0.000
Nitrogen Loading (kg/yr)	61.004
Phosphorus Loading (kg/yr)	8.027

Catchment Number: 1 Name: Wet Pond 9D, 9E, 9F Alt. 1

Project: BPC PD&E
Date: 4/7/2026

Multiple BMP in Series Design Parameters

BMP in Series Number: 1
BMP Type: Vegetated Natural Buffer

Buffer Width (□t)	30.000
Buffer Length (□t)	2,871.760
Storage Depth (□t)	0.900
Width o□Area Feeding Buffer (□t)	163.770

Water storage capacity o soil (in/in)	0.200
Slope o Bu er Width (2%-6%)	3.000

BMP in Series Number: 2
BMP Type: Wet Detention

Permanent Pool Volume (ac- t)	7.390
Permanent Pool Volume (ac- t) or 31 days residence	2.765
Annual Residence Time (days)	83
Littoral Zone Efficiency Credit	35
Wetland Efficiency Credit	

BMP in Series Number: 3
BMP Type: None

BMP in Series Number: 4
BMP Type: None

Watershed Characteristics

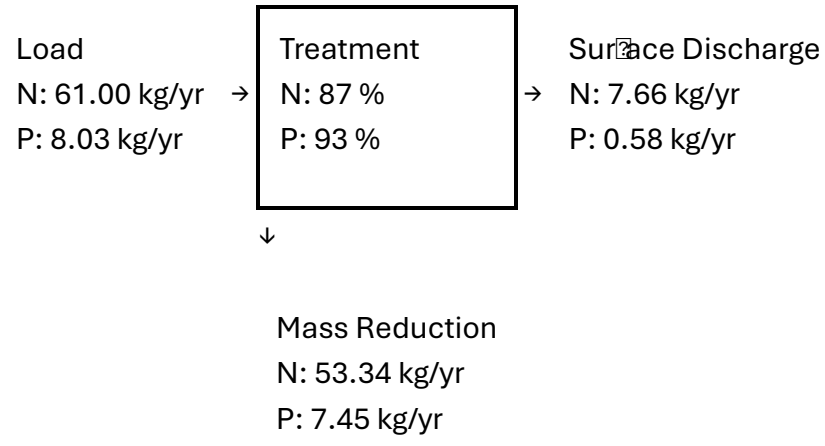
Catchment Area (acres)	15.61
Contributing Area (acres)	14.060
Non-DCIA Curve Number	67.30
DCIA Percent	62.08
Rain all Zone	Florida Zone 4
Rain all (in)	52.00

Surface Water Discharge

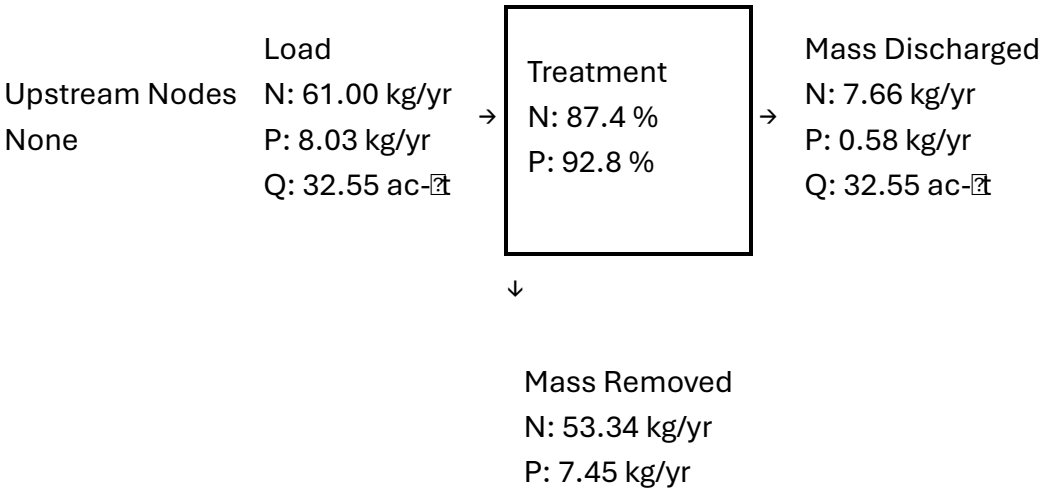
Required TN Treatment Efficiency (%)	80

Provided TN Treatment Efficiency (%)	87
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	93

Load for Multiple BMP in Series



Load Diagram for Multiple BMP (As Used In Routing)



Summary Treatment Report Version: 4.3.5

Project: BPC PD&E

Analysis Type: Specified Removal Efficiency

Date:4/7/2026

BMP Types:

Catchment 1 - (Wet Pond 9D, 9E, 9F Alt. 1) Multiple BMP
Based on % removal values to the nearest percent

Routing Summary

Catchment 1 Routed to Outlet

Total nitrogen target removal met? **Yes**
Total phosphorus target removal met? **Yes**

Summary Report

Nitrogen

Surface Water Discharge

Total N pre load	34.27 kg/yr	
Total N post load	61 kg/yr	
Target N load reduction	80 %	
Target N discharge load	12.2 kg/yr	
Percent N load reduction	87 %	
Provided N discharge load	7.66 kg/yr	16.89 lb/yr
Provided N load removed	53.34 kg/yr	117.62 lb/yr

Phosphorus

Surface Water Discharge

Total P pre load	4.509 kg/yr

Total P post load	8.027 kg/yr	
Target P load reduction	80 %	
Target P discharge load	1.605 kg/yr	
Percent P load reduction	93 %	
Provided P discharge load	.58 kg/yr	1.28 lb/yr
Provided P load removed	7.447 kg/yr	16.42 lb/yr

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 9			**DATE**
POND DESIGNATION:	Dry Pond 9A & 9B Alt 2, Wet Pond 9C Alt 2	**MADE BY:**	JW	07-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**	CC	09-Apr-26

Pre-Development	NRCS				
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**	
Roadway Pre					
Outfall 9A					
Basin 9A Alt 2					
Pavement		98	3.00	294.00	
Open Space Good Condition (grass cover >75%)	A/D	60	1.85	111.00	
Open Space Good Condition (grass cover >75%)	B/D	71	0.88	62.48	
Subtotal		81.6	*5.73*	467.48	
Non DCIA		63.5	*2.73*	*173.48*	
Outfall 9A					
VB-9A, 9B, 9C Alt. 1					
Pavement		98	0.00	0.00	
Open Space Good Condition (grass cover >75%)	A/D	60	0.39	23.40	
Open Space Good Condition (grass cover >75%)	B/D	71	0.46	32.66	
Wood (good cover)	A/D	51	0.00	0.00	
Subtotal		66.0	*0.85*	56.06	
Non DCIA		66.0	*0.85*	*56.06*	
Total (Outfall 9A)		**79.6**	**6.58**	**523.54**	**DCIA %**
Non DCIA (Catchment VB-9A, 9B, 9C Alt. 1 on BMPTrains)		**64.1**	**3.58**	**229.54**	**45.59%**
Outfall 9B					
Basin 9B Alt 2					
Pavement		98	1.51	147.98	
Open Space Good Condition (grass cover >75%)	A/D	60	0.83	49.80	
Open Space Good Condition (grass cover >75%)	B/D	71	0.00	0.00	
Subtotal		84.5	*2.34*	197.78	
Non DCIA		60.0	*0.83*	*49.80*	
Outfall 9B					
Dry Pond 9A&9B Alt. 2					
Pavement		98	0.00	0.00	
Open Space Good Condition (grass cover >75%)	A/D	60	0.91	54.60	
Open Space Good Condition (grass cover >75%)	B/D	71	0.00	0.00	
Open Space Good Condition (grass cover >75%)	C/D	77	0.00	0.00	
Subtotal		60.0	*0.91*	54.60	
Non DCIA		60.0	*0.91*	*54.60*	
Total (Outfall 9B)		**77.7**	**3.25**	**252.38**	**DCIA %**
Non DCIA (Catchment Dry Pond 9A&9B Alt. 2 on BMPTrains)		**60.0**	**1.74**	**104.40**	**46.46%**
Outfall 9 (Ultimate)					
Wet Pond 9C Alt. 2					
Pavement		98	0.00	0.00	
Open Space Good Condition (grass cover >75%)	A/D	60	0.00	0.00	
Open Space Good Condition (grass cover >75%)	B/D	71	1.06	75.26	
Open Space Good Condition (grass cover >75%)	C/D	77	0.77	59.29	
Subtotal		73.5	*1.83*	134.55	
Non DCIA		73.5	*1.83*	*134.55*	
Total (Outfall 9 Ultimate)		**73.5**	**1.83**	**134.55**	**DCIA %**
Non DCIA (Catchment Wet Pond 9C Alt. 2 on BMPTrains)		**73.5**	**1.83**	**134.55**	**0.00%**

Summary		**78.1**	**11.66**	**910.47**
Non DCIA		**65.5**	**7.15**	**468.49**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.
2. Vegetated buffer areas on this page reflect the additional area beyond the Basin 9 limit, not the actual vegetated buffer size.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 9			**DATE**
POND DESIGNATION:	Dry Pond 9A & 9B Alt 2, Wet Pond 9C Alt 2	**MADE BY:**	JW	07-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	CC	09-Apr-26

Post-Development	NRCS				
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**	
Roadway Post					
Outfall 9A					
Basin 9A Alt 2					
Pavement		98	7.56	740.88	
Open Space Good Condition (grass cover >75%)	A/D	60	0.91	54.60	
Open Space Good Condition (grass cover >75%)	C/D	77	0.00	0.00	
Open Space Good Condition (grass cover >75%)	B/D	71	0.84	59.64	
Open Space Good Condition (grass cover >75%)	A	39	0.00	0.00	
Subtotal		91.8	*9.31*	855.12	
Non DCIA		65.3	*1.75*	*114.24*	
VB-9A, 9B, 9C Alt. 1					
Pavement		98	0.00	0.00	
Open Space Good Condition (grass cover >75%)	A/D	60	0.39	23.40	
Open Space Good Condition (grass cover >75%)	B/D	71	0.46	32.66	
Wood (good cover)	A/D	51	0.00	0.00	
Subtotal		66.0	*0.85*	56.06	
Non DCIA		66.0	*0.85*	*56.06*	
Total (Outfall 9A)		**89.7**	**10.16**	**911.18**	**DCIA %**
Non DCIA (Catchment VB-9A, 9B, 9C Alt. 1 on BMPTrains)		**65.5**	**2.60**	**170.30**	**74.41%**
Outfall 9B					
Basin 9B Alt 2					
Pavement		98	2.14	209.72	
Open Space Good Condition (grass cover >75%)	A/D	60	0.20	12.00	
Open Space Good Condition (grass cover >75%)	C/D	77	0.00	0.00	
Open Space Good Condition (grass cover >75%)	B/D	71	0.00	0.00	
Open Space Good Condition (grass cover >75%)	A	39	0.00	0.00	
Subtotal		94.8	*2.34*	221.72	
Non DCIA		60.0	*0.20*	*12.00*	
Outfall 9B					
Dry Pond 9A&9B Alt 2					
Water		100	0.00	0.00	
Open Space Good Condition (grass cover >75%)	A/D	60	0.91	54.60	
Open Space Good Condition (grass cover >75%)	B/D	71	0.00	0.00	
Open Space Good Condition (grass cover >75%)	C/D	77	0.00	0.00	
Subtotal		60.0	*0.91*	54.60	
Non DCIA		60.0	*0.91*	*54.60*	
Total (Outfall 9B)		**85.0**	**3.25**	**276.32**	**DCIA %**
Non DCIA (Catchment Dry Pond 9A&9B Alt. 2 on BMPTrains)		**60.0**	**1.11**	**66.60**	**65.85%**
Outfall 9 (Ultimate)					
Wet Pond 9C Alt 2					
Water		100	1.10	110.00	
Open Space Good Condition (grass cover >75%)	A/D	60	0.00	0.00	
Open Space Good Condition (grass cover >75%)	B/D	71	0.45	31.95	
Open Space Good Condition (grass cover >75%)	C/D	77	0.28	21.56	
Subtotal		89.3	*1.83*	163.51	
Non DCIA		73.3	*0.73*	*53.51*	
Total (Outfall 9 Ultimate)		**89.3**	**1.83**	**163.51**	**DCIA %**
Non DCIA (Catchment Wet Pond 9C Alt. 2 on BMPTrains)		**73.3**	**0.73**	**53.51**	**0.00%**
Summary		**88.6**	**15.24**	**1351.01**	

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.
2. Vegetated buffer areas on this page reflect the additional area beyond the Basin 9 limit, not the actual vegetated buffer size.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 9			**DATE**
POND DESIGNATION:	Dry Pond 9A & 9B Alt 2, Wet Pond 9C Alt 2	**MADE BY:**	JW	07-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	CC	09-Apr-26

Wet Pond 9C Alt 2 Stage/Area

Stage	Elevation (Ft)	Area (Ac)	Inc. Volume (Ac-Ft)	Total Volume (Ac-ft)
Berm (Outside)	12.00	1.83	0.00	4.48
Berm (Inside)	12.00	1.35	1.31	4.48
Design High Water (DHW)	11.00	1.27	0.00	3.17
Weir (Design Low Water)	11.00	1.27	3.17	**3.17**
Control (wet)/Pond Bottom (dry)	8.25	1.04	0.00	0.00
Seasonal High Ground Water Elevation (SHGWT)*	8.25			

SHGWT Check (Dry Retention): N/A

*SHGWT based on soil survey

Dry Pond 9A&9B Alt 2 Stage/Area

Stage	Elevation (Ft)	Area (Ac)	Inc. Volume (Ac-Ft)	Total Volume (Ac-ft)
Berm (Outside)	14.00	0.91	0.00	0.81
Berm (Inside)	14.00	0.50	0.45	0.81
Design High Water (DHW)	13.00	0.41	0.00	0.36
Weir (Design Low Water)	13.00	0.41	0.36	**0.36**
Control (wet)/Pond Bottom (dry)	12.00	0.31	0.00	0.00
Seasonal High Ground Water Elevation (SHGWT)*	11.00			

SHGWT Check (Dry Retention): ok

*SHGWT based on soil survey

Required Attenuation Volume

Attenuation required?	yes
Frequency	25-yr
Time	24-hr
Precipitation Depth	8.0 in.

1) Soil Storage (S) = (1000/CN) - 10 — S_{pre} = **2.81 in.** — S_{post} = **1.28 in.**

2) Runoff (R) = (P-0.2S)2/(P+0.8S) — Q_{pre} = **5.40 in.** — Q_{post} = **6.65 in.**

3) Runoff Volume (Vr) = R/12 * Area

Pre-Development Runoff	Vr_{pre} =	5.25	ac-ft *
Post-Development Runoff	Vr_{post} =	8.44	ac-ft
Attenuation volume required (Post-Pre)		**3.19**	**ac-ft**

Total Required Volume (Attenuation) ***3.19 ac-ft***

Total Provided Volume ***3.53 ac-ft***

Check Total Volume Requirement: 3.19 is < or = 3.53 **Total Volume Requirement met**

Complete Report (not including cost) Ver 4.3.5

Project: BPC PD&E
Date: 4/8/2026 8:19:33 AM

Site and Catchment Information

Analysis: Specified Removal Efficiency

Catchment Name	VB-9A, 9B, 9C Alt. 1	Dry Pond 9A&9B Alt. 2	Basin 9 Alt 2 Wet
Rainfall Zone	Florida Zone 4	Florida Zone 4	Florida Zone 4
Annual Mean Rainfall	52.00	52.00	52.00

Pre-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200	Rangeland/Parkland: TN=1.150 TP=0.055
Area (acres)	6.58	3.25	1.83
Rational Coefficient (0-1)	0.40	0.40	0.09
Non DCIA Curve Number	64.10	60.00	73.50
DCIA Percent (0-100)	45.59	46.46	0.00
Nitrogen EMC (mg/l)	1.520	1.520	1.150
Phosphorus EMC (mg/l)	0.200	0.200	0.055
Runoff Volume (ac-ft/yr)	11.498	5.695	0.702

Groundwater N (kg/yr)	0.000	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000	0.000
Nitrogen Loading (kg/yr)	21.549	10.674	0.995
Phosphorus Loading (kg/yr)	2.835	1.404	0.048

Post-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200	Rangeland/Parkland: TN=1.150 TP=0.055
Area (acres)	10.16	3.25	1.83
Rational Coefficient (0-1)	0.63	0.56	0.09
Non DCIA Curve Number	65.50	60.00	73.30
DCIA Percent (0-100)	74.41	65.85	0.00
Wet Pond Area (ac)	0.00	0.00	1.10
Nitrogen EMC (mg/l)	1.520	1.520	1.150
Phosphorus EMC (mg/l)	0.200	0.200	0.055
Runoff Volume (ac-?t/yr)	27.597	7.825	0.277
Groundwater N (kg/yr)	0.000	0.000	0.000

Groundwater P (kg/yr)	0.000	0.000	0.000
Nitrogen Loading (kg/yr)	51.721	14.666	0.392
Phosphorus Loading (kg/yr)	6.805	1.930	0.019

Catchment Number: 1 Name: VB-9A, 9B, 9C Alt. 1

Project: BPC PD&E
Date: 4/8/2026

Vegetated Natural Buffer with media Design

Buffer Width (ft)	30.000
Buffer Length (ft)	1,972.120
Storage Depth (ft)	0.900
Width of Area Feeding Buffer (ft)	156.830
Water storage capacity of soil (in/in)	0.200
Slope of Buffer Width (2%-6%)	3.000

Watershed Characteristics

Catchment Area (acres)	10.16
Contributing Area (acres)	10.160
Non-DCIA Curve Number	65.50
DCIA Percent	74.41
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	69
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	60

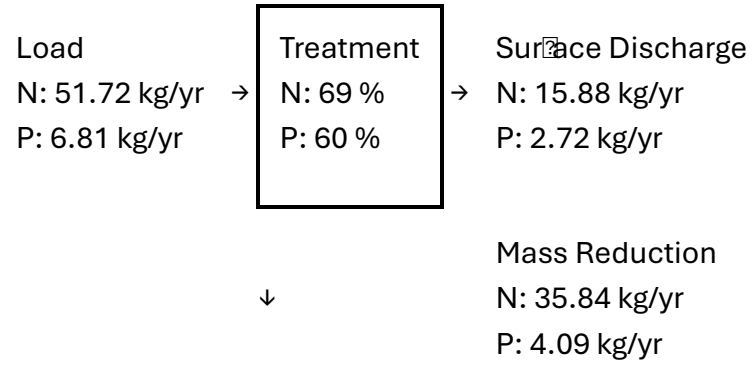
Media Mix Information

Type o Media Mix	B&G ECT3
Media N Reduction (%)	45
Media P Reduction (%)	45

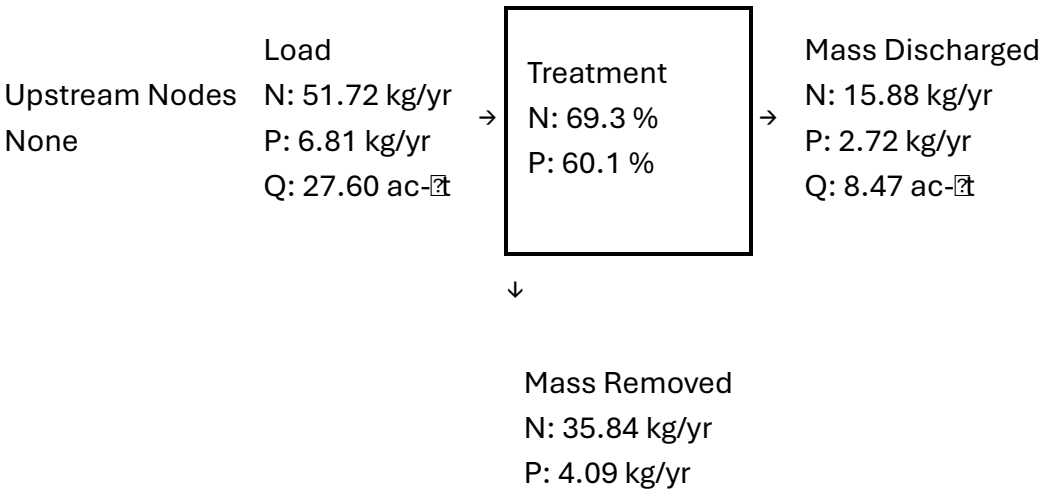
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	3.470
TN Mass Load (kg/yr)	10.975
TN Concentration (mg/L)	0.836
TP Mass Load (kg/yr)	1.444
TP Concentration (mg/L)	0.110

Load Diagram for Vegetated Natural Buffer with media (stand-alone)



Load Diagram for Vegetated Natural Buffer (As Used In Routing)



Catchment Number: 2 Name: Dry Pond 9A&9B Alt. 2

Project: BPC PD&E
Date: 4/8/2026

Retention Design

Retention Depth (in)	1.330
Retention Volume (ac-ft)	0.360

Watershed Characteristics

Catchment Area (acres)	3.25
Contributing Area (acres)	3.250
Non-DCIA Curve Number	60.00
DCIA Percent	65.85
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	84
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	84

Media Mix Information

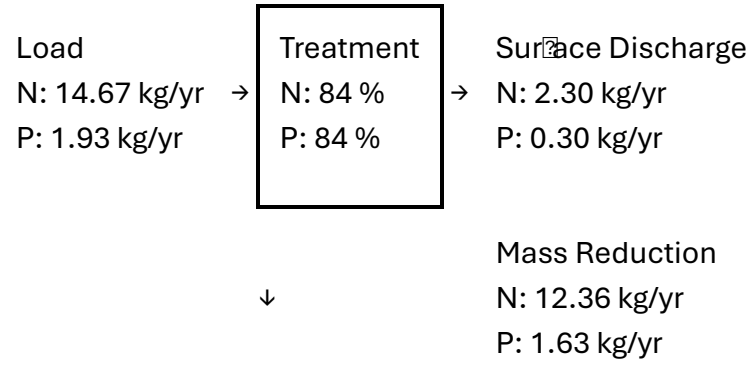
Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

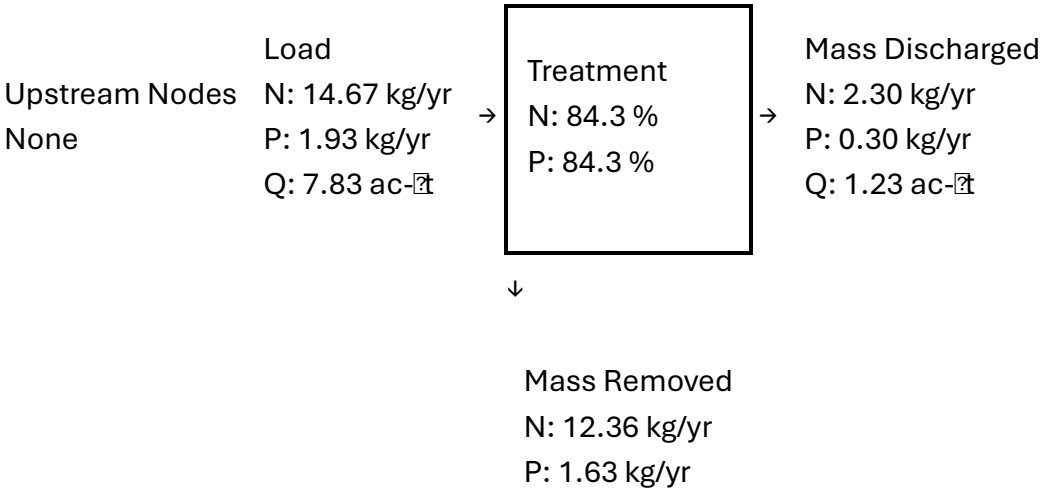
Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	12.361

TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	1.626
TP Concentration (mg/L)	0.000

Load Diagram for Retention (stand-alone)



Load Diagram for Retention (As Used In Routing)



Catchment Number: 3 Name: Basin 9 Alt 2 Wet

Project: BPC PD&E
Date: 4/8/2026

Wet Detention with Littoral Shelf Design

Permanent Pool Volume (ac-ft)	5.300
Permanent Pool Volume (ac-ft) for 31 days residence	0.024
Annual Residence Time (days)	6989
Littoral Zone Efficiency Credit	35
Wetland Efficiency Credit	

Watershed Characteristics

Catchment Area (acres)	1.83
Contributing Area (acres)	0.730
Non-DCIA Curve Number	73.30
DCIA Percent	0.00
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	63
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	94

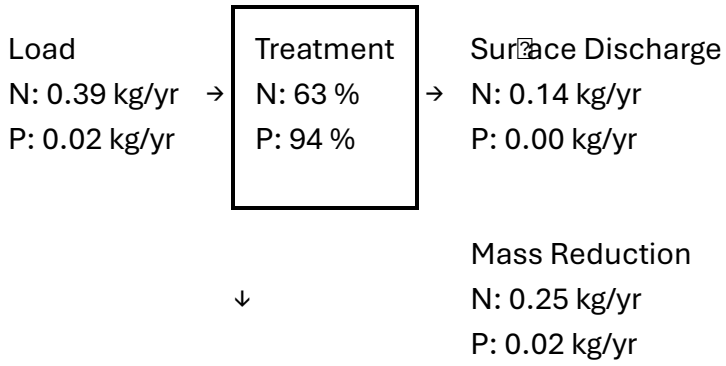
Media Mix Information

Type o Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

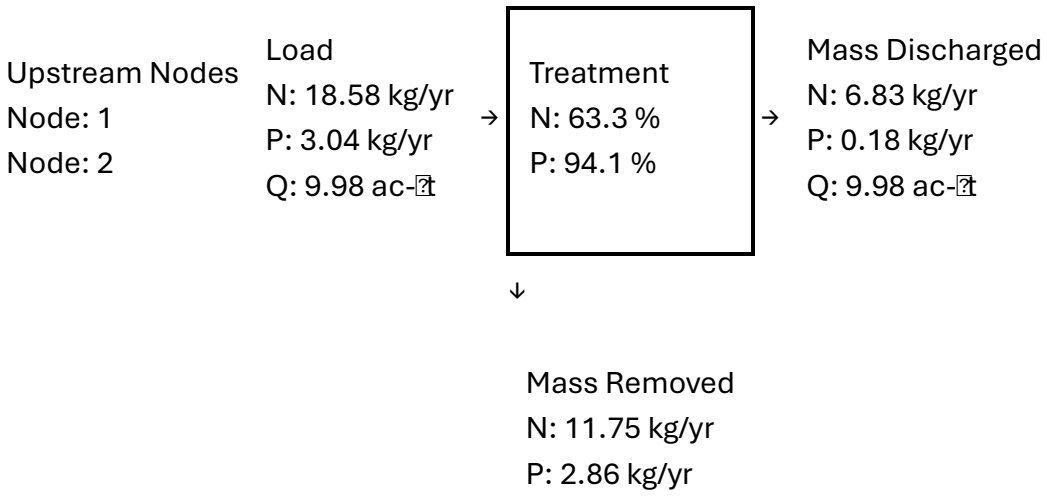
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000
TP Concentration (mg/L)	0.000

Load Diagram for Wet Detention with Littoral Shelf (stand-alone)



Load Diagram for Wet Detention (As Used In Routing)



Summary Treatment Report Version: 4.3.5

Project: BPC PD&E

Analysis Type: Specified Removal Efficiency	Date:4/8/2026
BMP Types:	
Catchment 1 - (VB-9A, 9B, 9C Alt. 1) Vegetated Natural Buffer with media	**Routing Summary** Catchment 1 Routed to Catchment 3
Catchment 2 - (Dry Pond 9A&9B Alt. 2) Retention	Catchment 2 Routed to Catchment 3
Catchment 3 - (Basin 9 Alt 2 Wet) Wet Detention with Littoral Shel	Catchment 3 Routed to Outlet
Based on % removal values to the nearest percent	

Total nitrogen target removal met? **Yes**
Total phosphorus target removal met? **Yes**

Summary Report

Nitrogen

Surface Water Discharge

Total N pre load	33.22 kg/yr	
Total N post load	66.78 kg/yr	
Target N load reduction	80 %	
Target N discharge load	13.36 kg/yr	
Percent N load reduction	90 %	
Provided N discharge load	6.83 kg/yr	15.05 lb/yr
Provided N load removed	59.95 kg/yr	132.2 lb/yr

Phosphorus

Surface Water Discharge

Total P pre load	4.287 kg/yr	
Total P post load	8.754 kg/yr	
Target P load reduction	80 %	
Target P discharge load	1.751 kg/yr	
Percent P load reduction	98 %	
Provided P discharge load	.179 kg/yr	.39 lb/yr
Provided P load removed	8.575 kg/yr	18.908 lb/yr

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 9			**DATE**
POND DESIGNATION:	Dry Pond 9 Alt. 3	**MADE BY:**	JW	08-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**	CC	08-Apr-26

Pre-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Pre				
Outfall 9				
Basin 9				
Pavement		98	4.50	441.00
Open Space Good Condition (grass cover >75%)	A/D	60	2.68	160.80
Open Space Good Condition (grass cover >75%)	C/D	77	0.00	0.00
Open Space Good Condition (grass cover >75%)	B/D	71	0.89	63.19
Open Space Good Condition (grass cover >75%)	A	39	0.00	0.00
Subtotal		82.4	*8.07*	664.99
Non DCIA		62.7	*3.57*	*223.99*
Dry Pond 9 Alt. 3				
Pavement		98	0.54	52.92
Open Space Good Condition (grass cover >75%)	A/D	60	0.43	25.80
Open Space Good Condition (grass cover >75%)	B/D	71	2.00	142.00
Open Space Good Condition (grass cover >75%)	C/D	77	1.22	93.94
Subtotal		75.1	*4.19*	314.66
Non DCIA		75.1	*4.19*	*314.66*
Total		**79.9**	**12.26**	**979.65**
Non DCIA		**69.4**	**7.76**	**538.65**

Summary		**79.9**	**12.26**	**979.65**	**DCIA %**
Non DCIA		**69.4**	**7.76**	**538.65**	**36.70%**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 9			**DATE**
POND DESIGNATION:	Dry Pond 9 Alt. 3	**MADE BY:**	JW	08-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	CC	08-Apr-26

Post-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Post				
Basin 9				
Pavement		98	9.69	949.62
Open Space Good Condition (grass cover >75%)	A/D	60	0.73	43.80
Open Space Good Condition (grass cover >75%)	C/D	77	0.00	0.00
Open Space Good Condition (grass cover >75%)	B/D	71	0.38	26.98
Open Space Good Condition (grass cover >75%)	A	39	0.00	0.00
Subtotal		94.5	*10.80*	1020.40
Non DCIA		63.8	*1.11*	*70.78*
Dry Pond 9 Alt. 3				
Pavement		98	0.00	0.00
Open Space Good Condition (grass cover >75%)	A/D	60	0.85	51.00
Open Space Good Condition (grass cover >75%)	B/D	71	2.08	147.68
Open Space Good Condition (grass cover >75%)	C/D	77	1.26	97.02
Subtotal		70.6	*4.19*	295.70
Non DCIA		70.6	*4.19*	*295.70*
Total		**87.8**	**14.99**	**1316.10**
Non DCIA		**69.1**	**5.30**	**366.48**

Summary		**87.8**	**14.99**	**1316.10**	**DCIA %**
Non DCIA		**69.1**	**5.30**	**366.48**	**64.64%**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 9			**DATE**
POND DESIGNATION:	Dry Pond 9 Alt. 3	**MADE BY:**	JW	08-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	CC	08-Apr-26

Dry Pond 9 Alt. 3 Stage/Area

Stage	Elevation (Ft)	Area (Ac)	Inc. Volume (Ac-Ft)	Total Volume (Ac-ft)
Berm (Outside)	12.00	4.19	0.00	8.11
Berm (Inside)	12.00	3.43	3.36	8.11
Design High Water (DHW)	11.00	3.28	0.00	4.76
Weir (Design Low Water)	11.00	3.28	4.76	**4.76**
Control (wet)/Pond Bottom (dry)	9.50	3.06	0.00	0.00
Seasonal High Ground Water Elevation (SHGWT)*	8.25			

SHGWT Check (Dry Retention): ok

*SHGWT based on soil survey

Required Attenuation Volume

Attenuation required?	yes
Frequency	25-yr
Time	24-hr
Precipitation Depth	8.0 in.

1) Soil Storage (S) = (1000/CN) - 10 — S_{pre} = **2.51 in.** — S_{post} = **1.39 in.**

2) Runoff (R) = (P-0.2S)2/(P+0.8S) — Q_{pre} = **5.61 in.** — Q_{post} = **6.54 in.**

3) Runoff Volume (Vr) = R/12 * Area

Pre-Development Runoff	Vr_{pre} =	5.74 ac-ft
Post-Development Runoff	Vr_{post} =	8.17 ac-ft
Attenuation volume required (Post-Pre)		**2.44 ac-ft**

Total Required Volume (Attenuation) — ***2.44 ac-ft***

Total Provided Volume — ***4.76 ac-ft***

Check Total Volume Requirement: 2.44 is < or = 4.76 **Total Volume Requirement met**

Complete Report (not including cost) Ver 4.3.5

Project: BPC PD&E
Date: 4/8/2026 8:32:04 AM

Site and Catchment Information

Analysis: Specified Removal Efficiency

Catchment Name	Dry Pond 9 Alt. 3	
Rainfall Zone	Florida Zone 4	Florida Zone 4
Annual Mean Rainfall	52.00	52.00

Pre-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200	Low-Density Residential: TN=1.645 TP= 0.27
Area (acres)	12.26	0.00
Rational Coefficient (0-1)	0.35	0.00
Non DCIA Curve Number	69.40	29.90
DCIA Percent (0-100)	36.70	0.00
Nitrogen EMC (mg/l)	1.520	1.645
Phosphorus EMC (mg/l)	0.200	0.270
Runoff Volume (ac-ft/yr)	18.394	0.000
Groundwater N (kg/yr)	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000
Nitrogen Loading (kg/yr)	34.473	0.000

Phosphorus Loading (kg/yr)	4.536	0.000

Post-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200	Rangeland/Parkland: TN=1.150 TP=0.055
Area (acres)	14.99	0.00
Rational Coefficient (0-1)	0.56	0.00
Non DCIA Curve Number	69.10	29.90
DCIA Percent (0-100)	64.64	0.00
Wet Pond Area (ac)	0.00	0.00
Nitrogen EMC (mg/l)	1.520	1.150
Phosphorus EMC (mg/l)	0.200	0.055
Runoff Volume (ac-□t/yr)	36.127	0.000
Groundwater N (kg/yr)	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000
Nitrogen Loading (kg/yr)	67.708	0.000
Phosphorus Loading (kg/yr)	8.909	0.000

Catchment Number: 1 Name: Dry Pond 9 Alt. 3

Project: BPC PD&E
Date: 4/8/2026

Retention Design

Retention Depth (in)	3.811
Retention Volume (ac-ft)	4.760

Watershed Characteristics

Catchment Area (acres)	14.99
Contributing Area (acres)	14.990
Non-DCIA Curve Number	69.10
DCIA Percent	64.64
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	98
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	98

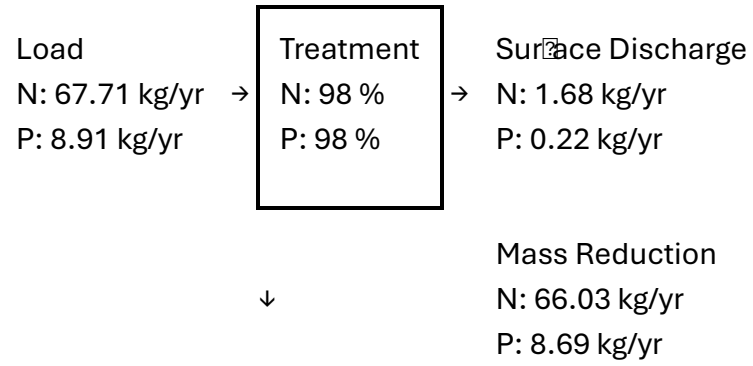
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

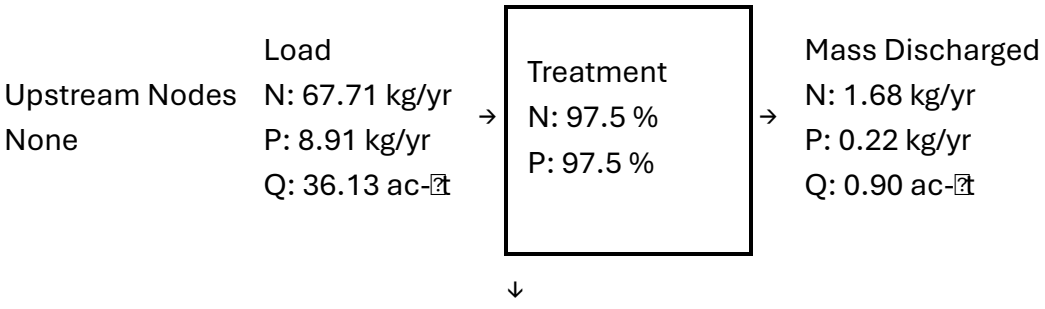
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	66.027
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	8.688
TP Concentration (mg/L)	0.000

Load Diagram for Retention (stand-alone)



Load Diagram for Retention (As Used In Routing)



Mass Removed
N: 66.03 kg/yr
P: 8.69 kg/yr

Catchment Number: 2 Name:

Project: BPC PD&E
Date: 4/8/2026

None Design

Watershed Characteristics

Catchment Area (acres)	0.00
Contributing Area (acres)	0.000
Non-DCIA Curve Number	29.90
DCIA Percent	0.00
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	

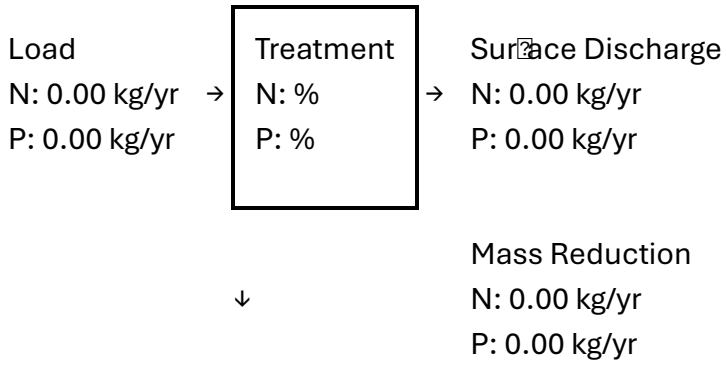
Media Mix Information

Type o Media Mix	Not Specified
Media N Reduction (%)	0.000
Media P Reduction (%)	0.000

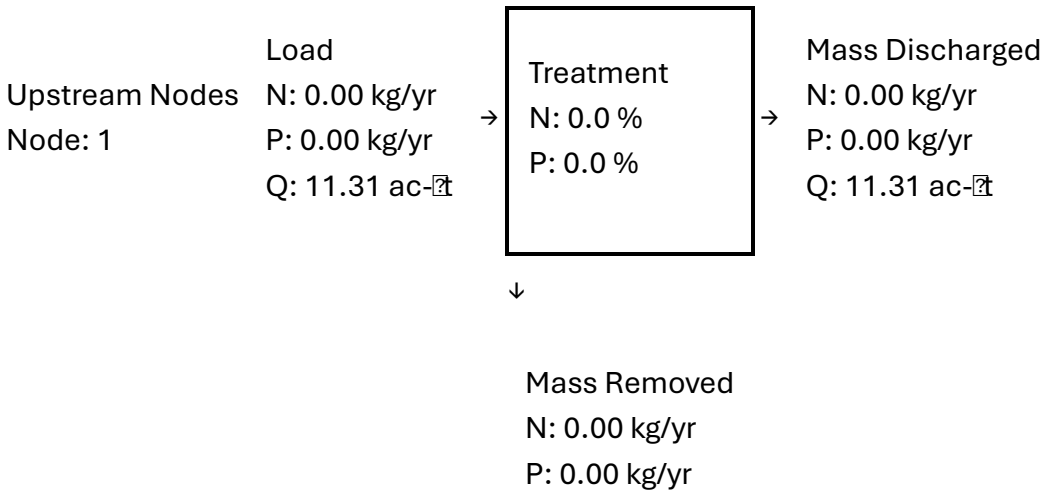
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000
TP Concentration (mg/L)	0.000

Load Diagram for None (stand-alone)



Load Diagram for (As Used In Routing)



Summary Treatment Report Version: 4.3.5

Project: BPC PD&E

Analysis Type: Specified Removal Efficiency

Date:4/8/2026

BMP Types:

Catchment 1 - (Dry Pond 9 Alt. 3) Retention

Catchment 2 - () None

Based on % removal values to the nearest percent

Routing Summary

Catchment 1 Routed to Outlet

Catchment 2 Routed to Outlet

Total nitrogen target removal met? **Yes**

Total phosphorus target removal met? **Yes**

Summary Report

Nitrogen

Surface Water Discharge

Total N pre load	34.47 kg/yr
Total N post load	67.71 kg/yr
Target N load reduction	80 %

Target N discharge load	13.54 kg/yr	
Percent N load reduction	98 %	
Provided N discharge load	1.68 kg/yr	3.71 lb/yr
Provided N load removed	66.03 kg/yr	145.59 lb/yr

Phosphorus

Surface Water Discharge

Total P pre load	4.536 kg/yr	
Total P post load	8.909 kg/yr	
Target P load reduction	80 %	
Target P discharge load	1.782 kg/yr	
Percent P load reduction	98 %	
Provided P discharge load	.221 kg/yr	.49 lb/yr
Provided P load removed	8.688 kg/yr	19.157 lb/yr

Basin 10

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 10			**DATE**
POND DESIGNATION:	Baffle Swale 10 Alt 1, Wet Pond 10 Alt 1	**MADE BY:**	MS	07-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**	CC	07-Apr-26

Pre-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Pre				
Outfall 10				
Basin 10				
Pavement		98.0	5.57	545.86
Open Space Good Condition (grass cover >75%)	A	39.0	0.02	0.82
Open Space Good Condition (grass cover >75%)	A/D	60.0	2.94	176.40
Subtotal		84.8	*8.53*	723.08
Non DCIA		59.9	*2.96*	177.22
Basin 10 Offsite				
Residential Area, 1/2 acres	A/D	82.0	3.61	296.02
Subtotal		82.0	*3.61*	296.02
Non DCIA		82.0	*3.61*	296.02
Baffle Swale 10 Alt 1				
Woods, Grass Combination	A/D	79.0	1.56	123.24
Subtotal		79.0	*1.56*	123.24
Non DCIA		79.0	*1.56*	123.24
Wet Pond 10 Alt 1				
Woods, Grass Combination	A/D	79.0	1.57	123.87
Residential Area, 1/2 acres	A/D	82.0	*0.71*	57.98
Subtotal		79.9	*2.28*	181.85
Non DCIA		79.9	*2.28*	181.85
Total		**82.9**	**15.98**	**1324.19**
Non DCIA		**74.8**	**10.41**	**778.33**

Summary		**82.9**	**15.98**	**1324.19**	**DCIA %**
Non DCIA		**74.8**	**10.41**	**778.33**	**34.86%**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 10			**DATE**
POND DESIGNATION:	Baffle Swale 10 Alt 1, Wet Pond 10 Alt 1	**MADE BY:**	MS	07-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	CC	07-Apr-26

Post-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Post				
Outfall 10				
Basin 10				
Pavement		98.0	8.65	847.90
Open Space Good Condition (grass cover >75%)	A	39.0	0.16	6.34
Open Space Good Condition (grass cover >75%)	A/D	60.0	3.59	215.28
Subtotal		86.2	*12.40*	1069.51
Non DCIA		59.1	*3.75*	221.62
Basin 10 Offsite				
Residential Area, 1/2 acres	A/D	82.0	3.61	296.02
Subtotal		82.0	*3.61*	296.02
Non DCIA		82.0	*3.61*	296.02
Baffle Swale 10 Alt 1				
Open Space Good Condition (grass cover >75%)	A/D	60.0	1.56	93.85
Subtotal		60.0	*1.56*	93.85
Non DCIA		60.0	*1.56*	93.85
Wet Pond 10 Alt 1				
Open Space Good Condition (grass cover >75%)	A/D	60.0	1.35	81.00
Water		100.0	0.93	92.60
Subtotal		76.3	*2.28*	173.60
Non DCIA		60.0	*1.35*	81.00
Total		**82.3**	**19.85**	**1632.98**
Non DCIA		**67.4**	**10.27**	**692.48**

Summary		**82.3**	**19.85**	**1632.98**	**DCIA %**
Non DCIA		**67.4**	**10.27**	**692.48**	**43.58%**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 10			**DATE**
POND DESIGNATION:	Baffle Swale 10 Alt 1, Wet Pond 10 Alt 1	**MADE BY:**	MS	07-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	CC	05-Nov-24

Wet Pond10 Alt1 Stage/Area

Stage	Elevation (Ft)	Area (Ac)	Inc. Volume (Ac-Ft)	Total Volume (Ac-ft)
Berm (Outside)	16.00	2.27	2.02	6.83
Berm (Inside)	15.00	1.77	1.71	4.81
Design High Water (DHW)	14.00	1.65	0.81	3.10
Weir (Design Low Water)	13.50	1.58	2.30	**2.30**
Control (wet)/Pond Bottom (dry)	12.00	1.48	0.00	0.00
Seasonal High Ground Water Elevation (SHGWT)*	12.00			

SHGWT Check (Dry Retention): N/A

*SHGWT based on soil survey

Required Attenuation Volume

Attenuation required?	yes
Frequency	25-yr
Time	24-hr
Precipitation Depth	8.8 in.

1) Soil Storage (S) = (1000/CN) - 10 S_{pre} = **2.06 in.** S_{post} = **2.16 in.**

2) Runoff (R) = (P-0.2S)2/(P+0.8S) Q_{pre} = **6.72 in.** Q_{post} = **6.64 in.**

3) Runoff Volume (Vr) = R/12 * Area

Pre-Development Runoff	Vr_{pre} =	8.95 ac-ft	*
Post-Development Runoff	Vr_{post} =	10.99 ac-ft	
Attenuation volume required (Post-Pre)		**2.04 ac-ft**	

*No existing basin discharging to the proposed pond location, therefore, Vr Pre = 0

Total Required Volume (Treatment + Attenuation) ***2.04 ac-ft***

Total Provided Volume ***3.10 ac-ft***

Check Total Volume Requirement: 2.04 is < or = 3.10 **Total Volume Requirement met**

Complete Report (not including cost) Ver 4.3.5

Project: Basin10_A1
Date: 4/8/2026 9:15:37 PM

Site and Catchment Information

Analysis: Specified Removal Efficiency

Catchment Name	Baffle Swale 10 Alt 1, Wet Pond 10 Alt 1	Basin 10 Offsite
Rainfall Zone	Florida Zone 4	Florida Zone 4
Annual Mean Rainfall	52.00	52.00

Pre-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200	Low-Density Residential: TN=1.645 TP= 0.27
Area (acres)	15.98	0.00
Rational Coefficient (0-1)	0.35	0.00
Non DCIA Curve Number	74.80	29.90
DCIA Percent (0-100)	34.86	0.00
Nitrogen EMC (mg/l)	1.520	1.645
Phosphorus EMC (mg/l)	0.200	0.270
Runoff Volume (ac-ft/yr)	24.125	0.000
Groundwater N (kg/yr)	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000

Nitrogen Loading (kg/yr)	45.214	0.000
Phosphorus Loading (kg/yr)	5.949	0.000

Post-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200	Low-Density Residential: TN=1.645 TP= 0.27
Area (acres)	19.85	0.00
Rational Coefficient (0-1)	0.39	0.00
Non DCIA Curve Number	66.80	29.90
DCIA Percent (0-100)	43.58	0.00
Wet Pond Area (ac)	0.93	0.00
Nitrogen EMC (mg/l)	1.520	1.645
Phosphorus EMC (mg/l)	0.200	0.270
Runoff Volume (ac-□t/yr)	32.205	0.000
Groundwater N (kg/yr)	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000
Nitrogen Loading (kg/yr)	60.357	0.000
Phosphorus Loading (kg/yr)	7.942	0.000

Catchment Number: 1 Name: Baffle Swale 10 Alt 1, Wet Pond 10 Alt 1

Project: Basin10_A1
Date: 4/8/2026

Multiple BMP in Series Design Parameters

BMP in Series Number: 1
BMP Type: Swale

Swale Top Width for Flood Conditions - **W** (ft)	18.400
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	160.000
Average Impervious Length (ft)	0.000
Average Impervious Width (ft)	0.000
Average Pervious Width (ft)	20.000
Swale Slope (bot drop/bot length) - **S**	0.010
Mannings N	0.035
Soil Infiltration Rate (in/hr)	0.130
Side Slope of Swale horizontal/vertical - **Z**	3.000
Average Height of Swale Block - **H**	2.000
Length of Berm Upstream of Crest - L_b	5.000
Runoff Area (acres)	0.000
Number of Swale Blocks	16

BMP in Series Number: 2
BMP Type: Wet Detention

Permanent Pool Volume (ac-ft)	1.840
Permanent Pool Volume (ac-ft) for 31 days residence	2.735

Annual Residence Time (days)	21
Littoral Zone Efficiency Credit	35
Wetland Efficiency Credit	

BMP in Series Number: 3
BMP Type: None

BMP in Series Number: 4
BMP Type: None

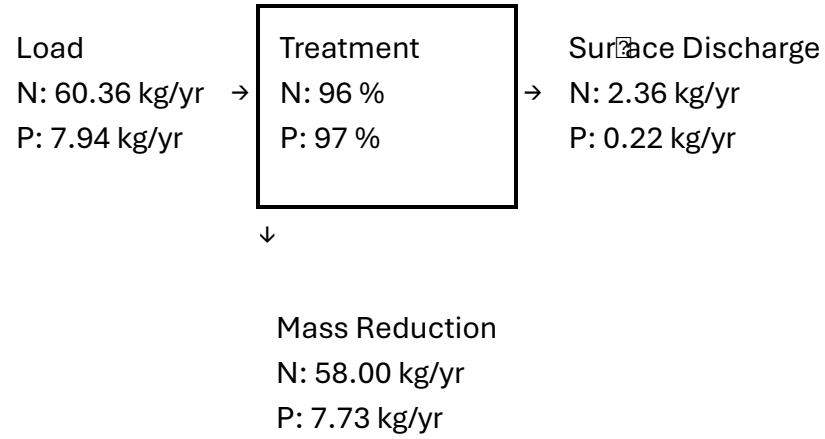
Watershed Characteristics

Catchment Area (acres)	19.85
Contributing Area (acres)	18.920
Non-DCIA Curve Number	66.80
DCIA Percent	43.58
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

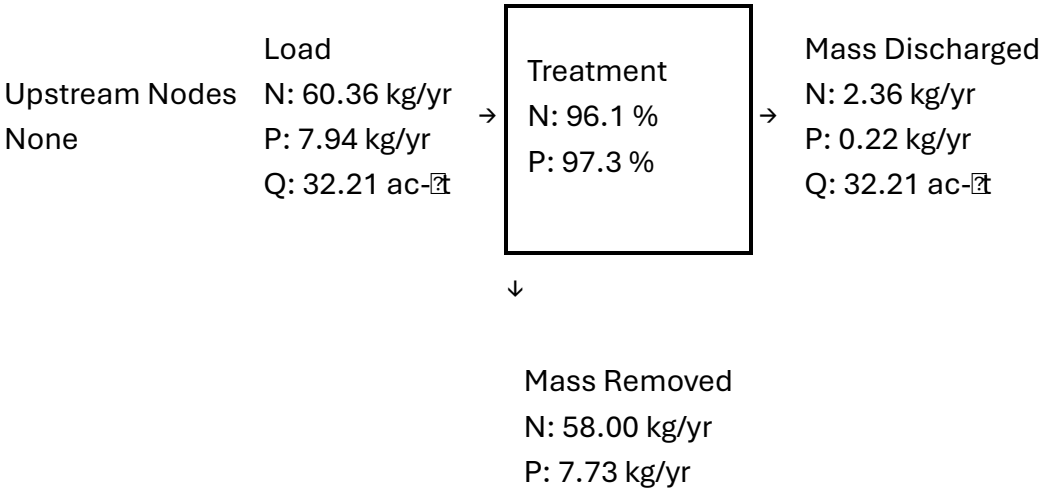
Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	96
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	97

Load for Multiple BMP in Series



Load Diagram for Multiple BMP (As Used In Routing)



Catchment Number: 2 Name: Basin 10 Offsite

Project: Basin10_A1
Date: 4/8/2026

Multiple BMP in Series Design Parameters

BMP in Series Number: 1
BMP Type: Swale

Swale Top Width for Flood Conditions - **W** (ft)	18.400
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	160.000
Average Impervious Length (ft)	0.000
Average Impervious Width (ft)	0.000
Average Pervious Width (ft)	20.000
Swale Slope (bot drop/bot length) - **S**	0.010
Mannings N	0.035
Soil Infiltration Rate (in/hr)	0.130
Side Slope of Swale horizontal/vertical - **Z**	3.000
Average Height of Swale Block - **H**	2.000
Length of Berm Upstream of Crest - $\mathbf{L_b}$	5.000
Runoff Area (acres)	0.000
Number of Swale Blocks	16

BMP in Series Number: 2
BMP Type: Wet Detention

Permanent Pool Volume (ac-ft)	1.840
Permanent Pool Volume (ac-ft) for 31 days residence	0.000
Annual Residence Time (days)	∞
Littoral Zone Efficiency Credit	35
Wetland Efficiency Credit	

BMP in Series Number: 3
BMP Type: None

BMP in Series Number: 4
BMP Type: None

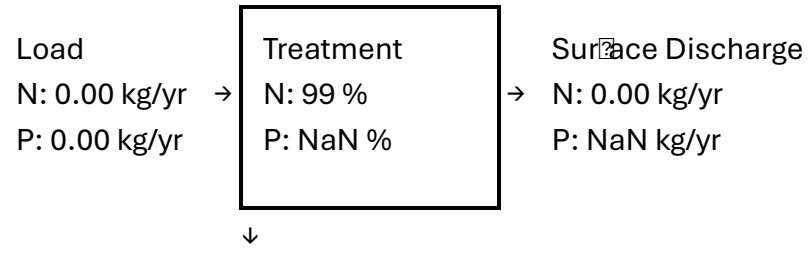
Watershed Characteristics

Catchment Area (acres)	0.00
Contributing Area (acres)	0.000
Non-DCIA Curve Number	29.90
DCIA Percent	0.00
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

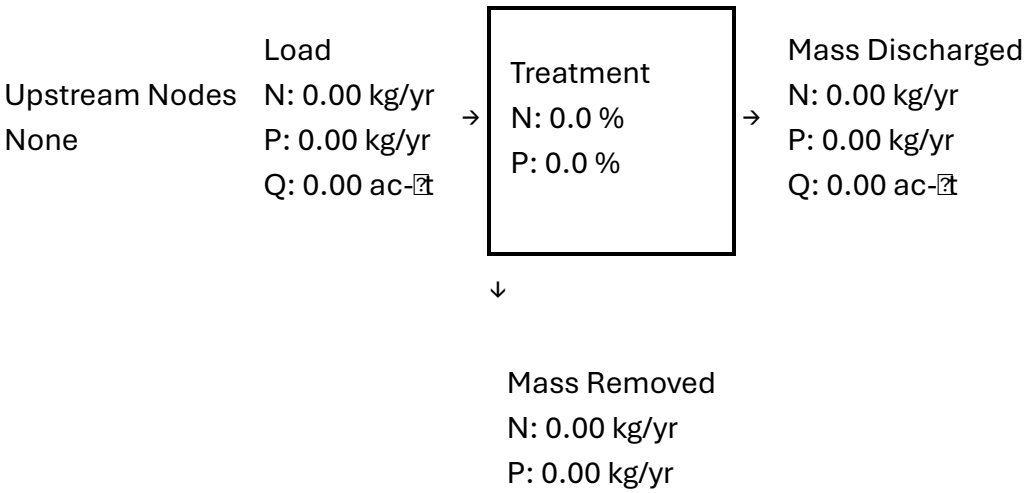
Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	99
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	00

Load for Multiple BMP in Series



Mass Reduction
N: 0.00 kg/yr
P: NaN kg/yr

Load Diagram for Multiple BMP (As Used In Routing)



Summary Treatment Report Version: 4.3.5

Project: Basin10_A1

Analysis Type: Specified Removal Efficiency

Date:4/8/2026

BMP Types:

Catchment 1 - (Baffle Swale 10 Alt 1, Wet Pond 10 Alt 1) Multiple BMP

Catchment 2 - (Basin 10 Offsite) Multiple BMP

Based on % removal values to the nearest percent

Routing Summary

Catchment 1 Routed to Outlet

Catchment 2 Routed to Outlet

Total nitrogen target removal met? **Yes**
Total phosphorus target removal met? **Yes**

Summary Report

Nitrogen

Surface Water Discharge

Total N pre load	45.21 kg/yr	
Total N post load	60.36 kg/yr	
Target N load reduction	80 %	
Target N discharge load	12.07 kg/yr	
Percent N load reduction	96 %	
Provided N discharge load	2.36 kg/yr	5.2 lb/yr
Provided N load removed	58 kg/yr	127.89 lb/yr

Phosphorus

Surface Water Discharge

Total P pre load	5.949 kg/yr	
Total P post load	7.942 kg/yr	
Target P load reduction	80 %	
Target P discharge load	1.588 kg/yr	
Percent P load reduction	97 %	
Provided P discharge load	.216 kg/yr	.48 lb/yr
Provided P load removed	7.726 kg/yr	17.035 lb/yr

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 10			**DATE**
POND DESIGNATION:	Baffle Swale 10 Alt 2, Wet Pond 10A Alt 2	**MADE BY:**	MS	07-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**	CC	07-Apr-26

Pre-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Pre				
Outfall 10				
Basin 10				
Pavement		98.0	5.57	545.86
Open Space Good Condition (grass cover >75%)	A	39.0	0.02	0.82
Open Space Good Condition (grass cover >75%)	A/D	60.0	2.94	176.40
Subtotal		84.8	*8.53*	723.08
Non DCIA		59.9	*2.96*	177.22
Basin 10 Offsite				
Residential Area, 1/2 acres	A/D	82.0	3.61	296.02
Subtotal		82.0	*3.61*	296.02
Non DCIA		82.0	*3.61*	296.02
Baffle Swale 10 Alt 2				
Woods, Grass Combination	A/D	79.0	1.73	136.95
Subtotal		79.0	*1.73*	136.95
Non DCIA		79.0	*1.73*	136.95
Wet Pond 10A Alt 2				
Woods, Grass Combination	A/D	79.0	0.90	70.90
Commercial and Business	A/D	82.0	*1.08*	88.63
Woods, Grass Combination	B/D	79.0	*0.11*	8.87
Commercial and Business	B/D	82.0	*0.02*	1.29
Subtotal		80.6	*2.11*	169.70
Non DCIA		80.6	*2.11*	169.70
Total		**83.0**	**15.98**	**1325.74**
Non DCIA		**74.9**	**10.41**	**779.88**

Summary		**83.0**	**15.98**	**1325.74**	**DCIA %**
Non DCIA		**74.9**	**10.41**	**779.88**	**34.85%**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 10			**DATE**
POND DESIGNATION:	Baffle Swale 10 Alt 2, Wet Pond 10A Alt 2	**MADE BY:**	MS	07-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	CC	07-Apr-26

Post-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Post				
Outfall 10				
Basin 10				
Pavement		98.0	8.65	847.90
Open Space Good Condition (grass cover >75%)	A	39.0	0.16	6.34
Open Space Good Condition (grass cover >75%)	A/D	60.0	3.59	215.28
Subtotal		86.2	*12.40*	1069.51
Non DCIA		59.1	*3.75*	221.62
Basin 10 Offsite				
Residential Area, 1/2 acres	A/D	82.0	3.61	296.02
Subtotal		82.0	*3.61*	296.02
Non DCIA		82.0	*3.61*	296.02
Baffle Swale 10 Alt 2				
Open Space Good Condition (grass cover >75%)	A/D	60.0	1.73	104.01
Subtotal		60.0	*1.73*	104.01
Non DCIA		60.0	*1.73*	104.01
Wet Pond 10A Alt 2				
Open Space Good Condition (grass cover >75%)	A/D	60.0	0.89	53.38
Open Space Good Condition (grass cover >75%)	B/D	60.0	0.13	7.62
Water		100.0	1.09	108.99
Subtotal		80.7	*2.11*	169.99
Non DCIA		60.0	*1.02*	61.00
Total		**82.6**	**19.85**	**1639.53**
Non DCIA		**67.5**	**10.11**	**682.64**

Summary		**82.6**	**19.85**	**1639.53**	**DCIA %**
Non DCIA		**67.5**	**10.11**	**682.64**	**43.58%**

Remarks:
1. The Curve Number is taken from USDA TR-55, Table 2-2.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 10			**DATE**
POND DESIGNATION:	Baffle Swale 10 Alt 2, Wet Pond 10A Alt 2	**MADE BY:**	MS	07-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	CC	05-Nov-24

Wet Pond 10A Alt2 Stage/Area

Stage	Elevation (Ft)	Area (Ac)	Inc. Volume (Ac-Ft)	Total Volume (Ac-ft)
Berm (Outside)	17.00	2.11	1.92	6.71
Berm (Inside)	16.00	1.72	1.67	4.80
Design High Water (DHW)	15.00	1.62	0.64	3.13
Weir (Design Low Water)	14.60	1.58	2.49	**2.49**
Control (wet)/Pond Bottom (dry)	13.00	1.53	0.00	0.00
Seasonal High Ground Water Elevation (SHGWT)*	13.00			

SHGWT Check (Dry Retention): N/A

*SHGWT based on soil survey

Required Attenuation Volume

Attenuation required?	yes
Frequency	25-yr
Time	24-hr
Precipitation Depth	8.8 in.

1) Soil Storage (S) = (1000/CN) - 10 — S_{pre} = **2.05 in.** — S_{post} = **2.11 in.**

2) Runoff (R) = (P-0.2S)2/(P+0.8S) — Q_{pre} = **6.73 in.** — Q_{post} = **6.68 in.**

3) Runoff Volume (Vr) = R/12 * Area

Pre-Development Runoff	Vr_{pre} = 8.96 ac-ft	*
Post-Development Runoff	Vr_{post} = 11.06 ac-ft	
Attenuation volume required (Post-Pre)	**2.10 ac-ft**	

*No existing basin discharging to the proposed pond location, therefore, Vr Pre = 0

Total Required Volume (Treatment + Attenuation) ***2.10 ac-ft***

Total Provided Volume ***3.13 ac-ft***

Check Total Volume Requirement: 2.10 is < or = 3.13 **Total Volume Requirement met**

Complete Report (not including cost) Ver 4.3.5

Project: Basin10_A2
Date: 4/8/2026 9:17:00 PM

Site and Catchment Information

Analysis: Specified Removal Efficiency

Catchment Name	Baffle Swale 10 Alt 2, Wet Pond 10A Alt 2	Basin 10 Offsite
Rainfall Zone	Florida Zone 4	Florida Zone 4
Annual Mean Rainfall	52.00	52.00

Pre-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200	Low-Density Residential: TN=1.645 TP= 0.27
Area (acres)	15.98	0.00
Rational Coefficient (0-1)	0.35	0.00
Non DCIA Curve Number	74.90	29.90
DCIA Percent (0-100)	34.85	0.00
Nitrogen EMC (mg/l)	1.520	1.645
Phosphorus EMC (mg/l)	0.200	0.270
Runoff Volume (ac-ft/yr)	24.141	0.000
Groundwater N (kg/yr)	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000

Nitrogen Loading (kg/yr)	45.244	0.000
Phosphorus Loading (kg/yr)	5.953	0.000

Post-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200	Low-Density Residential: TN=1.645 TP= 0.27
Area (acres)	19.85	0.00
Rational Coefficient (0-1)	0.39	0.00
Non DCIA Curve Number	67.50	29.90
DCIA Percent (0-100)	43.58	0.00
Wet Pond Area (ac)	1.09	0.00
Nitrogen EMC (mg/l)	1.520	1.645
Phosphorus EMC (mg/l)	0.200	0.270
Runoff Volume (ac-ft/yr)	32.046	0.000
Groundwater N (kg/yr)	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000
Nitrogen Loading (kg/yr)	60.060	0.000
Phosphorus Loading (kg/yr)	7.903	0.000

Catchment Number: 1 Name: Baffle Swale 10 Alt 2, Wet Pond 10A Alt 2

Project: Basin10_A2
Date: 4/8/2026

Multiple BMP in Series Design Parameters

BMP in Series Number: 1
BMP Type: Swale

Swale Top Width for Flood Conditions - **W** (ft)	18.400
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	400.000
Average Impervious Length (ft)	0.000
Average Impervious Width (ft)	0.000
Average Pervious Width (ft)	20.000
Swale Slope (bot drop/bot length) - **S**	0.010
Mannings N	0.035
Soil Infiltration Rate (in/hr)	0.130
Side Slope o Swale horizontal/vertical - **Z**	3.000
Average Height o Swale Block - **H**	2.000
Length o Berm Upstream o Crest - $\mathbf{L_b}$	5.000
Runoff Area (acres)	0.000
Number o Swale Blocks	7

BMP in Series Number: 2
BMP Type: Wet Detention

Permanent Pool Volume (ac-ft)	1.860
Permanent Pool Volume (ac-ft) for 31 days residence	2.722

Annual Residence Time (days)	21
Littoral Zone Efficiency Credit	35
Wetland Efficiency Credit	

BMP in Series Number: 3
BMP Type: None

BMP in Series Number: 4
BMP Type: None

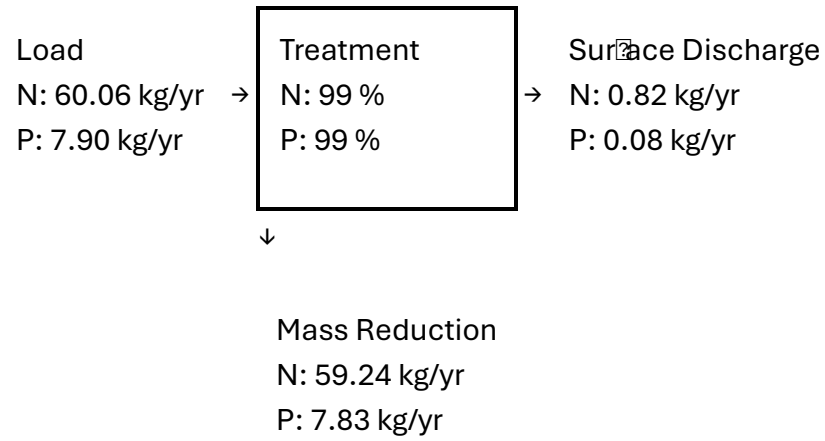
Watershed Characteristics

Catchment Area (acres)	19.85
Contributing Area (acres)	18.760
Non-DCIA Curve Number	67.50
DCIA Percent	43.58
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

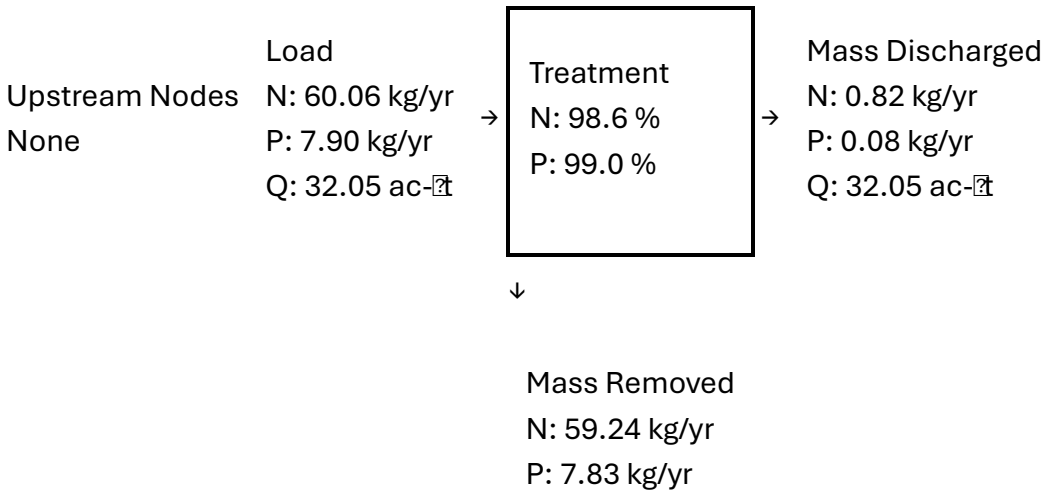
Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	99
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	99

Load for Multiple BMP in Series



Load Diagram for Multiple BMP (As Used In Routing)



Catchment Number: 2 Name: Basin 10 Offsite

Project: Basin10_A2
Date: 4/8/2026

Multiple BMP in Series Design Parameters

BMP in Series Number: 1
BMP Type: Swale

Swale Top Width for Flood Conditions - **W** (ft)	18.400
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	400.000
Average Impervious Length (ft)	0.000
Average Impervious Width (ft)	0.000
Average Pervious Width (ft)	20.000
Swale Slope (foot drop/foot length) - **S**	0.010
Mannings N	0.035
Soil Infiltration Rate (in/hr)	0.130
Side Slope of Swale horizontal/vertical - **Z**	3.000
Average Height of Swale Block - **H**	2.000
Length of Berm Upstream of Crest - $\mathbf{L_b}$	5.000
Runoff Area (acres)	0.000
Number of Swale Blocks	7

BMP in Series Number: 2
BMP Type: Wet Detention

Permanent Pool Volume (ac-ft)	1.860
Permanent Pool Volume (ac-ft) for 31 days residence	0.000
Annual Residence Time (days)	∞
Littoral Zone Efficiency Credit	35
Wetland Efficiency Credit	

BMP in Series Number: 3
BMP Type: None

BMP in Series Number: 4
BMP Type: None

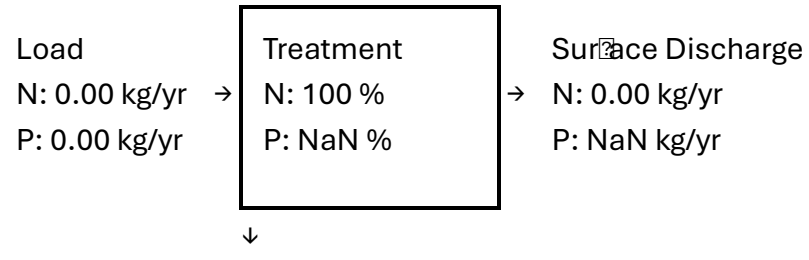
Watershed Characteristics

Catchment Area (acres)	0.00
Contributing Area (acres)	0.000
Non-DCIA Curve Number	29.90
DCIA Percent	0.00
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

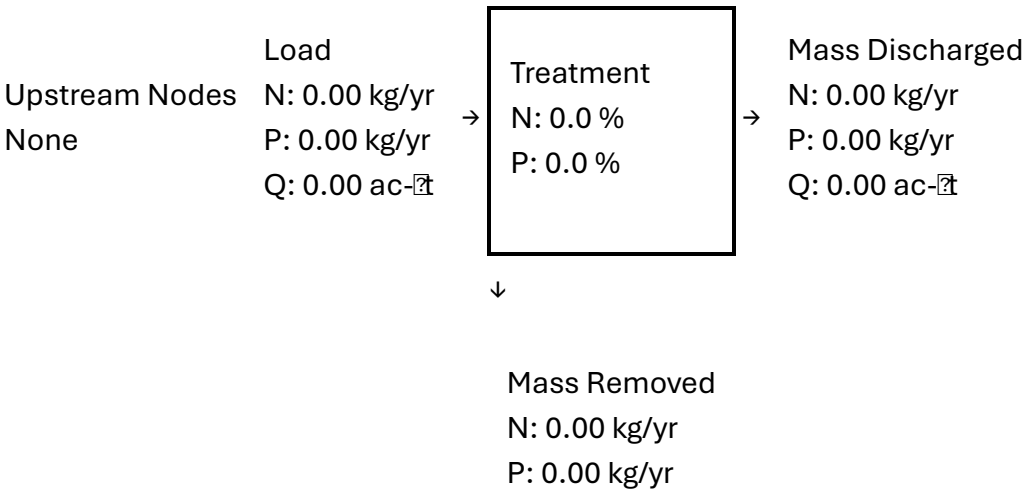
Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	100
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	00

Load for Multiple BMP in Series



Mass Reduction
N: 0.00 kg/yr
P: NaN kg/yr

Load Diagram for Multiple BMP (As Used In Routing)



Summary Treatment Report Version: 4.3.5

Project: Basin10_A2

Analysis Type: Specified Removal Efficiency

Date:4/8/2026

BMP Types:

Catchment 1 - (Baffle Swale 10 Alt 2, Wet Pond 10A Alt 2) Multiple BMP

Catchment 2 - (Basin 10 Offsite) Multiple BMP

Based on % removal values to the nearest percent

Routing Summary

Catchment 1 Routed to Outlet

Catchment 2 Routed to Outlet

Total nitrogen target removal met? **Yes**
Total phosphorus target removal met? **Yes**

Summary Report

Nitrogen

Surface Water Discharge

Total N pre load	45.24 kg/yr	
Total N post load	60.06 kg/yr	
Target N load reduction	80 %	
Target N discharge load	12.01 kg/yr	
Percent N load reduction	99 %	
Provided N discharge load	.82 kg/yr	1.81 lb/yr
Provided N load removed	59.24 kg/yr	130.62 lb/yr

Phosphorus

Surface Water Discharge

Total P pre load	5.953 kg/yr	
Total P post load	7.903 kg/yr	
Target P load reduction	80 %	
Target P discharge load	1.581 kg/yr	
Percent P load reduction	99 %	
Provided P discharge load	.076 kg/yr	.17 lb/yr
Provided P load removed	7.827 kg/yr	17.258 lb/yr

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 10			**DATE**
POND DESIGNATION:	VB-10 Alt3, VB-10A Alt3, VB-10B Alt3, VB-10C Alt3, VB-10D Alt3, Wet Pond 10C Alt 3, Wet Pond 10B Alt3	**MADE BY:**	MS	07-Apr-26
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**	CC	07-Apr-26

Pre-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Pre				
Outfall 10				
Basin 10				
Pavement		98.0	5.57	545.86
Open Space Good Condition (grass cover >75%)	A	39.0	0.02	0.82
Open Space Good Condition (grass cover >75%)	A/D	60.0	2.94	176.40
Subtotal		84.8	*8.53*	723.08
Non DCIA		59.9	*2.96*	177.22
Basin 10 Offsite				
Residential Area, 1/2 acres	A/D	82.0	3.61	296.02
Subtotal		82.0	*3.61*	296.02
Non DCIA		82.0	*3.61*	296.02
VB-10, 10A, 10B, 10C, 10D Alt 3				
Open Space Good Condition (grass cover >75%)	A	39.0	0.08	3.03
Open Space Good Condition (grass cover >75%)	A/D	60.0	0.46	27.34
Subtotal		56.9	*0.53*	30.36
Non DCIA		56.9	*0.53*	30.36
Wet Pond 10C Alt 3				
Residential Area, 1/2 acres	A/D	82.0	0.73	59.78
Subtotal		82.0	*0.73*	59.78
Non DCIA		82.0	*0.73*	59.78
Wet Pond 10B Alt 3				
Residential Area, 1/2 acres	A/D	82.0	0.48	39.23
Woods, Grass Combination	A/D	79.0	0.50	39.37
Subtotal		80.5	*0.98*	78.60
Non DCIA		80.5	*0.98*	78.60
Total		**82.6**	**14.38**	**1187.84**
Non DCIA		**72.9**	**8.81**	**641.98**

Summary		**82.6**	**14.38**	**1187.84**	**DCIA %**
Non DCIA		**72.9**	**8.81**	**641.98**	**38.73%**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.
2. Vegetated buffer areas on this page reflect the additional area beyond the Basin 10 limit, not the actual vegetated buffer size.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 10			**DATE**
POND DESIGNATION:	VB-10 Alt3, VB-10A Alt3, VB-10B Alt3, VB-10C Alt3, VB-10D Alt3, Wet Pond 10C Alt 3, Wet Pond 10B Alt3	**MADE BY:**	MS	07-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	CC	07-Apr-26

Post-Development	NRCS			
Cover Description	**Soil Group**	**CN**	**Area (Ac)**	**CN x Area (Ac)**
Roadway Post				
Outfall 10				
Basin 10				
Pavement		98.0	8.65	847.95
Open Space Good Condition (grass cover >75%)	A	39.0	0.16	6.34
Open Space Good Condition (grass cover >75%)	A/D	60.0	3.67	220.20
Subtotal		86.1	*12.49*	1074.49
Non DCIA		59.1	*3.83*	226.54
Basin 10 Offsite				
Residential Area, 1/2 acres	A/D	82.0	2.64	216.22
Subtotal		82.0	*2.64*	216.22
Non DCIA		82.0	*2.64*	216.22
VB-10, 10A, 10B, 10C, 10D Alt 3				
Open Space Good Condition (grass cover >75%)	A/D	60.0	0.21	12.49
Subtotal		60.0	*0.21*	12.49
Non DCIA		60.0	*0.21*	12.49
Wet Pond 10C Alt 3				
Open Space Good Condition (grass cover >75%)	A/D	60.0	0.39	23.40
Water		100.0	0.34	34.00
Subtotal		78.6	*0.73*	57.40
Non DCIA		60.0	*0.39*	23.40
Wet Pond 10B Alt 3				
Open Space Good Condition (grass cover >75%)	A/D	60.0	0.56	33.60
Water		100.0	0.42	42.00
Subtotal		77.1	*0.98*	75.60
Non DCIA		60.0	*0.56*	33.60
Total		**84.3**	**17.04**	**1436.20**
Non DCIA		**67.2**	**7.63**	**512.25**

Summary		**84.3**	**17.04**	**1436.20**	**DCIA %**
Non DCIA		**67.2**	**7.63**	**512.25**	**50.78%**

Remarks:

1. The Curve Number is taken from USDA TR-55, Table 2-2.
2. Vegetated buffer areas on this page reflect the additional area beyond the Basin 10 limit, not the actual vegetated buffer size.

PROJECT TITLE:	BPC PD&E	**BURGESS & NIPLE**		
PROJECT NUMBER:	444843-1			
BASIN DESIGNATION:	Basin 10			**DATE**
POND DESIGNATION:	VB-10 Alt3, VB-10A Alt3, VB-10B Alt3, VB-10C Alt3, VB-10D Alt3, Wet Pond 10C Alt 3, Wet Pond 10B Alt3	**MADE BY:**	MS	07-Apr-26
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	CC	05-Nov-24

Wet Pond 10C Alt3 Stage/Area

Stage	Elevation (Ft)	Area (Ac)	Inc. Volume (Ac-Ft)	Total Volume (Ac-ft)
Berm (Outside)	20.00	0.73	0.62	1.87
Berm (Inside)	19.00	0.50	0.15	1.26
Design High Water (DHW)	18.70	0.48	0.32	1.11
Weir (Design Low Water)	18.00	0.44	0.78	**0.78**
Control (wet)/Pond Bottom (dry)	16.00	0.34	0.00	0.00
Seasonal High Ground Water Elevation (SHGWT)*	16.00			

SHGWT Check (Dry Retention): N/A

*SHGWT based on soil survey

Wet Pond 10B Alt3 Stage/Area

Stage	Elevation (Ft)	Area (Ac)	Inc. Volume (Ac-Ft)	Total Volume (Ac-ft)
Berm (Outside)	19.00	0.98	0.83	3.05
Berm (Inside)	18.00	0.69	0.34	2.21
Design High Water (DHW)	17.50	0.65	0.62	1.88
Weir (Design Low Water)	16.50	0.58	1.26	**1.26**
Control (wet)/Pond Bottom (dry)	14.00	0.42	0.00	0.00
Seasonal High Ground Water Elevation (SHGWT)*	14.00			

SHGWT Check (Dry Retention): N/A

*SHGWT based on soil survey

Required Attenuation Volume

Attenuation required?	yes
Frequency	25-yr
Time	24-hr
Precipitation Depth	8.8 in.

1) Soil Storage (S) = (1000/CN) - 10 — S_{pre} = **2.11 in.** — S_{post} = **1.86 in.**

2) Runoff (R) = (P-0.2S)2/(P+0.8S) — Q_{pre} = **6.69 in.** — Q_{post} = **6.89 in.**

3) Runoff Volume (Vr) = R/12 * Area

Pre-Development Runoff	Vr_{pre} =	8.01 ac-ft *
Post-Development Runoff	Vr_{post} =	9.78 ac-ft
Attenuation volume required (Post-Pre)		**1.77 ac-ft**

*No existing basin discharging to the proposed pond location, therefore, Vr Pre = 0

Total Required Volume (Treatment + Attenuation) ***1.77 ac-ft***

Total Provided Volume ***2.04 ac-ft***

Check Total Volume Requirement: 1.77 is < or = 2.04 **Total Volume Requirement met**

Complete Report (not including cost) Ver 4.3.5

Project: Basin10_A3
Date: 4/8/2026 9:17:26 PM

Site and Catchment Information

Analysis: Specified Removal Efficiency

Catchment Name	VB-10 Alt3, VB-10A Alt3, VB-10B Alt3, VB-10C Alt3, VB-10D Alt3, Wet Pond 10C Alt 3, Wet Pond 10B Alt3	Basin 10 Offsite
Rainfall Zone	Florida Zone 4	Florida Zone 4
Annual Mean Rainfall	52.00	52.00

Pre-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200
Area (acres)	14.38	1.44
Rational Coefficient (0-1)	0.37	0.72
Non DCIA Curve Number	72.90	60.30
DCIA Percent (0-100)	38.73	86.80
Nitrogen EMC (mg/l)	1.520	1.520
Phosphorus EMC (mg/l)	0.200	0.200

Runoff Volume (ac-ft/yr)	23.137	4.494
Groundwater N (kg/yr)	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000
Nitrogen Loading (kg/yr)	43.363	8.422
Phosphorus Loading (kg/yr)	5.706	1.108

Post-Condition Landuse Information

Landuse	Highway: TN=1.520 TP=0.200	Highway: TN=1.520 TP=0.200
Area (acres)	17.04	1.80
Rational Coefficient (0-1)	0.45	0.64
Non DCIA Curve Number	66.80	60.30
DCIA Percent (0-100)	50.78	77.08
Wet Pond Area (ac)	0.38	0.27
Nitrogen EMC (mg/l)	1.520	1.520
Phosphorus EMC (mg/l)	0.200	0.200
Runoff Volume (ac-ft/yr)	32.290	4.269

Groundwater N (kg/yr)	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000
Nitrogen Loading (kg/yr)	60.516	8.000
Phosphorus Loading (kg/yr)	7.963	1.053

Catchment Number: 1 Name: VB-10 Alt3, VB-10A Alt3, VB-10B Alt3, VB-10C Alt3, VB-10D Alt3, Wet Pond 10C Alt 3, Wet Pond 10B Alt3

Project: Basin10_A3
Date: 4/8/2026

Multiple BMP in Series Design Parameters

BMP in Series Number: 1
BMP Type: Vegetated Natural Buffer

Buffer Width (ft)	10.000
Buffer Length (ft)	1,800.000
Storage Depth (ft)	0.900
Width of Area Feeding Buffer (ft)	163.000
Water storage capacity of soil (in/in)	0.200
Slope of Buffer Width (2%-6%)	3.000

BMP in Series Number: 2
BMP Type: Wet Detention

Permanent Pool Volume (ac-ft)	3.140

Permanent Pool Volume (ac-ft) for 31 days residence	2.742
Annual Residence Time (days)	35
Littoral Zone Efficiency Credit	35
Wetland Efficiency Credit	

BMP in Series Number: 3
BMP Type: None

BMP in Series Number: 4
BMP Type: None

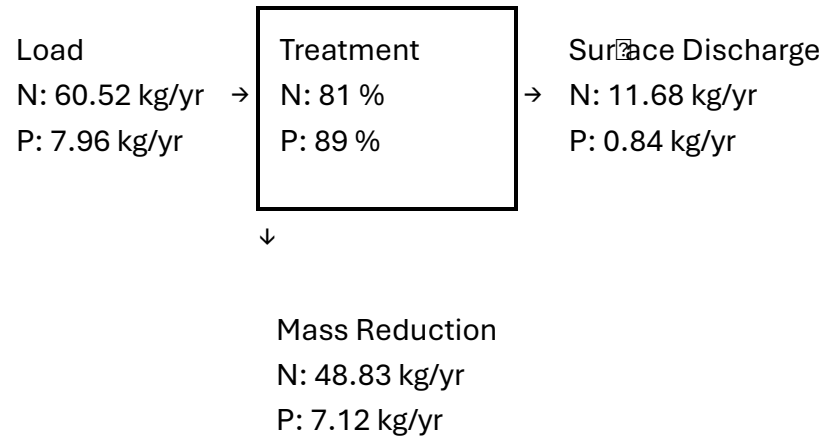
Watershed Characteristics

Catchment Area (acres)	17.04
Contributing Area (acres)	16.660
Non-DCIA Curve Number	66.80
DCIA Percent	50.78
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

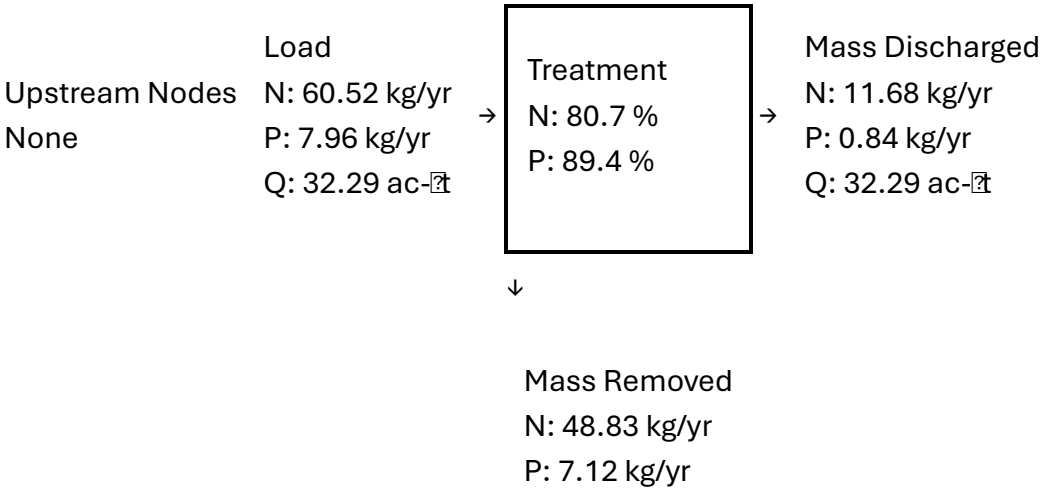
Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	81
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	89

Load for Multiple BMP in Series



Load Diagram for Multiple BMP (As Used In Routing)



Catchment Number: 2 Name: Basin 10 Offsite

Project: Basin10_A3
Date: 4/8/2026

Wet Detention with Littoral Shelf Design

Permanent Pool Volume (ac-ft)	0.220

Permanent Pool Volume (ac-ft) for 31 days residence	0.363
Annual Residence Time (days)	19
Littoral Zone Efficiency Credit	30
Wetland Efficiency Credit	

Watershed Characteristics

Catchment Area (acres)	1.80
Contributing Area (acres)	1.530
Non-DCIA Curve Number	60.30
DCIA Percent	77.08
Rainfall Zone	Florida Zone 4
Rainfall (in)	52.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	55
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	72

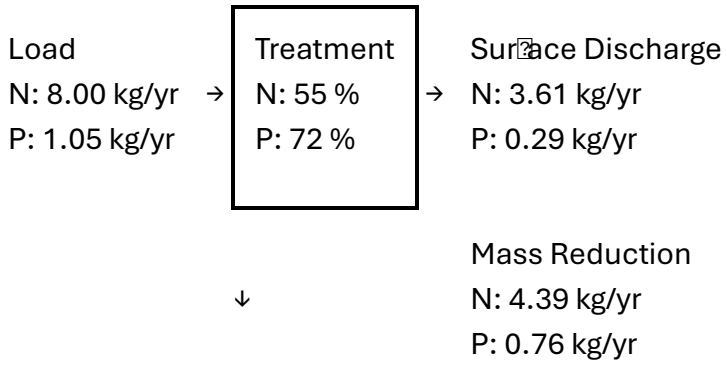
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

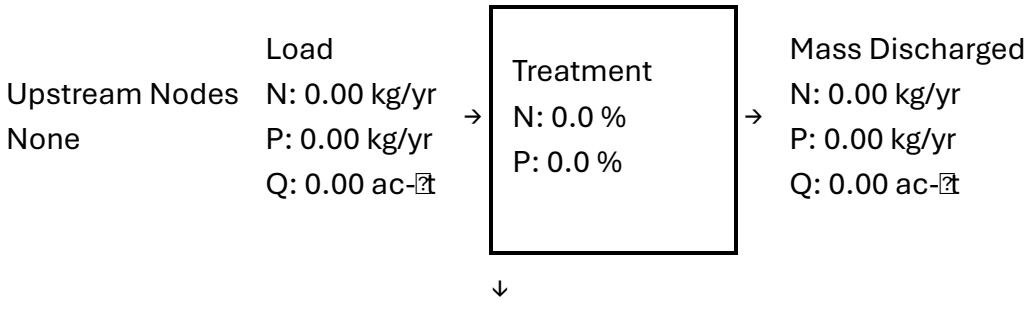
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000
TP Concentration (mg/L)	0.000

Load Diagram for Wet Detention with Littoral Shelf (stand-alone)



Load Diagram for Wet Detention (As Used In Routing)



Mass Removed
N: 0.00 kg/yr
P: 0.00 kg/yr

Summary Treatment Report Version: 4.3.5

Project: Basin10_A3

Analysis Type: Specified Removal Efficiency

Date:4/8/2026

BMP Types:

Catchment 1 - (VB-10 Alt3, VB-10A Alt3, VB-10B Alt3, VB-10C Alt3, VB-10D Alt3, Wet Pond 10C Alt 3, Wet Pond 10B Alt3) Multiple BMP

Catchment 2 - (Basin 10 Offsite) Wet Detention with Littoral Shel
Based on % removal values to the nearest percent

Routing Summary

Catchment 1 Routed to Outlet
Catchment 2 Routed to Outlet

Total nitrogen target removal met? **Yes**
Total phosphorus target removal met? **Yes**

Summary Report

Nitrogen

Surface Water Discharge

Total N pre load	43.36 kg/yr
Total N post load	60.52 kg/yr
Target N load reduction	80 %
Target N discharge load	12.1 kg/yr
Percent N load reduction	81 %

Provided N discharge load	11.68 kg/yr	25.76 lb/yr
Provided N load removed	48.83 kg/yr	107.67 lb/yr

Phosphorus

Surface Water Discharge

Total P pre load	5.706 kg/yr	
Total P post load	7.963 kg/yr	
Target P load reduction	80 %	
Target P discharge load	1.593 kg/yr	
Percent P load reduction	89 %	
Provided P discharge load	.842 kg/yr	1.86 lb/yr
Provided P load removed	7.12 kg/yr	15.7 lb/yr

APPENDIX H

Correspondence

Date: 1/26/2026

Attendees: Craig Fox, Brent Setchell, Carl Spirio, Jon Wang, Michelle Rutishauser, David Gwynn, Aiah Yassin

Drainage Methodology Meeting

Project: BPC PD&E

Schedule: Preliminary Pond Locations on 2/27/2026

Ultimate: US 301 & 9th St E to CSX

6 lanes at grade _ 2lanes elevated

Interim: SR 64 to Haben Blvd or 7th St or US 301

6 lanes

Stormwater Quality Nutrient Permitting Requirements

- Anticipated to meet the new stormwater rule upon receipt of the LDCA at the end of 2026
- Not an Outstanding Florida Waters.
- WBID: 1848A, Impaired with Chlorophyll-a
- WBID: 1848D1, Impaired with Dissolved Oxygen, Chlorophyll-a, Enterococci
- WBID: 1848D2, Impaired with Algal Mats, Fecal Coliform, Biology,
- An 80 percent reduction of total phosphorus and a 80 percent reduction of total nitrogen from the proposed project due to the verified impairment with C5.
- Sent SWFWMD pre-application meeting request to Nicole Monies and Brent.

Water quality

- 1" runoff rule does not apply for new water rule.
- Drawdown calculation is not required for PD&E effort, but will be needed for design.
- Only focus on the treatment requirement (nutrient).

Water quantities

- Use volumetric calculations for PD&E effort
- No water quantity requirement for areas directly draining to Manatee River which is tidal.
- SWFWMD (control)
    - 25-year 24-hour for open basin
    - 100-year 24-hour for closed basin
    - Recovery will be done in the design phase
- FDOT (not applicable for this project)
    - 100-year 3-day for open basin
    - 100-year 10-day for closed basin

- Recovery

Floodplain Impact

- South of Desoto Bridge
  Use base flood elevation from the City of Bradenton Watershed Riverine Model
- North of Desoto Bridge
  Use FEMA map (No compensation for Tidal Floodplain) we must determine the limit of the tidal floodplain.

Cross drains

- HY-8 Analysis on existing and proposed cross drains

Deliverables on 2/27/2026

- PSR
  - 3 Alternatives SMF for each basin and 2 Alternatives FPC for each floodplain impact. Approximately 10 basins in total,
  - Rollplot with all pond alternatives
  - Attenuation Volumetric calculations and BMPtrains for Water Quality
  - FDOT needs to review pond locations before any filed investigation
- LHR
  - Comes after the pond determination
- Sea level impact Projection Study – Appears an earlier version was already submitted.
  - Include in the study
  - Coordinate with GFT

Submittion: upload to ERC include Ryan & Brent

Submit As-built requests to : Teresa.austin@dot.state.fl.us

Bradenton Palmetto Connector
444843-1

Meeting Notes

Placeholder	
Date:	3/5/2026 2:00 PM
Subject:	FDOT-SWFWMD Monthly Meeting Project: 444843-1 Bradenton-Palmetto Connector (BPC) PD&E
Location:	Microsoft Teams

ATTENDEES

Craig Fox, Brent Setchell, Carl Spirio, Jon Wang, Aiah Yassin, Chris Kuzlo, Nicole Monies, Dave Kramer, Leyna Stemle, Albert A. Gagne, Yasmine Abd-Elrahman, Brad Carver, Mo Shokri.

MEETING NOTES

Project Overview:
Ultimate: 6 Lanes at Grade + 2 Lanes Elevated
US 41 From US 301/SR 683 at 9th Street East to North of 25th Street East
Interim: 6 Lanes at Grade
US 41/SR 55 From SR 64/Manatee Avenue to 21st Street East

Site information / Water Quality Discussion:

- The project is expected to comply with the requirements of the new stormwater quality regulations.
- The entire project limit is within the Manatee River-Warner Bayou Sub Watershed
- Impairments:
    - WBID: 1848A, Impaired with Chlorophyll-a
    - WBID: 1848D1, Impaired with Dissolved Oxygen, Chlorophyll-a, Enterococci
    - WBID: 1848D2, Impaired with Algal Mats, Fecal Coliform, Biology,
- Because the downstream end of the Manatee River–Warner Bayou Watershed extends into an Outstanding Florida Waters (OFW) area based on the Hydraulic Unit Code (HUC)-12 map, FDOT asked whether the project must meet both impaired-waters requirements and OFW criteria. SWFWMD has indicated that this project is expected to meet only the OFW standard, which requires 90% phosphorus removal and 80% nitrogen removal.
- It is acceptable to over-treat one area and under-treat another area as long as the overall nutrient removal requirement is met within the same sub watershed.

SMP Discussion:

- Wet Detention
- Dry Retention
- Vegetated Buffers
    - WMD mentioned that the Vegetated Buffers methodology in BMPTrains may not be consistent with the WMD Application Handbook, Volume I.

Bradenton Palmetto Connector
444843-1

Water Quantity/Floodplain Discussion:

- No water quantity requirement for areas directly draining to Manatee River which is tidal.
- South of Desoto Bridge
  Use base flood elevation from the City of Bradenton Watershed Riverine Model as the floodplain elevation/limit.
- North of Desoto Bridge
  FEMA Map: No floodplain compensation is required for the tidal floodplain. The tidal floodplain limit will be defined based on the floodplain boundary shown on the Federal Emergency Management Agency (FEMA) map. Based on discussions with our coastal engineer, the tidal limit north of the bridge coincides with the FEMA floodplain boundary. WMD agreed with this approach.
- 25-year 24-hour for open basin

Application Type

- Individual Permit or Permit Modification. Verify the existing permits currently in place.

Regional Opportunities/Share Use Ponds

- Shared-use ponds may be utilized. However, the applicability of these ponds to meet the new stormwater quality regulations for existing parcels currently draining to the pond must be evaluated on a case-by-case basis.

Outlook

FW: FDOT/SWFWMD monthly minutes D1- 3/5/2026

From Molloy, Ryan <Ryan.Molloy@dot.state.fl.us>
Date Thu 3/19/2026 7:35 AM
To Jon Wang <Jon.Wang@burgessniple.com>
Cc Setchell, Brent <Brent.Setchell@dot.state.fl.us>; Monies, Nicole <Nicole.Monies@dot.state.fl.us>; Aiah Yassin <aayassin@gftinc.com>; Craig Fox <cfox@gftinc.com>; Carl Spirio <carl.spirio@burgessniple.com>

Hi Jon,

See the water management district's ruling below on the criteria for the new stormwater rule on the Bradenton Palmetto Connector project. If you need to meet with us to discuss this further, we can set something up next week when Brent is back in office.

Thank you,

Ryan Molloy, PE
Assistant District Drainage Engineer
863-519-2502
ryan.molloy@dot.state.fl.us
801 N. Broadway Ave.
Bartow, FL 33830

From: Monies, Nicole <Nicole.Monies@dot.state.fl.us>
Sent: Wednesday, March 18, 2026 7:35 AM
To: Chris Kuzlo <Chris.Kuzlo@swfwmd.state.fl.us>; Setchell, Brent <Brent.Setchell@dot.state.fl.us>
Cc: Stemle, Leyna <Leyna.Stemle@dot.state.fl.us>; Albert A. Gagne <Albert.Gagne@swfwmd.state.fl.us>; Rob McDaniel <Rob.McDaniel@swfwmd.state.fl.us>; Dave Kramer <dave.kramer@swfwmd.state.fl.us>; Johnson, Joel <Joel.Johnson@dot.state.fl.us>; Molloy, Ryan <Ryan.Molloy@dot.state.fl.us>
Subject: RE: FDOT/SWFWMD monthly minutes D1- 3/5/2026

Hi Chris,
Brent is out of office this week, so if he has any questions or thoughts he'll get with you once he's back. In the meantime, I'll pass the information along to our consultant.

Thanks for letting us know Dave & Rob will be joining us at our next meeting.

Thank you,
Nicole Monies
District 1 Environmental Permits Coordinator

I am available via email, Teams, and other internet-based means.
If you need immediate assistance and are unable to reach me, contact tia.norman@dot.state.fl.us and Leyna.Stemle@dot.state.fl.us
Microsoft Teams Chat

USACE submittals through RRS project naming convention:
DOT-1-FPN (6 digits only)-name of project

From: Chris Kuzlo <Chris.Kuzlo@swfwmd.state.fl.us>
Sent: Wednesday, March 18, 2026 7:12 AM
To: Setchell, Brent <Brent.Setchell@dot.state.fl.us>
Cc: Monies, Nicole <Nicole.Monies@dot.state.fl.us>; Stemle, Leyna <Leyna.Stemle@dot.state.fl.us>; Albert A. Gagne <Albert.Gagne@swfwmd.state.fl.us>; Rob McDaniel <Rob.McDaniel@swfwmd.state.fl.us>; Dave Kramer <dave.kramer@swfwmd.state.fl.us>; Johnson, Joel <Joel.Johnson@dot.state.fl.us>
Subject: RE: FDOT/SWFWMD monthly minutes D1- 3/5/2026

EXTERNAL SENDER: Use caution with links and attachments.

Hi Brent,

Unfortunately, I am going to have to reverse my call on 444843-1 Bradenton-Palmetto Connector PD & E. I think we will have to require an Impaired OFW criteria (95/95). There are two different OFWs extending into the downstream portion of the HUC 12 (it's minor but it's still within). WBIDs within this HUC 12, and the downstream HUC 12s where the most of the OFW is located, are all impaired for nutrients. I was hoping we could somehow disassociate the OFW with these WBIDs but after further look I don't know how this could be justified. If you think the criteria should be different, please let me know. I apologize for any inconvenience.

I don't have any comments on the rest of the notes.

I also wanted to let you and Joel know Dave and Rob will attend the next meeting so that we can discuss the exemptions, minor modifications and maybe erosion plans.

Kind Regards,

Przemyslaw “Chris” Kuzlo, P.E.
Chief Professional Engineer
Environmental Resource Permit Bureau
Regulation Division
Southwest Florida Water Management District
(813) 367-3015
Chris.Kuzlo@watermatters.org

From: Setchell, Brent <Brent.Setchell@dot.state.fl.us>
Sent: Friday, March 13, 2026 4:20 PM
To: Chris Kuzlo <Chris.Kuzlo@swfwmd.state.fl.us>; Albert A. Gagne <Albert.Gagne@swfwmd.state.fl.us>
Cc: Monies, Nicole <Nicole.Monies@dot.state.fl.us>; Stemle, Leyna <Leyna.Stemle@dot.state.fl.us>
Subject: FDOT/SWFWMD monthly minutes D1- 3/5/2026

[EXTERNAL SENDER] Use caution before opening.
Chris and Al,
Attached are the minutes from our monthly meeting. Please let me know if you have any comments or concerns prior to concurring with the minutes.

Thanks,

Brent Setchell, P.E.
District Drainage Design Engineer
Florida Department of Transportation -District 1
801 N. Broadway Avenue
Bartow, FL 33801-1249
863-519-2557 desk
863-608-0956 cell
Brent.Setchell@dot.state.fl.us

APPENDIX I

Geotechnical Memorandum

Geotechnical and Environmental Consultants, Inc.

Phase I Report of Roadway Soil Survey

DESOTO BRIDGE REPLACEMENT

FROM SR 64 (MANATEE AVENUE EAST) TO HABEN BOULEVARD

US 41 Bridge over Manatee River

Manatee County, Florida

Financial Project ID. 442630-2-32-01

Contract No. CA913

GEC Project No. 5485G

DRAFT

REPORT DATE: 7-11-2025

Geotechnical and Environmental Consultants, Inc.

July 11, 2025

Gannett Fleming TranSystems (GFT)
200 East Robinson Street, Suite 600
Orlando, Florida 32801

Attention: Mr. Kenneth R. Kerr, P.E.
Vice President – Bridge Design Group Leader

Subject: Phase I Report of Roadway Soil Survey
DESOTO BRIDGE REPLACEMENT
FROM SR 64 (MANATEE AVENUE EAST) TO HABEN BOULEVARD
US 41 Bridge over Manatee River
Manatee County, Florida
Financial Project ID. 442630-2-32-01
Contract No. CA913
GEC Project No. 5485G

Dear Mr. Kerr:

Geotechnical and Environmental Consultants, Inc. (GEC) is pleased to provide this Phase I Report of Roadway Soil Survey for the above-referenced project. The purpose of this investigation was to evaluate soil and groundwater conditions along the US 41 roadway alignment, and to use the information obtained to develop geotechnical engineering recommendations to guide design and construction of the proposed roadway and stormwater pond improvements.

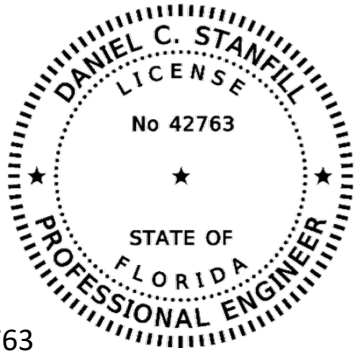
This report describes our exploration procedures, exhibits the data obtained and presents our conclusions and recommendations regarding the geotechnical engineering aspects of this project.

GEC appreciates the opportunity to work with GFT and FDOT District 1 on this project. Should there be any questions regarding the contents of this report, or if we may be of further assistance, please do not hesitate to contact us.

Very truly yours,

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS, INC.
919 Lake Baldwin Lane
Orlando, Florida 32814

Jose R. Benitez Jr., E.I.
Geotechnical Project Engineer



Daniel C. Stanfill, P.E.
Senior Vice President
Florida License No. 42763

DRAFT

William L. Fox, P.E.
Senior Geotechnical Engineer
Florida License No. 55385

This Report has been digitally signed and sealed by Daniel C. Stanfill, P.E. on the date adjacent to the seal. Signature must be verified on any electronic copies.

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SMO Resilient Modulus Test Results

1.0 SITE AND PROJECT DESCRIPTION

The overall project consists of an approximately 1.3-mile-long portion of US 41 (South Tamiami Trail) originating at SR 64 (Manatee Avenue East) (Station 2163+00) and terminating at Haben Boulevard (Station 2231+00) in Bradenton, Manatee County, Florida. We understand proposed improvements for the project include the replacement of the US 41 Bridge No. 130053 over the Manatee River along with associated roadway widening, stormwater ponds, and sidewalks. Additionally, we understand that temporary and permanent retaining walls will be required to accommodate the shifted bridge alignment. The location of the project site is shown on the U.S. Geological Survey (USGS) Palmetto and Bradenton, Florida Quadrangle maps (**Figure 1**) in **Appendix A**.

Based on preliminary concept plans for the new bridge structure, we understand that the bridge typical section will include 4 to 6, 12' travel lanes, 10' inside shoulders, 12' outside shoulders, and a 12' shared-use path (one in each direction). The approximate bridge length will be 2,334 linear feet. The realignment of the US 41 Bridge will also facilitate future widenings for the Bradenton-Palmetto Connector project.

This report describes our exploration procedures, exhibits the data obtained and presents our preliminary conclusions and recommendations regarding the geotechnical engineering aspects proposed roadway and pond elements. The results and geotechnical recommendations of our investigation for the proposed bridge replacement were submitted under separate cover.

2.0 REVIEW OF AVAILABLE DATA

To obtain general information on soil and groundwater conditions along the project alignment, GEC reviewed available data including the United States Geological Survey (USGS) Palmetto, Florida and Bradenton, Florida Quadrangle maps, the Natural Resources Conservation Service (NRCS) Soil Survey of Manatee County, Florida, and other published sources. A summary of this information is presented in the following report sections.

2.1 USGS Quadrangle Maps

Based on our review of the USGS Palmetto and Bradenton (1987), Florida Quadrangle maps and survey information provided by Element Engineering Group, LLC., the ground surface elevation along the US 41 roadway alignment generally ranges from +3 to +9 feet North American Vertical Datum (NAVD88). In addition, the Quadrangle map depicts the water levels near the bridge structure to range from 3 to 6 feet deep with the channel at approximately 14 feet deep.

Please note that a lowland swamp/marsh/slough feature is located at the northwestern end of the roadway alignment. This feature is typically indicative of surficial and subsurface organic soil deposits (muck). Additionally, the Quadrangle map indicates borrow pits south and adjacent to the eastern portion of the project alignment. It appears that most of the project alignment lies within areas of dredged materials.

The proposed US 41 roadway alignment is depicted on an excerpt of the USGS Quadrangle Maps (**Figure 1**) in **Appendix A**.

2.2 NRCS Soil Survey Review

The Natural Resources Conservation Service (NRCS) Soil Survey of Manatee County, Florida was reviewed to obtain near-surface soils information along the project alignment. The proposed US 41 roadway alignment is shown on an excerpt of the NRCS Soil Survey Map (**Figure 2**) in **Appendix A**. The following NRCS Soil Survey soil types identified within the project limits are summarized in **Table 1**.

Table 1: Manatee County NRCS Soil Survey Classifications

Unit ID	Soil Name	Depth (inches)	Soil Description	AASHTO Soil Classification Symbol	Depth to Seasonal High Groundwater (feet)	Hydrologic Soil Group
5	Bradenton fine sand, limestone substratum	0 – 6	Fine Sand	A-2-4, A-3	0.0 – 1.0	B/D
		6 – 13	Sand, fine sand, loamy fine sand	A-2-4, A-3		
		13 – 47	Sandy loam, fine sandy loam	A-2-4, A-2-6		
		47 – 51	Unweathered bedrock	---		
9	Canaveral sand, filled	0 – 80	Fine sand, sand, coarse sand	A-3	1.0 – 3.0	A/D
12	Cassia fine sand, moderately well drained	0 – 29	Fine sand	A-3	3.5 – 5.0	A
		29 - 41	Loamy fine sand, loamy sand, fine sand	A-2-4, A-3		
		41 – 80	Sand, fine sand	A-3		
21	Estero muck, tidal, 0 to 1 percent slopes	0 – 5	Muck	A-8	0.0	A/D
		5 – 13	Sand, fine sand	A-2-4, A-3		
		13 – 55	Fine sand, sand	A-2-4, A-3		
		55 – 80	Sand, fine sand	A-2-4, A-3		
100	Waters of the Gulf of Mexico	---	---	---	---	---

The NRCS Soil Survey depicts Canaveral sand (Soil Map Unit No. 9) along the majority of the US 41 roadway alignment. This soil type is classified by the NRCS as a nearly level, moderately well

drained to somewhat poorly drained sand with shell that has been dredged/excavated from water bodies and has been re-worked and shaped by earthmoving equipment for urban use. The NRCS predicts the seasonal high groundwater level for this soil type to generally range from 1.0 to 3.0 feet below the natural ground surface.

The western end of the roadway alignment also consists of Cassia fine sand (Soil Map Unit No. 12), while the eastern end of the roadway alignment consists of Bradenton fine sand (Soil Map Unit No. 5). These soil types are described by the NRCS as nearly level, moderately well drained to poorly drained sand soils on low ridges, hammocks, and knolls in the uplands. Bradenton fine sand soils contain shallow limestone and possible rock outcrops. The NRCS estimates seasonal high groundwater levels for these soil types to range from the ground surface to 5.0 feet below the natural ground surface.

In addition, the NRCS soil survey map depicts Estero muck (Soil Map Unit No. 21) along the easternmost portion of the US 41 alignment (approximate Stations 2221+00 to 2231+00). This soil type may contain high organic content soils (A-8), which can have severe limitations for roadway construction if left untreated. This frequently ponded and depressional soil type consists of nearly level, very poorly drained sands to mucks with an estimated seasonal high groundwater level at the natural ground surface.

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. The soils and groundwater data collected as part of this study should be considered a more accurate representation of soil conditions along the project alignment.

2.3 FDEP Potentiometric Map Data

Artesian groundwater conditions can be predicted based on comparison of the Floridan aquifer potentiometric surface and ground surface elevations. GEC reviewed potentiometric surface contour elevations of the upper Floridan aquifer developed from September 2021 water level data (the most recent data available) from the Florida Department of Environmental Protection (FDEP), Florida Geological Survey Geospatial data entitled Upper Floridan Aquifer Potentiometric Surface. The FDEP map indicates the potentiometric surface of the Floridan aquifer in the potentiometric surface of the Floridan Aquifer in the vicinity of the project alignment is approximately at elevation +20 feet NGVD (+19 feet NAV88). According to the USGS Quadrangle map, ground surface elevations at the project site range from approximately +3 to +9 feet NAVD88.

Since the existing ground surface elevations in the vicinity of the project alignment are below the predicted potentiometric surface, artesian flow conditions could occur at the site if deep excavations were to occur. The contractor should be prepared to control artesian water up to a head elevation of +19 feet NAVD88.

3.0 REGIONAL GEOLOGY

Based on a review of the Florida Geological Survey Special Publication No. 59, Florida Geomorphology Atlas, 2022, the project alignment is located within the Florida Geomorphology Osceola Plain Province located within the Peace River District. The oldest near-surface stratigraphic units at the land surface of the Osceola Plain Province are the Oligocene-Pliocene Hawthorn Group, Miocene Hawthorn Group, and Tertiary-Quaternary shelly sediments. Surficial sediments in this province include Quaternary undifferentiated sediments and Holocene sediments. The province includes lower elevation plains along the Gulf of Mexico coast and estuarine coastlines. Karst features are widespread throughout the province and tend to be shallow cover-subsidence which form Tertiary-Quaternary shelly sediments. However, the northern portion of the province experiences cover-collapse sinkholes.

No method of geological, geotechnical, or geophysical exploration is known that can accurately predict the occurrence of sinkholes. It is common geotechnical practice in Central Florida to make a qualitative prediction of sinkhole risk based on local geological conditions in the vicinity of a particular site.

Based on our review of 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 project site is located in an area of generally low to moderate recharge and, therefore, we can conclude based solely on this data that the project site is located in an area where the relative risk of sinkhole formation is low to moderate compared to the overall risk across Central Florida.

In addition, based on our review of the latest sinkhole risk map entitled Favorable Geology for Sinkhole Formation, the project site lies in Florida Sinkhole Type Area IV, which describes the area as consisting of cohesive sediments interlayered with sporadic carbonate beds. The sinkholes in the area are very few, deep, have a large diameter, develop, and tend to cover-collapse.

4.0 SUBSURFACE EXPLORATION

In addition to consulting the sources of information previously discussed for regional and site-specific soils data, GEC conducted a subsurface exploration to evaluate soil and groundwater conditions along the roadway alignment and stormwater pond areas. The subsurface exploration is detailed in the following report sections.

4.1 Roadway

GEC explored subsurface conditions along the roadway widening areas by performing manual auger borings on approximate 100-foot intervals to a depth of 5 feet below existing ground. Approximately every 500 feet, a Standard Penetration Test (SPT) boring was performed to a depth of 20 feet. Additionally, in areas of proposed sidewalk, GEC performed manual auger borings on approximate 200-foot intervals to a depth of 5 feet below existing ground. Adjustments to the boring depths were made in the field based on site access, groundwater levels, and utility limitations.

GEC also obtained 10 representative soil samples along the US 41 roadway alignment for Resilient Modulus (M_R) testing.

4.2 Stormwater Ponds

GEC explored subsurface conditions at the proposed stormwater ponds by performing nine SPT borings to depths of 20 to 30 feet and a total of five field permeability tests.

4.3 Boring Locations

Roadway boring locations were initially established in the field using the provided design and alignment files from GFT and a handheld, sub-meter accuracy, Trimble Global Positioning Satellite (GPS) unit. Although the boring locations are only approximate, the methods used to locate them are, in GEC's opinion, sufficient to meet the intent of this study.

The pond borings locations were initially located in the field by using existing plans and a hand-held submeter Trimble GPS unit. The locations were later surveyed by Element Engineering Group, LLC. for horizontal and vertical control.

The boring locations are referenced from the Centerline of Construction for US 41. Boring locations are depicted on **Figures 3A** through **3E** in **Appendix A**.

4.4 Manual Auger Borings

GEC's engineering technician performed standard barrel manual auger borings in general accordance with ASTM D1452 by manually turning a 3-inch diameter, 6-inch-long sampler into the soil until it was full. He then retrieved the sampler and visually examined and classified the soil. This procedure was repeated until the desired termination depth was achieved. Our technician collected representative samples for further visual examination and classification in our laboratory.

4.5 Machine Auger Borings

Machine auger borings were performed in general accordance with ASTM D1452. Machine auger borings were performed by hydraulically turning a 4-inch-wide continuous flight, solid-stem, auger into the ground in 5-foot increments until the desired boring termination depth was achieved. The auger flights were retrieved in 5-foot increments without further rotation and the soils retained on the auger were examined by our technician prior to collection of representative soil samples. The samples were placed in sealed jars and transported to GEC's laboratory for further examination and limited laboratory testing.

4.6 Standard Penetration Test Borings

SPT borings were drilled in general accordance with ASTM Procedure D-1586. The boreholes were advanced by the rotary wash method with bentonite-based mud used as the circulating fluid to stabilize the borehole. GEC's field crew obtained SPT samples continuously in the borings to a depth of 10 feet and at 5-foot depth intervals thereafter. However, the top 6 feet were hand augered for utility clearance at all boring locations. A GEC engineering technician monitored the drilling operation, and collected, examined, and visually classified each sample. He then packaged representative portions of each sample for transport to our laboratory for further examination and laboratory testing.

4.7 Corrosion Series Sampling

Ten soil samples were obtained for corrosion series testing. The samples were obtained along the roadway alignment at or near boring locations. The samples were immediately placed in glass jars and returned to our laboratory for chemical testing.

4.8 Field Permeability Tests

Five falling head field permeability tests were performed by driving a 3-inch diameter casing into the ground to the desired test depth and washing the soil out of the casing with water. The casing was backfilled with gravel to about 30 inches above the bottom of the casing and was then raised 24 inches.

For a falling head permeability test, water was then added to the casing to achieve a stable water level. Once the water level stabilized, the water source was taken away and the drop in water level in the casing with respect to time was recorded.

These relationships were used to calculate the permeability of the soil. Field permeability tests and calculations were performed in general conformance with NAVFAC DM 7.1-103 to 7.1-108.

4.9 Groundwater Measurement

A GEC engineering technician measured the depth to groundwater in the boreholes at the time of drilling and again after approximately 24 hours. Once the 24-hour groundwater measurements were recorded, the boreholes were then backfilled with soil cuttings to the prevailing ground surface. Borings that did not encounter groundwater at the time of drilling (GNE) were backfilled upon completion.

5.0 LABORATORY TESTING

Selected soil samples retrieved from the borings were tested in accordance with Florida Standard Testing Methods (FM) and American Association of State Highway Transportation Officials (AASHTO) testing methods. Our laboratory testing program is summarized in **Table 2**:

Table 2: Laboratory Testing Program

Test	Test No.
Grain Size Analysis	AASHTO – T 88
Natural Moisture Content	AASHTO – T265
Atterberg Limits	AASHTO – T89/90
Organic Content	FM 1 – T267
Corrosion Series (pH, sulfates, chlorides, resistivity)	FM 5 – 550/551/552/553

The results of the laboratory testing for the roadway and pond borings are summarized on the Roadway Soil Survey sheet (**Figure 4**) and Laboratory Test Results Table (**Table 5**) in **Appendix A**.

Corrosion series tests were performed on representative soil samples obtained along the US 41 roadway alignment to support optional pipe materials analysis. The results of the corrosion series tests are included in **Table 6** in **Appendix A.**

6.0 DESCRIPTION OF SUBSURFACE CONDITIONS

The results of our roadway borings and pond borings are presented on the boring results sheets (**Figures 5A** to **5E** and **Figure 6**) in **Appendix A**. The soils encountered in the roadway borings and pond borings were classified in accordance with the American Association of State Highway and Transportation Officials (AASHTO) Soil Classification System (A-3, A-2-4, etc.). Soils were described using the ASTM soil descriptions (e.g., sand with silt). We based our classifications on visual examination and the limited laboratory testing performed.

The boring logs indicate subsurface conditions only at the specific boring locations at the time of our field exploration. Subsurface conditions, including groundwater levels, at other locations of the project site may differ from conditions we encountered at the boring locations. Moreover, conditions at the boring locations can change over time. Groundwater levels fluctuate seasonally, and soil conditions can be altered by earthmoving operations.

The depths and thicknesses of the subsurface strata indicated on the boring logs were interpolated between samples obtained at different depths in the borings. The actual transition between soil layers may be different than indicated. *These stratification lines were used for our analytical purposes and actual earthwork quantities measured during construction should be expected to vary from quantities calculated based on the information in this report.*

6.1 Soil Stratigraphy

The descriptions and stratum numbers used for the encountered soils are summarized in **Table 3**:

Table 3: Soil Stratigraphy

Stratum No.	Soil Description	AASHTO Classification
1	Light brown to dark brown to light gray to dark gray fine sand to fine sand with silt, occasional trace to mostly shell, trace limerock, weathered limestone, and organic material	A-3
2	Light brown to dark brown fine sand with silt to silty fine sand, occasional trace to mostly shell, trace to some weathered limestone, trace organic material	A-2-4 (-200 ≤ 15%)

Stratum No.	Soil Description	AASHTO Classification
3	Dark gray silty fine sand, occasional trace to few shell, trace organic material	A-2-4 (-200 > 15%)
4	Light brown to brown to light gray to dark gray clayey fine sand, occasional trace shell, trace to little weathered limestone	A-2-6, A-2-7, A-7-6 (LL ≤ 50%)
5	Brown to light gray to dark gray clayey fine sand to sandy clay to clay, occasional trace shell and phosphate, trace to some weathered limestone	A-2-7, A-7-6 (LL > 50%)
6	Dark gray to dark brown mucky fine sand to sandy muck, occasional trace shell and roots	A-8
7	Gray weathered limestone	---

6.2 Roadway Boring Results

In general, the roadway auger borings performed along the US 41 roadway alignment typically encountered fine sand to fine sand with silt to silty fine sand (A-3, A-2-4) (Strata 1 and 2) from existing ground surface to depths ranging from 5 to 9.5 feet below the existing ground surface. A layer of silty fine sand with fines content greater than 15% (A-2-4; Stratum 3) was encountered at depths of 1.5 to 3 feet at boring location RB-35. Layers of clayey fine sand to sandy clay to clay (A-2-6, A-2-7, A-7-6) (Strata 4 and 5) were encountered at boring locations RB-19, AB-12 to AB-14, and AB-19 to AB-21 at depths ranging from 1.5 to 9.5 feet deep. Layers of mucky fine sand to sandy muck (A-8; Stratum 6) were encountered at depths ranging from the ground surface to 8.5 feet at boring locations RB-26, RB-27, AB-12, AB-20, and AB-21. Additionally, layers of weathered limestone were encountered at boring locations RB-38 and RB-39 at depths ranging from 0.5 to 2 feet deep.

The roadway SPT borings (RB-6, RB-11, RB-16, RB-21, RB-32, RB-34, and RB-40) typically encountered very loose to medium dense fine sand with silt to silty fine sand (A-3, A-2-4) (Strata 1 and 2) to a maximum boring termination depth of 35 feet below the existing ground surface. A layer of very loose silty fine sand with fines content greater than 15% (A-2-4; Stratum 3) was encountered at depths of 13.5 to 18.5 feet deep at boring location RB-21. Layers of loose to very dense clayey fine sand and soft to hard sandy clay to clay (A-2-6, A-2-7, A-7-6) (Strata 4 and 5) were encountered at boring locations RB-11, RB-16, RB-21, RB-32, B-34, and RB-40 at depths ranging from 8 to 35 feet deep.

For specific subsurface profiles at the roadway boring locations please refer to the Report of Borings for Roadway sheets (**Figures 5A** to **5E**) in **Appendix A**.

6.3 Pond Boring Results

In general, the SPT borings performed for the stormwater ponds south of the Manatee River typically encountered very loose to dense fine sand to fine sand with silt (A-3, Stratum 1) to a maximum boring termination depth of 30 feet below the existing ground surface. At boring location PB-3, the A-3 stratum is underlain by loose clayey fine sand to firm sandy clay to clay (A-2-7, A-7-6) (Stratum 5).

For the pond borings north of the Manatee River, the borings typically encountered very loose to loose fine sand to fine sand with silt (A-3, Stratum 1) underlain by firm to hard sandy clay to clay (A-2-6, A-2-7, A-7-6) (Strata 4 and 5) to a maximum boring termination depth of 20 feet below the existing ground surface. Additionally, a layer of mucky fine sand to sandy muck (A-8, Stratum 6) was encountered at depths ranging from 4 to 6 feet at boring location PB-7.

For specific subsurface profiles at the pond boring locations please refer to the Pond Boring Results sheet (**Figure 6**) in **Appendix A**.

6.4 Field Permeability Test Results

GEC performed five field permeability tests in the proposed stormwater pond areas at depths ranging from 2 to 8 feet below the existing ground surface to evaluate the hydraulic conductivity (permeability) of the in-situ soils. The results of these tests are presented on **Table 7** in **Appendix A**. Field permeability test calculations are included in **Appendix B**.

6.5 Groundwater Levels

Groundwater was not encountered at roadway boring locations RB-1 to RB-3, RB-5, RB-7, RB-12 to RB-15, RB-17 to RB-20, RB-22, RB-36 to RB-39, and AB-2 to AB-4 indicated, as “GNE” on the boring profiles. The remaining roadway auger/SPT borings encountered groundwater at depth ranging from 0.7 to 7.1 feet below the ground surface.

The pond borings encountered groundwater at elevations ranging from -0.9 to +2.3 feet NAVD88 (or depths ranging from 4.1 to 5.6 feet below the ground surface).

Groundwater levels can vary seasonally and with changes in subsurface conditions between boring locations. Groundwater levels can also be affected by tidal fluctuations in the Manatee River. Alterations in surface and/or subsurface drainage brought about by site development can also affect groundwater levels. *Therefore, groundwater depths measured at different times or at*

different locations along the project alignment can be expected to vary from those measured by GEC during this investigation.

For the purposes of this report, estimated seasonal high groundwater levels are defined as groundwater levels that are anticipated at the end of the wet season of a "normal rainfall" year under current site conditions. We define a "normal rainfall" year as a year in which rainfall quantity and distribution were at or near historical rainfall averages.

GEC estimated seasonal high groundwater levels for each boring location unless the seasonal high is anticipated to be below the bottom of the boring performed at that location. Seasonal high groundwater levels at the roadway boring locations were estimated to range from 1 to 5 feet below the ground surface. Additionally, the estimated seasonal groundwater levels at the pond boring areas were estimated to range from +2.2 to +5.2 feet NAVD88 (or depths ranging from 1 to 2.5 feet below the ground surface). The estimated seasonal high groundwater level at roadway borings (RB-26 to RB-31) are estimated to be above the ground surface, indicated as "AGS". The height to which water may rise above the ground surface should be determined by the drainage engineer based on environmental indications and is not identified as part of this study.

Please note that temporary perched groundwater conditions may occur at this project site due to the presence of shallow, low permeability silty/clayey soils (A-2-4, A-2-6, A-2-7, A-7-6).

The encountered and estimated seasonal high groundwater levels at the boring locations are presented on the boring result sheets and on **Table 9** in **Appendix A**.

7.0 ANALYSES AND RECOMMENDATIONS

The analyses and recommendations contained in this report are based in part on the data obtained from a limited number of soil samples and groundwater measurements obtained from widely-spaced borings. The investigation methods used indicate subsurface conditions only at the specific boring locations, only at the time they were performed, and only to the depths penetrated. *Borings cannot be relied upon to accurately reflect the variations that usually exist between boring locations and these variations may not become evident until construction.*

7.1 Standard Embankment Construction

The results of our geotechnical investigation indicate that the majority of the near-surface soils along the roadway alignment are suitable for support of the proposed roadway embankment

construction. The borings that encountered Muck (A-8, Stratum 6) soils are **not suitable** for support of the roadway embankment.

All fill soils placed for roadway construction should be selected in accordance with the FDOT Standard Plans, Index 120-001. The soils encountered on this project should be utilized as presented in **Table 4**:

Table 4: Embankment Soil Utilization

Stratum No.	AASHTO Classification	Embankment Soil Utilization
1	A-3	Select (S)
2	A-2-4 (-200 ≤ 15%)	Select (S)
3	A-2-4 (-200 > 15%)	Select (S)
4	A-2-6, A-2-7, A-7-6 (LL ≤ 50%)	Plastic (P)
5	A-2-7, A-7-6 (LL > 50%)	High Plastic (H)
6	A-8	Muck (M)
7	Weathered Limestone	Select (S)

The soils encountered in our borings classified as fine sand to fine sand with silt (A-3) to silty fine sand (A-2-4) (Strata 1, 2, and 3) should be treated as Select (S) material. The silty fine sands (A-2-4, Strata 2 and 3) materials may retain excess moisture and may be difficult to dry and compact. Therefore, the contractor should be prepared to manipulate the moisture content of unstable subsoil as necessary to achieve stability and compaction requirements.

Stratum 7 can be treated as a Select (S) material but may need to be pulverized prior to use as fill. Please note that Stratum 7 may be difficult to excavate, penetrate, and dewater, and may require special equipment and/or procedures to facilitate excavation, penetration, and dewatering.

Any Muck (M) soils (Stratum 6) encountered along the alignment should not be used in embankment construction. **These organic soils should be excavated in accordance with the FDOT Standard Plans, Index 120-002, unless otherwise shown on the project cross-sections.**

Any Plastic (P) (Stratum 4) and High Plastic (H) (Stratum 5) material encountered along the alignment should be removed in accordance with the project plans and the FDOT Standard Plans, Index 120-002, unless otherwise shown on the project cross-sections.

Muck/plastic material removal recommendations will be developed for the next submittal once cross-sections become available.

Embankment fill should be placed and compacted in accordance with the FDOT Standard Plans. In-place density tests should be performed on fill soils to verify the specified degree of compaction. The minimum test frequency should be in accordance with the FDOT Materials, Sampling, Testing and Reporting Guide.

7.2 Pavement Design

Ten bulk soil samples obtained at the project site were delivered to the State Materials Office (SMO) for determination of an embankment resilient modulus (M_R) for pavement design. The samples were taken from the Strata 1 and 2 (A-3, A-2-4) soils which are the predominant shallow soil types encountered at our boring locations.

To obtain a design embankment resilient modulus for the embankment material, the SMO used the 90 Percent Method as outlined in both the Flexible Pavement Design Manual and Soils and Foundations Handbook. The M_R test results from the samples obtained along the US 41 roadway alignment were combined to provide a single design embankment M_R value of 13,300 psi. The results of the SMO analyses are included in **Appendix C**.

After proper subsoil preparation, the pavement subgrade, base and surface courses should be constructed in accordance with the current FDOT Standard Specifications for Road and Bridge Construction.

We recommend that final pavement grades provide a minimum of 3 feet of vertical separation between the bottom of a limerock base course and seasonal high groundwater levels. This criteria is recommended to help protect the pavement from damage caused by saturation of the base course. **If 3 feet of vertical separation is not achieved, the design M_R value should be reduced in accordance with the Flexible Pavement Design Manual.**

If final grades do not provide at least 2 feet of vertical separation between the bottom of the base course and the estimated seasonal high groundwater level, then an alternative base course such as asphalt base course (black base) and/or pavement underdrains may be required. If final grades do not provide at least 1 foot of vertical separation between the bottom of the base course and the estimated seasonal high groundwater level, pavement underdrains will be required.

7.3 Stormwater Pond Design

The soils encountered at the pond boring locations are predominately Strata 1 (A-3) soils, which are suitable for use as fill for roadway embankment construction. However, boring locations (PB-

3 and PB-6 to PB-9) are underlain by Strata 4 and 5 (A-2-6, A-2-7, A-7-6) soils to a depth of 30 feet below the existing ground surface. Additionally, a layer of Strata 6 (A-8) muck soil was encountered at depths ranging from 4 to 6 feet at boring location PB-7.

Organic soils (A-8, Stratum 6), Plastic (P) material (A-2-6, A-2-7, A-7-6; Stratum 4), and High Plastic (H) material (A-2-7, A-7-6; Stratum 5) if encountered/excavated at pond sites should be removed and not used in embankment construction.

Based on the results of our subsurface exploration, **Table 7** in **Appendix A** summarizes the recommended groundwater levels and permeability test results for pond design. Additionally, **Table 8** in **Appendix A** provides unconfined aquifer parameters for use in pond design.

8.0 USE OF THIS REPORT

GEC has prepared this report for the exclusive use of our client, GFT, and FDOT District 1, and for specific application to this project. GEC will not be held responsible for any other party's interpretation or use of this report's subsurface data or engineering analysis without our written authorization.

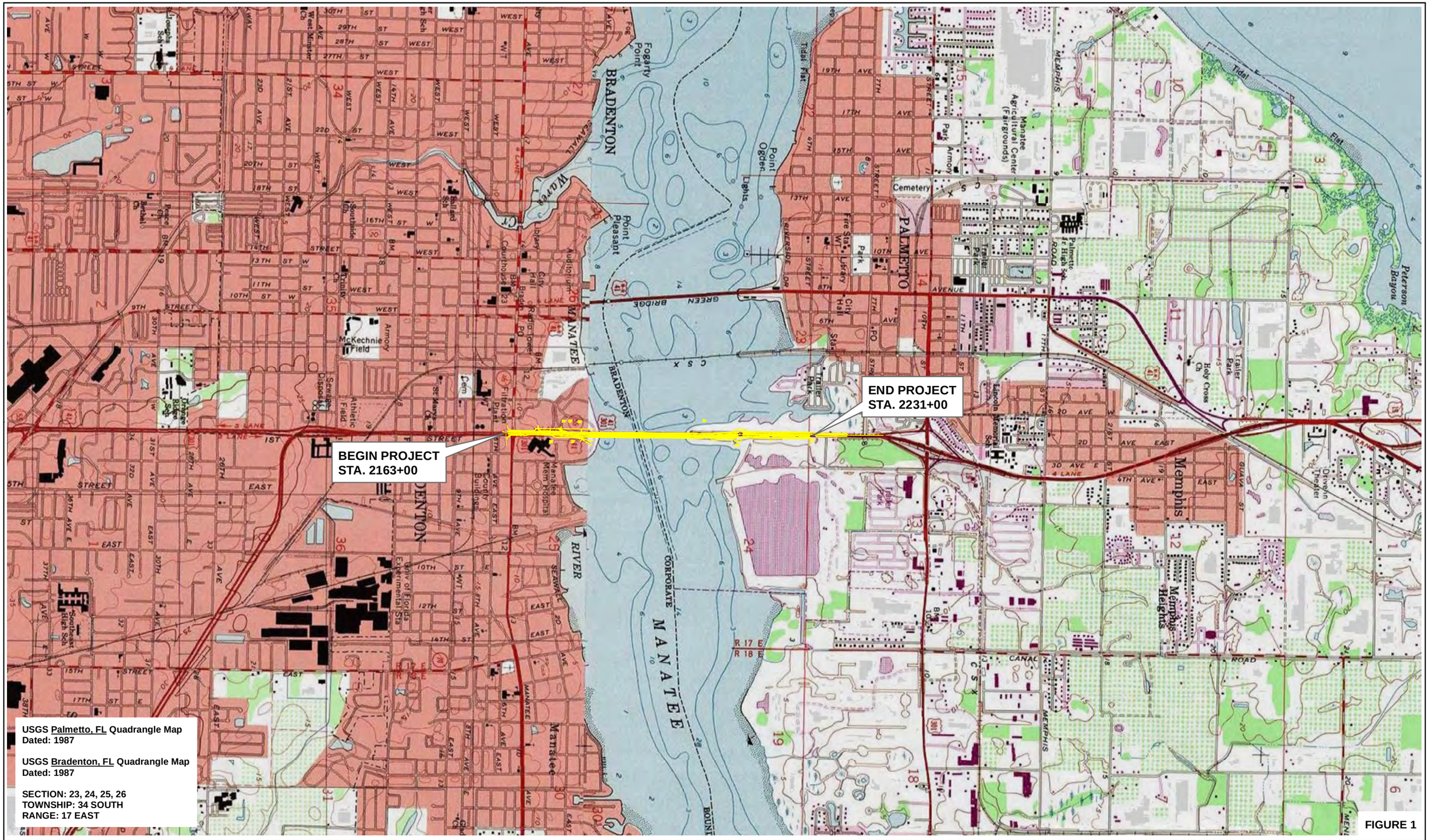
The sole purpose of the borings performed by GEC at this site was to obtain indications of subsurface conditions as part of a geotechnical exploration program. GEC has not evaluated the soil from the roadway borings and pond borings for the potential presence of contaminated soil or groundwater, nor have we subjected any soil samples to analysis for contaminants.

GEC has strived to provide 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 or recommendations of this report should be disregarded if the nature, design, or location of the facilities is changed. If such changes are contemplated, GEC should be retained to review the new plans to assess the applicability of this report in light of proposed changes.

APPENDIX A

USGS QUADRANGLE MAP



USGS Palmetto, FL Quadrangle Map
Dated: 1987

USGS Bradenton, FL Quadrangle Map
Dated: 1987

SECTION: 23, 24, 25, 26
TOWNSHIP: 34 SOUTH
RANGE: 17 EAST

FIGURE 1

N

0 1,000 2,000
Feet

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STATE OF FLORIDA DEPARTMENT OF TRANSPORATATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 41	MANATEE	442630-2-32-01

USGS QUADRANGLE MAP

SHEET NO.

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NRCS SOIL SURVEY MAP

NRCS Soil Survey of Manatee County, FL
Manatee County Map Unit Legend
5 - Bradenton fine sand, limestone substratum
9 - Canaveral sand, filled
12 - Cassia fine sand, moderately well drained
21 - Estero muck, tidal, 0 to 1 percent slopes
100 - Waters of the Gulf of Mexico

FIGURE 2

N

0 300 600
Feet

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORATATION

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US 41	MANATEE	442630-2-32-01

NRCS SOIL SURVEY MAP

SHEET NO.

T:\J5485GE DeSoto Bridge Replacement_Transystems\7 CADD Files\ArcGIS\5485G BRIDGE NRCS.mxd 6/27/2025

BORING LOCATION PLAN

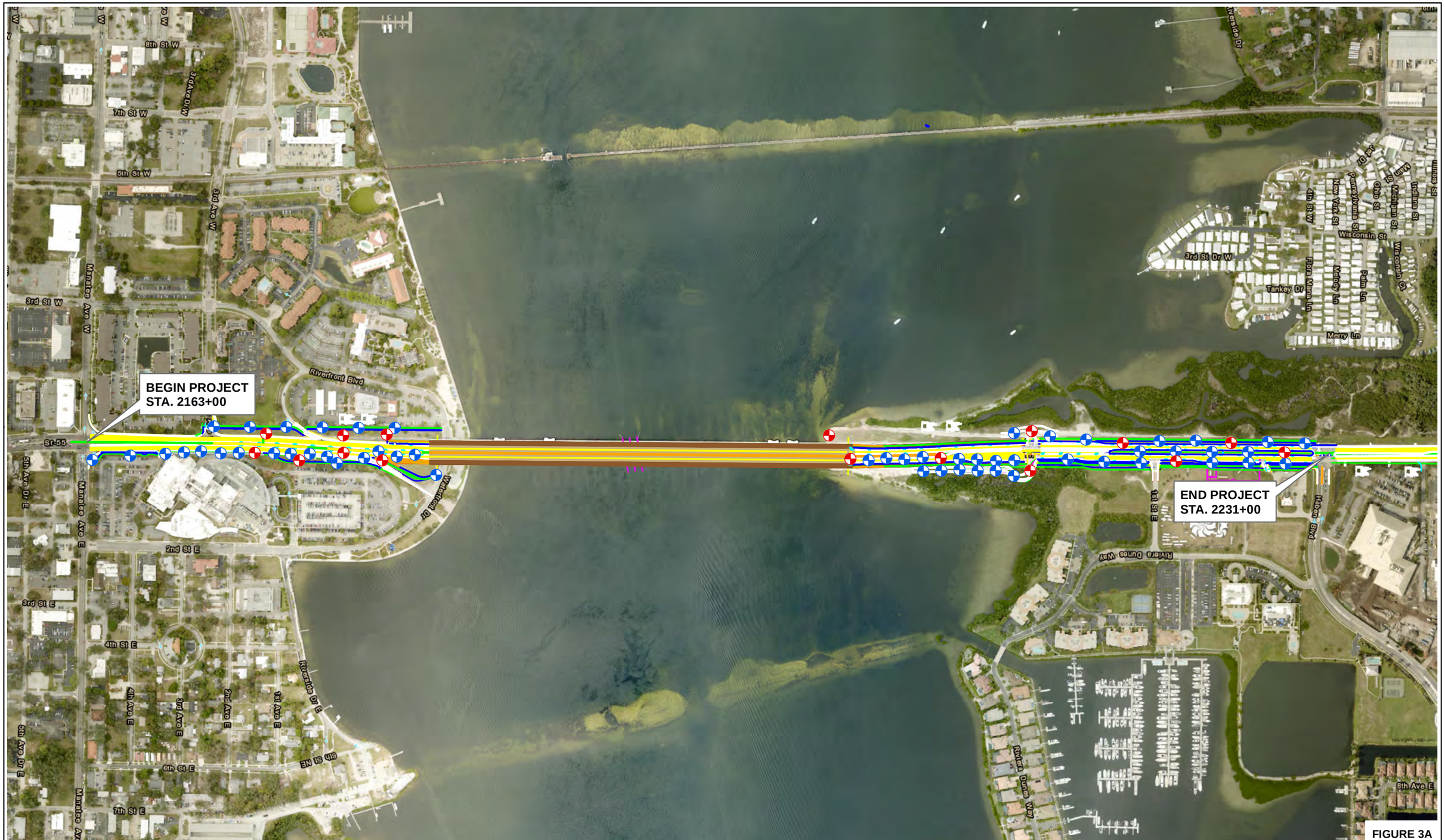

FIGURE 3A

APPROXIMATE SPT BORING LOCATION
APPROXIMATE AUGER BORING LOCATION

N

0 250 500
Feet

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US 41	MANATEE	442630-2-32-01

BORING LOCATION PLAN (OVERVIEW)

SHEET NO.

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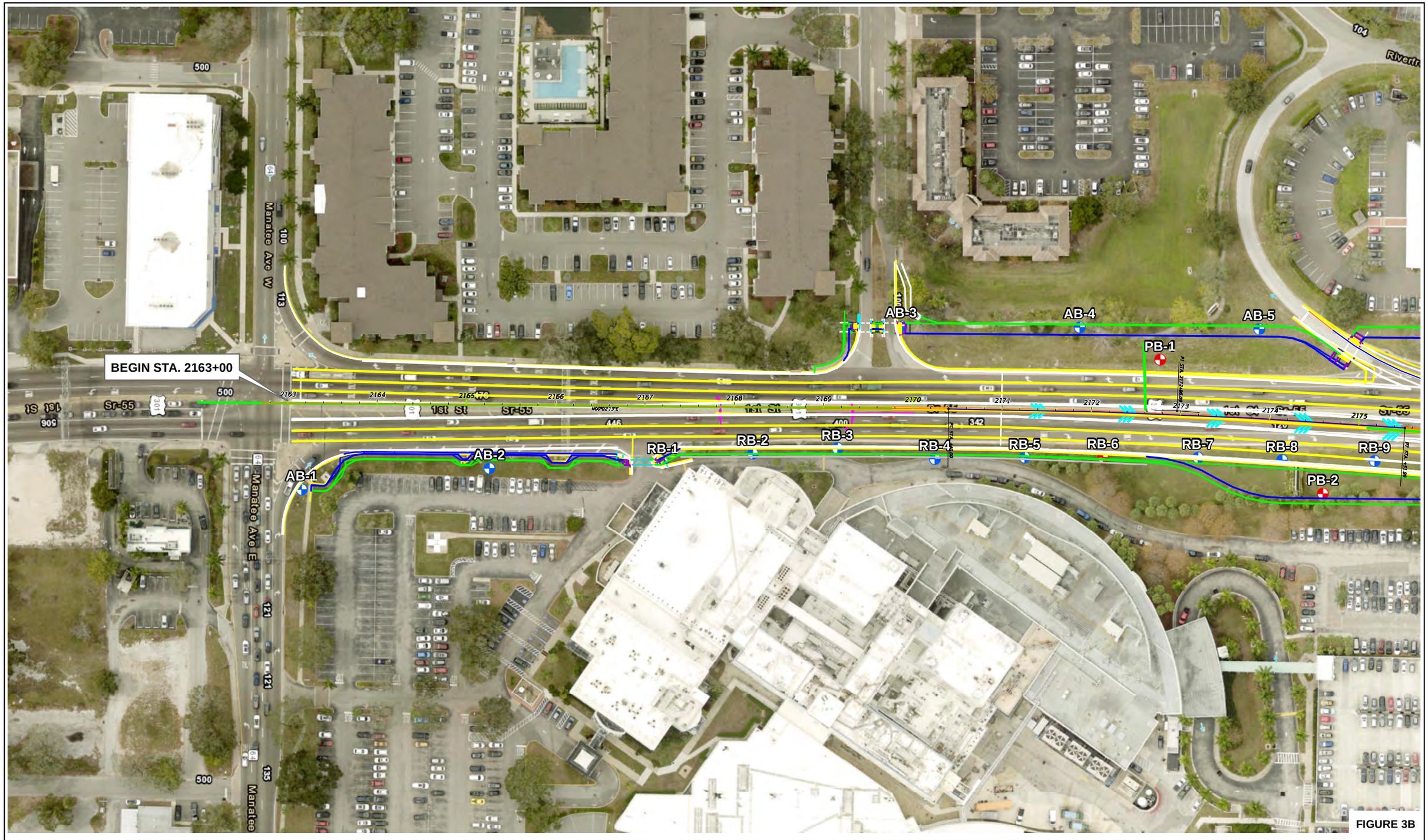

FIGURE 3B

APPROXIMATE SPT BORING LOCATION
APPROXIMATE AUGER BORING LOCATION

N

0 50 100
Feet

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BORING LOCATION PLAN

SHEET NO.

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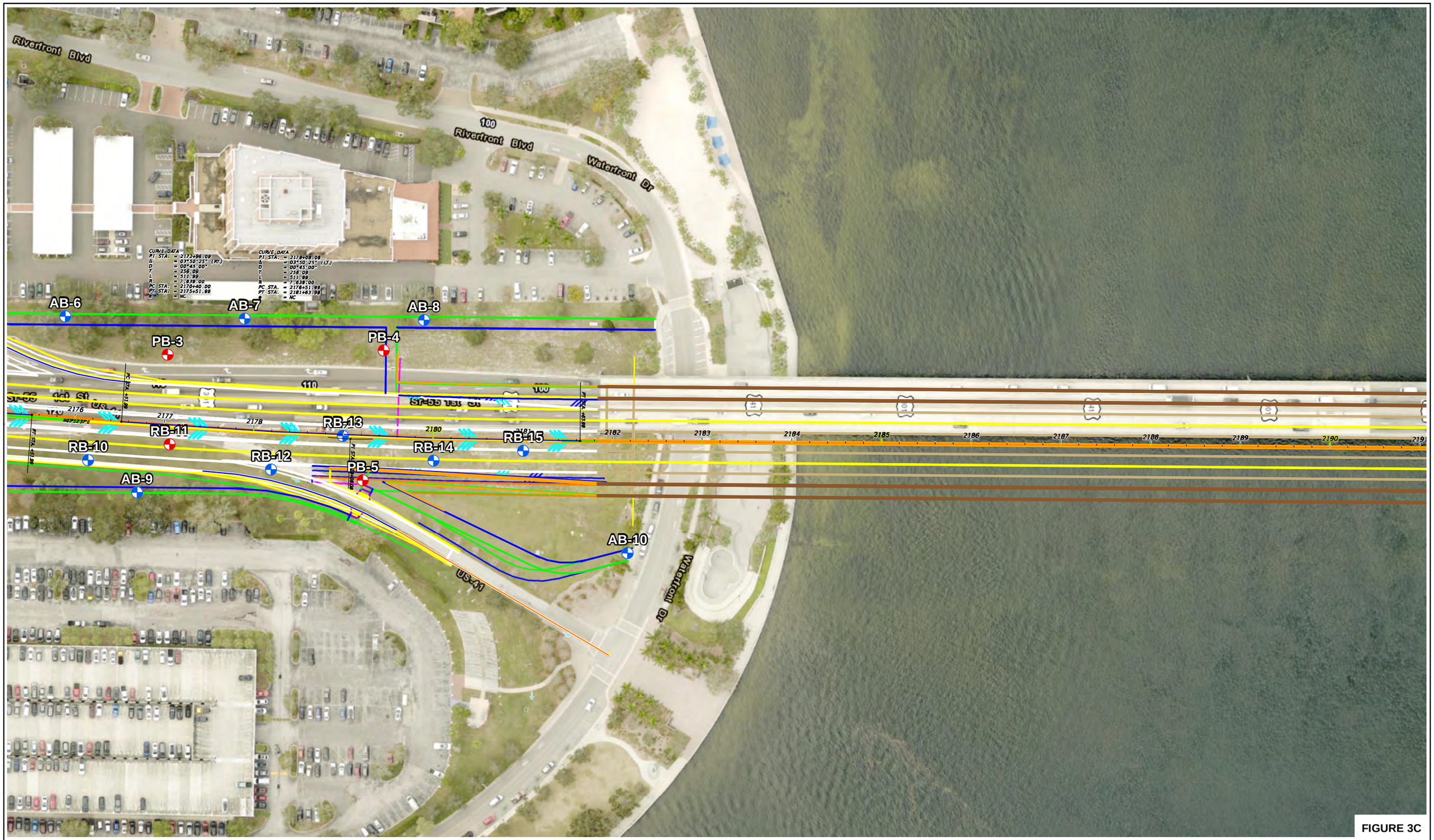

FIGURE 3C

APPROXIMATE SPT BORING LOCATION

APPROXIMATE AUGER BORING LOCATION

N

0 50 100

Feet

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORATATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 41	MANATEE	442630-2-32-01

BORING LOCATION PLAN

SHEET NO.

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FIGURE 3D

APPROXIMATE SPT BORING LOCATION

APPROXIMATE AUGER BORING LOCATION

N

0 50 100

Feet

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORATATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 41	MANATEE	442630-2-32-01

BORING LOCATION PLAN

SHEET NO.

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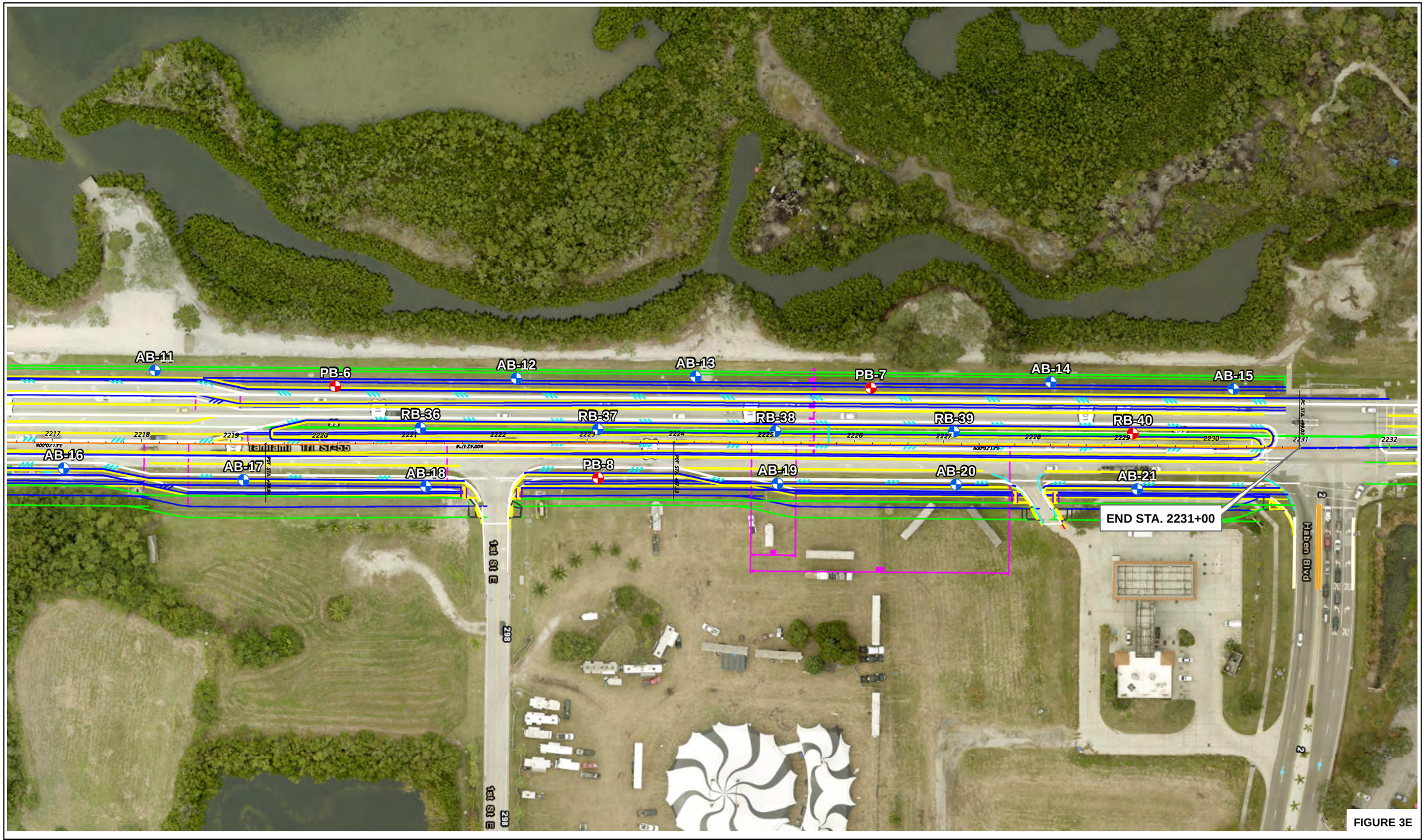

FIGURE 3E

APPROXIMATE SPT BORING LOCATION
APPROXIMATE AUGER BORING LOCATION

N

0 50 100
Feet

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORATATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 41	MANATEE	442630-2-32-01

BORING LOCATION PLAN

SHEET NO.

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ROADWAY SOIL SURVEY

DATE OF SURVEY: MARCH 2025
SURVEY MADE BY: GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS, INC.
SUBMITTED BY: DANIEL C. STANFILL, P.E.

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION
MATERIALS AND RESEARCH

DISTRICT: 1
ROAD NO.: US 41
COUNTY: MANATEE

FINANCIAL PROJECT ID: 442630-2-32-01
PROJECT NAME: DESOTO BRIDGE REPLACEMENT FROM SR 64 (MANATEE AVENUE EAST) TO HABEN BOULEVARD

CROSS SECTION SOIL SURVEY FOR THE DESIGN OF ROADS

US 41 SURVEY BEGIN STA.: 2163+00 US 41 SURVEY END STA.: 2231+00
REFERENCE: CENTERLINE OF CONSTRUCTION

	ORGANIC CONTENT		MOISTURE CONTENT		SIEVE ANALYSIS RESULTS PERCENT PASS (%)						ATTERBERG LIMITS (%)					CORROSION TEST RESULTS				
STRATUM NO.	NO. OF TESTS	% ORGANIC	NO. OF TESTS	MOISTURE CONTENT	NO. OF TESTS	10 MESH	40 MESH	60 MESH	100 MESH	200 MESH	NO. OF TESTS	LIQUID LIMIT	PLASTIC INDEX	AASHTO GROUP	DESCRIPTION	NO. OF TESTS	RESISTIVITY ohm-cm	CHLORIDE ppm	SULFATES ppm	pH
1	2	1.2	2	28-31	23	82-100	56-100	39-100	22-62	2-10	0	-	-	A-3	LIGHT BROWN TO DARK BROWN TO LIGHT GRAY TO DARK GRAY FINE SAND TO FINE SAND WITH SILT, OCCASIONAL TRACE TO MOSTLY SHELL, TRACE LIMEROCK, WEATHERED LIMESTONE, AND ORGANIC MATERIAL	8	1,300-10,000	<15-45	<6-195	7.9-9.4
2	0	-	0	-	3	96-100	78-93	68-88	40-51	12-14	0	-	-	A-2-4	LIGHT BROWN TO DARK BROWN FINE SAND WITH SILT TO SILTY FINE SAND, OCCASIONAL TRACE TO MOSTLY SHELL, TRACE TO SOME WEATHERED LIMESTONE, TRACE ORGANIC MATERIAL (-200≤15%)	1	1,800	15	231	8.1
3	1	3.0	1	42	2	99-100	78-97	55-89	35-59	19-20	0	-	-	A-2-4	DARK GRAY SILTY FINE SAND, OCCASIONAL TRACE TO FEW SHELL, TRACE ORGANIC MATERIAL (-200>15%)	0	-	-	-	-
4	0	-	4	22-37	4	84-100	64-98	55-96	38-63	25-47	4	36-45	17-26	A-2-6, A-2-7, A-7-6	LIGHT BROWN TO BROWN TO LIGHT GRAY TO DARK GRAY CLAYEY FINE SAND, OCCASIONAL TRACE SHELL, TRACE TO LITTLE WEATHERED LIMESTONE (LL≤50%)	1	140	90	219	9.3
5	0	-	2	33-52	2	100	98-99	97-98	70-93	31-58	2	52-61	37-46	A-2-7, A-7-6	BROWN TO LIGHT GRAY TO DARK GRAY CLAYEY FINE SAND TO SANDY CLAY TO CLAY, OCCASIONAL TRACE SHELL AND PHOSPHATE, TRACE TO SOME WEATHERED LIMESTONE (LL>50%)	0	-	-	-	-
6	5	5.2-32	5	38-198	5	93-100	81-98	75-96	36-75	11-55	0	-	-	A-8	DARK GRAY TO DARK BROWN MUCKY FINE SAND TO SANDY MUCK, OCCASIONAL TRACE SHELL AND ROOTS	0	-	-	-	-
7	0	-	0	-	1	86	61	54	37	25	0	-	-	-	GRAY WEATHERED LIMESTONE	0	-	-	-	-

NOTES

1. SOIL BOUNDARIES ARE APPROXIMATE AND REPRESENT SOIL STRATA AT EACH BORING LOCATION ONLY. ANY SUBSOIL CONNECTING LINES SHOWN ARE FOR ESTIMATING EARTHWORK ONLY AND DO NOT INDICATE ACTUAL STRATUM LIMITS. ANTICIPATE SUBSURFACE VARIATIONS BETWEEN BORINGS AS INDICATED IN SECTION 2-4. FOR FURTHER DETAILS SEE SECTION 120-3.
2. WATER TABLE SHOWN AS ▼ WHERE ENCOUNTERED AT TIME OF SURVEY. ESTIMATED SEASONAL HIGH GROUNDWATER LEVEL, SHOWN AS ▽. AGS DENOTES ESTIMATED GROUNDWATER ABOVE GROUND SURFACE. GNE DENOTES GROUNDWATER NOT ENCOUNTERED.
3. REMOVE MUCK AND PLASTIC MATERIAL OCCURRING WITHIN ROADWAY IN ACCORDANCE WITH STANDARD PLANS, INDEX 120-002, UNLESS OTHERWISE SHOWN ON PLANS. USE MATERIAL IN EMBANKMENT CONSTRUCTION IN ACCORDANCE WITH STANDARD PLANS, INDEX 120-001.
4. SOIL PARAMETER NOT TESTED DENOTED AS "-" ABOVE. SOIL DATA IS FROM ROADWAY AND POND BORINGS.
5. TREAT STRATA NOS. 1, 2 AND 3 AS SELECT (S) MATERIAL IN ACCORDANCE WITH FDOT INDEX 120-001.
6. TREAT STRATUM NO. 4 AS PLASTIC (P) IN ACCORDANCE WITH FDOT INDEX 120-001.
7. TREAT STRATUM NO. 5 AS HIGH PLASTIC (H) IN ACCORDANCE WITH FDOT INDEX 120-001.
8. STRATA NOS. 3, 4 AND 5 MAY RETAIN EXCESS MOISTURE AND MAY BE DIFFICULT TO COMPACT.
9. TREAT STRATUM NO. 6 AS MUCK (M) MATERIAL, IN ACCORDANCE WITH FDOT INDEX 120-001 AND REMOVE STRATUM 6 MATERIAL IN ACCORDANCE WITH FDOT INDEX 120-002.
10. ANTICIPATE ENCOUNTERING LARGE LIMESTONE BOULDERS, ROCKS OR OTHER HARD MATERIALS OF VARIOUS SHAPES AND SIZES IN ALL EXCAVATIONS AT VARIOUS DEPTHS THROUGHOUT THE SUBSURFACE PROFILE. ANTICIPATE THE NEED FOR SPECIAL EQUIPMENT AND/OR PROCEDURES TO FACILITATE EXCAVATIONS, DEWATERING, PENETRATION AND DISPOSAL OFFSITE.
11. BASED ON THE NATURE RESOURCES CONSERVATION SERVICE MAPS, THE SOILS IN THE VICINITY OF THE PROJECT ALIGNMENT INCLUDE ROCK OUTCROPS, SINKS AND AN OCCASIONAL MINE OR QUARRY. EXAMINE THE JOB SITE CONDITIONS BEFORE SUBMITTING BID PROPOSALS IN ACCORDANCE WITH SECTION 2-4.

FIGURE 4

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

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919 LAKE BALDWIN LANE
ORLANDO, FL 32814

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

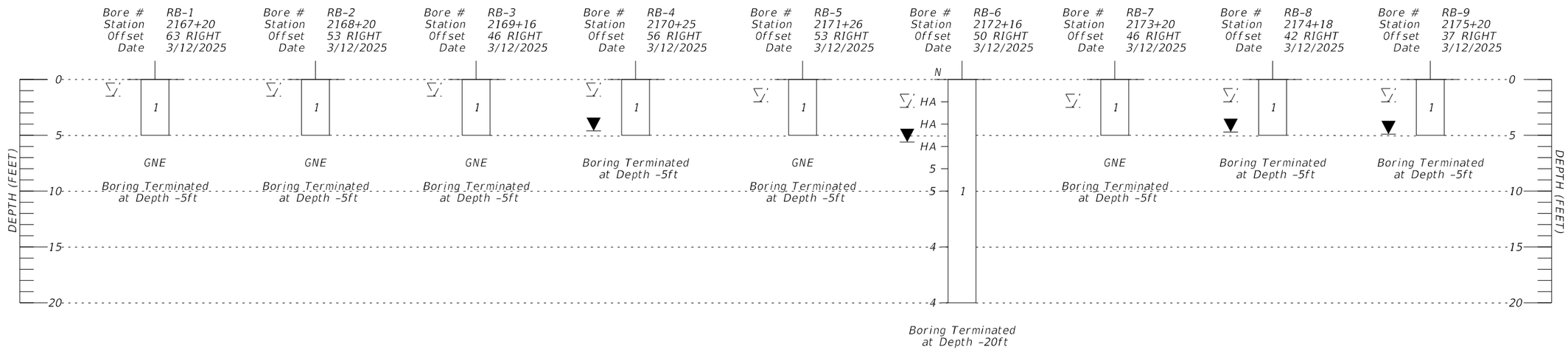
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 41	MANATEE	442630-2-32-01

ROADWAY SOIL SURVEY

SHEET NO.

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

REPORT OF BORINGS FOR ROADWAY



LEGEND

- N STANDARD PENETRATION RESISTANCE, BLOWS PER FOOT
- HA HAND AUGERED FOR UTILITY CLEARANCE
- ESTIMATED SEASONAL HIGH GROUNDWATER DEPTH (FEET)
- ENCOUNTERED GROUNDWATER DEPTH (FEET) 24 HRS. AFTER DATE DRILLED
- 1 STRATUM NUMBER
- GNE GROUNDWATER NOT ENCOUNTERED

GENERAL NOTES

SUBSURFACE CONDITIONS SHOWN ON THE BORINGS REPRESENT THE CONDITIONS ENCOUNTERED AT THE BORING LOCATIONS. ACTUAL CONDITIONS BETWEEN THE BORINGS MAY VARY FROM THOSE SHOWN. AASHTO SOIL CLASSIFICATIONS SHOWN ON THE BORINGS ARE BASED ON VISUAL EXAMINATION AND LABORATORY TESTING.

STANDARD PENETRATION TEST BORINGS WERE PERFORMED IN ACCORDANCE WITH ASTM D-1586. STANDARD PENETRATION RESISTANCES ARE SHOWN ON THE BORINGS AT THE TEST DEPTHS IN BLOWS PER FOOT UNLESS OTHERWISE NOTED.

BORING LOCATIONS WERE NOT SURVEYED FOR HORIZONTAL AND VERTICAL CONTROL. BORING LOCATIONS REFERENCE THE US 41 CENTERLINE OF CONSTRUCTION.

SPLIT SPOON SAMPLER:
INSIDE DIAMETER: 1.375 IN. AVERAGE HAMMER DROP: 30 IN.
OUTSIDE DIAMETER: 2.0 IN. HAMMER WEIGHT: 140 LBS.

AUTOMATIC HAMMER			
GRANULAR SOILS: SANDS		NON-GRANULAR SOILS: SILTS, CLAYS, MUCK	
N VALUE (BLOWS/FT)	RELATIVE DENSITY	N VALUE (BLOWS/FT)	CONSISTENCY
0-3	VERY LOOSE	0-1	VERY SOFT
3-8	LOOSE	1-3	SOFT
8-24	MEDIUM DENSE	3-6	FIRM
24-40	DENSE	6-12	STIFF
OVER 40	VERY DENSE	12-24	VERY STIFF
		OVER 24	HARD

STRATUM NO.	AASHTO CLASSIFICATION	SOIL DESCRIPTION
1	A-3	LIGHT BROWN TO DARK BROWN TO LIGHT GRAY TO DARK GRAY FINE SAND TO FINE SAND WITH SILT, OCCASIONAL TRACE TO MOSTLY SHELL, TRACE LIMEROCK, WEATHERED LIMESTONE, AND ORGANIC MATERIAL
2	A-2-4	LIGHT BROWN TO DARK BROWN FINE SAND WITH SILT TO SILTY FINE SAND, OCCASIONAL TRACE TO MOSTLY SHELL, TRACE TO SOME WEATHERED LIMESTONE, TRACE ORGANIC MATERIAL (-200≤15%)
3	A-2-4	DARK GRAY SILTY FINE SAND, OCCASIONAL TRACE TO FEW SHELL, TRACE ORGANIC MATERIAL (-200>15%)
4	A-2-6, A-2-7, A-7-6	LIGHT BROWN TO BROWN TO LIGHT GRAY TO DARK GRAY CLAYEY FINE SAND, OCCASIONAL TRACE SHELL, TRACE TO LITTLE WEATHERED LIMESTONE (LL≤50%)
5	A-2-7, A-7-6	BROWN TO LIGHT GRAY TO DARK GRAY CLAYEY FINE SAND TO SANDY CLAY TO CLAY, OCCASIONAL TRACE SHELL AND PHOSPHATE, TRACE TO SOME WEATHERED LIMESTONE (LL>50%)
6	A-8	DARK GRAY TO DARK BROWN MUCKY FINE SAND TO SANDY MUCK, OCCASIONAL TRACE SHELL AND ROOTS
7	-	GRAY WEATHERED LIMESTONE

FIGURE 5A

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD
DANIEL C. STANFILL, P.E.
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919 LAKE BALDWIN LANE
ORLANDO, FL 32814

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 41	MANATEE	442630-2-32-01

REPORT OF BORINGS FOR ROADWAY

SHEET NO.

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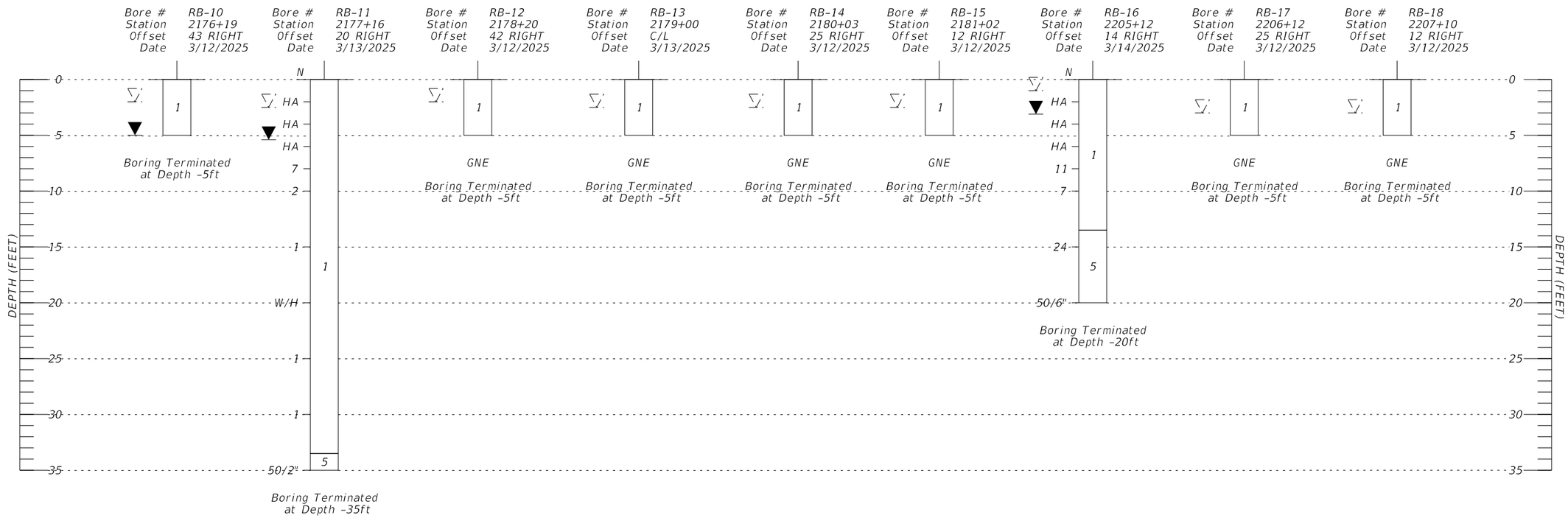

LEGEND

- N — STANDARD PENETRATION RESISTANCE, BLOWS PER FOOT
- HA — HAND AUGERED FOR UTILITY CLEARANCE
- W/H — WEIGHT OF HAMMER
- 50/2" — NUMBER OF BLOWS FOR 2 INCHES OF PENETRATION
- ESTIMATED SEASONAL HIGH GROUNDWATER DEPTH (FEET)
- ENCOUNTERED GROUNDWATER DEPTH (FEET) 24 HRS. AFTER DATE DRILLED
- 1 — STRATUM NUMBER
- GNE — GROUNDWATER NOT ENCOUNTERED

GENERAL NOTES

SUBSURFACE CONDITIONS SHOWN ON THE BORINGS REPRESENT THE CONDITIONS ENCOUNTERED AT THE BORING LOCATIONS. ACTUAL CONDITIONS BETWEEN THE BORINGS MAY VARY FROM THOSE SHOWN. AASHTO SOIL CLASSIFICATIONS SHOWN ON THE BORINGS ARE BASED ON VISUAL EXAMINATION AND LABORATORY TESTING.

STANDARD PENETRATION TEST BORINGS WERE PERFORMED IN ACCORDANCE WITH ASTM D-1586. STANDARD PENETRATION RESISTANCES ARE SHOWN ON THE BORINGS AT THE TEST DEPTHS IN BLOWS PER FOOT UNLESS OTHERWISE NOTED.

BORING LOCATIONS WERE NOT SURVEYED FOR HORIZONTAL AND VERTICAL CONTROL. BORING LOCATIONS REFERENCE THE US 41 CENTERLINE OF CONSTRUCTION.

SPLIT SPOON SAMPLER:
INSIDE DIAMETER: 1.375 IN. AVERAGE HAMMER DROP: 30 IN.
OUTSIDE DIAMETER: 2.0 IN. HAMMER WEIGHT: 140 LBS.

AUTOMATIC HAMMER			
GRANULAR SOILS: SANDS		NON-GRANULAR SOILS: SILTS, CLAYS, MUCK	
N VALUE (BLOWS/FT)	RELATIVE DENSITY	N VALUE (BLOWS/FT)	CONSISTENCY
0-3	VERY LOOSE	0-1	VERY SOFT
3-8	LOOSE	1-3	SOFT
8-24	MEDIUM DENSE	3-6	FIRM
24-40	DENSE	6-12	STIFF
OVER 40	VERY DENSE	12-24	VERY STIFF
		OVER 24	HARD

STRATUM NO.	AASHTO CLASSIFICATION	SOIL DESCRIPTION
1	A-3	LIGHT BROWN TO DARK BROWN TO LIGHT GRAY TO DARK GRAY FINE SAND TO FINE SAND WITH SILT, OCCASIONAL TRACE TO MOSTLY SHELL, TRACE LIMEROCK, WEATHERED LIMESTONE, AND ORGANIC MATERIAL
2	A-2-4	LIGHT BROWN TO DARK BROWN FINE SAND WITH SILT TO SILTY FINE SAND, OCCASIONAL TRACE TO MOSTLY SHELL, TRACE TO SOME WEATHERED LIMESTONE, TRACE ORGANIC MATERIAL (-200≤15%)
3	A-2-4	DARK GRAY SILTY FINE SAND, OCCASIONAL TRACE TO FEW SHELL, TRACE ORGANIC MATERIAL (-200>15%)
4	A-2-6, A-2-7, A-7-6	LIGHT BROWN TO BROWN TO LIGHT GRAY TO DARK GRAY CLAYEY FINE SAND, OCCASIONAL TRACE SHELL, TRACE TO LITTLE WEATHERED LIMESTONE (LL≤50%)
5	A-2-7, A-7-6	BROWN TO LIGHT GRAY TO DARK GRAY CLAYEY FINE SAND TO SANDY CLAY TO CLAY, OCCASIONAL TRACE SHELL AND PHOSPHATE, TRACE TO SOME WEATHERED LIMESTONE (LL>50%)
6	A-8	DARK GRAY TO DARK BROWN MUCKY FINE SAND TO SANDY MUCK, OCCASIONAL TRACE SHELL AND ROOTS
7	-	GRAY WEATHERED LIMESTONE

FIGURE 5B

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD
DANIEL C. STANFILL, P.E.
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919 LAKE BALDWIN LANE
ORLANDO, FL 32814

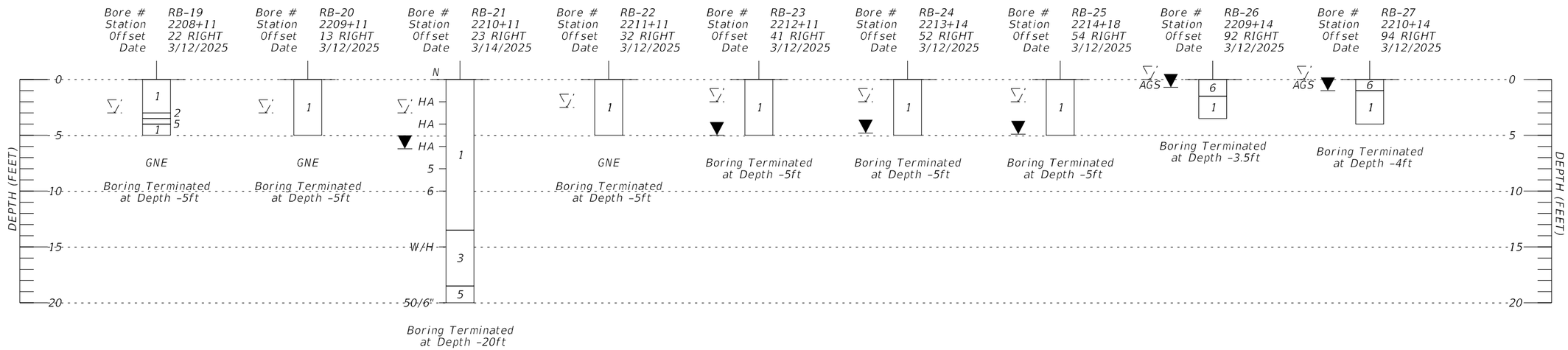
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 41	MANATEE	442630-2-32-01

REPORT OF BORINGS FOR ROADWAY

SHEET NO.

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



LEGEND

N	**STANDARD PENETRATION RESISTANCE, BLOWS PER FOOT**
HA	**HAND AUGERED FOR UTILITY CLEARANCE**
W/H	**WEIGHT OF HAMMER**
50/6"	**NUMBER OF BLOWS FOR 6 INCHES OF PENETRATION**
AGS	**ESTIMATED SEASONAL HIGH GROUNDWATER ABOVE GROUND SURFACE**
	ESTIMATED SEASONAL HIGH GROUNDWATER DEPTH (FEET)
	ENCOUNTERED GROUNDWATER DEPTH (FEET) 24 HRS. AFTER DATE DRILLED
1	**STRATUM NUMBER**
GNE	**GROUNDWATER NOT ENCOUNTERED**

GENERAL NOTES

SUBSURFACE CONDITIONS SHOWN ON THE BORINGS REPRESENT THE CONDITIONS ENCOUNTERED AT THE BORING LOCATIONS. ACTUAL CONDITIONS BETWEEN THE BORINGS MAY VARY FROM THOSE SHOWN. AASHTO SOIL CLASSIFICATIONS SHOWN ON THE BORINGS ARE BASED ON VISUAL EXAMINATION AND LABORATORY TESTING.

STANDARD PENETRATION TEST BORINGS WERE PERFORMED IN ACCORDANCE WITH ASTM D-1586. STANDARD PENETRATION RESISTANCES ARE SHOWN ON THE BORINGS AT THE TEST DEPTHS IN BLOWS PER FOOT UNLESS OTHERWISE NOTED.

BORING LOCATIONS WERE NOT SURVEYED FOR HORIZONTAL AND VERTICAL CONTROL. BORING LOCATIONS REFERENCE THE US 41 CENTERLINE OF CONSTRUCTION.

SPLIT SPOON SAMPLER:
INSIDE DIAMETER: 1.375 IN. AVERAGE HAMMER DROP: 30 IN.
OUTSIDE DIAMETER: 2.0 IN. HAMMER WEIGHT: 140 LBS.

AUTOMATIC HAMMER			
GRANULAR SOILS: SANDS		NON-GRANULAR SOILS: SILTS, CLAYS, MUCK	
N VALUE (BLOWS/FT)	RELATIVE DENSITY	N VALUE (BLOWS/FT)	CONSISTENCY
0-3	VERY LOOSE	0-1	VERY SOFT
3-8	LOOSE	1-3	SOFT
8-24	MEDIUM DENSE	3-6	FIRM
24-40	DENSE	6-12	STIFF
OVER 40	VERY DENSE	12-24	VERY STIFF
		OVER 24	HARD

STRATUM NO.	AASHTO CLASSIFICATION	SOIL DESCRIPTION
1	A-3	LIGHT BROWN TO DARK BROWN TO LIGHT GRAY TO DARK GRAY FINE SAND TO FINE SAND WITH SILT, OCCASIONAL TRACE TO MOSTLY SHELL, TRACE LIMEROCK, WEATHERED LIMESTONE, AND ORGANIC MATERIAL
2	A-2-4	LIGHT BROWN TO DARK BROWN FINE SAND WITH SILT TO SILTY FINE SAND, OCCASIONAL TRACE TO MOSTLY SHELL, TRACE TO SOME WEATHERED LIMESTONE, TRACE ORGANIC MATERIAL (-200≤15%)
3	A-2-4	DARK GRAY SILTY FINE SAND, OCCASIONAL TRACE TO FEW SHELL, TRACE ORGANIC MATERIAL (-200>15%)
4	A-2-6, A-2-7, A-7-6	LIGHT BROWN TO BROWN TO LIGHT GRAY TO DARK GRAY CLAYEY FINE SAND, OCCASIONAL TRACE SHELL, TRACE TO LITTLE WEATHERED LIMESTONE (LL≤50%)
5	A-2-7, A-7-6	BROWN TO LIGHT GRAY TO DARK GRAY CLAYEY FINE SAND TO SANDY CLAY TO CLAY, OCCASIONAL TRACE SHELL AND PHOSPHATE, TRACE TO SOME WEATHERED LIMESTONE (LL>50%)
6	A-8	DARK GRAY TO DARK BROWN MUCKY FINE SAND TO SANDY MUCK, OCCASIONAL TRACE SHELL AND ROOTS
7	-	GRAY WEATHERED LIMESTONE

FIGURE 5C

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD
DANIEL C. STANFILL, P.E.
LICENSE NUMBER: 42763
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS, INC.
919 LAKE BALDWIN LANE
ORLANDO, FL 32814

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 41	MANATEE	442630-2-32-01

REPORT OF BORINGS FOR ROADWAY

SHEET NO.

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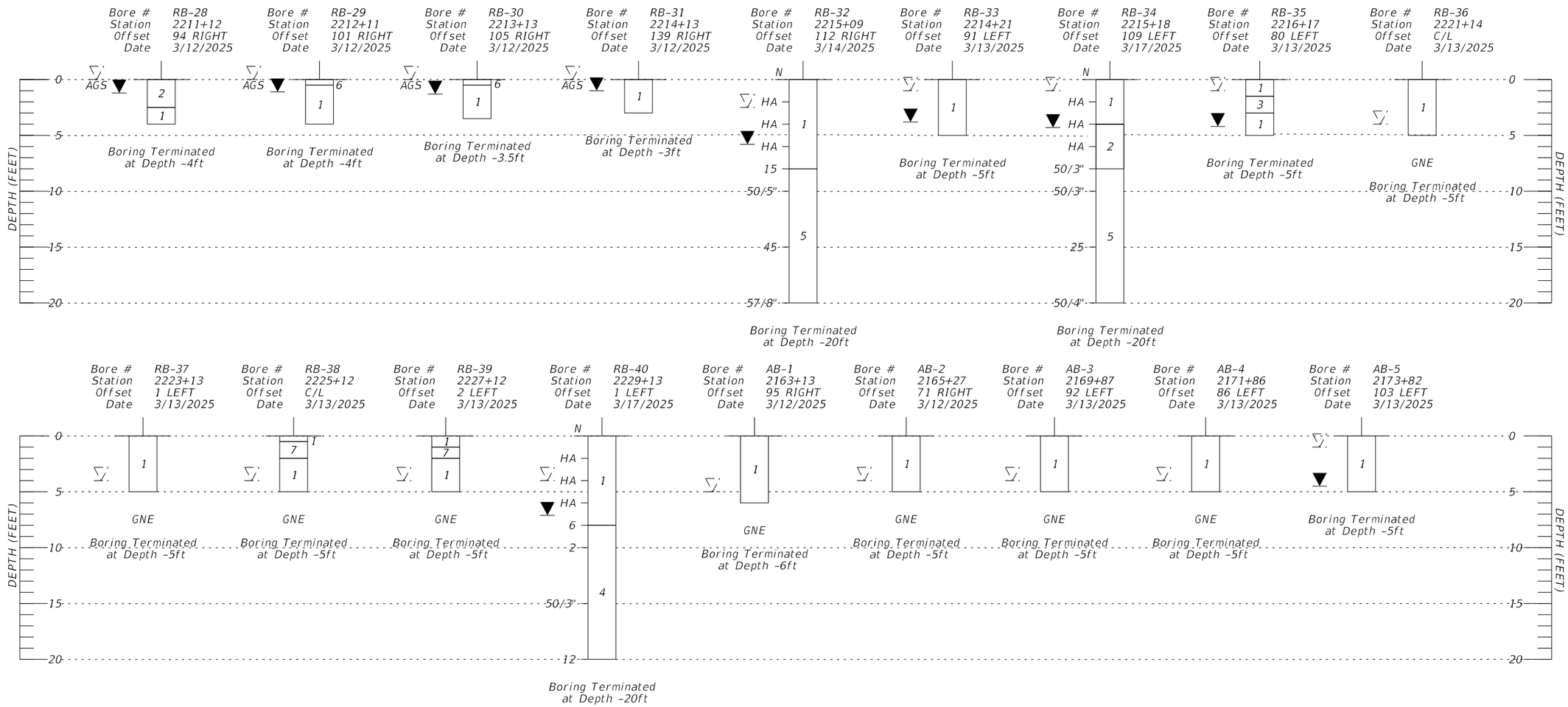

LEGEND

N	STANDARD PENETRATION RESISTANCE, BLOWS PER FOOT
HA	HAND AUGERED FOR UTILITY CLEARANCE
50/5"	NUMBER OF BLOWS FOR 5 INCHES OF PENETRATION
AGS	ESTIMATED SEASONAL HIGH GROUNDWATER ABOVE GROUND SURFACE
	ESTIMATED SEASONAL HIGH GROUNDWATER DEPTH (FEET)
	ENCOUNTERED GROUNDWATER DEPTH (FEET) 24 HRS. AFTER DATE DRILLED
1	STRATUM NUMBER
GNE	GROUNDWATER NOT ENCOUNTERED

GENERAL NOTES

SUBSURFACE CONDITIONS SHOWN ON THE BORINGS REPRESENT THE CONDITIONS ENCOUNTERED AT THE BORING LOCATIONS. ACTUAL CONDITIONS BETWEEN THE BORINGS MAY VARY FROM THOSE SHOWN. AASHTO SOIL CLASSIFICATIONS SHOWN ON THE BORINGS ARE BASED ON VISUAL EXAMINATION AND LABORATORY TESTING.

STANDARD PENETRATION TEST BORINGS WERE PERFORMED IN ACCORDANCE WITH ASTM D-1586. STANDARD PENETRATION RESISTANCES ARE SHOWN ON THE BORINGS AT THE TEST DEPTHS IN BLOWS PER FOOT UNLESS OTHERWISE NOTED.

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SPLIT SPOON SAMPLER:
INSIDE DIAMETER: 1.375 IN. AVERAGE HAMMER DROP: 30 IN.
OUTSIDE DIAMETER: 2.0 IN. HAMMER WEIGHT: 140 LBS.

AUTOMATIC HAMMER			
GRANULAR SOILS: SANDS		NON-GRANULAR SOILS: SILTS, CLAYS, MUCK	
N VALUE (BLOWS/FT)	RELATIVE DENSITY	N VALUE (BLOWS/FT)	CONSISTENCY
0-3	VERY LOOSE	0-1	VERY SOFT
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8-24	MEDIUM DENSE	3-6	FIRM
24-40	DENSE	6-12	STIFF
OVER 40	VERY DENSE	12-24	VERY STIFF
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STRATUM NO.	AASHTO CLASSIFICATION	SOIL DESCRIPTION
1	A-3	LIGHT BROWN TO DARK BROWN TO LIGHT GRAY TO DARK GRAY FINE SAND TO FINE SAND WITH SILT, OCCASIONAL TRACE TO MOSTLY SHELL, TRACE LIMEROCK, WEATHERED LIMESTONE, AND ORGANIC MATERIAL
2	A-2-4	LIGHT BROWN TO DARK BROWN FINE SAND WITH SILT TO SILTY FINE SAND, OCCASIONAL TRACE TO MOSTLY SHELL, TRACE TO SOME WEATHERED LIMESTONE, TRACE ORGANIC MATERIAL (-200≤15%)
3	A-2-4	DARK GRAY SILTY FINE SAND, OCCASIONAL TRACE TO FEW SHELL, TRACE ORGANIC MATERIAL (-200>15%)
4	A-2-6, A-2-7, A-7-6	LIGHT BROWN TO BROWN TO LIGHT GRAY TO DARK GRAY CLAYEY FINE SAND, OCCASIONAL TRACE SHELL, TRACE TO LITTLE WEATHERED LIMESTONE (LL≤50%)
5	A-2-7, A-7-6	BROWN TO LIGHT GRAY TO DARK GRAY CLAYEY FINE SAND TO SANDY CLAY TO CLAY, OCCASIONAL TRACE SHELL AND PHOSPHATE, TRACE TO SOME WEATHERED LIMESTONE (LL>50%)
6	A-8	DARK GRAY TO DARK BROWN MUCKY FINE SAND TO SANDY MUCK, OCCASIONAL TRACE SHELL AND ROOTS
7	-	GRAY WEATHERED LIMESTONE

FIGURE 5D

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD
DANIEL C. STANFILL, P.E.
LICENSE NUMBER: 42763
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS, INC.
919 LAKE BALDWIN LANE
ORLANDO, FL 32814

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 41	MANATEE	442630-2-32-01

REPORT OF BORINGS FOR ROADWAY

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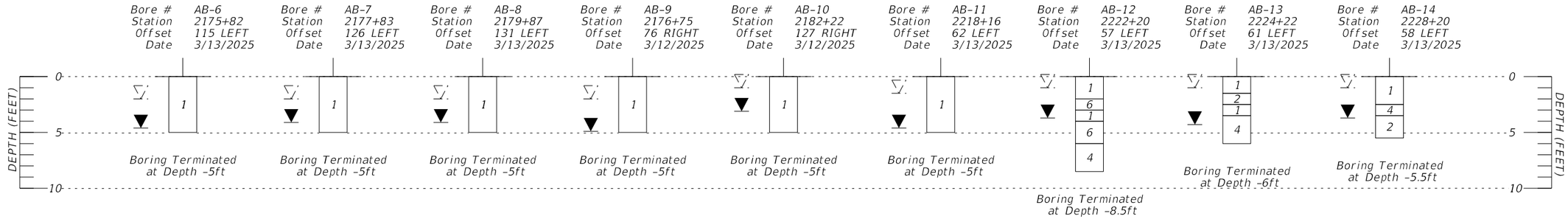

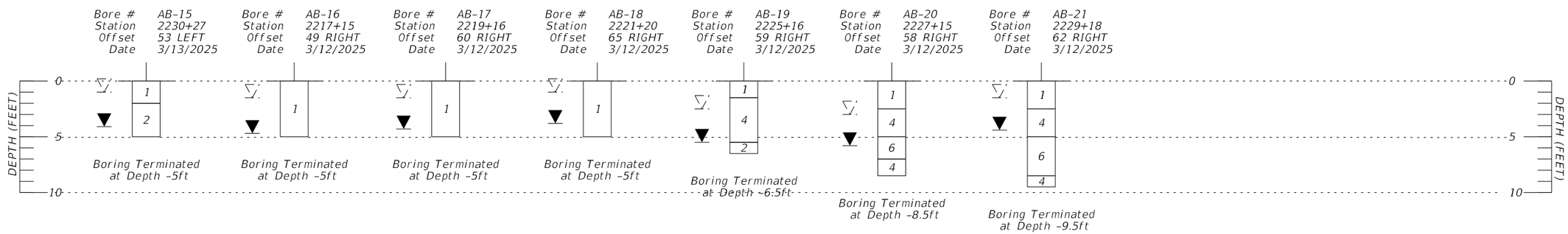

LEGEND

- ESTIMATED SEASONAL HIGH GROUNDWATER DEPTH (FEET)
- ENCOUNTERED GROUNDWATER DEPTH (FEET) 24 HRS. AFTER DATE DRILLED
- 1 STRATUM NUMBER

GENERAL NOTES

SUBSURFACE CONDITIONS SHOWN ON THE BORINGS REPRESENT THE CONDITIONS ENCOUNTERED AT THE BORING LOCATIONS. ACTUAL CONDITIONS BETWEEN THE BORINGS MAY VARY FROM THOSE SHOWN. AASHTO SOIL CLASSIFICATIONS SHOWN ON THE BORINGS ARE BASED ON VISUAL EXAMINATION AND LABORATORY TESTING.

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2	A-2-4	LIGHT BROWN TO DARK BROWN FINE SAND WITH SILT TO SILTY FINE SAND, OCCASIONAL TRACE TO MOSTLY SHELL, TRACE TO SOME WEATHERED LIMESTONE, TRACE ORGANIC MATERIAL (-200≤15%)
3	A-2-4	DARK GRAY SILTY FINE SAND, OCCASIONAL TRACE TO FEW SHELL, TRACE ORGANIC MATERIAL (-200>15%)
4	A-2-6, A-2-7, A-7-6	LIGHT BROWN TO BROWN TO LIGHT GRAY TO DARK GRAY CLAYEY FINE SAND, OCCASIONAL TRACE SHELL, TRACE TO LITTLE WEATHERED LIMESTONE (LL≤50%)
5	A-2-7, A-7-6	BROWN TO LIGHT GRAY TO DARK GRAY CLAYEY FINE SAND TO SANDY CLAY TO CLAY, OCCASIONAL TRACE SHELL AND PHOSPHATE, TRACE TO SOME WEATHERED LIMESTONE (LL>50%)
6	A-8	DARK GRAY TO DARK BROWN MUCKY FINE SAND TO SANDY MUCK, OCCASIONAL TRACE SHELL AND ROOTS
7	-	GRAY WEATHERED LIMESTONE

FIGURE 5E

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD
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919 LAKE BALDWIN LANE
ORLANDO, FL 32814

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 41	MANATEE	442630-2-32-01

REPORT OF BORINGS
FOR ROADWAY

SHEET NO.

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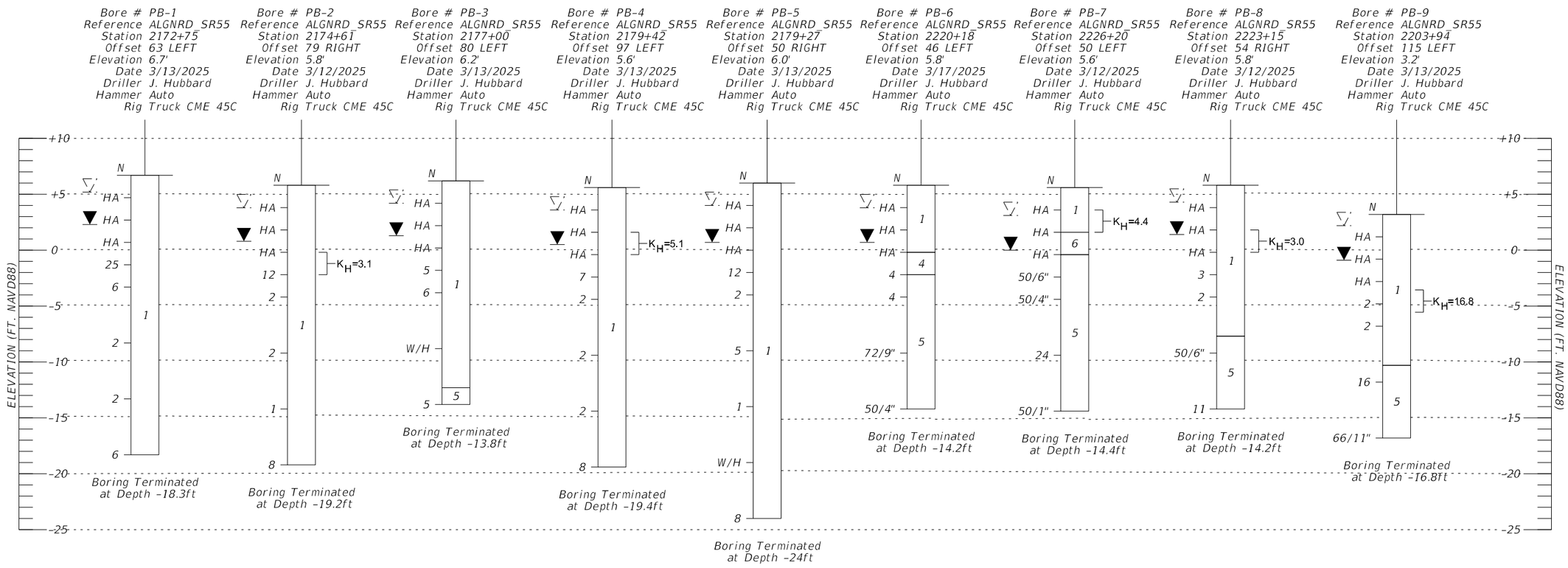
POND BORING RESULTS



LEGEND

N	STANDARD PENETRATION RESISTANCE, BLOWS PER FOOT
HA	HAND AUGERED FOR UTILITY CLEARANCE
W/H	WEIGHT OF HAMMER
50/4"	NUMBER OF BLOWS FOR 4 INCHES OF PENETRATION
▽	ESTIMATED SEASONAL HIGH GROUNDWATER DEPTH (FEET)
▼	ENCOUNTERED GROUNDWATER DEPTH (FEET) 24 HRS. AFTER DATE DRILLED
1	STRATUM NUMBER
GNE	GROUNDWATER NOT ENCOUNTERED
K_H =	HORIZONTAL PERMEABILITY RATE (FT./DAY)

GENERAL NOTES

SUBSURFACE CONDITIONS SHOWN ON THE BORINGS REPRESENT THE CONDITIONS ENCOUNTERED AT THE BORING LOCATIONS. ACTUAL CONDITIONS BETWEEN THE BORINGS MAY VARY FROM THOSE SHOWN. AASHTO SOIL CLASSIFICATIONS SHOWN ON THE BORINGS ARE BASED ON VISUAL EXAMINATION AND LABORATORY TESTING.

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BORING LOCATIONS WERE SURVEYED BY ELEMENT ENGINEERING GROUP, LLC. FOR HORIZONTAL AND VERTICAL CONTROL. BORING LOCATIONS REFERENCE THE US 41 CENTERLINE OF CONSTRUCTION.

SPLIT SPOON SAMPLER:
INSIDE DIAMETER: 1.375 IN. AVERAGE HAMMER DROP: 30 IN.
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AUTOMATIC HAMMER			
GRANULAR SOILS: SANDS		NON-GRANULAR SOILS: SILTS, CLAYS, MUCK	
N VALUE (BLOWS/FT)	RELATIVE DENSITY	N VALUE (BLOWS/FT)	CONSISTENCY
0-3	VERY LOOSE	0-1	VERY SOFT
3-8	LOOSE	1-3	SOFT
8-24	MEDIUM DENSE	3-6	FIRM
24-40	DENSE	6-12	STIFF
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STRATUM NO.	AASHTO CLASSIFICATION	SOIL DESCRIPTION
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2	A-2-4	LIGHT BROWN TO DARK BROWN FINE SAND WITH SILT TO SILTY FINE SAND, OCCASIONAL TRACE TO MOSTLY SHELL, TRACE TO SOME WEATHERED LIMESTONE, TRACE ORGANIC MATERIAL (-200<15%)
3	A-2-4	DARK GRAY SILTY FINE SAND, OCCASIONAL TRACE TO FEW SHELL, TRACE ORGANIC MATERIAL (-200>15%)
4	A-2-6, A-2-7, A-7-6	LIGHT BROWN TO BROWN TO LIGHT GRAY TO DARK GRAY CLAYEY FINE SAND, OCCASIONAL TRACE SHELL, TRACE TO LITTLE WEATHERED LIMESTONE (LL<50%)
5	A-2-7, A-7-6	BROWN TO LIGHT GRAY TO DARK GRAY CLAYEY FINE SAND TO SANDY CLAY TO CLAY, OCCASIONAL TRACE SHELL AND PHOSPHATE, TRACE TO SOME WEATHERED LIMESTONE (LL>50%)
6	A-8	DARK GRAY TO DARK BROWN MUCKY FINE SAND TO SANDY MUCK, OCCASIONAL TRACE SHELL AND ROOTS
7	-	GRAY WEATHERED LIMESTONE

FIGURE 6

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD
DANIEL C. STANFILL, P.E.
LICENSE NUMBER: 42763
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS, INC.
919 LAKE BALDWIN LANE
ORLANDO, FL 32814

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
US 41	MANATEE	442630-2-32-01

POND BORING RESULTS

SHEET NO.

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

T:\J5485GE DeSoto Bridge Replacement_Transystems\7 CADD Files\0penroads\5485G\Geotechnical\PB0RRD01.dgn : POND BORING RESULTS
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LABORATORY TEST RESULTS

Table 5

Laboratory Test Results

DeSoto Bridge Replacement

From SR 64 (Manatee Avenue East) to Haben Boulevard

Financial Project ID: 442630-2-32-01

GEC Project No. 5485G

Stratum No.	Station	Offset	Boring No.	Sample Depth (ft)	Percent Passing by Weight					Moisture Content (%)	Atterberg Limits		Organic Content (%)	AASHTO Class.
					#10 Sieve	#40 Sieve	#60 Sieve	#100 Sieve	#200 Sieve		Liquid Limit	Plasticity Index		
1	2172+75	63 LT	PB-1	2 - 8	100	98	90	47	4	---	---	---	---	A-3[1]
1	2172+75	63 LT	PB-1	13.5 - 15	100	99	97	44	2	---	---	---	---	A-3
1	2174+61	79 RT	PB-2	6 - 8	97	90	81	39	8	---	---	---	---	A-3[2]
1	2174+61	79 RT	PB-2	8 - 10	100	97	95	41	4	---	---	---	---	A-3[1]
1	2177+00	80 LT	PB-3	13.5 - 15	97	90	80	37	8	31	---	---	1.2	A-3[3]
1	2179+42	97 LT	PB-4	4 - 6	90	70	62	39	10	---	---	---	---	A-3[4]
1	2179+42	97 LT	PB-4	8 - 20	100	100	100	61	2	---	---	---	---	A-3
1	2179+27	50 RT	PB-5	0 - 6	95	78	65	23	2	---	---	---	---	A-3[4]
1	2179+27	50 RT	PB-5	13.5 - 15	100	98	95	38	4	---	---	---	---	A-3
1	2220+18	46 LT	PB-6	0 - 6	93	76	65	33	3	---	---	---	---	A-3[4]
1	2226+20	50 LT	PB-7	2 - 4	100	98	93	56	3	---	---	---	---	A-3
1	2223+15	54 RT	PB-8	4 - 6	97	88	78	46	6	---	---	---	---	A-3
1	2223+15	54 RT	PB-8	8 - 10	100	99	98	62	10	---	---	---	---	A-3
1	2203+94	115 LT	PB-9	2 - 4	100	99	94	61	7	---	---	---	---	A-3
1	2203+94	115 LT	PB-9	6 - 8	92	80	77	48	5	---	---	---	---	A-3
1	2170+25	56 RT	RB-4	0 - 5	96	81	68	33	5	---	---	---	---	A-3[6]
1	2172+16	50 RT	RB-6	4 - 10	100	98	94	61	7	---	---	---	---	A-3
1	2177+16	20 RT	RB-11	13.5 - 15	98	93	89	39	7	28	---	---	1.2	A-3[3]
1	2205+12	14 RT	RB-16	0 - 6	90	68	51	22	4	---	---	---	---	A-3
1	2213+14	52 RT	RB-24	4 - 5	82	56	39	23	7	---	---	---	---	A-3[4]
1	2214+13	139 RT	RB-31	2 - 3	91	75	69	37	7	---	---	---	---	A-3[6]
1	2165+27	71 RT	AB-2	0 - 5	100	99	93	50	3	---	---	---	---	A-3
1	2217+15	49 RT	AB-16	0 - 5	96	86	73	37	4	---	---	---	---	A-3[6]
2	2211+12	94 RT	RB-28	0 - 2.5	96	78	68	40	12	---	---	---	---	A-3[2]
2	2215+18	109 LT	RB-34	4 - 8	99	91	82	51	14	---	---	---	---	A-2-4[6]
2	2230+27	53 LT	AB-15	2 - 4.5	100	93	88	47	12	---	---	---	---	A-2-4[1]
3	2210+11	23 RT	RB-21	13.5 - 15	99	78	55	35	19	42	---	---	3.0	A-2-4[3]
3	2216+17	80 LT	RB-35	1.5 - 3	100	97	89	59	20	---	---	---	---	A-2-4

Table 5

Laboratory Test Results

DeSoto Bridge Replacement

From SR 64 (Manatee Avenue East) to Haben Boulevard

Financial Project ID: 442630-2-32-01

GEC Project No. 5485G

Stratum No.	Station	Offset	Boring No.	Sample Depth (ft)	Percent Passing by Weight					Moisture Content (%)	Atterberg Limits		Organic Content (%)	AASHTO Class.
					#10 Sieve	#40 Sieve	#60 Sieve	#100 Sieve	#200 Sieve		Liquid Limit	Plasticity Index		
4	2220+18	46 LT	PB-6	6 - 8	94	68	62	40	27	37	43	25	---	A-2-7[5]
4	2229+13	1 LT	RB-40	8 - 20	100	98	96	63	25	28	36	23	---	A-2-6
4	2222+20	57 LT	AB-12	7 - 8.5	84	64	55	38	25	31	45	26	---	A-2-7[5]
4	2225+16	59 RT	AB-19	1.5 - 5.5	97	88	85	63	47	22	45	17	---	A-7-6[5]
5	2177+00	80 LT	PB-3	18.5 - 20	100	99	98	70	31	33	52	37	---	A-2-7
5	2208+11	22 RT	RB-19	3.5 - 4	100	98	97	93	58	52	61	46	---	A-7-6
6	2226+20	50 LT	PB-7	4 - 6	100	98	96	58	16	97	---	---	6.5	A-8
6	2209+14	92 RT	RB-26	0 - 1.5	93	81	75	36	11	38	---	---	5.2	A-8[1]
6	2222+20	57 LT	AB-12	4 - 6	100	98	96	75	55	198	---	---	32	A-8
6	2227+15	58 RT	AB-20	5 - 7	100	98	91	61	21	41	---	---	7.4	A-8
6	2229+18	62 RT	AB-21	5 - 7	100	97	95	63	25	61	---	---	10	A-8
7	2225+12	C/L	RB-38	0.5 - 2	86	61	54	37	25	---	---	---	---	---

[1] - Trace Shell

[2] - Few Shell

[3] - Few Shell; Trace Organic Material

[4] - Some Shell

[5] - Little Limestone

[6] - Little Shell

CORROSION SERIES TEST RESULTS

Table 6

Corrosion Series Test Results

DeSoto Bridge Replacement

From SR 64 (Manatee Avenue East) to Haben Boulevard

Financial Project ID: 442630-2-32-01

GEC Project No. 5485G

Stratum No.	Station	Offset (ft)	Boring No.	AASHTO Class.	Sample Depth (ft)	pH	Minimum Resistivity (ohm-cm)	Chlorides (ppm)	Sulfates (ppm)	*Substructural Environmental Classification	
										Concrete	Steel
1	2172+75	63 LT	PB-1	A-3	2 - 8	8.0	2,900	15	< 6	Moderately Aggressive	Moderately Aggressive
1	2179+42	97 LT	PB-4	A-3	8 - 20	8.4	1,700	15	93	Moderately Aggressive	Moderately Aggressive
1	2179+27	50 RT	PB-5	A-3	0 - 6	9.1	10,000	< 15	< 6	Slightly Aggressive	Slightly Aggressive
1	2220+18	46 LT	PB-6	A-3	0 - 6	8.2	8,400	< 15	< 6	Slightly Aggressive	Slightly Aggressive
1	2172+16	50 RT	RB-6	A-3	4 - 10	8.4	2,200	30	195	Moderately Aggressive	Moderately Aggressive
1	2205+12	14 RT	RB-16	A-3	0 - 6	9.4	2,400	45	< 6	Moderately Aggressive	Moderately Aggressive
1	2165+27	71 RT	AB-2	A-3	0 - 5	7.9	6,600	15	39	Slightly Aggressive	Slightly Aggressive
1	2217+15	49 RT	AB-16	A-3	0 - 5	8.4	1,300	< 15	< 6	Moderately Aggressive	Moderately Aggressive
2	2215+18	109 LT	RB-34	A-2-4	4 - 8	8.1	1,800	15	231	Moderately Aggressive	Moderately Aggressive
4	2229+13	1 LT	RB-40	A-2-6	8 - 20	9.3	140	90	219	Extremely Aggressive	Extremely Aggressive

* Environmental classification for concrete and steel in accordance with FDOT Structures Design Guidelines Table 1.3.2-1.

SUMMARY OF RECOMMENDED GROUNDWATER LEVELS FOR POND DESIGN

Table 7

Summary of Recommended Groundwater Levels for Pond Design

DeSoto Bridge Replacement

From SR 64 (Manatee Avenue East) to Haben Boulevard

Financial Project ID: 442630-2-32-01

GEC Project No. 5485G

Pond No.	Boring No.	Encountered Groundwater Depth (ft)	Estimated Seasonal High Groundwater Depth (ft)	[1]Ground Surface Elev. (Ft. NAVD88)	Encountered Groundwater Elevation (Ft. NAVD88)	Estimated Seasonal High Groundwater Elevation (Ft. NAVD88)	Pond Average		Field Permeability Test Data		
							Seasonal High Groundwater Depth (ft)	Seasonal High Groundwater Elevation (Ft. NAVD88)	Test Depth (ft)	Soil Type	Field Horizontal Permeability Rate (ft/day)
1	PB-1	4.4	1.5	+6.7	+2.3	+5.2	1.5	+5.2	---	---	---
2	PB-2	5.0	2.0	+5.8	+0.8	+3.8	2.0	+3.8	6 - 8	A-3	3.1
3	PB-3	4.9	2.0	+6.2	+1.3	+4.2	2.0	+3.9	---	---	---
	PB-4	5.1	2.0	+5.6	+0.5	+3.6	2.0		4 - 6	A-3	5.1
4	PB-5	5.3	2.0	+6.0	+0.7	+4.0	2.0	+4.0	---	---	---
5	PB-6	5.1	2.0	+5.8	+0.7	+3.8	2.0	+3.5	---	---	---
	PB-7	5.6	2.5	+5.6	+0.0	+3.1	2.5		2 - 4	A-3	4.4
6	PB-8	4.4	1.5	+5.8	+1.4	+4.3	1.5	+4.3	4 - 6	A-3	3.0
7	PB-9	4.1	1.0	+3.2	-0.9	+2.2	1.0	+2.2	5 - 7	A-3	16.8

[1] - Ground surface elevations were provided by Element Engineering Group, LLC.

UNCONFINED AQUIFER PARAMETERS

Table 8

Unconfined Aquifer Parameters

DeSoto Bridge Replacement

From SR 64 (Manatee Avenue East) to Haben Boulevard

Financial Project ID: 442630-2-32-01

GEC Project No. 5485G

Pond Location	Boring ID	Estimated Seasonal Groundwater Table Elevation (ft. NAVD88)	Aquifer Bottom Elevation (ft. NAVD88)	[1]Horizontal Saturated Permeability (ft/day)	[1]Vertical Unsaturated Infiltration Rate (ft/day)	Fillable Soil Porosity (ft/ft)
1	PB-1	+5.2	-18.3	*5.1	*3.4	0.25
2	PB-2	+3.8	-19.2	3.1	2.1	
3	PB-3	+3.9	-12.3	5.1	3.4	
	PB-4					
4	PB-5	+4.0	-24.0	*3.1	*2.1	
5	PB-6	+3.5	+0.8	4.4	2.9	
	PB-7					
6	PB-8	+4.3	-7.7	3.0	2.0	
7	PB-9	+2.2	-10.3	16.8	11.2	

1. Rates do not include a factor of safety.

* Data utilized from adjacent borings

SUMMARY OF GROUNDWATER LEVELS

Table 9
Summary of Groundwater Levels
DeSoto Bridge Replacement
From SR 64 (Manatee Avenue East) to Haben Boulevard
Financial Project ID: 442630-2-32-01
GEC Project No. 5485G

Boring No.	Station	Offset	[1]Approximate Ground Surface Elevation (ft NAVD88)	Encountered Groundwater Depth (ft)	[2]Estimated Seasonal High Groundwater Depth (ft)	Encountered Groundwater Elevation (ft NAVD88)	Estimated Seasonal High Groundwater Elevation (ft NAVD88)
RB-1	2167+20	63 RT	---	GNE	1.5	---	---
RB-2	2168+20	53 RT	---	GNE	1.5	---	---
RB-3	2169+16	46 RT	---	GNE	1.5	---	---
RB-4	2170+25	56 RT	---	4.6	1.5	---	---
RB-5	2171+26	53 RT	---	GNE	2.0	---	---
RB-6	2172+16	50 RT	---	5.6	2.5	---	---
RB-7	2173+20	46 RT	---	GNE	2.5	---	---
RB-8	2174+18	42 RT	---	4.7	2.0	---	---
RB-9	2175+20	37 RT	---	4.9	2.0	---	---
RB-10	2176+19	43 RT	---	5.0	2.0	---	---
RB-11	2177+16	20 RT	---	5.4	2.5	---	---
RB-12	2178+20	42 RT	---	GNE	2.0	---	---
RB-13	2179+00	C/L	---	GNE	2.5	---	---
RB-14	2180+03	25 RT	---	GNE	2.5	---	---
RB-15	2181+02	12 RT	---	GNE	2.5	---	---
RB-16	2205+12	14 RT	---	3.1	1.0	---	---
RB-17	2206+12	25 RT	---	GNE	3.0	---	---
RB-18	2207+10	12 RT	---	GNE	3.0	---	---
RB-19	2208+11	22 RT	---	GNE	3.0	---	---
RB-20	2209+11	13 RT	---	GNE	3.0	---	---
RB-21	2210+11	23 RT	---	6.2	3.0	---	---
RB-22	2211+11	32 RT	---	GNE	2.5	---	---
RB-23	2212+11	41 RT	---	5.0	2.0	---	---
RB-24	2213+14	52 RT	---	4.8	2.0	---	---
RB-25	2214+18	54 RT	---	4.9	2.0	---	---
RB-26	2209+14	92 RT	---	0.7	AGS	---	---
RB-27	2210+14	94 RT	---	1.0	AGS	---	---
RB-28	2211+12	94 RT	---	1.2	AGS	---	---
RB-29	2212+11	101 RT	---	1.1	AGS	---	---
RB-30	2213+13	105 RT	---	1.3	AGS	---	---
RB-31	2214+13	139 RT	---	1.0	AGS	---	---
RB-32	2215+09	112 RT	---	5.8	2.5	---	---
RB-33	2214+21	91 LT	---	3.8	1.0	---	---
RB-34	2215+18	109 LT	---	4.3	1.0	---	---
RB-35	2216+17	80 LT	---	4.2	1.0	---	---
RB-36	2221+14	C/L	---	GNE	4.0	---	---
RB-37	2223+13	1 LT	---	GNE	4.0	---	---

1. Ground surface elevations provided by Element Engineering Group, LLC.
2. AGS - Above Ground Surface; GNE - Groundwater Not Encountered

Table 9
Summary of Groundwater Levels
DeSoto Bridge Replacement
From SR 64 (Manatee Avenue East) to Haben Boulevard
Financial Project ID: 442630-2-32-01
GEC Project No. 5485G

Boring No.	Station	Offset	[1]Approximate Ground Surface Elevation (ft NAVD88)	Encountered Groundwater Depth (ft)	[2]Estimated Seasonal High Groundwater Depth (ft)	Encountered Groundwater Elevation (ft NAVD88)	Estimated Seasonal High Groundwater Elevation (ft NAVD88)
RB-38	2225+12	C/L	---	GNE	4.0	---	---
RB-39	2227+12	2 LT	---	GNE	4.0	---	---
RB-40	2229+13	1 LT	---	7.1	4.0	---	---
AB-1	2163+13	95 RT	---	GNE	5.0	---	---
AB-2	2165+27	71 RT	---	GNE	4.0	---	---
AB-3	2169+87	92 LT	---	GNE	4.0	---	---
AB-4	2171+86	86 LT	---	GNE	4.0	---	---
AB-5	2173+82	103 LT	---	4.5	1.0	---	---
AB-6	2175+82	115 LT	---	4.6	2.0	---	---
AB-7	2177+83	126 LT	---	4.1	2.0	---	---
AB-8	2179+87	131 LT	---	4.1	2.0	---	---
AB-9	2176+75	76 RT	---	4.9	2.0	---	---
AB-10	2182+22	127 RT	---	3.1	1.0	---	---
AB-11	2218+16	62 LT	---	4.6	1.5	---	---
AB-12	2222+20	57 LT	---	3.7	1.0	---	---
AB-13	2224+22	61 LT	---	4.3	1.0	---	---
AB-14	2228+20	58 LT	---	3.7	1.0	---	---
AB-15	2230+27	53 LT	---	4.1	1.0	---	---
AB-16	2217+15	49 RT	---	4.7	1.5	---	---
AB-17	2219+16	60 RT	---	4.3	1.5	---	---
AB-18	2221+20	65 RT	---	3.8	1.0	---	---
AB-19	2225+16	59 RT	---	5.5	2.5	---	---
AB-20	2227+15	58 RT	---	5.8	3.0	---	---
AB-21	2229+18	62 RT	---	4.4	1.5	---	---
PB-1	2172+75	63 LT	6.7	4.4	1.5	+2.3	+5.2
PB-2	2174+61	79 RT	5.8	5.0	2.0	+0.8	+3.8
PB-3	2177+00	80 LT	6.2	4.9	2.0	+1.3	+4.2
PB-4	2179+42	97 LT	5.6	5.1	2.0	+0.5	+3.6
PB-5	2179+27	50 RT	6.0	5.3	2.0	+0.7	+4.0
PB-6	2220+18	46 LT	5.8	5.1	2.0	+0.7	+3.8
PB-7	2226+20	50 LT	5.6	5.6	2.5	+0.0	+3.1
PB-8	2223+15	54 RT	5.8	4.4	1.5	+1.4	+4.3
PB-9	2203+94	115 LT	3.2	4.1	1.0	-0.9	+2.2

1. Ground surface elevations provided by Element Engineering Group, LLC.
2. AGS - Above Ground Surface; GNE - Groundwater Not Encountered

APPENDIX B

FIELD PERMEABILITY TEST CALCULATIONS – STORMWATER PONDS

Geotechnical and Environmental Consultants, Inc.

FALLING HEAD FIELD PERMEABILITY TEST CALCULATIONS

DeSoto Bridge Replacement
FPID. 442630-2-32-01
GEC Project No. 5485G

Input From Test

Pond ID.	2	3	5	6	7
Test Location	PB-2	PB-4	PB-7	PB-8	PB-9
Test Depth (ft)	6 - 8	4 - 6	2 - 4	4 - 6	5 - 7
Soil Type	A-3	A-3	A-3	A-3	A-3
Diameter of Gravel Pack & Casing, *d = D* (in)	3.00	3.00	3.00	3.00	3.00
Riser Height, H_r (ft)	4.0	3.0	3.0	3.0	2.0
Groundwater Depth, D_{wt} (ft)	5.0	4.0	3.0	4.0	4.1
Length of Gravel Pack, *L* (ft)	2.0	2.0	2.0	2.0	2.0
Water Level Drop (Drawdown), D_{wl} (ft)	1.0	1.0	1.0	1.0	1.0
Time for Water Level Drop, Δt (sec)	40.0	31.9	44.1	54.2	11.2
Field Horizontal Permeability Rate, k_h (ft/day)	**3.1**	**5.1**	**4.4**	**3.0**	**16.8**

Calculations

$$H_1 = H_r + D_{wt}$$

Initial Piezometric Head (Starting Water Level at Top of Casing)

$$H_2 = H_1 - D_{wl}$$

Final Piezometric Head

$$m = \sqrt{\frac{k_h}{k_v}}$$

Transformation Ratio

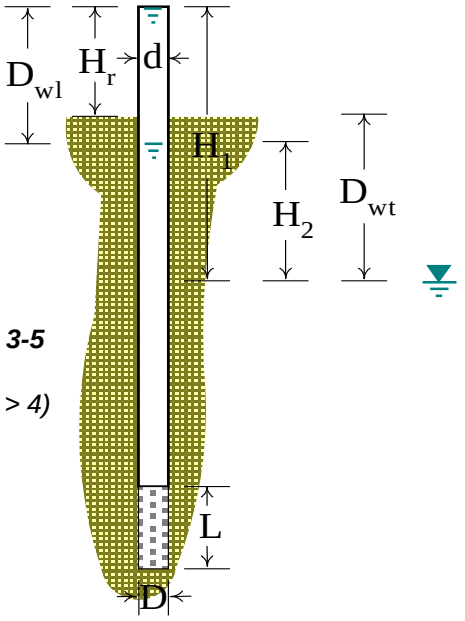
$$m = \sqrt{2}$$

Assuming $k_v = 0.5k_h$

$$k_h = \frac{d^2 \cdot \ln\left(\frac{2 \cdot m \cdot L}{D}\right)}{8 \cdot L \cdot (\Delta t)} \cdot \ln\left(\frac{H_1}{H_2}\right)$$

From NAVFAC TM 5-818-5* Figure 3-5

**(Formula Applicable When: m * L/D > 4)*



APPENDIX C

SMO RESILIENT MODULUS TEST RESULTS

Florida Department of Transportation

RON DESANTIS
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

JARED W. PERDUE, P.E.
SECRETARY

MEMORANDUM

DATE: May 9, 2025

TO: Kisan Patel, District 1/7 Geotechnical Materials Engineer

FROM: John Shoucair, Geotechnical Materials Engineer

SUBJECT: Embankment Resilient Modulus Pavement Design
District 1, Manatee County
FPN 442630-2: DeSoto (US41) Bridge from North of SR64 to Haben Blvd Bridge #13005

Ten (10), 2-bag samples were received by the State Materials Office (SMO) for determination of an embankment (roadbed) resilient modulus for pavement design. After visual observation of the ten samples, it was determined that the material from each 2-bag sample looked visually similar and the material from each of the bags were combined to form one sample from each location. After combining materials from the bags, samples from each location were obtained. The SMO conducted AASHTO soil tests T 88 for Particle Size Analysis of Soils, T 267 for Organic Content, T 89 for Atterberg Liquid Limit (LL), and T 90 for Atterberg Plastic Limit and Plasticity Index (PI), then classified the soils according to M 145. The classification test results are reported in Tables 1 and 2. Information provided for this project by Tierra, Inc. indicates that all samples were collected at various depths; see Table 2 for exact measurements.

Table 1. Summary of Gradation Results

Sample ID	Passing 3/4" (%)	Passing 1/2" (%)	Passing 3/8" (%)	Passing No. 4 (%)	Passing No. 10 (%)	Passing No. 40 (%)	Passing No. 60 (%)	Passing No. 100 (%)	Passing No. 200 (%)
AB-1	100.0	100.0	100.0	100.0	100.0	98.5	90.5	48.9	3.1
RB-6	100.0	100.0	99.8	98.9	96.1	89.1	77.9	46.3	9.4
PB-1	100.0	99.9	99.3	98.1	96.0	91.1	83.9	41.9	5.5
RB-12	99.8	98.6	98.4	96.2	89.2	71.3	59.4	30.7	8.2
PB-4	100.0	99.3	98.4	94.1	78.9	54.7	42.8	40.2	2.9
RB-16	100.0	99.0	98.2	95.6	89.4	80.2	67.4	33.7	2.6
RB-28	99.9	98.6	98.0	95.2	87.1	73.0	62.5	33.2	5.0
AB-11	100.0	100.0	99.9	99.4	98.6	94.1	84.8	55.4	14.4
PB-8	100.0	99.1	97.8	94.2	87.2	74.8	57.0	32.2	8.6
AB-15	100.0	98.4	97.9	95.0	90.7	79.1	67.0	40.6	11.1

Table 2. Summary of Classification Results

Sample ID	Depth	Location	Soil Class	Organic Content (%)	LL/PI
AB-1	0.5 - 2.5	27.49538, -82.56274	A-3	0.7	N.P.
RB-6	1.0 - 3.0	27.49781, -82.56291	A-3	1.4	N.P.
PB-1	0.5 - 2.5	27.49798, -82.56322	A-3	0.5	N.P.
RB-12	0.5 - 2.5	27.49946, -82.56282	A-3	0.9	N.P.
PB-4	0.5 - 2.5	27.49981, -82.56323	A-3	0.6	N.P.
RB-16	0.5 - 2.5	27.50688, -82.56292	A-3	0.2	N.P.
RB-28	0.5 - 2.5	27.50854, -82.56275	A-3	0.8	N.P.
AB-11	0.5 - 2.5	27.51046, -82.56329	A-2-4	0.7	N.P.
PB-8	0.5 - 2.5	27.51183, -82.56295	A-3	1.6	N.P.
AB-15	0.5 - 2.5	27.51377, -82.56330	A-2-4	1.0	N.P.

In addition to the classification testing, the following test program was conducted:

(1) Standard Proctor, AASHTO T 99.
(2) Resilient Modulus (M_R), AASHTO T 307.

A summary of laboratory test results is included in Table 3. The resilient modulus values listed in this table were obtained using the relationship developed from each individual test (resilient modulus versus bulk stress - with bulk stress, Θ, defined as $\Theta = \sigma_1 + \sigma_2 + \sigma_3$), and using a bulk stress of 11 psi, which is the recommendation from Dr. Ping's research work in modeling the embankment in-situ stresses for Florida pavement conditions. The resilient modulus samples were compacted to within an average of 1.1 pound per cubic foot (pcf) of the maximum density, and 0.6 percent of the optimum moisture content.

Table 3. Summary of T-99 and M_R Test Results

Sample ID	Passing No. 200 (%)	Standard Proctor Density (pcf)	Optimum Moisture Content (%)	Resilient Modulus @ Θ=11psi (psi)
AB-1	3.1	103.8	13.6	13,332
RB-6	9.4	112.3	12.4	14,468
PB-1	5.5	105.4	13.4	14,176
RB-12	8.2	112.2	11.8	15,767
PB-4	2.9	109.3	13.2	15,612
RB-16	2.6	106.1	13.1	15,533
RB-28	5.0	110.3	12.4	17,224
AB-11	14.4	113.4	12.2	13,028
PB-8	8.6	116.5	10.4	16,263
AB-15	11.1	115.7	10.8	17,291

To obtain a design embankment resilient modulus, a 90 percent method was used as outlined in both the Flexible Pavement Design Manual and Soils and Foundations Handbook. The resilient modulus values were ranked in ascending order and the percentage of values which were greater than or equal to the individual value were determined. The results of this analysis are recorded in Table 4 and the corresponding graph of these results is included as Figure 1.

Table 4. Ranked M_R Test Results for 90 Percent Method

Rank	Sample ID	% ≥	M_R (psi)
1	AB-11	100	13,028
2	AB-1	90	13,332
3	PB-1	80	14,176
4	RB-6	70	14,468
5	RB-16	60	15,533
6	PB-4	50	15,612
7	RB-12	40	15,767
8	PB-8	30	16,263
9	RB-28	20	17,224
10	AB-15	10	17,291

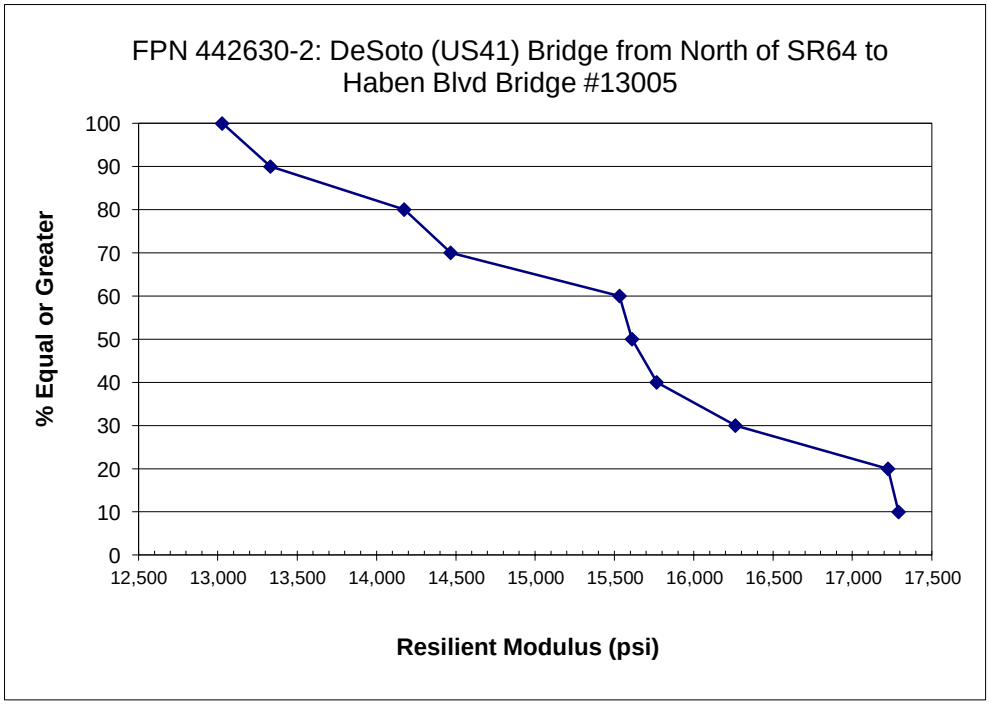


Figure 1. Ranked MR Test Results for 90% Method

Based on the results shown in Table 4 and Figure 1, the resilient modulus corresponding to the 90% Method is **13,300 psi**, which would represent the design embankment M_R value.

APPENDIX J

Environmental Technical Memorandum

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memorandum

date	March 31, 2026
to	Craig Fox, PE – GFT Aiah Yassin, AICP, PMP – GFT
cc	Tori Kuba - Environmental Science Associates
from	Alexandra Hipolito – Environmental Science Associates
subject	Pond Siting Report – Environmental Technical Memorandum Bradenton-Palmetto Connector PD&E Study US 41/SR 55 from US 301/SR 683 at 9th Street East to North of 25th Street East FPID 444843-1 Manatee County, Florida

Introduction

The Department of Transportation (FDOT), District One is conducting a Project Development and Environment (PD&E) study to evaluate capacity and mobility improvements to United States (US) 41/State Road (SR) 55/1st Street (St)/Tamiami Trail including roadway widening, bridge widening and/or replacement, new stormwater management facilities (SMF), new floodplain compensation (FPC) sites, and bicycle and pedestrian accommodations. The study limits cover US 301/SR 683 at 9th St East to North of 25th St East in the City of Palmetto, including a crossing of the Manatee River. The study limits extend approximately 4.5 miles, all within Manatee County. The proposed activities also include examining the potential for elevated roadway and toll lanes. The project is federally funded. The project location and study limits are shown in **Figure 1**.

The proposed improvements of the Build Alternative would include widening the roadway from four to six general-purpose through lanes and adding two elevated free-flow lanes on a viaduct supported by median piers. Additional improvements include drainage upgrades and enhanced bicycle and pedestrian facilities, including sidewalks south of the DeSoto Bridge and shared-use paths to north of the DeSoto Bridge. Implementation is anticipated to occur in phases to deliver community benefits sooner. An Interim option is proposed between SR 64 and US 301 that would widen the roadway from four to six through lanes and replace the DeSoto Bridge with 6 lanes and a separated shared use path on both sides. When funding becomes available, the elevated lanes and improvements to the corridor segments south of SR 64 and north of US 301 would be constructed. This PD&E Study evaluates the No-Build Alternative and the Build Alternative, including the Interim option, to clearly quantify the Interim option's impacts. As part of the proposed improvements, additional stormwater management facilities (SMFs) will be required to support stormwater treatment and attenuation requirements as defined in Chapter 62-330 of the Florida Administrative Code (F.A.C) and the Environmental Resource Permit Applicant's Handbook (Volume II). Environmental Science Associates (ESA) has completed a review of eighty-eight (88) proposed SMFs and five (5) floodplain compensation sites (FPCs) to identify potential environmental constraints (**Table 1**). This memorandum

summarizes potential impacts to threatened and endangered species, as well as potential impacts to wetlands, surface waters, and other surface waters associated with the proposed SMFs and FPCs.

TABLE 1

STORMWATER MANAGEMENT FACILITY AND FLOODPLAIN COMPENSATION SITE ALTERNATIVES

Alternative Site	Site Area (Acres)
Basin 1	
Dry Pond 1N Alt 1	0.84
Dry Pond 1S Alt 1	1.06
Dry Pond 1A Alt 1	0.31
FPC 1 Alt 1	0.85
Dry Pond 1B Alt 2	2.86
FPC 1 Alt 2	0.65
Dry Pond 1C Alt 3	3.95
Basin 2	
Dry Pond 2 Alt 1	1.65
FPC 2 Alt 1	0.70
Dry Pond 2A Alt 2	1.36
Dry Pond 2B Alt 3	2.29
Basin 3	
VB-3A Alt 1	0.29
VB-3B Alt 1	0.21
VB-3C Alt 1	0.31
VB-3D Alt 1	1.88
VB-3E Alt 1	0.22
Wet Pond 3 Alt 1	0.43
FPC 3A Alt 1	0.28
FPC 3B Alt 1	0.14
Dry Pond 3A Alt 2	1.11
VB-3F Alt 2	0.52
VB-3G Alt 2	0.72
VB-3H Alt 2	1.28
Dry Pond 3B Alt 3	0.86
Dry Pond 3C Alt 3	2.03
Basin 4	
Dry Pond 4 Alt 1	3.66
Wet Pond 4A Alt 2	0.77

Alternative Site	Site Area (Acres)
VB-4A Alt 2	1.59
VB-4B Alt 2	1.24
VB-4C Alt 2	1.79
Dry Pond 4B Alt 3	2.08
Dry Pond 4C Alt 3	1.47
Basin 5	
Swale 5S Alt 1	0.74
Wet Pond 5N Alt 1	0.68
Dry Pond 5NA Alt 1, 2, & 3	0.46
Swale 5SA Alt 2	0.09
VFS-5S Alt 2	0.07
Wet Pond 5NB Alt 2	0.40
Dry Pond 5SA Alt 3	0.57
Basin 6	
Swale 6S Alt 1	0.73
Wet Pond 6NA Alt 1	0.56
Dry Pond 6N Alt 1 & 3	0.12
Swale 6SA Alt 2	0.09
VFS-6S Alt 2	0.07
Swale 6N Alt 2	0.09
Dry Pond 6NA Alt 2	0.65
Dry Pond 6S Alt 3	1.68
Basin 7	
Wet Pond 7A Alt 1	0.85
Dry Pond 7 Alt 1, 2, & 3	0.24
VFS-7 Alt 2	0.07
Swale 7 Alt 3	0.43
Basin 8	
Dry Pond 8A Alt 1 & 2	0.18
Wet Pond 8 Alt 1	0.33
VFS-8 Alt 2	0.07
Dry Pond 8B Alt 3	0.24
Swale 8 Alt 3	0.08
Swale 8A Alt 3	0.08

Alternative Site	Site Area (Acres)
Basin 9	
VB-9A Alt 1 & 2	0.41
VB-9B Alt 1 & 2	0.58
VB-9C Alt 1 & 2	0.37
VB-9D Alt 1	0.15
VB-9E Alt 1	0.17
VB-9F Alt 1	0.30
Wet Pond 9D Alt 1	0.72
Wet Pond 9E Alt 1	0.74
Wet Pond 9F Alt 1	2.71
Wet Pond 9C Alt 2	2.02
Dry Pond 9A Alt 2	0.59
Dry Pond 9B Alt 2	0.67
Dry Pond 9 Alt 3	4.73
Basin 10	
Baffle Swale 10 Alt 1 & 2	1.76
Wet Pond 10 Alt 1	2.28
Wet Pond 10A Alt 2	2.11
Wet Pond 10B Alt 3	0.98
Wet Pond 10C Alt 3	0.73
VB-10 Alt 3	0.26
VB-10A Alt 3	0.13
VB-10B Alt 3	0.08
VB-10C Alt 3	0.07
VB-10D Alt 3	0.09

= Preferred SMF/FPC site

Protected Species and Habitats

Agency Regulations

The term listed species denotes any species that is listed as endangered or threatened by the U.S. Fish and Wildlife Service (USFWS) under 50 CFR Part 17, the Florida Fish and Wildlife Conservation Commission (FWC) under Chapter 68A-27 F.A.C., or the Florida Department of Agriculture and Consumer Services (FDACS) under Chapter 5B-40, F.A.C. These species warrant heightened concern over conservation status and, if present, may require implementation of specific conservation measures to avoid or minimize adverse impacts. In addition, other species not listed as Endangered or Threatened are afforded protection under various state and federal rules and regulations that, if present, may also require implementation of specific conservation measures to avoid or minimize adverse

impacts. Depending on the presence of suitable habitat, some species may warrant species specific surveys to determine presence of the species. If species are identified as utilizing a habitat within the proposed project, an assessment of impacts to the species based on the proposed scope of work will be required which may result in needing to obtain permits or coordinating with regulatory agencies in order to gain their concurrence with findings.

Listed Species

Literature and agency database searches of potential habitat areas were conducted to identify state and federally protected species occurring or potentially occurring within the SMF and FPC alternatives. The Manatee County Soil Survey, recent aerial imagery (2024), and 2023 Southwest Florida Water Management District (SWFWMD) land use/land cover (FLUCFCS) which was field verified by ESA and updated to reflect January and March 2026, were reviewed to determine habitat types occurring within the alternative sites. Information sources and databases reviewed for the project include the following:

- USFWS Endangered and Threatened Wildlife and Plants, 50 CFR 17.11 and 17.12;
- USFWS Information for Planning and Consultation (IPaC) (https://ecos.fws.gov/ipac);
- USFWS Critical Habitat portal (http://ecos.fws.gov/crithab/);
- NOAA NMFS, Southeast Region ESA Section 7 Mapper (https://noaa.maps.arcgis.com/apps/webappviewer/index.html?id=b184635835e34f4d904c6fb741cfb00d);
- NOAA NMFS, National ESA Critical Habitat Mapper (https://noaa.maps.arcgis.com/apps/webappviewer/index.html?id=68d8df16b39c48fe9f60640692d0e318);
- FWC Florida's Endangered and Threatened Species, updated April 2025;
- FWC Florida's Imperiled Species Management Plan, amended December 2018 and September 2022;
- FWC Imperiled Wading Bird Colony Viewer, (https://myfwc.maps.arcgis.com/apps/webappviewer/index.html?id=faf1c29ce5e1484fb5d9f23fed436826);
- National Audubon Society EagleWatch Program, (https://cbop.audubon.org/conservation/about-eaglewatch-program);
- Rules for the Department of Agriculture and Consumer Services, Division of Plant Industry, Chapter 5B-40, Preservation of Native Flora of Florida;
- Notes on Florida's Endangered and Threatened Plants. Botany Contribution No. 38, 4th edition. FDACS, Division of Plant Industry, Coile, N.C. and M.A. Garland. 2003;
- Florida Natural Areas Inventory (FNAI) maps and database;
- FDOT's Efficient Transportation Decision Making (ETDM) Summary Report Bradenton-Palmetto Connector Final Planning Screen with Alternative Corridor Evaluation Report (ACER) published on July 24, 2025 (ETDM Project No. 14507);
- FDOT's ETDM Summary Report DeSoto Bridge [Bridge #130053] published on October 7, 2023 (ETDM Project No. 14510); and
- DeSoto Bridge PD&E Study From Manatee Ave East (SR 64) to Haben Boulevard (FPID 442630-1) Natural Resource Evaluation (NRE) (July 2024).

Based on a review of the above resources, several listed flora and fauna species have the potential to occur within the SMF and FPC alternatives according to occurrence-based potential habitat models, natural community models,

and species predicted range models. **Table 2** includes state and federally protected wildlife which potentially occur in Manatee County. Field-verified FLUCFCS within each pond alternative is depicted in **Figure 2**. The approximate locations of protected species observations and known occurrence data located in the vicinity of the proposed SMF and FPC sites are provided in **Figure 3**. The following provides a brief discussion of protected species with a low, moderate, or high potential to occur within the proposed SMF and FPC sites based on onsite habitats, species' range maps, literature searches, and database reviews.

Probability of Occurrence

- **None** – Species has been documented in Manatee County, but due to complete absence of suitable habitat, could not be naturally present within the project study area.
- **Low** – Species with a low likelihood of occurrence within the project area are defined as those species that are known to occur in Manatee County or the bioregion, but suitable habitat is limited in the project area, or the species is rare.
- **Moderate** – Species with a moderate likelihood of occurrence are those species known to occur in Manatee County or nearby counties, and for which suitable habitat is well represented in the project area, but no observations or positive indications exist to verify presence.
- **High** – Species with a high likelihood of occurrence are suspected within the project area based on known ranges and existence of sufficient suitable habitat in the area, are known to occur adjacent to the project, or have been previously observed or documented in the vicinity.

Federal Species

Seventeen (17) species are listed by the USFWS as endangered or threatened. Federally listed species are also considered state listed species. Two species, the monarch butterfly (*Danaus plexippus*) and tricolored bat (*Perimyotis subflavus*), are proposed for federal listing.

Fourteen (14) of the 17 species, pygmy fringe tree (*Chionanthus pygmaeus*), perforate reindeer lichen (*Cladonia perforata*), gulf sturgeon (*Acipenser oxyrinchus desotoi*), smalltooth sawfish (*Pristis pectinata*), loggerhead sea turtle (*Caretta caretta*), green sea turtle (*Chelonia mydas*), and Kemp's Ridley sea turtle (*Lepidochelys kempii*), American Crocodile (*Crocodylus acutus*), Florida scrub-jay (*Aphelocoma coerulescens*), crested caracara (*Caracara plancus audubonii*), eastern black rail (*Laterallus jamaicensis ssp. jamaicensis*), Everglade snail kite (*Rostrhamus sociabilis plumbeus*), Florida panther (*Puma concolor coryi*), and West Indian Manatee (*Trichechus manatus latirostris*) were determined to have no probability of occurrence due to a lack of suitable habitat within the pond site alternatives. Therefore, the proposed project will have no effect on these species.

TABLE 2

POTENTIALLY OCCURRING LISTED SPECIES

Scientific Name	Common Name	Listing Status		Suitable Habitat	Probability of Occurrence
		USFWS / NMFS	FWC / FDACS		
Plants					
Acrostichum aureum	Golden leather fern	NL	T	Coastal hammocks, tidal marshes	None
Celtis iguanaea	Iguana hackberry	NL	E	Shell mounds, maritime hammocks	None
Chionanthus pygmaeus	Pygmy fringe tree	E	E	Scrub, sandhill, and xeric hammock, primarily on the Lake Wales Ridge.	None
Cladonia perforata	Perforate reindeer lichen	E	E	Rosemary scrub on FL Panhandle coasts, Lake Wales Ridge, and Atlantic Coastal Ridge.	None
Ctenitis sloanei	Florida tree fern	NL	E	Humid forests.	None
Eragrostis pectinacean var. *tracyi*	Sanibel lovegrass	NL	E	Found on drier, compact soils of disturbed beach dunes, maritime hammocks, coastal strands, coastal grasslands, old fields, clearings, and other disturbed sites.	None
Gossypium hirsutum	Wild cotton	NL	T	Coastal hammocks, shell mounds, roadsides	Moderate
Habenaria distans	Distans habenaria	NL	E	Hydric hammocks, strand swamps	None
Harrisia gracilis	West Coast prickly-apple	NL	E	Shell middens, maritime hammocks	None
Lechea divaricata	Pine pinweed	NL	E	Scrub and scrubby flatwoods.	None
Listera australis	Southern twayblade	NL	T	Low moist woods, stream banks	None
Lythrum flagellare	Lowland loosestrife	NL	E	Wet prairies, floodplain marshes, and roadside ditches.	Moderate
Matelea floridana	Florida spiny-pod	NL	E	Sandhill, upland pine, and dry hammocks.	None
Maytenus phyllanthoides	Florida mayten	NL	T	Hammocks, dunes	None
Polypodium ptilodon	Swamp plume polypody	NL	E	Hammocks, swamps	None
Rhynchospora megaplumosa	Large-plumed beaksedge	NL	E	Scrubby flatwoods and scrubby to mesic flatwoods transition areas.	None
Rudbeckia nitida	St. John's black-eyed Susan	NL	E	Wet or mesic pine flatwoods, bogs, savannas, seepage slopes; roadside ditches.	Moderate
Triphora latifolia	Wide-leaved triphora	NL	E	Hardwood hammocks	None
Verbena tampensis	Tampa vervain	NL	E	Flatwoods, hammocks	None
Insects					
Danaus plexippus	Monarch butterfly	PFT	-	Variety of terrestrial habitats.	Moderate
Fish					
Acipenser oxyrinchus desotoi	Gulf sturgeon	T	T	Primarily marine/estuarine in winter; migrates to upper rivers in spring for spawning; returns to sea/estuary in fall; some may remain near spawning areas. First two years are spent in riverine habitats. Spawns in fresh water (sometimes tidal) usually over bottom of hard clay, rubble, gravel, or shell. May spawn in brackish water. Most spawn in natal river.	None
Pristis pectinata	Smalltooth sawfish	E	E	Southwest Florida waters, particularly within the Caloosahatchee River. Young prefer shallow estuarine waters near red mangroves, as well as waters under docks, bridges, and piers. Adults prefer deeper, more open waters but have been documented near coral reefs and travel inshore for mating and birth.	None
Reptiles					
Caretta caretta	Loggerhead sea turtle	T	T	Subtropical and temperate oceans, coastal beaches. May be found hundreds of miles out to sea, as well as in inshore areas such as bays, lagoons, salt marshes, creeks, ship channels, and the mouths of large rivers.	None
Chelonia mydas	Green sea turtle	T	T	Subtropical and temperate oceans, coastal beaches.	None

Scientific Name	Common Name	Listing Status		Suitable Habitat	Probability of Occurrence
		USFWS / NMFS	FWC / FDACS		
Crocodylus acutus	American crocodile	T	T	Coastal estuarine marshes, tidal swamps, and creeks along edges of mainland and islands. Usually associated with mangroves. Nests on beaches, stream banks, and levees.	None
Drymarchon couperi	Eastern indigo snake	T	T	Hydric hammock, palustrine, sandhill scrub, upland pine forest, mangrove swamp.	Moderate
Gopherus polyphemus	Gopher tortoise	NL	T	Old fields, sandhill, scrub, xeric hammock, road shoulder, dry prairie, pine flatwoods.	Moderate
Lepidochelys kempii	Kemp's Ridley sea turtle	E	E	Marine coastal waters, sandy beaches.	None
Pituophis melanoleucus mugitus	Florida pine snake	NL	T	Well-drained, sandy open area or longleaf pine forests, sandhills.	Moderate
Birds					
Antigone canadensis pratensis	Florida sandhill crane	NL	T	Freshwater marsh, prairies, pastures.	Moderate
Aphelocoma coerulescens	Florida scrub-jay	T	T	Relict dune ecosystems or scrub on well drained to excessively well drained sandy soils, sand dunes along coast.	None
Athene cunicularia floridana	Florida burrowing owl	NL	T	Native prairies and cleared areas with short groundcover.	Low
Calidris canutus rufa	Rufa red knot	T	T	Coastal marine and estuarine habitats with large areas of exposed intertidal sediments.	Low
Caracara plancus audubonii	Crested caracara	T	T	Wet prairies with cabbage palms, wooded areas with saw palmetto, cypress, scrub oaks and pastures.	None
Charadrius melodus	Piping plover	T	T	Open sandy beaches, sand flats, mudflats, coastal areas.	Low
Charadrius nivosus	Snowy plover	NL	T	Dry sandy beaches.	Low
Egretta caerulea	Little blue heron	NL	T	Coastal areas, freshwater lakes, brackish water, marshes, swamps, streams.	Moderate
Egretta rufescens	Reddish egret	NL	T	Marine tidal flats, shorelines, coastal mangroves.	Low
Egretta tricolor	Tricolored heron	NL	T	Wetlands, mangrove swamps, tidal creeks, ditches, ponds and lakes.	Moderate
Falco sparverius paulus	Southeastern American kestrel	NL	T	Sandhill, mesic flatwoods, ruderal, dry prairie.	Moderate
Grus americana	Whooping crane	EXPN	EXPN	The species breeds, migrates, winters, and forages in a variety of habitats, including coastal marshes and estuaries, inland marshes, lakes, open ponds, shallow bays, salt marsh and sand or tidal flats, upland swales, wet meadows and rivers, pastures and agricultural fields.	Low
Haematopus palliatus	American oystercatcher	NL	T	Beaches, sandbars, shell rakes, salt marsh, oyster reef.	Low
Haliaeetus leucocephalus	Bald eagle	BGEPA[1]	BGEPA[1]	Forests, estuarine, lacustrine, riverine, tidal marsh, tidal swamp.	Moderate
Laterallus jamaicensis ssp. jamaicensis	Eastern black rail	T	T	Salt, brackish, and freshwaters marshes that can be tidally or non-tidally influenced.	None
Mycteria americana	Wood stork	NL	T	Nests colonially in a variety of inundated forested wetlands, including cypress strands and domes, mixed hardwood swamps, sloughs, and mangroves. Increasingly nesting in artificial habitats (e.g., impoundments and dredged areas with native or exotic vegetation) in north and central Florida. Forages mainly in shallow water in freshwater marshes, swamps, lagoons, ponds, tidal creeks, flooded pastures and ditches, where they are attracted to falling water levels that concentrate food sources (mainly fish).	Moderate
Platalea ajaja	Roseate spoonbill	NL	T	Coastal mangrove, dredge spoils, marine tidal flats, ponds, coastal marshes, freshwater sloughs and marshes.	Moderate
Rostrhamus sociabilis plumbeus	Everglade snail kite	E	E	Lowland freshwater marshes and littoral shelves of lakes.	None
Rynchops niger	Black skimmer	NL	T	Beaches, bays, estuaries, sandbars, tidal creek, large lakes, phosphate pits, flooded agricultural fields.	Low

Scientific Name	Common Name	Listing Status		Suitable Habitat	Probability of Occurrence
		USFWS / NMFS	FWC / FDACS		
Sternula antillarum	Least tern	NL	T	Coastal areas throughout Florida, including beaches, lagoons, bays, and estuaries. Increasingly use artificial nesting sites, including gravel rooftops, dredge spoil islands or other dredged material deposits, construction sites, causeways, and mining lands. Nesting areas have a substrate of well-drained sand or gravel and usually have little vegetation.	Low
Mammals					
Puma concolor coryi	Florida panther	E	E	Natural, semi-natural, and agricultural lands, utilizing primarily forested habitats including pinelands, upland hardwood forests, hardwood swamps, and cypress swamps.	None
Perimyotis subflavus	Tricolored bat	PFE	-	Roosting habitat: Mature hardwood forests, caves, and less commonly manmade structures. Foraging habitat: Waterways, forests, and agricultural areas where small insects can be found.	Low
Trichechus manatus latirostris	West Indian manatee	T	T	Coastal waters, estuarine waters, bays, rivers, lakes.	None
	Bats (multiple species)	-	*	Forested areas, manmade structures.	Moderate

Key:
USFWS = U.S. Fish and Wildlife Service
NMFS = National Marine Fisheries Service
FWC = Florida Fish and Wildlife Conservation Commission
FDACS = Florida Department of Agriculture and Consumer Services
MANLAA = May affect, not likely to adversely affect
EXPN = Experimental Population, Non-essential
NL = Not Listed
E = Endangered
T = Threatened
PFE = Proposed Federally Endangered
PFT = Proposed Federally Threatened
[1]The bald eagle was delisted from protection under the Endangered Species Act in 2007. However, the bald eagle is still protected under the Bald and Golden Eagle Protection Act (BGEPA), the Migratory Bird Treaty Act (MBTA), and State law (F.A.C. 68A-16.002).
*Bats are protected by F.A.C. 68A-4.001 General Prohibitions and 68A-9.010 Taking Nuisance Wildlife

Sources:
USFWS - U.S. Fish and Wildlife Service status, Official lists of Threatened and Endangered species, 50 CFR 17.11
FWC - Florida's Imperiled Species Management Plan amended December 2018 and September 2022. Tallahassee, Florida
FWC - Florida's Endangered and Threatened Species, Updated December 2025
USFWS Environmental Conservation Online System (ECOS) - https://ecos.fws.gov/ecp/report/species-listings-by-current-range-county?fips=12081, accessed 1/7/2026
Florida Natural Areas Inventory (FNAI) Tracking List - https://www.fnai.org/species-communities/tracking-main, accessed 1/7/2026

The two federally listed plant species (pygmy fringe tree and perforate reindeer lichen) primarily occur on the Lake Wales Ridge. The project study area is highly urbanized, and no observations of these federally protected plant species were observed.

No SMF or FPC sites occur within a marine or estuarine environment, therefore, the following species will not be impacted: gulf sturgeon, smalltooth sawfish, sea turtles (loggerhead sea turtle, green sea turtle, and Kemp's Ridley sea turtle), American crocodile, and West Indian manatee.

Optimal Florida scrub-jay habitat consists of low growing, scattered scrub canopy species with patches of bare sandy soil such as those found in sand pine scrub, xeric oak scrub, scrubby flatwoods, and scrubby coastal strand habitats. In areas where these types of habitats are unavailable, scrub-jays may be found in less optimal habitats such as pine flatwoods with scattered oaks or citrus orchards. Though the project study area falls within the CA for the species, no current observations have been recorded.

The crested caracara inhabits open xeric to mesic habitats. Its preferred habitat is native dry or wet prairie with associated marshes, cabbage palm (*Sabal palmetto*), and cabbage palm - live oak (*Quercus virginiana*) hammocks. Additionally, the project study area is not within the CA for the Audubon's crested caracara. No current or historic observations have been recorded for this species within the project study area.

The eastern black rail inhabits freshwater and tidal marshes and wet prairies. Vegetation structure within these wetlands consist of very dense grassy herbaceous vegetation, including rushes (*Juncus* sp.), grasses (*Panicum* sp.), sedges including spartina (*Spartina* sp.), needle rush (*Juncus* sp.), and sawgrass (*Cladium* sp.), with little to no bare ground and sparse to no woody vegetation. No eastern black rails have been recorded within the project study area.

The Everglade snail kite occurs within lowland freshwater marshes and littoral shelves of lakes. No suitable habitat or species observations were noted within the project study area.

The Florida panther is a federally listed endangered subspecies of the more widely spread puma (*Puma concolor*). This subspecies is a large cat with a long tail and fur that is dark buff to tawny above and light buff to white below. Florida panthers use an extensive mosaic of natural, semi-natural, and agricultural lands, utilizing primarily forested habitats including pinelands, upland hardwood forests, hardwood swamps, and cypress swamps. These habitats are especially important for providing daytime refugia. Current data suggests that panthers are currently distributed into Central Florida at least as far north as I-4. Although panthers have been documented further north, these are typically dispersing males from the breeding population in South Florida. The project study area is within the known range of the species but does not occur within the panther focus area or dispersal pathways. No CH has been established for the Florida panther. The project corridor is highly urbanized, and no panther observations have been documented within the project study area.

Descriptions of the four remaining federally protected are provided in the subsequent section. Additionally, a description of the monarch butterfly and tricolored bat is provided.

Insects

Monarch butterfly (*Danaus plexippus*): The monarch butterfly is a federally proposed threatened species. Monarch butterflies utilize a variety of habitats including fields, roadsides, open area, wetlands, and urban gardens as long as milkweed (*Asclepias* spp.) and flowering plants are present. Although adult monarch butterflies can feed

on the nectar of many flowers, they lay eggs on milkweed plants as that is the only food the caterpillars can eat. With the exception of VB-9F Alt 1, Baffle Swale 10 Alt 1 &2, Wet Pond 10 Alt 1, and Wet Pond 10B Alt 3, the majority of proposed SMF and FPC locations have been disturbed to some degree from, development or construction of previously permitted SMFs. The SMF and FPC sites previously listed are the only sites with natural forested areas. Although monarch butterflies can utilize disturbed areas such as roadsides, many of the developed areas of the proposed SMF and FPC sites are regularly mowed and maintained. Although not observed during site visits, preferred SMF and FPC sites will be reviewed for the presence of milkweed. However, no involvement with the species is anticipated.

Eastern indigo snake (*Drymarchon couperi*): The eastern indigo snake is a federally threatened species. Eastern indigo snakes can use a variety of habitats including pine flatwoods, scrubby flatwoods, high pine, dry prairie, tropical hardwood hammocks, edges of freshwater marshes, agricultural fields, coastal dunes, and human-altered habitats and are known to occupy gopher tortoise burrows. Very few proposed SMF and FPC sites contain natural areas that have not been disturbed by development. VB-9F Alt 1, Baffle Swale 10 Alt 1 &2. Wet Pond 10 Alt 1, and Wet Pond 10B Alt 3 contain potential habitat for eastern indigo snakes. A 100% gopher tortoise survey will be conducted in preferred SMF and FPC sites with suitable habitat for the species. If avoidance of gopher tortoise burrows by 25 feet or more in all directions cannot be established, then a FWC gopher tortoise relocation permit will be required, and all tortoises will be relocated by an Authorized Gopher Tortoise Agent to a permitted off-site recipient site. The *Standard Protection Measures for the Eastern Indigo Snake (2004)* will be adhered to during construction to minimize the probability of any species impacts. The *Eastern Indigo Snake Programmatic Effect Determination Key (North Florida)* will be utilized to assess proposed project impacts, including those impacts that may result from the selected preferred SMF and FPC locations, and determine an overall effect determination for the species as a result of the project.

Birds

Rufa red knot (*Calidris canutus rufa*): The rufa red knot, listed by the USFWS and FWC as Threatened, is a stocky, medium-sized shorebird with relatively short bill and legs. The species utilizes coastal marine and estuarine habitats with large areas of exposed intertidal sediments. The probability of occurrence for the red knot within the proposed SMF and FPC sites was designated as low, as none of the locations have coastal qualities. Red knots may transition over the proposed pond sites, but it is unlikely that they would utilize the habitat for foraging or nesting. No red knots were observed during field reviews. Due to their mobility and ability to move away, impacts to individuals during construction of the pond sites are not anticipated.

Piping plover (*Charadrius melodus*): The piping plover, listed by the USFWS and FWC as Threatened, is a small shorebird with a short, stout, black bill, yellow to greenish-olive legs, and very pale upperparts. In Florida, piping plovers are usually encountered in winter plumage. The northern end of the project falls within the USFWS CA for the species. The species utilizes open sandy beaches, sand flats, mudflats, and coastal areas. The probability of occurrence for the piping plover was designated as low within the proposed SMF and FPC sites was designated as low, as none of the locations have coastal qualities. Piping plovers may transition over the proposed pond sites, but it is unlikely that they would utilize the habitat for foraging or nesting. No piping plovers were observed during field reviews. Due to their mobility and ability to move away, impacts to individuals during construction of the pond sites are not anticipated.

Mammals

Tricolored bat (*Perimyotis subflavus*): The tricolored bat is a federally proposed endangered species. Tricolored bats are found throughout Florida; however, they are more common in the northern half of the state. The small, insect-eating bats prefer to roost in mature hardwood forests, caves, and less commonly, manmade structures. Tricolored bats forage in waterways, forests, and agricultural areas where small insects can be found. Although some proposed SMF and FPC sites may have areas of forested wetlands and other habitat suitable for roosting and foraging, the largest area of suitable bat habitat falls within the natural forested areas (VB-9F Alt 1, Baffle Swale 10 Alt 1 &2. Wet Pond 10 Alt 1, Wet Pond 10B Alt 3), manmade stormwater ponds within the project study area, the DeSoto Bridge, and the Manatee River. No proposed SMF or FPC sites are within reservoirs or adjacent to the DeSoto Bridge/Manatee River. No observations or evidence of roosting were noted during field surveys. If the tricolored bat is listed by USFWS as threatened or endangered and the proposed project may affect the species, including selected preferred SMF and FPC sites, consultation with USFWS will occur to determine appropriate avoidance and minimization measures for protection of the newly listed species.

State Species

Thirty-one (31) species are listed by FWC as threatened. In-house research and field reviews were conducted evaluating the habitat requirements for each species and the types of habitats present within the project study area. Fourteen (14) state-listed plant species have no probability of occurring within the project study area due to lack of suitable habitat. These plant species include: golden leather fern (*Acrostichum aureum*), iguana hackberry (*Celtis iguanaea*), Florida tree fern (*Ctenitis sloanei*), Sanibel lovegrass (*Eragrostis pectinacean var. tracyi*), Distans habenaria (*Habenaria distans*), West Coast prickly-apple (*Harrisia gracilis*), pine pinweed (*Lechea divaricate*), southern twayblade (*Listera australis*), Florida spiny-pod (*Matelea floridana*), Florida mayten (*Maytenus phyllanthoides*), swamp plume polypody (*Polypodium ptilodon*), large-plumed beaksedge (*Rhynchospora megaplumosa*), wide-leaved triphora (*Triphora latifolia*), and Tampa vervain (*Triphora latifolia*).

A description of the seventeen (17) remaining state-listed species is provided below.

Plants

Wild cotton (*Gossypium hirsutum*): Wild cotton is listed by the FDACS as Threatened. The probability of occurrence for wild cotton was designated as moderate since it is known to occur within roadsides. No observations of the species were noted during field reviews. Listed plant surveys will be conducted during the design phase of the project.

Lowland loosestrife (*Lythrum flagellare*): This species is listed by FDACS as Endangered, and is a low-growing, creeping wildflower with purple to pinkish flowers. The probability of occurrence for lowland loosestrife was designated as moderate since it is known to occur within roadsides. No observations of the species were noted during field reviews. Listed plant surveys will be conducted during the design phase of the project.

St. John's black-eyed Susan (*Rudbeckia nitida*): St. John’s black-eyed Susan is listed by FDACS as Endangered, and is a perennial herb with a single, stiff, erect, ribbed stem, occasionally branched, topped by a flower head. Ray flowers are bright yellow. The probability of occurrence for the species was designated as moderate since it is known to occur within roadsides. No observations of the species were noted during field reviews. Listed plant surveys will be conducted during the design phase of the project.

Reptiles

Gopher tortoise (*Gopherus polyphemus*): The gopher tortoise is a state threatened species. Gopher tortoises prefer well-drained, sandy soils found in habitats such as longleaf pine sandhills, xeric oak hammocks, scrub, pine flatwoods, dry prairies, and coastal dunes. They are also found in a variety of disturbed habitats including pastures and urban areas. A 100% gopher tortoise survey will be conducted in suitable habitat for all preferred SMF and FPC sites during design and permitting. If avoidance of gopher tortoise burrows by 25 feet or more in all directions cannot be established, then an FWC gopher tortoise relocation permit will be required and all tortoises will be relocated by an Authorized Gopher Tortoise Agent to a permitted off-site recipient site. All survey, permitting, and relocation activities associated with gopher tortoises should be conducted in accordance with the then-current version of FWC's Gopher Tortoise Permitting Guidelines.

Florida pine snake (*Pituophis melanoleucus mugitus*): The Florida pine snake is a state threatened species. It is one of the largest eastern snakes in North America, reaching lengths up to 84 inches. The Florida pine snake has a brown back with dark blotches, white belly, ridged scales, small head, and pointed snout. It has a range that covers almost the entire state of Florida. Florida pine snakes are naturally secretive in nature and can spend up to 80 percent of their time in underground refuges like stump holes, gopher tortoise burrows, and the burrows of nine-banded armadillos and mice. This species is often associated with southeastern pocket gophers (*Geomys pinetis*); however, they can persist and thrive in areas without this species.

Many of the same protocols that will be followed under the *Standard Protection Measures for the Eastern Indigo Snake* guidelines will benefit the Florida pine snake. Such as, if a Florida pine snake is observed during construction, FWC staff recommend that work activities cease and the snake be allowed to leave on its own accord. Potential gopher tortoise habitat will be surveyed during design and permitting to determine the presence/absence of gopher tortoise and coordinate with the FWC to secure all necessary permits for gopher tortoise burrows occurring within 25 feet of the project limits.

Birds

Florida sandhill crane (*Antigone canadensis pratensis*): The Florida sandhill crane is a state threatened species. Florida sandhill cranes utilize shallow freshwater marsh systems dominated by pickerelweed (*Pontederia cordata*) and maidencane (*Panicum hemitomon*) for nesting and adjacent pasturelands for foraging. The open land areas within the project study area and roadsides are potential suitable habitats that Florida sandhill cranes are likely to forage in. The Florida sandhill crane breeding season is from December through August, with nesting occurring primarily from February through April. Nesting locations vary from year to year due to fluctuation in water levels in wetlands across the landscape. No proposed SMF and FPC sites contain habitat that may be suitable for nesting. If active nest sites or flightless young are observed within or near (400 feet) a preferred SMF or FPC site during pre-construction surveys, conservation measures to minimize or avoid adverse impacts to the species will be implemented or an incidental take permit will be obtained from the FWC.

Florida burrowing owl (*Athene cunicularia floridana*): The Florida burrowing owl is a state threatened species. Burrowing owls inhabit open prairies in Florida that have little understory vegetation. These areas include golf courses, airports, pastures, agricultural fields, and vacant lots. The drainage of wetlands increases the areas of habitat for the burrow owl. Preferred SMF and FPC locations will be surveyed for the presence of burrowing owl burrows during design and permitting. Should any be encountered, an FWC incidental take permit will be acquired if avoidance and minimization measures cannot be taken that eliminate the need for a permit.

Southeastern American kestrel (*Falco sparverius paulus*): The southeastern American kestrel is a state threatened species. They are found in pine habitats, woodland edges, prairies, and pastures throughout Florida. Suitable foraging habitat consists of either open, low vegetation (≤10 inches) dominated by grasses or low scrub oaks interspersed with sandy patches. In pine-dominated forests or sandhill communities, canopy cover in suitable foraging habitat is less than 40%, with 25% or less being optimal. Availability of suitable nesting sites is key during breeding season. Nest sites include tall dead trees or utility poles generally with an unobstructed view of their surroundings. Preferred SMF and FPC locations containing open land may provide suitable foraging habitat for kestrels. A southeastern American kestrel survey will be conducted during design and permitting. Should any nests be encountered, an FWC incidental take permit will be required if avoidance and minimization measures cannot be taken that eliminate the need for a permit.

Wood stork (*Mycteria americana*): The USFWS has removed the Southeast U.S. distinct population segment of the wood stork from the Federal List of Endangered and Threatened Wildlife, effective March 12, 2026. Federal agencies (including FDOT under NEPA assignment) will no longer be required to consult with the Service under section 7 of the Act for the wood stork. The wood stork is now a state-listed threatened species, occurring on Florida's Endangered and Threatened Species List with state protections through the FWC who regulate and manage these species (68A-27, F.A.C.). Wood storks nest in mixed hardwood swamps, sloughs, mangroves, and cypress domes/strands in Florida (Florida Natural Areas Inventory 2001). They forage in a variety of wetlands including both freshwater and estuarine marshes, although limited to depths less than 10-12 inches. The other surface waters/ditches identified within the proposed SMF and FPC sites represent potential foraging habitat for the wood stork. Impacts to wetlands that provide foraging habitat for the species will be assessed and, if required, compensatory wetland mitigation provided pursuant to the Environmental Resource Permit process is considered sufficient to meet the requirements of 68A-27.007, F.A.C. and no further authorization for take of foraging habitats would be required. Compensatory mitigation is not required for impacts to other surface waters.

Wading birds collectively include the little blue heron (*Egretta caerulea*), reddish egret (*Egretta rufescens*), tricolored heron (*Egretta tricolor*), and roseate spoonbill (*Platalea ajaja*). These species are state threatened. Little blue herons, roseate spoonbills, and tricolored herons forage in a variety of shallow marine, brackish, or freshwater while reddish egrets are restricted to coastal areas and forage in shallow marine environments. Wading birds typically nest in multi-species colonies, though reddish egrets and tricolored herons occasionally nest in small single-species groups or build solitary nests. The closest known wading bird colony, Colony Number 615671 – Forked Creek Keys, is located approximately 35 miles south of the proposed project. The other surface waters/ditches identified within the proposed SMF and FPC sites represent potential foraging habitat for the little blue heron, reddish egret, tricolored heron, and roseate spoonbill. Impacts to wetlands that provide foraging habitat for these species will be assessed and, if required, compensatory wetland mitigation provided pursuant to the Environmental Resource Permit process is considered sufficient to meet the requirements of 68A-27.007, F.A.C. and no further authorization for take of foraging habitats would be required. Compensatory mitigation is not required for impacts to other surface waters.

Imperiled Beach-nesting Birds (IBNBs)

The snowy plover (*Charadrius nivosus*), American oystercatcher (*Haematopus palliatus*), black skimmer (*Rhynchops niger*), and least tern (*Sternula antillarum*) are listed as Threatened by the FWC and are collectively referred to as IBNBs. American oystercatchers, black skimmers, and least terns are found throughout most coastal areas of the state, but snowy plovers are found only along the coasts of the Panhandle and Southwest Florida. Least terns only occur in Florida during their breeding season and spend the non-breeding season in Central and South

America. American oystercatchers and black skimmers are year-round residents. Most snowy plovers are year-round residents, but some migrate to other states during the non-breeding season. In Florida, IBNBs are primarily found along sandy beaches, inlets, spoil and barrier islands, and estuaries. Breeding IBNBs need undisturbed, open or sparsely-vegetated habitat with sand, shell, gravel, cobble, dredge spoil, or some combination of these materials in which to dig scrapes. American oystercatchers breed on beaches, natural and spoil islands, shell rakes, riprap, wrack, and low vegetated substrate. Snowy plovers breed on open or sparsely-vegetated barrier islands and coastal beaches. Black skimmers and least terns nest on beaches, emergent sandbars, washouts in dunes and coastal berms, shell rakes, and dredge spoil islands. The probability of occurrence for the IBNBs within the proposed SMF and FPC locations was designated as low, as none of the locations have coastal qualities. The IBNB species may transition over the proposed pond sites, but it is unlikely that they would utilize the habitat for foraging or nesting. No IBNB species were observed during field reviews. Due to their mobility and ability to move away, impacts to individuals during construction of the pond sites are not anticipated.

Other Protected Species

Non-listed Rare Plants

Non-listed native plant species are generally not afforded the type of protection that state or federally protected listed plant or wildlife species are. The FDOT Office of Environment Management (OEM) partnered with the Florida Wildflower Foundation (FWF) and the Florida Native Plant Society (FNPS) to form the Native Florida Plants FDOT Working Group. Through the working group, the FWF and FNPS can engage and review projects early in the process so that their comments regarding potential plants of concern can be considered by FDOT. The working group also includes representatives from FDACS to ensure the procedures under 581.185 Florida Statutes and Chapter 5B-40, F.A.C. are followed.

No rare plants were observed during field reviews. During the design phase, FDOT will perform rare and listed plants surveys, and if present, will coordinate with FDACS, to protect or relocate plants to a suitable alternative site by a qualified organization such as the FNPS. With these measures in place, it is not anticipated that rare and listed plants will be impacted by the proposed SMF and FPC sites.

Whooping Crane

The whooping crane occurs only in North America, specifically within Canada and the United States, and is North America's tallest bird. It is a flagship species for the wildlife conservation movement in North America, as it symbolizes the struggle for survival that characterizes endangered species worldwide. Population declines were caused primarily by shooting and destruction of habitat in the prairies from agricultural development. Four geographically distinct populations exist in the wild, one of which includes an experimental, non-migratory population in central Florida that was reintroduced from 1993 to 2005. Suitable habitat includes coastal marshes and estuaries, inland marshes, lakes, open ponds, shallow bays, salt marsh and sand or tidal flats, upland swales, wet meadows and rivers, pastures and agricultural fields. No proposed SMF or PFC sites are located within coastal wetland areas. Due to their mobility and ability to move away, impacts to individuals during pond construction are not anticipated.

Bald eagle (*Haliaeetus leucocephalus*): The bald eagle is no longer listed by the USFWS or FWC but remains protected under the Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668-668d), as amended, and the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703-712). Bald eagles typically nest in tall trees that provide a clear view of the surrounding area and will forage in open bodies of water that provide concentrations of food sources.

Bald eagle nests are afforded a primary protection buffer of 330 feet and a secondary protection buffer which extends from 330 feet to 660 feet. A desktop review of Audubon EagleWatch mapping indicates there are three documented nests within two miles of the project study area.

Nest MN077 is located approximately 0.32 miles west of the US 41 and Martin Luther King Jr. Avenue West intersection. The nest was documented in an artificial structure (cell tower) and was occupied and successful during the 2025 nesting season. During the field review on January 13, 2026, a bald eagle and evidence of a nest was observed in the cell tower. During the field review on March 11, 2026, the nest was present, but no bald eagles were observed in the area. The closest proposed SMF site (Dry Pond 2A Alt 2) is located approximately 857 feet from Nest MN077.

Nest MN951 is located approximately one mile east of the US 41 and 17th Street West intersection. The nest was documented in an artificial structure, and the status was listed as unknown for the 2025 nesting season. During the field review on March 11, 2026, the nest status was active, and a juvenile eagle was observed perched in the nest. No adult bald eagles were observed. The closest proposed SMF site (Wet Pond 9F Alt 1) is located approximately 0.81 miles from Nest MN951.

Nest MN048 is approximately 1.60 miles west of the US 41 and 21st Steet West intersection. The nest was documented in a live tree (pine) and was occupied and successful during the 2025 season. During the field review on March 11, 2026, the nest was present, but no bald eagles were observed in the area. The closest proposed SMF site (Dry Pond 9B Alt 2) is located approximately 1.59 miles from Nest MN048.

No proposed SMF or FPC sites are located within the protective buffers of Nests MN077, MN951, or MN048. It is not anticipated that a USFWS permit for eagle disturbance or construction phase monitoring will be required following SMF and FPC site selection.

Florida's bats species are protected by FAC 68A-4.001, F.A.C. General Prohibitions and 68A-9.010, F.A.C. Taking Nuisance Wildlife. These bats typically roost in trees, caves, or other natural spaces, but are sometimes attracted to manmade structures including buildings. When a roost is identified, installation of exclusion devices to exclude bats from re-entering the roost after exiting may be required to facilitate a construction project. Bat maternity season runs from April 16 to August 14, and during this time, it is illegal to install exclusion devices. Preferred SMF and FPC sites will be reviewed for the presence of bat roosting, and if identified, steps will be taken to address potential roost impacts prior to site preparation activities such as clearing and grubbing.

Wetlands and Surface Waters

In order to determine the approximate locations and boundaries of existing upland and wetland communities within the proposed SMF and FPC sites, the following resources were reviewed prior to conducting field reviews to collect site-specific data:

- USDA, NRCS, Web Soil Survey (http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx);
- USFWS, NWI Mapper (https://www.fws.gov/wetlands/data/mapper.html);
- USGS The National Map Viewer (https://apps.nationalmap.gov/viewer/);
- NRCS Soil Survey of Manatee County, Florida (1983);

- Land use and land cover maps (SWFWMD 2023); and
- True color aerial photography (2024).

Site visits were conducted in January 2026 to verify land use/land cover and delineate the approximate boundaries of wetlands, surface waters, and other surface waters within the project study area, including proposed SMF and FPC sites. A field-verified FLUCFCS map is provided as **Figure 2**. For areas that were not field verified, approximate boundaries were mapped using aerial interpretation. Field observations were recorded to characterize the existing vegetative communities and document the presence of wetlands, surface waters, and other surface waters within the pond sites.

Proposed Stormwater Management Facilities and Floodplain Compensation Sites

Table 4 lists the proposed SMF and FPC sites with their associated FLUCFCS, proposed wetland/surface water impacts, mitigation estimates, and protected wildlife involvement. Field visits were conducted for the preferred SMF sites and FPC sites to field verify land use, estimate the limits of wetlands, surface waters, and other surface waters and to document any potential protected species. For the remaining sites, a desktop analysis was conducted to adjust land use as needed and estimate the limits of wetlands, surface waters, and other surface waters. A summary of each proposed SMF and FPC is provided below.

TABLE 4

SUMMARY OF WETLAND AND POTENTIAL PROTECTED SPECIES INVOLVEMENT AND LAND USE CHARACTERISTICS FOR POND SITE ALTERNATIVES

Pond Size (ac)	Land Use / FLUCFCS Code		Wetlands / Surface Waters				Potential Protected Species that Could Use Habitat
	Type	Code	Wetland Impact (ac)	Surface Water Impacts (ac)	Percent of Site	Wetland Mitigation Cost	
Dry Pond 1N Alt 1 0.84	Roads and Highways	8140	0.00	0.00	0%	$0	State-listed plants, monarch butterfly, eastern indigo snake, gopher tortoise, Florida sandhill crane, and Florida burrowing owl
Dry Pond 1S Alt 1 1.06	Roads and Highways	8140	0.00	0.00	0%	$0	State-listed plants, monarch butterfly, eastern indigo snake, gopher tortoise, Florida sandhill crane, and Florida burrowing owl
Dry Pond 1A Alt 1 0.31	Roads and Highways	8140	0.00	0.00	0%	$0	State-listed plants, monarch butterfly, eastern indigo snake, gopher tortoise, Florida sandhill crane, and Florida burrowing owl
FPC 1 Alt 1 0.85	Roads and Highways	8140	0.00	0.00	0%	$0	State-listed plants, monarch butterfly, eastern indigo snake, gopher tortoise, Florida sandhill crane, and Florida burrowing owl
Dry Pond 1B Alt 2 2.86	Residential, High Density	1300	0.00	0.00	0%	$0	Monarch butterfly, eastern indigo snake, gopher tortoise, Florida sandhill crane, and Florida burrowing owl
FPC 1 Alt 2 0.65	Roads and Highways	8140	0.00	0.00	0%	$0	Monarch butterfly, eastern indigo snake, gopher tortoise, Florida sandhill crane, and Florida burrowing owl
Dry Pond 1C Alt 3 3.95	Open Land	1900	0.00	0.00	0%	$0	State-listed plants, monarch butterfly, eastern indigo snake, gopher tortoise, Florida sandhill crane, and Florida burrowing owl
Dry Pond 2 Alt 1 1.65	Commercial and Services	1400	0.00	0.00	0%	$0	None
FPC 2 Alt 1 0.70	Commercial and Services	1400	0.00	0.00	0%	$0	None
Dry Pond 2A Alt 2 1.36	Utilities Under Construction	8390	0.00	0.00	0%	$0	None
Dry Pond 2B Alt 3 2.29	Residential, High Density	1300	0.00	0.00	0%	$0	None
	Commercial and Services	1400	0.00	0.00	0%	$0	None
	Institutional	1700	0.00	0.00	0%	$0	None
VB-3A Alt 1 0.29	Institutional	1700	0.00	0.00	0%	$0	None
VB-3B Alt 1 0.21	Residential, High Density	1300	0.00	0.00	0%	$0	None
VB-3C Alt 1 0.31	Roads and Highways	8140	0.00	0.00	0%	$0	None
VB-3D Alt 1 1.88	Institutional	1700	0.00	0.00	0%	$0	None
VB-3E Alt 1 0.22	Roads and Highways	8140	0.00	0.00	0%	$0	None

Pond Size (ac)	Land Use / FLUCFCS Code		Wetlands / Surface Waters				Potential Protected Species that Could Use Habitat
	Type	Code	Wetland Impact (ac)	Surface Water Impacts (ac)	Percent of Site	Wetland Mitigation Cost	
Wet Pond 3 Alt 1 0.43	Roads and Highways	8140	0.00	0.00	0%	$0	None
FPC 3A Alt 1 0.28	Roads and Highways	8140	0.00	0.00	0%	$0	None
FPC 3B Alt 1 0.14	Commercial and Services	1400	0.00	0.00	0%	$0	None
Dry Pond 3A Alt 2 1.11	Commercial and Services Under Construction	1490	0.00	0.00	0%	$0	None
VB-3F Alt 2 0.52	Institutional	1700	0.00	0.00	0%	$0	None
VB-3G Alt 2 0.72	Commercial and Services	1400	0.00	0.00	0%	$0	None
VB-3H Alt 2 1.28	Commercial and Services	1400	0.00	0.00	0%	$0	None
	Community Recreational Facilities	1860	0.00	0.00	0%	$0	Monarch butterfly, tricolored bat, other protected bat species, rufa red knot, piping plover, snowy plover, American oystercatcher, black skimmer, and least tern
Dry Pond 3B Alt 3 0.86	Institutional	1700	0.00	0.00	0%	$0	None
Dry Pond 3C Alt 3 2.03	Commercial and Services	1400	0.00	0.00	0%	$0	None
Dry Pond 4 Alt 1 3.66	Open Land	1900	0.00	0.00	0%	$0	Monarch butterfly, eastern indigo snake, gopher tortoise, Florida pine snake, Florida sandhill crane, Florida burrowing owl, southeastern American kestrel, tricolored bat, other protected bat species, rufa red knot, piping plover, snowy plover, American oystercatcher, black skimmer, and least tern
Wet Pond 4A Alt 2 0.77	Open Land	1900	0.00	0.00	0%	$0	Monarch butterfly, eastern indigo snake, gopher tortoise, Florida pine snake, Florida sandhill crane, Florida burrowing owl, southeastern American kestrel, tricolored bat, other protected bat species, rufa red knot, piping plover, snowy plover, American oystercatcher, black skimmer, and least tern
VB-4A Alt 2 1.59	Open Land	1900	0.00	0.00	0%	$0	Monarch butterfly, eastern indigo snake, gopher tortoise, Florida pine snake, Florida sandhill crane, Florida burrowing owl, southeastern American kestrel, tricolored bat, other protected bat species, rufa red knot, piping plover, snowy plover, American oystercatcher, black skimmer, and least tern
VB-4B Alt 2 1.24	Open Land	1900	0.00	0.00	0%	$0	Monarch butterfly, eastern indigo snake, gopher tortoise, Florida pine snake, Florida sandhill crane, Florida burrowing owl, southeastern American kestrel, tricolored bat, other protected bat species, rufa red knot, piping plover, snowy plover, American oystercatcher, black skimmer, and least tern
VB-4C Alt 2 1.79	Commercial and Services	1400	0.00	0.00	0%	$0	None
Dry Pond 4B Alt 3 2.08	Open Land	1900	0.00	0.00	0%	$0	Monarch butterfly, eastern indigo snake, gopher tortoise, Florida pine snake, Florida sandhill crane, Florida burrowing owl, southeastern American kestrel, tricolored bat, other protected bat species, rufa red knot, piping plover, snowy plover, American oystercatcher, black skimmer, and least tern
Dry Pond 4C Alt 3 1.47	Commercial and Services	1400	0.00	0.00	0%	$0	None
Swale 5S Alt 1 0.74	Roads and Highways	8140	0.00	0.00	0%	$0	State-listed plants, monarch butterfly, eastern indigo snake, gopher tortoise, Florida sandhill crane, and Florida burrowing owl

Pond Size (ac)	Land Use / FLUCFCS Code		Wetlands / Surface Waters				Potential Protected Species that Could Use Habitat
	Type	Code	Wetland Impact (ac)	Surface Water Impacts (ac)	Percent of Site	Wetland Mitigation Cost	
Wet Pond 5N Alt 1 0.68	Roads and Highways	8140	0.00	0.00	0%	$0	State-listed plants, monarch butterfly, eastern indigo snake, gopher tortoise, Florida sandhill crane, and Florida burrowing owl
Dry Pond 5NA Alt 1, 2, & 3 0.46	Roads and Highways	8140	0.00	0.00	0%	$0	State-listed plants, monarch butterfly, eastern indigo snake, gopher tortoise, Florida sandhill crane, and Florida burrowing owl
Swale 5SA Alt 2 0.09	Commercial and Services	1400	0.00	0.00	0%	$0	None
VFS-5S Alt 2 0.07	Roads and Highways	8140	0.00	0.00	0%	$0	State-listed plants, monarch butterfly, eastern indigo snake, gopher tortoise, Florida sandhill crane, and Florida burrowing owl
Wet Pond 5NB Alt 2 0.40	Residential, High Density	1300	0.00	0.00	0%	$0	None
Dry Pond 5NA Alt 1, 2, & 3 0.46	Roads and Highways	8140	0.00	0.00	0%	$0	State-listed plants, monarch butterfly, eastern indigo snake, gopher tortoise, Florida sandhill crane, and Florida burrowing owl
Dry Pond 5SA Alt 3 0.57	Commercial and Services	1400	0.00	0.00	0%	$0	None
Dry Pond 5NA Alt 1, 2, & 3 0.46	Roads and Highways	8140	0.00	0.00	0%	$0	State-listed plants, monarch butterfly, eastern indigo snake, gopher tortoise, Florida sandhill crane, and Florida burrowing owl
Swale 6S Alt 1 0.73	Roads and Highways	8140	0.00	0.00	0%	$0	State-listed plants, monarch butterfly, eastern indigo snake, gopher tortoise, Florida sandhill crane, and Florida burrowing owl
Wet Pond 6NA Alt 1 0.56	Streams and Waterways	5100	0.00	0.12	21%	$0	Little blue heron, reddish egret, tricolored heron, whooping crane, wood stork, and roseate spoonbill
	Roads and Highways	8140	0.00	0.00	0	$0	State-listed plants, monarch butterfly, eastern indigo snake, gopher tortoise, Florida sandhill crane, and Florida burrowing owl
Dry Pond 6N Alt 1 & 3 0.12	Roads and Highways	8140	0.00	0.00	0%	$0	State-listed plants, monarch butterfly, eastern indigo snake, gopher tortoise, Florida sandhill crane, and Florida burrowing owl
Swale 6SA Alt 2 0.09	Open Land	1900	0.00	0.00	0%	$0	Monarch butterfly, eastern indigo snake, gopher tortoise, Florida pine snake, Florida sandhill crane, Florida burrowing owl, and southeastern American kestrel
VFS-6S Alt 2 0.07	Roads and Highways	8140	0.00	0.00	0%	$0	State-listed plants, monarch butterfly, eastern indigo snake, gopher tortoise, Florida sandhill crane, and Florida burrowing owl
Swale 6N Alt 2 0.09	Roads and Highways	8140	0.00	0.00	0%	$0	State-listed plants, monarch butterfly, eastern indigo snake, gopher tortoise, Florida sandhill crane, and Florida burrowing owl
Dry Pond 6NA Alt 2 0.65	Streams and Waterways	5100	0.00	0.12	18%	$0	Little blue heron, reddish egret, tricolored heron, whooping crane, wood stork, and roseate spoonbill
	Roads and Highways	8140	0.00	0.00	0%	$0	State-listed plants, monarch butterfly, eastern indigo snake, gopher tortoise, Florida sandhill crane, and Florida burrowing owl
Dry Pond 6S Alt 3 1.68	Open Land	1900	0.00	0.00	0%	$0	Monarch butterfly, eastern indigo snake, gopher tortoise, Florida pine snake, Florida sandhill crane, Florida burrowing owl, and southeastern American kestrel
Dry Pond 6N Alt 1 & 3 0.12	Roads and Highways	8140	0.00	0.00	0%	$0	State-listed plants, monarch butterfly, eastern indigo snake, gopher tortoise, Florida sandhill crane, and Florida burrowing owl

Pond Size (ac)	Land Use / FLUCFCS Code		Wetlands / Surface Waters				Potential Protected Species that Could Use Habitat
	Type	Code	Wetland Impact (ac)	Surface Water Impacts (ac)	Percent of Site	Wetland Mitigation Cost	
Wet Pond 7A Alt 1 0.85	Roads and Highways	8140	0.00	0.00	0%	$0	State-listed plants, monarch butterfly, eastern indigo snake, gopher tortoise, Florida sandhill crane, and Florida burrowing owl
Dry Pond 7 Alt 1, 2, & 3 0.24	Streams and Waterways	5100	0.00	0.11	45%	$0*	Little blue heron, reddish egret, tricolored heron, whooping crane, wood stork, and roseate spoonbill
	Roads and Highways	8140	0.00	0.00	0%	$0	State-listed plants, monarch butterfly, eastern indigo snake, gopher tortoise, Florida sandhill crane, and Florida burrowing owl
VFS-7 Alt 2 0.07	Roads and Highways	8140	0.00	0.00	0%	$0	State-listed plants, monarch butterfly, eastern indigo snake, gopher tortoise, Florida sandhill crane, and Florida burrowing owl
Dry Pond 7 Alt 1, 2, & 3 0.24	Streams and Waterways	5100	0.00	0.11	45%	$0	Little blue heron, reddish egret, tricolored heron, whooping crane, wood stork, and roseate spoonbill
	Roads and Highways	8140	0.00	0.00	55%	$0	State-listed plants, monarch butterfly, eastern indigo snake, gopher tortoise, Florida sandhill crane, and Florida burrowing owl
Swale 7 Alt 3 0.43	Roads and Highways	8140	0.00	0.00	0%	$0	State-listed plants, monarch butterfly, eastern indigo snake, gopher tortoise, Florida sandhill crane, and Florida burrowing owl
Dry Pond 7 Alt 1, 2, & 3 0.24	Streams and Waterways	5100	0.00	0.11	45%	$0	Little blue heron, reddish egret, tricolored heron, whooping crane, wood stork, and roseate spoonbill
	Roads and Highways	8140	0.00	0.00	0%	$0	State-listed plants, monarch butterfly, eastern indigo snake, gopher tortoise, Florida sandhill crane, and Florida burrowing owl
Dry Pond 8A Alt 1 & 2 0.18	Roads and Highways	8140	0.00	0.00	0%	$0	State-listed plants, monarch butterfly, eastern indigo snake, gopher tortoise, Florida sandhill crane, and Florida burrowing owl
Wet Pond 8 Alt 1 0.33	Roads and Highways	8140	0.00	0.00	0%	$0	State-listed plants, monarch butterfly, eastern indigo snake, gopher tortoise, Florida sandhill crane, and Florida burrowing owl
Dry Pond 8A Alt 1 & 2 0.18	Roads and Highways	8140	0.00	0.00	0%	$0	State-listed plants, monarch butterfly, eastern indigo snake, gopher tortoise, Florida sandhill crane, and Florida burrowing owl
VFS-8 Alt 2 0.07	Roads and Highways	8140	0.00	0.00	0%	$0	State-listed plants, monarch butterfly, eastern indigo snake, gopher tortoise, Florida sandhill crane, and Florida burrowing owl
Dry Pond 8A Alt 3 0.24	Roads and Highways	8140	0.00	0.00	0%	$0	State-listed plants, monarch butterfly, eastern indigo snake, gopher tortoise, Florida sandhill crane, and Florida burrowing owl
Swale 8 Alt 3 0.08	Roads and Highways	8140	0.00	0.00	0%	$0	State-listed plants, monarch butterfly, eastern indigo snake, gopher tortoise, Florida sandhill crane, and Florida burrowing owl
Swale 8A Alt 3 0.08	Roads and Highways	8140	0.00	0.00	0%	$0	State-listed plants, monarch butterfly, eastern indigo snake, gopher tortoise, Florida sandhill crane, and Florida burrowing owl
VB-9A Alt 1 & 2 0.41	Roads and Highways	8140	0.00	0.00	0%	$0	State-listed plants, monarch butterfly, eastern indigo snake, gopher tortoise, Florida sandhill crane, and Florida burrowing owl
VB-9B Alt 1 & 2 0.58	Roads and Highways	8140	0.00	0.00	0%	$0	State-listed plants, monarch butterfly, eastern indigo snake, gopher tortoise, Florida sandhill crane, and Florida burrowing owl
VB-9C Alt 1 & 2 0.37	Community Recreational Facilities	1860	0.00	0.00	0%	$0	Monarch butterfly, eastern indigo snake, gopher tortoise, Florida pine snake, Florida sandhill crane, Florida burrowing owl, southeastern American kestrel, tricolored bat, and other protected bat species

Pond Size (ac)	Land Use / FLUCFCS Code		Wetlands / Surface Waters				Potential Protected Species that Could Use Habitat
	Type	Code	Wetland Impact (ac)	Surface Water Impacts (ac)	Percent of Site	Wetland Mitigation Cost	
VB-9D Alt 1 0.15	Roads and Highways	8140	0.00	0.00	0%	$0	State-listed plants, monarch butterfly, eastern indigo snake, gopher tortoise, Florida sandhill crane, and Florida burrowing owl
VB-9E Alt 1 0.17	Residential, Medium Density	1200	0.00	0.00	0%	$0	None
VB-9F Alt 1 0.30	Hardwood – Conifer Mixed	4340	0.00	0.00	0%	$0	Monarch butterfly, eastern indigo snake, gopher tortoise, Florida pine snake, bald eagle, tricolored bat, and other protected bat species
Wet Pond 9D Alt 1 0.72	Residential, High Density	1300	0.00	0.00	0%	$0	None
Wet Pond 9E Alt 1 0.74	Open Land	1900	0.00	0.00	0%	$0	Monarch butterfly, eastern indigo snake, gopher tortoise, Florida pine snake, Florida sandhill crane, Florida burrowing owl, and southeastern American kestrel
Wet Pond 9F Alt 1 2.71	Residential, High Density	1300	0.00	0.00	0%	$0	None
	Community Recreational Facilities	1860	0.00	0.00	0%	$0	Monarch butterfly, Florida sandhill crane, tricolored bat, and other protected bat species
VB-9A Alt 1 & 2 0.41	Roads and Highways	8140	0.00	0.00	0%	$0	State-listed plants, monarch butterfly, eastern indigo snake, gopher tortoise, Florida sandhill crane, and Florida burrowing owl
VB-9B Alt 1 & 2 0.58	Roads and Highways	8140	0.00	0.00	0%	$0	State-listed plants, monarch butterfly, eastern indigo snake, gopher tortoise, Florida sandhill crane, and Florida burrowing owl
VB-9C Alt 1 & 2 0.37	Community Recreational Facilities	1860	0.00	0.00	0%	$0	Monarch butterfly, eastern indigo snake, gopher tortoise, Florida pine snake, Florida sandhill crane, Florida burrowing owl, southeastern American kestrel, tricolored bat, and other protected bat species
Wet Pond 9C Alt 2 2.02	Community Recreational Facilities	1860	0.00	0.00	0%	$0	Monarch butterfly, eastern indigo snake, gopher tortoise, Florida pine snake, Florida sandhill crane, Florida burrowing owl, southeastern American kestrel, tricolored bat, and other protected bat species
Dry Pond 9A Alt 2 0.59	Residential, Medium Density	1200	0.00	0.00	0%	$0	None
Dry Pond 9B Alt 2 0.67	Residential, Medium Density	1200	0.00	0.00	0%	$0	None
Dry Pond 9 Alt 3 4.73	Community Recreational Facilities	1860	0.00	0.00	0%	$0	Monarch butterfly, eastern indigo snake, gopher tortoise, Florida pine snake, Florida sandhill crane, Florida burrowing owl, southeastern American kestrel, tricolored bat, and other protected bat species
Baffle Swale 10 Alt 1 & 2 1.76	Hardwood – Conifer Mixed	4340	0.00	0.00	0%	$0	Monarch butterfly, eastern indigo snake, gopher tortoise, Florida pine snake, bald eagle, tricolored bat, and other protected bat species
	Streams and Waterways	5100	0.00	0.06	3%	$0	Little blue heron, reddish egret, tricolored heron, whooping crane, wood stork, and roseate spoonbill
Wet Pond 10 Alt 1 2.28	Residential, Medium Density	1200	0.00	0.00	3%	$0	Gopher tortoise
	Hardwood – Conifer Mixed	4340	0.00	0.00	0%	$0	Monarch butterfly, eastern indigo snake, gopher tortoise, Florida pine snake, bald eagle, tricolored bat, and other protected bat species
	Streams and Waterways	5100	0.00	0.06	2%	$0	Little blue heron, reddish egret, tricolored heron, whooping crane, wood stork, and roseate spoonbill

Pond Size (ac)	Land Use / FLUCFCS Code		Wetlands / Surface Waters				Potential Protected Species that Could Use Habitat
	Type	Code	Wetland Impact (ac)	Surface Water Impacts (ac)	Percent of Site	Wetland Mitigation Cost	
Baffle Swale 10 Alt 1 & 2 1.76	Hardwood – Conifer Mixed	4340	0.00	0.00	0%	$0	Monarch butterfly, eastern indigo snake, gopher tortoise, Florida pine snake, bald eagle, tricolored bat, and other protected bat species
	Streams and Waterways	5100	0.00	0.06	3%	$0	Little blue heron, reddish egret, tricolored heron, whooping crane, wood stork, and roseate spoonbill
Wet Pond 10A Alt 2 2.11	Commercial and Services	1400	0.00	0.00	0%	$0	None
Wet Pond 10B Alt 3 0.98	Residential, Medium Density	1200	0.00	0.00	0%	$0	Gopher tortoise
	Hardwood – Conifer Mixed	4340	0.00	0.00	0%	$0	Monarch butterfly, eastern indigo snake, gopher tortoise, Florida pine snake, bald eagle, tricolored bat, and other protected bat species
Wet Pond 10C Alt 3 0.73	Residential, Medium Density	1200	0.00	0.00	0%	$0	None
VB-10 Alt 3 0.26	Residential, Medium Density	1200	0.00	0.00	0%	$0	None
VB-10A Alt 3 0.13	Residential, Medium Density	1200	0.00	0.00	0%	$0	None
VB-10B Alt 3 0.08	Roads and Highways	8140	0.00	0.00	0%	$0	State-listed plants, monarch butterfly, eastern indigo snake, gopher tortoise, Florida sandhill crane, and Florida burrowing owl
VB-10C Alt 3 0.07	Institutional	1700	0.00	0.00	0%	$0	None
VB-10D Alt 3 0.09	Residential, Medium Density	1200	0.00	0.00	0%	$0	None

Basin 1

Dry Pond 1N Alt 1 (0.84 acres) contains land use/cover roads and highways (FLUCFCS 8140). This proposed SMF is within the mowed and maintained roadway right-of-way (ROW) and has the potential to be used by the state-listed plants, monarch butterfly, eastern indigo snake, gopher tortoise, Florida sandhill crane, and Florida burrowing owl.

Dry Pond 1S Alt 1 (1.06 acres) contains land use/cover roads and highways (FLUCFCS 8140). This proposed SMF is within the mowed and maintained roadway ROW and has the potential to be used by the state-listed plants, monarch butterfly, eastern indigo snake, gopher tortoise, Florida sandhill crane, and Florida burrowing owl.

Dry Pond 1A Alt 1 (0.31 acres) contains land use/cover roads and highways (FLUCFCS 8140). This proposed SMF is within the mowed and maintained roadway ROW and has the potential to be used by the state-listed plants, monarch butterfly, eastern indigo snake, gopher tortoise, Florida sandhill crane, and Florida burrowing owl.

FPC 1 Alt 1 (0.85 acres) contains land use/cover roads and highways (FLUCFCS 8140). This proposed FPC is within the mowed and maintained roadway ROW and has the potential to be used by the state-listed plants, monarch butterfly, eastern indigo snake, gopher tortoise, Florida sandhill crane, and Florida burrowing owl.

Dry Pond 1B Alt 2 (2.86 acres) contains land use/cover residential, high density (FLUCFCS 1300). This proposed FPC has the potential to be used by the monarch butterfly, eastern indigo snake, gopher tortoise, Florida sandhill crane, and Florida burrowing owl.

FPC 1 Alt 2 (0.65 acres) contains land use/cover roads and highways (FLUCFCS 8140). This proposed FPC is within the mowed and maintained roadway ROW and has the potential to be used by the state-listed plants, monarch butterfly, eastern indigo snake, gopher tortoise, Florida sandhill crane, and Florida burrowing owl.

Dry Pond 1C Alt 3 (3.95 acres) contains land use/cover open land (FLUCFCS 1900). This proposed SMF has the potential to be used by the monarch butterfly, eastern indigo snake, gopher tortoise, Florida pine snake, Florida sandhill crane, Florida burrowing owl, and southeastern American kestrel.

Basin 2

Dry Pond 2 Alt 1 (1.65 acres) contains land use/cover commercial and services (FLUCFCS 1400). No protected species are anticipated to use this SMF site for foraging or nesting.

FPC 2 Alt 1 (0.70 acres) contains land use/cover commercial and services (FLUCFCS 1400). No protected species are anticipated to use this FPC site for foraging or nesting.

Dry Pond 2A Alt 2 (1.36 acres) contains land use/cover utilities under construction (FLUCFCS 8390). No protected species are anticipated to use this SMF site for foraging or nesting.

Dry Pond 2B Alt 3 (2.29 acres) contains land use/cover including residential, high density (FLUCFCS 1300), commercial and services (FLUCFCS 1400), and institutional (FLUCFCS 1700). No protected species are anticipated to use this SMF site for foraging or nesting.

Basin 3

VB-3A Alt 1 (0.29 acres) contains land use/cover institutional (FLUCFCS 1700). No protected species are anticipated to use this SMF site for foraging or nesting.

VB-3B Alt 1 (0.21 acres) contains land use/cover residential, high density (FLUCFCS 1300). No protected species are anticipated to use this SMF site for foraging or nesting.

VB-3C Alt 1 (0.31 acres) contains land use/cover roads and highways (FLUCFCS 8140). No protected species are anticipated to use this SMF site for foraging or nesting.

VB-3D Alt 1 (1.88 acres) contains land use/cover institutional (FLUCFCS 1700). No protected species are anticipated to use this SMF site for foraging or nesting.

VB-3E Alt 1 (0.22 acres) contains land use/cover roads and highways (FLUCFCS 8140). No protected species are anticipated to use this SMF site for foraging or nesting.

Wet Pond 3 Alt 1 (0.43 acres) contains land use/cover roads and highways (FLUCFCS 8140). No protected species are anticipated to use this SMF site for foraging or nesting.

FPC 3A Alt 1 (0.28 acres) contains land use/cover roads and highways (FLUCFCS 8140). No protected species are anticipated to use this SMF site for foraging or nesting.

FPC 3B Alt 1 (0.14 acres) contains land use/cover commercial and services (FLUCFCS 1400). No protected species are anticipated to use this FPC site for foraging or nesting.

Dry Pond 3A Alt 2 (1.11 acres) contains land use/cover commercial and services under construction (FLUCFCS 1490). No protected species are anticipated to use this SMF site for foraging or nesting.

VB-3F Alt 2 (0.52 acres) contains land use/cover institutional (FLUCFCS 1700). No protected species are anticipated to use this SMF site for foraging or nesting.

VB-3G Alt 2 (0.72 acres) contains land use/cover commercial and services (FLUCFCS 1400). No protected species are anticipated to use this SMF site for foraging or nesting.

VB-3H Alt 2 (1.28 acres) contains land use/cover including institutional (FLUCFCS 1700) and community recreational facilities (FLUCFCS 1860). The portion of this SMF within FLUCFCS 1860 has the potential for protected species including the monarch butterfly, tricolored bat, and other protected bat species to utilize. This pond is also close to the Manatee River, and protected seabirds and shorebirds including the rufa red knot, piping plover, snowy plover, American oystercatcher, black skimmer, and least tern, may be transitioning over the area.

Dry Pond 3B Alt 3 (0.86 acres) contains land use/cover institutional (FLUCFCS 1700). No protected species are anticipated to use this SMF site for foraging or nesting.

Dry Pond 3C Alt 3 (2.03 acres) contains land use/cover commercial and services (FLUCFCS 1400). No protected species are anticipated to use this SMF site for foraging or nesting.

Basin 4

Dry Pond 4 Alt 1 (3.66 acres) contains land use/cover open land (FLUCFCS 1900). This proposed SMF has the potential to be used by the monarch butterfly, eastern indigo snake, gopher tortoise, Florida pine snake, Florida sandhill crane, Florida burrowing owl, southeastern American kestrel, tricolored bat, and other protected bats. This pond is also close to the Manatee River, and protected seabirds and shorebirds including the rufa red knot, piping plover, snowy plover, American oystercatcher, black skimmer, and least tern, may be transitioning over the area.

Wet Pond 4A Alt 2 (0.77 acres) contains land use/cover open land (FLUCFCS 1900). This proposed SMF has the potential to be used by the monarch butterfly, eastern indigo snake, gopher tortoise, Florida pine snake, Florida sandhill crane, Florida burrowing owl, southeastern American kestrel, tricolored bat, and other protected bats. This pond is also close to the Manatee River, and protected seabirds and shorebirds including the rufa red knot, piping plover, snowy plover, American oystercatcher, black skimmer, and least tern, may be transitioning over the area.

VB-4A Alt 2 (1.59 acres) contains land use/cover open land (FLUCFCS 1900). This proposed SMF has the potential to be used by the monarch butterfly, eastern indigo snake, gopher tortoise, Florida pine snake, Florida sandhill crane, Florida burrowing owl, southeastern American kestrel, tricolored bat, and other protected bats. This pond is also close to the Manatee River, and protected seabirds and shorebirds including the rufa red knot, piping plover, snowy plover, American oystercatcher, black skimmer, and least tern, may be transitioning over the area.

VB-4B Alt 2 (1.24 acres) contains land use/cover open land (FLUCFCS 1900). This proposed SMF has the potential to be used by the monarch butterfly, eastern indigo snake, gopher tortoise, Florida pine snake, Florida sandhill crane, Florida burrowing owl, southeastern American kestrel, tricolored bat, and other protected bats. This pond is also close to the Manatee River, and protected seabirds and shorebirds including the rufa red knot, piping plover, snowy plover, American oystercatcher, black skimmer, and least tern, may be transitioning over the area.

VB-4C Alt 2 (1.79 acres) contains land use/cover commercial and services (FLUCFCS 1400). No protected species are anticipated to use this SMF site for foraging or nesting.

Dry Pond 4B Alt 3 (2.08 acres) contains land use/cover open land (FLUCFCS 1900). This proposed SMF has the potential to be used by the monarch butterfly, eastern indigo snake, gopher tortoise, Florida pine snake, Florida sandhill crane, Florida burrowing owl, southeastern American kestrel, tricolored bat, and other protected bats. This pond is also close to the Manatee River, and protected seabirds and shorebirds including the rufa red knot, piping plover, snowy plover, American oystercatcher, black skimmer, and least tern, may be transitioning over the area.

Dry Pond 4C Alt 3 (1.47 acres) contains land use/cover commercial and services (FLUCFCS 1400). No protected species are anticipated to use this SMF site for foraging or nesting.

Basin 5

Swale 5S Alt 1 (0.74 acres) contains land use/cover roads and highways (FLUCFCS 8140). This proposed SMF is within the mowed and maintained roadway ROW and has the potential to be used by the state-listed plants, monarch butterfly, gopher tortoise, and Florida sandhill crane.

Wet Pond 5N Alt 1 (0.68 acres) contains land use/cover roads and highways (FLUCFCS 8140). This proposed SMF is within the mowed and maintained roadway ROW and has the potential to be used by the state-listed plants, monarch butterfly, eastern indigo snake, gopher tortoise, and Florida sandhill crane.

Dry Pond 5NA Alt 1, 2, & 3 (0.46 acres) contains land use/cover roads and highways (FLUCFCS 8140). This proposed SMF is within the mowed and maintained roadway ROW and has the potential to be used by the state-listed plants, monarch butterfly, gopher tortoise, and Florida sandhill crane.

Swale 5SA Alt 2 (0.09 acres) contains land use/cover commercial and services (FLUCFCS 1400). No protected species are anticipated to use this SMF site for foraging or nesting.

VFS-5S Alt 2 (0.07 acres) contains land use/cover roads and highways (FLUCFCS 8140). This proposed SMF is within the mowed and maintained roadway ROW and has the potential to be used by the state-listed plants, monarch butterfly, gopher tortoise, and Florida sandhill crane.

Wet Pond 5NB Alt 2 (0.40 acres) contains land use/cover residential, high density (FLUCFCS 1300). No protected species are anticipated to use this SMF site for foraging or nesting.

Dry Pond 5SA Alt 3 (0.57 acres) contains land use/cover commercial and services (FLUCFCS 1400). No protected species are anticipated to use this SMF site for foraging or nesting.

Basin 6

Swale 6S Alt 1 (0.73 acres) contains land use/cover roads and highways (FLUCFCS 8140). This proposed SMF is within the mowed and maintained roadway ROW and has the potential to be used by the state-listed plants, monarch butterfly, gopher tortoise, and Florida sandhill crane.

Wet Pond 6NA Alt 1 (0.56 acres) contains land use/cover including streams and waterways (FLUCFCS 5100) and roads and highways (FLUCFCS 8140). This proposed SMF is within the mowed and maintained roadway ROW with a drainage ditch feature. This SMF has the potential to be used by the state-listed plants, monarch butterfly, gopher tortoise, Florida sandhill crane, little blue heron, reddish egret, tricolored heron, whooping crane, wood stork, and roseate spoonbill. Approximately 0.12 acres of OSWs would be impacted with the selection of this location as a preferred SMF site. Compensatory mitigation is not required for impacts to OSWs.

Dry Pond 6N Alt 1 & 3 (0.12 acres) contains land use/cover roads and highways (FLUCFCS 8140). This proposed SMF is within the mowed and maintained roadway ROW and has the potential to be used by the state-listed plants, monarch butterfly, gopher tortoise, and Florida sandhill crane.

Swale 6SA Alt 2 (0.09 acres) contains land use/cover open land (FLUCFCS 1900). This proposed SMF has the potential to be used by the monarch butterfly, eastern indigo snake, gopher tortoise, Florida pine snake, Florida sandhill crane, Florida burrowing owl, and southeastern American kestrel.

VFS-6S Alt 2 (0.07 acres) contains land use/cover roads and highways (FLUCFCS 8140). This proposed SMF is within the mowed and maintained roadway ROW and has the potential to be used by the state-listed plants, monarch butterfly, gopher tortoise, and Florida sandhill crane.

Swale 6N Alt 2 (0.09 acres) contains land use/cover roads and highways (FLUCFCS 8140). This proposed SMF is within the mowed and maintained roadway ROW and has the potential to be used by the state-listed plants, monarch butterfly, gopher tortoise, and Florida sandhill crane.

Dry Pond 6NA Alt 2 (0.65 acres) contains land use/cover including streams and waterways (FLUCFCS 5100) and roads and highways (FLUCFCS 8140). This proposed SMF is within the mowed and maintained roadway ROW with a drainage ditch feature. This SMF has the potential to be used by the state-listed plants, monarch butterfly, gopher tortoise, Florida sandhill crane, little blue heron, reddish egret, tricolored heron, whooping crane, wood stork, and roseate spoonbill. Approximately 0.12 acres of OSWs would be impacted with the selection of this location as a preferred SMF site. Compensatory mitigation is not required for impacts to OSWs.

Dry Pond 6S Alt 3 (1.68 acres) contains land use/cover open land (FLUCFCS 1900). This proposed SMF has the potential to be used by the monarch butterfly, eastern indigo snake, gopher tortoise, Florida pine snake, Florida sandhill crane, Florida burrowing owl, and southeastern American kestrel.

Basin 7

Wet Pond 7A Alt 1 (0.85 acres) contains land use/cover roads and highways (FLUCFCS 8140). This proposed SMF is within the mowed and maintained roadway ROW and has the potential to be used by the state-listed plants, monarch butterfly, gopher tortoise, and Florida sandhill crane.

Dry Pond 7 Alt 1, 2, & 3 (0.24 acres) contains land use/cover including streams and waterways (FLUCFCS 5100) and roads and highways (FLUCFCS 8140). This proposed SMF is within the mowed and maintained roadway ROW with a drainage ditch feature. This SMF has the potential to be used by the state-listed plants, monarch butterfly, eastern indigo snake, gopher tortoise, Florida sandhill crane, little blue heron, reddish egret, tricolored heron, whooping crane, wood stork, and roseate spoonbill. Approximately 0.11 acres of other surface waters would be impacted with the selection of this location as a preferred SMF site. Compensatory mitigation is not required for impacts to other surface waters.

VFS-7 Alt 2 (0.07 acres) contains land use/cover roads and highways (FLUCFCS 8140). This proposed SMF is within the mowed and maintained roadway ROW and has the potential to be used by the state-listed plants, monarch butterfly, gopher tortoise, and Florida sandhill crane.

Swale 7 Alt 3 (0.43 acres) contains land use/cover roads and highways (FLUCFCS 8140). This proposed SMF is within the mowed and maintained roadway ROW and has the potential to be used by the state-listed plants, monarch butterfly, gopher tortoise, and Florida sandhill crane.

Basin 8

Dry Pond 8A Alt 1 & 2 (0.18 acres) contains land use/cover roads and highways (FLUCFCS 8140). This proposed SMF is within the mowed and maintained roadway ROW and has the potential to be used by the state-listed plants, monarch butterfly, gopher tortoise, and Florida sandhill crane.

Wet Pond 8 Alt 1 (0.33 acres) contains land use/cover roads and highways (FLUCFCS 8140). This proposed SMF is within the mowed and maintained roadway ROW and has the potential to be used by the state-listed plants, monarch butterfly, gopher tortoise, and Florida sandhill crane.

VFS-8 Alt 2 (0.07 acres) contains land use/cover roads and highways (FLUCFCS 8140). This proposed SMF is within the mowed and maintained roadway ROW and has the potential to be used by the state-listed plants, monarch butterfly, gopher tortoise, and Florida sandhill crane.

Dry Pond 8B Alt 3 (0.24 acres) contains land use/cover roads and highways (FLUCFCS 8140). This proposed SMF is within the mowed and maintained roadway ROW and has the potential to be used by the state-listed plants, monarch butterfly, gopher tortoise, and Florida sandhill crane.

Swale 8 Alt 3 (0.08 acres) contains land use/cover roads and highways (FLUCFCS 8140). This proposed SMF is within the mowed and maintained roadway ROW and has the potential to be used by the state-listed plants, monarch butterfly, gopher tortoise, and Florida sandhill crane.

Swale 8A Alt 3 (0.08 acres) contains land use/cover roads and highways (FLUCFCS 8140). This proposed SMF is within the mowed and maintained roadway ROW and has the potential to be used by the state-listed plants, monarch butterfly, eastern indigo snake, gopher tortoise, and Florida sandhill crane.

Basin 9

VB-9A Alt 1 & 2 (0.41 acres) contains land use/cover roads and highways (FLUCFCS 8140). This proposed SMF is within the mowed and maintained roadway ROW and has the potential to be used by the state-listed plants, monarch butterfly, gopher tortoise, and Florida sandhill crane.

VB-9B Alt 1 & 2 (0.58 acres) contains land use/cover roads and highways (FLUCFCS 8140). This proposed SMF is within the mowed and maintained roadway ROW and has the potential to be used by the state-listed plants, monarch butterfly, gopher tortoise, and Florida sandhill crane.

VB-9C Alt 1 & 2 (0.37 acres) contains land use/cover of community recreational facilities (FLUCFCS 1860). This proposed SMF has the potential to be used by the monarch butterfly, eastern indigo snake, gopher tortoise, Florida pine snake, Florida sandhill crane, Florida burrowing owl, southeastern American kestrel, tricolored bat, and other protected bat species.

VB-9D Alt 1 (0.15 acres) contains land use/cover roads and highways (FLUCFCS 8140). This proposed SMF is within the mowed and maintained roadway ROW and has the potential to be used by the state-listed plants, monarch butterfly, gopher tortoise, and Florida sandhill crane.

VB-9E Alt 1 (0.17 acres) contains land use/cover residential, medium density (FLUCFCS 1200). No protected species are anticipated to use this SMF site for foraging or nesting.

VB-9F Alt 1 (0.30 acres) contains land use/cover hardwood – conifer mixed (FLUCFCS 4340). This proposed SMF has the potential to be used by the monarch butterfly, eastern indigo snake, gopher tortoise, Florida pine snake, bald eagle, tricolored bat, and other protected bat species.

Wet Pond 9D Alt 1 (0.72 acres) contains land use/cover residential, high density (FLUCFCS 1300). No protected species are anticipated to use this SMF site for foraging or nesting.

Wet Pond 9E Alt 1 (0.74 acres) contains land use/cover open land (FLUCFCS 1900). This proposed SMF has the potential to be used by the monarch butterfly, eastern indigo snake, gopher tortoise, Florida pine snake, Florida sandhill crane, Florida burrowing owl, and southeastern American kestrel.

Wet Pond 9F Alt 1 (2.71 acres) contains land use/cover including residential, high density (FLUCFCS 1300) and community recreational facilities (FLUCFCS 1860). The portion of this SMF within FLUCFCS 1860 has the

potential for protected species including the monarch butterfly, Florida sandhill crane, tricolored bat, and other protected bat species to utilize.

Wet Pond 9C Alt 2 (2.02 acres) contains land use/cover of community recreational facilities (FLUCFCS 1860). This proposed SMF has the potential to be used by the monarch butterfly, eastern indigo snake, gopher tortoise, Florida pine snake, Florida sandhill crane, Florida burrowing owl, southeastern American kestrel, tricolored bat, and other protected bat species.

Dry Pond 9A Alt 2 (0.59 acres) contains land use/cover residential, medium density (FLUCFCS 1200). No protected species are anticipated to use this SMF site for foraging or nesting.

Dry Pond 9B Alt 2 (0.67 acres) contains land use/cover residential, medium density (FLUCFCS 1200). No protected species are anticipated to use this SMF site for foraging or nesting.

Dry Pond 9 Alt 3 (4.73 acres) contains land use/cover of community recreational facilities (FLUCFCS 1860). This proposed SMF has the potential to be used by the monarch butterfly, eastern indigo snake, gopher tortoise, Florida pine snake, Florida sandhill crane, Florida burrowing owl, southeastern American kestrel, tricolored bat, and other protected bat species.

Basin 10

Baffle Swale 10 Alt 1 & 2 (1.76 acres) contains land use/cover including hardwood – conifer mixed (FLUCFCS 4340) and streams and waterways (FLUCFCS 5100). Within the forested upland habitat species with the potential to utilize the area include the monarch butterfly, eastern indigo snake, gopher tortoise, Florida pine snake, bald eagle, tricolored bat, and other protected bat species. There is a drainage ditch that runs through the natural forested area used for stormwater conveyance for the adjacent roadway. This ditch may be utilized by little blue heron, reddish egret, tricolored heron, whooping crane, wood stork, and roseate spoonbill. Approximately 0.06 acres of surface waters would be impacted with the selection of this location as a preferred SMF site. Compensatory mitigation is not required for impacts to surface waters.

Wet Pond 10 Alt 1 (2.28 acres) contains land use/cover including residential, medium density (FLUCFCS 1200), hardwood – conifer mixed (FLUCFCS 4340), and streams and waterways (FLUCFCS 5100). Within the forested upland habitat species with the potential to utilize the area include the monarch butterfly, eastern indigo snake, gopher tortoise, Florida pine snake, bald eagle, tricolored bat, and other protected bat species. There is a drainage ditch that runs through the natural forested area used for stormwater conveyance for the adjacent roadway. This ditch may be utilized by little blue heron, reddish egret, tricolored heron, whooping crane, wood stork, and roseate spoonbill. Approximately 0.06 acres of surface waters would be impacted with the selection of this location as a preferred SMF site. Compensatory mitigation is not required for impacts to surface waters.

Wet Pond 10A Alt 2 (2.11 acres) contains land use/cover commercial and services (FLUCFCS 1400). No protected species are anticipated to use this SMF site for foraging or nesting.

Wet Pond 10B Alt 3 (0.98 acres) contains land use/cover including residential, medium density (FLUCFCS 1200) and hardwood – conifer mixed (FLUCFCS 4340). Within the forested upland habitat species with the potential to utilize the area include the monarch butterfly, eastern indigo snake, gopher tortoise, Florida pine snake, bald eagle, tricolored bat, and other protected bat species.

Wet Pond 10C Alt 3 (0.73 acres) contains land use/cover residential, medium density (FLUCFCS 1200). No protected species are anticipated to use this SMF site for foraging or nesting.

VB-10 Alt 3 (0.26 acres) contains land use/cover residential, medium density (FLUCFCS 1200). No protected species are anticipated to use this SMF site for foraging or nesting.

VB-10A Alt 3 (0.13 acres) contains land use/cover residential, medium density (FLUCFCS 1200). No protected species are anticipated to use this SMF site for foraging or nesting.

VB-10B Alt 3 (0.08 acres) contains land use/cover roads and highways (FLUCFCS 8140). This proposed SMF is within the mowed and maintained roadway ROW and has the potential to be used by the state-listed plants, monarch butterfly, gopher tortoise, and Florida sandhill crane.

VB-10C Alt 3 (0.07 acres) contains land use/cover institutional (FLUCFCS 1700). No protected species are anticipated to use this SMF site for foraging or nesting.

VB-10D Alt 3 (0.09 acres) contains land use/cover residential, medium density (FLUCFCS 1200). No protected species are anticipated to use this SMF site for foraging or nesting.

Conservation Lands

The following resources were reviewed to determine the location of conservation lands that may coincide with the locations of the proposed SMF and FPC sites:

- Protected Areas Database of the United States (PAD-US) Easements (2016); and
- Protected Areas Database of the United States (PAD-US MPA) Manatee Protection Areas (2016).

Figure 4 depicts the location of conservation lands (Palmetto Estuary Preservation Project and Manatee Protection Zones) in relation to proposed SMF and FPC locations. No pond sites fall within the footprint of the conservation lands. Any impacts to conservation areas should be avoided and minimized to the extent practicable and should the preferred SMF or FPC sites impact an easement, coordination with the entity holding the conservation easement should occur to identify appropriate compensation measures. However, impacts to conservation lands are not anticipated as a result of the project.

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Figures

Figure 1 - Project Location

Figure 2 - Field-Verified Land Use

Figure 3 - Protected Species

Figure 4 - Conservation Lands

PREFERRED ALTERNATIVE
PONDS

PINELLAS
St. Petersb
HILLSBOROUGH
POLK
Palmetto
Bradenton
MANATEE
HARDEE
SARASOTA
DESOTO

Jacksonville
Orlando
Tampa
Florida
Miar

End Project

Begin Project

Memphis
Bradenton
Palmetto
Cemex
Walmart
Tropicana
Palmetto High
North Manatee Industrial Park
Bradenton Waterfront Park
Terra Ceia Bay Golf & Tennis Club

Business 41
US Highway 41 N
US Highway 301 N
Manatee Ave W
Manatee Ave E
10th St W
10th St E
6th Ave W
6th Ave E
Bayshore Rd
Tamiami Trl
Riverview Blvd
Glen Creek

46th St W
33rd St W
29th St E
28th Street Ct E
25th St E
21st St W
21st St E
21st Street Ct E
17th St W
17th St E
14th St W
12th St W
11th Street Dr W
7th St W
5th St W
4th St W
5th St E
4th St E
11th Ave W
11th Ave E
13th Ave W
13th Ave E
14th Ave W
18th Ave W
20th Ave W
22nd Ave W
25th Ave W
26th Ave W
26th Ave E
2nd Ave E
8th Ave E
1st Ave W
3rd Ave W

5th Ave W
14th Ave W
8th Ave W
12th Ave W
2nd Ave W
1st Ave E
16th Ave E
24th Ave E
28th Ave E
20th Ave W
19th Ave W
18th Ave W
17th Ave W
16th Ave W
15th Ave W
30th St W
26th St W
22nd St W
18th St W
15th St W
11th St W
9th St W
6th St W
5th St W
10th St E
9th St E
18th St E
25th Dr E
23rd St E
21st St E
30th St W
28th St W
27th St W
24th Ave W
23rd Ave W

41
301
70

Figure 1 Project Location

FPID: 444843-1
Bradenton-Palmetto Connector PD&E Study
US 41/SR 55 from US 301/SR 683 at 9th Street
East to North of 25th Street East Manatee County, Florida

0 2,000 4,000 6,000 US Feet

Data Source: ESA, GFT, ESRI

NORTH

All data within this map are supplied as is, without warranty. This product has not been prepared for legal, engineering, or survey purposes. Users of this information should review or consult the primary data sources to ascertain the usability of the information.

PONDS
FLUCFCS FIELD-VERIFIED (ESA 2026)
1300, RESIDENTIAL HIGH DENSITY
1390, RESIDENTIAL HIGH DENSITY UNDER CONSTRUCTION
1400, COMMERCIAL AND SERVICES
1500, INDUSTRIAL
1900, OPEN LAND
5100, STREAMS AND WATERWAYS
8120, RAILROADS
8140, ROADS AND HIGHWAYS

1400
8140
1400
Dry Pond
1A Alt.1
1500
FPC 1 Alt.1
5100
1300
1390
1900
Dry Pond
1B Alt.2
Dry Pond
1 Alt.1
Dry Pond
1N Alt.1
FPC
1 Alt.2
1400
5100
Dry
Pond 1C
Alt.3
1400
1900
8120
1500

Figure 2 Field-Verified Land Use

FPID: 444843-1
Bradenton-Palmetto Connector PD&E Study
US 41/SR 55 from US 301/SR 683 at 9th Street East to
North of 25th Street East Manatee County, Florida
Page : 1

0 500 1,000 US Feet

Data Source: ESA, GFT, SWFWMD, ESRI

NORTH

All data within this map are supplied as is, without warranty. This product has not been prepared for legal, engineering, or survey purposes. Users of this information should review or consult the primary data sources to ascertain the usability of the information.

PONDS
FLUCFCS FIELD-VERIFIED (ESA 2026)
1200, RESIDENTIAL MED DENSITY 2 TO 5 DWELLING UNITS PER ACRE
1300, RESIDENTIAL HIGH DENSITY
1400, COMMERCIAL AND SERVICES
1490, COMMERCIAL AND SERVICES UNDER CONSTRUCTION
1700, INSTITUTIONAL
1860, COMMUNITY RECREATIONAL AREAS
5400, BAYS AND ESTUARIES
8140, ROADS AND HIGHWAYS
8300, UTILITIES
8390, UTILITIES UNDER CONSTRUCTION

5400
1860
1860
1860
1860
VB-3E Alt. 1
VB-3C Alt. 1
VB-3H Alt. 2
Wet Pond 3 Alt. 1
VB-3D Alt. 1
1700
VB-3F Alt. 2
1400
VB-3G Alt. 2
FPC-3B Alt. 1
FPC-3A Alt. 1
1300
Dry Pond 3C Alt. 3
8300
VB-3B Alt. 1
1300
VB-3A Alt. 1
Dry Pond 3B Alt. 3
1400
8140
1400
1490
1400
Dry Pond 3A Alt. 2
1400
1400
8390
Dry Pond 2A Alt. 2
1700
8300
Dry Pond 2 Alt.1
1400
FPC 2 Alt.1
1700
1200
1400
Dry Pond 2B Alt.3
1300
1200
1300
1400
1700
1400
1300

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Figure 2 Field-Verified Land Use

FPID: 444843-1
Bradenton-Palmetto Connector PD&E Study
US 41/SR 55 from US 301/SR 683 at 9th Street East to
North of 25th Street East Manatee County, Florida
Page : 2

0 500 1,000 US Feet

Data Source: ESA, GFT, SWFWMD, ESRI

NORTH

PONDS
FLUCFCS FIELD-VERIFIED (ESA 2026)
1300, RESIDENTIAL HIGH DENSITY
1400, COMMERCIAL AND SERVICES
1700, INSTITUTIONAL
1800, RECREATIONAL
1860, COMMUNITY RECREATIONAL AREAS
1900, OPEN LAND
4370, AUSTRALIAN PINE
5100, STREAMS AND WATERWAYS
5300, RESERVOIRS
5400, BAYS AND ESTUARIES
6120, MANGROVE SWAMP

Wet Pond 5NB Alt. 2
Swale 5N Alt. 3
Swale 6N Alt. 2
Swale 6S Alt. 2
VFS-6S Alt. 2
Dry Pond 6S Alt. 3
Swale 6SA Alt. 2
Dry Pond 5SA Alt. 3
VFS-5S Alt. 2
Swale 5SA Alt. 2
VB-4C Alt. 2
Dry Pond 4C Alt. 3
VB-4B Alt. 2
Dry Pond 4B Alt. 3
Dry Pond 4 Alt. 1
VB-4A Alt. 2
Wet Pond 4A Alt. 2

5100 1300 5300 1400 1900 1700 1860 6120 5400 4370 1800

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Figure 2 Field-Verified Land Use

FPID: 444843-1
Bradenton-Palmetto Connector PD&E Study
US 41/SR 55 from US 301/SR 683 at 9th Street East to
North of 25th Street East Manatee County, Florida
Page : 3

0 500 1,000 US Feet

Data Source: ESA, GFT, SWFWMD, ESRI

NORTH

PONDS
FLUCFCS FIELD-VERIFIED (ESA 2026)
1300, RESIDENTIAL HIGH DENSITY
1400, COMMERCIAL AND SERVICES
1700, INSTITUTIONAL
1860, COMMUNITY RECREATIONAL AREAS
1900, OPEN LAND
5100, STREAMS AND WATERWAYS
5300, RESERVOIRS

VB-9B Alt. 1&2
VB-9C Alt. 1&2
Wet Pond 9D Alt. 1
Wet Pond 9F Alt. 1
1300
1700
Wet Pond 9C Alt. 2
1860
VB-9A Alt. 1&2
Dry Pond 9 Alt. 1
1860
1400
1300
1400
VFS-8 Alt. 2
1300
Swale 7 Alt. 3
Dry Pond 8B Alt. 3
5100
VFS-7 Alt. 2
Dry Pond 7 Alt. 1, 2&3
Wet Pond 7A Alt. 1
Dry Pond 8A Alt. 1&2
Wet Pond 8 Alt. 1
Swale 8A Alt. 3
5100
5100
5100
1400
1400
Wet Pond 5N Alt. 1
Dry Pond 5NA Alt.1,2&3
Dry Pond 6NA Alt. 2
5100
Dry Pond 6N Alt. 1,2&3
Wet Pond 6NA Alt. 1
1400
5100
1300
Swale 5N Alt. 3
Wet Pond 5NB Alt. 2
Swale 6N Alt. 2
1300
Swale 6S Alt. 2
5100
5300
1900
Dry Pond 6S Alt. 3

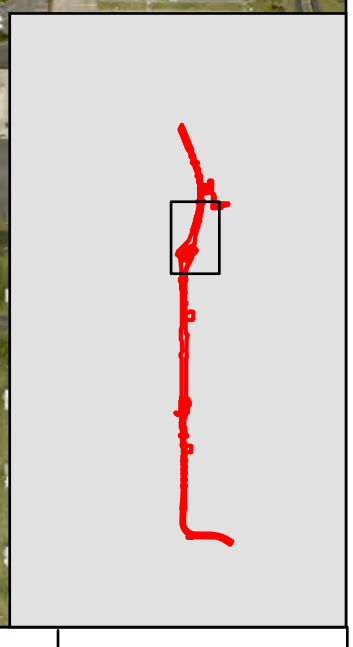

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Figure 2 Field-Verified Land Use

FPID: 444843-1
Bradenton-Palmetto Connector PD&E Study
US 41/SR 55 from US 301/SR 683 at 9th Street East to
North of 25th Street East Manatee County, Florida
Page : 4

0 500 1,000 US Feet

Data Source: ESA, GFT, SWFWMD, ESRI

NORTH

PONDS
FLUCFCS FIELD-VERIFIED (ESA 2026)
1200, RESIDENTIAL MED DENSITY 2 TO 5 DWELLING UNITS PER ACRE
1400, COMMERCIAL AND SERVICES
1500, INDUSTRIAL
1700, INSTITUTIONAL
4340, UPLAND HARDWOOD - CONIFEROUS MIX
5100, STREAMS AND WATERWAYS
5300, RESERVOIRS

VB-10C
VB-10C Alt. 3
VB-10D Alt. 3
1400
1700
1200
1700
VB-10B Alt. 3
VB-10A Alt. 3
Wet Pond 10C Alt. 3
VB-10 Alt. 3
1400
1200
Wet Pond 10B Alt. 3
VB-9F Alt. 1
Baffle Swale 10 Alt. 1&2
4340
5100
Wet Pond 10 Alt. 1
Dry Pond 9B Alt. 2
VB-9E Alt. 1
VB-9D Alt. 1
Dry Pond 9A Alt. 2
1400
Wet Pond 10A Alt. 2
5300
Wet Pond 9E Alt. 1
1500

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Figure 2 Field-Verified Land Use

FPID: 444843-1
Bradenton-Palmetto Connector PD&E Study
US 41/SR 55 from US 301/SR 683 at 9th Street East to
North of 25th Street East Manatee County, Florida
Page : 5

0 500 1,000 US Feet

Data Source: ESA, GFT, SWFWMD, ESRI

NORTH

PREFERRED ALTERNATIVE
PONDS
PROJECT STUDY AREA FOOTPRINT (250-FOOT BUFFER)
PREFERRED ALTERNATIVE 1-MILE BUFFER

EAGLE NEST BUFFERS
330 Ft
660 Ft
EAGLE NESTS 2025
SEA TURTLE STRANDING 2025
MANATEE CARCASS RECOVERY LOCATION
SEAGRASS FIELD-VERIFIED (ESA 2026)
FLORIDA SEAGRASS 2024
FLORIDA OYSTER BEDS
SPINYLOBSTER ESSENTIAL HABITAT
WEST INDIAN MANATEE CRITICAL HABITAT
ESSENTIAL FISH HABITAT

The project area is entirely within the following USFWS Consultation Areas:
- Florida Scrub-jay

The project area is partially within the following USFWS Consultation Areas:
-Piping plover

The project area falls within the NMFS Consultation Areas:
-Gulf sturgeon
-Smalltooth sawfish
-Loggerhead, Green, and Kemp's Ridley sea turtle

This project falls within USFWS critical habitat for West Indian manatee and NMFS proposed critical habitat for the green sea turtle.

MN048
MN951
MN077
MN052
MN046

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Figure 3 Protected Species

FPID: 444843-1
Bradenton-Palmetto Connector PD&E Study
US 41/SR 55 from US 301/SR 683 at 9th Street
East to North of 25th Street East Manatee County, Florida

0 0.5 1 1.5 Miles

Data Source: ESA, GFI, FWC, NMFS, USFW ESRI

NORTH

Legend

- PREFERRED ALTERNATIVE
- PROJECT STUDY AREA FOOTPRINT (250-BUFFER)
- MANATEE PROTECTION ZONES
- PALMETTO ESTUARY PRESERVATION PROJECT
- PONDS

Wet Pond 5NB Alt. 2
Swale 6S Alt. 2
Swale 6SA
Swale 5SA Alt. 2
Dry Pond 5SA Alt. 2
Alt. 3
Dry Pond 6S
Alt. 3
VB-4C Alt. 2
Taylor Park
3rd Ave W
7th St W
7th St E
8th St E
Madison Dr
Adams Dr
Hamilton Dr
Haben Blvd
Manatee County Civic Center
Wisconsin St
Palm Ln
Melody Ln
Merry Ln
Riviera Dunes
Dry Pond 4C Alt. 3
Palmetto Estuary Preserve
VB-4B Alt. 2
Dry Pond 4B Alt. 3
Dry Pond 4 Alt. 1
1st St E
VB-4A Alt. 2
Wet Pond 4A Alt. 2
The Island at Riviera Dunes
CSX Railroad
US Highway 41 N
41
Bradenton Waterfront Park
Riverfront Blvd
VB-3E Alt. 1
VB-3C Alt. 1
Memorial Park
VB-3H Alt. 2
VB-3D Alt. 1
Wet Pond 3 Alt. 1
VB-3F Alt. 2
VB-3G Alt. 2
FPC-3B Alt. 1
FPC-3A Alt. 1
Dry Pond 3C Alt. 3
Rossi Park
1st St
6th St NE
1st Ave E
3rd Ave W
Riverview Foot

Figure 4 Conservation Lands

FPID: 444843-1
Bradenton-Palmetto Connector PD&E Study
US 41/SR 55 from US 301/SR 683 at 9th Street East to North of 25th Street East Manatee County, Florida

0 500 1,000 1,500 US Feet

Data Source: ESA, GFT, SWFWMD, ESRI

NORTH

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APPENDIX K

Cultural Resource Assessment Survey

CULTURAL RESOURCE ASSESSMENT SURVEY FOR THE BRADENTON-PALMETTO CONNECTOR PROJECT DEVELOPMENT AND ENVIRONMENT STUDY, MANATEE COUNTY, FLORIDA

FINANCIAL MANAGEMENT NO. 444843-1-22-01
SEARCH PROJECT NO. 260003

PREPARED FOR

GFT INFRASTRUCTURE INC.
AND
FLORIDA DEPARTMENT OF TRANSPORTATION DISTRICT 1

BY

SEARCH

MARCH 2026

THE ENVIRONMENTAL REVIEW, CONSULTATION, AND OTHER ACTIONS REQUIRED BY APPLICABLE FEDERAL ENVIRONMENTAL LAWS FOR THIS PROJECT ARE BEING, OR HAVE BEEN, CARRIED OUT BY THE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) PURSUANT TO 23 U.S.CA. §327 AND A MEMORANDUM OF UNDERSTANDING DATED MAY 26, 2022, AND EXECUTED BY THE FEDERAL HIGHWAY ADMINISTRATION (FHWA) AND FDOT.

CULTURAL RESOURCE ASSESSMENT SURVEY FOR THE BRADENTON-PALMETTO CONNECTOR PROJECT DEVELOPMENT AND ENVIRONMENT STUDY, MANATEE COUNTY, FLORIDA

FINANCIAL MANAGEMENT NO. 444843-1-22-01
SEARCH PROJECT NO. 260003

PREPARED FOR

GFT INFRASTRUCTURE INC.
AND
FLORIDA DEPARTMENT OF TRANSPORTATION, DISTRICT 1

PREPARED BY

SEARCH
JOSEPH NORMANDY, MARY BONATAKIS, ALLEN KENT, MATT NOWAK, AND ANNA SUPHANNIAM

DRAFT

_____

MATT NOWAK, MA, RPA
PRINCIPAL INVESTIGATOR, ARCHAEOLOGY

DRAFT

_____

ANNA SUPHANNIAM, MA
PRINCIPAL INVESTIGATOR, ARCHITECTURAL HISTORY

WWW.SEARCHINC.COM

MARCH 2026

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EXECUTIVE SUMMARY

This report presents the findings of a cultural resource assessment survey (CRAS) conducted in support of the Bradenton-Palmetto Connector project in Manatee County, Florida. The Florida Department of Transportation District 1 is conducting a Project Development and Environment (PD&E) Study to evaluate the capacity and mobility improvements to US 41/State Road (SR) 55/1st Street/Tamiami Trail including roadway widening, bridge widening and/or replacement, new stormwater management facilities, new floodplain compensation sites, and bicycle and pedestrian accommodations. The limits of the study area are from US 301/SR 683 at 9th Street East to North of 25th Street East. The study limits intersect the City of Bradenton to the south and the City of Palmetto to the north and span the Manatee River. The project limits cover approximately 7.2 kilometers (km; 4.5 miles [mi]) within Manatee County. The proposed activities also include examining the potential for elevated roadway and toll lanes. The project is federally funded.

The area of potential effects (APE) was developed to consider visual, audible, or atmospheric effects that the project may have on historic resources. To encompass the potential improvements, the archaeological APE for the project was defined as the proposed construction footprint within the existing and proposed right-of-way (ROW). The architectural history APE includes the archaeological APE plus adjacent parcels, or a distance of no more than 100 meters (m; 328 feet [ft]) from the ROW. In this document, the "APE" refers to the combined archaeological and architectural history APE.

The archaeological survey consisted of pedestrian survey and systematic shovel testing within the archaeological APE. In total, 17 shovel tests were excavated within the archaeological APE, none of which contained cultural material. An additional 92 shovel tests were pre-plotted within the archaeological APE but could not be excavated due to buried utilities, inundation, and impervious surfaces. No artifacts were recovered, and no archaeological sites or occurrences were identified within the archaeological APE. No further archaeological survey is recommended.

The architectural survey resulted in the identification and evaluation of four previously recorded historic resources; and 23 newly recorded historic resources within the APE. Among the previously recorded resources are three linear resources (8MA01381, 8MA02249 and 8MA02568); and one previously recorded building (8MA02569). The newly recorded resources include 21 historic buildings (8MA03122–8MA03142); and two historic resource groups (8MA02874, 8MA02875). Each resource was evaluated to determine its significance and eligibility for listing in the National Register of Historic Places (NRHP).

Resource 8MA02569 (Manatee Memorial Hospital) was previously recorded; however, the State Historic Preservation Office (SHPO) has not evaluated the resource, and the prior recommendation is not available on FMSF. SEARCH recommends 8MA02569 is ineligible for listing in the NRHP. Previously recorded linear resource 8MA01381 (United States and West Indies Railroad/Seaboard Railroad), was evaluated as eligible for listing in the NRHP in December

2023 under Criterion A for its significance in the development of Florida's railroads. SEARCH concurs with this previous evaluation and recommends the resource remains eligible for listing in the NRHP. Linear Resource 8MA02249, Manatee Avenue/SR 64, was previously evaluated as having insufficient information for listing in the NRHP in February 2025, and SEARCH recommends no change to these previous evaluations. Linear resource 8MA02568 (US 41), was previously evaluated as having insufficient information for listing in the NRHP in December 2024, SEARCH recommends this resource is ineligible due to a loss of integrity. SEARCH finds there is insufficient information to make a recommendation for new recorded resource 8MA03135, Pride of Bradenton, Masonic Lodge #490, as more research is required. Based on the results of the current survey, the remaining newly recorded resources are recommended ineligible for listing in the NRHP. No further architectural history work is recommended.

SEARCH recommends that this project will result in *No Historic Properties Affected*. No further cultural resources work is recommended.

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INTRODUCTION

PROJECT DESCRIPTION

This report presents the findings of a CRAS conducted in support of the Bradenton-Palmetto Connector project in Manatee County, Florida. The Florida Department of Transportation (FDOT) District 1 is conducting a PD&E Study to evaluate the capacity and mobility improvements to US 41/State Road (SR) 55/1st Street/Tamiami Trail including roadway widening, bridge widening and/or replacement, new stormwater management facilities, new floodplain compensation sites, and bicycle and pedestrian accommodations. The limits of the study area are from US 301/SR 683 at 9th Street East to North of 25th Street East. The study limits intersect the City of Bradenton to the south and the City of Palmetto to the north and span the Manatee River. The project limits cover approximately 7.2 kilometers (km; 4.5 miles [mi]) within Manatee County (**Figure 1**). The proposed activities also include examining the potential for elevated roadway and toll lanes. The project is federally funded.

The project consists of an Ultimate Alignment and Interim Alignment. The Ultimate Alignment includes the full project limits from US 301 from 9th Street East to US 41 (South Tamiami Trail); and along US 41 from US 301 to north of 25th Street East. The Interim Alignment extends from State Road (SR) 64/Manatee Avenue to 21st Street East, a distance of approximately 4.2 km (2.6 mi). These alignments are depicted in **Figure 2**. The archaeological and architectural history surveys were conducted for the Ultimate Alignment, which encompasses the Interim Alignment.

The DeSoto Bridge (FDOT Bridge No. 130053; Resource 8MA01808) is within the current project corridor but was omitted from survey because it was previously surveyed by SEARCH in 2023 (Steele et al. 2023). The bridge was evaluated as ineligible for listing in the NRHP by SHPO in 2011. The 2023 SEARCH study determined that the bridge was exempt from Section 106 consideration and received concurrence from SHPO in January 2024.

AREA OF POTENTIAL EFFECTS

The APE was developed to consider visual, audible, or atmospheric effects that the project may have on historic resources. To encompass the potential improvements, the archaeological APE for the project was defined as the proposed construction footprint within the existing and proposed right-of-way (ROW) (see **Figure 2**). The architectural history APE includes the archaeological APE plus adjacent parcels, or a distance of no more than 100 m (328 ft) from the ROW. In this document, the "APE" refers to the combined archaeological and architectural history APE.

APPLICABLE LAWS AND GUIDELINES

The purpose of the survey is to locate, identify, and bound archaeological resources, historic buildings or structures, and potential historic districts in the APE and to assess their potential for listing in the NRHP. This study was conducted to comply with Public Law 113-287 (Title 54 U.S.CA.), which incorporates the provisions of the National Historic Preservation Act (NHPA) of 1966, as amended, and the Archeological and Historic Preservation Act of 1974, as amended. The study also meets the regulations for implementing NHPA Section 106 found in 36 CFR Part 800 (Protection of Historic Properties). This study also complies with Chapter 267, *Florida Statutes*, and Rule Chapter 1A-46, *Florida Administrative Code*. The work was performed in accordance with the Florida Division of Historical Resources' (FDHR) recommendations for such projects as stipulated in the FDHR's *Cultural Resource Management Standards & Operations Manual, Module Three: Guidelines for Use by Historic Preservation Professionals*. The principal investigator for this project meets the *Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation* (48 FR 44716-42).

Matt Nowak, MA, RPA, served as the principal investigator for archaeology and Anna Supphaniam, MA, served as principal investigator for architectural history. The report was written by Joseph Normandy, MA; Mary Bonatakis, BA; Allen Kent, PhD; Mr. Nowak; and Ms. Suphanniam. The fieldwork was conducted by Chris Chang, BA; Cheyenne Cox, BA; and Ms. Bonatakis. Angelica Costa, MA, produced the field maps and report figures, and Tim Parsons, PhD, RPA, conducted the quality control review.

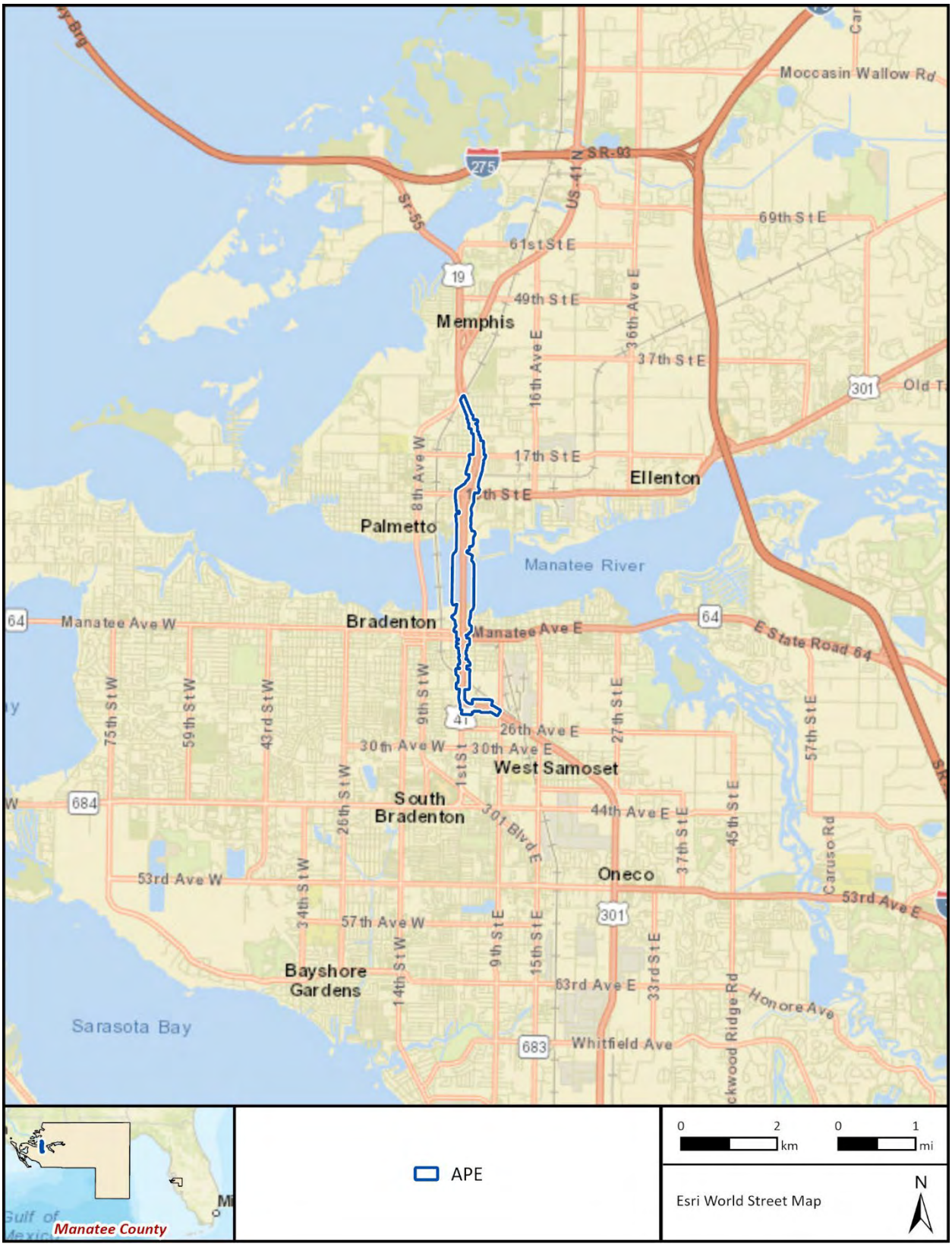

Figure 1. Location of the project in Manatee County, Florida.

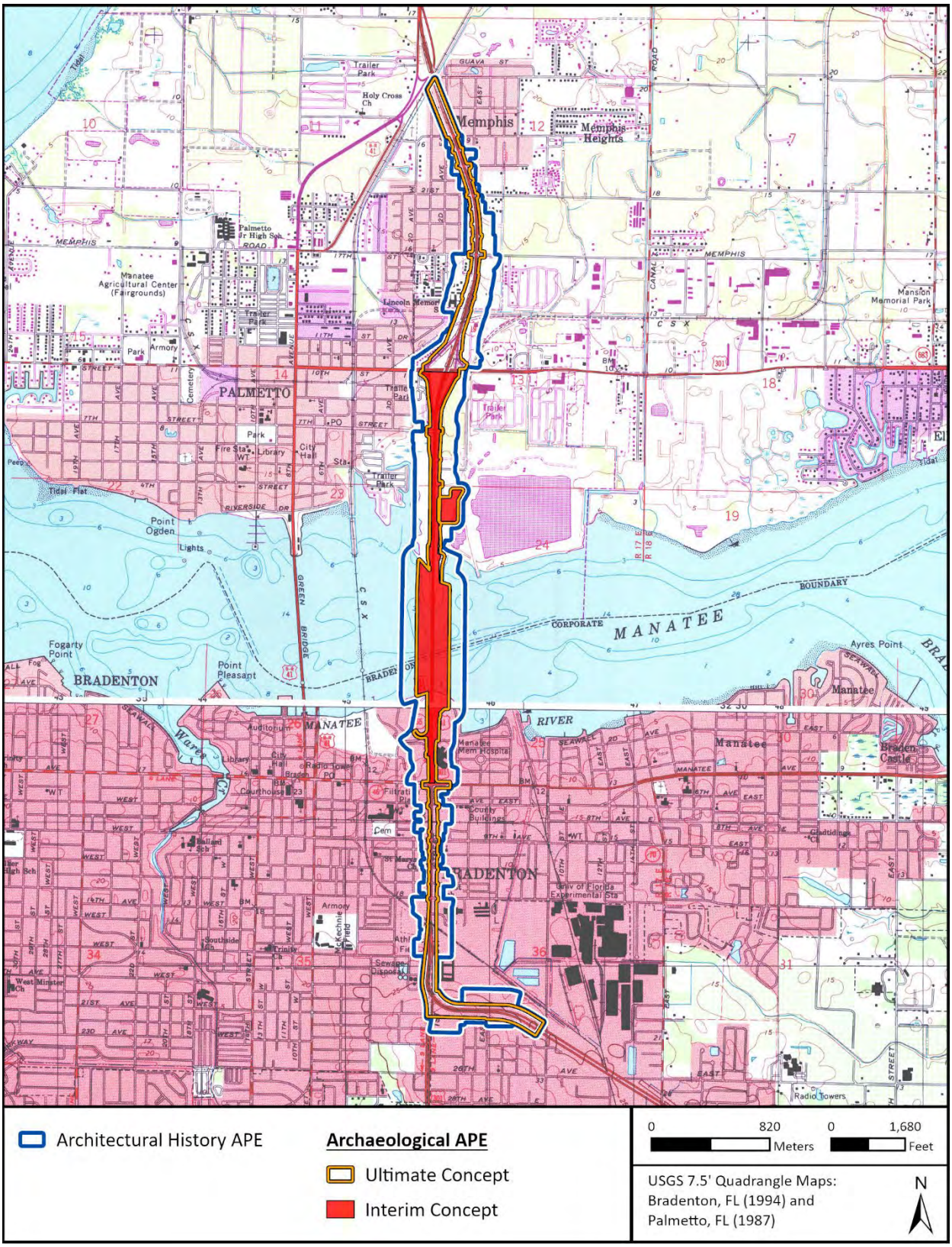

Figure 2. Topographic map of the APE depicting the Ultimate and Interim Alignments.

PROJECT LOCATION AND ENVIRONMENT

LOCATION AND MODERN CONDITIONS

The APE is along a 7.2 km (4.5 mi) segment of US 301 and US 41 in western Manatee County, Florida, within Sections 12, 13, 24, 25, 26, 35, and 36 of Township 34 South, Range 17 East of the Public Land Survey System. The area surrounding the APE is characterized by an urban setting with dense residential and commercial development north and south of the Manatee River, within the cities of Bradenton and Palmetto. Elevations within the APE range from 2.0–14.0 m (6.6–45.9 ft) above mean sea level. The Manatee River bisects the APE.

Geologically, the APE is within the De Soto Slope of the Southwestern Flatwoods physiographic province (Brooks 1981). This subprovince is characterized as a sloping plain with wet prairies and flatwoods. Except for the Peace River, the surface drainage systems are disrupted by cypress swamps, which tend to be underlain by clay deposits. Soils within the APE vary, with very poorly and poorly drained soils along the majority of the archaeological APE and moderately well drained soils along the banks of the Manatee River and the southernmost portion of the archaeological APE (**Figure 3**).

PALEOENVIRONMENT

An understanding of regional paleoenvironmental data is critical to determining how archaeological deposits were affected by post-depositional processes such as water and wind erosion, aggradation, and inundation—forces that impact or destroy archaeological sites or that create palimpsests at surface sites (Rees 2010:36–37). Conversely, sites near rivers or streams may have been buried by alluvium, sometimes deeply, and therefore were preserved. In addition, environmental change may have prompted technological, subsistence, social, and settlement strategy changes (Mandel and Holliday 2017).

Approximately 24,000 to 18,000 years ago, during the Last Glacial Maximum, global ice volumes were at their greatest, and temperatures were about 11 degrees Fahrenheit (˚F) colder than they are today (Ehlers and Gibbard 2004). However, this period was also characterized by a slow warming trend that melted massive ice sheets and resulted in global sea level rise (Rohling et al. 1998). Around 22,000 years ago, Gulf of Mexico sea levels were at a low stand of -125 to -130 m (-410.1 to -426.5 ft) below modern levels (Joy 2019:109), and Pleistocene shorelines extended at least 200 km (124 mi) further south than today (Balsillie and Donoghue 2004; Gagliano et al. 1982; Saucier 1994:49–50). With these conditions, most of Florida's lakes and ponds were dry basins, and water in river channels was variable because water tables are tied to sea level base levels (Thulman 2009).

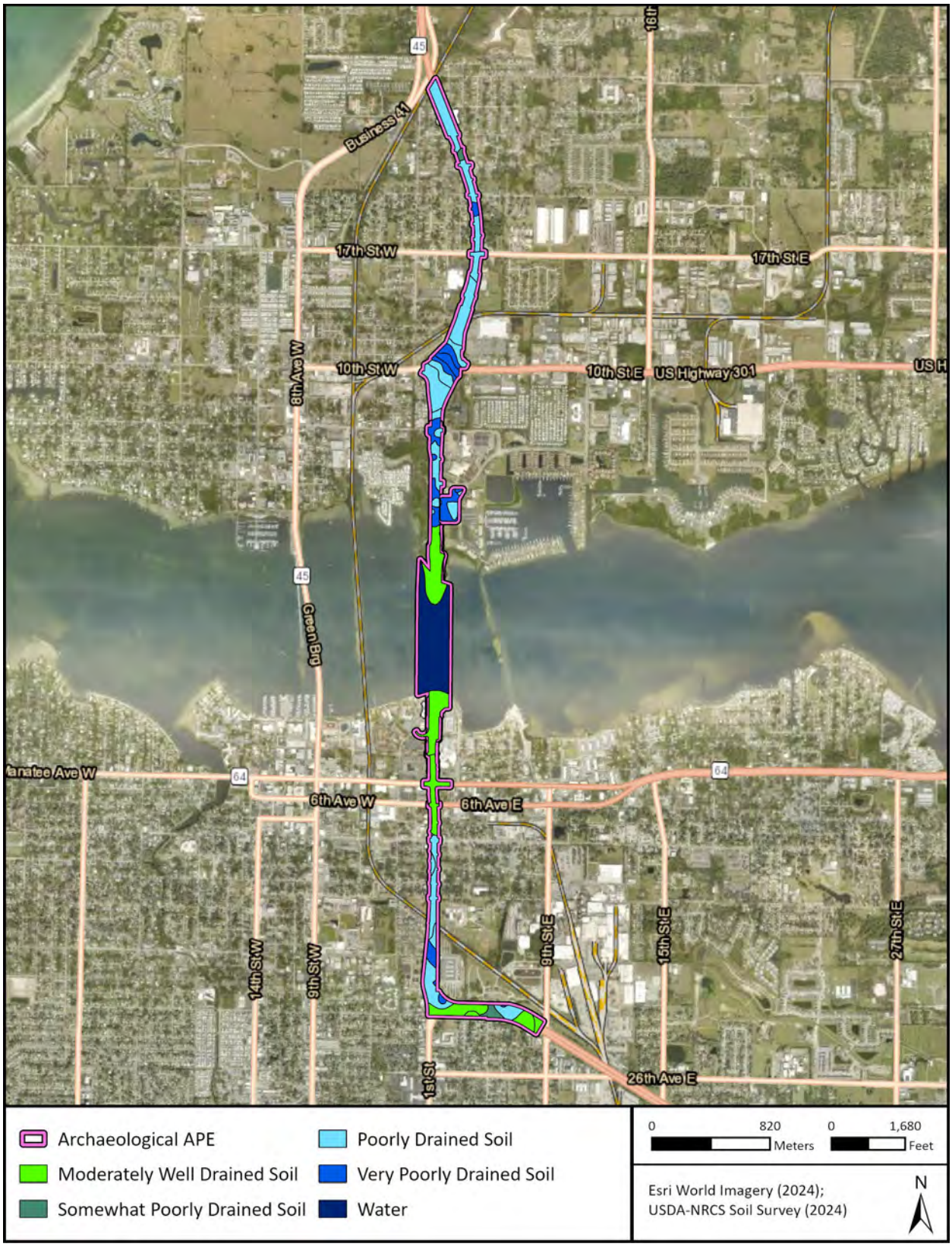

Figure 3. Soil drainage within the archaeological APE.

After about 17,000 years ago, global melting of the ice sheets (deglaciation) led to sea level rise and transgression of the continental shelves, particularly Florida's western margins that drain the Floridan aquifer-fed rivers. Even during the Younger Dryas, the last return to glacial conditions about 13,800 years ago, meltwaters slowed, but sea levels continued to rise at least 60.0 m (196.9 ft) over the next 2,400 years (Joy 2019). Sea levels, though higher, were still much lower than at present; along the Gulf Coast, extensive grasslands probably existed, possibly attracting mammoth, bison, and other large grazing mammals.

The rate of sea-level rise was generally slow for 13,000 years to about 4,500 years ago; however, the rate and magnitude of ice melt was punctuated by three "melt-water pulses" that occurred in the late Pleistocene and early Holocene at approximately 14,200, 11,400, and 8,000 years ago (Blanchon 2011). Florida's wetlands, lakes, and ponds formed mostly after 9,000 years ago (Watts and Hansen 1988). By 6,000 years ago, Florida's climate included increased precipitation and surface water flow, as indicated by increased pine and wetland pollens, including abundant cypress, which indicates broad new areas of wetland habitat in the later pollen records (Watts and Hansen 1988; Watts et al. 1992). Higher sea levels and elevated water tables created essentially modern conditions by the late Holocene, approximately 4,500 years ago. The climate, water levels, and plant communities of Florida have been relatively stable during the past 4,000 years.

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CULTURAL OVERVIEW

The following overview of the cultural history is intended to provide a context for identifying and assessing archaeological sites and historic resources in the APE. The precontact history focuses on the major cultural periods recognized by archaeologists based on regional patterns of material culture. The post-contact history focuses on historical events and activities in what is now Manatee County.

Archaeologists have divided the central peninsular Gulf Coast of Florida into a four-part chronology, with each period based on distinct cultural and technological characteristics. From oldest to most recent, the four temporal periods include Paleoindian, Archaic, Manasota, and Safety Harbor. Readers can refer to Milanich (1994) for a comprehensive treatment of Florida's precontact history.

Table 1. Precontact Cultural Periods of Manatee County.

Name	Time Period	References
Paleoindian Period	10,000–7000 BC	Daniel and Wisenbaker 1987; Goodyear and Warren 1972
Archaic Period	7000–500 BC	Milanich 1994; Smith 1986
Early	7000–6000 BC	Milanich 1994
Middle	6000–2000 BC	Austin et al. 2004; Russo 1986
Late	2000–500 BC	Sassaman 1993
Manasota Period	500 BC–AD 900	Milanich 1994
Early	500 BC–AD 700	Milanich 1994
Late	AD 700–900	
Safety Harbor Period	AD 900–1565	Milanich 1998; Mitchem 1989

NATIVE AMERICAN CULTURAL HISTORY

Paleoindian Period

The most widely accepted model for the peopling of the New World argues that Asian populations migrated to North America over the Bering land bridge that linked Siberia and Alaska, some 14,000 years ago, but data are mounting in support of migrations that date to before 14,000 years ago (Adovasio et al. 1990; Dillehay et al. 2008; Waters et al. 2011). Alternative migration routes that have been hypothesized for early inhabitants include populations traveling along the Pacific and Atlantic coasts using boats or following an exposed shoreline (Anderson and Gillam 2000; Bradley and Stanford 2004; Dixon 1993; Faught 2008; Fladmark 1979). Regardless of the precise timing of the first occupation of North America, the earliest radiocarbon dates in Florida that are firmly associated with human artifacts come from the Sloth Hole site in Jefferson County (Hemmings 2004) and indicate that people were in Florida by at least 11,000 years BP (9000 BC). These early Native Americans may have been nomadic hunter-gatherers who relied upon Pleistocene megafauna and wild plant foods for subsistence (Clayton 1983; Dunbar 2006; Webb et al. 1984). However, big-game hunting was not as common in Florida as in other portions of North America because a rich and diverse Florida habitat during the Pleistocene/Holocene transition favored a generalized subsistence

strategy (e.g., Dunbar et al. 2006). The Paleoindian tool assemblage contains lanceolate-shaped projectile points, blades, bola stones, carinate scrapers, drills, end scrapers, thumbnail scrapers, gouges, and Edgefield scrapers, reflecting a reliance on the hunting and butchering of animals and the use of well-made scraping tools for wood working, hide scraping, and other tasks. Large lanceolate Clovis points and Cumberland, Redstone, Suwannee, and Simpson points are typical diagnostic artifacts of the period (Anderson 1990; Dunbar 2006).

The end of the Paleoindian period coincided with the Younger Dryas climatic event, a cold period that was followed by rapid warming (Anderson and Sassaman 2012:38). Because the climate during the Paleoindian period was cooler and drier than today's climate, with coastal sea levels and the inland water table as much as 120 m (394 ft) lower (Carbone 1983; Watts and Hansen 1988), many archaeologists believe that the paucity of potable water sources played a crucial role in the distribution of groups across the landscape. They hypothesize that human groups frequented sinkholes and springs to collect water and to exploit the flora and fauna that were also attracted to these locations (Dunbar 1991). Many of these freshwater sources were in areas of exposed Tertiary-age limestone that had become silicified, providing people during the Paleoindian period with a raw material source (chert) for tool manufacture. Thus, it is thought that permanent freshwater sources (i.e., sinkholes and springs), along with outcrops of high-quality chert, were primary factors influencing settlement patterns in Florida during the Paleoindian period. Dunbar and Waller (1983) mapped the distribution of Paleoindian sites and found that evidence of west-central Florida occupation from Tampa Bay to the Big Bend is extensive and that Paleoindian sites are highly correlated with freshwater springs and chert outcrops.

In the central Gulf Coast region, Paleoindian sites are located along the coast and various drainages. Paleoindian sites are also located underneath Tampa Bay (Goodyear and Warren 1972). These site locations were once on dry land when sea levels were lower, but these locations have become submerged as sea level has risen during the past 10,000 years. Some evidence of Paleoindian occupation has also been found within interior regions of the central Gulf Coast. In Hardee County, a lanceolate projectile point was recovered from the Gum Slough site during test excavations in 1995 (Janus Research 1995), and a lanceolate Suwannee projectile point is on display at the Pioneer Museum at Zolfo Springs. The Harney Flats site in Hillsborough County is a large habitation site excavated during the early 1980s (Daniel and Wisenbaker 1987). It is the largest and most extensively excavated Paleoindian site in Florida.

Archaic Period

The Early Archaic (9000–6000 BP) represented a continuity of the Paleoindian occupation of Florida. It occurred during a time of rising sea levels, a gradual warming trend, and the spread of oak hardwood forests and hammocks. Numerous small Early Archaic special activity and camp sites have been located throughout the West Central Florida region (Milanich 1994). The Middle Archaic (6000–4000 BP) was a wetter period and included the intrusion of mixed pine and oak into the hardwood forest. As conditions became wetter, large river systems and wetlands developed, and people began to exploit the resources associated with these aquatic habitats. This trend continued into the Late Archaic period (4000–2500 BP). However, there is evidence

that suggests that the environment became slightly drier during this period, and that aquatic habitats were fewer and shallower (Russo 1986). Precontact populations in Manatee County may have been smaller and aggregated around springs and sinkholes.

Along the coasts and some of the state's major rivers, Middle Archaic peoples practiced a relatively sedentary lifestyle (e.g., Russo 1991), but current evidence suggests that the Native American groups occupying the interior were highly mobile, moving from location to location on a seasonal round (Austin 1996, 1997). Middle Archaic sites that have been identified on the interior of the central Gulf Coast region typically consist of small- to medium-sized scatters of lithic artifacts representing habitation sites, short-term campsites, or extractive locations (e.g., Austin 1990; Janus Research 1995). The Republic Groves site in Hardee County is an important Middle Archaic cemetery where Native Americans interred the dead in a pond (Wharton et al. 1981). This pattern of wetland burials seems to have been primarily a south Florida phenomenon (Purdy 1991).

The innovation of pottery is a hallmark of the Late Archaic (4000–2500 BP). The earliest pottery was tempered with plant fibers and first appeared between 4000 and 3000 BP (Sassaman 1993). The people who made fiber-tempered pottery practiced an essentially Archaic lifestyle of hunting, gathering, and incipient horticulture. Fiber-tempered pottery was made with naturally occurring clays collected from areas where creeks or rivers were cut down to the clay-bearing layers. Plant fibers were then added to the clay as a tempering agent to strengthen it. Newly made pots were left to dry to allow moisture in the clay to escape, then fired. Most Late Archaic sites containing fiber-tempered pottery are located on the coast, with smaller campsites located in the interior; other sites are likely inundated (Milanich 1994).

Post-Archaic Period

The post-Archaic period is characterized by the further regional diversification of cultural traditions, most often recognized by ceramic styles. The study area is located on the northern outskirts of the Manasota culture (Luer and Almy 1982:36) and near the southern limits of what Milanich (1994) refers to as the North Peninsular Coast. Limestone-tempered pottery is prevalent at sites of the North Peninsular Coast, but there also is a great deal of ceramic variation. Early Manasota (2500–1300 BP) is recognized archaeologically by the dominance of sand-tempered pottery, while the Weeden Island-related Late Manasota (1300–1100 BP) is identified by the presence of St. Johns Check Stamped pottery in village contexts and the inclusion of ornately decorated pottery in mortuary contexts (burial mounds). Manasota subsistence was based upon foraging and mollusk gathering. Settlements were semi-permanent and located along the coast with occasional foraging expeditions into the interior to procure food resources or raw materials for tool manufacture (Luer and Almy 1982). The utilitarian ceramics of the Manasota culture are undecorated, flattened, globular bowls with inverted rims and beveled lips. Straight-sided bowls become more common over time (Milanich 1994).

The Safety Harbor culture developed out of the preceding Weeden Island-related Manasota culture in Florida's central Gulf Coast region, beginning around 1100 BP (Mitchem 1986). The

transition to Safety Harbor appears uneven across the region, as Weeden Island ceramics continue as late as 1000–800 BP at sites such as Bayshore Homes and Yat Kitischee. This transition was possibly due to the gradual spread of Mississippian culture traits around Tampa Bay. However, evidence for the Mississippian cultural hallmark of maize agriculture continues to be absent for the region (Mitchem 2012). Safety Harbor sites in this region include nucleated villages usually containing a large platform mound with an associated plaza, one or more burial mounds, and surrounding village middens. In addition, numerous smaller midden sites are present in outlying areas. These sites likely represent small "hamlets" or household clusters within a specific polity. Each polity was ruled by a cacique who lived in the town center. Caciques and their family members were buried in lineage mounds after their remains had been ritually cleaned and stored in a charnel house. The subsistence base continued to focus on fishing, gathering, and hunting. Each town center probably represented a simple chiefdom, and although alliances were forged between local polities, they otherwise appear to have acted independently of one another (Milanich 1998:103–104).

Native American groups continued to live in the area following the arrival of Europeans. The mixed European American and Native American presence in and around the study area was documented by Pánfilo de Narváez near Tampa Bay in 1528 and by Hernando de Soto in 1539. By 1763, the British had gained control over Florida and demolished most of the Spanish missions (Milanich and Hudson 1993). Creek Native Americans from Georgia and Alabama entered Florida in the early eighteenth century and soon became known as the Seminole. By the late nineteenth century, most Seminole groups were removed from their land and sent to reservations out west—some people from the Seminole tribe escaped to the Everglades at this time.

POSTCONTACT HISTORY

Early Settlement (1800–1899)

Beginning in the eighteenth century and continuing into the early nineteenth century, members of several southeastern Native American tribes relocated to modern Florida. By the early nineteenth century, Europeans referred to them collectively as the Seminole. The Seminole incorporated formerly enslaved Africans and African Americans into their culture (Gannon 1996). One such community existed in present-day Manatee County now known as Manatee Mineral Springs Park. Between 1800 and 1821, an estimated 700 escaped Blacks lived at the site (Callihan 2020). With the Seminole wars Driving Seminoles and their escaped Black allies further south, the site became a refuge with small farm sites and cabins and was given the name Angola (Baram 2014; Merab-Michal 2013). However, in 1821, communities along Manatee River were raided by bands of Lower Creek. Over 300 men, women, and children were sold into slavery because of these raids. Other fled into southeast Florida and then on to the Bahamas where possible (Baram 2014; University of South Florida 2026).

In 1841, Josiah Gates and his brother-in-law settled at Manatee Mineral Springs. The remains of the Angola settlement remained evident for years to come (Baram 2014). Several newcomers acquired large tracts of land and brought enslaved Blacks to work their land. By 1845, settlers in the area shipped sugar cane to markets in New Orleans (Tebeau 1980). Around the same time, cattlemen, who built their herds with feral Spanish cattle, drove their herds into the Manatee River region for export (Matthews 1983:176–177). The community known as Manatee emerged during this period near the site of present-day Bradenton (Brown 1991:6–77).

In 1843, settlers began arriving in the present-day location of Palmetto. In 1846, the first major road built in Hillsborough County connected Tampa and Turman's Landing and was located along the approximate route of US 301 (Zimny 1986:3). Turman's Landing is located west of the APE in Palmetto where the present railroad bridge crosses the Manatee River. Named after Simon Turman, who settled the area in 1843, Turman's Landing consisted of a "crude cabbage log crib" in deep water in the river and was used as a staging area to transfer goods to shore. There was no dock associated with the landing, and goods were taken to shore by raft (Clio 2023; Floridahistory.org 2023; Palmetto Community Redevelopment Agency 1993). The landing was replaced by a dock built at the end of 9th Avenue in 1874 (Floridahistory.org 2023).

The state legislature created Manatee County from Hillsborough County on January 8, 1855, at the urging of the planters and merchants along Sarasota Bay and the Manatee River (Brown 1991:104). By 1860, cattle emerged as a major contributor to the economy of the county (Akerman and Akerman 2004:92, 122). The 1860 population of Manatee County was 854 (Florida Center for Instructional Technology 2005; Manatee County Public Library Collection 1966). During the 1870s, citrus quickly came to dominate the area and led to an influx of new residents (Zimny 1986). Boosters continued to advertise Manatee County to new residents throughout the 1880s (Webb 1885:73–74).

Twentieth Century 1900–1989

By 1900, approximately 300 orange groves operated within the county, predominantly along the western side of the county (Dreiser 1900:860). In 1900, Manatee County ranked first in the state for citrus production with 250,000 boxes shipped (*New York Times*, 9 October 1900). By 1905, Bradenton became one of the most populous towns in the county, with a total population of 4,663 (Florida Department of Agriculture 1905). When railroad service began in the western portion of Manatee County in the early 1900s, the population increased significantly (Florida Department of Agriculture 1905). By 1910, the population had reached 9,550 and by 1915 the population reached 15,000 (Florida Department of Agriculture 1915). Tourism began generating income for the county, especially in Bradenton (Florida State Chamber of Commerce 1935:191–193). However, most of Manatee County remained rural and devoted to agricultural pursuits (Florida Department of Agriculture 1935). By 1935, Bradenton had the largest population with 6,139 residents (Florida State Chamber of Commerce 1935:191–193). In 1944, Bradenton and nearby Manatee consolidated, creating a new, larger city (Svekis 2015). In 1945, the population of Manatee County reached 26,803 residents (Florida Department of Agriculture 1945).

Plans were approved for several new bridges across Manatee River began in 1950. The completion of a new bridge would divert traffic from other roads in the area and alleviate heavy traffic (Shurtleff 1950:1). Initial plans placed the bridge east of the Green Bridge, though the final location remained undecided until the bridge's construction in 1957 (*Bradenton Herald* 27 January 1950:2). Construction of the new bridge, spanning the river between Bradenton and Palmetto, finished on December 27, 1957, and cost an estimated $1,320,000. An official opening was held the following January. At the time, the bridge was called the Manatee River Bridge (*Tampa Bay Times* 27 December 1957:9). In 1959, County Commissioners voted to rename the bridge the "Hernando DeSoto Memorial Bridge" to coincide with a festival commemorating Hernando de Soto's nearby landing. The suggestion was made by the "Conquistadors" historical society who organized the event (Peacock 1959:4). The organization continues to hold the festival annually (Hernando de Soto Historical Society 2023).

By 1960, the county population increased to 69,168 (Forstall 1996). Due to the increase of new residents, many formerly agricultural areas became increasingly suburbanized, initially through the development of trailer parks and single-family homes (Manatee County Public Library System n.d.). In 1981, Interstate 75 was extended to connect Manatee County to other parts of Florida and neighboring states (*Bradenton Herald* 1 May 1981:1). To manage the growth of the county, the Manatee Board of County Commissioners adopted a comprehensive plan in 1989 (Manatee County Board of County Commissioners 2017).

BACKGROUND RESEARCH

FLORIDA MASTER SITE FILE REVIEW

Florida Master Site File (FMSF) data from January 2026 was reviewed to identify previously conducted surveys or previously recorded cultural resources within the APE. The FMSF review indicates that 12 previous cultural resource surveys intersect the current APE (**Table 2**; **Figure 4**). Of these, the most relevant to this study are those that included survey along the current project corridor, including FMSF Survey Nos. 3784, 5124, 18208, 29682, and SEARCH 2023. The remaining surveys only partially intersect small portions of the current APE or included maritime or county-wide surveys (FMSF Survey Nos. 58, 735, 1778, 14464, 16350, 17443, and 18097). Those surveys most relevant to the current study are summarized below.

Table 2. Previous Cultural Resource Assessment Surveys within the APE.

FMSF No.	Title	Year	Consultant/Author
58	*South Manatee 201 Facilities Survey*	1976	Williams, Raymond J.
735	*A Historical, Architectural, and Archaeological Survey of the City of Bradenton, Florida*	1981	Almy, Marion, M. McCahon, and Phillip A. Werndli
1778	*An Architectural and Historical Survey of the City of Palmetto*	1985	Werndli, Phillip A.
3784	*A Cultural Resource Assessment Survey of SR 70 (15th Street East) from US 301 Boulevard (US 301) to SR 64 (7th Avenue East) in Manatee County, Florida*	1994	Almy, Marion and Daniel Delahaye
5124	*CRAS for Bridges 130002, 130008 and 130009 Along US Highway 41 and Bridge 130050 Along US Highway 19, Highway & Bridge PD&E Study, Manatee County, Florida*	1997	Janus Research
14464	*"Looking for Angola" Underwater Survey for 2007*	2007	Cozzi, J. Coz
16350	*Historic Assessment, Terrestrial and Remote Sensing Survey, and Diver Evaluations and Identification of Submerged Resources for the Cedar Hammock/Wares Creek Project, Manatee County, Florida*	2008	Carty, Thomas, Michael K. Faught, Stephen James Jr., and Jeanette Knowles
17443	*Cultural Resources Assessment: SR 64 (Manatee Avenue) From 1st Street to 15th Street West, Second Response to Request for Additional Information, August 5, 2003, Bradenton, Manatee County, Florida*	2003	Federal Highway Administration
18097	*Cultural Resources Technical Memorandum SR 64 (Manatee Avenue) from 15th Street West to 12th Street East City of Bradenton, Manatee County*	2009	Post, Buckley, Schuh, & Jernigan
18208	*Cultural Resource Assessment, FDOT District One SR 55 over Manatee River Bridge No 130053 Manatee County, Florida*	2011	Archaeological Consultants, Inc
29682	*Cultural Resource Assessment Survey, Limited Areas of the Advanced Transportation Management System (ATMS), Manatee County, Florida*	2023	Irby, Kimberly, Lee Hutchinson, Maranda A. Kles, and Marion Almy
NA	*Cultural Resource Assessment Survey for the Desoto Bridge Replacement PD&E Study, SR 64 to Haben Boulevard, Cities of Bradenton and Palmetto, Manatee County, Florida*	2023	Steele, Louise, Kristina Altes, Anna Suphanniam, Mikel Travisano, and Kathleen Furgerson

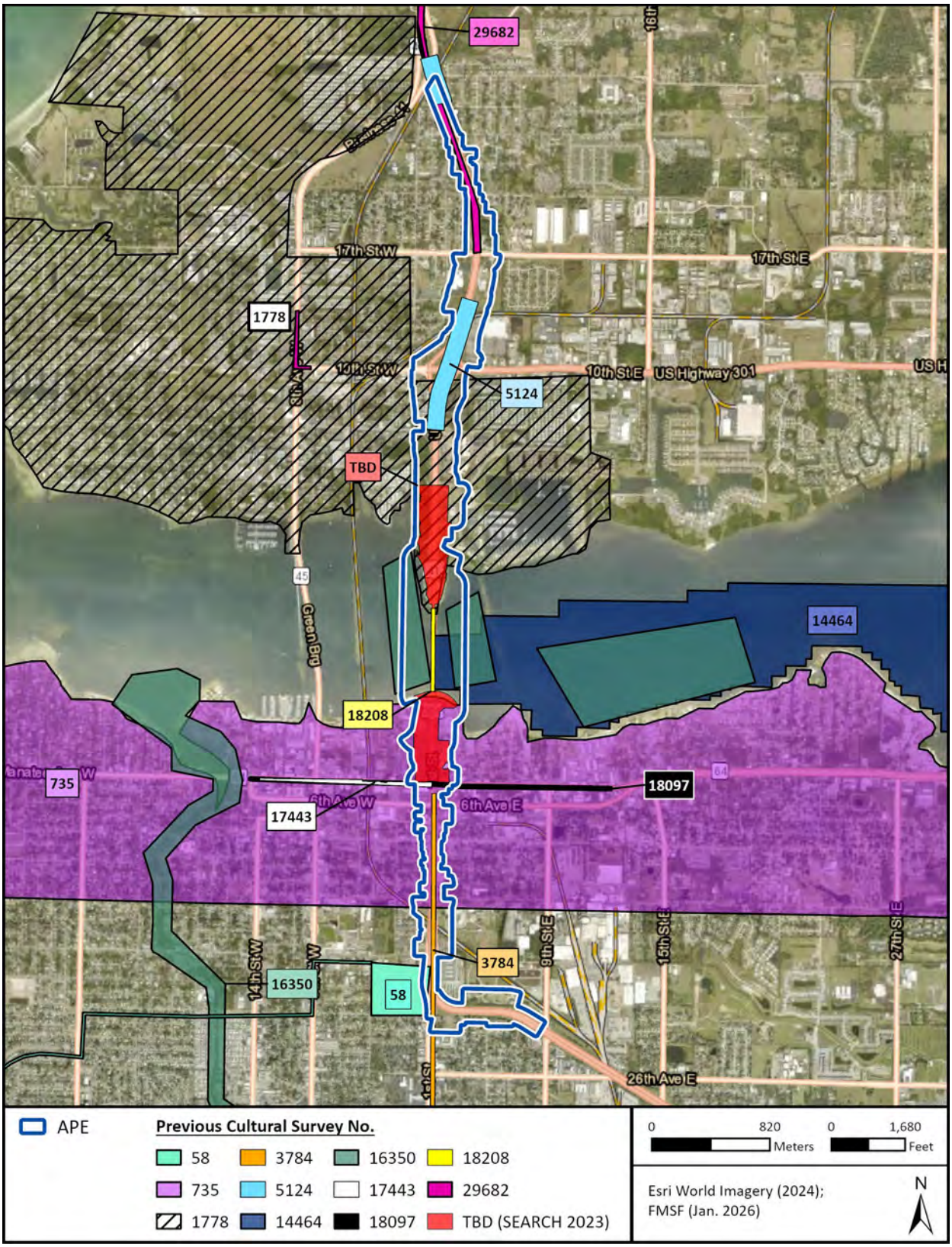

Figure 4. Previous cultural resource surveys within the APE.

FMSF Survey No. 3784 was a CRAS of SR 70 (15th Street East) from US 301 Boulevard to SR 64 (7th Avenue East) in the City of Bradenton, which overlaps the southern half of the current APE. The survey was conducted in 1994 by Archaeological Consultants, Inc., on behalf of FDOT (Almy and Delahaye 1994). The survey included pedestrian inspection and the excavation of 82 shovel tests at 25, 50, and 100 m (82, 164, and 328 ft) intervals. The survey did not document any previously recorded or newly recorded cultural resources.

FMSF Survey No. 5124 was a CRAS of Bridges 130002, 130008, and 130009 along US 41 and Bridge 130050 along US 19 as part of a PD&E study in Manatee County, a portion of which overlaps the northern half of the current APE. The survey was conducted in 1997 by Janus Research on behalf of FDOT (Janus Research 1997). The survey included pedestrian inspection and the excavation of 91 shovel tests at 25, 50, and 100 m (82, 164, and 328 ft) intervals. The survey resulted in the documentation of six newly recorded historic structures.

FMSF Survey No. 18208 was an architectural survey of SR 55 over the Manatee which overlaps the southern half of the current APE. The survey was conducted in 2011 by Archaeological Consultants, Inc., on behalf of FDOT (Archaeological Consultants, Inc. 2011). The survey was limited to background research and visual survey of the DeSoto Bridge. The survey resulted in the bridge being recorded as Resource 8MA01808. As a result of the survey, the bridge was evaluated as ineligible for listing in the NRHP by the SHPO.

FMSF Survey No. 29682 was a CRAS survey completed in 2022 in support of the Advanced Transportation Management System project throughout Manatee County. The survey overlaps the northern portion of the current APE and was conducted in 2022 by Archaeological Consultants, Inc., on behalf of FDOT District 1 (Irby et al. 2022). The survey included background research, pedestrian survey, and the excavation of 36 shovel tests. No cultural resources within the current APE were recorded or updated as a result of this survey.

In 2023, SEARCH completed a CRAS in support of the DeSoto Bridge PD&E Study which overlaps the central portion of the current APE (Steele et al. 2023). The survey was conducted on behalf of FDOT District 1 and was limited to pedestrian survey due to the extent of impervious surfaces within the project corridor. The survey resulted in the identification of one new historic building (8MA02569) which was recommended ineligible for listing in the NRHP by the surveyors. Although previously recorded and evaluated as ineligible for the NRHP, the bridge (FDOT Bridge No. 130053; Resource 8MA01808) was determined to be exempt from Section 106 consideration.

The FMSF review also indicates that two historic linear resources (8MA01381 and 8MA02568), one historic bridge (8MA01808), and one historic building (8MA01843) have been previously recorded within the APE (**Figure 5; Table 3**). Resource 8MA01843 is documented within the FMSF database as destroyed.

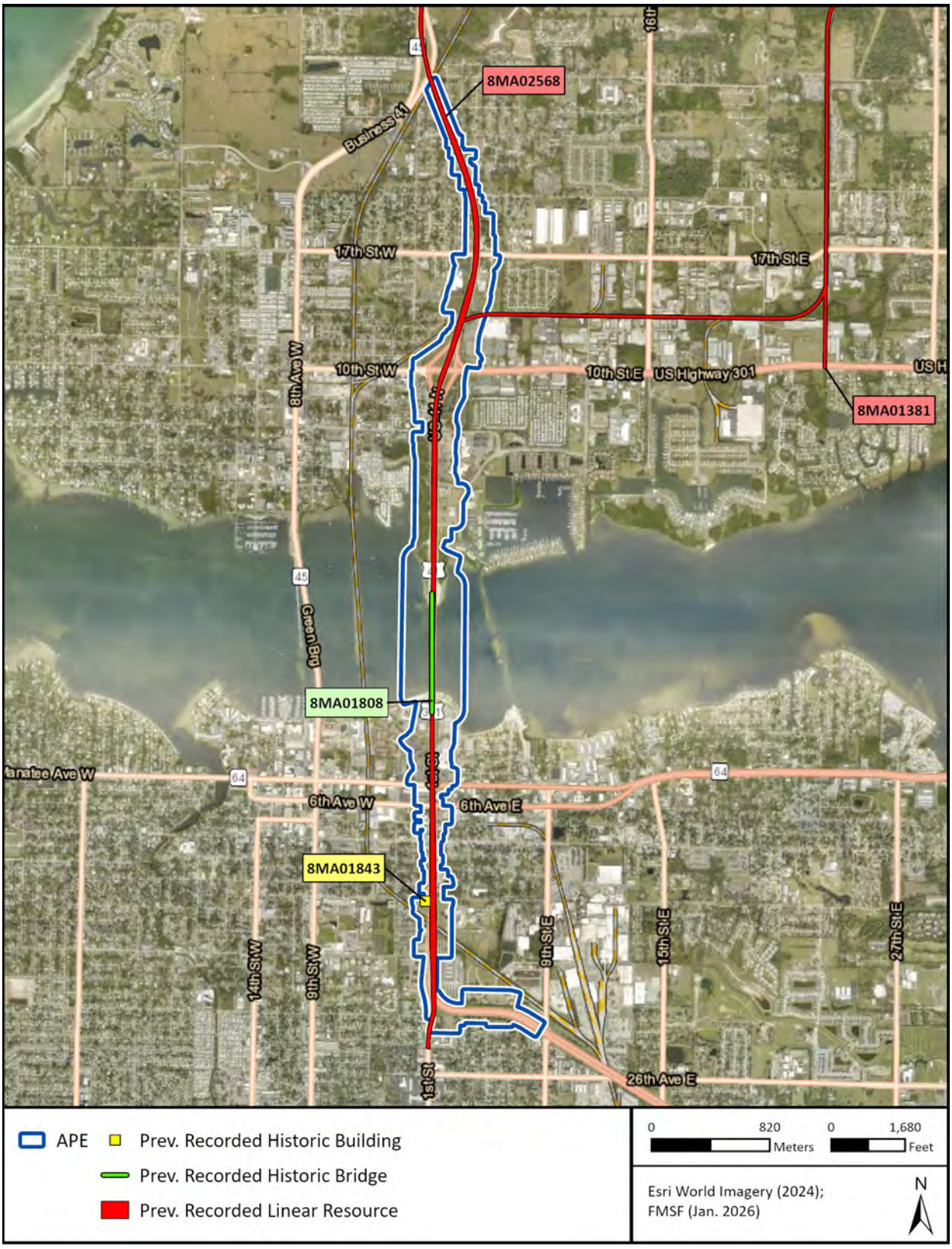

Figure 5. Previously recorded cultural resources within the APE.

Table 3. Previously Recorded Cultural Resources within the APE.

Historic Structures			
FMSF No.	**Address**	**Year Built**	**NRHP Eligibility Status**
8MA01843	201 13th Avenue W	ca. 1935	Destroyed

Resource Groups			
FMSF No.	**Name**	**Period of Significance**	**SHPO Evaluation**
8MA01381	Seaboard Railroad Segment	Nineteenth century American (1821–1899); Twentieth-century American	Eligible for NRHP
8MA02568	US 301/US 41	Twentieth-century American; Boom Times (1921–1929)	Insufficient Information

Historic Bridge			
FMSF No.	**Name**	**Year Built**	**SHPO Evaluation**
8MA01808	Bridge No. 130053	ca. 1957	Ineligible for NRHP

Resource 8MA01843 (201 13th Avenue W) is recorded in the FMSF as destroyed. The building was recorded in 2012 based on aerial and historic photographs, and there are no existing buildings or structures at the resource's documented location. The resource was never evaluated for listing in the NRHP by the SHPO.

Resource 8MA01381 (Seaboard Railroad Segment) is a historic linear resource that intersects the northern portion of the APE. The resource was originally constructed in 1902 and first documented in 2005 by Archaeological Consultants, Inc., as part of FMSF Survey No. 11255. While the railroad remains intact, it is no longer in operation. The resource was most recently evaluated by SHPO as eligible for inclusion in the NRHP in December 2022.

Resource 8MA02568 (US 301/US 41) is a historic linear resource that intersects the majority of the APE. The resource was originally documented in 2023 as part of FMSF Survey No. 29696. The road was originally constructed as US 41 in the 1920s with portions of it designated as US 301 in 1952. The resource was most recently evaluated as having insufficient information for an NRHP eligibility recommendation by SHPO in December 2024.

Resource 8MA01808 (Bridge No. 130053) is a historic bridge that intersects the central portion of the APE. The resource was first documented in 2011 by Archaeological Consultants, Inc., as part of FMSF Survey No. 18208. Constructed in 1957, the bridge is a fixed beam and girder bridge that carries US 41 over the Manatee River. The resource is a common construction style and was evaluated by SHPO as ineligible for listing in the NRHP in April 2011.

HISTORIC MAP AND AERIAL PHOTOGRAPH REVIEW

SEARCH examined historic maps and aerial photographs to identify past land use in the vicinity of the APE. The earliest detailed maps consulted were General Land Office (GLO) survey maps. Government land surveyors created GLO maps during the nineteenth century as part of the

surveying, platting, and sale of public lands. In Florida, these maps characteristically show landscape features such as vegetation, bodies of water, roads, and Spanish land grants. The level of detail in GLO maps varies, with some also depicting structures, Native American villages, railroads, and agricultural fields. GLO maps of Florida Township 34 South, Ranges 17 and 18 East show land platted for sale within the APE along the waterfront. The remainder of the APE is undeveloped (**Figure 6**) (GLO 1845a, 1845b).

By 1860, the community of Manatee is labeled in the APE vicinity (Johnson 1860). No further change is depicted until 1880 when Braden Town (present-day Bradenton) is labeled (Asher and Adams 1871; Leslie-Judge Company 1880). In 1890, both Bradenton and Palmetto are labeled in the APE vicinity. An east–west road intersected the APE along the southern shore of the Manatee River generally on the present-day alignment of Manatee Avenue (Norton 1890). No change is apparent by 1900, though by 1910, a railroad intersected the APE twice oriented east–west in Palmetto and oriented northwest–southeast in Bradenton (C.S. Hammond and Company 1910; Rand McNally and Company 1900). In 1917, a state road map of Florida shows road on the present-day alignments of Manatee Avenue and 10th Street intersected the APE. A bridge and railroad are west of the APE (Florida State Road Department [FRSD] 1917). A highway map of Manatee County shows a road on the present-day alignment of 1st Street also intersected the APE south of Manatee Avenue, in addition to the roads and railroad mentioned above (FSRD 1935).

Topographic maps from the 1940s depict 21 roads and four railroads intersecting the APE. At least 17 buildings are within the APE north of the river, and five individual buildings are depicted south of the river. The southern shoreline is shaded red to indicate high population density. No bridge spans the waterway (**Figure 7**) (US Geological Survey [USGS] 1944, 1947).

Aerial photographs taken in 1951 depict the waterfront area in the southern half of the APE as densely developed with numerous buildings and roads in a grid pattern. A grid pattern of streets and buildings within the APE in the far north suggest a planned community. Improved agricultural fields are within the APE north of the Manatee River and south of the densely developed areas of Bradenton. No bridge spanned the Manatee River within the APE (**Figure 8**) (US Department of Agriculture [USDA] 1951).

By 1964, a bridge spanned the waterway and extended north through Palmetto. It is officially labeled US 301/SR 51. A large interchange is within the APE connecting US 301/SR 51 with 10th Street. The areas within grid patterned streets are shaded red to indicate high population density. At least 17 buildings, including Lincoln Memorial School, are within the APE north of the Manatee River. An additional four buildings are within the APE south of the river and include First Street School and an unnamed school (**Figure 9**) (USGS 1964a, 1964b). No major changes are apparent by 1970 (**Figure 10**) (USDA 1970).

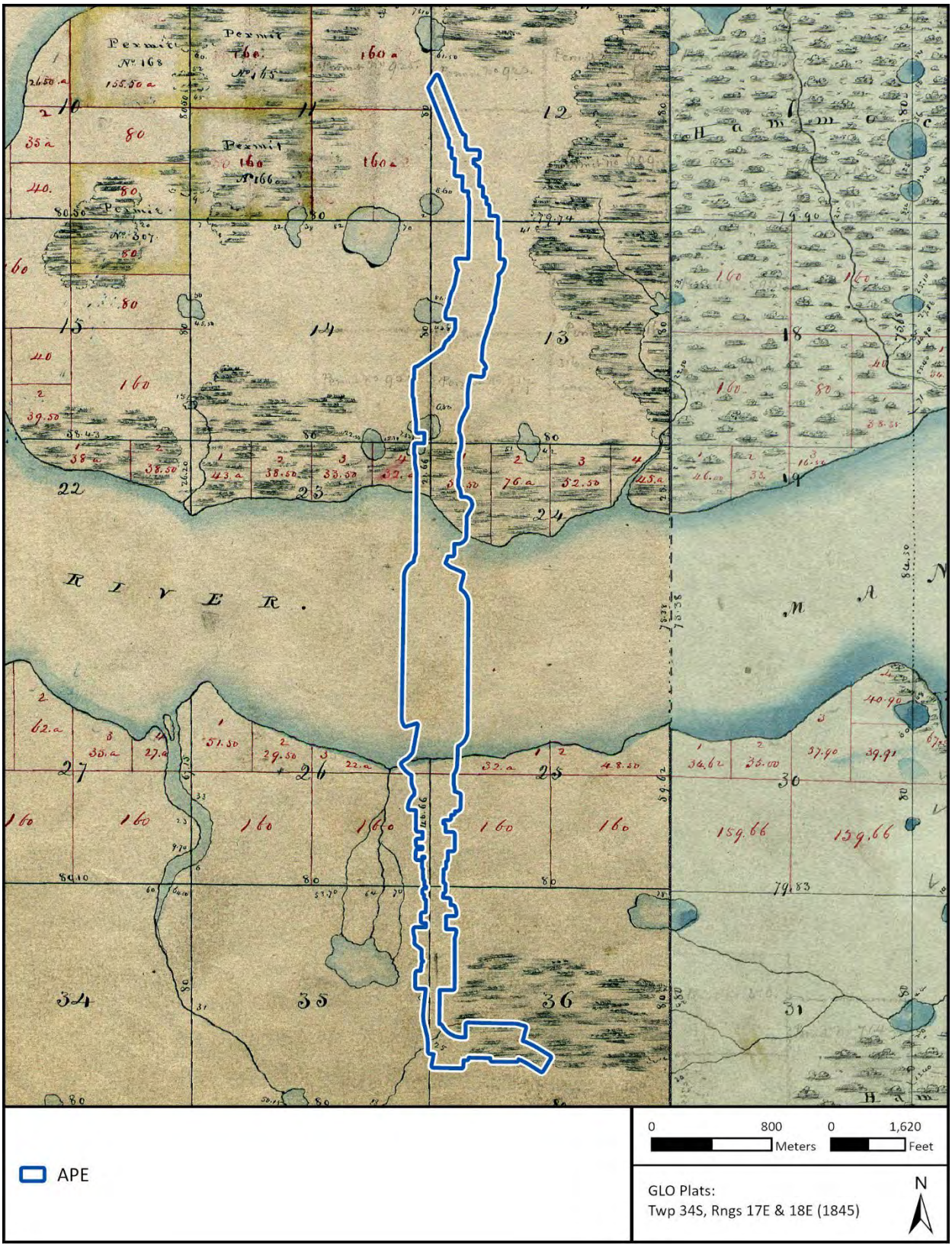

Figure 6. GLO survey maps of Township 34 South, Range 17 and 18 East (GLO 1845a, 1845b).

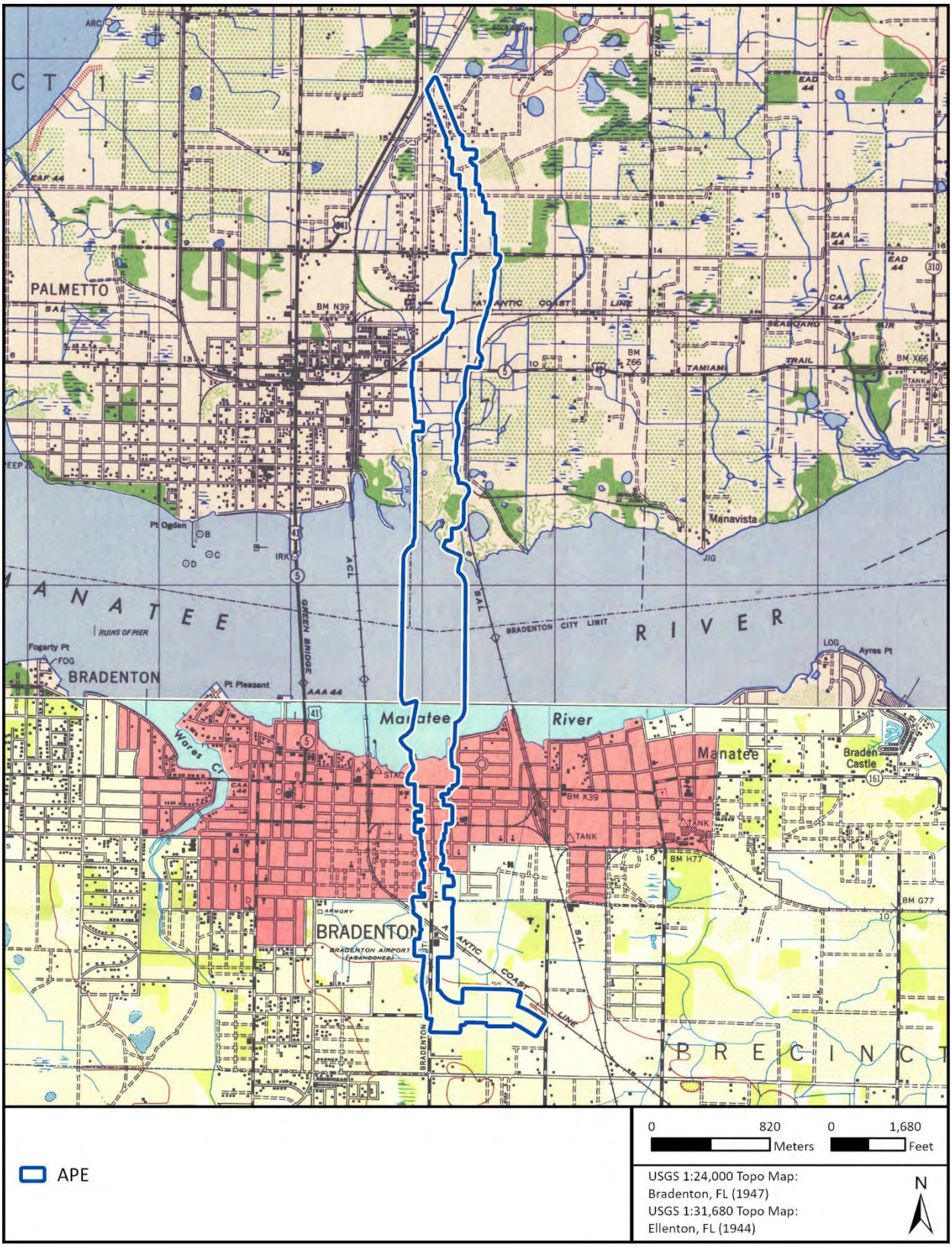

Figure 7. Bradenton and Ellenton, FL USGS topographic maps (USGS 1944, 1947).

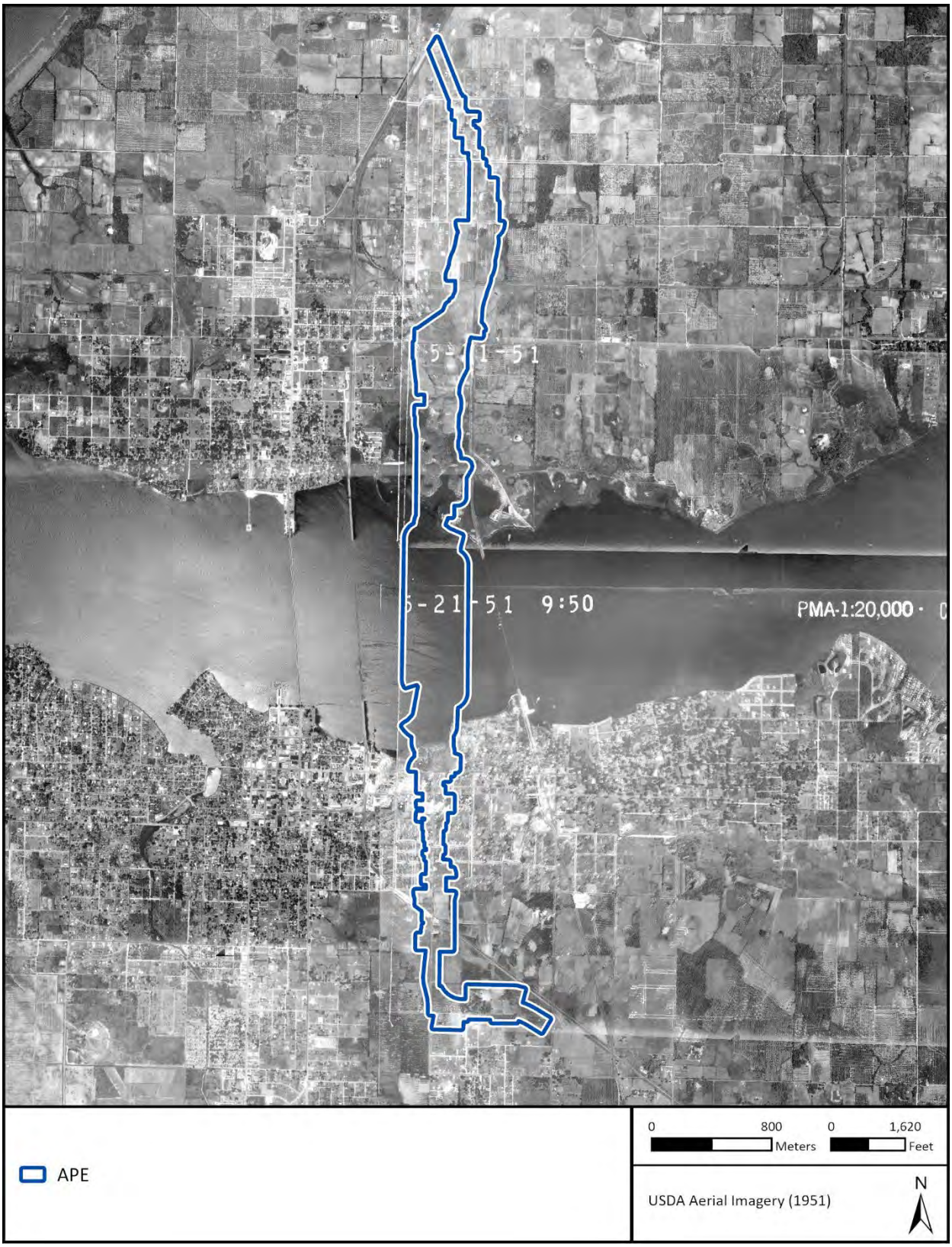

Figure 8. USDA aerial photographs of Manatee County, FL (USDA 1951).

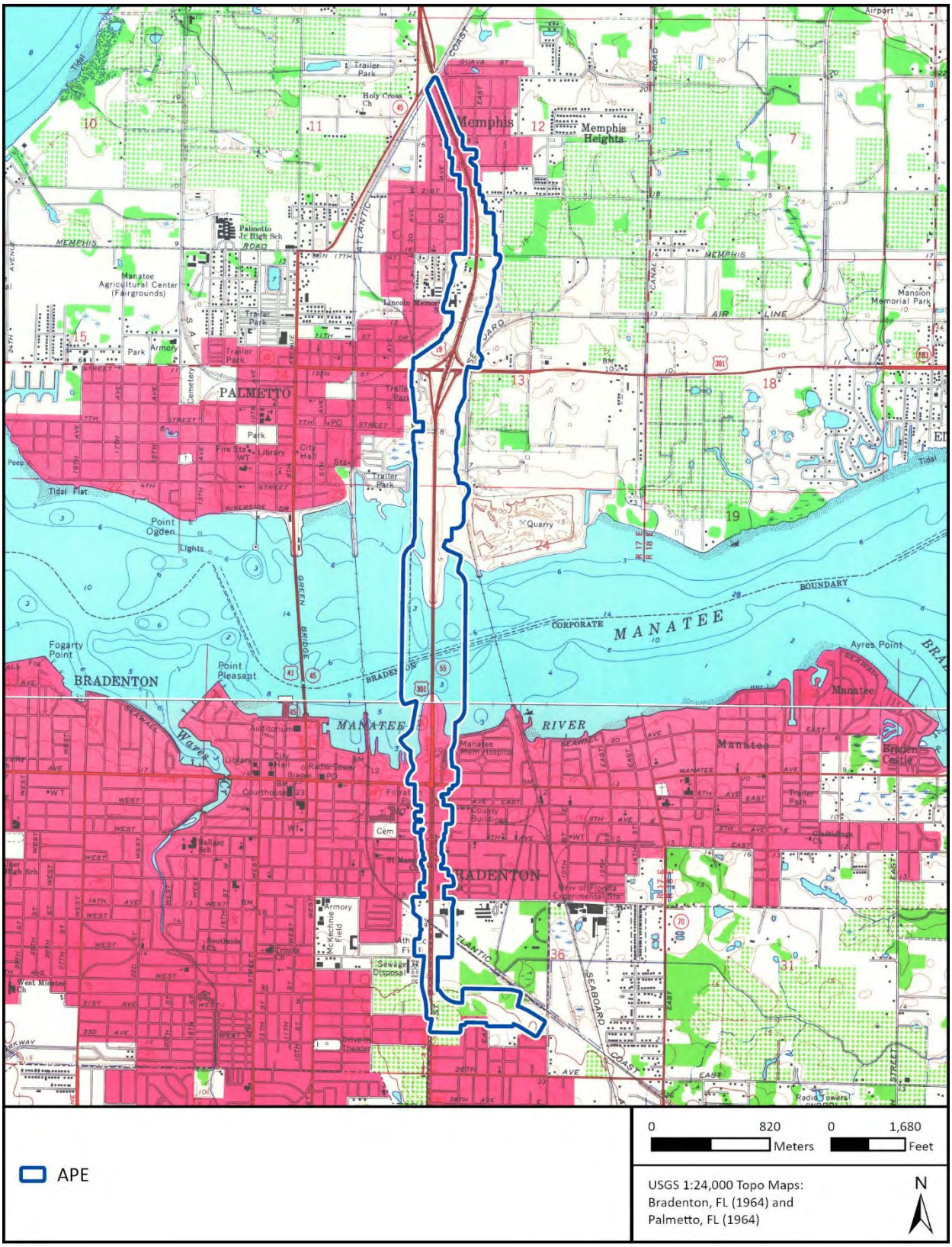

Figure 9. *Bradenton and Palmetto, FL* USGS topographic maps (USGS 1964a, 1964b).

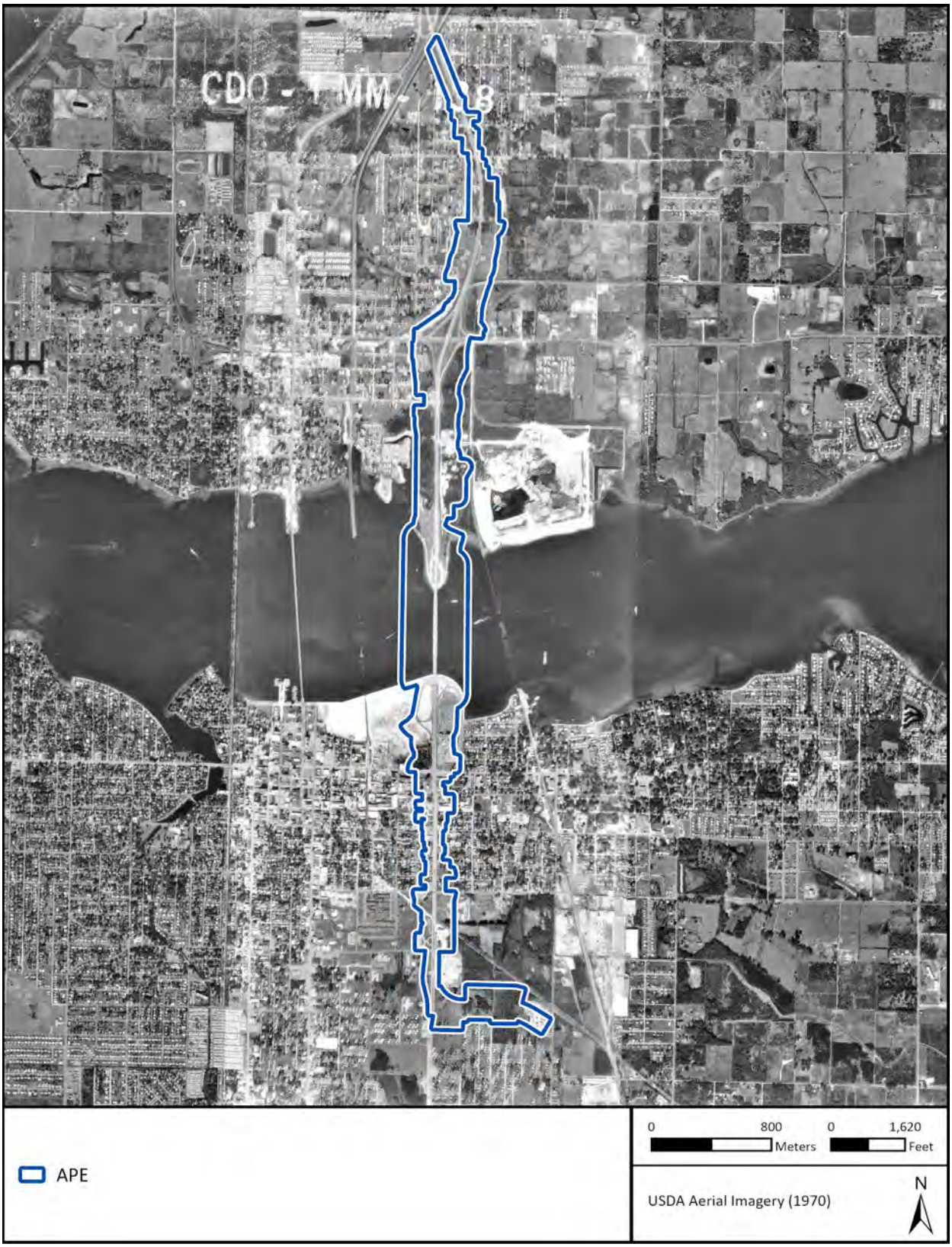

Figure 10. USDA aerial photograph of Manatee County, FL (USDA 1970).

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RESEARCH DESIGN

PROJECT GOALS

A research design is a plan to coordinate the cultural resource investigation from inception to the completion of the project. This plan should, at minimum: (1) make explicit the goals and intentions of the research, (2) define the sequence of events to be undertaken in pursuit of the research goals, and (3) provide a basis for evaluating the findings and conclusions drawn from the investigation.

The goal of this cultural resource survey was to locate and document evidence of historic or Native American occupation or use within the APE and to evaluate these findings' potential eligibility for NRHP listing. Such evidence includes archaeological or historic sites, historic resources, or archaeological occurrences (isolated artifact finds). The research strategy included background investigation, a historical document search, and field survey. The background investigation involved a perusal of relevant archaeological literature, producing a summary of previous archaeological work undertaken near the project area. The FMSF was checked for previously recorded sites within the project corridor, which provided an indication of Native American settlement and land-use patterns for the region. Current soil surveys, vegetation maps, and relevant literature were consulted to provide a description of the physiographic and geological region of which the project area is a part. These data were used in combination to develop expectations regarding the types of archaeological sites that may be present and their likely locations (site probability areas).

The historical document search involved a review of primary and secondary historic sources and a review of the FMSF for previously recorded historic resources. The original township plat maps, early aerial photographs, and other relevant sources were checked for information pertaining to the existence of historic structures or buildings, sites of historic events, and historically occupied or noted Native American settlements within the APE.

NRHP CRITERIA

Cultural resources identified within the APE were evaluated according to the criteria for listing in the NRHP. As defined by the National Park Service (NPS), the quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

A. that are associated with events or activities that have made a significant contribution to the broad patterns of our history; or
B. that are associated with the lives of persons significant in our past; or

C. that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
D. that have yielded, or may be likely to yield, information important in prehistory or history.

NRHP-eligible districts must possess a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development. NRHP-eligible districts and buildings must also possess historic significance, historic integrity, and historical context.

CULTURAL RESOURCE POTENTIAL

Based on an examination of environmental variables (soil drainage, access to wetlands and marine resources, relative elevation) and the results of previously conducted surveys, the potential for Native American archaeological sites to be present within the APE was considered low to moderate. While some Native American sites have been identified near the APE, the right-of-way within which improvements are proposed has undergone extensive disturbance. Low probability areas within the archaeological APE are characterized by poor soil drainage and disturbance from road construction, residential and commercial development, landform alteration, and the installation of underground utilities. Moderate probability areas are characterized by good soil drainage and areas with less development and natural vegetation in proximity to the Manatee River.

Based on the results of the map review above and the conditions described above, the archaeological APE was judged to have a low potential for intact historic-period archaeological sites. The potential for historic structures was considered high due to the post–World War II development within the APE, as discussed in the map review above.

SURVEY METHODS

Archaeological Field Methods

The archaeological field survey consisted of pedestrian survey and subsurface shovel testing according to the potential for buried archaeological sites. The intensity of subsurface testing was based on the presence or absence of conditions conducive to human habitation (i.e., proximity to fresh water, topography, soil drainage). Proximity to previously recorded sites and evidence of existing disturbance was also considered. Based on these factors, subsurface tests were pre-plotted at intervals of 50 and 100 m (164 and 328 ft) along the roadway corridor according to the moderate to low probability for archaeological resources within the right-of-way.

Excavated shovel tests measured 50.0 centimeters (cm; 19.7 inches [in]) in diameter and were excavated to a minimum depth of 100.0 cm below surface (bs; 39.4 in bs), subsurface conditions

permitting. All excavated sediments were screened through 0.64 cm (0.25 in) mesh hardware cloth. The location of each shovel test was marked on aerial photographs and recorded on handheld GPS units. The cultural content, soil strata, and environmental setting of each shovel test were recorded on digital field forms.

Constraints

SEARCH encountered several areas within the APE which presented a potential safety risk to field staff. Homeless encampments were encountered numerous times throughout the survey, which posed a health and safety risk to field staff. Stopped vehicles were also approached on a few occasions by unknown individuals. Due to the safety risk, SEARCH conducted a windshield survey within these areas.

Architectural Field Methods

The architectural survey for the project followed standard procedures for locating, investigating, and recording historic properties. SEARCH reviewed FMSF data to identify previously recorded historic resources; and USGS quadrangle maps to identify historic age (pre-1982) resources within the APE. The field survey inventoried existing buildings, structures, and other aspects of the built environment within the APE. The location of each historic resource was plotted on US Geological Survey quadrangle maps and on project aerials. Identified historic resources were photographed with a digital camera, and pertinent information regarding the architectural style, distinguishing characteristics, and present condition was recorded on FMSF resource forms. Upon fieldwork completion, forms and photographs were returned to the SEARCH offices for analysis. Date of construction, design, architectural features, condition, and integrity of the resource, and how the resources relate to the surrounding landscape, were carefully considered. The resources were evaluated regarding their eligibility for listing in the NRHP, then recommended eligible, not eligible, or as having insufficient information for SEARCH to make a recommendation.

Laboratory Methods

SEARCH did not recover any artifacts as a result of this survey; therefore, no laboratory analysis was required.

Curation

The original maps and field notes are housed at SEARCH's New Orleans, Louisiana, office. The original maps and field notes will be turned over to the client upon project completion; digital copies will be retained by SEARCH.

Certified Local Government Consultation

As this project is in Manatee County, a Certified Local Government (CLG), SEARCH consulted Mr. James McDevitt, the CLG representative for the county. A SEARCH archaeologist emailed Mr. McDevitt to discuss the project and to inquire whether the county has concerns related to cultural resources associated with the project. In the email, the project maps and description were provided to Mr. McDevitt for review. As of the production of this report, no response has been received from the CLG representative with concerns about cultural resources associated with the project.

Procedures to Deal with Unexpected Discoveries

Every reasonable effort was made during this investigation to identify and evaluate possible locations of precontact and historic archaeological sites; however, the possibility exists that evidence of cultural resources may be encountered within the project limits. If evidence of unrecorded cultural resources is discovered during construction activities, all work in that portion of the project area must stop. Evidence of cultural resources includes Native American or historic pottery, prehistoric stone tools, bone or shell tools, historic trash pits, and historic building foundations. If questionable materials are uncovered during the excavation of the project area, the pertinent local officials should be contacted to assist with the identification and preliminary assessment of the materials. If such evidence is found, the FDHR will be notified within two working days.

In the unlikely event that human skeletal remains or associated burial artifacts are uncovered within the project area, all work in that area must stop. The pertinent local officials must be contacted. The discovery must be reported to local law enforcement, who will in turn contact the medical examiner. The medical examiner will determine whether the state archaeologist should be contacted per the requirements of Chapter 872.05, Florida Statutes.

RESULTS

ARCHAEOLOGICAL RESULTS

The archaeological APE is in a highly developed commercial and residential area north and south of the Manatee River in the cities of Bradenton and Palmetto. The APE is characterized by paved roads, side streets, residential neighborhood, commercial and municipal development, and parking lots in western Manatee County (**Figure 11**). Shovel tests were placed systematically at 50 m (164 ft) intervals in moderate-probability areas and at 100 m (328 ft) intervals in low-probability areas. The fieldwork consisted of pedestrian survey and the excavation of 17 shovel tests, none of which contained cultural material (**Figures 12–16**). An additional 92 shovel tests were pre-plotted but could not be excavated due to buried utilities, inundation, and impervious surfaces related to urban development.

Disturbances included buried utilities, storm drains, roadside drainage ditches, and paved surfaces (roadway, driveways, and sidewalks) within the archaeological APE. Vegetation consisted of manicured lawns and gardens, shade trees, and some overgrown urban scrub near the banks of the Manatee River. One pond location was included as part of the corridor study. The pond is located near the intersection of US 41 and Haben Boulevard. Due to uncertainty related to the location of buried utilities within the footprint, no shovel tests were excavated within the proposed pond. This location will be revisited during the forthcoming ponds survey (see **Figure 11**).

Excavated shovel tests were limited to areas near the southern terminus due to wider right-of-way and north of the Manatee River due to a lack of development. Shovel testing in those areas revealed disturbed soils and inundation (**Figure 17**). To the south, shovel tests typically contained two strata: a mottled dark grayish brown (10YR 4/2) and light yellowish brown (10YR 6/4) sandy loam from 0 to 40.0 cm (0 to 15.8 in) bs above a light gray (10YR 7/2) sand that extended to the base of excavation at 100.0 cm (39.4 in) bs. Shovel testing on the north bank of the Manatee River revealed fill soils mixed with crush shell and gravel inclusions. These shovel tests generally revealed two strata, consisting of a gray (10YR 5/1) wet sand mottled with very pale brown (10YR 8/2) sand and mixed with shell from 0.0 to 30.0 cm (0.0 to 11.8 in) bs above a light gray (10YR 7/1) wet sand mixed with shell that extended to the base of excavation at 38.0 to 47.0 cm [15.0 to 18.5 in] bs. Shovel tests in this area were terminated upon reaching inundation.

No artifacts were recovered, and no archaeological sites or occurrences were identified within the archaeological APE. An FDHR survey log sheet can be found in **Appendix A**. No further archaeological survey is recommended.

Figure 11. Representative photographs from the archaeological APE. Top left: US 41 ROW showing buried fiber optic and electric lines, impervious surfaces, and inundation, view north. Top right: intersection of US 41 and Manatee Avenue showing impervious surfaces, development, and buried utilities within the southern half of archaeological APE, view east. Center left: US 41 berm leading up to the Manatee River with buried fiber and steep embankment, view south. Center right: buried water and sewer facilities within the northern portion of the APE, view north. Bottom left: buried sewer, water, and fiber lines along US 41 in the southern portion of the archaeological APE, view south. Bottom right: representative photograph of lone proposed pond within archaeological APE depicting buried gas lines, view north.

Figure 12. Results of archaeological survey. Map 1 of 5.

Figure 13. Results of archaeological survey. Map 2 of 5.

Figure 14. Results of archaeological survey. Map 3 of 5.

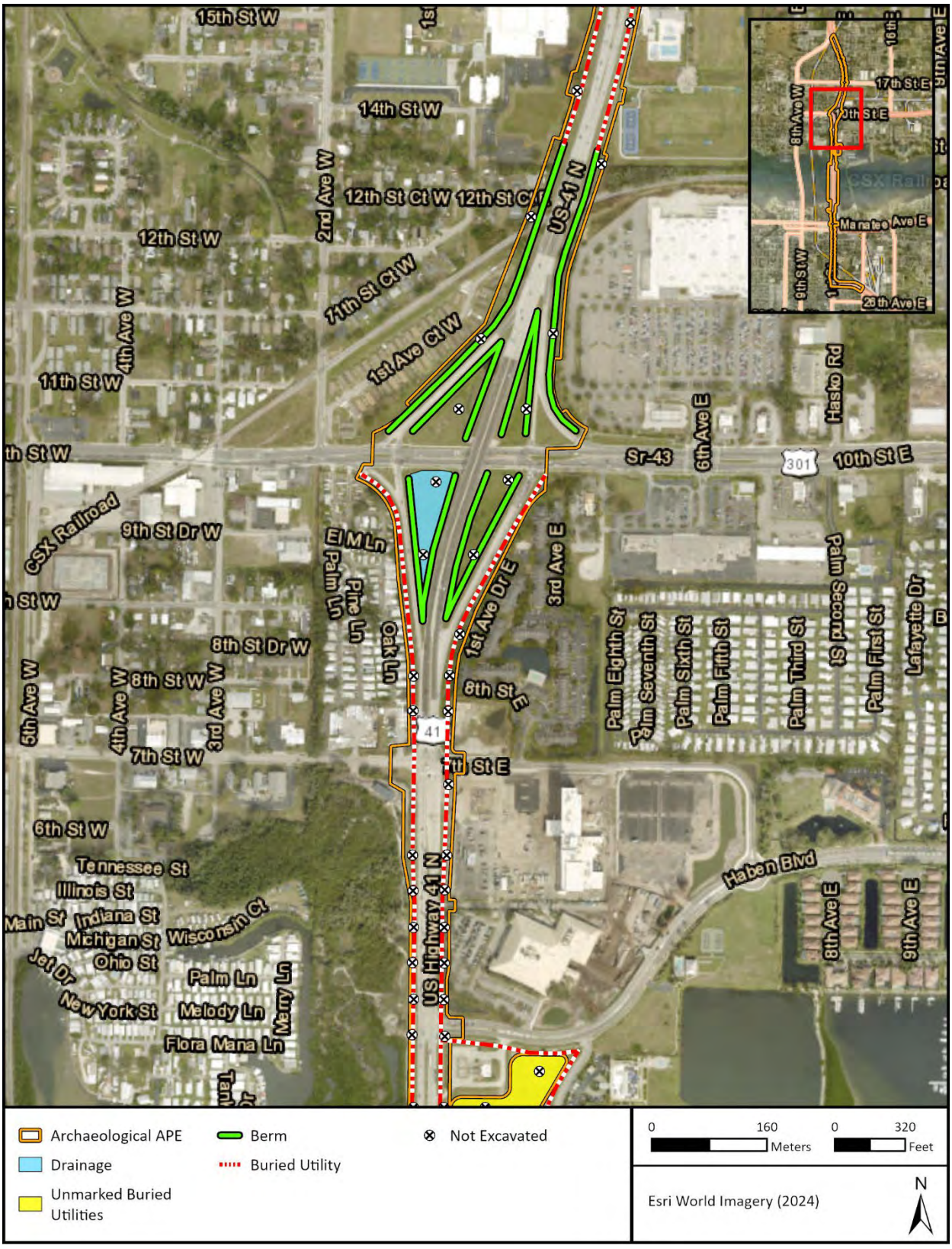

Figure 15. Results of archaeological survey. Map 4 of 5.

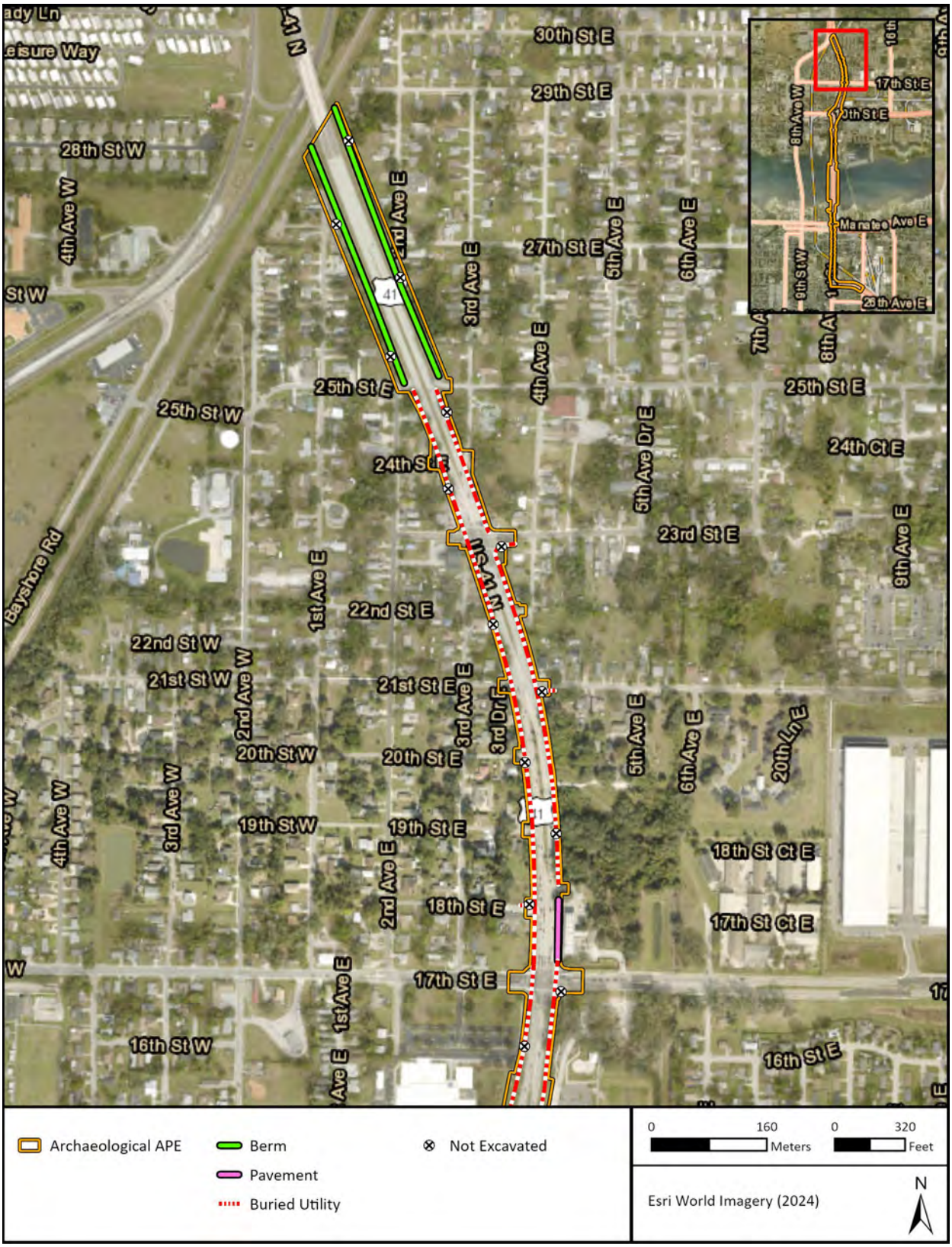

Figure 16. Results of archaeological survey. Map 5 of 5.

Figure 17. Representative soil profiles from the archaeological APE. Top left: inundated soils along the east side of US 41 near the Manatee River. Top right: disturbed soils above intact deposits near the southern terminus of the archaeological APE. Bottom left: disturbance impasse due to subsurface gravel and concrete. Bottom right: disturbed soils within shovel test near the southern terminus of the archaeological APE.

ARCHITECTURAL HISTORY RESULTS

The architectural survey resulted in the identification and evaluation of four previously recorded resources; and 23 newly recorded historic resources within the APE. Among the previously recorded resources are three linear resources (8MA01381, 8MA02249, and 8MA02568); and one previously recorded building (8MA02569) (**Table 3–4**; **Figure 18–21**). The newly recorded resources include 21 historic buildings (8MA03122–8MA03142); and two historic resource groups (8MA02874 and 8MA02875). Each resource was evaluated to determine its significance and potential eligibility for listing in the NRHP. Resource 8MA02569, Manatee Memorial Hospital was previously recorded; however, SHPO has not evaluated the resource, and the prior recommendation is not available on FMSF. SEARCH recommends 8MA02569 as ineligible for listing in the NRHP. Previously recorded linear resource 8MA01381 (United States and West Indies Railroad/Seaboard Railroad), was evaluated as eligible for listing in the NRHP in December 2023 under Criterion A for its significance in the development of Florida's railroads. SEARCH

concurs with this previous evaluation and recommends the resource remains eligible for listing in the NRHP. Linear Resource 8MA02249, Manatee Avenue/SR 64, was previously evaluated as having insufficient information for listing in the NRHP in February 2025, and SEARCH recommends no change to these previous evaluations. Linear resource 8MA02568 (US 41), was previously evaluated as having insufficient information for listing in the NRHP in December 2024, SEARCH recommends this resource is ineligible due to a loss of integrity. SEARCH finds there is insufficient information to make a recommendation for new recorded resource 8MA03135, Pride of Bradenton, Masonic Lodge #490, as more research is required. Based on the results of the current survey, the remaining newly recorded resources are recommended ineligible for listing in the NRHP.

Descriptions and evaluations are provided below for the resources. A survey log sheet is included in **Appendix A**. FMSF forms were completed for the resources and are provided in **Appendix B**.

One bridge, ca. 1957 Bridge No. 130053, was identified during field survey. The bridge is an example of a reinforced concrete beam and girder bridge (USDOT 2024). Per the Advisory Council on Historic Preservation's (ACHP) 2012 Program Comment Issued for Streamlining Section 106 Review for Actions Affecting Post-1945 Concrete and Steel Bridges, these bridges are exempt from Section 106 review and were therefore not recorded or evaluated as a part of the current survey (ACHP 2012:68793–68795).

Table 3. Summary of Recorded Historic Resources.

Resource Type	Number of Resources Identified	Number of Resources with Updated FMSF Forms	Number of Resources Determined National Register Eligible
Previously Recorded Resources			
Linear Resources	3	3	1
Buildings	1	0	0
Newly Recorded Resources			
Buildings	21	21	0
Resource Groups	2	2	0
Total	**27**	**26**	**1**

Table 4. Historic Resources Recorded within the APE.

FMSF Number	Name/Address	Resource Type/Style	Year Built	Recommended NRHP Status
Previously Recorded Resources				
8MA01381	United States and West Indies Railroad (Seaboard Railroad Segment aka CSX Railroad)	Railroad/No Style	ca.1902	Eligible (December 9, 2022)
8MA02249	Manatee Avenue E/SR 64	Road/No Style	ca.1935	Insufficient Information
8MA02568	US 41	Road/No Style	ca.1925	Ineligible
8MA02569	Manatee Memorial Hospital	Hospital/Masonry Vernacular	ca.1953	Ineligible
Newly Recorded Resources				
8MA02874	Pacific Tomato Growers/1000 1st Avenue Court W	Migrant Camp/Resource Group	ca.1970	Ineligible

Table 4. Historic Resources Recorded within the APE.

FMSF Number	Name/Address	Resource Type/Style	Year Built	Recommended NRHP Status
8MA02875	Loan Oak Park/115 10th Street W	Mobile Home Park/Resource Group	ca.1962	Ineligible
8MA03122	215 24th Street E	Private Residence/Masonry Vernacular	ca.1961	Ineligible
8MA03123	2303 US 41 N	Convenience Store/Masonry Vernacular	ca.1969	Ineligible
8MA03124	308 23rd Street E	Private Residence/Masonry Vernacular	ca.1959	Ineligible
8MA03125	2215 4th Avenue E	Private Residence/Frame Vernacular	ca.1918	Ineligible
8MA03126	2213/2211 4th Avenue E	Private Residence/Frame Vernacular	ca.1950	Ineligible
8MA03127	315 20th Street E	Private Residence/Ranch	ca.1956	Ineligible
8MA03128	1817 US 41 N	Private Residence/Ranch	ca.1965	Ineligible
8MA03129 *	120 12th Street Court E	Private Residence/Masonry Vernacular	ca.1981	Ineligible
8MA03130	711 US 301 N	Auto Dealership/Masonry Vernacular	ca.1965	Ineligible
8MA03131	910 1st Street W	Auto Shop/Masonry Vernacular	ca.1969	Ineligible
8MA03132	909 1st Street E	Restaurant/Masonry Vernacular	ca.1978	Ineligible
8MA03133	St. Mary's Baptist Missionary Church/1006 1st Street W	Church/Masonry Vernacular	ca.1962	Ineligible
8MA03134	101 11th Avenue W	Auto Repair Shop/Masonry Vernacular	ca.1968	Ineligible
8MA03135	Pride of Bradenton, Masonic Lodge #490/1203 1st Street E	Masonic Lodge/Masonry Vernacular	ca.1962	Insufficient Information
8MA03136	Bradenton Middle School/202 13th Avenue E	School/Mid-Century Modern	ca.1953	Ineligible
8MA03137	2100 3rd Street E	Private Residence/Frame Vernacular	ca.1962	Ineligible
8MA03138	2101 3rd Street E	Private Residence/Frame Vernacular	ca.1954	Ineligible
8MA03139	2102 4th Street E	Duplex/Masonry Vernacular	ca.1953	Ineligible
8MA03140	2101 4th Street E	Private Residence/Ranch	ca. 1950	Ineligible
8MA03141	2103 5th Street E Apt. A	Private Residence/Ranch	ca.1979	Ineligible
8MA03142	2103 5th Street E. Apt. B	Private Residence/Masonry Vernacular	ca.1980	Ineligible

**No photos were allowed, homeowner denied photographs*

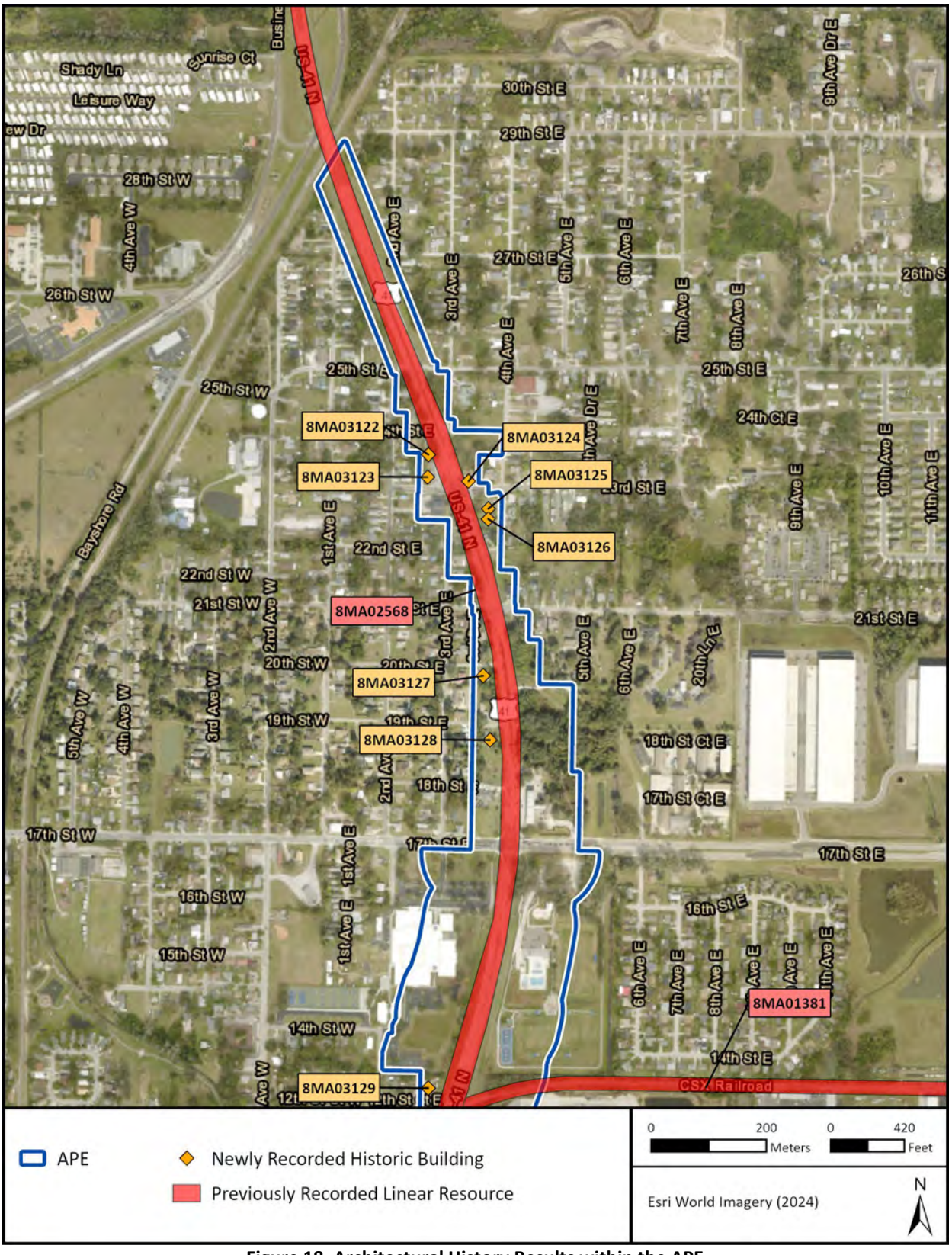

Figure 18. Architectural History Results within the APE.

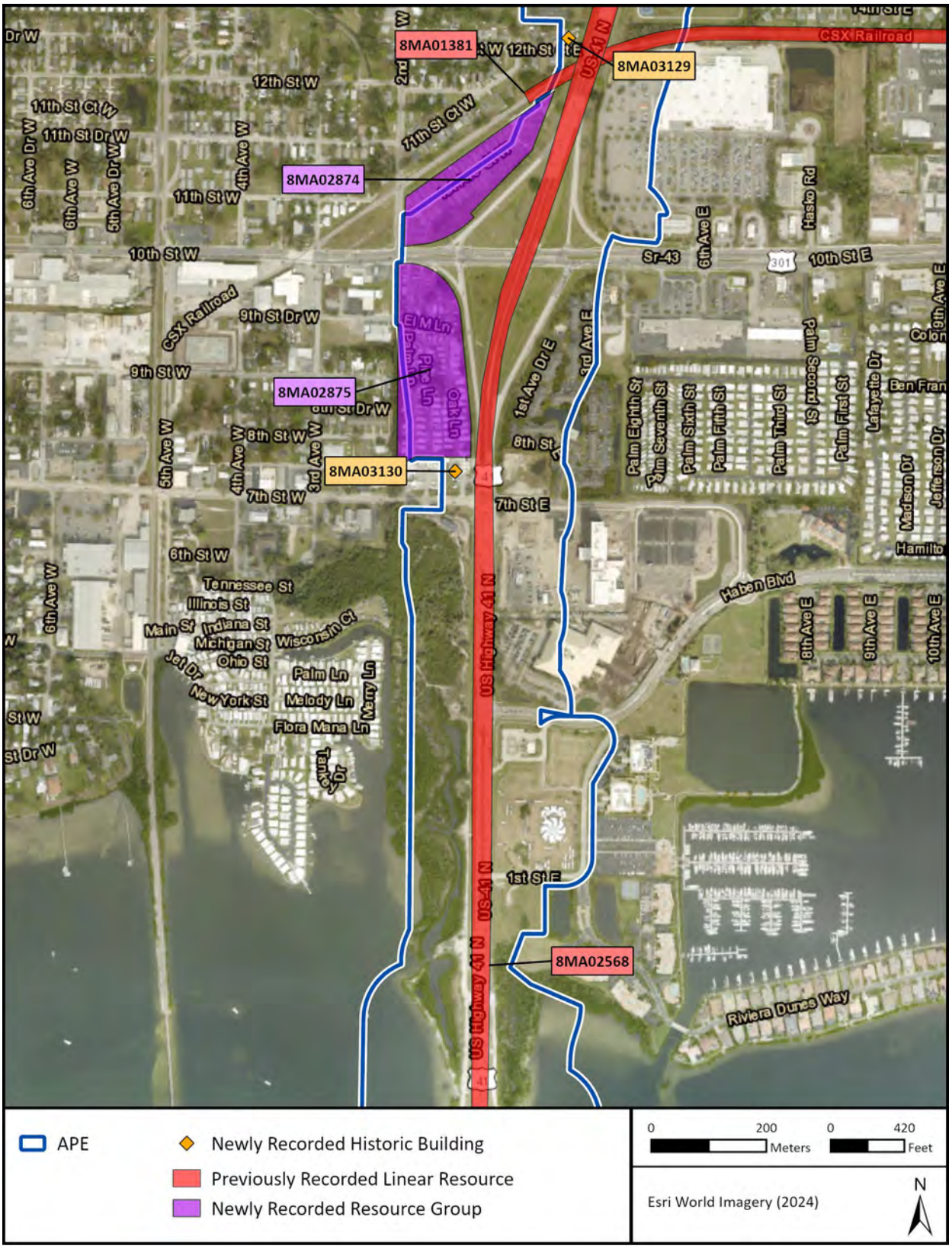

Figure 19. Architectural History Results within the APE continued.

Figure 20. Architectural History Results within the APE continued.

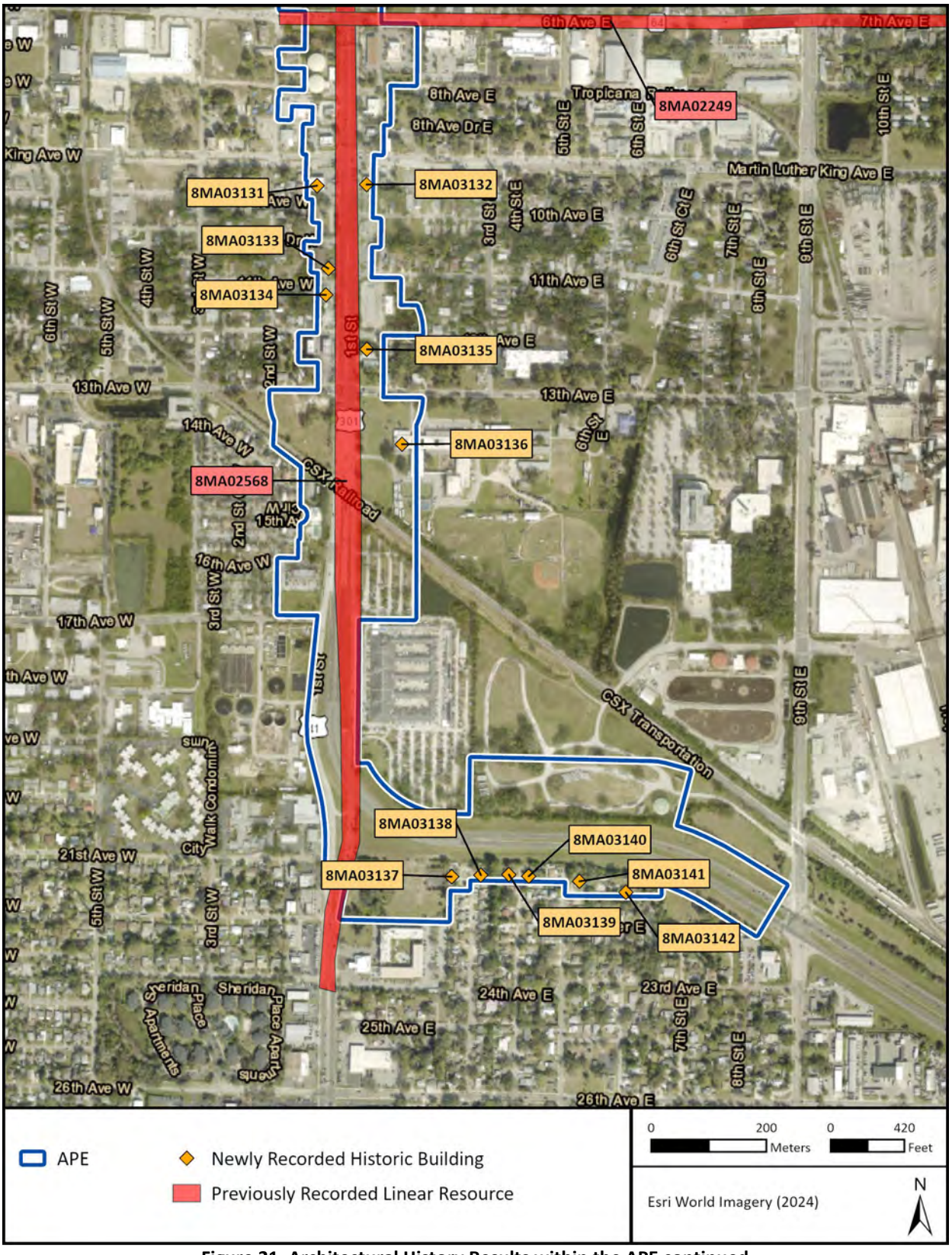

Figure 21. Architectural History Results within the APE continued.

NRHP EVALUATIONS

Buildings

8MA02569, Manatee Memorial Hospital

Resource 8MA02569, Manatee Memorial Hospital, is a previously recorded structure located in Section 25 of Township 34 South, Range 17 East as depicted on the 2024 *Bradenton, Fl.* USGS quadrangle map. The ca. 1953 building is located on a roughly rectangular-shaped parcel on the west side of 2nd Street E, with 1st St. W to the west, Manatee Avenue E to the south, and the Manatee River to the north (see **Figure 20**).

Figure 22. Resource 8MA02569, view facing north.

Manatee Memorial Hospital was first proposed in 1939 by the Bradenton Women's Club. Construction was delayed due to WWII, causing the hospital to open in 1953. The hospital was first known as "Manatee Veterans Memorial Hospital" and had the capacity for 100 beds. It was renamed in July 1963 to prevent confusion between the hospital and the Veterans Administration facility, as many assumed the hospital was only for military (Dilallo 2018). The original six-story building was built in 1953 and is now barely visible due to its numerous additions. By 1958, a three-story annex building was completed. Radial units, constructed at a cost of $3.5 million, were completed by 1969. A new emergency room was constructed by 1976, after which the hospital did not undergo any major construction until 2001 when the emergency room was expanded. In June 2007, the new four-story patient tower and parking garage were completed. The curved façade of this tower obscures many of the historic buildings and additions from 1st Street (Manatee Healthcare System 2018).

Manatee Memorial Hospital is a Masonry Vernacular building complex with an irregular plan set on an obscured foundation. The historic block is five stories, while the additions are between one and three stories. Built-up material covers the flat roof. The historic block and historic additions are all concrete block masonry construction clad with smoothed, finished stucco (**Figure 22**). Fenestration consists of metal-framed, one-over-one, single-hung-sash and fixed, metal-framed commercial and clerestory windows. Each building contains multiple entries, with visible entries consisting of metal-framed, automatic commercial doors. The entries are situated under attached carports supported by thick masonry posts or are inset within their respective building.

Assessment

Resource, 8MA02569, Manatee Memorial Hospital, is a ca. 1953 Masonry Vernacular–style hospital with several additions on all sides of the historic block. SEARCH recommends the resource not significant under Criterion A because it is not indicative of a particular era and is not associated with any significant period, event, or theme. The Manatee Memorial Hospital was not the first operating hospital in Manatee County. Background research did not identify association with any person(s) significant in history; therefore, the resource is not significant under Criterion B. The building is stucco-clad concrete block masonry construction, a type and style commonly used for institutional buildings in Florida and nationwide throughout the twentieth century. SEARCH recommends the resource not significant under Criterion C due to its lack of architectural distinction. The resource is unlikely to yield further information of historical importance; as such, the resource is not significant under Criterion D. Therefore, Resource 8MA02569 is not eligible for listing in the NRHP either individually or as a contributor to a historic district.

8MA03122, 215 24th Street E

Resource 8MA03122, 215 24th Street, is a newly recorded resource located in Section 23 of Township 34 South, Range 17 East as depicted on the 2024 *Palmetto, FL* USGS quadrangle map. The ca. 1961 building is located on a roughly rectangular-shaped parcel on the south side of 24th Street E, with US 41 N to the east, 2nd Avenue E to the west, and 23rd Street E to the south (see **Figure 18**).

Figure 23. Resource 8MA03122, view facing southwest.

Resource 8MA03122 is a one-story, L-shaped, Masonry Vernacular residence set on a concrete slab foundation (**Figure 23**). Its exterior fabric consists of concrete block and vertical wood plank siding. The visible windows include replacement, one-over-one, single-hung, vinyl-sash; vinyl-sash casement; and vinyl-frame tripartite picture windows. The main entrance is located on the west side of a northern gable addition, and is a fiberglass door with a multi-paned full-light set with a multi-pane sidelight. Asphalt shingles cover the gabled roof. A metal, chain-link fence surrounds the perimeter of the property, and the lot has mature vegetation; a concrete driveway is located north of the residence.

Assessment

Based on the field survey and further research, 8MA03122 is not significant under NRHP Criterion A because it is not indicative of a particular era and is not associated with any significant period, event, or theme. Furthermore, the resource is not significant under Criterion B because it lacks

association with any person(s) significant in history. Also, the resource is not significant under Criterion C due to its lack of architectural or engineering distinction. Masonry Vernacular-style residences are common throughout Florida and across the US, and this residence is not a prime example of the architectural style. Finally, Resource 8MA03122 is not significant under Criterion D because it lacks the potential to yield further information of historical importance. Therefore, Resource 8MA03122, is not eligible for listing in the NRHP either individually or as a contributor to a historic district.

8MA03123, 2303 US 41 N

Resource 8MA03123, 2303 US 41 N, is a newly recorded resource located in Section 12 of Township 34 South, Range 17 East as depicted on the 2024 *Palmetto, FL* USGS quadrangle map. The ca. 1969 building is situated on a roughly square-shaped parcel on the west side of US 41 N with 24th Street East to the north, 23rd Street E to the south, and 2nd Avenue E to the west (see **Figure 18**).

Figure 24. Resource 8MA03123, view facing west.

Resource 8MA03123 is a one-story, square-plan, Masonry Vernacular convenience store set on a concrete slab foundation (**Figure 24**). Its exterior fabric consists of concrete block masonry construction and stucco. The visible windows are fixed, commercial-style windows and a transom sheltered by metal security grates. The main entrance is a double-leaf, metal-sash, glass door sheltered by metal security grates and is centered on the east facade. A commercial cornice extends from the east façade, sheltering the main entrance. The flat roof is built-up. A paved parking lot sits to the east of the building, and a metal, chain-link fence surrounds the north, south, and west perimeter of the building.

Assessment

Based on the field survey and further research, 8MA03123 is not significant under NRHP Criterion A because it is not indicative of a particular era and is not associated with any significant period, event, or theme. Furthermore, the resource is not significant under Criterion B because it lacks association with any person(s) significant in history. Additionally, the resource is not significant under Criterion C due to its lack of architectural or engineering distinction. Masonry Vernacular–style commercial buildings are common throughout Florida and across the US, and this building is not a notable example of the architectural style. Finally, Resource 8MA03123 is not significant under Criterion D because it lacks the potential to yield further information of historical importance. Therefore, Resource 8MA03123 is not eligible for listing in the NRHP either individually or as a contributor to a historic district.

8MA03124, 308 23rd Street E

Resource 8MA03124, 308 23rd Street E, is a newly recorded resource located in Section 12 of Township 34 South, Range 17 East as depicted on the 2024 *Palmetto, FL* USGS quadrangle map. The ca. 1959 building is situated on a moderately rectangular-shaped parcel on the north side of 23rd Street E, with US 41 N to the west, 4th Avenue E to the east, and 25h Street E to the north (see **Figure 18**).

Figure 25. Resource 8MA03124, view facing north.

Resource 8MA03124 is a one-story, T-shaped, Masonry Vernacular residence set on a concrete slab foundation (**Figure 25**). Its exterior fabric consists of concrete and stucco. The north elevation of the residence is partially obscured by dense vegetation, debris, and a chain-link fence. The visible windows include originally, two-over-two, single-hung, aluminum-sash; replacement one-over-one, single-hung, vinyl-sash; and fixed, vinyl-frame windows. The main entrance is situated on the east elevation of an alcove on the south façade; the door is a paneled vinyl door with a one-over-one, vinyl-sash half-light. A gable extension roof supported by an iron filigree pole shelters this entrance, and is lined with a concrete and stucco flower bed. Asphalt shingle cover the gabled roof. A paved driveway is located southeast of the building, and a metal, chain-link fence lines the northern portion of the parcel.

Assessment

Based on the field survey and further research, 8MA03124, is not significant under NRHP Criterion A because it is not indicative of a particular era and is not associated with any significant period, event, or theme. Furthermore, the resource is not significant under Criterion B because it lacks association with any person(s) significant in history. Additionally, the resource is not significant under Criterion C due to its lack of architectural or engineering distinction. Masonry Vernacular-style residences are common throughout Florida and across the US, and this residence is not a prime example of the architectural style. Finally, Resource 8MA03124 is not significant under Criterion D because it lacks the potential to yield further information of historical importance. Therefore, Resource 8MA03124 is not eligible for listing in the NRHP either individually or as a contributor to a historic district.

8MA03125, 2215 4th Avenue E

Resource 8MA03125, 2215 4th Avenue E, is a newly recorded resource located in Section 12 of Township 34 South, Range 17 East as depicted on the 2024 *Palmetto, FL* USGS quadrangle map. The ca. 1919 building is situated on rectangular-shaped parcel on the west side of 4th Avenue E with 23rd Street E to the north, 21st Street E to the south, and US 41 N to the west (see **Figure 18**).

Figure 26. Resource 8MA03125, view facing northwest.

Resource 8MA03125 is a one-story, rectangular-plan, Frame Vernacular–style residence set on a continuous concrete block foundation with concrete block foundation vents (**Figure 26**). The exterior fabric of the building consists of vinyl drop siding. The visible windows include replacement, one-over-one, single-hung, vinyl-sash windows placed individually, and grouped in two and four. The east-facing elevation features an enclosed, gable-extension front porch; the main entrance is a fiberglass paneled door with a multi-pane fanlight located on the south elevation of this porch. The west elevation has an enclosed partial-width porch with a shed extension roof. Corrugated sheet metal and standing seem sheet metal covers the gabled and shed extension roof, and a wood paneled door on the south elevation of the porch. Pencil seem sheet metal and standing seem sheet metal covers the gabled and shed extension roofs, and there are gabled vents into the east and west facing gable ends. Charles Reaves, a Fruitville pioneer was the original owner of the residence, further research did not reveal any additional significance to the residence.

Assessment

Based on the field survey and further research, 8MA03125, is not significant under NRHP Criterion A because it is not indicative of a particular era and is not associated with any significant period, event, or theme. Furthermore, the resource is not significant under Criterion B because it lacks association with any person(s) significant in history. Additionally, the resource is not significant under Criterion C due to its lack of architectural or engineering distinction. Frame Vernacular–style residences are common throughout Florida and across the US, and this residence is not a prime example of the architectural style. Finally, Resource 8MA03125 is not significant under Criterion D because it lacks the potential to yield further information of historical importance. Therefore, Resource 8MA03125 is not eligible for listing in the NRHP either individually or as a contributor to a historic district.

8MA03126, 2213/2211 4th Avenue E

Resource 8MA03126, 2213/2211 4th Avenue E, is a newly recorded resource in Section 12 of Township 34 South, Range 17 East as depicted on the 2024 *Palmetto, FL* USGS quadrangle map. The ca. 1950 building is situated on rectangular-shaped parcel on the west side of 4th Avenue E with 23rd Street E to the north, 21st Street E to the south, and US 41 N to the west (see **Figure 18**).

Figure 27. Resource 8MA03126, view facing northwest.

Resource 8MA03126 is a one-story, L-shaped Frame Vernacular residence set on concrete block piers with lattice skirting (**Figure 27**). The exterior fabric of the building consists of vinyl drop siding. The visible windows are replacement, one-over-one, single-hung, vinyl-sash windows. The main entrance is located on the east-facing facade and is a fiberglass paneled door; concrete steps lead to this entrance. The west elevation has two additional entrances with single-panel doors. Asphalt shingles cover the gross-gabled roof, and there is a gable vent on the south facing gable end. A metal, chain-link fence surrounds the perimeter of the property, and a metal pole carport is situated in the 'L' of the building.

Assessment

Based on the field survey and further research, 8MA03126, is not significant under NRHP Criterion A because it is not indicative of a particular era and is not associated with any significant period, event, or theme. Furthermore, the resource is not significant under Criterion B because it lacks association with any person(s) significant in history. Additionally, the resource is not significant under Criterion C due to its lack of architectural or engineering distinction. Frame Vernacular–style residences are common throughout Florida and across the US, and this residence is not a prime example of the architectural style. Finally, Resource 8MA03126 is not significant under Criterion D because it lacks the potential to yield further information of historical importance. Therefore, Resource 8MA03126 is not eligible for listing in the NRHP either individually or as a contributor to a historic district.

8MA03127, 315 20th Street E

Resource 8MA03127, 315 20th Street E, is a newly recorded resource located in Section 12 of Township 34 South, Range 17 East as depicted on the 2024 *Palmetto, FL* USGS quadrangle map. The ca. 1956 building is situated on rectangular-shaped parcel on the south side of 20th Street E, with US 41 N to the east, 3rd Avenue E to the west, and 19th Street E to the south (see **Figure 18**).

Figure 28. Resource 8MA03127, view facing west.

Resource 8MA03127 is a one-story, L-shaped, Ranch-style residence set on a concrete slab foundation (**Figure 28**). The exterior fabric of the building consists of concrete block. The east-facing elevation of the residence is very heavily obscured by mature vegetation, and the homeowners requested no photos be taken of the primary (north) facade, as their children were playing outside. The visible windows include three-pane, aluminum-sash, awning windows, grouped in one, two and three; and Jalousie windows. A partial-width, roof overhang porch supported by concrete columns is visible on the north façade. The south elevation has a carport sheltered by a shed extension roof and supported by wooden beams. Asphalt shingles cover the hipped and shed extension roof. Remaining details of the residence were not visible at the time of survey. A metal, chain-link fence surrounds the perimeter of the parcel, and a paved driveway is located west of the building.

Assessment

Based on the field survey and further research, 8MA03127, is not significant under NRHP Criterion A because it is not indicative of a particular era and is not associated with any significant period, event, or theme. Furthermore, the resource is not significant under Criterion B because it lacks association with any person(s) significant in history. Additionally, the resource is not significant under Criterion C due to its lack of architectural or engineering distinction. Ranch-style residences are common throughout Florida and across the US, and this residence is not a prime example of the architectural style. Finally, Resource 8MA03127 is not significant under Criterion D because it lacks the potential to yield further information of historical importance. Therefore, Resource 8MA03127 is not eligible for listing in the NRHP either individually or as a contributor to a historic district.

8MA03128, 1817 US 41 N

Figure 29. Resource 8MA03128, view facing southwest.

Resource 8MA03128, 1817 US 41 N, is a newly recorded resource located in Section 12 of Township 34 South, Range 17 East as depicted on the 2024 *Palmetto, FL* USGS quadrangle map. The ca. 1965 building is situated on rectangular-shaped parcel on the west side of US 41 N, with 19th Street E to the north, 3rd Avenue E to the west, and 18th Street E to the south (see **Figure 18**).

Resource 8MA03128 is a one-story, roughly L-shaped, Ranch-style residence set on a concrete slab foundation (**Figure 29**). The exterior fabric of the building consists of concrete block, brick, and board and batten. The visible windows include replacement, one-over-one, single-hung, vinyl-sash windows and vinyl-sash horizontal sliders; several windows are paired with brick, faux shutters. The main entrance is recessed on a partial-width, roof-extension porch with iron filigree supports on the east facade. The vinyl-frame door is sheltered by a decorative metal security door. A shed extension carport with a louvered awning extends from the north facing elevation. Asphalt shingles clover the gabled and shed extension roof, and board and batten clads the gable ends. A wooden privacy fence extends from the south elevation, and a paved driveway is located northwest of the building.

Assessment

Based on the field survey and further research, 8MA03128, is not significant under NRHP Criterion A because it is not indicative of a particular era and is not associated with any significant period, event, or theme. Furthermore, the resource is not significant under Criterion B because it lacks association with any person(s) significant in history. Also, the resource is not significant under Criterion C due to its lack of architectural or engineering distinction. Ranch-style residences are common throughout Florida and across the US, and this residence is not a prime example of the architectural style. Finally, Resource 8MA03128 is not significant under Criterion D because it lacks the potential to yield further information of historical importance. Therefore, Resource 8MA03128 is not eligible for listing in the NRHP either individually or as a contributor to a historic district.

8MA03129, 120 12th Street Court E

Resource 8MA03129, 120 12th Street Court E, is a newly recorded resource located in Section 13 of Township 34 South, Range 17 East as depicted on the 2024 *Palmetto, FL* USGS quadrangle map. The ca. 1981 building is situated on a roughly rectangular-shaped parcel on the north side of 12th Street Court E, with US 41 N to the east, 1st Avenue E to the west, and 17th Street E to the north (see **Figure 19**).

The homeowner refused photos of the residence, therefore field observations, Google Earth imagery, and Manatee County Property Appraiser were used to evaluate the resource (Google Earth 2023, Manatee County Property Appraiser 2025). Resource 8MA03129 is a one-story, rectangular-plan Masonry Vernacular residence set on a concrete slab foundation. the exterior fabric of the building consists of stucco and a masonry veneer water table. The visible window is a replacement six-over-six, single-hung, vinyl-sash windows. The main entrance is located on the south facade and is a fiberglass paneled door with a fanlight and a neighboring sidelight. Asphalt shingle cover the hipped and shed extension roof. A brick driveway is located south of the residence and two, non-historic sheds are located northeast of the residence.

Assessment

Based on the field survey and further research, 8MA03129, is not significant under NRHP Criterion A because it is not indicative of a particular era and is not associated with any significant period, event, or theme. Furthermore, the resource is not significant under Criterion B because it lacks association with any person(s) significant in history. Also, the resource is not significant under Criterion C due to its lack of architectural or engineering distinction. Masonry Vernacular residences are common throughout Florida and across the US, and this residence is not a prime example of the architectural style. Finally, Resource 8MA03129 is not significant under Criterion D because it lacks the potential to yield further information of historical importance. Therefore, Resource 8MA03129 is not eligible for listing in the NRHP either individually or as a contributor to a historic district.

8MA03130, 711 US 301 N

Resource 8MA03130, 711 US 301 N, is a newly recorded resource located in Section 13 of Township 34 South, Range 17 East as depicted on the 2024 *Palmetto, FL* USGS quadrangle map. The ca. 1965 building is situated on a rectangular parcel on the west side of US 301 N with 7th Street W to the south, and Palm Lane to the north and west (see **Figure 19**).

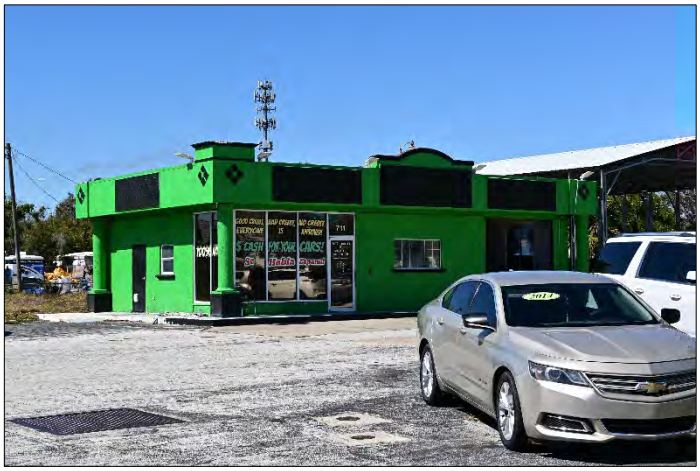

Figure 30. Resource 8MA03130, view facing northwest.

Resource 8MA03130 is a one-story, rectangular-plan, Masonry Vernacular auto dealership set on a concrete slab foundation (**Figure 30**). The exterior fabric of the building consists of concrete and stucco. The visible windows include replacement one-over-one, single-hung, vinyl-sash; fixed, six-over-three, vinyl-frame; and vinyl-frame commercial-style windows. The main entrance is situated on a the east facade and is a single-leaf, vinyl-sash, glass-door with a transom. An auto bay is located north of the entrance on the same facade. An additional entrance consisting of a single-panel door is located on the south elevation. A cornice with geometric adornments projects from the roofline of the building and is supported by concrete Doric columns. The flat roof is built-up, and a square and curved parapet extend from the roofline on the east facade. A metal carport is located north of the building and a paved parking lot surrounds it.

Assessment

Based on the field survey and further research, 8MA03130, is not significant under NRHP Criterion A because it is not indicative of a particular era and is not associated with any significant period, event, or theme. Furthermore, the resource is not significant under Criterion B because it lacks association with any person(s) significant in history. Also, the resource is not significant

under Criterion C due to its lack of architectural or engineering distinction. Masonry vernacular-style buildings are common throughout Florida and across the US, and this building is not a prime example of the architectural style. Finally, Resource 8MA03130 is not significant under Criterion D because it lacks the potential to yield further information of historical importance. Therefore, Resource 8MA03130 is not eligible for listing in the NRHP either individually or as a contributor to a historic district.

8MA03131, 910 1st Street W

Resource 8MA0313, 910 1st Street W, is a newly recorded resource located in Section 35 of Township 34 South, Range 17 East as depicted on the 2024 *Bradenton, FL* USGS quadrangle map. The ca. 1969 building is situated on a roughly square-shaped parcel on the west side of 1st Street W with 9th Avenue W to the north, 10th Avenue W to the south, and 3rd Street W to the west (see **Figure 21**).

Figure 31. Resource 8MA03131, view facing northwest.

Resource 8MA03131 is a one-story, square-shaped Masonry vernacular auto shop set on a concrete slab foundation (**Figure 31**). The exterior fabric of the building consists of textured concrete block, stucco, and vinyl siding. The visible windows are metal-frame transoms. The main entrance is located on the north corner of the east facade and consists of two, single-leaf, metal-sash glass doors. A cornice constructed of vinyl siding lines the eastern roofline of the building. The flat roof is built-up. A paved parking lot surrounds the north, south, and east side of the building.

Assessment

Based on the field survey and further research, 8MA03131, is not significant under NRHP Criterion A because it is not indicative of a particular era and is not associated with any significant period, event, or theme. Furthermore, the resource is not significant under Criterion B because it lacks association with any person(s) significant in history. Also, the resource is not significant under Criterion C due to its lack of architectural or engineering distinction. Masonry vernacular-style buildings are common throughout Florida and across the US, and this building is not a prime example of the architectural style. Finally, Resource 8MA03131 is not significant under Criterion D because it lacks the potential to yield further information of historical importance. Therefore, Resource 8MA03131 is not eligible for listing in the NRHP either individually or as a contributor to a historic district.

8MA03132, 909 1st Street E

Resource 8MA03132, 909 1st Street E, is a newly recorded resource located in Section 36 of Township 34 South, Range 17 East as depicted on the 2024 *Bradenton, FL* USGS quadrangle map. The ca. 1978 building is situated on a rectangular-shaped parcel on the east side of 1st Street W with 9th Avenue E to the north, 10th Avenue E to the south, and 3rd Street E to the east (see **Figure 21**).

Figure 32. Resource 8MA03132, view facing southeast.

Resource 8MA03132 is a one-story, rectangular-plan, Masonry Vernacular restaurant set on a concrete slab foundation (**Figure 32**). The exterior fabric of the building consists of concrete block and stucco. The visible windows are fixed, vinyl-frame commercial style windows and transoms. The main entrance to the restaurant is located on the west facade and consists of a double-leaf, vinyl-sash glass door with a transom. A commercial cornice supported by concrete columns projects from the east facade and shelters the main entrance. The flat roof is built-up and a parapet extends from the northwest corner of the building. Paved parking lots are located north and south of the restaurant.

Assessment

Based on the field survey and further research, 8MA03132, is not significant under NRHP Criterion A because it is not indicative of a particular era and is not associated with any significant period, event, or theme. Furthermore, the resource is not significant under Criterion B because it lacks association with any person(s) significant in history. Also, the resource is not significant under Criterion C due to its lack of architectural or engineering distinction. Masonry Vernacular–style buildings are common throughout Florida and across the US, and this building is not a prime example of the architectural style. Finally, Resource 8MA03132 is not significant under Criterion D because it lacks the potential to yield further information of historical importance. Therefore, Resource 8MA03132 is not eligible for listing in the NRHP either individually or as a contributor to a historic district.

8MA03133, St Mary's Baptist Missionary Church

Resource 8MA03133, St Mary's Baptist Missionary Church, at 1006 1st Street W, is a newly recorded resource located in Section 35 of Township 34 South, Range 17 East as depicted on the 2024 *Bradenton, FL* USGS quadrangle map. The ca. 1962 building is situated on an L-shaped parcel on the west side of 1st Street W with 10th Avenue Drive W to the north, 11th Avenue W to the south, and 3rd Street W to the west (see **Figure 21**).

Figure 33. Resource 8MA03133, view facing southwest.

Resource 8MA03133 is a one-story, L-shaped Masonry Vernacular church set on a concrete slab foundation (**Figure 33**). The exterior fabric of the building consists of concrete and stucco. The visible windows include two-over-two, single-hung, aluminum-sash, grouped in two; arched, four-pane stained glass; and fixed, vinyl-frame grouped in two with an arched transom. Several of the windows are sheltered by iron filigree security grates. The main entrances are located on the north and east elevations of the 'L' of the church, and are double, wood-paneled doors. Additional entrances consisting of a single, wood-paneled door, and single-panel doors are located on the south, east, and north elevations. The east-facing elevation features a protruding bay with a wooden cross in the center. Asphalt shingles cover the cross-gabled and gable-extension roof. A steeple used to sit on the southeast gable intersection, but now lies on the ground south of the church. Two metal chimneys are located on the northwestern ridge of the roof.

Assessment

Based on the field survey and further research, 8MA03133 is not significant under NRHP Criterion A because it is not indicative of a particular era and is not associated with any significant period, event, or theme. Furthermore, the resource is not significant under Criterion B because it lacks association with any person(s) significant in history. Also, the resource is not significant under Criterion C due to its lack of architectural or engineering distinction. Masonry Vernacular–style buildings are common throughout Florida and across the US, and this building is not a prime example of the architectural style. Finally, Resource 8MA03133 is not significant under Criterion D because it lacks the potential to yield further information of historical importance. Therefore, Resource 8MA03133 is not eligible for listing in the NRHP either individually or as a contributor to a historic district.

8MA03134, 101 11th Avenue W

Resource 8MA03134, 101 11th Avenue W, is a newly recorded resource located in Section 35 of Township 34 South, Range 17 East as depicted on the 2024 *Bradenton, FL* USGS quadrangle map. The ca. 1968 building is situated on a rectangular parcel on the south side of 11th Avenue W with 1st Street W to the east, 12th Avenue W to the south, and 2nd Street W to the west (see **Figure 21**).

Figure 34. Resource 8MA03134, view facing southwest.

Resource 8MA03134 is a one-story, rectangular-plan Masonry Vernacular auto repair shop set on a concrete slab foundation (**Figure 34**). The exterior fabric of the building consists of concrete block, vinyl siding, and masonry veneer. The visible windows are two-over-two, double-hung, wooden-sash grouped in two. The main entrance is located on northern end of the east façade, and is a wood-frame door with a full-light. The remainder of the east facade is divided into three bays with two auto bays on each. A shed roof awning covered in asphalt shingles projects from the east facade and shelters the auto bays; the south end of the east elevation has a parapet with the same shed awning. Vinyl siding creates an entablature on the east facade. Asphalt shingles cover the shed roof. A concrete block, detached garage is located south of the building, and a wood frame with drop siding is situated on the southern end of the parcel. A metal fence lines the perimeter of the parcel.

Assessment

Based on the field survey and further research, 8MA03134 is not significant under NRHP Criterion A because it is not indicative of a particular era and is not associated with any significant period, event, or theme. Furthermore, the resource is not significant under Criterion B because it lacks association with any person(s) significant in history. Also, the resource is not significant under Criterion C due to its lack of architectural or engineering distinction. Masonry vernacular-style buildings are common throughout Florida and across the US, and this building is not a prime example of the architectural style. Finally, Resource 8MA03134 is not significant under Criterion D because it lacks the potential to yield further information of historical importance. Therefore, Resource 8MA03134 is not eligible for listing in the NRHP either individually or as a contributor to a historic district.

8MA03135, Pride of Bradenton Masonic Lodge #490

Resource 8MA03135, Pride of Bradenton Masonic Lodge #490, at 1203 1st Street E, is a newly recorded resource located in Section 36 of Township 34 South, Range 17 East as depicted on the 2024 *Bradenton, FL* USGS quadrangle map. The ca.1962 building is situated on a rectangular parcel on the east side of 1st Street E with 12th Avenue E to the north, 13th Avenue E to the south, and 3rd Street E to the east (see **Figure 21**).

Resource 8MA03135 is a two-story, rectangular-plan Masonry Vernacular masonic lodge set on a concrete slab foundation (**Figure 35**). The exterior fabric of the building consists of concrete block, stucco, and vertical wood-plank siding. The visible windows include one-over-one, single-

hung, aluminum-sash, placed individually and grouped in two. The main entrances are located on the west facade and consists of three, fiber-glass paneled doors. Asphalt shingles cover the gabled roof, and the west facing gable end is clad in vertical wood plank siding with a gable vent. A paved parking lot is located south of the building.

Figure 35. Resource 8MA03135, view facing southeast.

Masonic architecture is rooted in not only symbology, but also philosophy. The designs of Masonic temples are often strictly symmetrical, reflecting the Freemason belief in order and balance. Incorporating light emphasizes the belief in knowledge, truth, and spiritual awakening and is materialized through windows, skylights, and the orientation of the temple. Temples and lodge rooms are typically oriented east to west, representing the rising and setting of the sun. Resource 8MA03135 follows this orientation; however, it is unknown if the lodge room follows the same alignment. Masonic temples also incorporate Classical columns and pillars, which symbolize strength and establishment, and are usually constructed in the Masonic lodge rooms or at the temple entrances (Preston 2024). Specific symbols and motifs significant to Freemason history can also be found on Masonic temples, including the square and compass, which symbolizes unity, balance, foundation, and morality; the all-seeing eye; and the pillars of King Soloman's Temple (Preston 2024; The Square Magazine 2025). Many of these motifs are absent from 8MA03135 with only the Temple Icon remaining.

Assessment

Resource 8MA03135 may be significant under NRHP Criterion A for its significance in social history as a Fraternity club, however, further research is required. Initial research did not reveal any significant historic associations at the local, state, or national level as limited information is available. Resource 8MA03135 is not among the first Masonic temples to be established in Manatee County or Bradenton (Sarasota Harold-Tribune 2003). The resource is not significant under Criterion B because it lacks association with any person(s) significant in history. Also, the resource is not significant under Criterion C due to its lack of architectural or engineering distinction. Resource 8MA03135 is a simple, Masonry Vernacular–style building with limited ornamentation and is not a prime example of a Masonic Lodge. Finally, Resource 8MA03135 is not significant under Criterion D because it lacks the potential to yield further information of historical importance. SEARCH recommends there is insufficient information to provide an NRHP recommendation for Resource 8MA03135 and an assessment of effects follows.

Effects

The proposed activities include widening along US 301 and US 41, reconstructing intersections and interchanges, improving drainage facilities, and examining the potential for elevated roadway and toll lanes. No historic fabric associated with the resource will be removed or altered by the project. The qualities that render 8MA03135 as eligible under Criterion A, namely its significance in social history as a fraternity club will not be compromised or diminished by the proposed widening of SR 301/US 41. In the opinion of SEARCH, the current project will have no adverse effect on 8MA03135.

8MA03136, Bradenton Middle School

Resource 8MA03136, former Bradenton Middle School, at 202 13th Avenue E, is a newly recorded resource located in Section 36 of Township 34 South, Range 17 East as depicted on the 2024 *Bradenton, FL* USGS quadrangle map. The ca. 1962 building is situated on an irregular-shaped parcel on the south side of 13th Avenue E with 1st Street E to the west, CSX Railroad to the south, and 9th Street E to the east (see **Figure 21**). The original school buildings are located on the eastern side of the parcel outside of the current APE. Only a small portion of the ca.1962 addition, now the primary block of the school, is located within the current APE.

Figure 36. Resource 8MA03136, view facing east.

Resource 8MA03136 is a one-to-two-story, irregular-shaped Mid-Century Modern school set on a concrete slab foundation (**Figure 36**). The portion of 8MA03136 within the APE consists of a central, two-story T- block with two courtyards, surrounded by one-story classroom bays. The exterior fabric of the building consists of brick, stucco, and vertical wood plank siding. The visible windows are fixed, aluminum-frame windows and transoms. The entrances to the classrooms are located on the north and south elevations and grouped into three and four bays. The entrances are recessed, metal, single-panel doors with transoms. A roof overhang with exposed eaves shelters these entrances. A concrete breezeway with exposed eaves connects each bay of classrooms. The only portions of the southern block of the building are the west and south elevations; though they are heavily obscured by a concrete utility building and metal, chain-link fence. This portion of the building lacks ornamentation and only a metal-panel utility entrance and louvered vents are visible on the south elevation. The roofs on all building are built-up flat roofs with exposed eaves.

A ca. 1969 addition was added to the southeastern elevation. This addition is set back from the ROW and only portions of the west elevation are visible. The building is two is constructed of brick with seven protruding bays. A remaining details are obscured by outbuildings or not visible from the ROW.

Assessment

Based on the field survey and further research, 8MA03136 is not significant under NRHP Criterion A because it is not indicative of a particular era and is not associated with any significant period, event, or theme. Resource 8MA03136 is not the original school building and was added to the complex in ca. 1962. Furthermore, the resource is not significant under Criterion B because it lacks association with any person(s) significant in history. Also, the resource is not significant under Criterion C due to its lack of architectural or engineering distinction. Mid-Century Modern–style buildings are common throughout Florida and across the US, and this building is not a notable example of the architectural style. Finally, Resource 8MA03136 is not significant under Criterion D because it lacks the potential to yield further information of historical importance. Therefore, Resource 8MA03136 is not eligible for listing in the NRHP either individually or as a contributor to a historic district.

8MA03137, 2100 3rd Street E

Resource 8MA03137, 2100 3rd Street E, is a newly recorded resource located in Section 36 of Township 34 South, Range 17 East as depicted on the 2024 *Bradenton, FL* USGS quadrangle map. The ca. 1962 building is situated on a rectangular parcel on the west side of 3rd Street E with US 301 to the north, 25th Avenue E to the south, and 1st Street W to the west (see **Figure 21**).

Figure 37. Resource 8MA03137, view facing southwest.

Resource 8MA03137 is a one-story, L-shaped Frame Vernacular residence set on a continuous concrete block foundation (**Figure 37**). The residence is partially obscured on the east elevation by mature vegetation. Initially the residence was rectangular-plan; a cottage was added south of the building ca.1969, and the two were connected between ca.1969-1984 (NETR 1962, 1969, 1984). The exterior fabric of the building consists of wooden clapboard and beadboard. The visible windows include fixed, three-pane, wood-frame windows flanked by three-pane, wooden-sash casement windows; replacement one-over-one and 12-over-8, single-hung, vinyl-sash; several of the windows are paired with wood shutters. The entrance to the original portion of the residence is located on the east façade and is comprised of a wood-frame door with a full-light. The entrance to the cottage addition is a wood-paneled door on the east facade with a three-over-

three half-light; a metal, clamshell awning shelters this entrance. Asphalt shingles cover the gabled roofs and beadboard clads the gable ends. A non-historic outbuilding is located north of the residence.

Assessment

Based on the field survey and further research, 8MA03137 is not significant under NRHP Criterion A because it is not indicative of a particular era and is not associated with any significant period, event, or theme. Furthermore, the resource is not significant under Criterion B because it lacks association with any person(s) significant in history. Additionally, the resource is not significant under Criterion C due to its lack of architectural or engineering distinction. Frame Vernacular–style residences are common throughout Florida and across the US, and this building is not a prime example of the architectural style. Finally, Resource 8MA03137 is not significant under Criterion D because it lacks the potential to yield further information of historical importance. Therefore, Resource 8MA03137 is not eligible for listing in the NRHP either individually or as a contributor to a historic district.

8MA03138, 2101 3rd Street E

Resource 8MA03138, 2101 3rd Street E, is a newly recorded resource located in Section 36 of Township 34 South, Range 17 East as depicted on the 2024 *Bradenton, FL* USGS quadrangle map. The ca.1954 building is situated on a rectangular parcel on the east side of 3rd Street E with US 301 to the north, 24th Avenue to the east, and 1st Street W to the west (see **Figure 21**).

Figure 38. Resource 8MA03138, view facing southeast.

Resource 8MA03138 is a one-story, roughly rectangular-plan Frame Vernacular residence set on a continuous concrete block foundation (**Figure 38**). The exterior fabric of the building consists of vertical wood plank siding. The visible windows include replacement, one-over-one, single-hung, vinyl-sash placed individually and flanking a fixed, vinyl-frame picture window. The main entrance is located on the west facade and is comprised of a paneled door sheltered by a metal-frame, screen door. Asphalt shingles cover the hipped and gabled roof. A non-historic shed sits north of the building.

Assessment

Based on the field survey and further research, 8MA03138 is not significant under NRHP Criterion A because it is not indicative of a particular era and is not associated with any significant period,

event, or theme. Furthermore, the resource is not significant under Criterion B because it lacks association with any person(s) significant in history. Also, the resource is not significant under Criterion C due to its lack of architectural or engineering distinction. Frame Vernacular–style residences are common throughout Florida and across the US, and this building is not a prime example of the architectural style. Finally, Resource 8MA03138 is not significant under Criterion D because it lacks the potential to yield further information of historical importance. Therefore, Resource 8MA03138 is not eligible for listing in the NRHP either individually or as a contributor to a historic district.

8MA03139, 2102 4th Street E

Resource 8MA03139, 2102 4th Street E, is a newly recorded resource located in Section 36 of Township 34 South, Range 17 East as depicted on the 2024 *Bradenton, FL* USGS quadrangle map. The ca.1953 building is situated on a rectangular parcel on the west side of 4th Street E with US 301 to the north, 24th Avenue E to the south, and 5th Street E to the east (see **Figure 21**).

Figure 39. Resource 8MA03139, view facing northwest.

Resource 8MA03139 is a one-story, rectangular-plan Frame Vernacular residence set on a continuous concrete block foundation (**Figure 39**). The exterior fabric of the building consists of clapboard. The visible windows are replacement, one-over-one, single-hung, vinyl-sash windows. The main entrance is located on the east facade and is comprised of a fiberglass paneled door with a fanlight. Asphalt shingles cover the gabled roof, and an exterior brick chimney is located on the south elevation.

Assessment

Based on the field survey and further research, 8MA03139 is not significant under NRHP Criterion A because it is not indicative of a particular era and is not associated with any significant period, event, or theme. Furthermore, the resource is not significant under Criterion B because it lacks association with any person(s) significant in history. Also, the resource is not significant under Criterion C due to its lack of architectural or engineering distinction. Frame Vernacular–style residences are common throughout Florida and across the US, and this building is not a prime example of the architectural style. Finally, Resource 8MA03139 is not significant under Criterion D because it lacks the potential to yield further information of historical importance. Therefore, Resource 8MA03139 is not eligible for listing in the NRHP either individually or as a contributor to a historic district.

8MA03140, 2101 4th Street E

Resource 8MA03140 is a newly recorded resource located in Section 36 of Township 34 South, Range 17 East as depicted on the 2024 *Bradenton, FL* USGS quadrangle map. The ca. 1950 residence is situated on a rectangular parcel on the east side of 4th Street E with US 301 to the north, 24th Avenue E to the south, and 5th Street E to the east (see **Figure 21**).

Figure 40. Resource 8MA03140, view facing southeast.

Resource 8MA03140 is a one-story, rectangular-plan Masonry Vernacular duplex set on a concrete slab foundation (**Figure 40**). The exterior fabric of the building consists of stucco and vinyl siding. The visible windows include one-over-one, single-hung, aluminum-sash and replacement, two-over-four, vinyl-sash horizontal sliders. The main entrances to the duplex are located on the west facade and comprised of wood paneled doors sheltered by an aluminum clamshell awnings. Asphalt shingle clad the gabled roof, and a gable vent is located in the north and south gable ends. A non-historic outbuilding converted into an apartment is located northeast of the main building.

Assessment

Based on the field survey and further research, 8MA03140 is not significant under NRHP Criterion A because it is not indicative of a particular era and is not associated with any significant period, event, or theme. Furthermore, the resource is not significant under Criterion B because it lacks association with any person(s) significant in history. Also, the resource is not significant under Criterion C due to its lack of architectural or engineering distinction. Masonry Vernacular residences are common throughout Florida and across the US, and this building is not a prime example of the architectural style. Finally, Resource 8MA03140 is not significant under Criterion D because it lacks the potential to yield further information of historical importance. Therefore, Resource 8MA03140 is not eligible for listing in the NRHP either individually or as a contributor to a historic district.

8MA03141, 2103 5th Street E Apt. A

Resource 8MA03141, 2103 5th Street E Apartment A, is a newly recorded resource located in Section 36 of Township 34 South, Range 17 East as depicted on the 2024 *Bradenton, FL* USGS quadrangle map. The ca. 1979 building is situated on a rectangular parcel on the east side of 5th St with US 301 to the north, 22nd Terrace E to the south, and 9th Street E to the east (see **Figure 21**).

Resource 8MA03141 is a one-story, L-shaped Ranch-style residence set on a concrete slab foundation (**Figure 41**). The exterior fabric of the building consists of stucco and vertical wood plank siding. The residence is heavily obscured from yard debris and is set back from the ROW. The only visible window is a replacement, one-over-one, single-hung, vinyl-sash; the remaining windows are sheltered by a tarp and lattice covering. The main entrance is located on the south facade with a paneled door with a multi-pane half-light. Asphalt shingles clad the cross-gabled roof. Resource 8MA03141 shares a parcel with 8MA03142, and is located on the northwest end of the parcel.

Figure 41. Resource 8MA03141, view facing northeast.

Assessment

Based on the field survey and further research, 8MA03141 is not significant under NRHP Criterion A because it is not indicative of a particular era and is not associated with any significant period, event, or theme. Furthermore, the resource is not significant under Criterion B because it lacks association with any person(s) significant in history. Additionally, the resource is not significant under Criterion C due to its lack of architectural or engineering distinction. Ranch-style residences are common throughout Florida and across the US, and this building is not a prime example of the architectural style. Finally, Resource 8MA03141 is not significant under Criterion D because it lacks the potential to yield further information of historical importance. Therefore, Resource 8MA03141 is not eligible for listing in the NRHP either individually or as a contributor to a historic district.

8MA03142, 2103 5th Street E. Apt. B

Resource 8MA03142, 2103 5th Street E, Apartment B, is a newly recorded resource located in Section 36 of Township 34 South, Range 17 East as depicted on the 2024 *Bradenton, FL* USGS quadrangle map. The ca. 1980 building is situated on a rectangular parcel on the east side of 5th St with US 301 to the north, 22nd Terrace E to the south, and 9th Street E to the east (see **Figure 21**).

Figure 42. Resource 8MA03142, view facing east.

Resource 8MA03142 is a one-story, rectangular-plan Masonry Vernacular residence set on an obscured foundation (**Figure 42**). The exterior fabric of the building consists of stucco and vertical wood plank siding. A cloth, clamshell awning is visible on the west elevation. All remaining details of the residence are obscured from the ROW by a vinyl privacy fence and vegetation. Resource 8MA03142 shares a parcel with 8MA03141 and is located on the east end of the parcel.

Assessment

Based on the field survey and further research, 8MA03142 is not significant under NRHP Criterion A because it is not indicative of a particular era and is not associated with any significant period, event, or theme. Furthermore, the resource is not significant under Criterion B because it lacks association with any person(s) significant in history. Additionally, the resource is not significant under Criterion C due to its lack of architectural or engineering distinction. Masonry Vernacular residences are common throughout Florida and across the US, and this building is not a prime example of the architectural style. Finally, Resource 8MA03142 is not significant under Criterion D because it lacks the potential to yield further information of historical importance. Therefore, Resource 8MA03142 is not eligible for listing in the NRHP either individually or as a contributor to a historic district.

Linear Resources

8MA01381, United States and West Indies Railroad (Seaboard Railroad Segment aka CSX Railroad)

Resource 8MA01381, is a newly recorded segment of the Seaboard Railroad Segment, Currently CSX Railroad. The newly recorded segment within the current APE is located in Section 13 of Township 34 South, Range 17 East as depicted on the *2024 Palmetto, Fl.* USGS quadrangle map (see **Figure 19**). The railroad runs northeast to southwest through the current APE for approximately 110.3 m (361.9 ft). The segment is a single-track standard gauge metal tracks attached to timber ties atop a gravel ballast, and crosses below US 41 (8MA02568) (**Figure 43**).

Figure 43. Resource 8MA01381, view facing northeast.

The development of the Seaboard Railway, often referred to as Seaboard Air Line (SAL), can be traced back to the incorporation of the Peninsular Railroad in 1880. By 1893, the line was reorganized as the Florida Central and Peninsular Railroad (FC&P). This line allowed for the transportation of goods from the timber and citrus industries in the area (Janus Research 2006).

The Florida Southern Railroad Company (FC&P) merged with Henry Plant's railway system at the end of the nineteenth century, becoming part of the Atlantic Coast Line Railway (ACL) in 1902 (Bessette and Ferro 1975; City of Palmetto n.d.). In 1903, the FC&P was officially absorbed into the SAL Railway (Pettengill and Simmons 1952; Seaboard Airline Railway 1913).

Subsidiaries of the SAL and ACL (Florida West Shore Railway and Tampa Southern Railroad, respectively), brought the railroad to Palmetto. The Parrish spur was constructed in Palmetto by the ACL in 1902; this spur is what the current segment of 8MA01381 within the APE contributes to (Seaboard Airline Railway 1913). An additional line connecting East Tampa to Bradenton was constructed by the SAL in 1924. In 1967, the Atlantic Coast Line Railroad merged with the SAL Railway to form the Seaboard Coast Line Railroad (Leod and Murdock 1994). The final merger occurred during the 1980s when the Seaboard Coast Line became part of CSX Transportation. This segment of the CSX Transportation line is still active today and is primarily used for shipping.

Assessment

The nearest previously recorded segment of 8MA01381 is located approximately 1.14 km east of the current APE at its intersection with 16th Avenue E and was recorded in FMSF Survey No. 29005 in 2022 with SHPO concurrence in December 2022 (ACI 2022). The segment was recommended eligible at a local level under Criterion A for its association with development of Florida's Railroads and was constructed during one of the significant periods of history, the Disston Era of Expansion and Consolidation (Johnston & Mattick 2001). SEARCH recommends this segment is also significant under Criterion A for these associations. The segment within the APE retains its historical significance and integrity. The corridor remains within its original alignment and retains its integrity of location, design, materials, and workmanship using materials compatible with historic railroad construction, including gravel ballast, metal rails, and wooden crossties. The original setting and feeling of the historic railroad remain because Resource 8MA01381 readily conveys a sense of travel over an active railroad corridor within a rural setting. Due to these factors, SEARCH recommends Resources 8MA01381 remain eligible for listing in the NRHP. As such, an assessment of effects is provided below.

Effects

The proposed activities include widening along US 301 and US 41, reconstructing intersections and interchanges, improving drainage facilities, and examining the potential for elevated roadway and toll lanes. The proposed project will not require additional ROW from the railroads, reroute the existing railroad, otherwise prohibit or disrupt current rail traffic, or impose any changes upon the railroad that would compromise the railroad's elements of significance, namely the historical alignment, in a manner that would diminish its defining characteristics or integrity of setting, feeling, association, location, design, or workmanship. Therefore, the proposed improvements pose no adverse effect on the NRHP-eligible CSX Railroad Corridor/Seaboard Railroad.

8MA02249, Manatee Avenue/SR 64

Resource 8MA02249, Manatee Avenue/SR 64, is a newly recorded segment of a previously recorded linear resource. The segment within the current APE is located in Sections 25 and 26 of Township 34 South, Range 17 East as depicted on the 2024 *Bradenton, Fl.* USGS quadrangle map (see **Figures 20 and 21**). 8MA02249 runs east to west for approximately 232.7 m (763.5 ft) in the APE at its intersection with 1st Street/US 41 (8MA02568). The ca. 1935 road is a three-lane, one-way, asphalt paved road with right and left turning lanes, concrete curbing, concrete medians, and sidewalks (**Figure 44**).

Figure 44. Resource 8MA02249 within the APE. Left view facing east. Right: View facing west.

Resource 8MA02249 began construction in the mid 1930's as a result of the New Deal program of Franklin D. Roosevelt and the Bureau of Public Roads. SR 64 was constructed as an east–west road from Avon to Bradenton and roughly followed the Historic Florida Cracker Trail. (Almy et al. 2021). The entire route is approximately 190 km (120 ft) long and runs from east of Bradenton to Fort Pierce, encompassing portions of SR 64, SR 66, and US 98 (Burr 2017). Aerial imagery from 1957 and 1962 show Resource 8MA02249 as a two-lane road with turning lanes. By 1984, SR 64 was expanded to three lanes with concrete medians and curbing and has continued to modernize and develop alongside the highly commercialized area (NETR 1957, 1962, 1978, 2007).

Assessment

Segments of Resource 8MA02249 were previously evaluated in FMSF Survey Nos. 27458, 29698, and 29941, and were found to have insufficient information for listing on the NRHP on May 18, 2021; December 22, 2024; and February 3, 2025 (Almy et al. 2021; Bruffett et al. 2023; Templeton 2024). Because only 232.7 m (763.5 ft) of Resource 8MA02249 runs within the APE, and the entire resource spans approximately 190 km (120 mi), it is out of the current scope to evaluate the entire resource. Therefore, SEARCH has insufficient information make an NRHP eligibility recommendation. As such, an assessment of effects is provided below.

Effects

The proposed activities include widening along US 301 and US 41, reconstructing intersections and interchanges, improving drainage facilities, and examining the potential for elevated roadway and toll lanes. The proposed project will not prohibit or disrupt current traffic or impose any changes upon the road that would compromise its elements of significance, namely the historical alignment, in a manner that would diminish its defining characteristics or integrity of setting, feeling, or association, location, design, or workmanship. Therefore, the proposed improvements pose no adverse effect on 8MA02249.

8MA02568, US 41 (US 301)

Resource 8MA02568 is a previously recorded linear resource located in Sections 12 and 13 of Township 34 South Range 17 East as depicted on the 2024 Palmetto, FL. USGS quadrangle map and Sections 25 and 36, of Township 34 South, Range 17 East as depicted on the 2024 Bradenton, FL, USGS quadrangle map (see **Figures 18–21**). Approximately 7.2 km (4.5 mi) of 8MA02568 is within the current APE. The ca. 1925 road is a two-and-three-lane, divided road with intermittent central, right, and left turning lanes (**Figure 45**). Portions of the road have asphalt and paved shoulders with concrete and grassy medians. 8MA02568 is generally aligned north to south in the APE, until the road splits and S Tamiami Trail continues south while US 301 runs east.

Figure 45. Resource 8MA02568 within the APE. Left: View facing south. Right: View facing south.

The first aerial imagery 8MA02568 appears on is in 1957. The route begins at the intersection of the current 10 Street E in Palmetto as a two-lane street and continues to run south over the Manatee River to the southern terminus of the APE (NETR 1957). In 1969 aerials, US 41/301 expands to a two-lane divided highway in portions, and a northern extension was added from 10 Street E in Palmetto following the current route of the road (NETR 1969). In 1994–1995 imagery, 41 and US 301 split near 17th Avenue W in Bradenton. US 41 continues its original alignment south, but 301 extends east to the road's current alignment (NETR 1994, 1995).

Assessment

US 41/301 is recorded as 8HI12137 and 8PA02828 in neighboring counties, Hillsborough and Pasco, respectively. No Segments of the resource in other counties have been found eligible. The segment within the current APE in Manatee County has undergone significant widening and realignment. The current segment of 8MA02568 was evaluated in FMSF Survey No. 29696 as having insufficient information to evaluate the resource as a whole due to its length through multiple counties (FDOT District 1). SEARCH is concurring with this previous evaluation and is additionally recommending the segment within the APE ineligible for listing in the NRHP 8MA02568is not significant under NRHP Criterion A because it is not indicative of a particular era and is not associated with any significant period, event, or theme. Furthermore, the resource is not significant under Criterion B because it lacks association with any person(s) significant in history. Also, the resource is not significant under Criterion C due to its lack of architectural or engineering distinction. Finally, Resource 8MA02568 is not significant under Criterion D because it lacks the potential to yield further information of historical importance. Therefore, Resource 8MA02568 is not eligible for listing in the NRHP either individually or as a contributor to a historic district.

Resource Groups

8MA02874, Pacific Tomato Growers Housing

Resource 8MA02874, Pacifica Tomato Growers, is a newly recorded historic resource located in Section 13, of Township 34 South, Range 17 East as depicted on the 2024 Palmetto, Fl. USGS quadrangle map. Pacific Tomato Growers Housing is a ca. 1970 migrant camp situated on two parcels on the northwest corner of the intersection at 2nd Avenue W and 10th Street W, with 1st Avenue Court W running through the center of the resource group (see **Figure 19**).

The migrant camp consists of 39 total fourplex units with 17 units on the north parcel; and 22 units on the south parcel. All 39 units are rectangular-plan Masonry Vernacular fourplexes set on concrete slab foundations (**Figure 46**). The exterior fabric consists of concrete and stucco. The visible windows are one-over-one, single-hung, aluminum-sash windows sheltered by vinyl-frame screens. The main entrances are located on the east and west elevations of the duplexes and are comprised of two, fiber-glass paneled doors on either elevation. Asphalt shingles cover the gabled roofs, and the gable ends are clad in reverse board and batten siding. A metal security gate surrounds the perimeter of the property, and access is controlled by a guard gate shed located at the entrance on 1st Avenue Court W.

Initially, the neighborhood opened as the Overpass Apartments. In 1978, the Heller Brothers from Pacific Tomato Packing Company purchased half of the complex to house their migrant workers and truck drivers (Jacobs 1978). In 2008, the remaining units were purchased and added to the existing migrant camp (Manatee County Property Appraiser 2008).

Figure 46. Resource 8MA02874 within the APE. Top Left: View Facing northeast. Top Right: View facing southwest. Bottom Left: view facing northeast. Bottom Left: View facing west.

Assessment

Resource 8MA02874 is a mid-to-late twentieth-century Masonry apartment complex converted into a migrant camp. The Florida land and agricultural boom occurred from 1920–1926, however the tomato industry began as early as 1870 in Florida (Florida Tomatoes Committee 2013). 8MA02874 was not constructed until 1970, 100 years after tomato farming began in Florida, and did not become a migrant camp until 1978.

Based on the field survey and further research, 8MA02874 is not significant under NRHP Criterion A because it is not indicative of a particular era and is not associated with any significant period, event, or theme. Furthermore, the resource is not significant under Criterion B because it lacks association with any person(s) significant in history. Also, the resource is not significant under Criterion C due to its lack of architectural or engineering distinction. Finally, Resource 8MA02874 is not significant under Criterion D because it lacks the potential to yield further information of historical importance. Therefore, Resource 8MA02874 is not eligible for listing in the NRHP either individually or as a contributor to a historic district.

8MA02875, Loan Oak Park

Loan Oak Park, 8MA02875, is a newly recorded historic resource group located in Section 13, of Township 34 South, Range 17 East as depicted on the 2024 Palmetto, FL. USGS quadrangle map. Loan Oak Park is a ca. 1962 Mobile Home Park. Resource 8MA02875 is an enclosed mobile home park situated on a roughly rectangular-shaped parcel on the south side of 10th Street W with US 301 to the east, 3rd Avenue W to the west, and 7th Street W to the south (see **Figure 19**). The earliest aerial imagery 8MA02875 appears on is from 1957, only the central portion of the mobile home park was moderately developed and the boundaries terminated at Pine Drive, adjacent to 9th Street W. 1962 and 1969 aerials show denser development of the northern portion of the park. By 1984 the boundaries of the mobile home park expanded south, extending Palm, Oak and Pine lanes until its intersection with 7th Street W (NETR 1957, 1962, 1969, 1984).

Due to safety concerns, Resource Group 8MA02875 was only surveyed from the ROW. The northern portion, which is the most visible, consists of primarily RV cars and trucks and are not of historic age. Loan Oak Park has over 90 mobile-home residences of historic age. Among the historic mobile homes, most are situated on pier foundations with aluminum or vinyl siding. They range in size from single- to double-wide mobile homes, and some have been altered to include porches, decks, and carports. Resource 8OR12132 can be entered through an entrance at Palm Lane or Pine Lane at 10th Street W. The interior roads are Palm Lane, Elm Lane, Pine Lane and Oak Lane, and the mobile homes are generally arranged in a north–south orientation. A vinyl privacy fence surrounds the perimeter of the parcel, and there are lockable gates at the 10th Street entrances. A two-story, rectangular-plan Masonry Vernacular building constructed of concrete block with vinyl siding is visible on the northwest side of the parcel neighboring the vinyl privacy fence (**Figure 47**). Replacement one-over-one, single-hung, vinyl-sash windows with aluminum shutters are visible; several are sheltered by metal clamshell awnings. A Masonry Vernacular laundry building is located at the intersection of Pine Lane and Elm Lane. Large vegetation obscures many of the mobile homes from view.

Assessment

Resource 8MA02875 is an unremarkable mid-to-late twentieth century mobile-home park located along US 301, and is similar to many such mobile parks common throughout Florida. Resource 8MA02875 is not significant under NRHP Criterion A because it is not indicative of a particular era and is not associated with any significant period, event, or theme. Furthermore, the resource is not significant under Criterion B because it lacks association with any person(s) significant in history. The resource is not significant under Criterion C due to its lack of architectural or engineering distinction. Finally, Resource 8MA02875 is not significant under Criterion D because it lacks the potential to yield further information of historical importance. Therefore, it is the opinion of SEARCH that Resource 8MA02875 is not eligible for listing in the NRHP.

Figure 47. Resource 8MA02875 within the APE. Top Left: View facing south. Top Right: View Facing southeast. Bottom Left: View facing southwest. Bottom Right: View facing southeast.

CONCLUSION AND RECOMMENDATIONS

This report presents the findings of a CRAS conducted in support of the Bradenton-Palmetto Connector project in Manatee County, Florida. FDOT District 1 is conducting a PD&E Study to evaluate the capacity and mobility improvements to US 41/SR 55/1st Street/Tamiami Trail including roadway widening, bridge widening and/or replacement, new stormwater management facilities, new floodplain compensation sites, and bicycle and pedestrian accommodations. The limits of the study area are from US 301/SR 683 at 9th Street East to North of 25th Street East. The study limits intersect the City of Bradenton to the south and the City of Palmetto to the north and span the Manatee River. The project limits cover approximately 7.2 km (4.5 mi) within Manatee County. The proposed activities also include examining the potential for elevated roadway and toll lanes.

To encompass the potential improvements, the archaeological APE for the project was defined as the proposed construction footprint within the existing and proposed ROW. The architectural history APE includes the archaeological APE plus adjacent parcels, or a distance of no more than 100 m (328 ft) from the ROW.

The archaeological survey consisted of pedestrian survey and systematic shovel testing within the archaeological APE. In total, 17 shovel tests were excavated within the archaeological APE, none of which contained cultural material. An additional 92 shovel tests were pre-plotted within the archaeological APE but could not be excavated due to buried utilities, inundation, and impervious surfaces. No artifacts were recovered, and no archaeological sites or occurrences were identified within the archaeological APE. No further archaeological survey is recommended.

The architectural survey resulted in the identification and evaluation of four previously recorded resources and 23 newly recorded historic resources within the APE. Among the previously recorded resources are three linear resources (8MA01381, 8MA02249, and 8MA02568) and one previously recorded building (8MA02569). The newly recorded resources include 21 historic buildings (8MA03122–8MA03142) and two historic resource groups (8MA02874 and 8MA02875). Each resource was evaluated to determine its significance and potential eligibility for listing in the NRHP. 8MA02569, Manatee Memorial Hospital was previously recorded, however, SHPO has not evaluated the resource, and the prior recommendation is not available on FMSF. SEARCH is recommending 8MA02569 as ineligible for listing in the NRHP. Previously recorded linear resource 8MA01381 (United States and West Indies Railroad/Seaboard Railroad), was evaluated as eligible for listing in the NRHP in December 2023 under Criterion A for its significance in the development of Florida's railroads. SEARCH concurs with this previous evaluation and recommends the resource remains eligible for listing in the NRHP. Linear Resource 8MA02249, Manatee Avenue/SR 64, was previously evaluated as having insufficient information for listing in the NRHP in February 2025, and SEARCH recommends no change to these previous evaluations. Linear resource 8MA02568 (US 41), was previously evaluated as having insufficient information for listing in the NRHP in December 2024. SEARCH recommends this resource as ineligible due to a loss of integrity. SEARCH finds there is insufficient information to make a recommendation for new recorded resource 8MA03135, Pride of Bradenton, Masonic Lodge

#490, as more research is required. Based on the results of the current survey, the remaining newly recorded resources are recommended ineligible for listing in the NRHP. No further architectural history work is recommended.

SEARCH recommends that this project will result in *No Historic Properties Affected*. No further cultural resources work is recommended.

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APPENDIX A.

FDHR SURVEY LOG SHEET

Ent D (FMSF only) _____

Survey Log Sheet

Florida Master Site File
Version 5.0 3/19

Survey # (FMSF only) _____

Consult *Guide to the Survey Log Sheet* for detailed instructions.

Manuscript Information

Survey Project (name and project phase)

CRAS for the Bradenton-Palmetto Connector PD&E Study, Manatee County, Florida

Report Title (exactly as on title page)

Cultural Resource Assessment Survey for the Bradenton-Palmetto Connector Project Development and Environment Study, Manatee County, Florida

Report Authors (as on title page)
1. Nowak, Matt
2. Bonatakis, Mary
3. Normandy, Joseph
4. Parham, Ashley

Publication Year 2026 **Number of Pages in Report** (do not include site forms) 80

Publication Information (Give series, number in series, publisher and city. For article or chapter, cite page numbers. Use the style of *American Antiquity*.)

On file, SEARCH New Orleans office. SEARCH Project No. 260003. FDOT FM# 444843-1.

Supervisors of Fieldwork (even if same as author) Names Nowak, Matt

Affiliation of Fieldworkers: Organization Southeastern Archaeological Research City Pensacola

Key Words/Phrases (Don't use county name, or common words like *archaeology*, *structure*, *survey, architecture, etc.*)
1. US 41/US 301
2. Manatee River
3. BPC
4. _____
5. _____
6. _____
7. _____
8. _____

Survey Sponsors (corporation, government unit, organization, or person funding fieldwork)
Name _____ Organization Florida Dept of Transportation - District 1
Address/Phone/E-mail Bartow, Florida

Recorder of Log Sheet Nowak, Matt **Date Log Sheet Completed** 4-23-2025

Is this survey or project a continuation of a previous project? ☒No ☐Yes: **Previous survey #s (FMSF only)** _____

Project Area Mapping

Counties (select every county in which field survey was done; attach additional sheet if necessary)
1. Manatee
2. _____
3. _____
4. _____
5. _____
6. _____

USGS 1:24,000 Map Names/Year of Latest Revision (attach additional sheet if necessary)
1. Name BRADENTON Year 1994
2. Name PALMETTO Year 1987
3. Name _____ Year _____
4. Name _____ Year _____
5. Name _____ Year _____
6. Name _____ Year _____

Field Dates and Project Area Description

Fieldwork Dates: Start 2-17-2025 End 2-20-2025 **Total Area Surveyed** (fill in one) 165.00 hectares 407.00 acres
Number of Distinct Tracts or Areas Surveyed 1
If Corridor (fill in one for each) **Width:** 50 meters 164 feet **Length:** 7.20 kilometers 4.50 miles

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Phone 850.245.6440, Fax 850.245.6439, Email: SiteFile@dos.myflorida.com

Survey Log Sheet

Survey #_____

Research and Field Methods

Types of Survey (select all that apply): ☒archaeological ☒architectural ☒historical/archival ☐underwater
☐damage assessment ☐monitoring report ☐other(describe): _____

Scope/Intensity/Procedures

Pedestrian survey and systematic shovel testing. Architectural history survey of historic resources 45 years and older. Historic and precontact background research.

Preliminary Methods (select as many as apply to the project as a whole)

☐Florida Archives (Gray Building)	☐library research- *local public*	☒local property or tax records	☒other historic maps	☐LIDAR
☐Florida Photo Archives (Gray Building)	☐library-special collection	☐newspaper files	☒soils maps or data	☐other remote sensing
☒Site File property search	☐Public Lands Survey (maps at DEP)	☒literature search	☐windshield survey	
☒Site File survey search	☐local informant(s)	☐Sanborn Insurance maps	☒aerial photography	

☐other (describe): _____

Archaeological Methods (select as many as apply to the project as a whole)

☐Check here if **NO** archaeological methods were used.

☐surface collection, controlled	☐shovel test-other screen size	☐block excavation (at least 2x2 m)	☐metal detector
☐surface collection, **un**controlled	☐water screen	☐soil resistivity	☐other remote sensing
☒shovel test-1/4"screen	☐posthole tests	☐magnetometer	☒pedestrian survey
☐shovel test-1/8" screen	☐auger tests	☐side scan sonar	☐unknown
☐shovel test 1/16"screen	☐coring	☐ground penetrating radar (GPR)	
☐shovel test-unscreened	☐test excavation (at least 1x2 m)	☐LIDAR	

☐other (describe): _____

Historical/Architectural Methods (select as many as apply to the project as a whole)

☐Check here if **NO** historical/architectural methods were used.

☐building permits	☐demolition permits	☐neighbor interview	☐subdivision maps
☐commercial permits	☐windshield survey	☐occupant interview	☒tax records
☐interior documentation	☒local property records	☐occupation permits	☐unknown

☐other (describe): _____

Survey Results

Resource Significance Evaluated? ☒Yes ☐No

Count of Previously Recorded Resources 3 **Count of Newly Recorded Resources** 23

List Previously Recorded Site ID#s with Site File Forms Completed (attach additional pages if necessary)

List Newly Recorded Site ID#s (attach additional pages if necessary)

Site Forms Used: ☐Site File Paper Forms ☒Site File PDF Forms

REQUIRED: Attach Map of Survey or Project Area Boundary

SHPO USE ONLY **SHPO USE ONLY** **SHPO USE ONLY**

Origin of Report: ☐872 ☐Public Lands ☐UW ☐1A32 # _____ ☐Academic ☐Contract ☐Avocational
☐Grant Project # _____ ☐Compliance Review: CRAT # _____

Type of Document: ☐Archaeological Survey ☐Historical/Architectural Survey ☐Marine Survey ☐Cell Tower CRAS ☐Monitoring Report
☐Overview ☐Excavation Report ☐Multi-Site Excavation Report ☐Structure Detailed Report ☐Library, Hist. or Archival Doc
☐Desktop Analysis ☐MPS ☐MRA ☐TG ☐Other: _____

Document Destination: Plottable Projects **Plotability:** _____

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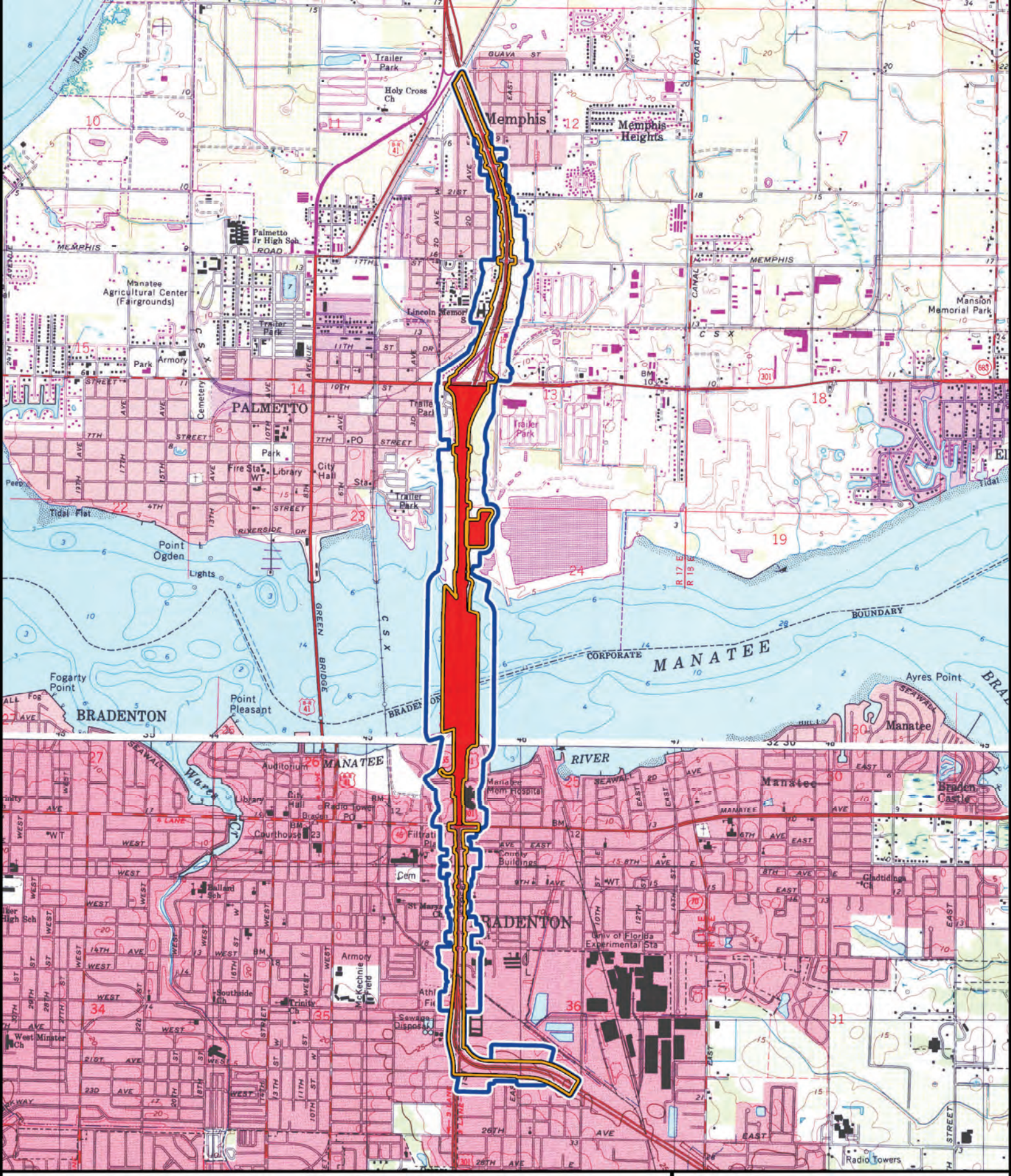
Phone 850.245.6440, Fax 850.245.6439, Email: SiteFile@dos.myflorida.com



Architectural History APE

Archaeological APE

Ultimate Concept

Interim Concept

0 820 0 1,680

Meters Feet

USGS 7.5' Quadrangle Maps:
Bradenton, FL (1994) and
Palmetto, FL (1987)

N

APPENDIX B.

FMSF RESOURCE FORMS

☐Original
☒Update

RESOURCE GROUP FORM
FLORIDA MASTER SITE FILE
Version 5.0 3/19

Consult the *Guide to the Resource Group Form* for additional instructions

Site #8 MA01381
Field Date 2-16-2026
Form Date 3-6-2026
Recorder# _____

NOTE: Use this form to document districts, landscapes, building complexes and linear resources as described in the box below. Cultural resources contributing to the Resource Group should also be documented individually at the Site File. **Do not use this form for National Register multiple property submissions** (MPSs). National Register MPSs are treated as Site File manuscripts and are associated with the individual resources included under the MPS cover using the Site File manuscript number.

Check ONE box that best describes the Resource Group:

- ☐ **Historic district** (NR category "district"): buildings and NR structures only: NO archaeological sites
- ☐ **Archaeological district** (NR category "district"): archaeological sites only: NO buildings or NR structures
- ☐ **Mixed district** (NR category "district"): includes more than one type of cultural resource (example: archaeological sites and buildings)
- ☐ **Building complex** (NR category usually "building(s)"): multiple buildings in close spatial and functional association
- ☐ **Designed historic landscape** (NR category usually "district" or "site"): can include multiple resources (see *National Register Bulletin #18*, page 2 for more detailed definition and examples: e.g. parks, golf courses, campuses, resorts, etc.)
- ☐ **Rural historic landscape** (NR category usually "district" or "site"): can include multiple resources and resources not formally designed (see *National Register Bulletin #30, Guidelines for Evaluating and Documenting Rural Historic Landscapes* for more detailed definition and examples: e.g. farmsteads, fish camps, lumber camps, traditional ceremonial sites, etc.)
- ☒ **Linear resource** (NR category usually "structure"): Linear resources are a special type of structure or historic landscape and can include canals, railways, roads, etc.

Resource Group Name Seaboard Railroad Segment/CSX Multiple Listing [DHR only] _____
Project Name Bradenton-Palmetto Connector PD&E FMSF Survey # _____
National Register Category (please check one): ☐building(s) ☒structure ☐district ☐site ☐object
Linear Resource Type (if applicable): ☐canal ☒railway ☐road ☐other (describe): _____
Ownership: ☒private-profit ☐private-nonprofit ☐private-individual ☐private-nonspecific ☐city ☐county ☐state ☐federal ☐Native American ☐foreign ☐unknown

LOCATION & MAPPING

Address: Street Number | Direction | Street Name | Street Type | Suffix Direction
City/Town (within 3 miles) Palmetto In Current City Limits? ☒yes ☐no ☐unknown
County or Counties (do not abbreviate) Manatee
Name of Public Tract (e.g., park) _____
1) Township 34S Range 17E Section 13 ¼ section: ☐NW ☐SW ☐SE ☐NE Irregular-name: _____
2) Township _____ Range _____ Section _____ ¼ section: ☐NW ☐SW ☐SE ☐NE
3) Township _____ Range _____ Section _____ ¼ section: ☐NW ☐SW ☐SE ☐NE
4) Township _____ Range _____ Section _____ ¼ section: ☐NW ☐SW ☐SE ☐NE
USGS 7.5' Map(s) 1) Name PALMETTO USGS Date 2024
2) Name _____ USGS Date _____
Plat, Aerial, or Other Map (map's name, originating office with location) _____
Landgrant _____
Verbal Description of Boundaries (description does not replace required map)

Runs northeast to southwest through the current APE for approximately 110.3 m (361.9 ft).

DHR USE ONLY	OFFICIAL EVALUATION	DHR USE ONLY
NR List Date _____ ☐Owner Objection	SHPO – Appears to meet criteria for NR listing: ☐yes ☐no ☐insufficient info Date _____ Init._____ KEEPER – Determined eligible: ☐yes ☐no Date _____ NR Criteria for Evaluation: ☐a ☐b ☐c ☐d (see *National Register Bulletin 15*, p. 2)	

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Phone **850.245.6440** / Fax **850.245.6439** / E-mail **SiteFile@dos.myflorida.com**

RESOURCE GROUP FORM

Site #8 MA01381

HISTORY & DESCRIPTION

Construction Year: 1902 ☒approximately ☐year listed or earlier ☐year listed or later
Architect/Designer: _____ Builder: _____
Total number of individual resources included in this Resource Group: # of contributing _____ # of non-contributing _____
Time period(s) of significance (choose a period from the list or type in date range(s), e.g. *1895-1925*)
1. American-20th Century 3. _____
2. _____ 4. _____
Narrative Description (*National Register Bulletin 16A* pp. 33-34; attach supplementary sheets if needed)

Resource 8MA01381 is a one lane standard gauge metal tracks attached to timber ties atop a gravel ballast and crosses underneath US 41.

RESEARCH METHODS (check all that apply)

☒FMSF record search (sites/surveys)	☐library research	☐building permits	☐Sanborn maps
☐FL State Archives/photo collection	☐city directory	☐occupant/owner interview	☐plat maps
☐property appraiser / tax records	☐newspaper files	☐neighbor interview	☐Public Lands Survey (DEP)
☒cultural resource survey	☐historic photos	☐interior inspection	☐HABS/HAER record search

☒other methods (specify) Pedestrian/Windshield Survey
Bibliographic References (give FMSF Manuscript # if relevant)

OPINION OF RESOURCE SIGNIFICANCE

Potentially eligible individually for National Register of Historic Places? ☒yes ☐no ☐insufficient information
Potentially eligible as contributor to a National Register district? ☒yes ☐no ☐insufficient information
Explanation of Evaluation (required, see *National Register Bulletin 16A* p. 48-49. Attach longer statement, if needed, on separate sheet.)

8MA01381 is eligible for listing in the NRHP as a contributor to the overall resource under Criterion A for its significance of railroad development in Florida.

Area(s) of Historical Significance (see *National Register Bulletin 15*, p. 8 for categories: e.g. "architecture", "ethnic heritage", "community planning & development", etc.)
1. Transportation 3. _____ 5. _____
2. Community planning & developm 4. _____ 6. _____

DOCUMENTATION

Accessible Documentation Not Filed with the Site File - including field notes, analysis notes, photos, plans and other important documents

1) Document type All materials at one location Maintaining organization Southeastern Archaeological Research
Document description Photos, Maps, Field Notes, Aerial File or accession #'s 260003

2) Document type _____ Maintaining organization _____
Document description _____ File or accession #'s _____

RECORDER INFORMATION

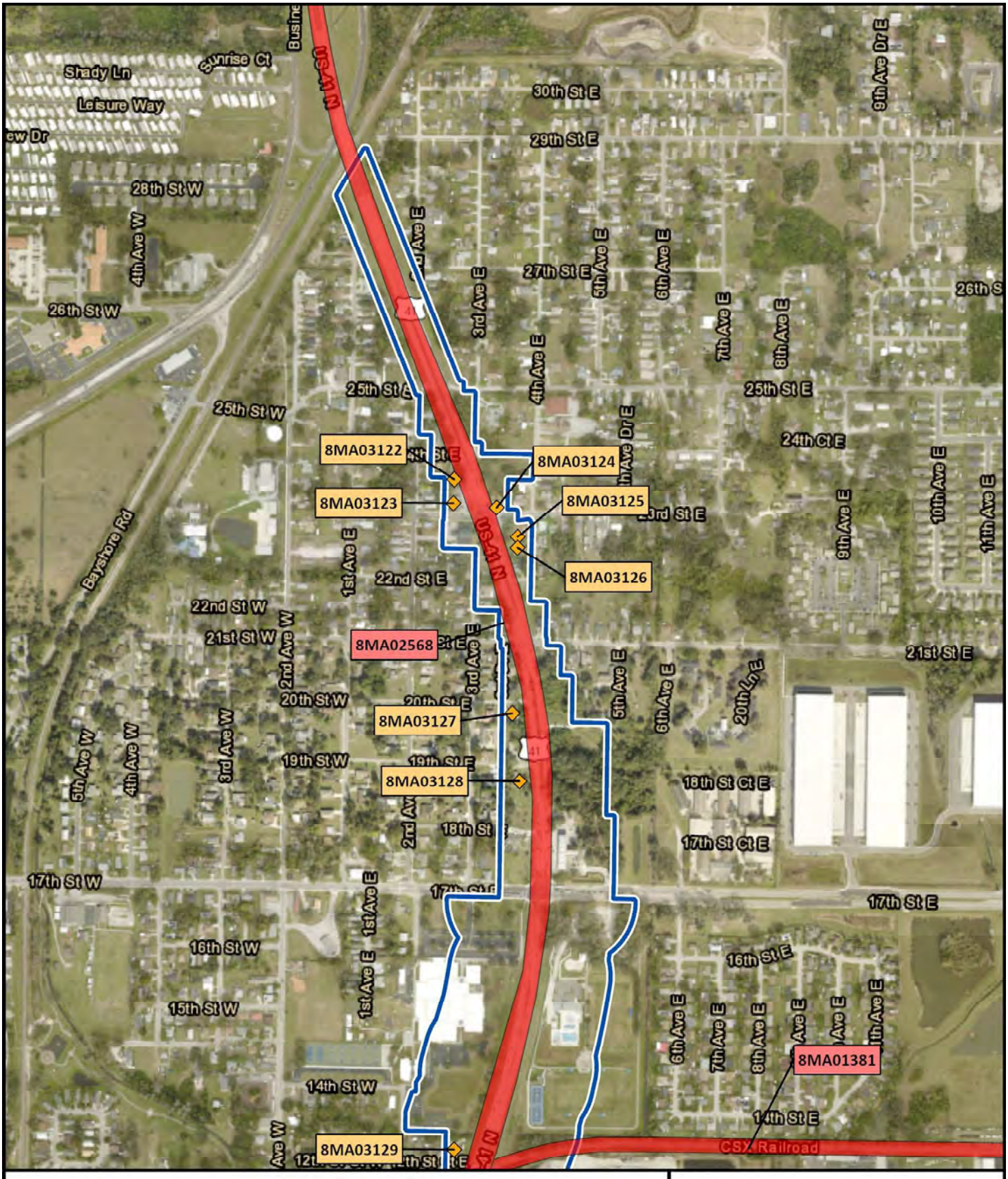
Recorder Name Bonatakis, Mary Affiliation Southeastern Archaeological Research
Recorder Contact Information 3117 Edgewater Dr, Orlando, FL 32804/407-236-7711/Mary.Bonatakis@searchinc.
(address / phone / fax / e-mail)

Required Attachments

❶ **PHOTOCOPY OF USGS 7.5' MAP WITH DISTRICT BOUNDARY CLEARLY MARKED**
❷ **LARGE SCALE STREET, PLAT OR PARCEL MAP WITH RESOURCES MAPPED & LABELED**
❸ **TABULATION OF ALL INCLUDED RESOURCES -** Include name, FMSF #, contributing? Y/N, resource category, street address or other location information if no address.
❹ **PHOTOS OF GENERAL STREETSCAPE OR VIEWS (Optional: aerial photos, views of typical resources)** When submitting images, they must be included in digital AND hard copy format (plain paper grayscale acceptable). Digital images must be at least 1600 x 1200 pixels, 24-bit color, jpeg or tiff.

8MA01381_a Facing NE

8MA01381_b Facing SW


8MA03122
8MA03123
8MA03124
8MA03125
8MA03126
8MA02568
8MA03127
8MA03128
8MA03129
8MA01381
US-41 N
CSX Railroad
Shady Ln
Sunrise Ct
Leisure Way
Bayshore Rd
30th St E
29th St E
28th St W
27th St E
26th St W
25th St E
25th St W
24th Ct E
22nd St E
22nd St W
21st St W
21st St E
20th St W
19th St W
18th St Ct E
18th St
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5th Ave E
5th Ave W
6th Ave E
7th Ave E
8th Ave E
9th Ave E
9th Ave Dr E
10th Ave E
11th Ave E
APE
Newly Recorded Historic Building
Previously Recorded Linear Resource
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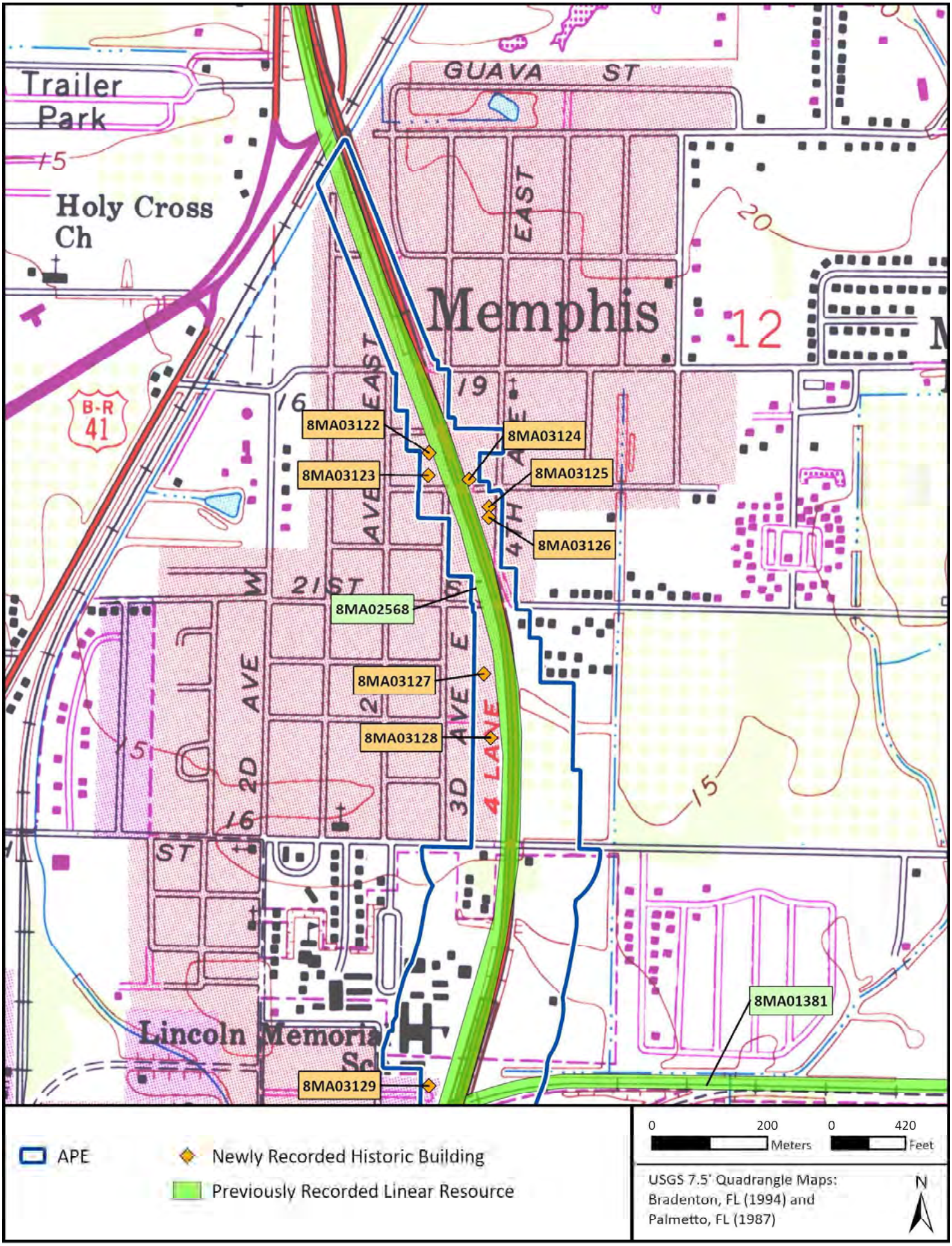
200
Meters
0
420
Feet
Esri World Imagery (2024)
N


Trailer Park
Holy Cross Ch
GUAVA ST
EAST
Memphis
12
B-R 41
8MA03122
8MA03124
8MA03123
8MA03125
8MA03126
8MA02568
8MA03127
8MA03128
8MA03129
8MA01381
W 21ST
2D AVE
3D AVE
4 LAVE
Lincoln Memorial
APE
Newly Recorded Historic Building
Previously Recorded Linear Resource
0 200 Meters
0 420 Feet
USGS 7.5' Quadrangle Maps:
Bradenton, FL (1994) and
Palmetto, FL (1987)
N

☐Original
☒Update

RESOURCE GROUP FORM
FLORIDA MASTER SITE FILE
Version 5.0 3/19

Consult the *Guide to the Resource Group Form* for additional instructions

Site # MA02249
Field Date 2-16-2026
Form Date 3-6-2026
Recorder# _____

NOTE: Use this form to document districts, landscapes, building complexes and linear resources as described in the box below. Cultural resources contributing to the Resource Group should also be documented individually at the Site File. **Do not use this form for National Register multiple property submissions** (MPSs). National Register MPSs are treated as Site File manuscripts and are associated with the individual resources included under the MPS cover using the Site File manuscript number.

Check ONE box that best describes the Resource Group:

- ☐ **Historic district** (NR category "district"): buildings and NR structures only: NO archaeological sites
- ☐ **Archaeological district** (NR category "district"): archaeological sites only: NO buildings or NR structures
- ☐ **Mixed district** (NR category "district"): includes more than one type of cultural resource (example: archaeological sites and buildings)
- ☐ **Building complex** (NR category usually "building(s)"): multiple buildings in close spatial and functional association
- ☐ **Designed historic landscape** (NR category usually "district" or "site"): can include multiple resources (see *National Register Bulletin #18*, page 2 for more detailed definition and examples: e.g. parks, golf courses, campuses, resorts, etc.)
- ☐ **Rural historic landscape** (NR category usually "district" or "site"): can include multiple resources and resources not formally designed (see *National Register Bulletin #30, Guidelines for Evaluating and Documenting Rural Historic Landscapes* for more detailed definition and examples: e.g. farmsteads, fish camps, lumber camps, traditional ceremonial sites, etc.)
- ☒ **Linear resource** (NR category usually "structure"): Linear resources are a special type of structure or historic landscape and can include canals, railways, roads, etc.

Resource Group Name Manatee Avenue/SR 64 **M**ultiple Listing [DHR only] _____
Project Name Bradenton-Palmetto Connector PD&E **F**MSF Survey #_____
National Register Category (please check one): ☐building(s) ☒structure ☐district ☐site ☐object
Linear Resource Type (if applicable): ☐canal ☐railway ☒road ☐other (describe): _____
Ownership: ☐private-profit ☐private-nonprofit ☐private-individual ☐private-nonspecific ☐city ☐county ☒state ☐federal ☐Native American ☐foreign ☐unknown

LOCATION & MAPPING

	Street Number	Direction	Street Name	Street Type	Suffix Direction
Address:					

City/Town (within 3 miles) Bradenton In Current City Limits? ☒yes ☐no ☐unknown
County or Counties (do not abbreviate) Manatee
Name of Public Tract (e.g., park)_____
1) **T**ownship 34S **R**ange 17E **S**ection 25,26 ¼ section: ☐NW ☐SW ☐SE ☐NE Irregular-name: _____
2) **T**ownship _____ **R**ange _____ **S**ection _____ ¼ section: ☐NW ☐SW ☐SE ☐NE
3) **T**ownship _____ **R**ange _____ **S**ection _____ ¼ section: ☐NW ☐SW ☐SE ☐NE
4) **T**ownship _____ **R**ange _____ **S**ection _____ ¼ section: ☐NW ☐SW ☐SE ☐NE
USGS 7.5' Map(s) 1) Name BRADENTON **U**SGS Date 2024
2) Name _____ **U**SGS Date _____
Plat, Aerial, or Other Map (map's name, originating office with location) _____
Landgrant _____
Verbal Description of Boundaries (description does not replace required map)

Runs east to west for approximately 232.7 m (763.5 ft) in the APE at its intersection with 1st Street/US 41 (8MA02568).

DHR USE ONLY	OFFICIAL EVALUATION	DHR USE ONLY
NR List Date _____ ☐Owner Objection	SHPO – Appears to meet criteria for NR listing: ☐yes ☐no ☐insufficient info Date _____ Init._____ KEEPER – Determined eligible: ☐yes ☐no Date _____ NR Criteria for Evaluation: ☐a ☐b ☐c ☐d (see *National Register Bulletin 15*, p. 2)	

Florida Master Site File / Div. of Historical Resources / R. A. Gray Bldg / 500 S Bronough St., Tallahassee, FL 32399-0250
Phone **850.245.6440** / Fax **850.245.6439** / E-mail **SiteFile@dos.myflorida.com**

RESOURCE GROUP FORM

Site #8 MA02249

HISTORY & DESCRIPTION

Construction Year: 1935 ☒approximately ☐year listed or earlier ☐year listed or later
Architect/Designer: _____ Builder: _____
Total number of individual resources included in this Resource Group: # of contributing _____ # of non-contributing _____
Time period(s) of significance (choose a period from the list or type in date range(s), e.g. *1895-1925*)
1. American-20th Century 3. _____
2. _____ 4. _____
Narrative Description (*National Register Bulletin 16A* pp. 33-34; attach supplementary sheets if needed)

Resource 8MA02249 is a three-lane, one-way, asphalt paved road with right and left turning lanes, concrete curbing, concrete medians, and sidewalks

RESEARCH METHODS (check all that apply)

☒FMSF record search (sites/surveys)	☐library research	☐building permits	☐Sanborn maps
☐FL State Archives/photo collection	☐city directory	☐occupant/owner interview	☐plat maps
☐property appraiser / tax records	☐newspaper files	☐neighbor interview	☐Public Lands Survey (DEP)
☒cultural resource survey	☐historic photos	☐interior inspection	☐HABS/HAER record search

☒other methods (specify) Pedestrian/Windshield Survey
Bibliographic References (give FMSF Manuscript # if relevant)

OPINION OF RESOURCE SIGNIFICANCE

Potentially eligible individually for National Register of Historic Places? ☐yes ☐no ☒insufficient information
Potentially eligible as contributor to a National Register district? ☐yes ☐no ☒insufficient information
Explanation of Evaluation (required, see *National Register Bulletin 16A* p. 48-49. Attach longer statement, if needed, on separate sheet.)

It is out of the current scope of work to evaluate 8MA02249 as a whole.

Area(s) of Historical Significance (see *National Register Bulletin 15*, p. 8 for categories: e.g. "architecture", "ethnic heritage", "community planning & development", etc.)
1. _____ 3. _____ 5. _____
2. _____ 4. _____ 6. _____

DOCUMENTATION

Accessible Documentation Not Filed with the Site File - including field notes, analysis notes, photos, plans and other important documents

1) Document type All materials at one location Maintaining organization Southeastern Archaeological Research
Document description Photos, Maps, Field Notes, Aerial File or accession #'s 260003

2) Document type _____ Maintaining organization _____
Document description _____ File or accession #'s _____

RECORDER INFORMATION

Recorder Name Bonatakis, Mary Affiliation Southeastern Archaeological Research
Recorder Contact Information 3117 Edgewater Dr, Orlando, FL 32804/407-236-7711/Mary.Bonatakis@searchinc
(address / phone / fax / e-mail)

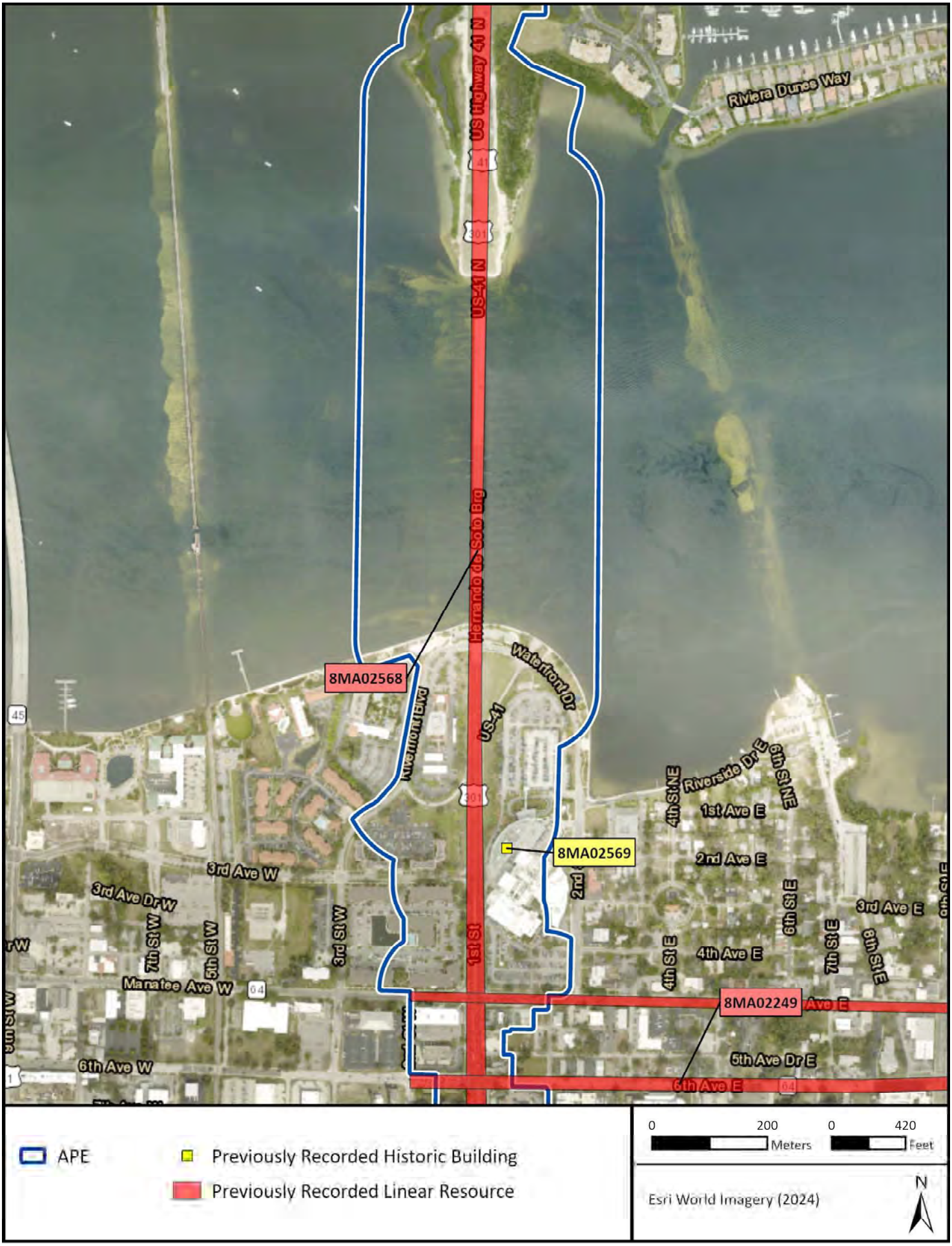
Required Attachments

❶ **PHOTOCOPY OF USGS 7.5' MAP WITH DISTRICT BOUNDARY CLEARLY MARKED**
❷ **LARGE SCALE STREET, PLAT OR PARCEL MAP WITH RESOURCES MAPPED & LABELED**
❸ **TABULATION OF ALL INCLUDED RESOURCES -** Include name, FMSF #, contributing? Y/N, resource category, street address or other location information if no address.
❹ **PHOTOS OF GENERAL STREETSCAPE OR VIEWS (Optional: aerial photos, views of typical resources)** When submitting images, they must be included in digital AND hard copy format (plain paper grayscale acceptable). Digital images must be at least 1600 x 1200 pixels, 24-bit color, jpeg or tiff.

8MA02249_a Facing W

8MA02249_b Facing NE

8MA02249_c Facing E


US highway 41 N
Riviera Dunes Way
US-41 N
Hernando de Soto Brg
Waterfront Dr
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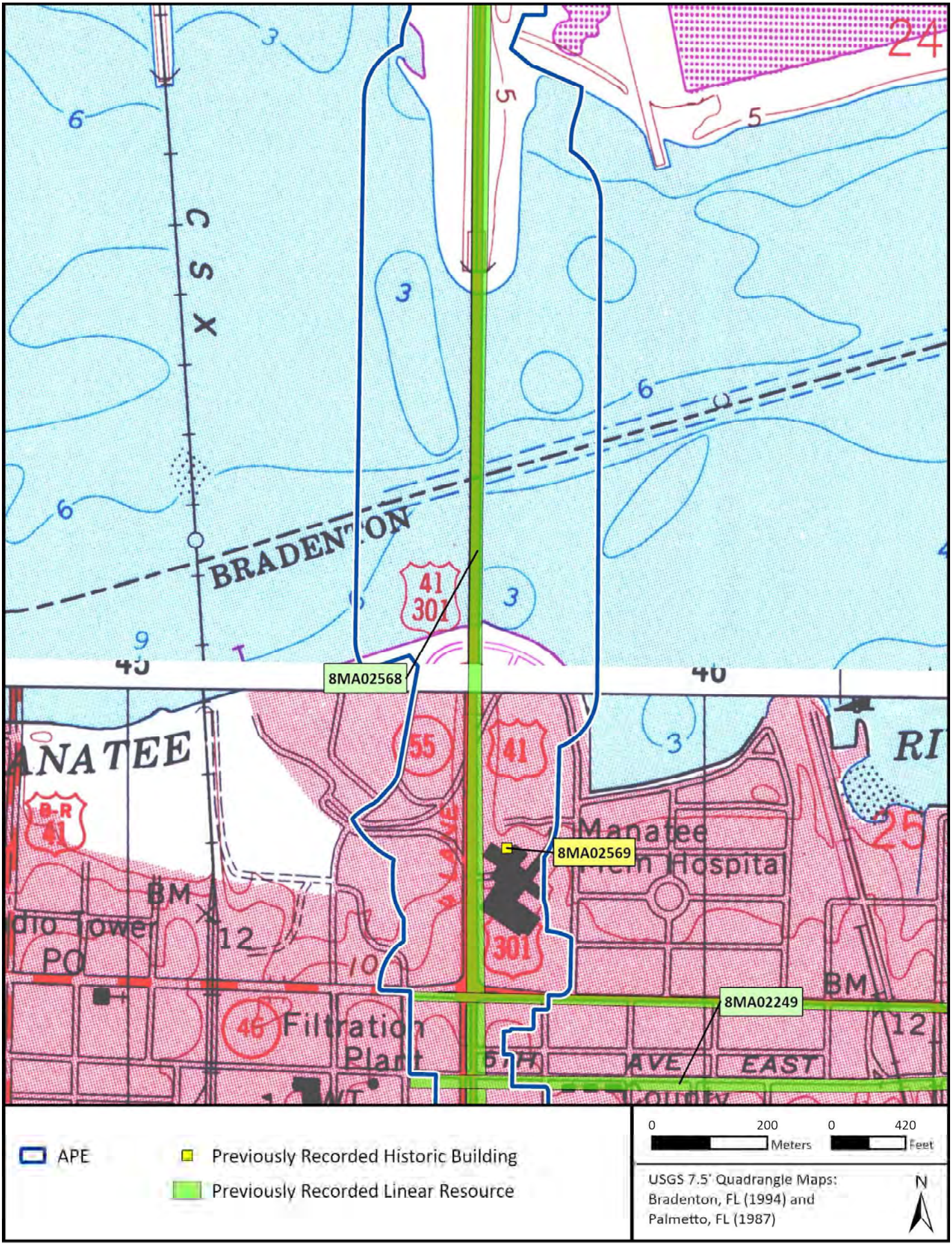
Riverwalk Blvd
US-41
8MA02569
Riverside Dr E
4th St NE
6th St NE
1st Ave E
2nd Ave E
3rd Ave W
3rd Ave Dr W
7th St W
5th St W
3rd St W
1st St
6th St E
3rd Ave E
4th St E
4th Ave E
7th St E
8th St E
Manatee Ave W
8MA02249
5th Ave Dr E
6th Ave W
6th Ave E
APE
Previously Recorded Historic Building
Previously Recorded Linear Resource
0
200
Meters
0
420
Feet
Esri World Imagery (2024)
N


8MA02568
8MA02569
8MA02249
BRADENTON
Manatee
Filtration
Plant
APE
Previously Recorded Historic Building
Previously Recorded Linear Resource
0
200
Meters
0
420
Feet
USGS 7.5' Quadrangle Maps:
Bradenton, FL (1994) and
Palmetto, FL (1987)
N

☐Original
☒Update

RESOURCE GROUP FORM
FLORIDA MASTER SITE FILE
Version 5.0 3/19

Consult the *Guide to the Resource Group Form* for additional instructions

Site # MA02568
Field Date 2-16-2026
Form Date 3-6-2026
Recorder# _____

NOTE: Use this form to document districts, landscapes, building complexes and linear resources as described in the box below. Cultural resources contributing to the Resource Group should also be documented individually at the Site File. **Do not use this form for National Register multiple property submissions** (MPSs). National Register MPSs are treated as Site File manuscripts and are associated with the individual resources included under the MPS cover using the Site File manuscript number.

Check ONE box that best describes the Resource Group:

- ☐ **Historic district** (NR category "district"): buildings and NR structures only: NO archaeological sites
- ☐ **Archaeological district** (NR category "district"): archaeological sites only: NO buildings or NR structures
- ☐ **Mixed district** (NR category "district"): includes more than one type of cultural resource (example: archaeological sites and buildings)
- ☐ **Building complex** (NR category usually "building(s)"): multiple buildings in close spatial and functional association
- ☐ **Designed historic landscape** (NR category usually "district" or "site"): can include multiple resources (see *National Register Bulletin #18*, page 2 for more detailed definition and examples: e.g. parks, golf courses, campuses, resorts, etc.)
- ☐ **Rural historic landscape** (NR category usually "district" or "site"): can include multiple resources and resources not formally designed (see *National Register Bulletin #30, Guidelines for Evaluating and Documenting Rural Historic Landscapes* for more detailed definition and examples: e.g. farmsteads, fish camps, lumber camps, traditional ceremonial sites, etc.)
- ☒ **Linear resource** (NR category usually "structure"): Linear resources are a special type of structure or historic landscape and can include canals, railways, roads, etc.

Resource Group Name Us 41 (US 301) **M**ultiple Listing [DHR only] _____
Project Name Bradenton-Palmetto Connector PD&E **F**MSF Survey #_____
National Register Category (please check one): ☐building(s) ☒structure ☐district ☐site ☐object
Linear Resource Type (if applicable): ☐canal ☐railway ☒road ☐other (describe): _____
Ownership: ☐private-profit ☐private-nonprofit ☐private-individual ☐private-nonspecific ☐city ☐county ☒state ☐federal ☐Native American ☐foreign ☐unknown

LOCATION & MAPPING

	Street Number	Direction	Street Name	Street Type	Suffix Direction
Address:					

City/Town (within 3 miles) Bradenton In Current City Limits? ☒yes ☐no ☐unknown
County or Counties (do not abbreviate) Manatee
Name of Public Tract (e.g., park)_____
1) **T**ownship 34S **R**ange 17E **S**ection 25,36 ¼ section: ☐NW ☐SW ☐SE ☐NE Irregular-name: _____
2) **T**ownship 34S **R**ange 17E **S**ection 12,13 ¼ section: ☐NW ☐SW ☐SE ☐NE
3) **T**ownship _____ **R**ange _____ **S**ection _____ ¼ section: ☐NW ☐SW ☐SE ☐NE
4) **T**ownship _____ **R**ange _____ **S**ection _____ ¼ section: ☐NW ☐SW ☐SE ☐NE
USGS 7.5' Map(s) 1) Name BRADENTON **U**SGS Date 2024
2) Name PALMETTO **U**SGS Date 2024
Plat, Aerial, or Other Map (map's name, originating office with location) _____
Landgrant _____
Verbal Description of Boundaries (description does not replace required map)

8MA02568 runs north-south in the APE for approximately 7.2 km (4.5 mi).

DHR USE ONLY	OFFICIAL EVALUATION	DHR USE ONLY
NR List Date _____ ☐Owner Objection	SHPO – Appears to meet criteria for NR listing: ☐yes ☐no ☐insufficient info Date _____ Init._____ KEEPER – Determined eligible: ☐yes ☐no Date _____ NR Criteria for Evaluation: ☐a ☐b ☐c ☐d (see *National Register Bulletin 15*, p. 2)	

Florida Master Site File / Div. of Historical Resources / R. A. Gray Bldg / 500 S Bronough St., Tallahassee, FL 32399-0250
Phone **850.245.6440** / Fax **850.245.6439** / E-mail **SiteFile@dos.myflorida.com**

RESOURCE GROUP FORM

Site #8 MA02568

HISTORY & DESCRIPTION

Construction Year: 1925 ☒approximately ☐year listed or earlier ☐year listed or later
Architect/Designer: _____ Builder: _____
Total number of individual resources included in this Resource Group: # of contributing _____ # of non-contributing _____
Time period(s) of significance (choose a period from the list or type in date range(s), e.g. *1895-1925*)
1. American-20th Century 3. _____
2. _____ 4. _____
Narrative Description (*National Register Bulletin 16A* pp. 33-34; attach supplementary sheets if needed)

Resource 8MA02568 is a two-and-three-lane, divided road with the occasional central, right, and left turning lanes. Portions of the road have asphalt and paved shoulders with concrete and grassy medians.

RESEARCH METHODS (check all that apply)

☒FMSF record search (sites/surveys)	☐library research	☐building permits	☐Sanborn maps
☐FL State Archives/photo collection	☐city directory	☐occupant/owner interview	☐plat maps
☐property appraiser / tax records	☐newspaper files	☐neighbor interview	☐Public Lands Survey (DEP)
☒cultural resource survey	☐historic photos	☐interior inspection	☐HABS/HAER record search

☒other methods (specify) Pedestrian/Windshield Survey
Bibliographic References (give FMSF Manuscript # if relevant)

OPINION OF RESOURCE SIGNIFICANCE

Potentially eligible individually for National Register of Historic Places? ☐yes ☒no ☐insufficient information
Potentially eligible as contributor to a National Register district? ☐yes ☒no ☐insufficient information
Explanation of Evaluation (required, see *National Register Bulletin 16A* p. 48-49. Attach longer statement, if needed, on separate sheet.)

Due to loss of integrity 8MA02568 is not eligible for listing in the NRHP either individually as a contributing resource within a potential or existing historic district.

Area(s) of Historical Significance (see *National Register Bulletin 15*, p. 8 for categories: e.g. "architecture", "ethnic heritage", "community planning & development", etc.)
1. _____ 3. _____ 5. _____
2. _____ 4. _____ 6. _____

DOCUMENTATION

Accessible Documentation Not Filed with the Site File - including field notes, analysis notes, photos, plans and other important documents

1) Document type All materials at one location Maintaining organization Southeastern Archaeological Research
Document description Photos, Maps, Field Notes, Aerial File or accession #'s 260003

2) Document type _____ Maintaining organization _____
Document description _____ File or accession #'s _____

RECORDER INFORMATION

Recorder Name Bonatakis, Mary Affiliation Southeastern Archaeological Research
Recorder Contact Information 3117 Edgewater Dr, Orlando, FL 32804/407-236-7711/Mary.Bonatakis@searchinc
(address / phone / fax / e-mail)

Required Attachments

❶ **PHOTOCOPY OF USGS 7.5' MAP WITH DISTRICT BOUNDARY CLEARLY MARKED**
❷ **LARGE SCALE STREET, PLAT OR PARCEL MAP WITH RESOURCES MAPPED & LABELED**
❸ **TABULATION OF ALL INCLUDED RESOURCES -** Include name, FMSF #, contributing? Y/N, resource category, street address or other location information if no address.
❹ **PHOTOS OF GENERAL STREETSCAPE OR VIEWS (Optional: aerial photos, views of typical resources)** When submitting images, they must be included in digital AND hard copy format (plain paper grayscale acceptable). Digital images must be at least 1600 x 1200 pixels, 24-bit color, jpeg or tiff.

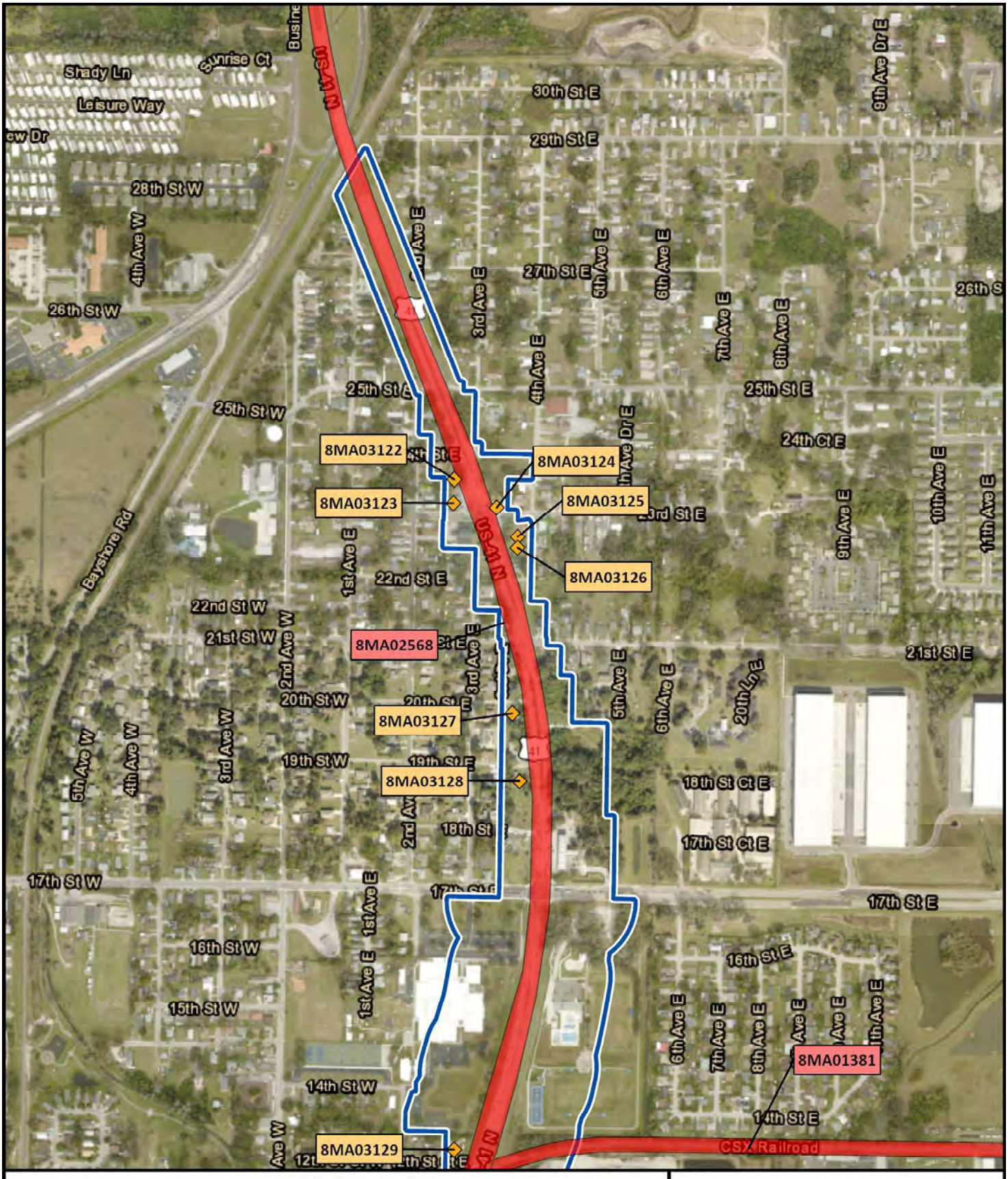
8MA02568_a Facing S

8MA02568_b Facing N

8MA02568_c Facing S

8MA02568_d Facing S

8MA02568_e facing N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8MA03126
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8MA03127
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8MA03129
8MA01381
US-41 N
CSX Railroad
Shady Ln
Sunrise Ct
Leisure Way
Bayshore Rd
30th St E
29th St E
28th St W
27th St E
26th St W
25th St E
25th St W
24th Ct E
22nd St E
22nd St W
21st St W
21st St E
20th St W
19th St W
18th St Ct E
18th St
17th St Ct E
17th St W
17th St E
16th St W
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15th St W
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1st Ave E
2nd Ave W
3rd Ave E
3rd Ave W
4th Ave W
5th Ave E
5th Ave W
6th Ave E
7th Ave E
8th Ave E
9th Ave E
9th Ave Dr E
10th Ave E
11th Ave E
APE
Newly Recorded Historic Building
Previously Recorded Linear Resource
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200
Meters
0
420
Feet
Esri World Imagery (2024)
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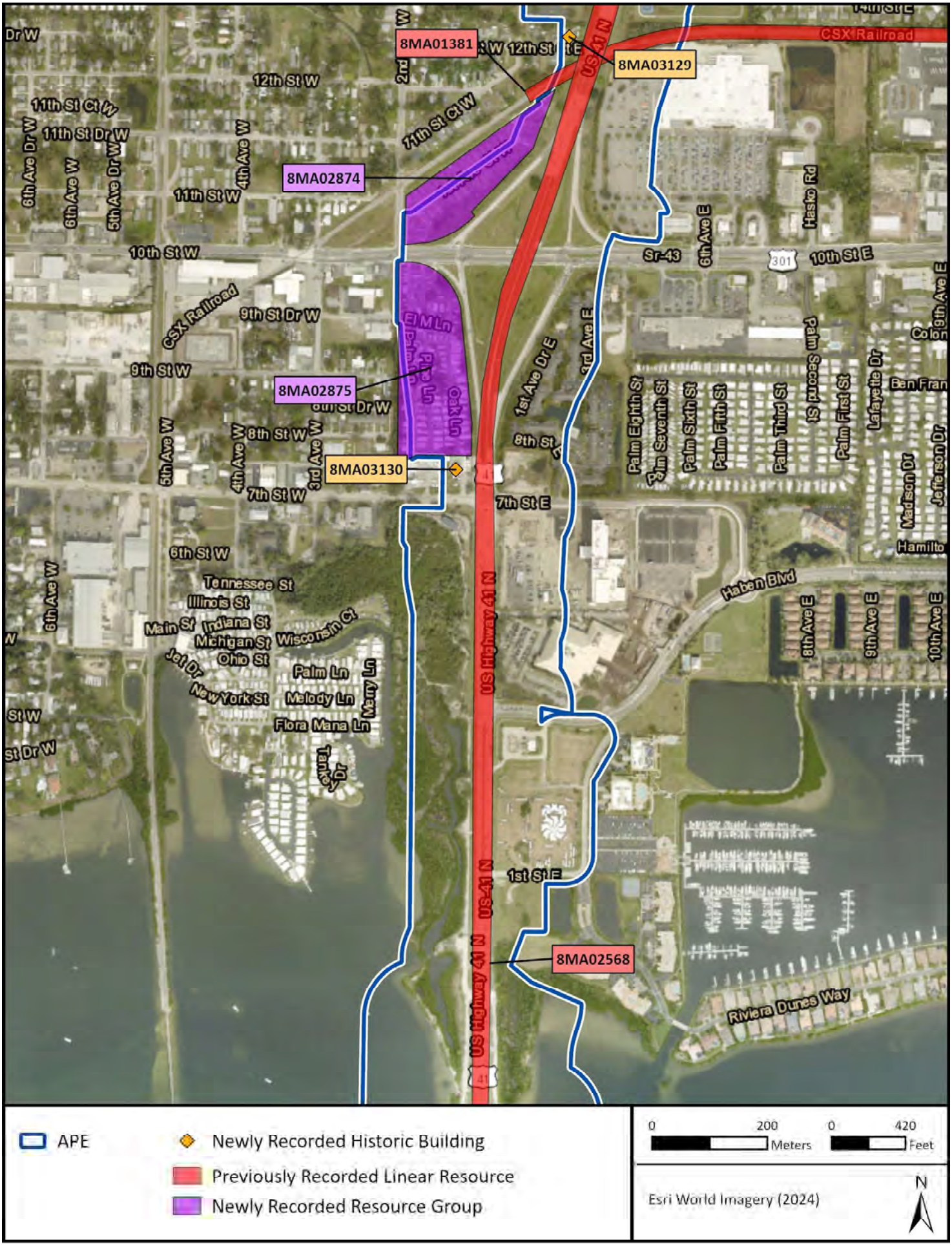
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8MA02874
8MA02875
8MA03130
8MA02568
CSX Railroad
US 41 N
US Highway 41 N
12th St W
11th St Ct W
11th St Dr W
11th St W
10th St W
9th St Dr W
9th St W
8th St W
7th St W
6th St W
7th St E
1st St E
10th St E
Sr-43
6th Ave E
Hasko Rd
1st Ave Dr E
3rd Ave E
Palm Eighth St
Palm Seventh St
Palm Sixth St
Palm Fifth St
Palm Third St
Palm First St
Palm Second St
Lafayette Dr
Madison Dr
Jefferson Dr
Haben Blvd
8th Ave E
9th Ave E
10th Ave E
Tennessee St
Illinois St
Main St
Indiana St
Michigan St
Wisconsin Ct
Ohio St
Palm Ln
Melody Ln
Flora Mana Ln
Mary Ln
New York St
Joel Dr
Tanks Dr
Riviera Dunes Way
APE
Newly Recorded Historic Building
Previously Recorded Linear Resource
Newly Recorded Resource Group
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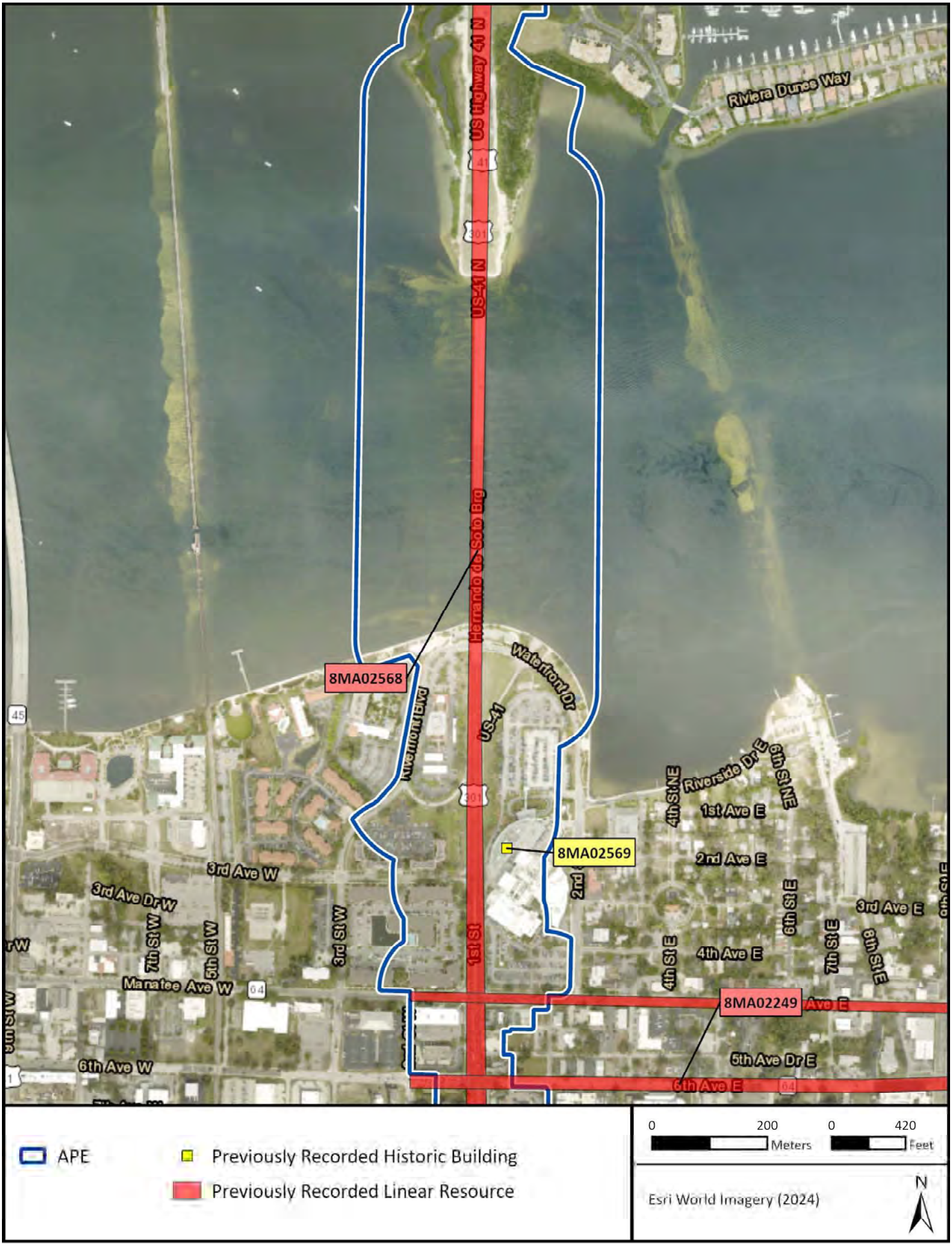
Meters
0
420
Feet
Esri World Imagery (2024)
N


US highway 41 N
Riviera Dunes Way
US-41 N
Hernando de Soto Brg
Waterfront Dr
8MA02568
Riverwalk Blvd
US-41
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4th St NE
6th St NE
1st Ave E
2nd Ave E
3rd Ave W
3rd Ave Dr W
7th St W
5th St W
3rd St W
1st St
6th St E
3rd Ave E
4th St E
4th Ave E
7th St E
8th St E
Manatee Ave W
8MA02249
5th Ave Dr E
6th Ave W
6th Ave E
APE
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Previously Recorded Linear Resource
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Meters
0
420
Feet
Esri World Imagery (2024)
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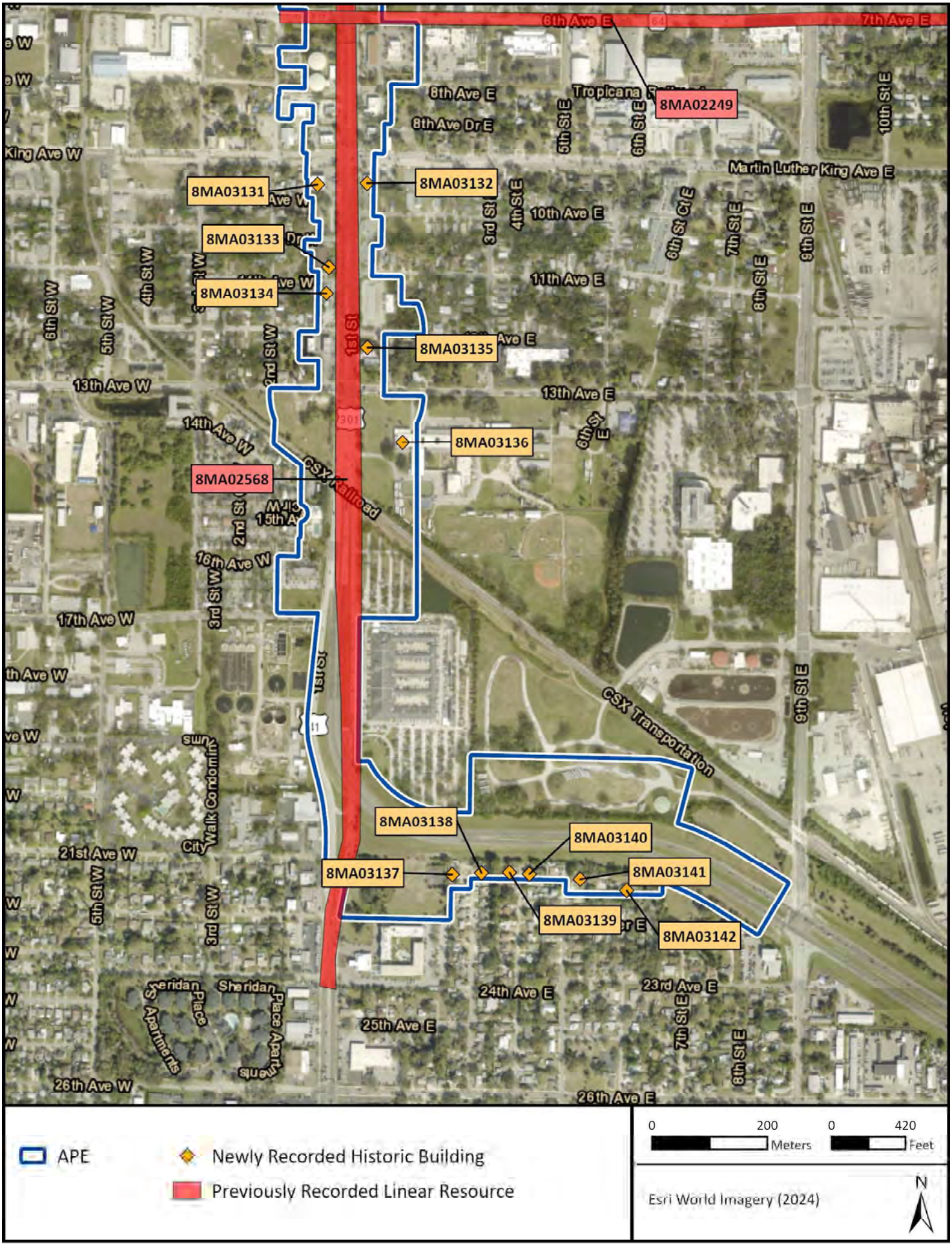
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8MA03141
8MA03142
6th Ave E
7th Ave E
8th Ave E
8th Ave Dr E
Martin Luther King Ave E
10th Ave E
11th Ave E
13th Ave E
13th Ave W
14th Ave W
16th Ave W
17th Ave W
21st Ave W
24th Ave E
25th Ave E
23rd Ave E
26th Ave W
26th Ave E
1st St
2nd St W
3rd St W
4th St W
5th St W
6th St W
3rd St E
4th St E
5th St E
6th St E
7th St E
8th St E
9th St E
10th St E
CSX Railroad
CSX Transportation
Sheridan Place Apartments
Walk Condomin
APE
Newly Recorded Historic Building
Previously Recorded Linear Resource
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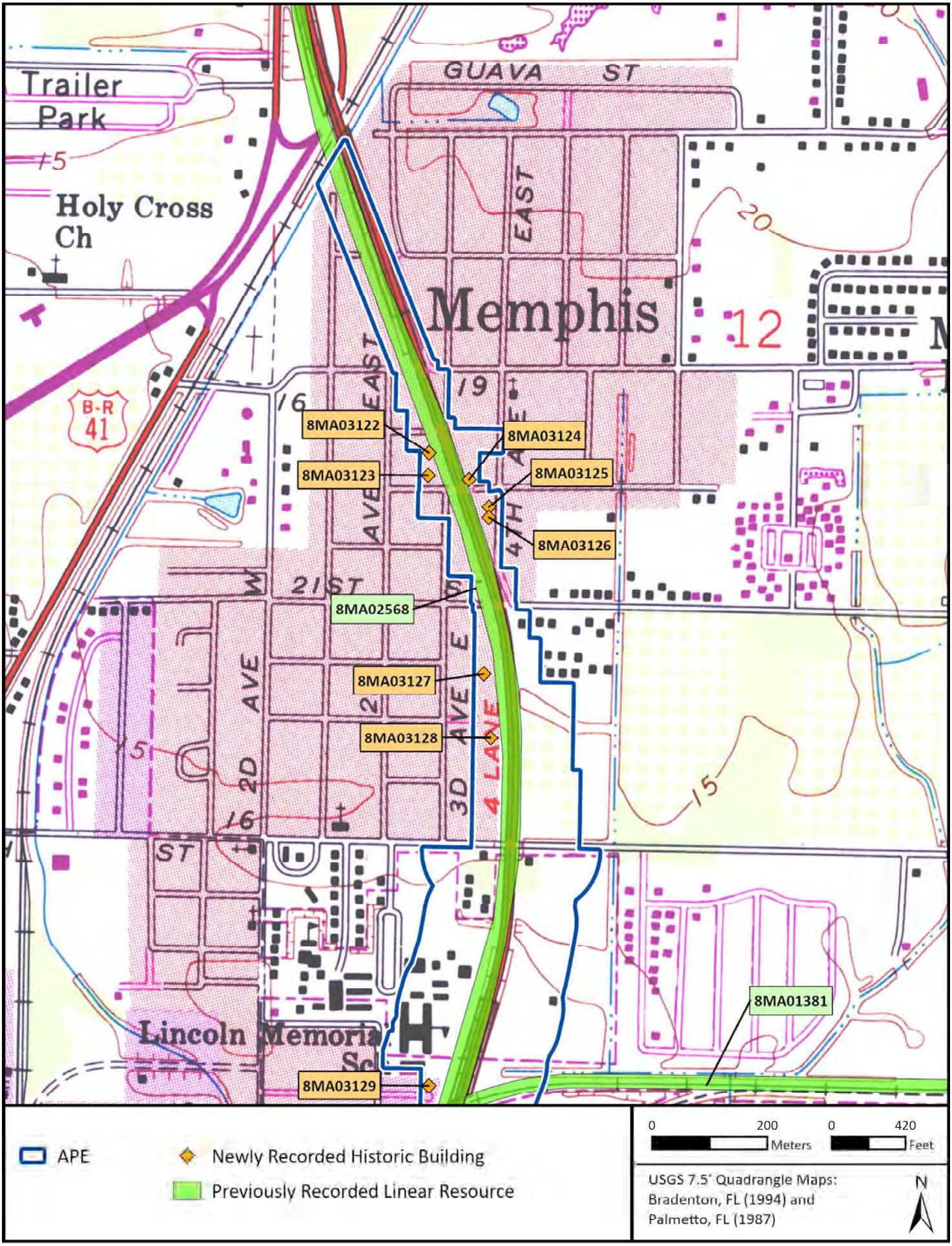
200
Meters
0
420
Feet
Esri World Imagery (2024)
N


Trailer Park
Holy Cross Ch
GUAVA ST
EAST
Memphis
12
B-R 41
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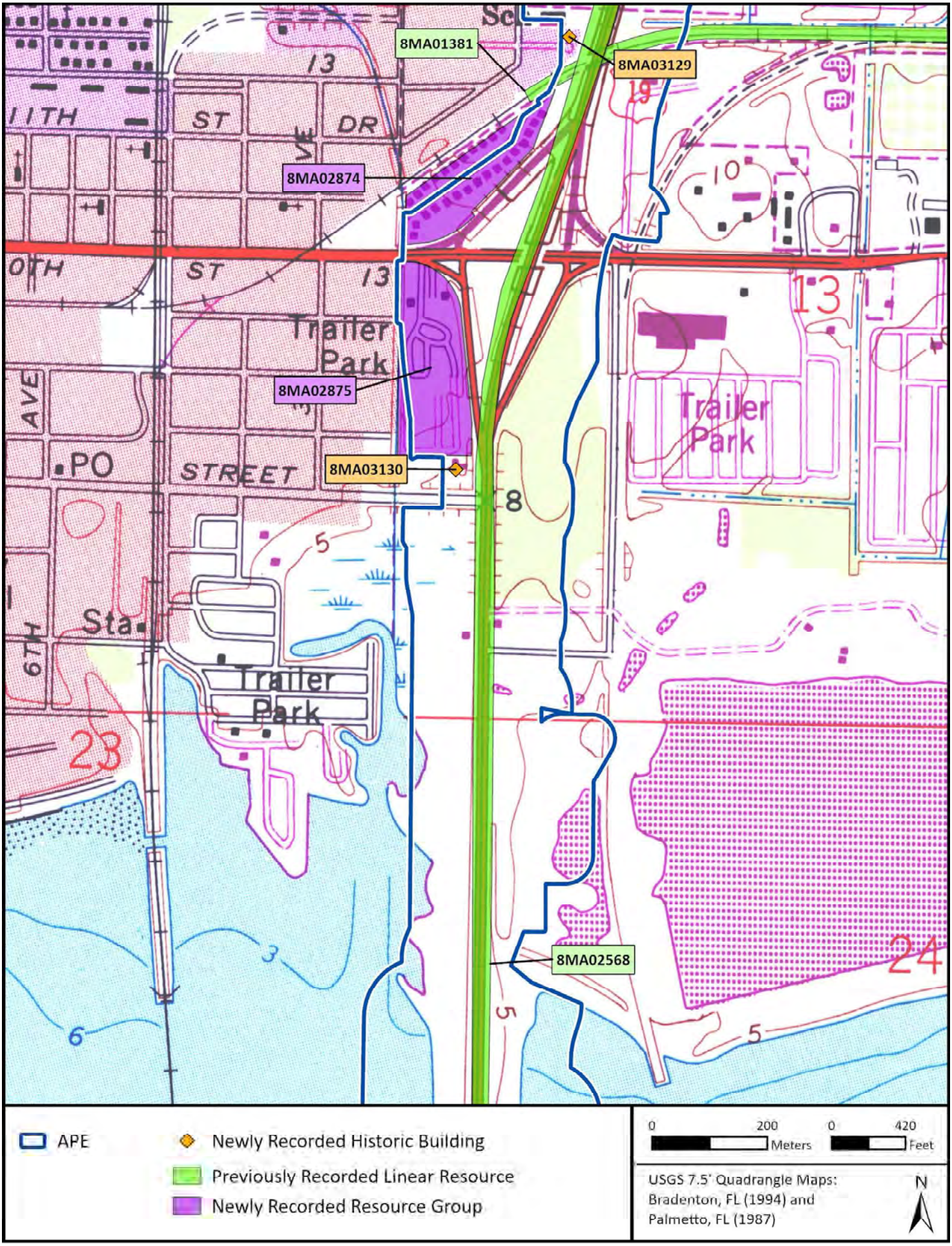
8MA03126
8MA02568
8MA03127
8MA03128
8MA03129
8MA01381
W 21ST
2D AVE
3D AVE
4 LAVE
Lincoln Memorial
APE
Newly Recorded Historic Building
Previously Recorded Linear Resource
0 200 Meters
0 420 Feet
USGS 7.5' Quadrangle Maps:
Bradenton, FL (1994) and
Palmetto, FL (1987)
N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Trailer Park
Trailer Park
Trailer Park
APE
Newly Recorded Historic Building
Previously Recorded Linear Resource
Newly Recorded Resource Group
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Meters
0
420
Feet
USGS 7.5' Quadrangle Maps:
Bradenton, FL (1994) and
Palmetto, FL (1987)
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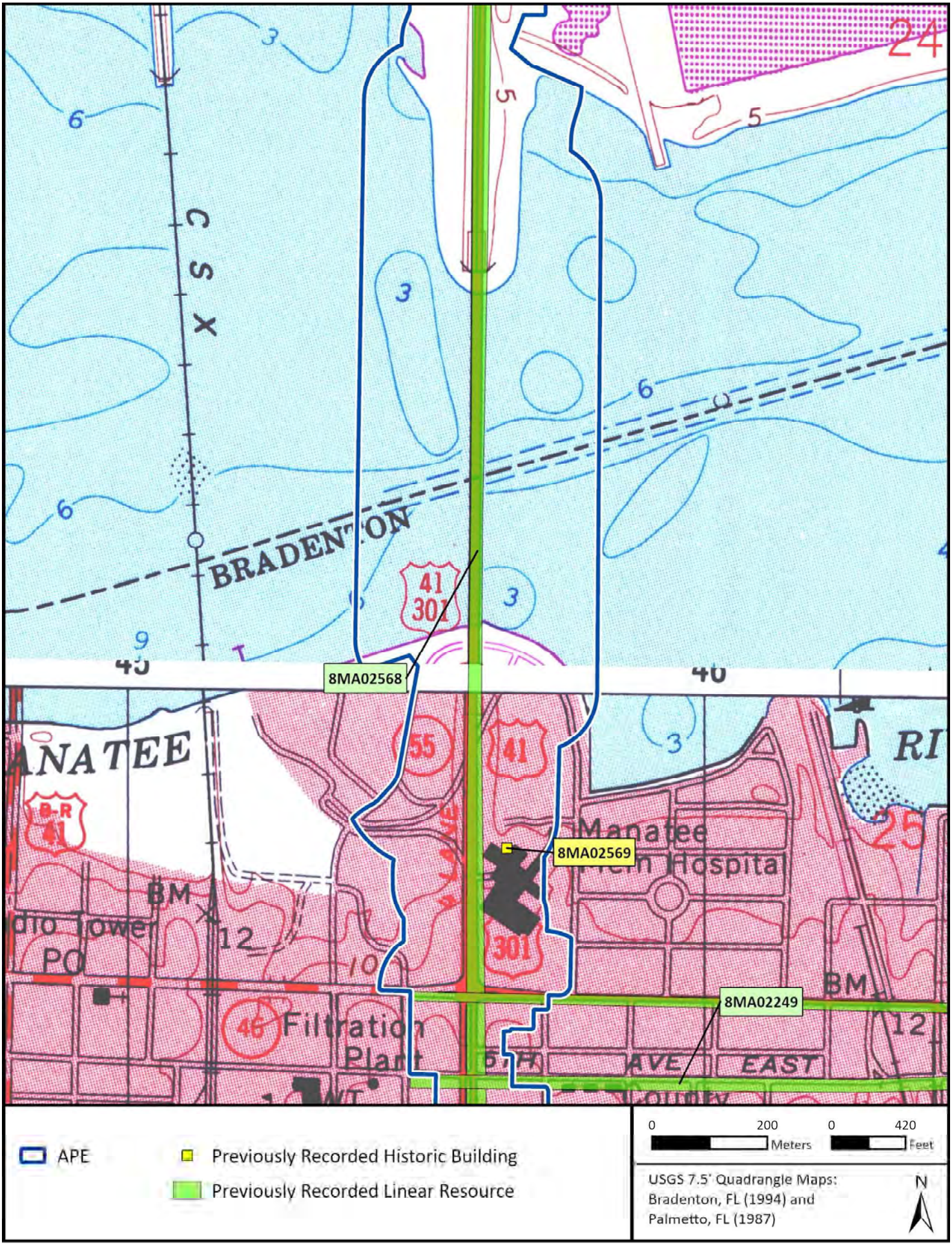
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BRADENTON
Manatee
Filtration
Plant
APE
Previously Recorded Historic Building
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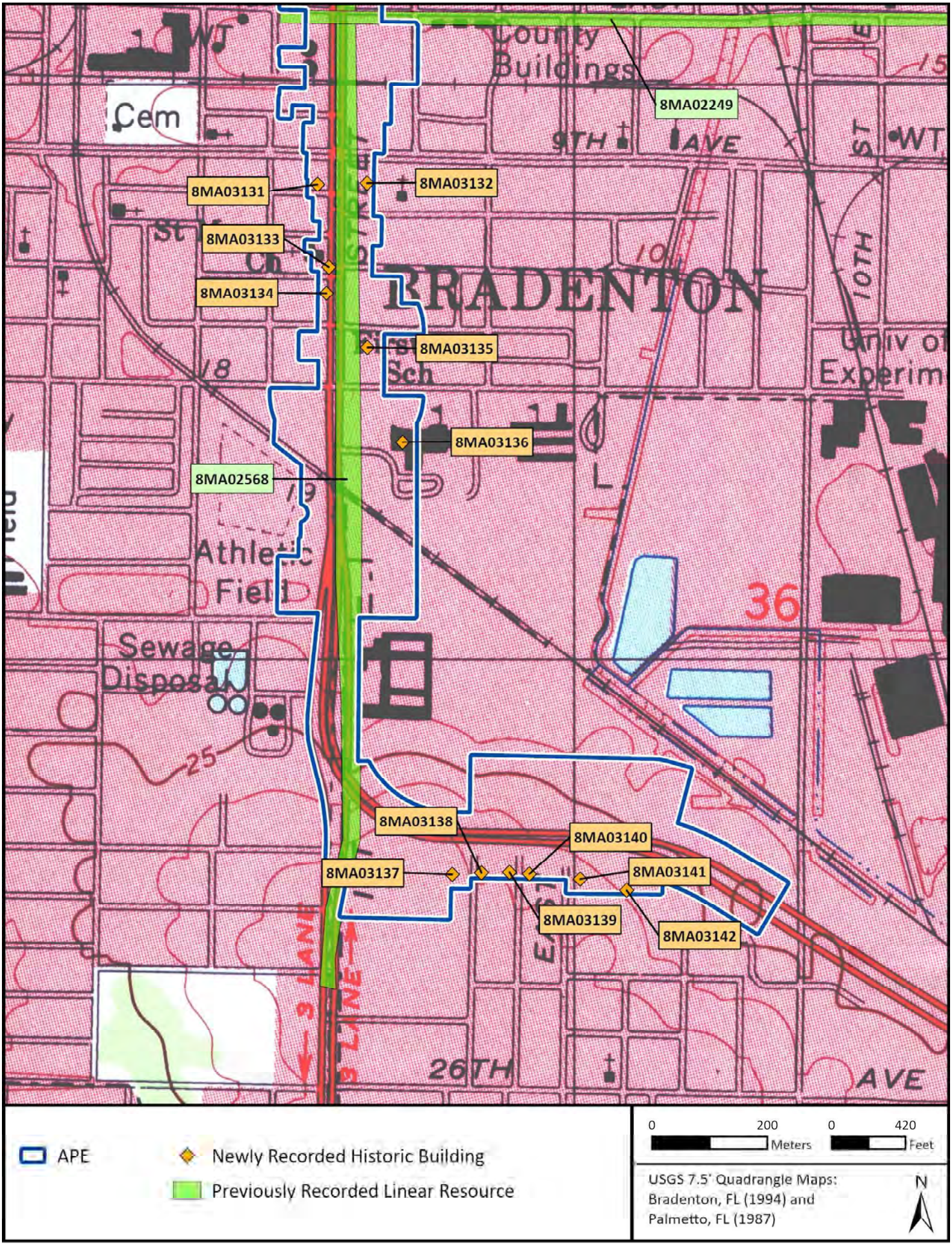
Meters
0
420
Feet
USGS 7.5' Quadrangle Maps:
Bradenton, FL (1994) and
Palmetto, FL (1987)
N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8MA03135
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8MA02568
8MA03138
8MA03140
8MA03137
8MA03141
8MA03139
8MA03142
BRADENTON
9TH AVE
10TH ST
26TH AVE
Cem
Athletic Field
Sewage Disposal
36
APE
Newly Recorded Historic Building
Previously Recorded Linear Resource
0 200 Meters
0 420 Feet
USGS 7.5' Quadrangle Maps:
Bradenton, FL (1994) and
Palmetto, FL (1987)
N

☒Original
☐Update

RESOURCE GROUP FORM
FLORIDA MASTER SITE FILE
Version 5.0 3/19

Consult the *Guide to the Resource Group Form* for additional instructions

Site #8 MA02874
Field Date 2-16-2026
Form Date 3-6-2026
Recorder# _____

NOTE: Use this form to document districts, landscapes, building complexes and linear resources as described in the box below. Cultural resources contributing to the Resource Group should also be documented individually at the Site File. **Do not use this form for National Register multiple property submissions** (MPSs). National Register MPSs are treated as Site File manuscripts and are associated with the individual resources included under the MPS cover using the Site File manuscript number.

Check ONE box that best describes the Resource Group:

- ☐ **Historic district** (NR category "district"): buildings and NR structures only: NO archaeological sites
- ☐ **Archaeological district** (NR category "district"): archaeological sites only: NO buildings or NR structures
- ☐ **Mixed district** (NR category "district"): includes more than one type of cultural resource (example: archaeological sites and buildings)
- ☒ **Building complex** (NR category usually "building(s)"): multiple buildings in close spatial and functional association
- ☐ **Designed historic landscape** (NR category usually "district" or "site"): can include multiple resources (see *National Register Bulletin #18*, page 2 for more detailed definition and examples: e.g. parks, golf courses, campuses, resorts, etc.)
- ☐ **Rural historic landscape** (NR category usually "district" or "site"): can include multiple resources and resources not formally designed (see *National Register Bulletin #30, Guidelines for Evaluating and Documenting Rural Historic Landscapes* for more detailed definition and examples: e.g. farmsteads, fish camps, lumber camps, traditional ceremonial sites, etc.)
- ☐ **Linear resource** (NR category usually "structure"): Linear resources are a special type of structure or historic landscape and can include canals, railways, roads, etc.

Resource Group Name Pacific Tomato Growers Housing **Multiple Listing [DHR only]** _____
Project Name Bradenton-Palmetto Connector PD&E **FMSF Survey #** _____
National Register Category (please check one): ☒building(s) ☐structure ☐district ☐site ☐object
Linear Resource Type (if applicable): ☐canal ☐railway ☐road ☐other (describe): _____
Ownership: ☒private-profit ☐private-nonprofit ☐private-individual ☐private-nonspecific ☐city ☐county ☐state ☐federal ☐Native American ☐foreign ☐unknown

LOCATION & MAPPING

	Street Number	Direction	Street Name	Street Type	Suffix Direction
Address:	1001		1st Avenue	Court	W

City/Town (within 3 miles) Palmetto In Current City Limits? ☒yes ☐no ☐unknown
County or Counties (do not abbreviate) Manatee
Name of Public Tract (e.g., park) _____
1) **Township** 34S **Range** 17E **Section** 13 ¼ section: ☐NW ☐SW ☐SE ☐NE Irregular-name: _____
2) **Township** _____ **Range** _____ **Section** _____ ¼ section: ☐NW ☐SW ☐SE ☐NE
3) **Township** _____ **Range** _____ **Section** _____ ¼ section: ☐NW ☐SW ☐SE ☐NE
4) **Township** _____ **Range** _____ **Section** _____ ¼ section: ☐NW ☐SW ☐SE ☐NE
USGS 7.5' Map(s) 1) Name PALMETTO **USGS Date** 2024
2) Name _____ **USGS Date** _____
Plat, Aerial, or Other Map (map's name, originating office with location) _____
Landgrant _____
Verbal Description of Boundaries (description does not replace required map)

8MA02874 is a ca. 1970 migrant camp situated on two parcels on the northwest corner of the intersection at 2nd Avenue W and 10th Street W, with 1st Avenue Court W running through the center of the resource group.

DHR USE ONLY	OFFICIAL EVALUATION	DHR USE ONLY
NR List Date _____ ☐Owner Objection	SHPO – Appears to meet criteria for NR listing: ☐yes ☐no ☐insufficient info Date _____ Init._____ KEEPER – Determined eligible: ☐yes ☐no Date _____ NR Criteria for Evaluation: ☐a ☐b ☐c ☐d (see *National Register Bulletin 15*, p. 2)	

Florida Master Site File / Div. of Historical Resources / R. A. Gray Bldg / 500 S Bronough St., Tallahassee, FL 32399-0250
Phone **850.245.6440** / Fax **850.245.6439** / E-mail **SiteFile@dos.myflorida.com**

RESOURCE GROUP FORM

Site #8 MA02874

HISTORY & DESCRIPTION

Construction Year: 1970 ☒approximately ☐year listed or earlier ☐year listed or later
Architect/Designer: _____ **B**uilder: _____
Total number of individual resources included in this Resource Group: # of contributing 39 # of non-contributing 0
Time period(s) of significance (choose a period from the list or type in date range(s), e.g. *1895-1925*)
1. Modern (Post 1950) 3. _____
2. _____ 4. _____
Narrative Description (*National Register Bulletin 16A* pp. 33-34; attach supplementary sheets if needed)

Resource 8MA02568 is a migrant camp with 39 Masonry Vernacular fourplexes.

RESEARCH METHODS (check all that apply)

☒FMSF record search (sites/surveys)	☐library research	☐building permits	☐Sanborn maps
☐FL State Archives/photo collection	☐city directory	☐occupant/owner interview	☐plat maps
☐property appraiser / tax records	☐newspaper files	☐neighbor interview	☐Public Lands Survey (DEP)
☒cultural resource survey	☐historic photos	☐interior inspection	☐HABS/HAER record search

☒other methods (specify) Pedestrian/Windshield Survey
Bibliographic References (give FMSF Manuscript # if relevant)

OPINION OF RESOURCE SIGNIFICANCE

Potentially eligible individually for National Register of Historic Places? ☐yes ☒no ☐insufficient information
Potentially eligible as contributor to a National Register district? ☐yes ☒no ☐insufficient information
Explanation of Evaluation (required, see *National Register Bulletin 16A* p. 48-49. Attach longer statement, if needed, on separate sheet.)

Due to lack of sufficient historic significance and architectural distinction, 8MA02874 is ineligible for listing in the NRHP, either individually or as a contributing resource within a potential or existing historic district.

Area(s) of Historical Significance (see *National Register Bulletin 15*, p. 8 for categories: e.g. "architecture", "ethnic heritage", "community planning & development", etc.)
1. _____ 3. _____ 5. _____
2. _____ 4. _____ 6. _____

DOCUMENTATION

Accessible Documentation Not Filed with the Site File - including field notes, analysis notes, photos, plans and other important documents

1) **D**ocument type All materials at one location **M**aintaining organization Southeastern Archaeological Research
Document description Photos, Maps, Field Notes, Aerial **F**ile or accession #'s 260003

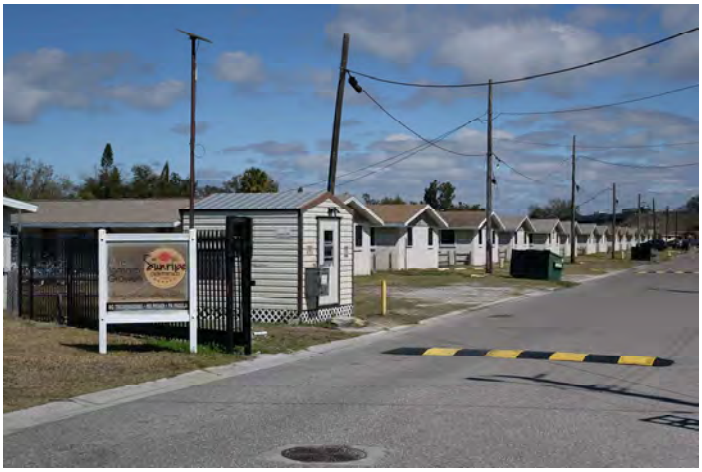
2) **D**ocument type _____ **M**aintaining organization _____
Document description _____ **F**ile or accession #'s _____

RECORDER INFORMATION

Recorder Name Bonatakis, Mary Affiliation Southeastern Archaeological Research
Recorder Contact Information 3117 Edgewater Dr, Orlando, FL 32804/407-236-7711/Mary.Bonatakis@searchinc
(address / phone / fax / e-mail)

Required Attachments

❶ **PHOTOCOPY OF USGS 7.5' MAP WITH DISTRICT BOUNDARY CLEARLY MARKED**
❷ **LARGE SCALE STREET, PLAT OR PARCEL MAP WITH RESOURCES MAPPED & LABELED**
❸ **TABULATION OF ALL INCLUDED RESOURCES -** Include name, FMSF #, contributing? Y/N, resource category, street address or other location information if no address.
❹ **PHOTOS OF GENERAL STREETSCAPE OR VIEWS (Optional: aerial photos, views of typical resources)** When submitting images, they must be included in digital AND hard copy format (plain paper grayscale acceptable). Digital images must be at least 1600 x 1200 pixels, 24-bit color, jpeg or tiff.



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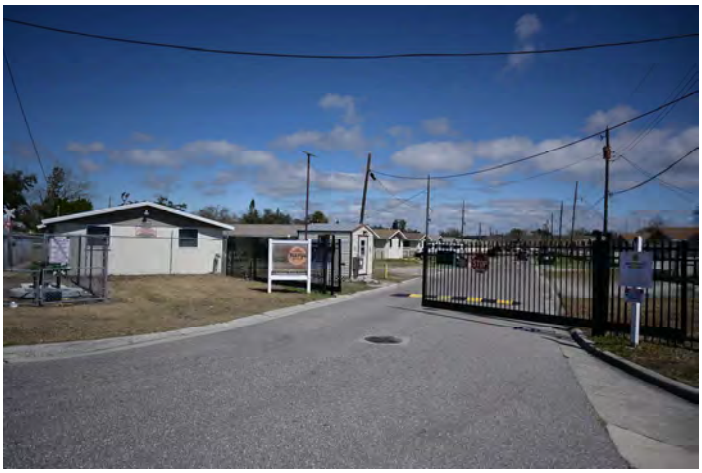
8MA02874_b Facing W

8MA02874_c Facing N

8MA02874_d Facing NE



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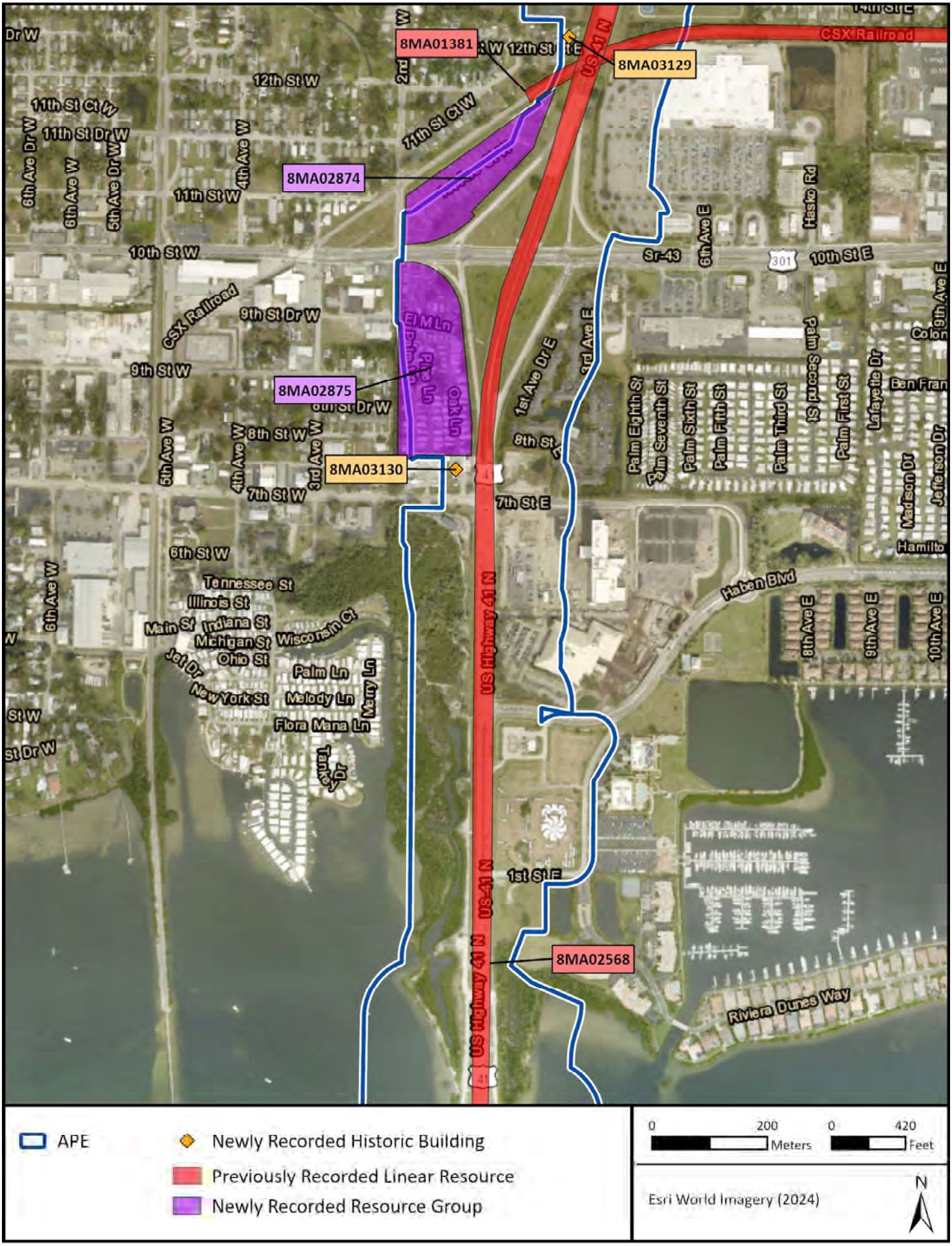
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CSX Railroad
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US Highway 41 N
12th St W
11th St Ct W
11th St Dr W
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8th St W
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1st St E
10th St E
Sr-43
6th Ave E
Hasko Rd
1st Ave Dr E
3rd Ave E
Palm Eighth St
Palm Seventh St
Palm Sixth St
Palm Fifth St
Palm Third St
Palm First St
Palm Second St
Lafayette Dr
Madison Dr
Jefferson Dr
Haben Blvd
8th Ave E
9th Ave E
10th Ave E
Tennessee St
Illinois St
Main St
Indiana St
Michigan St
Wisconsin Ct
Ohio St
Palm Ln
Melody Ln
Flora Mana Ln
Mary Ln
New York St
Joel Dr
Tanks Dr
Riviera Dunes Way
APE
Newly Recorded Historic Building
Previously Recorded Linear Resource
Newly Recorded Resource Group
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Esri World Imagery (2024)
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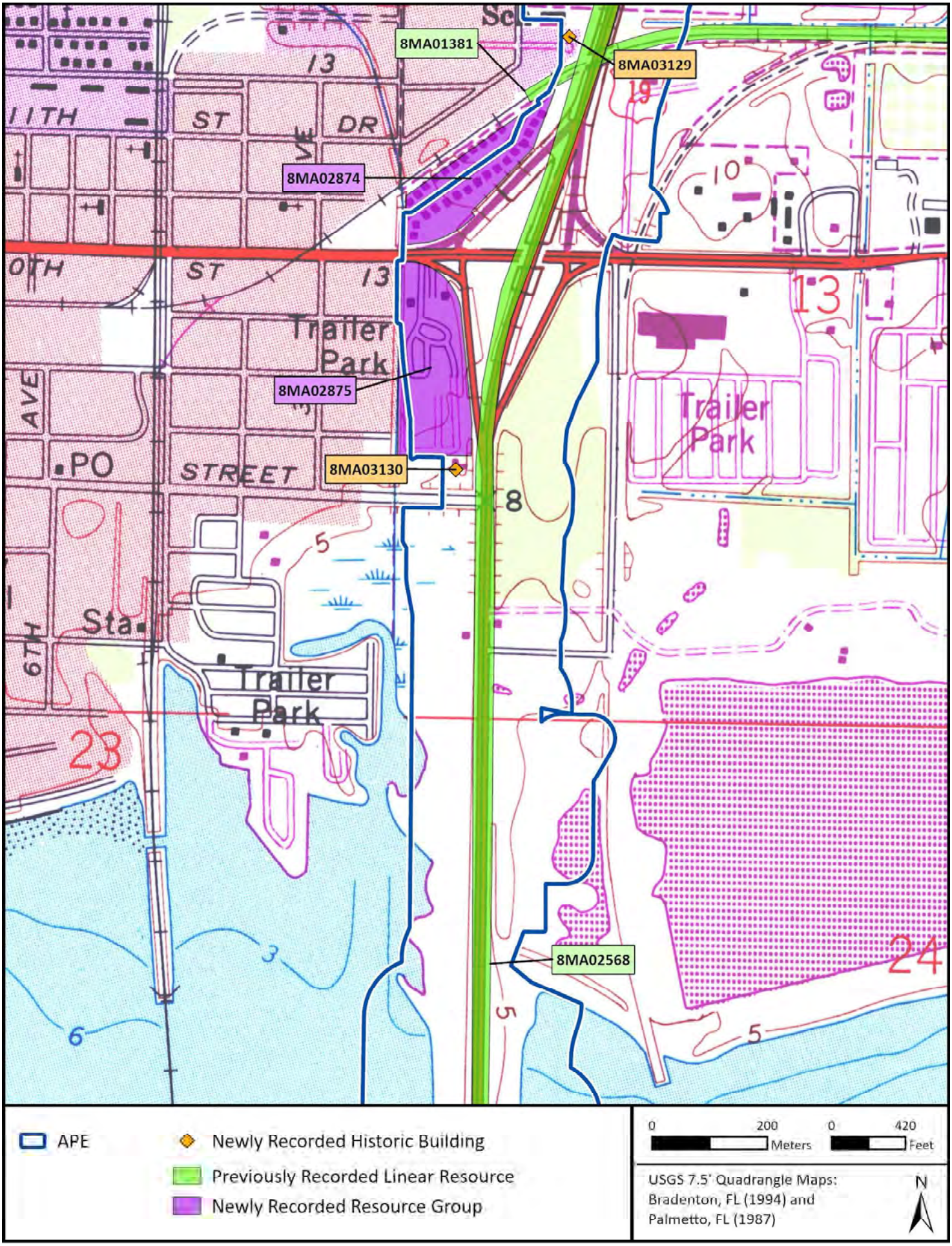
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USGS 7.5' Quadrangle Maps:
Bradenton, FL (1994) and
Palmetto, FL (1987)
N

☒Original
☐Update

RESOURCE GROUP FORM
FLORIDA MASTER SITE FILE
Version 5.0 3/19

Consult the *Guide to the Resource Group Form* for additional instructions

Site # MA02875
Field Date 2-16-2026
Form Date 3-6-2026
Recorder# _____

NOTE: Use this form to document districts, landscapes, building complexes and linear resources as described in the box below. Cultural resources contributing to the Resource Group should also be documented individually at the Site File. **Do not use this form for National Register multiple property submissions** (MPSs). National Register MPSs are treated as Site File manuscripts and are associated with the individual resources included under the MPS cover using the Site File manuscript number.

Check ONE box that best describes the Resource Group:

- ☐ **Historic district** (NR category "district"): buildings and NR structures only: NO archaeological sites
- ☐ **Archaeological district** (NR category "district"): archaeological sites only: NO buildings or NR structures
- ☐ **Mixed district** (NR category "district"): includes more than one type of cultural resource (example: archaeological sites and buildings)
- ☒ **Building complex** (NR category usually "building(s)"): multiple buildings in close spatial and functional association
- ☐ **Designed historic landscape** (NR category usually "district" or "site"): can include multiple resources (see *National Register Bulletin #18*, page 2 for more detailed definition and examples: e.g. parks, golf courses, campuses, resorts, etc.)
- ☐ **Rural historic landscape** (NR category usually "district" or "site"): can include multiple resources and resources not formally designed (see *National Register Bulletin #30, Guidelines for Evaluating and Documenting Rural Historic Landscapes* for more detailed definition and examples: e.g. farmsteads, fish camps, lumber camps, traditional ceremonial sites, etc.)
- ☐ **Linear resource** (NR category usually "structure"): Linear resources are a special type of structure or historic landscape and can include canals, railways, roads, etc.

Resource Group Name Loan Oak Park **Multiple Listing [DHR only]** _____
Project Name Bradenton-Palmetto Connector PD&E **FMSF Survey #** _____
National Register Category (please check one): ☒building(s) ☐structure ☐district ☐site ☐object
Linear Resource Type (if applicable): ☐canal ☐railway ☐road ☐other (describe): _____
Ownership: ☐private-profit ☒private-nonprofit ☐private-individual ☐private-nonspecific ☐city ☐county ☐state ☐federal ☐Native American ☐foreign ☐unknown

LOCATION & MAPPING

	Street Number	Direction	Street Name	Street Type	Suffix Direction
Address:	115		10th	Street	W

City/Town (within 3 miles) Palmetto In Current City Limits? ☒yes ☐no ☐unknown
County or Counties (do not abbreviate) Manatee
Name of Public Tract (e.g., park) _____
1) **Township** 34S **Range** 17E **Section** 13 ¼ section: ☐NW ☐SW ☐SE ☐NE Irregular-name: _____
2) **Township** _____ **Range** _____ **Section** _____ ¼ section: ☐NW ☐SW ☐SE ☐NE
3) **Township** _____ **Range** _____ **Section** _____ ¼ section: ☐NW ☐SW ☐SE ☐NE
4) **Township** _____ **Range** _____ **Section** _____ ¼ section: ☐NW ☐SW ☐SE ☐NE
USGS 7.5' Map(s) 1) Name PALMETTO **USGS Date** 2024
2) Name _____ **USGS Date** _____
Plat, Aerial, or Other Map (map's name, originating office with location) _____
Landgrant _____
Verbal Description of Boundaries (description does not replace required map)

8MA02875 is an enclosed mobile home park situated on a moderately rectangular-shaped parcel on the south side of 10th Street W with US 301 to the east, 3rd Avenue W to the west, and 7th Street W to the south.

DHR USE ONLY	OFFICIAL EVALUATION	DHR USE ONLY
NR List Date _____ ☐Owner Objection	SHPO – Appears to meet criteria for NR listing: ☐yes ☐no ☐insufficient info Date _____ Init._____ KEEPER – Determined eligible: ☐yes ☐no Date _____ NR Criteria for Evaluation: ☐a ☐b ☐c ☐d (see *National Register Bulletin 15*, p. 2)	

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Phone **850.245.6440** / Fax **850.245.6439** / E-mail **SiteFile@dos.myflorida.com**

RESOURCE GROUP FORM

Site #8 MA02875

HISTORY & DESCRIPTION

Construction Year: 1962 ☒approximately ☐year listed or earlier ☐year listed or later
Architect/Designer: _____ Builder: _____
Total number of individual resources included in this Resource Group: # of contributing 90 # of non-contributing 0
Time period(s) of significance (choose a period from the list or type in date range(s), e.g. *1895-1925*)
1. Modern (Post 1950) 3. _____
2. _____ 4. _____
Narrative Description (*National Register Bulletin 16A* pp. 33-34; attach supplementary sheets if needed)

Resource 8MA02568 is a mobile home park with over 90 historic age mobile homes ranging from RV's, single- to double-wide mobile homes, and some have been altered to include porches, decks, and carports.

RESEARCH METHODS (check all that apply)

☒FMSF record search (sites/surveys)	☐library research	☐building permits	☐Sanborn maps
☐FL State Archives/photo collection	☐city directory	☐occupant/owner interview	☐plat maps
☐property appraiser / tax records	☐newspaper files	☐neighbor interview	☐Public Lands Survey (DEP)
☒cultural resource survey	☐historic photos	☐interior inspection	☐HABS/HAER record search

☒other methods (specify) Pedestrian/Windshield Survey
Bibliographic References (give FMSF Manuscript # if relevant)

OPINION OF RESOURCE SIGNIFICANCE

Potentially eligible individually for National Register of Historic Places? ☐yes ☒no ☐insufficient information
Potentially eligible as contributor to a National Register district? ☐yes ☒no ☐insufficient information
Explanation of Evaluation (required, see *National Register Bulletin 16A* p. 48-49. Attach longer statement, if needed, on separate sheet.)

Due to lack of sufficient historic significance and architectural distinction, 8MA02875 is ineligible for listing in the NRHP, either individually or as a contributing resource within a potential or existing historic district.

Area(s) of Historical Significance (see *National Register Bulletin 15*, p. 8 for categories: e.g. "architecture", "ethnic heritage", "community planning & development", etc.)
1. _____ 3. _____ 5. _____
2. _____ 4. _____ 6. _____

DOCUMENTATION

Accessible Documentation Not Filed with the Site File - including field notes, analysis notes, photos, plans and other important documents

1) Document type All materials at one location Maintaining organization Southeastern Archaeological Research
Document description Photos, Maps, Field Notes, Aerial File or accession #'s 260003

2) Document type _____ Maintaining organization _____
Document description _____ File or accession #'s _____

RECORDER INFORMATION

Recorder Name Bonatakis, Mary Affiliation Southeastern Archaeological Research
Recorder Contact Information 3117 Edgewater Dr, Orlando, FL 32804/407-236-7711/Mary.Bonatakis@searchinc
(address / phone / fax / e-mail)

Required Attachments

❶ **PHOTOCOPY OF USGS 7.5' MAP WITH DISTRICT BOUNDARY CLEARLY MARKED**
❷ **LARGE SCALE STREET, PLAT OR PARCEL MAP WITH RESOURCES MAPPED & LABELED**
❸ **TABULATION OF ALL INCLUDED RESOURCES -** Include name, FMSF #, contributing? Y/N, resource category, street address or other location information if no address.
❹ **PHOTOS OF GENERAL STREETSCAPE OR VIEWS (Optional: aerial photos, views of typical resources)** When submitting images, they must be included in digital AND hard copy format (plain paper grayscale acceptable). Digital images must be at least 1600 x 1200 pixels, 24-bit color, jpeg or tiff.

8MA02875_a Facing S

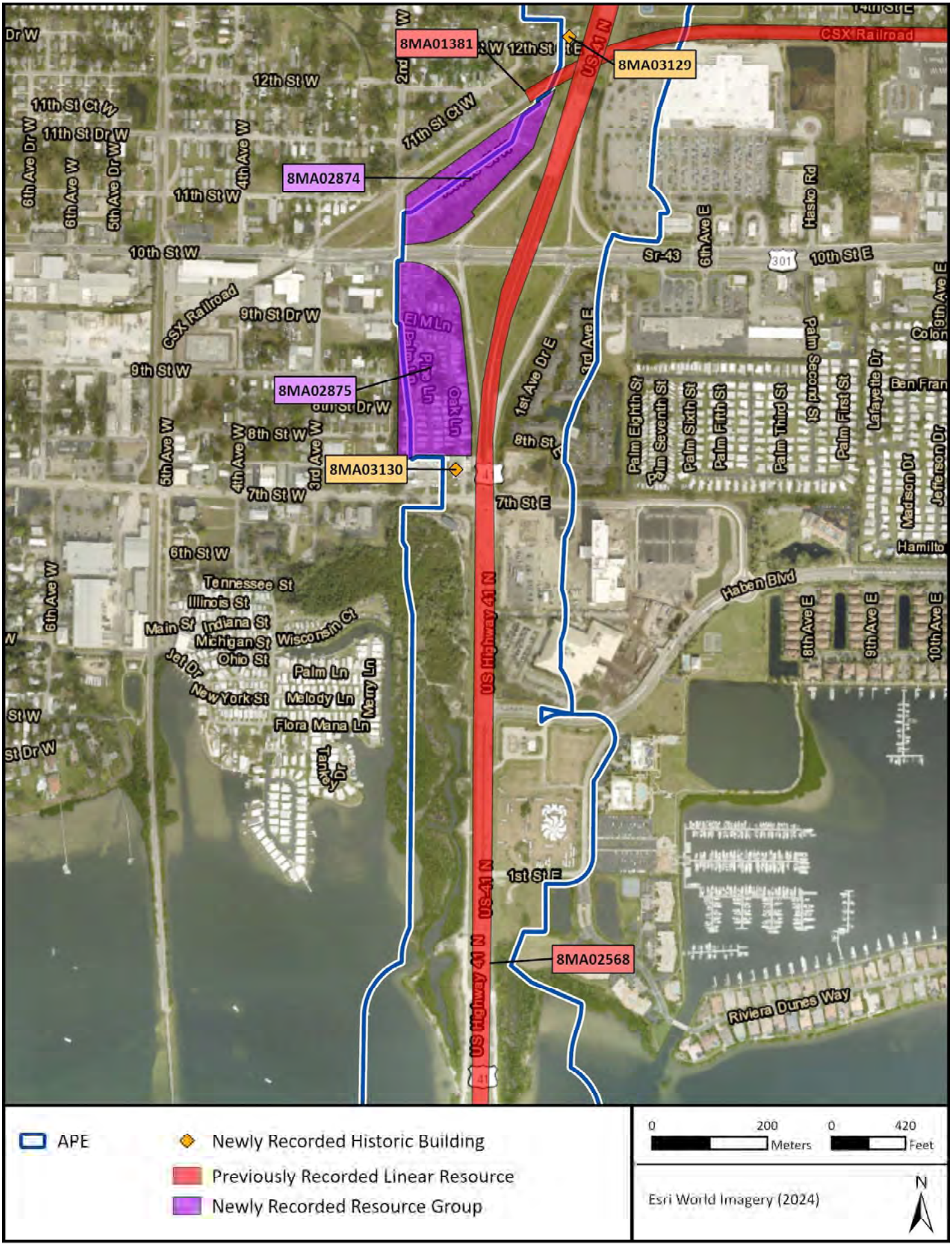
8MA02875_b Facing SW

8MA02875_c facing SE

8MA02875_d Facing SE

8MA02875_e Facing SW

8MA02875_f Facing N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US Highway 41 N
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11th St Dr W
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7th St E
1st St E
10th St E
Sr-43
6th Ave E
Hasko Rd
1st Ave Dr E
3rd Ave E
Palm Eighth St
Palm Seventh St
Palm Sixth St
Palm Fifth St
Palm Third St
Palm First St
Palm Second St
Lafayette Dr
Madison Dr
Jefferson Dr
Haben Blvd
8th Ave E
9th Ave E
10th Ave E
Tennessee St
Illinois St
Main St
Indiana St
Michigan St
Wisconsin Ct
Ohio St
Palm Ln
Melody Ln
Flora Mana Ln
Mary Ln
New York St
Joel Dr
Tanks Dr
Riviera Dunes Way
APE
Newly Recorded Historic Building
Previously Recorded Linear Resource
Newly Recorded Resource Group
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Esri World Imagery (2024)
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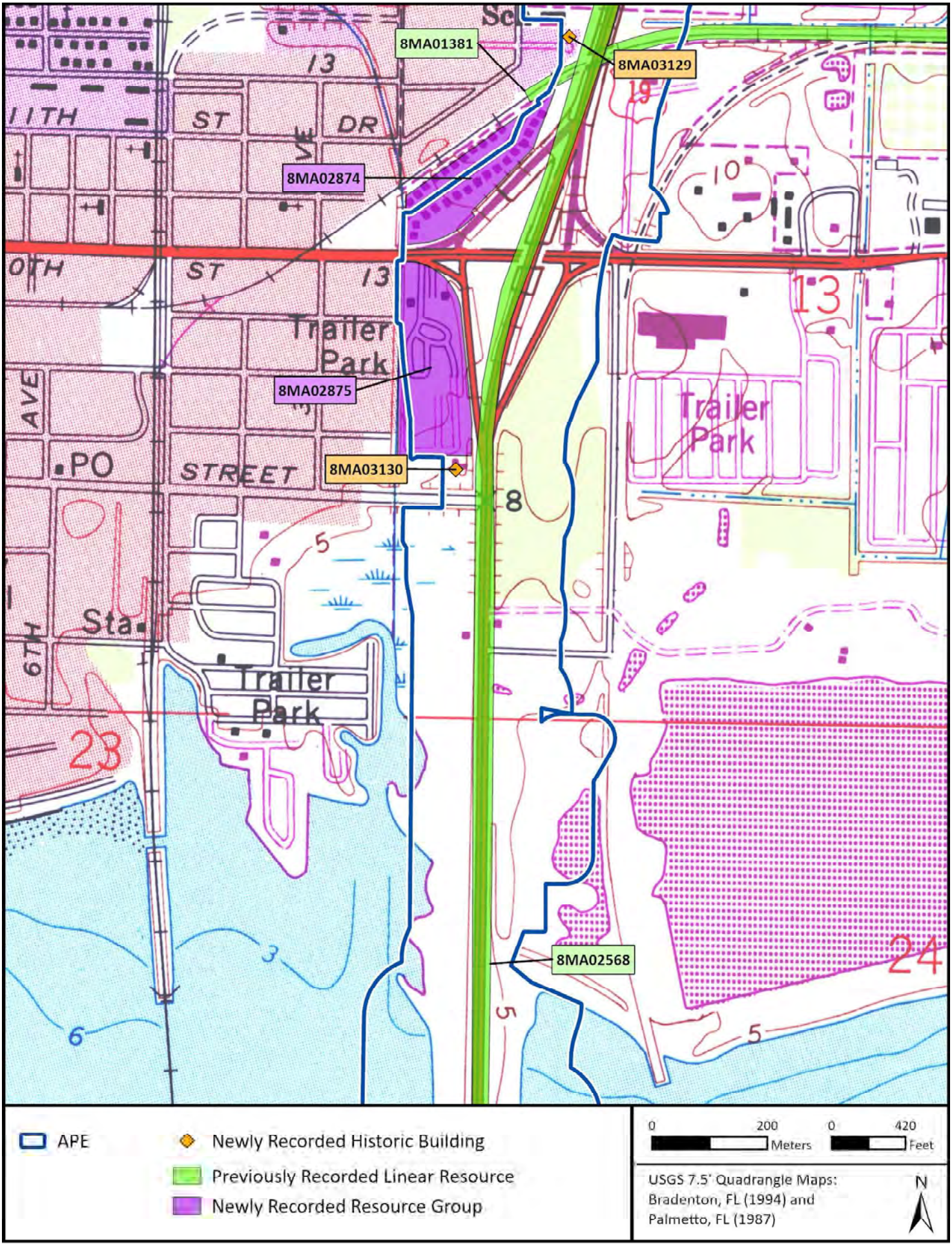
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USGS 7.5' Quadrangle Maps:
Bradenton, FL (1994) and
Palmetto, FL (1987)
N

Page 1

☒ Original
☐ Update

HISTORICAL STRUCTURE FORM
FLORIDA MASTER SITE FILE
Version 5.0 3/19

Site#8 MA03122
Field Date 2-16-2025
Form Date 2-25-2026
Recorder #

Shaded Fields represent the minimum acceptable level of documentation.
Consult the *Guide to Historical Structure Forms* for detailed instructions.

Site Name(s) (address if none) 215 24th Street E — Multiple Listing (DHR only)
Survey Project Name Bradenton-Palmetto Connector PD&E — Survey # (DHR only)
National Register Category (please check one) ☒building ☐structure ☐district ☐site ☐object
Ownership: ☐private-profit ☐private-nonprofit ☒private-individual ☐private-nonspecific ☐city ☐county ☐state ☐federal ☐Native American ☐foreign ☐unknown

LOCATION & MAPPING

Street Number	Direction	Street Name	Street Type	Suffix Direction
215		24th	Street	E

Address:
Cross Streets (nearest / between) US 41/23rd St. E
USGS 7.5 Map Name PALMETTO — USGS Date 2024 — Plat or Other Map
City / Town (within 3 miles) Palmetto — In City Limits? ☒yes ☐no ☐unknown — County Manatee
Township 34S — Range 17E — Section 35 — ¼ section: ☐NW ☐SW ☐SE ☐NE — Irregular-name:
Tax Parcel # 2533600009 — Landgrant
Subdivision Name Houghtons Addition — Block 7 — Lot 1,4
UTM Coordinates: Zone ☐16 ☐17 — Easting ☐☐☐☐☐☐ — Northing ☐☐☐☐☐☐☐
Other Coordinates: X: — Y: — Coordinate System & Datum
Name of Public Tract (e.g., park)

HISTORY

Construction Year: 1961 ☒approximately ☐year listed or earlier ☐year listed or later
Original Use Private Residence (House/Cottage/Ca — From (year): 1961 — To (year): 2026
Current Use Private Residence (House/Cottage/Ca — From (year): 1961 — To (year): 2026
Other Use — From (year): — To (year):
Moves: ☐yes ☒no ☐unknown — Date: — Original address
Alterations: ☒yes ☐no ☐unknown — Date: — Nature Windows; date UNKN
Additions: ☒yes ☐no ☐unknown — Date: — Nature N addition, date: UNKN
Architect (last name first): UNKN — Builder (last name first): UNKN
Ownership History (especially original owner, dates, profession, etc.)

Current Owner: Sandra Escobar, purchased in 2017.

Is the Resource Affected by a Local Preservation Ordinance? ☐yes ☐no ☒unknown — Describe

DESCRIPTION

Style Masonry Vernacular — Exterior Plan L-shaped — Number of Stories 1
Exterior Fabric(s) 1. Concrete block — 2. Wood/Plywood — 3. Vertical Wood Plank
Roof Type(s) 1. Gable — 2. — 3.
Roof Material(s) 1. Asphalt shingles — 2. — 3.
Roof secondary strucs. (dormers etc.) 1. Gable extension — 2.
Windows (types, materials, etc.)

replacement, 1/1, vinyl, SHS; vinyl-sash casement; and vinyl-frame tripartite picture windows

Distinguishing Architectural Features (exterior or interior ornaments)

northern gable addition constructed of wood plank and plywood

Ancillary Features / Outbuildings (record outbuildings, major landscape features; use continuation sheet if needed.)

metal, chain-link fence, dense vegetation, paved driveway

DHR USE ONLY	OFFICIAL EVALUATION	DHR USE ONLY
NR List Date ☐Owner Objection	SHPO – Appears to meet criteria for NR listing: ☐yes ☐no ☐insufficient info Date Init. KEEPER – Determined eligible: ☐yes ☐no Date NR Criteria for Evaluation: ☐a ☐b ☐c ☐d (see *National Register Bulletin 15*, p. 2)	

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Phone **850.245.6440** / Fax **850.245.6439** / E-mail **SiteFile@dos.myflorida.com**

HISTORICAL STRUCTURE FORM

Site # 8 MA03122

DESCRIPTION (continued)

Chimney: No. 0 Chimney Material(s): 1. Not applicable 2.

Structural System(s): 1. Concrete block 2. Wood frame 3.

Foundation Type(s): 1. Slab 2.

Foundation Material(s): 1. Concrete, Generic 2.

Main Entrance (stylistic details)

fiberglass door w/ multi-paned full-light, placed with multi-paned sidelight on N facade

Porch Descriptions (types, locations, roof types, etc.)

N/A

Condition (overall resource condition): ☐excellent ☐good ☒fair ☐deteriorated ☐ruinous

Narrative Description of Resource

Resource 8MA03122 is a 1-story, L-shaped, Masonry Vernacular residence set on a concrete slab foundation. Asphalt shingles cover the gabled roof, and the walls are concrete block and plywood.

Archaeological Remains ☐Check if Archaeological Form Completed

RESEARCH METHODS (select all that apply)

☒FMSF record search (sites/surveys)	☒library research	☐building permits	☐Sanborn maps
☐FL State Archives/photo collection	☐city directory	☐occupant/owner interview	☐plat maps
☒property appraiser / tax records	☐newspaper files	☐neighbor interview	☐Public Lands Survey (DEP)
☒cultural resource survey (CRAS)	☐historic photos	☐interior inspection	☐HABS/HAER record search

☒other methods (describe) Pedestrian/Windshield Survey

Bibliographic References (give FMSF manuscript # if relevant, use continuation sheet if needed)

OPINION OF RESOURCE SIGNIFICANCE

Appears to meet the criteria for National Register listing individually? ☐yes ☒no ☐insufficient information

Appears to meet the criteria for National Register listing as part of a district? ☐yes ☒no ☐insufficient information

Explanation of Evaluation (**required**, whether significant or not; use separate sheet if needed)

Due to lack of sufficient historic significance and architectural distinction, 8MA03122 is ineligible for listing in the NRHP, either individually or as a contributing resource within a potential or existing historic district.

Area(s) of Historical Significance (see *National Register Bulletin 15*, p. 8 for categories: e.g. "architecture", "ethnic heritage", "community planning & development", etc.)

1. 3. 5.

2. 4. 6.

DOCUMENTATION

Accessible Documentation Not Filed with the Site File - including field notes, analysis notes, photos, plans and other important documents

1) Document type All materials at one location Maintaining organization Southeastern Archaeological Research

Document description Photos, Maps, Field Notes, Aerial File or accession #'s 260003

2) Document type Maintaining organization

Document description File or accession #'s

RECORDER INFORMATION

Recorder Name Bonatakis, Mary Affiliation Southeastern Archaeological Research

Recorder Contact Information 3117 Edgewater Dr, Orlando, FL 32804/407-236-7711/Mary.Bonatakis@searchinc.

(address / phone / fax / e-mail)

Required Attachments

❶ **USGS 7.5' MAP WITH STRUCTURE LOCATION CLEARLY INDICATED**

❷ **LARGE SCALE STREET, PLAT OR PARCEL MAP** (available from most property appraiser web sites)

❸ **PHOTO OF MAIN FACADE, DIGITAL IMAGE FILE**

When submitting an image, it must be included in digital AND hard copy format (plain paper grayscale acceptable). Digital image must be at least 1600 x 1200 pixels, 24-bit color, jpeg or tiff.

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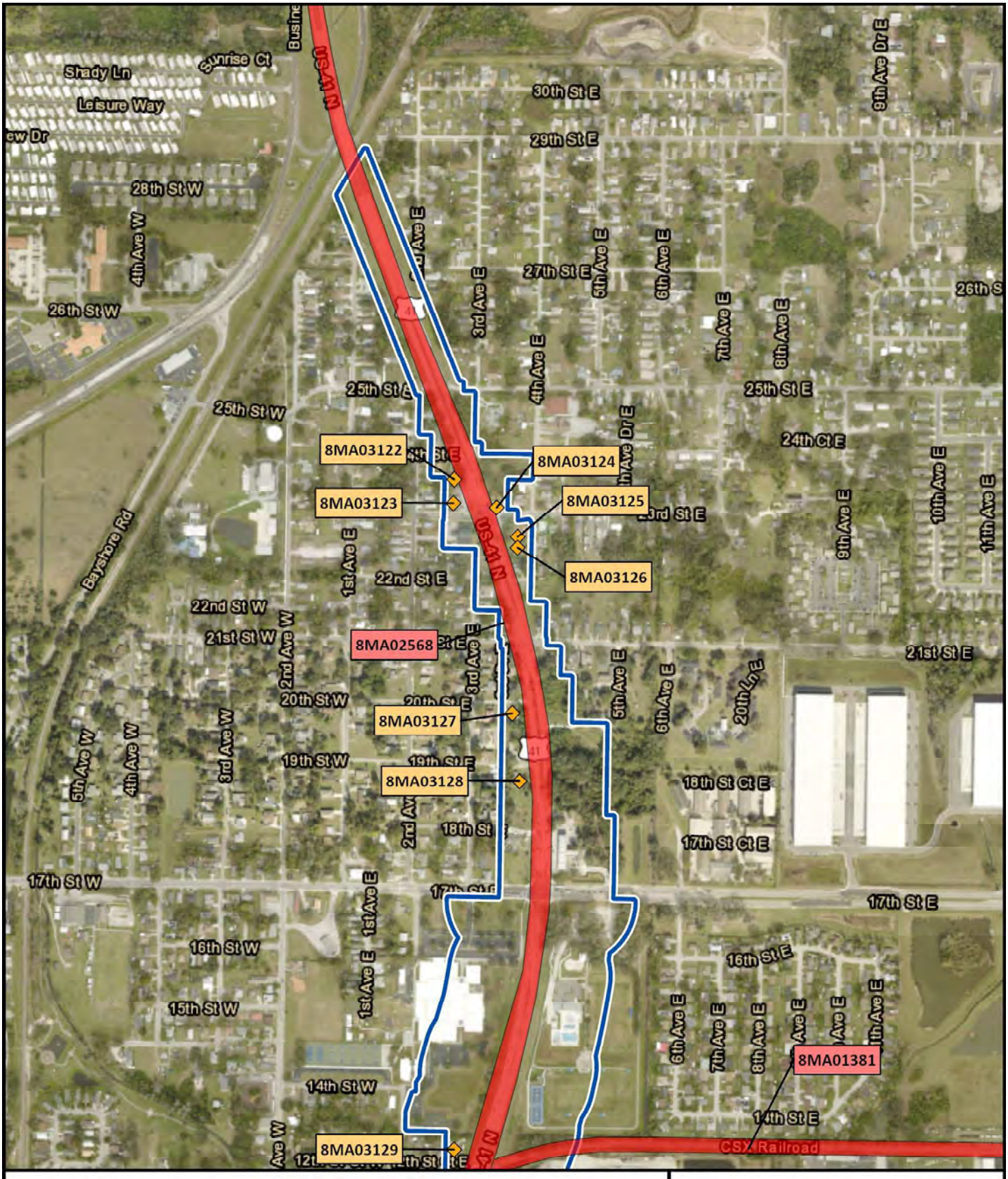
8MA03122_b Facing SW

8MA03122_c Facing W

8MA03122_d Facing NW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Shady Ln
Sunrise Ct
Leisure Way
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Newly Recorded Historic Building
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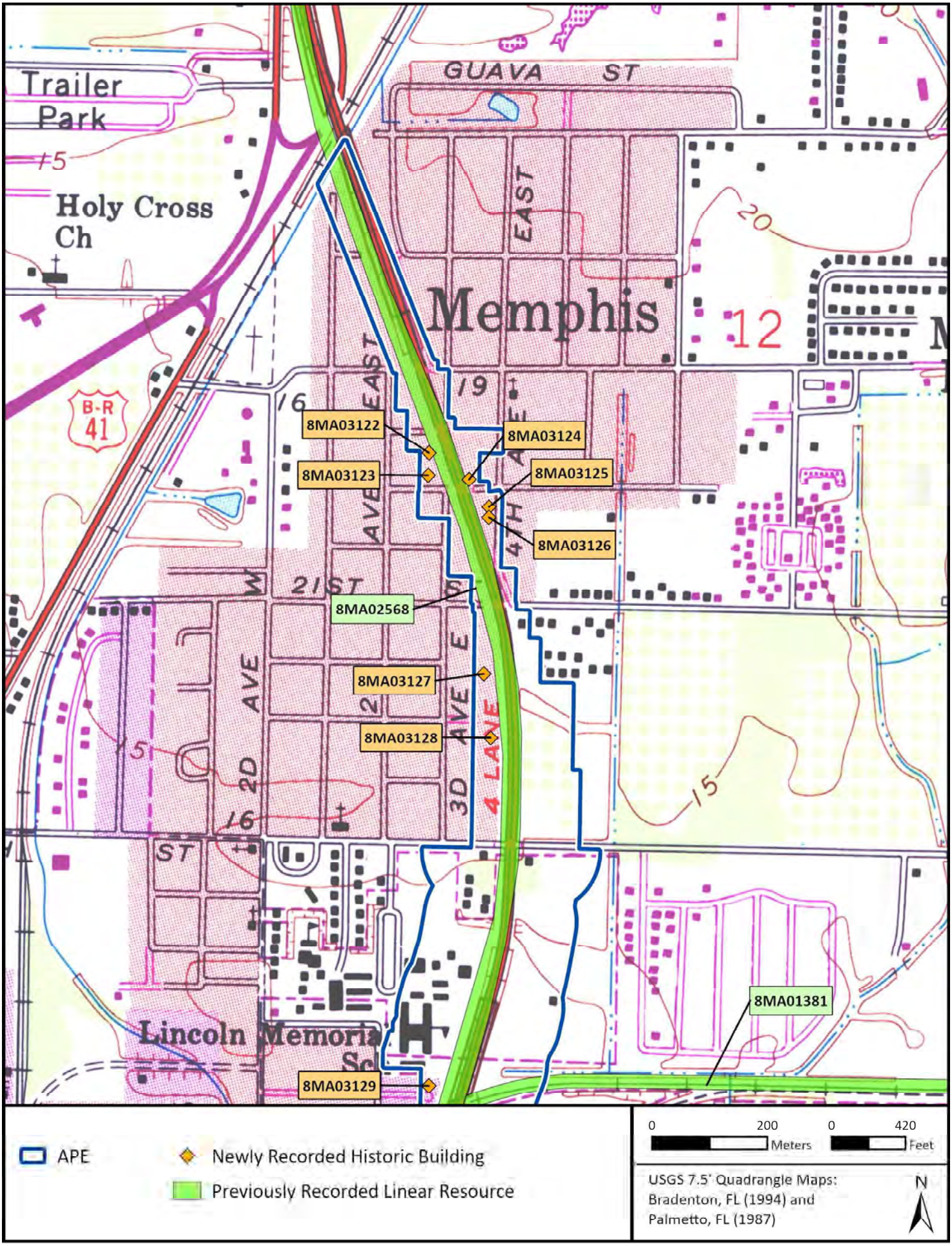
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Newly Recorded Historic Building
Previously Recorded Linear Resource
0 200 Meters
0 420 Feet
USGS 7.5' Quadrangle Maps:
Bradenton, FL (1994) and
Palmetto, FL (1987)
N

Page 1

☒ Original
☐ Update

HISTORICAL STRUCTURE FORM
FLORIDA MASTER SITE FILE
Version 5.0 3/19

Site#8 MA03123
Field Date 2-16-2025
Form Date 2-25-2026
Recorder #

Shaded Fields represent the minimum acceptable level of documentation.
Consult the *Guide to Historical Structure Forms* for detailed instructions.

Site Name(s) (address if none) 2303 US 41 N — Multiple Listing (DHR only)
Survey Project Name Bradenton-Palmetto Connector PD&E — Survey # (DHR only)
National Register Category (please check one) ☒building ☐structure ☐district ☐site ☐object
Ownership: ☐private-profit ☐private-nonprofit ☒private-individual ☐private-nonspecific ☐city ☐county ☐state ☐federal ☐Native American ☐foreign ☐unknown

LOCATION & MAPPING

Street Number	Direction	Street Name	Street Type	Suffix Direction
2303		US 41		N

Address:
Cross Streets (nearest / between) 24th St. E/23rd St. E
USGS 7.5 Map Name PALMETTO — USGS Date 2024 — Plat or Other Map
City / Town (within 3 miles) Palmetto — In City Limits? ☒yes ☐no ☐unknown — County Manatee
Township 34S — Range 17E — Section 12 — ¼ section: ☐NW ☐SW ☐SE ☐NE — Irregular-name:
Tax Parcel # 2533600009 — Landgrant
Subdivision Name Palmetto-North of River — Block 7 — Lot 5,10
UTM Coordinates: Zone ☐16 ☐17 Easting ☐☐☐☐☐☐ Northing ☐☐☐☐☐☐☐
Other Coordinates: X: Y: — Coordinate System & Datum
Name of Public Tract (e.g., park)

HISTORY

Construction Year: 1969 ☒approximately ☐year listed or earlier ☐year listed or later
Original Use Commercial — From (year): 1969 — To (year): 2026
Current Use Commercial — From (year): 1969 — To (year): 2026
Other Use — From (year): — To (year):
Moves: ☐yes ☒no ☐unknown Date: Original address
Alterations: ☒yes ☐no ☐unknown Date: Nature Windows grates; date UNKN
Additions: ☐yes ☒no ☐unknown Date: Nature
Architect (last name first): UNKN — Builder (last name first): UNKN
Ownership History (especially original owner, dates, profession, etc.)

Current Owner: Riad Saleh, purchased in 1998.

Is the Resource Affected by a Local Preservation Ordinance? ☐yes ☐no ☒unknown Describe

DESCRIPTION

Style Masonry Vernacular — Exterior Plan Square — Number of Stories 1
Exterior Fabric(s) 1. Concrete block 2. Stucco 3.
Roof Type(s) 1. Flat 2. 3.
Roof Material(s) 1. Built-up 2. 3.
Roof secondary strucs. (dormers etc.) 1. 2.
Windows (types, materials, etc.)

commercial-style windows & transom, sheltered by metal security grates

Distinguishing Architectural Features (exterior or interior ornaments)

Projecting commercial cornice; metal security grates sheltering doors & windows

Ancillary Features / Outbuildings (record outbuildings, major landscape features; use continuation sheet if needed.)

metal, chain-link fence; paved parking lot

DHR USE ONLY	OFFICIAL EVALUATION	DHR USE ONLY
NR List Date ☐Owner Objection	SHPO – Appears to meet criteria for NR listing: ☐yes ☐no ☐insufficient info Date Init. KEEPER – Determined eligible: ☐yes ☐no Date NR Criteria for Evaluation: ☐a ☐b ☐c ☐d (see *National Register Bulletin 15*, p. 2)	

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HISTORICAL STRUCTURE FORM

Site # 8 MA03123

DESCRIPTION (continued)

Chimney: No. 0 Chimney Material(s): 1. Not applicable 2.

Structural System(s): 1. Concrete block 2. 3.

Foundation Type(s): 1. Slab 2.

Foundation Material(s): 1. Concrete, Generic 2.

Main Entrance (stylistic details)

double-leaf, metal-sash glass door sheltered by metal security grates

Porch Descriptions (types, locations, roof types, etc.)

N/A

Condition (overall resource condition): ☐excellent ☐good ☒fair ☐deteriorated ☐ruinous

Narrative Description of Resource

Resource 8MA03123 is a 1-story, square-shaped, Masonry Vernacular convenience store set on a concrete slab foundation. The flat roof is built-up, and the walls are concrete block.

Archaeological Remains ☐Check if Archaeological Form Completed

RESEARCH METHODS (select all that apply)

☒FMSF record search (sites/surveys)	☒library research	☐building permits	☐Sanborn maps
☐FL State Archives/photo collection	☐city directory	☐occupant/owner interview	☐plat maps
☒property appraiser / tax records	☐newspaper files	☐neighbor interview	☐Public Lands Survey (DEP)
☒cultural resource survey (CRAS)	☐historic photos	☐interior inspection	☐HABS/HAER record search

☒other methods (describe) Pedestrian/Windshield Survey

Bibliographic References (give FMSF manuscript # if relevant, use continuation sheet if needed)

OPINION OF RESOURCE SIGNIFICANCE

Appears to meet the criteria for National Register listing individually? ☐yes ☒no ☐insufficient information

Appears to meet the criteria for National Register listing as part of a district? ☐yes ☒no ☐insufficient information

Explanation of Evaluation (**required**, whether significant or not; use separate sheet if needed)

Due to lack of sufficient historic significance and architectural distinction, 8MA03123 is ineligible for listing in the NRHP, either individually or as a contributing resource within a potential or existing historic district.

Area(s) of Historical Significance (see *National Register Bulletin 15*, p. 8 for categories: e.g. "architecture", "ethnic heritage", "community planning & development", etc.)

1. 3. 5.

2. 4. 6.

DOCUMENTATION

Accessible Documentation Not Filed with the Site File - including field notes, analysis notes, photos, plans and other important documents

1) Document type All materials at one location Maintaining organization Southeastern Archaeological Research

Document description Photos, Maps, Field Notes, Aerial File or accession #'s 260003

2) Document type Maintaining organization

Document description File or accession #'s

RECORDER INFORMATION

Recorder Name Bonatakis, Mary Affiliation Southeastern Archaeological Research

Recorder Contact Information 3117 Edgewater Dr, Orlando, FL 32804/407-236-7711/Mary.Bonatakis@searchinc.

(address / phone / fax / e-mail)

Required Attachments

❶ **USGS 7.5' MAP WITH STRUCTURE LOCATION CLEARLY INDICATED**

❷ **LARGE SCALE STREET, PLAT OR PARCEL MAP** (available from most property appraiser web sites)

❸ **PHOTO OF MAIN FACADE, DIGITAL IMAGE FILE**

When submitting an image, it must be included in digital AND hard copy format (plain paper grayscale acceptable). Digital image must be at least 1600 x 1200 pixels, 24-bit color, jpeg or tiff.

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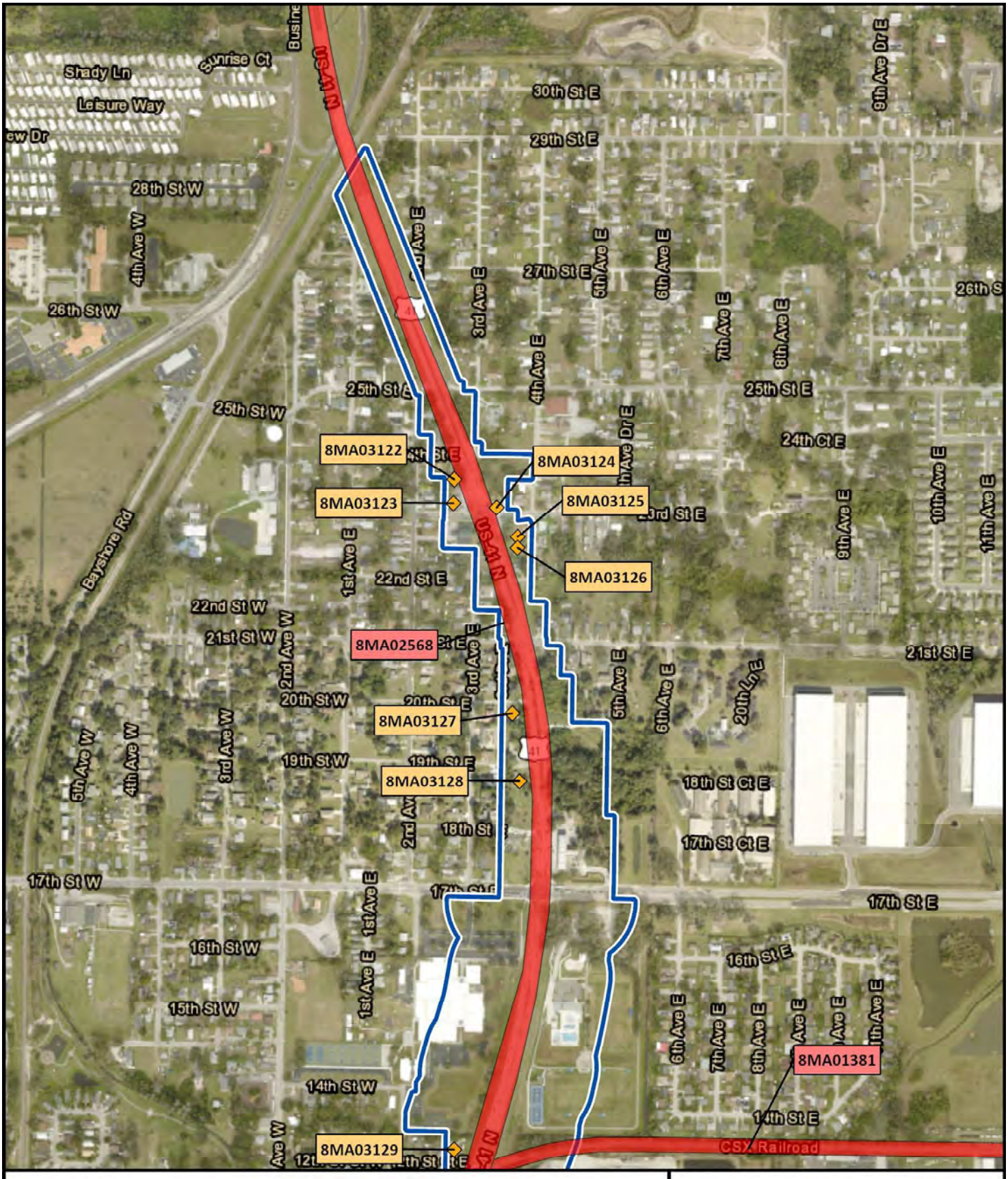
8MA03123_b Facing NW

8MA03123_c Facing SW

8MA03123_d Facing W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CSX Railroad
Shady Ln
Sunrise Ct
Leisure Way
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Newly Recorded Historic Building
Previously Recorded Linear Resource
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Esri World Imagery (2024)
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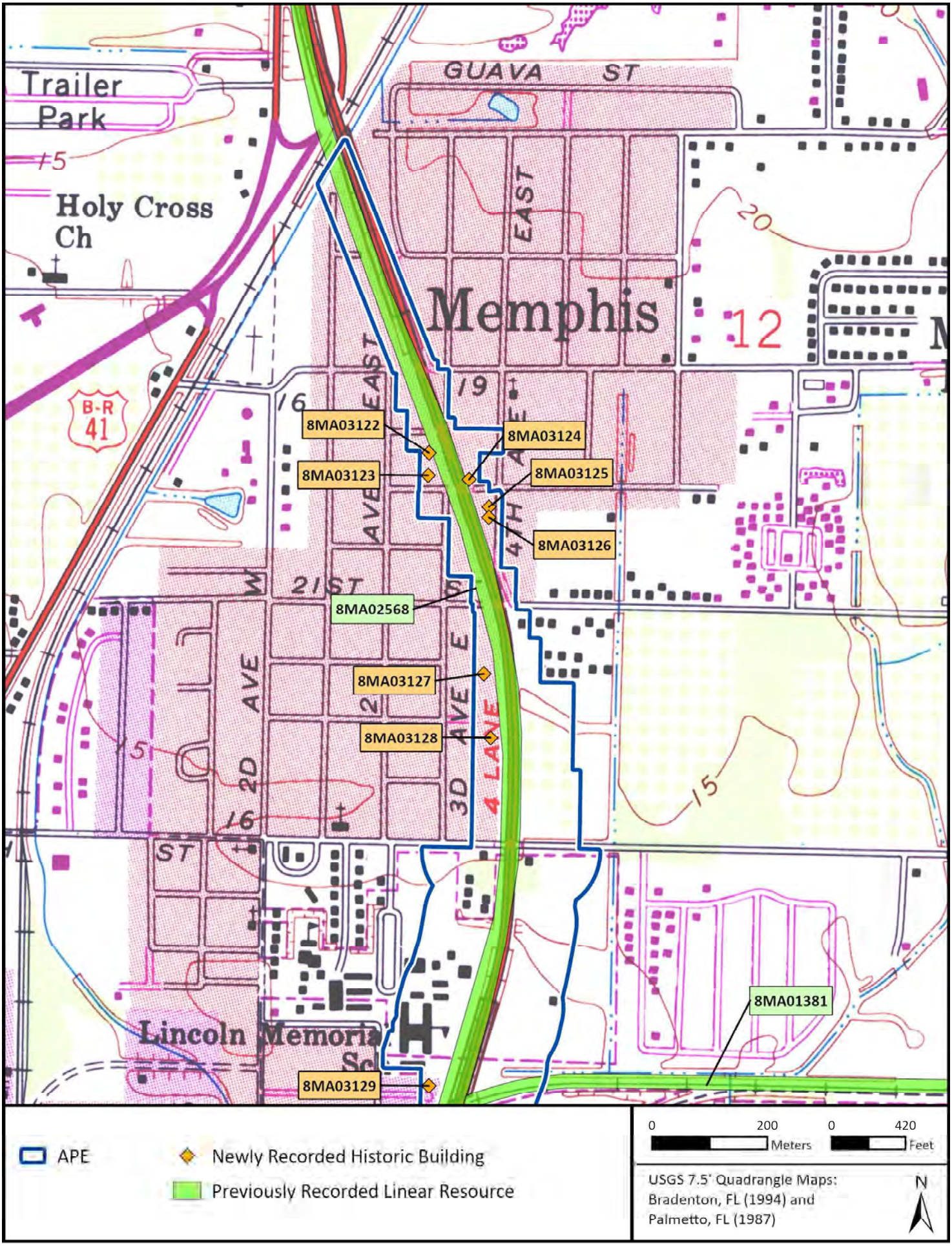
Trailer Park
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2D AVE
3D AVE
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Lincoln Memorial
APE
Newly Recorded Historic Building
Previously Recorded Linear Resource
0 200 Meters
0 420 Feet
USGS 7.5' Quadrangle Maps:
Bradenton, FL (1994) and
Palmetto, FL (1987)
N

☒ Original
☐ Update

HISTORICAL STRUCTURE FORM
FLORIDA MASTER SITE FILE
Version 5.0 3/19

Site#8 MA03124
Field Date 2-16-2025
Form Date 2-25-2026
Recorder # _____

Shaded Fields represent the minimum acceptable level of documentation.
Consult the *Guide to Historical Structure Forms* for detailed instructions.

Site Name(s) (address if none) 308 23rd Street E — Multiple Listing (DHR only) _____
Survey Project Name Bradenton-Palmetto Connector PD&E — Survey # (DHR only) _____
National Register Category (please check one) ☒building ☐structure ☐district ☐site ☐object
Ownership: ☐private-profit ☐private-nonprofit ☒private-individual ☐private-nonspecific ☐city ☐county ☐state ☐federal ☐Native American ☐foreign ☐unknown

LOCATION & MAPPING

Street Number	Direction	Street Name	Street Type	Suffix Direction
308		23rd	Street	E

Address:
Cross Streets (nearest / between) US 41 N/4th Ave E
USGS 7.5 Map Name PALMETTO — USGS Date 2024 — Plat or Other Map _____
City / Town (within 3 miles) Palmetto — In City Limits? ☒yes ☐no ☐unknown — County Manatee
Township 34S — Range 17E — Section 12 — ¼ section: ☐NW ☐SW ☐SE ☐NE — Irregular-name: _____
Tax Parcel # 2534800004 — Landgrant _____
Subdivision Name Houghtons Addition — Block 8 — Lot 6
UTM Coordinates: Zone ☐16 ☐17 — Easting ☐☐☐☐☐☐ — Northing ☐☐☐☐☐☐☐
Other Coordinates: X: _____ Y: _____ — Coordinate System & Datum _____
Name of Public Tract (e.g., park) _____

HISTORY

Construction Year: 1959 ☒approximately ☐year listed or earlier ☐year listed or later
Original Use Private Residence (House/Cottage/Ca — From (year): 1959 — To (year): 2026
Current Use Private Residence (House/Cottage/Ca — From (year): 1959 — To (year): 2026
Other Use _____ — From (year): _____ — To (year): _____
Moves: ☐yes ☒no ☐unknown Date: _____ — Original address _____
Alterations: ☒yes ☐no ☐unknown Date: _____ — Nature Windows; date UNKN
Additions: ☐yes ☒no ☐unknown Date: _____ — Nature _____
Architect (last name first): UNKN — Builder (last name first): UNKN
Ownership History (especially original owner, dates, profession, etc.)

Current Owner: Jorge Joumayyed, purchased in 2014.

Is the Resource Affected by a Local Preservation Ordinance? ☐yes ☐no ☒unknown — Describe _____

DESCRIPTION

Style Masonry Vernacular — Exterior Plan T-shaped — Number of Stories 1
Exterior Fabric(s) 1. Concrete 2. Stucco 3. _____
Roof Type(s) 1. Gable 2. _____ 3. _____
Roof Material(s) 1. Asphalt shingles 2. _____ 3. _____
Roof secondary strucs. (dormers etc.) 1. _____ 2. _____
Windows (types, materials, etc.)

original, 2/2, aluminum, SHS; replacement 1/1, vinyl, SHS; fixed, vinyl-frame

Distinguishing Architectural Features (exterior or interior ornaments)

iron filigree post supporting gable roof

Ancillary Features / Outbuildings (record outbuildings, major landscape features; use continuation sheet if needed.)

metal, chain-link fence; paved driveway; concrete & stucco flowerbed

DHR USE ONLY	OFFICIAL EVALUATION	DHR USE ONLY
NR List Date _____ ☐Owner Objection	SHPO – Appears to meet criteria for NR listing: ☐yes ☐no ☐insufficient info Date _____ Init._____ KEEPER – Determined eligible: ☐yes ☐no Date _____ NR Criteria for Evaluation: ☐a ☐b ☐c ☐d (see *National Register Bulletin 15*, p. 2)	

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HISTORICAL STRUCTURE FORM

Site # 8 MA03124

DESCRIPTION (continued)

Chimney: No. 0 Chimney Material(s): 1. Not applicable 2. _____

Structural System(s): 1. Concrete block 2. _____ 3. _____

Foundation Type(s): 1. Slab 2. _____

Foundation Material(s): 1. Concrete, Generic 2. _____

Main Entrance (stylistic details)

paneled, vinyl-door w/ 1/1 half-light

Porch Descriptions (types, locations, roof types, etc.)

partial-width open porch sheltered by gabled roof

Condition (overall resource condition): ☐excellent ☐good ☒fair ☐deteriorated ☐ruinous

Narrative Description of Resource

Resource XX is a 1-story, Tshaped, Masonry Vernacular residence set on a concrete slab foundation. Asphalt shingles cover the gabled roof, and stucco clads the walls.

Archaeological Remains _____ ☐Check if Archaeological Form Completed

RESEARCH METHODS (select all that apply)

☒FMSF record search (sites/surveys)	☒library research	☐building permits	☐Sanborn maps
☐FL State Archives/photo collection	☐city directory	☐occupant/owner interview	☐plat maps
☒property appraiser / tax records	☐newspaper files	☐neighbor interview	☐Public Lands Survey (DEP)
☒cultural resource survey (CRAS)	☐historic photos	☐interior inspection	☐HABS/HAER record search

☒other methods (describe) Pedestrian/Windshield Survey

Bibliographic References (give FMSF manuscript # if relevant, use continuation sheet if needed)

OPINION OF RESOURCE SIGNIFICANCE

Appears to meet the criteria for National Register listing individually? ☐yes ☒no ☐insufficient information

Appears to meet the criteria for National Register listing as part of a district? ☐yes ☒no ☐insufficient information

Explanation of Evaluation (**required**, whether significant or not; use separate sheet if needed)

Due to lack of sufficient historic significance and architectural distinction, 8MA03124 is ineligible for listing in the NRHP, either individually or as a contributing resource within a potential or existing historic district.

Area(s) of Historical Significance (see *National Register Bulletin 15*, p. 8 for categories: e.g. "architecture", "ethnic heritage", "community planning & development", etc.)

1._____ 3._____ 5._____

2._____ 4._____ 6._____

DOCUMENTATION

Accessible Documentation Not Filed with the Site File - including field notes, analysis notes, photos, plans and other important documents

1) Document type All materials at one location Maintaining organization Southeastern Archaeological Research

Document description Photos, Maps, Field Notes, Aerial File or accession #'s 260003

2) Document type _____ Maintaining organization _____

Document description _____ File or accession #'s _____

RECORDER INFORMATION

Recorder Name Bonatakis, Mary Affiliation Southeastern Archaeological Research

Recorder Contact Information 3117 Edgewater Dr, Orlando, FL 32804/407-236-7711/Mary.Bonatakis@searchinc

(address / phone / fax / e-mail)

Required Attachments

❶ **USGS 7.5' MAP WITH STRUCTURE LOCATION CLEARLY INDICATED**

❷ **LARGE SCALE STREET, PLAT OR PARCEL MAP** (available from most property appraiser web sites)

❸ **PHOTO OF MAIN FACADE, DIGITAL IMAGE FILE**

When submitting an image, it must be included in digital AND hard copy format (plain paper grayscale acceptable). Digital image must be at least 1600 x 1200 pixels, 24-bit color, jpeg or tiff.

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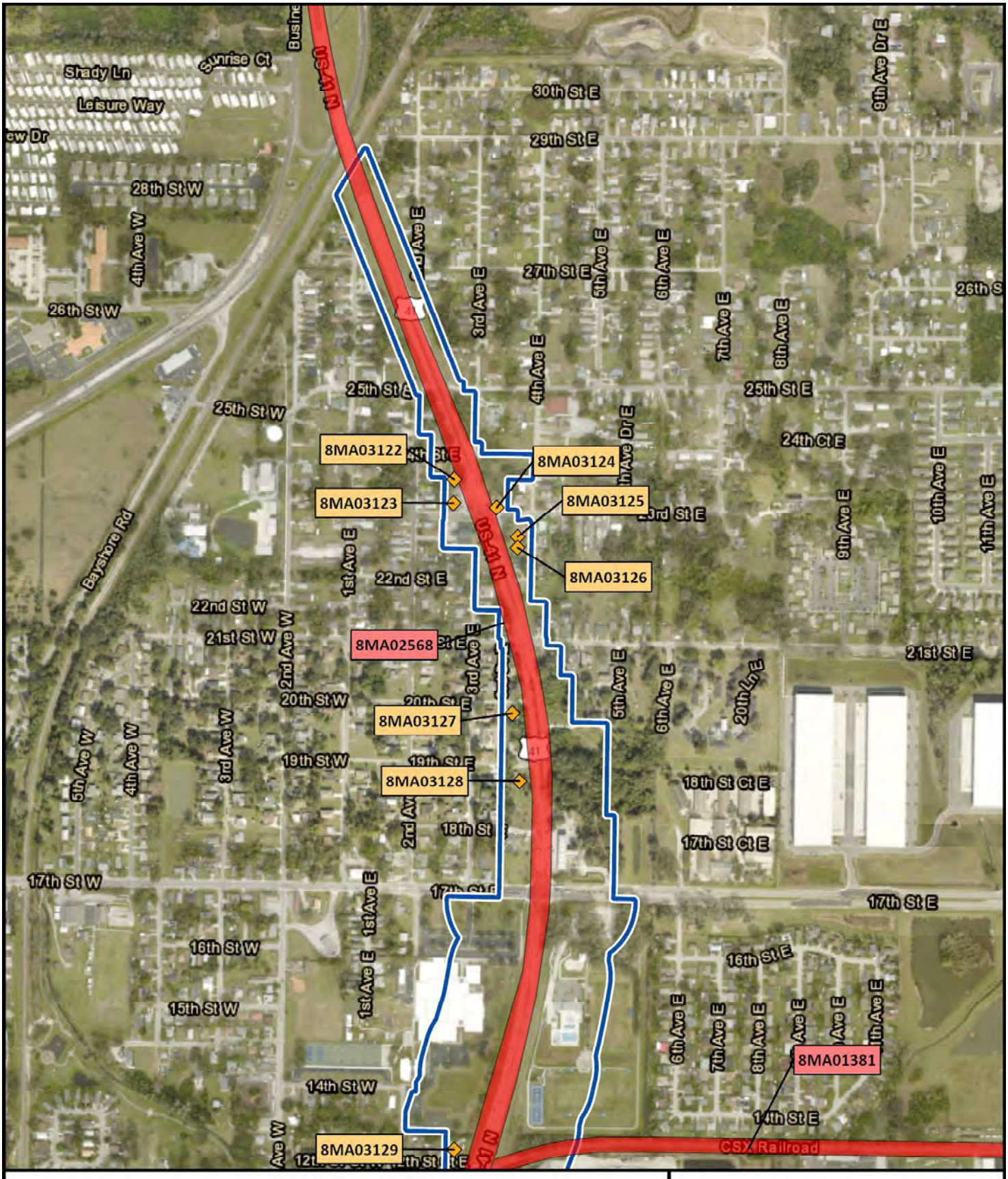
8MA03124_b Facing SE

8MA03124_c Facing NW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CSX Railroad
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Sunrise Ct
Leisure Way
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Newly Recorded Historic Building
Previously Recorded Linear Resource
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Esri World Imagery (2024)
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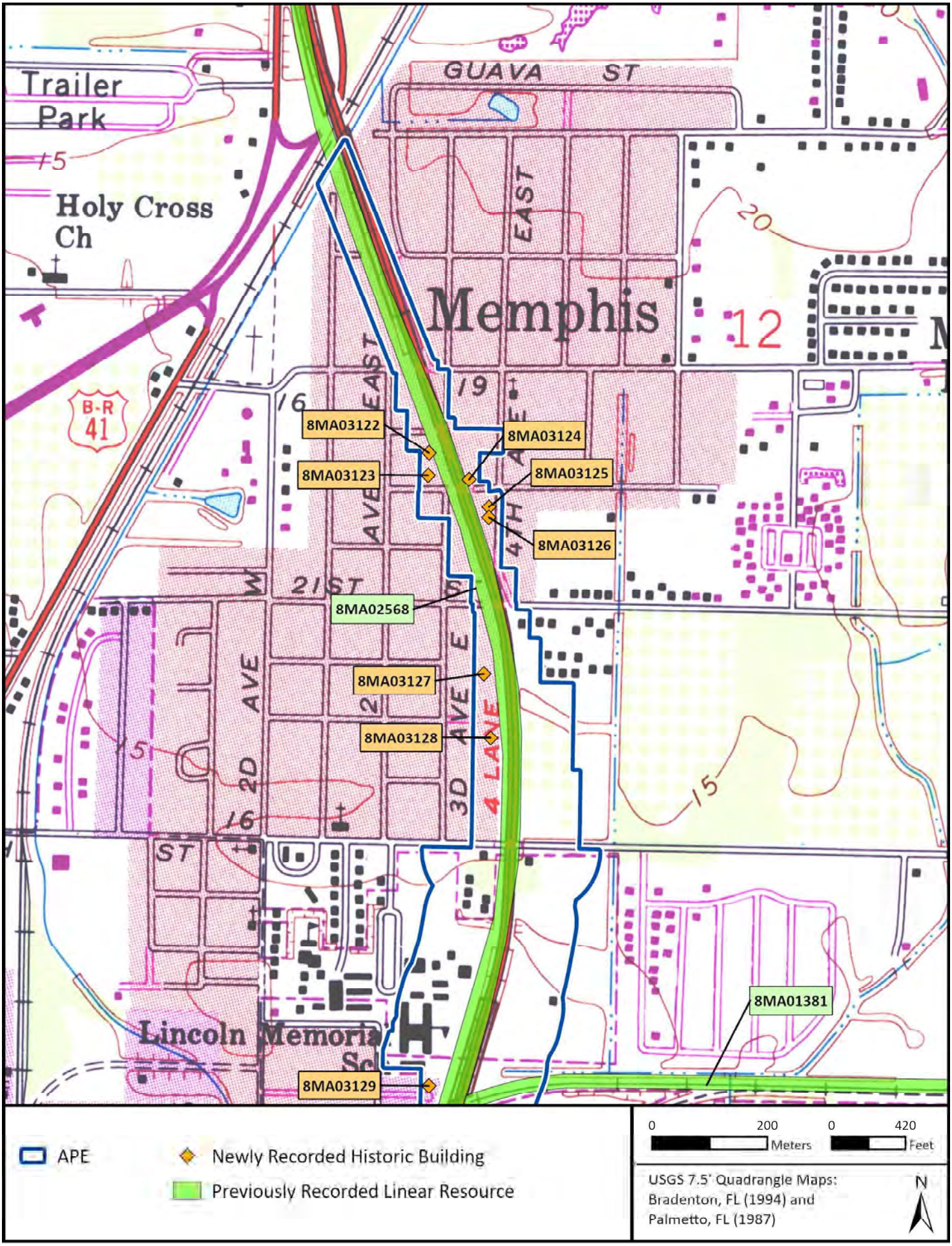
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Lincoln Memorial
APE
Newly Recorded Historic Building
Previously Recorded Linear Resource
0 200 Meters
0 420 Feet
USGS 7.5' Quadrangle Maps:
Bradenton, FL (1994) and
Palmetto, FL (1987)
N

☒ Original
☐ Update

HISTORICAL STRUCTURE FORM
FLORIDA MASTER SITE FILE
Version 5.0 3/19

Site#8 MA03125
Field Date 2-16-2025
Form Date 2-25-2026
Recorder # _____

Shaded Fields represent the minimum acceptable level of documentation.
Consult the *Guide to Historical Structure Forms* for detailed instructions.

Site Name(s) (address if none) 2215 4th Avenue E — Multiple Listing (DHR only) _____
Survey Project Name Bradenton-Palmetto Connector PD&E — Survey # (DHR only) _____
National Register Category (please check one) ☒building ☐structure ☐district ☐site ☐object
Ownership: ☐private-profit ☐private-nonprofit ☒private-individual ☐private-nonspecific ☐city ☐county ☐state ☐federal ☐Native American ☐foreign ☐unknown

LOCATION & MAPPING

	Street Number	Direction	Street Name	Street Type	Suffix Direction
Address:	2215		4th	Avenue	E

Cross Streets (nearest / between) US 41 N/23rd ST E
USGS 7.5 Map Name PALMETTO — USGS Date 2024 — Plat or Other Map _____
City / Town (within 3 miles) Palmetto — In City Limits? ☒yes ☐no ☐unknown — County Manatee
Township 34S — Range 17E — Section 12 — ¼ section: ☐NW ☐SW ☐SE ☐NE — Irregular-name: _____
Tax Parcel # 2535000000 — Landgrant _____
Subdivision Name Houghtons Addition — Block 9 — Lot 1
UTM Coordinates: Zone ☐16 ☐17 Easting ☐☐☐☐☐☐ Northing ☐☐☐☐☐☐☐
Other Coordinates: X: _____ Y: _____ Coordinate System & Datum _____
Name of Public Tract (e.g., park) _____

HISTORY

Construction Year: 1919 ☒approximately ☐year listed or earlier ☐year listed or later
Original Use Private Residence (House/Cottage/Ca — From (year): 1919 — To (year): 2026
Current Use Private Residence (House/Cottage/Ca — From (year): 1919 — To (year): 2026
Other Use _____ — From (year): _____ — To (year): _____
Moves: ☐yes ☒no ☐unknown Date: _____ Original address _____
Alterations: ☒yes ☐no ☐unknown Date: _____ Nature Windows, enclosed porches; date UNKN
Additions: ☐yes ☒no ☐unknown Date: _____ Nature porches, date : UNK
Architect (last name first): UNKN — Builder (last name first): UNKN
Ownership History (especially original owner, dates, profession, etc.)

Current Owner: Saving the Sunshine State Inc, purchased in 2021. Original owner Charles Reaves.

Is the Resource Affected by a Local Preservation Ordinance? ☐yes ☐no ☒unknown Describe _____

DESCRIPTION

Style Frame Vernacular — Exterior Plan L-shaped — Number of Stories 1
Exterior Fabric(s) 1. _____ 2. _____ 3. Vinyl Drop Siding
Roof Type(s) 1. Gable 2. _____ 3. _____
Roof Material(s) 1. Sheet metal:corrugated 2. Sheet metal:standing seam 3. _____
Roof secondary strucs. (dormers etc.) 1. Shed extension 2. Gable extension
Windows (types, materials, etc.)

replacement 1/1, vinyl, SHS, placed individually, grouped in 2 & 4

Distinguishing Architectural Features (exterior or interior ornaments)

gable vents E & W gable ends; enclosed front & back porch; concrete block foundation vents

Ancillary Features / Outbuildings (record outbuildings, major landscape features; use continuation sheet if needed.)

metal, chain-link fence

DHR USE ONLY	OFFICIAL EVALUATION	DHR USE ONLY
NR List Date _____ ☐Owner Objection	SHPO – Appears to meet criteria for NR listing: ☐yes ☐no ☐insufficient info Date _____ Init._____ KEEPER – Determined eligible: ☐yes ☐no Date _____ NR Criteria for Evaluation: ☐a ☐b ☐c ☐d (see *National Register Bulletin 15*, p. 2)	

Florida Master Site File / Div. of Historical Resources / R. A. Gray Bldg / 500 S Bronough St., Tallahassee, FL 32399-0250
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HISTORICAL STRUCTURE FORM

Site # 8 MA03125

DESCRIPTION (continued)

Chimney: No. 0 Chimney Material(s): 1. Not applicable 2. _____

Structural System(s): 1. Braced wood frame 2. _____ 3. _____

Foundation Type(s): 1. Continuous 2. _____

Foundation Material(s): 1. Concrete Block 2. _____

Main Entrance (stylistic details)

paneled, vinyl-door w/ multi-paned fanlight, S elevation of E enclosed front porch

Porch Descriptions (types, locations, roof types, etc.)

enclosed, partial-width, gable-extension front porch; enclosed, shed-extension partial-width back porch

Condition (overall resource condition): ☐excellent ☐good ☒fair ☐deteriorated ☐ruinous

Narrative Description of Resource

Resource 8MA03125 is a 1-story, rectangular-plan, Frame Vernacular residence set on a continuous concrete block foundation. Corrugated sheet metal covers the gabled roof and shed extensions roof, and vinyl dropsiding clads the walls.

Archaeological Remains _____ ☐Check if Archaeological Form Completed

RESEARCH METHODS (select all that apply)

☒FMSF record search (sites/surveys)	☒library research	☐building permits	☐Sanborn maps
☐FL State Archives/photo collection	☐city directory	☐occupant/owner interview	☐plat maps
☒property appraiser / tax records	☐newspaper files	☐neighbor interview	☐Public Lands Survey (DEP)
☒cultural resource survey (CRAS)	☐historic photos	☐interior inspection	☐HABS/HAER record search

☒other methods (describe) Pedestrian/Windshield Survey

Bibliographic References (give FMSF manuscript # if relevant, use continuation sheet if needed)

OPINION OF RESOURCE SIGNIFICANCE

Appears to meet the criteria for National Register listing individually? ☐yes ☒no ☐insufficient information

Appears to meet the criteria for National Register listing as part of a district? ☐yes ☒no ☐insufficient information

Explanation of Evaluation (**required**, whether significant or not; use separate sheet if needed)

Due to lack of sufficient historic significance and architectural distinction, 8MA03125 is ineligible for listing in the NRHP, either individually or as a contributing resource within a potential or existing historic district.

Area(s) of Historical Significance (see *National Register Bulletin 15*, p. 8 for categories: e.g. "architecture", "ethnic heritage", "community planning & development", etc.)

1._____ 3._____ 5._____

2._____ 4._____ 6._____

DOCUMENTATION

Accessible Documentation Not Filed with the Site File - including field notes, analysis notes, photos, plans and other important documents

1) Document type All materials at one location Maintaining organization Southeastern Archaeological Research

Document description Photos, Maps, Field Notes, Aerial File or accession #'s 260003

2) Document type _____ Maintaining organization _____

Document description _____ File or accession #'s _____

RECORDER INFORMATION

Recorder Name Bonatakis, Mary Affiliation Southeastern Archaeological Research

Recorder Contact Information 3117 Edgewater Dr, Orlando, FL 32804/407-236-7711/Mary.Bonatakis@searchinc

(address / phone / fax / e-mail)

Required Attachments

❶ **USGS 7.5' MAP WITH STRUCTURE LOCATION CLEARLY INDICATED**

❷ **LARGE SCALE STREET, PLAT OR PARCEL MAP** (available from most property appraiser web sites)

❸ **PHOTO OF MAIN FACADE, DIGITAL IMAGE FILE**

When submitting an image, it must be included in digital AND hard copy format (plain paper grayscale acceptable). Digital image must be at least 1600 x 1200 pixels, 24-bit color, jpeg or tiff.

8MA03125_a Facing W

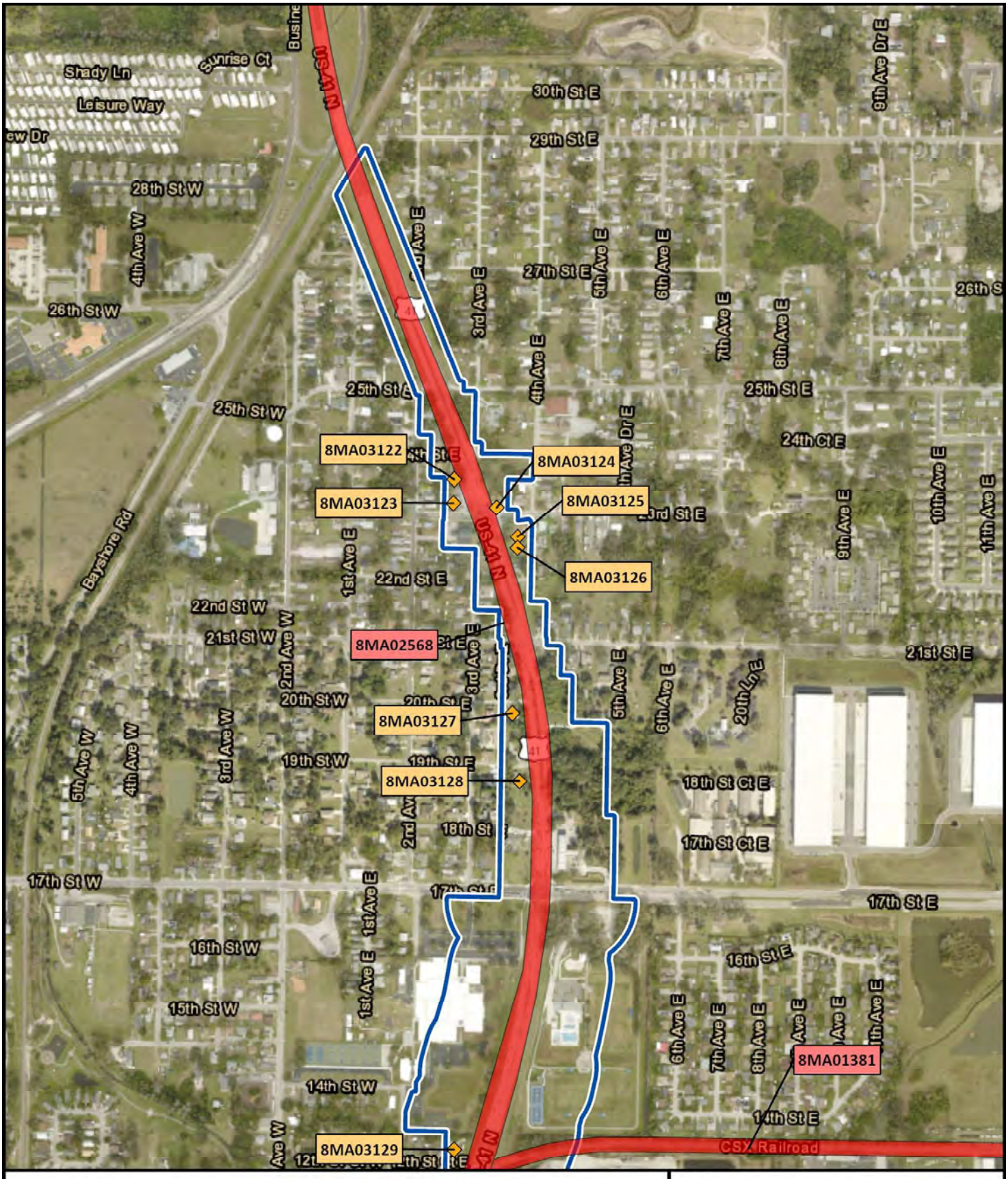
8MA03125_b Facing NW

8MA03125_c Facing SW

8MA03125_d facing E

8MA03125_e facing E

8MA03125_f Facing NE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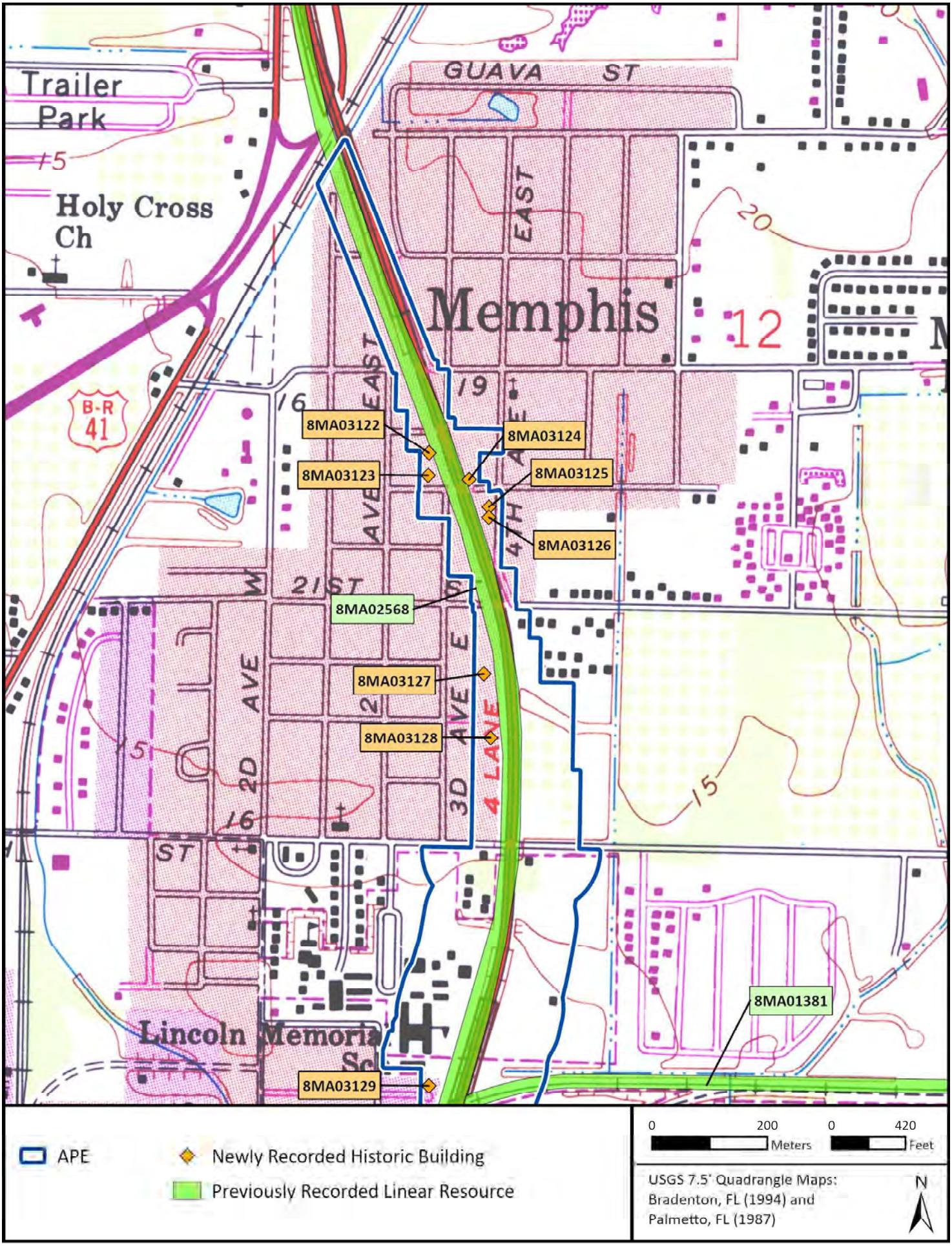
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USGS 7.5' Quadrangle Maps:
Bradenton, FL (1994) and
Palmetto, FL (1987)
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☒ Original
☐ Update

HISTORICAL STRUCTURE FORM
FLORIDA MASTER SITE FILE
Version 5.0 3/19

Site#8 MA03126
Field Date 2-16-2025
Form Date 2-25-2026
Recorder # _____

Shaded Fields represent the minimum acceptable level of documentation.
Consult the *Guide to Historical Structure Forms* for detailed instructions.

Site Name(s) (address if none) 2213/2211 4th Avenue E **M**ultiple Listing (DHR only) _____
Survey Project Name Bradenton-Palmetto Connector PD&E **S**urvey # (DHR only) _____
National Register Category (please check one) ☒building ☐structure ☐district ☐site ☐object
Ownership: ☐private-profit ☐private-nonprofit ☒private-individual ☐private-nonspecific ☐city ☐county ☐state ☐federal ☐Native American ☐foreign ☐unknown

LOCATION & MAPPING

Street Number	Direction	Street Name	Street Type	Suffix Direction
2213/2211		4th	Avenue	E

Address:
Cross Streets (nearest / between) US 41 N/23rd ST E
USGS 7.5 Map Name PALMETTO **U**SGS Date 2024 **P**lat or Other Map _____
City / Town (within 3 miles) Palmetto **I**n City Limits? ☒yes ☐no ☐unknown **C**ounty Manatee
Township 34S **R**ange 17E **S**ection 12 ¼ section: ☐NW ☐SW ☐SE ☐NE Irregular-name: _____
Tax Parcel # 2535200006 **L**andgrant _____
Subdivision Name Houghtons Addition **B**lock 9 **L**ot 4
UTM Coordinates: **Z**one ☐16 ☐17 **E**asting ☐☐☐☐☐☐ **N**orthing ☐☐☐☐☐☐☐
Other Coordinates: X: _____ Y: _____ **C**oordinate System & Datum _____
Name of Public Tract (e.g., park) _____

HISTORY

Construction Year: 1950 ☒approximately ☐year listed or earlier ☐year listed or later
Original Use Private Residence (House/Cottage/Ca From (year): 1950 To (year): 2026
Current Use Private Residence (House/Cottage/Ca From (year): 1950 To (year): 2026
Other Use _____ From (year): _____ To (year): _____
Moves: ☐yes ☒no ☐unknown Date: _____ Original address _____
Alterations: ☒yes ☐no ☐unknown Date: _____ Nature Windows & siding, date c.2023
Additions: ☐yes ☒no ☐unknown Date: _____ Nature _____
Architect (last name first): UNKN **B**uilder (last name first): UNKN
Ownership History (especially original owner, dates, profession, etc.)

Current Owner: Moises Ramos Cardona & Marangely Estrada Mejia, purchased in 2024. Original Owner: Marie Simons.

Is the Resource Affected by a Local Preservation Ordinance? ☐yes ☐no ☒unknown **D**escribe _____

DESCRIPTION

Style Frame Vernacular **E**xterior Plan L-shaped **N**umber of Stories 1
Exterior Fabric(s) 1. _____ 2. _____ 3. Vinyl Drop Siding
Roof Type(s) 1. Cross-gabled 2. _____ 3. _____
Roof Material(s) 1. Asphalt shingles 2. _____ 3. _____
Roof secondary strucs. (dormers etc.) 1. Gable extension 2. _____
Windows (types, materials, etc.)

replacement 1/1, vinyl, SHS

Distinguishing Architectural Features (exterior or interior ornaments)

gable vent S gable end; lattice skirting

Ancillary Features / Outbuildings (record outbuildings, major landscape features; use continuation sheet if needed.)

metal, chain-link fence; metal pole carport

DHR USE ONLY	OFFICIAL EVALUATION	DHR USE ONLY
NR List Date _____ ☐Owner Objection	SHPO – Appears to meet criteria for NR listing: ☐yes ☐no ☐insufficient info Date _____ Init._____ KEEPER – Determined eligible: ☐yes ☐no Date _____ NR Criteria for Evaluation: ☐a ☐b ☐c ☐d (see *National Register Bulletin 15*, p. 2)	

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HISTORICAL STRUCTURE FORM

Site # 8 MA03126

DESCRIPTION (continued)

Chimney: No. 0 Chimney Material(s): 1. Not applicable 2. _____

Structural System(s): 1. Balloon wood frame 2. _____ 3. _____

Foundation Type(s): 1. Piers 2. _____

Foundation Material(s): 1. Concrete Block 2. _____

Main Entrance (stylistic details)

fiberglass paneled door E facade

Porch Descriptions (types, locations, roof types, etc.)

N/A

Condition (overall resource condition): ☐excellent ☒good ☐fair ☐deteriorated ☐ruinous

Narrative Description of Resource

Resource 8MA03126 is a 1-story, L-shaped, Frame Vernacular residence set on concrete block piers. Asphalt shingles covers the cross-gabled roof and gable extension roofs, and vinyl dropsiding clads the walls.

Archaeological Remains _____ ☐Check if Archaeological Form Completed

RESEARCH METHODS (select all that apply)

☒FMSF record search (sites/surveys)	☒library research	☐building permits	☐Sanborn maps
☐FL State Archives/photo collection	☐city directory	☐occupant/owner interview	☐plat maps
☒property appraiser / tax records	☐newspaper files	☐neighbor interview	☐Public Lands Survey (DEP)
☒cultural resource survey (CRAS)	☐historic photos	☐interior inspection	☐HABS/HAER record search

☒other methods (describe) Pedestrian/Windshield Survey

Bibliographic References (give FMSF manuscript # if relevant, use continuation sheet if needed)

OPINION OF RESOURCE SIGNIFICANCE

Appears to meet the criteria for National Register listing individually? ☐yes ☒no ☐insufficient information

Appears to meet the criteria for National Register listing as part of a district? ☐yes ☒no ☐insufficient information

Explanation of Evaluation (**required**, whether significant or not; use separate sheet if needed)

Due to lack of sufficient historic significance and architectural distinction, 8MA03126 is ineligible for listing in the NRHP, either individually or as a contributing resource within a potential or existing historic district.

Area(s) of Historical Significance (see *National Register Bulletin 15*, p. 8 for categories: e.g. "architecture", "ethnic heritage", "community planning & development", etc.)

1._____ 3._____ 5._____

2._____ 4._____ 6._____

DOCUMENTATION

Accessible Documentation Not Filed with the Site File - including field notes, analysis notes, photos, plans and other important documents

1) Document type All materials at one location Maintaining organization Southeastern Archaeological Research

Document description Photos, Maps, Field Notes, Aerial File or accession #'s 260003

2) Document type _____ Maintaining organization _____

Document description _____ File or accession #'s _____

RECORDER INFORMATION

Recorder Name Bonatakis, Mary Affiliation Southeastern Archaeological Research

Recorder Contact Information 3117 Edgewater Dr, Orlando, FL 32804/407-236-7711/Mary.Bonatakis@searchinc

(address / phone / fax / e-mail)

Required Attachments

❶ **USGS 7.5' MAP WITH STRUCTURE LOCATION CLEARLY INDICATED**

❷ **LARGE SCALE STREET, PLAT OR PARCEL MAP** (available from most property appraiser web sites)

❸ **PHOTO OF MAIN FACADE, DIGITAL IMAGE FILE**

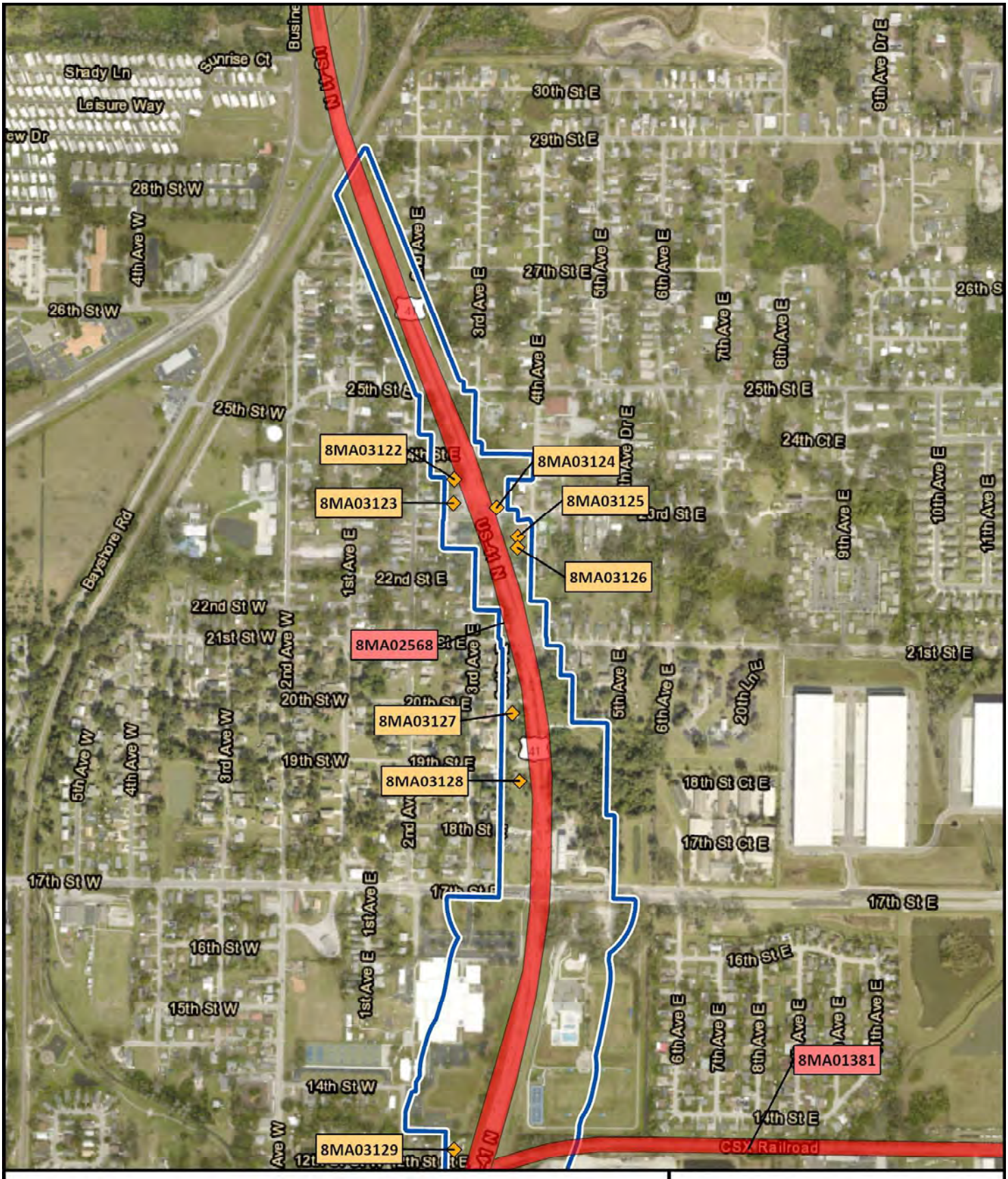
When submitting an image, it must be included in digital AND hard copy format (plain paper grayscale acceptable). Digital image must be at least 1600 x 1200 pixels, 24-bit color, jpeg or tiff.

8MA03126_a Facing W

8MA03126_b Facing NW

8MA03126_c Facing E

8MA03126_d Facing NE


8MA03122
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US-41 N
CSX Railroad
Shady Ln
Sunrise Ct
Leisure Way
Bayshore Rd
30th St E
29th St E
28th St W
27th St E
26th St W
25th St E
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24th Ct E
22nd St E
22nd St W
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5th Ave E
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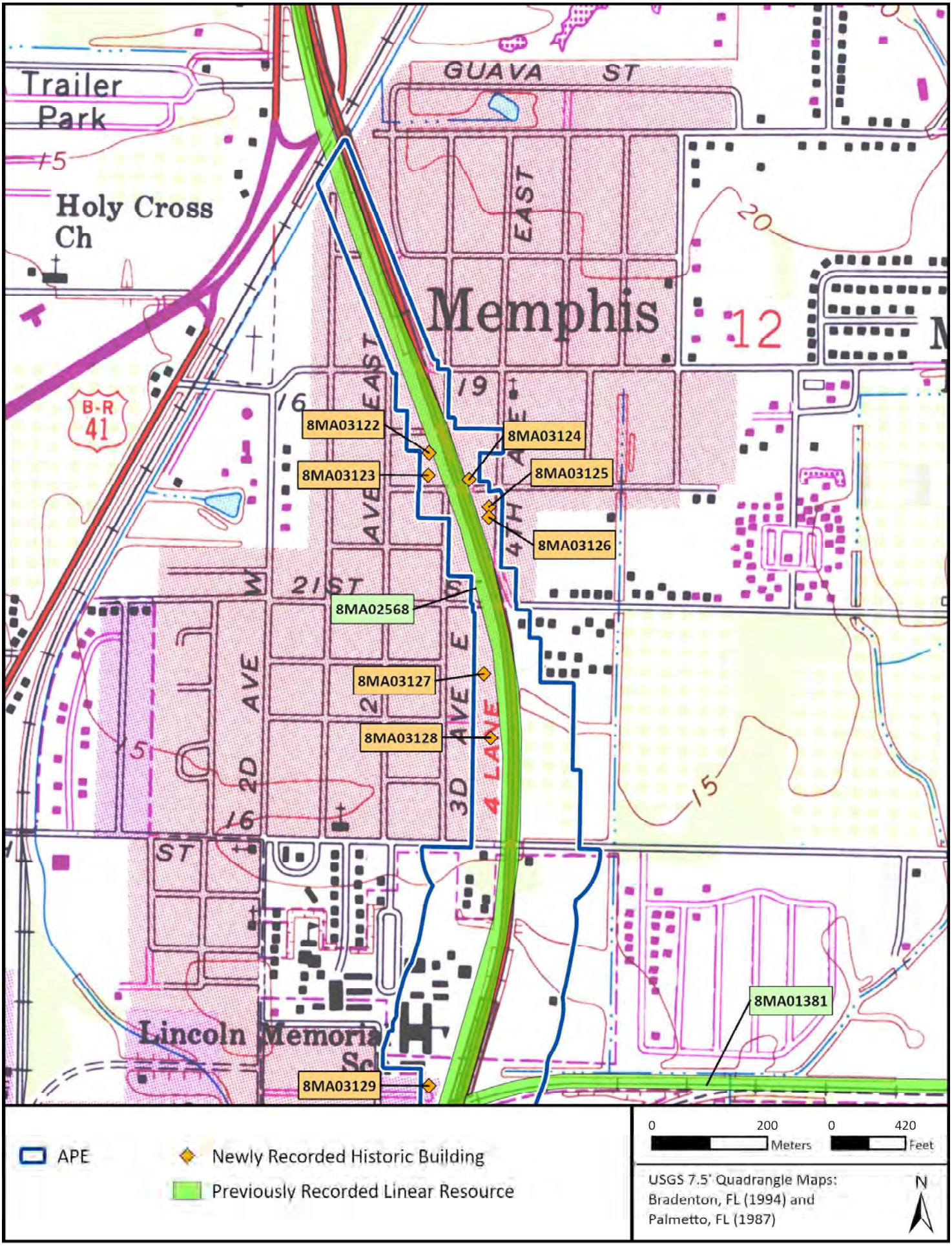
7th Ave E
8th Ave E
9th Ave E
9th Ave Dr E
10th Ave E
11th Ave E
APE
Newly Recorded Historic Building
Previously Recorded Linear Resource
0
200
Meters
0
420
Feet
Esri World Imagery (2024)
N


Trailer Park
Holy Cross Ch
GUAVA ST
EAST
Memphis
12
B-R 41
8MA03122
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8MA03126
8MA02568
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8MA03129
8MA01381
W 21ST
2D AVE
3D AVE
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Lincoln Memorial
APE
Newly Recorded Historic Building
Previously Recorded Linear Resource
0 200 Meters
0 420 Feet
USGS 7.5' Quadrangle Maps:
Bradenton, FL (1994) and
Palmetto, FL (1987)
N

☒ Original
☐ Update

HISTORICAL STRUCTURE FORM
FLORIDA MASTER SITE FILE
Version 5.0 3/19

Site#8 MA03127
Field Date 2-16-2025
Form Date 2-26-2026
Recorder #

Shaded Fields represent the minimum acceptable level of documentation.
Consult the *Guide to Historical Structure Forms* for detailed instructions.

Site Name(s) (address if none) 315 20th Street E — Multiple Listing (DHR only)
Survey Project Name Bradenton-Palmetto Connector PD&E — Survey # (DHR only)
National Register Category (please check one) ☒building ☐structure ☐district ☐site ☐object
Ownership: ☐private-profit ☐private-nonprofit ☒private-individual ☐private-nonspecific ☐city ☐county ☐state ☐federal ☐Native American ☐foreign ☐unknown

LOCATION & MAPPING

Street Number	Direction	Street Name	Street Type	Suffix Direction
315		20th	Street	E

Address:
Cross Streets (nearest / between) US 41 N/3rd Ave E
USGS 7.5 Map Name PALMETTO — USGS Date 2024 — Plat or Other Map
City / Town (within 3 miles) Palmetto — In City Limits? ☒yes ☐no ☐unknown — County Manatee
Township 34S — Range 17E — Section 12 — ¼ section: ☐NW ☐SW ☐SE ☐NE — Irregular-name:
Tax Parcel # 2555400056 — Landgrant
Subdivision Name Willis Plat of Memphis — Block 14 — Lot 4
UTM Coordinates: Zone ☐16 ☐17 — Easting ☐☐☐☐☐☐ — Northing ☐☐☐☐☐☐☐
Other Coordinates: X: — Y: — Coordinate System & Datum
Name of Public Tract (e.g., park)

HISTORY

Construction Year: 1956 ☒approximately ☐year listed or earlier ☐year listed or later
Original Use Private Residence (House/Cottage/Ca — From (year): 1956 — To (year): 2026
Current Use Private Residence (House/Cottage/Ca — From (year): 1956 — To (year): 2026
Other Use — From (year): — To (year):
Moves: ☐yes ☒no ☐unknown Date: — Original address
Alterations: ☐yes ☒no ☐unknown Date: — Nature
Additions: ☐yes ☒no ☐unknown Date: — Nature
Architect (last name first): UNKN — Builder (last name first): UNKN
Ownership History (especially original owner, dates, profession, etc.)

Current Owner: Raphael Houston, received title from Robert Houston (original owner) in 2025.

Is the Resource Affected by a Local Preservation Ordinance? ☐yes ☐no ☒unknown Describe

DESCRIPTION

Style Ranch — Exterior Plan L-shaped — Number of Stories 1
Exterior Fabric(s) 1. Concrete 2. 3.
Roof Type(s) 1. Hip 2. 3.
Roof Material(s) 1. Asphalt shingles 2. 3.
Roof secondary strucs. (dormers etc.) 1. Shed extension 2.
Windows (types, materials, etc.)

3-pane, aluminum-sash awning, grouped in 1,2, and 3; Jalousie

Distinguishing Architectural Features (exterior or interior ornaments)

concrete windowsills

Ancillary Features / Outbuildings (record outbuildings, major landscape features; use continuation sheet if needed.)

metal, chain-link fence; heavy vegetation

DHR USE ONLY	OFFICIAL EVALUATION	DHR USE ONLY
NR List Date ☐Owner Objection	SHPO – Appears to meet criteria for NR listing: ☐yes ☐no ☐insufficient info Date Init. KEEPER – Determined eligible: ☐yes ☐no Date NR Criteria for Evaluation: ☐a ☐b ☐c ☐d (see *National Register Bulletin 15*, p. 2)	

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HISTORICAL STRUCTURE FORM

Site # 8 MA03127

DESCRIPTION (continued)

Chimney: No. 0 Chimney Material(s): 1. Not applicable 2.

Structural System(s): 1. Concrete block 2. 3.

Foundation Type(s): 1. Slab 2.

Foundation Material(s): 1. Concrete, Generic 2.

Main Entrance (stylistic details)

Not visible from ROW/Owners denied photos

Porch Descriptions (types, locations, roof types, etc.)

partial width, open, roof extension porch, N facade

Condition (overall resource condition): ☐ excellent ☐ good ☒ fair ☐ deteriorated ☐ ruinous

Narrative Description of Resource

Resource 8MA03127 is a 1-story, L-shaped, Ranch-style residence set on a concrete slab foundation. Asphalt shingles covers the hipped and roof and shed extension roofs, and the walls are concrete block.

Archaeological Remains ☐ Check if Archaeological Form Completed

RESEARCH METHODS (select all that apply)

☒ FMSF record search (sites/surveys)	☒ library research	☐ building permits	☐ Sanborn maps
☐ FL State Archives/photo collection	☐ city directory	☐ occupant/owner interview	☐ plat maps
☒ property appraiser / tax records	☐ newspaper files	☐ neighbor interview	☐ Public Lands Survey (DEP)
☒ cultural resource survey (CRAS)	☐ historic photos	☐ interior inspection	☐ HABS/HAER record search

☒ other methods (describe) Pedestrian/Windshield Survey

Bibliographic References (give FMSF manuscript # if relevant, use continuation sheet if needed)

OPINION OF RESOURCE SIGNIFICANCE

Appears to meet the criteria for National Register listing individually? ☐ yes ☒ no ☐ insufficient information

Appears to meet the criteria for National Register listing as part of a district? ☐ yes ☒ no ☐ insufficient information

Explanation of Evaluation (**required**, whether significant or not; use separate sheet if needed)

Due to lack of sufficient historic significance and architectural distinction, 8MA03127 is ineligible for listing in the NRHP, either individually or as a contributing resource within a potential or existing historic district.

Area(s) of Historical Significance (see *National Register Bulletin 15*, p. 8 for categories: e.g. "architecture", "ethnic heritage", "community planning & development", etc.)

1. 3. 5.

2. 4. 6.

DOCUMENTATION

Accessible Documentation Not Filed with the Site File - including field notes, analysis notes, photos, plans and other important documents

1) Document type All materials at one location Maintaining organization Southeastern Archaeological Research

Document description Photos, Maps, Field Notes, Aerial File or accession #'s 260003

2) Document type Maintaining organization

Document description File or accession #'s

RECORDER INFORMATION

Recorder Name Bonatakis, Mary Affiliation Southeastern Archaeological Research

Recorder Contact Information 3117 Edgewater Dr, Orlando, FL 32804/407-236-7711/Mary.Bonatakis@searchinc.

(address / phone / fax / e-mail)

Required Attachments

❶ **USGS 7.5' MAP WITH STRUCTURE LOCATION CLEARLY INDICATED**

❷ **LARGE SCALE STREET, PLAT OR PARCEL MAP** (available from most property appraiser web sites)

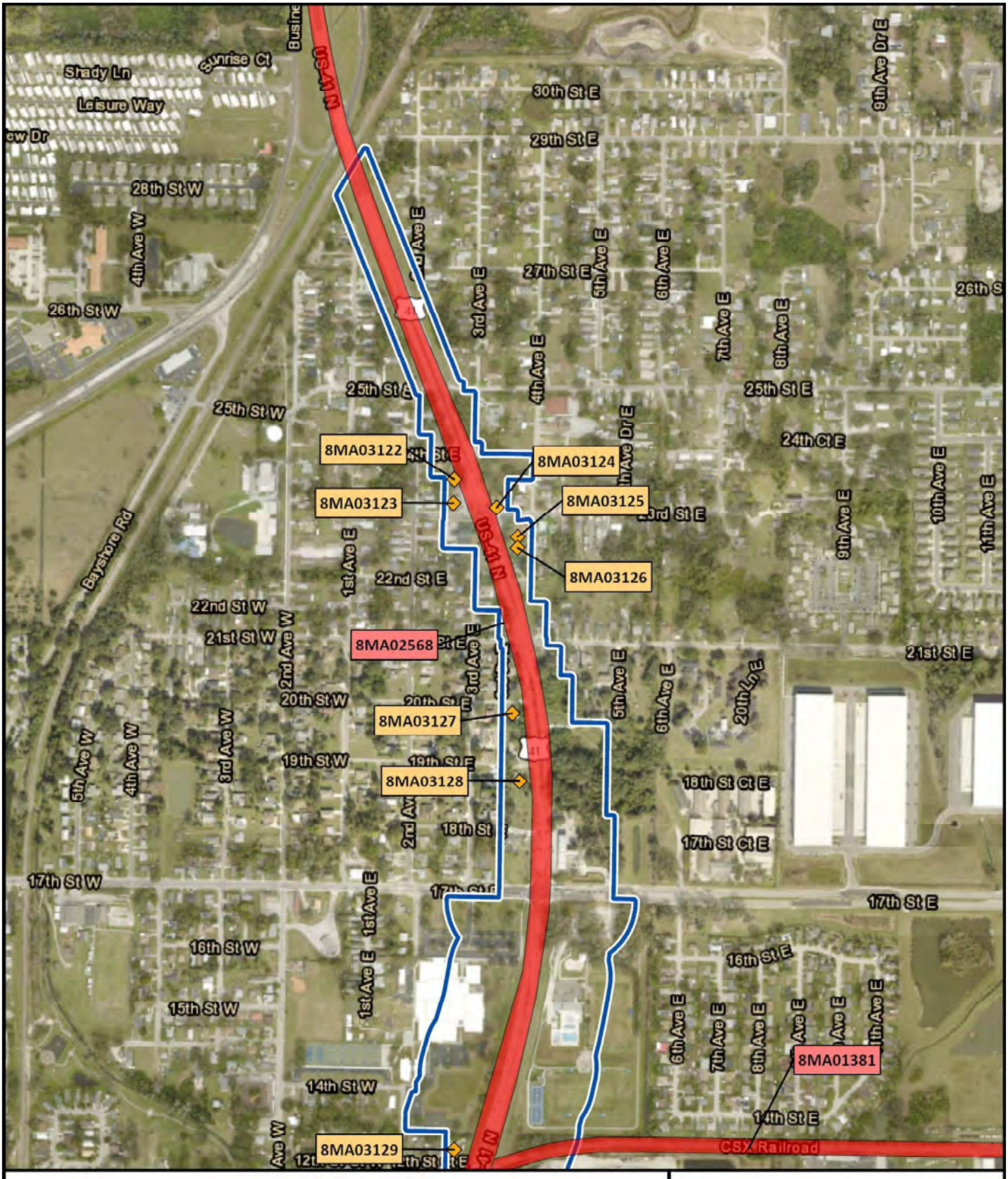
❸ **PHOTO OF MAIN FACADE, DIGITAL IMAGE FILE**

When submitting an image, it must be included in digital AND hard copy format (plain paper grayscale acceptable). Digital image must be at least 1600 x 1200 pixels, 24-bit color, jpeg or tiff.

8MA03127_a Facing SW

8MA03127_b Facing W

8MA03127_c Facing NW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US-41 N
CSX Railroad
Shady Ln
Sunrise Ct
Leisure Way
Bayshore Rd
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28th St W
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Newly Recorded Historic Building
Previously Recorded Linear Resource
0
200
Meters
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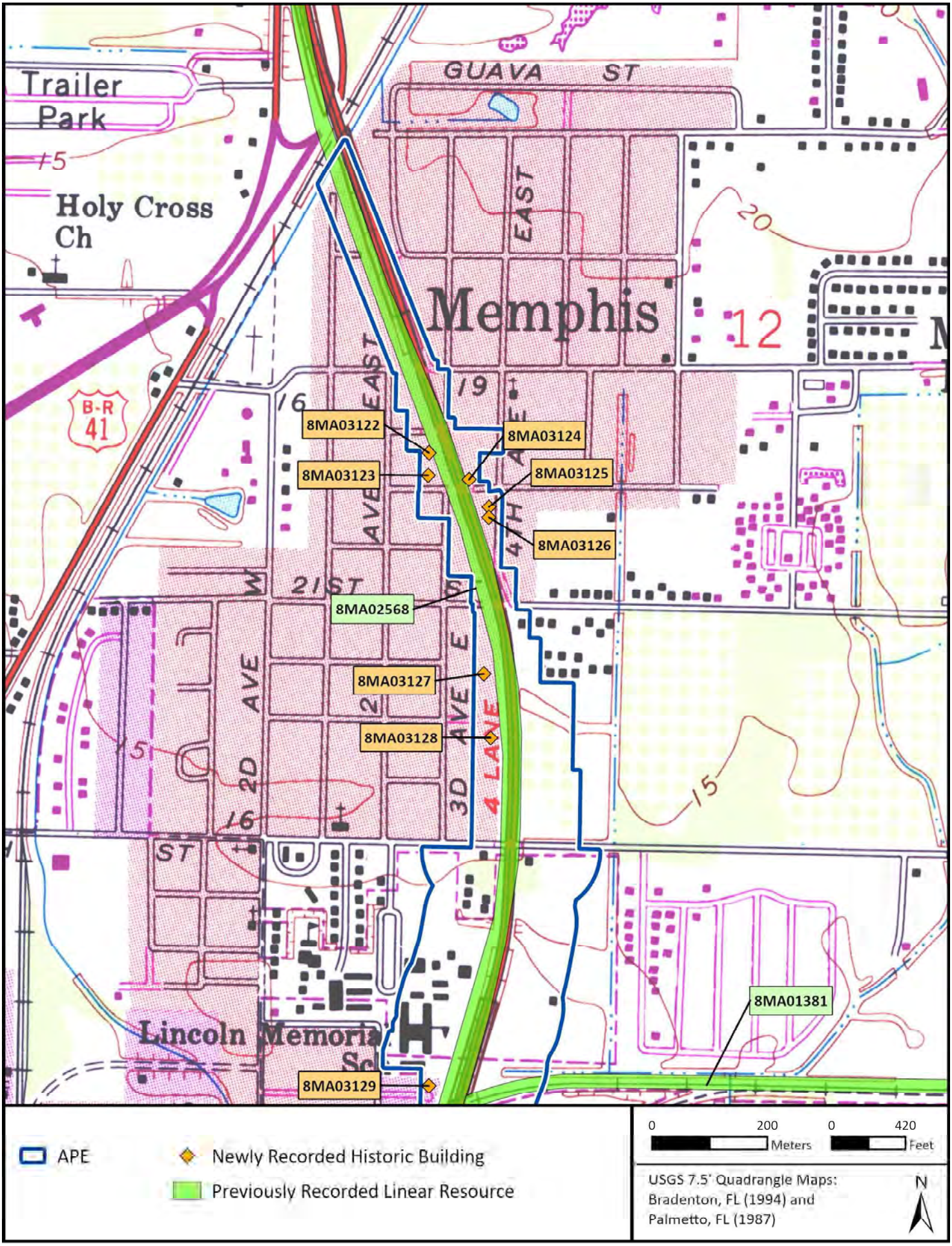
420
Feet
Esri World Imagery (2024)
N


Trailer Park
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8MA02568
8MA03127
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Lincoln Memorial
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0 420 Feet
USGS 7.5' Quadrangle Maps:
Bradenton, FL (1994) and
Palmetto, FL (1987)
N

☒ Original
☐ Update

HISTORICAL STRUCTURE FORM
FLORIDA MASTER SITE FILE
Version 5.0 3/19

Site#8 MA03128
Field Date 2-16-2025
Form Date 2-26-2026
Recorder # _____

Shaded Fields represent the minimum acceptable level of documentation.
Consult the *Guide to Historical Structure Forms* for detailed instructions.

Site Name(s) (address if none) 1817 US 41 N — Multiple Listing (DHR only) _____
Survey Project Name Bradenton-Palmetto Connector PD&E — Survey # (DHR only) _____
National Register Category (please check one) ☒building ☐structure ☐district ☐site ☐object
Ownership: ☐private-profit ☐private-nonprofit ☒private-individual ☐private-nonspecific ☐city ☐county ☐state ☐federal ☐Native American ☐foreign ☐unknown

LOCATION & MAPPING

Street Number	Direction	Street Name	Street Type	Suffix Direction
1817		41	Highway	N

Address:
Cross Streets (nearest / between) 3rd Ave E/19th St. E
USGS 7.5 Map Name PALMETTO — USGS Date 2024 — Plat or Other Map _____
City / Town (within 3 miles) Palmetto — In City Limits? ☒yes ☐no ☐unknown — County Manatee
Township 34S — Range 17E — Section 12 — ¼ section: ☐NW ☐SW ☐SE ☐NE — Irregular-name: _____
Tax Parcel # 2556000004 — Landgrant _____
Subdivision Name Willis Plat of Memphis — Block 15 — Lot 4
UTM Coordinates: Zone ☐16 ☐17 Easting ☐☐☐☐☐☐ Northing ☐☐☐☐☐☐☐
Other Coordinates: X: _____ Y: _____ Coordinate System & Datum _____
Name of Public Tract (e.g., park) _____

HISTORY

Construction Year: 1965 ☒approximately ☐year listed or earlier ☐year listed or later
Original Use Private Residence (House/Cottage/Ca — From (year): 1965 — To (year): 2026
Current Use Private Residence (House/Cottage/Ca — From (year): 1965 — To (year): 2026
Other Use _____ — From (year): _____ — To (year): _____
Moves: ☐yes ☒no ☐unknown Date: _____ Original address _____
Alterations: ☒yes ☐no ☐unknown Date: _____ Nature window replacements, date: UNKN
Additions: ☐yes ☒no ☐unknown Date: _____ Nature _____
Architect (last name first): UNKN — Builder (last name first): UNKN
Ownership History (especially original owner, dates, profession, etc.)

Current Owner: Betty Jeans Jones, purchased in 2004.

Is the Resource Affected by a Local Preservation Ordinance? ☐yes ☐no ☒unknown Describe _____

DESCRIPTION

Style Ranch — Exterior Plan L-shaped — Number of Stories 1
Exterior Fabric(s) 1. Concrete block 2. _____ 3. _____
Roof Type(s) 1. Gable 2. _____ 3. _____
Roof Material(s) 1. Asphalt shingles 2. _____ 3. _____
Roof secondary strucs. (dormers etc.) 1. Shed extension 2. _____
Windows (types, materials, etc.)

replacement, 1/1, vinyl, SHS; vinyl-sash horizontal sliders

Distinguishing Architectural Features (exterior or interior ornaments)

brick faux shutters; board and batten in gable ends

Ancillary Features / Outbuildings (record outbuildings, major landscape features; use continuation sheet if needed.)

wooden privacy fence; concrete & stucco mailbox

DHR USE ONLY	OFFICIAL EVALUATION	DHR USE ONLY
NR List Date _____ ☐Owner Objection	SHPO – Appears to meet criteria for NR listing: ☐yes ☐no ☐insufficient info Date _____ Init._____ KEEPER – Determined eligible: ☐yes ☐no Date _____ NR Criteria for Evaluation: ☐a ☐b ☐c ☐d (see *National Register Bulletin 15*, p. 2)	

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HISTORICAL STRUCTURE FORM

Site # 8 MA03128

DESCRIPTION (continued)

Chimney: No. 0 Chimney Material(s): 1. Not applicable 2. _____

Structural System(s): 1. Concrete block 2. _____ 3. _____

Foundation Type(s): 1. Slab 2. _____

Foundation Material(s): 1. Concrete, Generic 2. _____

Main Entrance (stylistic details)

vinyl-frame sheltered by decorative metal security door, E facade

Porch Descriptions (types, locations, roof types, etc.)

partial width, open, roof extension porch, w/ iron filigree supports, sheltering main entrance

Condition (overall resource condition): ☐excellent ☒good ☐fair ☐deteriorated ☐ruinous

Narrative Description of Resource

Resource 8MA03128 is a 1-story, L-shaped, Ranch-style residence set on a concrete slab foundation. Asphalt shingles covers the gabled and shed extension roofs, and the walls are concrete block.

Archaeological Remains _____ ☐Check if Archaeological Form Completed

RESEARCH METHODS (select all that apply)

☒FMSF record search (sites/surveys)	☒library research	☐building permits	☐Sanborn maps
☐FL State Archives/photo collection	☐city directory	☐occupant/owner interview	☐plat maps
☒property appraiser / tax records	☐newspaper files	☐neighbor interview	☐Public Lands Survey (DEP)
☒cultural resource survey (CRAS)	☐historic photos	☐interior inspection	☐HABS/HAER record search

☒other methods (describe) Pedestrian/Windshield Survey

Bibliographic References (give FMSF manuscript # if relevant, use continuation sheet if needed)

OPINION OF RESOURCE SIGNIFICANCE

Appears to meet the criteria for National Register listing individually? ☐yes ☒no ☐insufficient information

Appears to meet the criteria for National Register listing as part of a district? ☐yes ☒no ☐insufficient information

Explanation of Evaluation (**required**, whether significant or not; use separate sheet if needed)

Due to lack of sufficient historic significance and architectural distinction, 8MA03128 is ineligible for listing in the NRHP, either individually or as a contributing resource within a potential or existing historic district.

Area(s) of Historical Significance (see *National Register Bulletin 15*, p. 8 for categories: e.g. "architecture", "ethnic heritage", "community planning & development", etc.)

1._____ 3._____ 5._____

2._____ 4._____ 6._____

DOCUMENTATION

Accessible Documentation Not Filed with the Site File - including field notes, analysis notes, photos, plans and other important documents

1) Document type All materials at one location Maintaining organization Southeastern Archaeological Research

Document description Photos, Maps, Field Notes, Aerial File or accession #'s 260003

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Document description _____ File or accession #'s _____

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Recorder Contact Information 3117 Edgewater Dr, Orlando, FL 32804/407-236-7711/Mary.Bonatakis@searchinc

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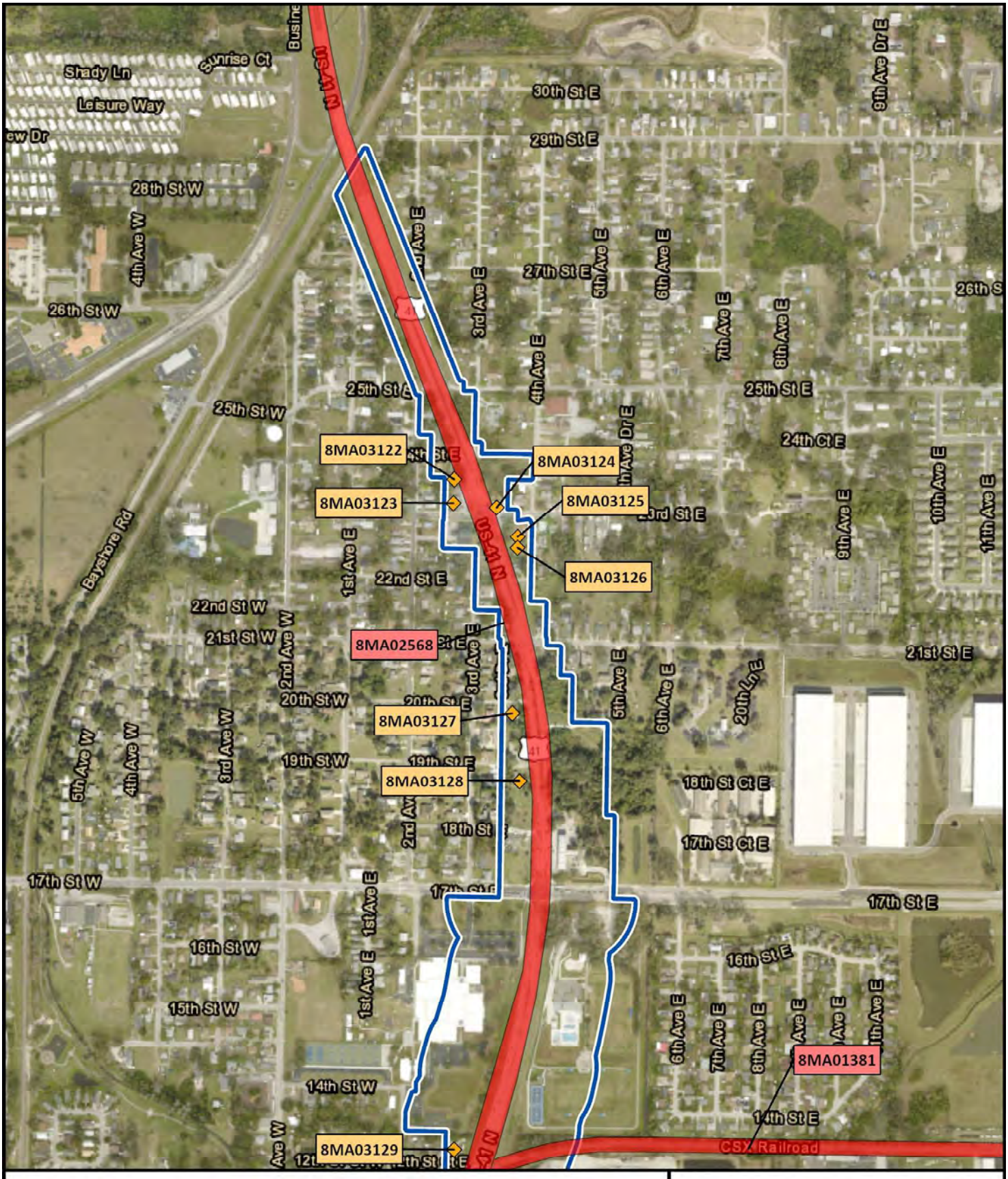
8MA03128_a Facing SW

8MA03128_b Facing W

8MA03128_c Facing NW

8MA03128_d facing SW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US-41 N
CSX Railroad
Shady Ln
Sunrise Ct
Leisure Way
Bayshore Rd
30th St E
29th St E
28th St W
27th St E
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APE
Newly Recorded Historic Building
Previously Recorded Linear Resource
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200
Meters
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420
Feet
Esri World Imagery (2024)
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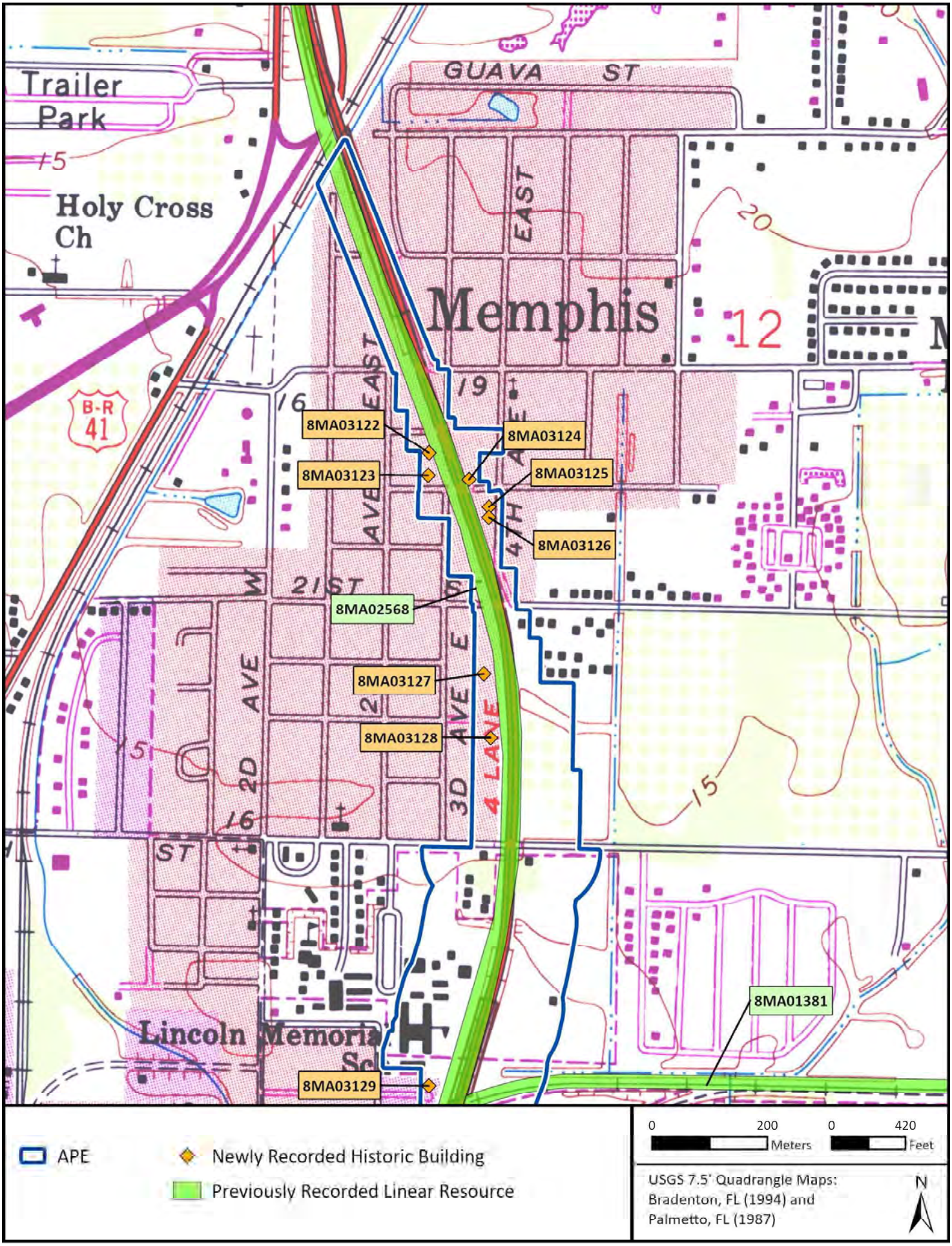
Trailer Park
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EAST
Memphis
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B-R 41
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8MA03127
8MA03128
8MA03129
8MA01381
W 21ST
2D AVE
3D AVE
4 LAVE
Lincoln Memorial
APE
Newly Recorded Historic Building
Previously Recorded Linear Resource
0 200 Meters
0 420 Feet
USGS 7.5' Quadrangle Maps:
Bradenton, FL (1994) and
Palmetto, FL (1987)
N

☒ Original
☐ Update

HISTORICAL STRUCTURE FORM
FLORIDA MASTER SITE FILE
Version 5.0 3/19

Site#8 MA03129
Field Date 2-16-2025
Form Date 2-26-2026
Recorder # _____

Shaded Fields represent the minimum acceptable level of documentation.
Consult the *Guide to Historical Structure Forms* for detailed instructions.

Site Name(s) (address if none) 120 12th Street Court E — **M**ultiple Listing (DHR only) _____
Survey Project Name Bradenton-Palmetto Connector PD&E — **S**urvey # (DHR only) _____
National Register Category (please check one) ☒building ☐structure ☐district ☐site ☐object
Ownership: ☐private-profit ☐private-nonprofit ☒private-individual ☐private-nonspecific ☐city ☐county ☐state ☐federal ☐Native American ☐foreign ☐unknown

LOCATION & MAPPING

	Street Number	Direction	Street Name	Street Type	Suffix Direction
Address:	120		12th	Street	N

Cross Streets (nearest / between) 3rd Ave E/19th St. E
USGS 7.5 Map Name PALMETTO — **U**SGS Date 2024 — **P**lat or Other Map _____
City / Town (within 3 miles) Palmetto — **I**n City Limits? ☒yes ☐no ☐unknown — **C**ounty Manatee
Township 34S — **R**ange 17E — **S**ection 13 — ¼ section: ☐NW ☐SW ☐SE ☐NE Irregular-name: _____
Tax Parcel # 2598110100 — **L**andgrant _____
Subdivision Name Harrison Industrial — **B**lock E — **L**ot 8
UTM Coordinates: **Z**one ☐16 ☐17 **E**asting ☐☐☐☐☐☐ **N**orthing ☐☐☐☐☐☐☐
Other Coordinates: X: _____ Y: _____ **C**oordinate System & Datum _____
Name of Public Tract (e.g., park) _____

HISTORY

Construction Year: 1981 ☒approximately ☐year listed or earlier ☐year listed or later
Original Use Private Residence (House/Cottage/Ca — From (year): 1981 — To (year): 2026
Current Use Private Residence (House/Cottage/Ca — From (year): 1981 — To (year): 2026
Other Use _____ — From (year): _____ — To (year): _____
Moves: ☐yes ☒no ☐unknown Date: _____ Original address _____
Alterations: ☒yes ☐no ☐unknown Date: _____ Nature window replacements, date: UNKN
Additions: ☐yes ☒no ☐unknown Date: _____ Nature _____
Architect (last name first): UNKN — **B**uilder (last name first): UNKN
Ownership History (especially original owner, dates, profession, etc.)

Current Owner: Enrique- Bermudex, Luis Enrique, purchased in 2013.

Is the Resource Affected by a Local Preservation Ordinance? ☐yes ☐no ☒unknown **D**escribe _____

DESCRIPTION

Style Masonry Vernacular — **E**xterior Plan Rectangular — **N**umber of Stories 1
Exterior Fabric(s) 1. Concrete 2. Stucco 3. Artif masonry veneer
Roof Type(s) 1. Hip 2. Shed 3. _____
Roof Material(s) 1. Asphalt shingles 2. _____ 3. _____
Roof secondary strucs. (dormers etc.) 1. Shed extension 2. _____
Windows (types, materials, etc.)

replacement, 6/6, vinyl, SHS

Distinguishing Architectural Features (exterior or interior ornaments)

masonry veneer water table; HOMEOWNER DENIED PHOTOS

Ancillary Features / Outbuildings (record outbuildings, major landscape features; use continuation sheet if needed.)

brick driveway; non historic sheds

DHR USE ONLY	OFFICIAL EVALUATION	DHR USE ONLY
NR List Date _____ ☐Owner Objection	SHPO – Appears to meet criteria for NR listing: ☐yes ☐no ☐insufficient info Date _____ Init._____ KEEPER – Determined eligible: ☐yes ☐no Date _____ NR Criteria for Evaluation: ☐a ☐b ☐c ☐d (see *National Register Bulletin 15*, p. 2)	

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HISTORICAL STRUCTURE FORM

Site # 8 MA03129

DESCRIPTION (continued)

Chimney: No. 0 Chimney Material(s): 1. Not applicable 2. _____
Structural System(s): 1. Concrete 2. _____ 3. _____
Foundation Type(s): 1. Slab 2. _____
Foundation Material(s): 1. Concrete, Generic 2. _____
Main Entrance (stylistic details)

fiberglass paneled door w/ fanlight & sidelight S facade

Porch Descriptions (types, locations, roof types, etc.)

N/A

Condition (overall resource condition): ☐excellent ☒good ☐fair ☐deteriorated ☐ruinous
Narrative Description of Resource

Resource 8MA03129 is a 1-story, rectangular plan Masonry Vernacular residence set on a concrete slab foundation. Asphalt shingles covers the hipped and shed roof, and stucco clads the walls.

Archaeological Remains _____ ☐Check if Archaeological Form Completed

RESEARCH METHODS (select all that apply)

☒FMSF record search (sites/surveys)	☒library research	☐building permits	☐Sanborn maps
☐FL State Archives/photo collection	☐city directory	☐occupant/owner interview	☐plat maps
☒property appraiser / tax records	☐newspaper files	☐neighbor interview	☐Public Lands Survey (DEP)
☒cultural resource survey (CRAS)	☐historic photos	☐interior inspection	☐HABS/HAER record search

☒other methods (describe) Pedestrian/Windshield Survey
Bibliographic References (give FMSF manuscript # if relevant, use continuation sheet if needed)

OPINION OF RESOURCE SIGNIFICANCE

Appears to meet the criteria for National Register listing individually? ☐yes ☒no ☐insufficient information
Appears to meet the criteria for National Register listing as part of a district? ☐yes ☒no ☐insufficient information
Explanation of Evaluation (**required**, whether significant or not; use separate sheet if needed)

Due to lack of sufficient historic significance and architectural distinction, 8MA03129 is ineligible for listing in the NRHP, either individually or as a contributing resource within a potential or existing historic district.

Area(s) of Historical Significance (see *National Register Bulletin 15*, p. 8 for categories: e.g. "architecture", "ethnic heritage", "community planning & development", etc.)
1._____ 3._____ 5._____
2._____ 4._____ 6._____

DOCUMENTATION

Accessible Documentation Not Filed with the Site File - including field notes, analysis notes, photos, plans and other important documents

1) Document type All materials at one location Maintaining organization Southeastern Archaeological Research
Document description Photos, Maps, Field Notes, Aerial File or accession #'s 260003

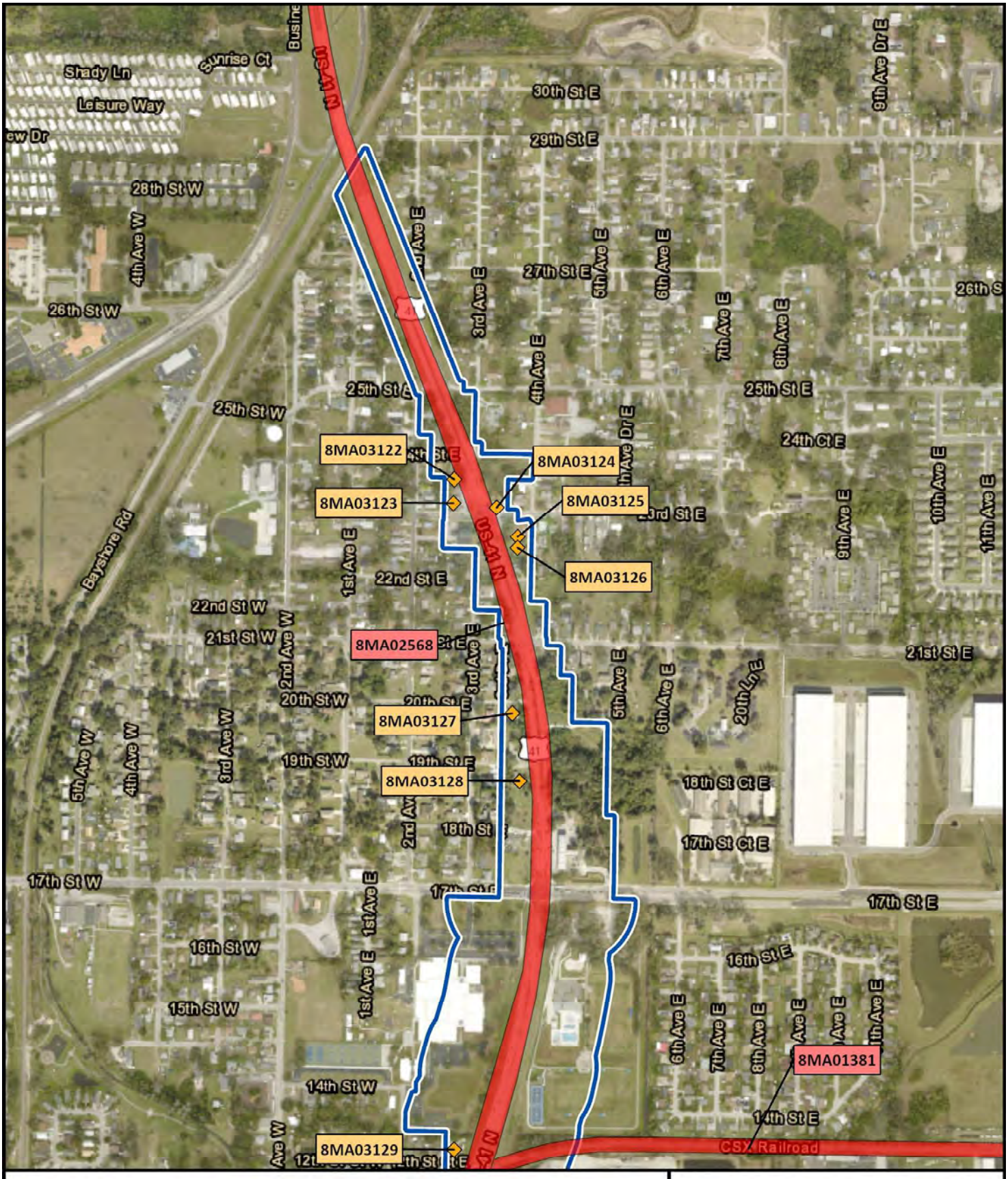
2) Document type _____ Maintaining organization _____
Document description _____ File or accession #'s _____

RECORDER INFORMATION

Recorder Name Bonatakis, Mary Affiliation Southeastern Archaeological Research
Recorder Contact Information 3117 Edgewater Dr, Orlando, FL 32804/407-236-7711/Mary.Bonatakis@searchinc
(address / phone / fax / e-mail)

Required Attachments

❶ **USGS 7.5' MAP WITH STRUCTURE LOCATION CLEARLY INDICATED**
❷ **LARGE SCALE STREET, PLAT OR PARCEL MAP** (available from most property appraiser web sites)
❸ **PHOTO OF MAIN FACADE, DIGITAL IMAGE FILE**
When submitting an image, it must be included in digital AND hard copy format (plain paper grayscale acceptable).
Digital image must be at least 1600 x 1200 pixels, 24-bit color, jpeg or tiff.


8MA03122
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8MA03129
8MA01381
US-41 N
CSX Railroad
Shady Ln
Sunrise Ct
Leisure Way
Bayshore Rd
30th St E
29th St E
28th St W
27th St E
26th St W
25th St E
25th St W
24th Ct E
22nd St E
22nd St W
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APE
Newly Recorded Historic Building
Previously Recorded Linear Resource
0
200
Meters
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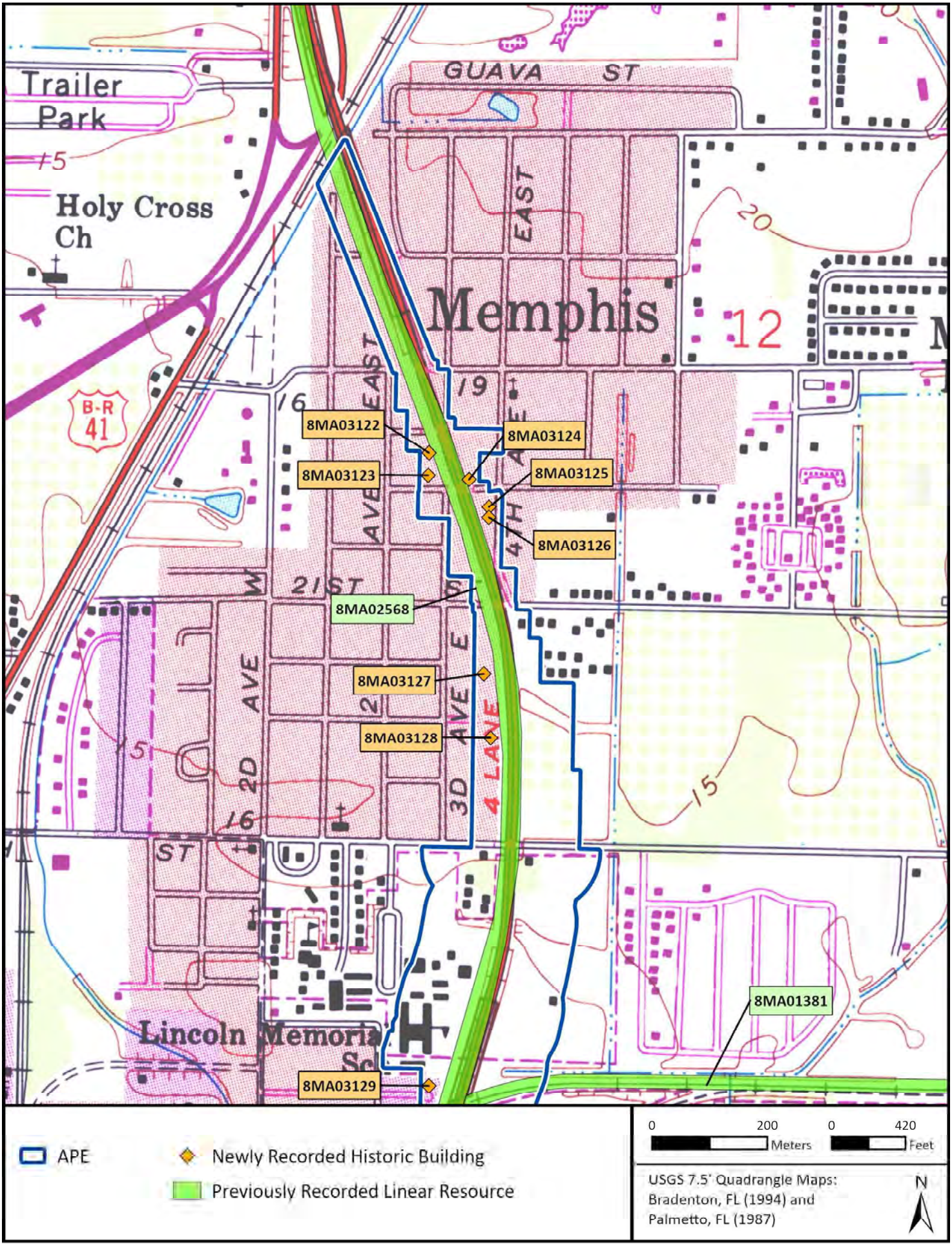
420
Feet
Esri World Imagery (2024)
N


Trailer Park
Holy Cross Ch
GUAVA ST
EAST
Memphis
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B-R 41
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8MA03124
8MA03123
8MA03125
8MA03126
8MA02568
8MA03127
8MA03128
8MA03129
8MA01381
W 21ST
2D AVE
3D AVE
4 LAVE
Lincoln Memorial
APE
Newly Recorded Historic Building
Previously Recorded Linear Resource
0 200 Meters
0 420 Feet
USGS 7.5' Quadrangle Maps:
Bradenton, FL (1994) and
Palmetto, FL (1987)
N

☒ Original
☐ Update

HISTORICAL STRUCTURE FORM
FLORIDA MASTER SITE FILE
Version 5.0 3/19

Site#8 MA03130
Field Date 2-16-2025
Form Date 2-26-2026
Recorder # _____

Shaded Fields represent the minimum acceptable level of documentation.
Consult the *Guide to Historical Structure Forms* for detailed instructions.

Site Name(s) (address if none) 711 US 301 N — Multiple Listing (DHR only) _____
Survey Project Name Bradenton-Palmetto Connector PD&E — Survey # (DHR only) _____
National Register Category (please check one) ☒building ☐structure ☐district ☐site ☐object
Ownership: ☒private-profit ☐private-nonprofit ☐private-individual ☐private-nonspecific ☐city ☐county ☐state ☐federal ☐Native American ☐foreign ☐unknown

LOCATION & MAPPING

Street Number	Direction	Street Name	Street Type	Suffix Direction
711		301	Highway	N

Address:
Cross Streets (nearest / between) Palm Ln./7th St. W
USGS 7.5 Map Name PALMETTO — USGS Date 2024 — Plat or Other Map _____
City / Town (within 3 miles) Palmetto — In City Limits? ☒yes ☐no ☐unknown — County Manatee
Township 34S — Range 17E — Section 13 — ¼ section: ☐NW ☐SW ☐SE ☐NE — Irregular-name: _____
Tax Parcel # 2603800109 — Landgrant _____
Subdivision Name Palmetto North of River — Block N/A — Lot n/A
UTM Coordinates: Zone ☐16 ☐17 Easting ☐☐☐☐☐☐ Northing ☐☐☐☐☐☐☐
Other Coordinates: X: _____ Y: _____ Coordinate System & Datum _____
Name of Public Tract (e.g., park) _____

HISTORY

Construction Year: 1965 ☒approximately ☐year listed or earlier ☐year listed or later
Original Use Commercial — From (year): 1965 — To (year): 2026
Current Use Auto dealership — From (year): 2024 — To (year): 2026
Other Use _____ — From (year): _____ — To (year): _____
Moves: ☐yes ☒no ☐unknown Date: _____ Original address _____
Alterations: ☒yes ☐no ☐unknown Date: _____ Nature window replacements, date: UNKN
Additions: ☐yes ☒no ☐unknown Date: _____ Nature _____
Architect (last name first): UNKN — Builder (last name first): UNKN
Ownership History (especially original owner, dates, profession, etc.)

Current Owner: SG 711 LLC, purchased in 2024.

Is the Resource Affected by a Local Preservation Ordinance? ☐yes ☐no ☒unknown Describe _____

DESCRIPTION

Style Masonry Vernacular — Exterior Plan Rectangular — Number of Stories 1
Exterior Fabric(s) 1. Concrete 2. Stucco 3. _____
Roof Type(s) 1. Flat 2. _____ 3. _____
Roof Material(s) 1. Built-up 2. _____ 3. _____
Roof secondary strucs. (dormers etc.) 1. _____ 2. _____
Windows (types, materials, etc.)

replacement, 1/1, vinyl, SHS; fixed, 6/3 vinyl-frame; vinyl-frame commercial

Distinguishing Architectural Features (exterior or interior ornaments)

parapet; projecting cornice with geometric adornments; doric columns; auto bay

Ancillary Features / Outbuildings (record outbuildings, major landscape features; use continuation sheet if needed.)

paved parking lot; metal carport

DHR USE ONLY	OFFICIAL EVALUATION	DHR USE ONLY
NR List Date _____ ☐Owner Objection	SHPO – Appears to meet criteria for NR listing: ☐yes ☐no ☐insufficient info Date _____ Init._____ KEEPER – Determined eligible: ☐yes ☐no Date _____ NR Criteria for Evaluation: ☐a ☐b ☐c ☐d (see *National Register Bulletin 15*, p. 2)	

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HISTORICAL STRUCTURE FORM

Site # 8 MA03130

DESCRIPTION (continued)

Chimney: No. 0 Chimney Material(s): 1. Not applicable 2. _____

Structural System(s): 1. Concrete 2. _____ 3. _____

Foundation Type(s): 1. Slab 2. _____

Foundation Material(s): 1. Concrete, Generic 2. _____

Main Entrance (stylistic details)

single-leaf, vinyl-sash glass door

Porch Descriptions (types, locations, roof types, etc.)

N/A

Condition (overall resource condition): ☐excellent ☒good ☐fair ☐deteriorated ☐ruinous

Narrative Description of Resource

Resource 8MA03130 is a 1-story, rectangular-plan, Masonry vernacular auto dealership set on a concrete slab foundation. The flat roof is built-up, stucco clads the walls.

Archaeological Remains _____ ☐Check if Archaeological Form Completed

RESEARCH METHODS (select all that apply)

☒FMSF record search (sites/surveys)	☒library research	☐building permits	☐Sanborn maps
☐FL State Archives/photo collection	☐city directory	☐occupant/owner interview	☐plat maps
☒property appraiser / tax records	☐newspaper files	☐neighbor interview	☐Public Lands Survey (DEP)
☒cultural resource survey (CRAS)	☐historic photos	☐interior inspection	☐HABS/HAER record search

☒other methods (describe) Pedestrian/Windshield Survey

Bibliographic References (give FMSF manuscript # if relevant, use continuation sheet if needed)

OPINION OF RESOURCE SIGNIFICANCE

Appears to meet the criteria for National Register listing individually? ☐yes ☒no ☐insufficient information

Appears to meet the criteria for National Register listing as part of a district? ☐yes ☒no ☐insufficient information

Explanation of Evaluation (**required**, whether significant or not; use separate sheet if needed)

Due to lack of sufficient historic significance and architectural distinction, 8MA03130 is ineligible for listing in the NRHP, either individually or as a contributing resource within a potential or existing historic district.

Area(s) of Historical Significance (see *National Register Bulletin 15*, p. 8 for categories: e.g. "architecture", "ethnic heritage", "community planning & development", etc.)

1._____ 3._____ 5._____

2._____ 4._____ 6._____

DOCUMENTATION

Accessible Documentation Not Filed with the Site File - including field notes, analysis notes, photos, plans and other important documents

1) Document type All materials at one location Maintaining organization Southeastern Archaeological Research

Document description Photos, Maps, Field Notes, Aerial File or accession #'s 260003

2) Document type _____ Maintaining organization _____

Document description _____ File or accession #'s _____

RECORDER INFORMATION

Recorder Name Bonatakis, Mary Affiliation Southeastern Archaeological Research

Recorder Contact Information 3117 Edgewater Dr, Orlando, FL 32804/407-236-7711/Mary.Bonatakis@searchinc

(address / phone / fax / e-mail)

Required Attachments

❶ **USGS 7.5' MAP WITH STRUCTURE LOCATION CLEARLY INDICATED**

❷ **LARGE SCALE STREET, PLAT OR PARCEL MAP** (available from most property appraiser web sites)

❸ **PHOTO OF MAIN FACADE, DIGITAL IMAGE FILE**

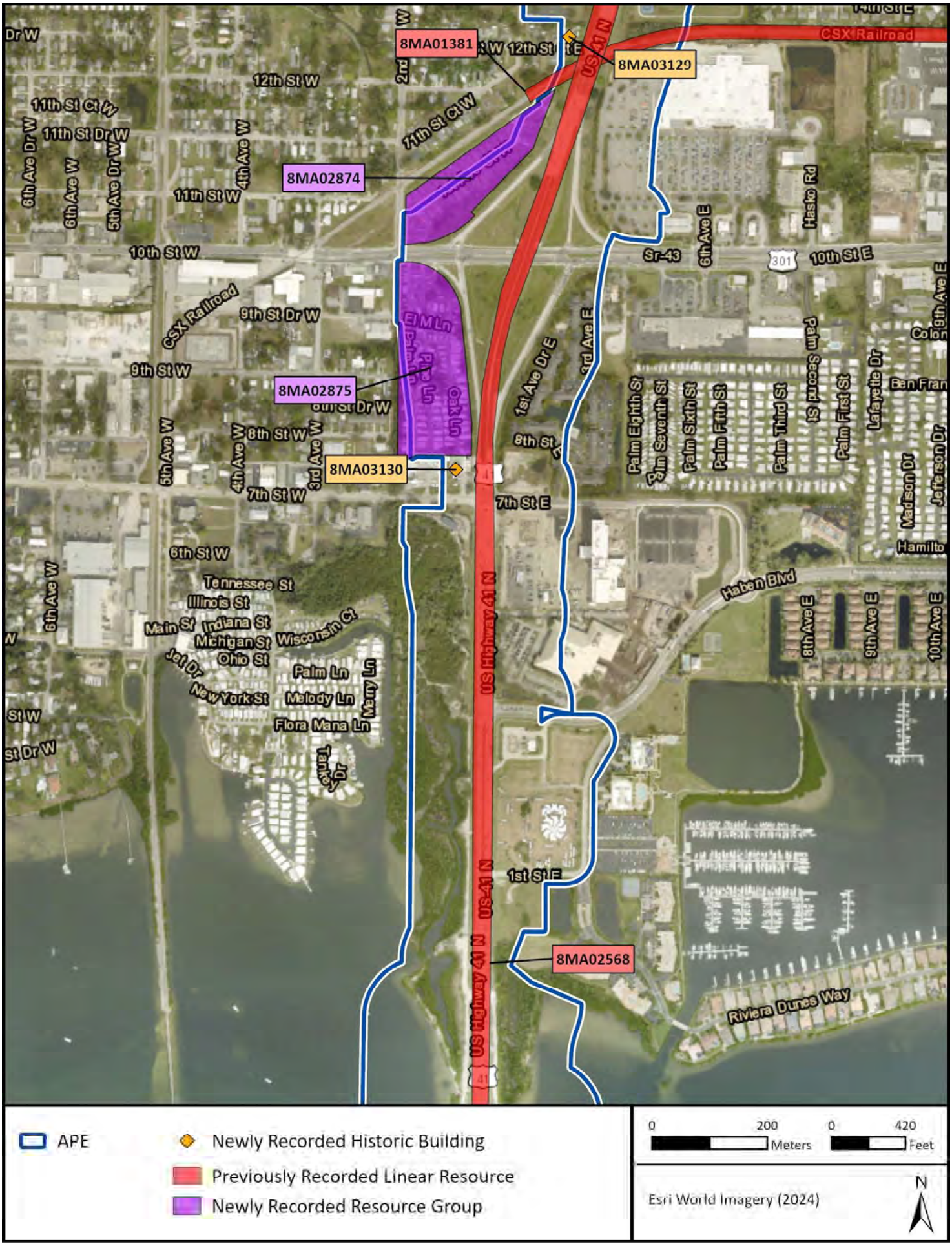
When submitting an image, it must be included in digital AND hard copy format (plain paper grayscale acceptable). Digital image must be at least 1600 x 1200 pixels, 24-bit color, jpeg or tiff.

8MA03130_a Facing W

8MA03130_b Facing SW

8MA03130_c Facing NW

8MA03130_d Facing NE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8MA03129
8MA02874
8MA02875
8MA03130
8MA02568
CSX Railroad
US 41 N
US Highway 41 N
12th St W
11th St Ct W
11th St Dr W
11th St W
10th St W
9th St Dr W
9th St W
8th St W
7th St W
6th St W
7th St E
1st St E
10th St E
Sr-43
6th Ave E
Hasko Rd
1st Ave Dr E
3rd Ave E
Palm Eighth St
Palm Seventh St
Palm Sixth St
Palm Fifth St
Palm Third St
Palm First St
Palm Second St
Lafayette Dr
Madison Dr
Jefferson Dr
Haben Blvd
8th Ave E
9th Ave E
10th Ave E
Tennessee St
Illinois St
Main St
Indiana St
Michigan St
Wisconsin Ct
Ohio St
Palm Ln
Melody Ln
Flora Mana Ln
Mary Ln
New York St
Joel Dr
Tanks Dr
Riviera Dunes Way
APE
Newly Recorded Historic Building
Previously Recorded Linear Resource
Newly Recorded Resource Group
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Meters
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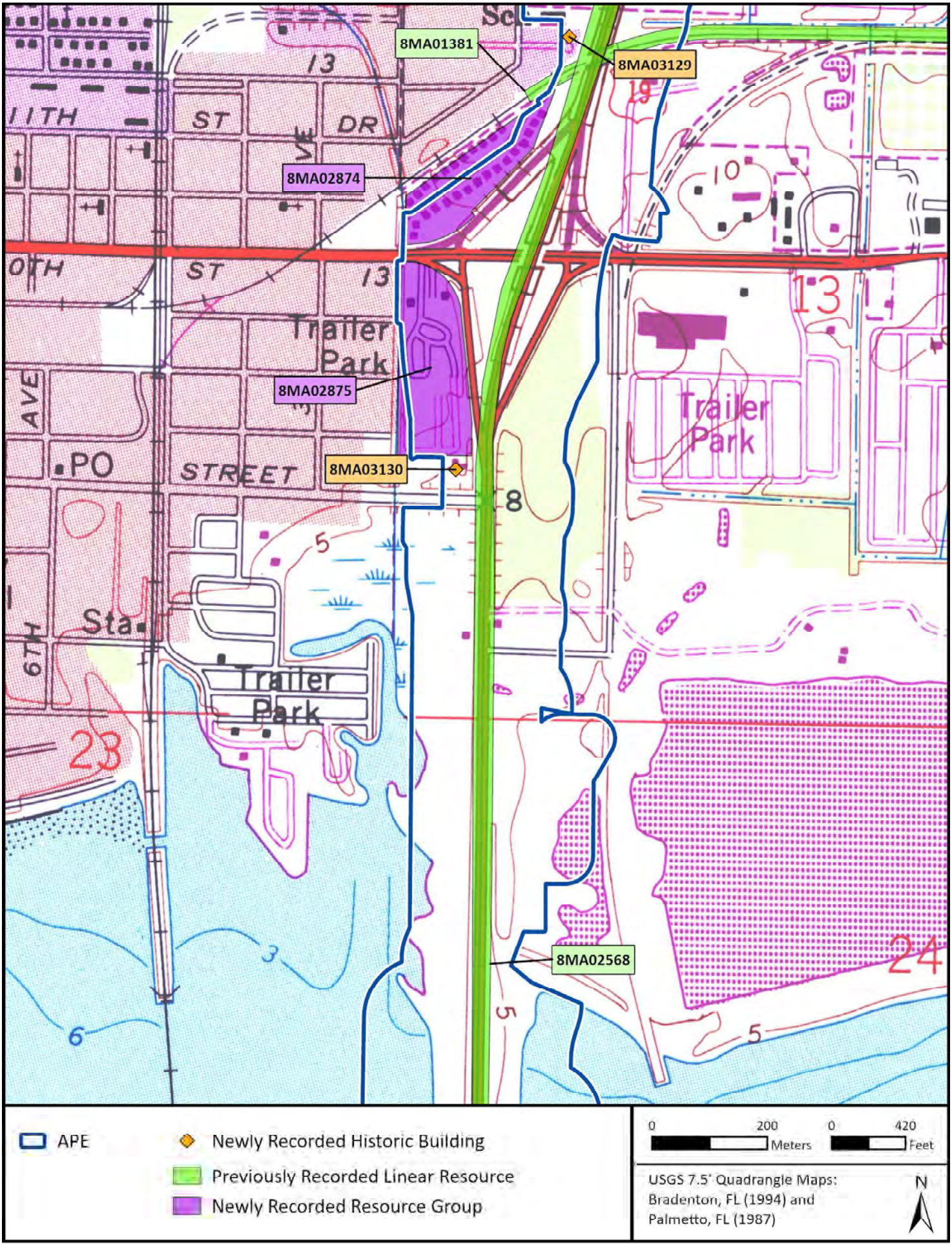
Feet
Esri World Imagery (2024)
N


8MA01381
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8MA03130
8MA02568
Trailer Park
Trailer Park
Trailer Park
APE
Newly Recorded Historic Building
Previously Recorded Linear Resource
Newly Recorded Resource Group
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200
Meters
0
420
Feet
USGS 7.5' Quadrangle Maps:
Bradenton, FL (1994) and
Palmetto, FL (1987)
N

☒ Original
☐ Update

HISTORICAL STRUCTURE FORM
FLORIDA MASTER SITE FILE
Version 5.0 3/19

Site#8 MA03131
Field Date 2-16-2025
Form Date 2-26-2026
Recorder # _____

Shaded Fields represent the minimum acceptable level of documentation.
Consult the *Guide to Historical Structure Forms* for detailed instructions.

Site Name(s) (address if none) 910 1st Street W Multiple Listing (DHR only) _____
Survey Project Name Bradenton-Palmetto Connector PD&E Survey # (DHR only) _____
National Register Category (please check one) ☒building ☐structure ☐district ☐site ☐object
Ownership: ☒private-profit ☐private-nonprofit ☐private-individual ☐private-nonspecific ☐city ☐county ☐state ☐federal ☐Native American ☐foreign ☐unknown

LOCATION & MAPPING

Street Number	Direction	Street Name	Street Type	Suffix Direction
901		1st	Street	W

Address:
Cross Streets (nearest / between) 9th Ave W/10th Ave W
USGS 7.5 Map Name BRADENTON USGS Date 2024 Plat or Other Map _____
City / Town (within 3 miles) Bradenton In City Limits? ☒yes ☐no ☐unknown County Manatee
Township 34S Range 17E Section 34 ¼ section: ☐NW ☐SW ☐SE ☐NE Irregular-name: _____
Tax Parcel # 4290600008 Landgrant _____
Subdivision Name Bradenton S of River Block B Lot 13
UTM Coordinates: Zone ☐16 ☐17 Easting ☐☐☐☐☐☐ Northing ☐☐☐☐☐☐☐
Other Coordinates: X: _____ Y: _____ Coordinate System & Datum _____
Name of Public Tract (e.g., park) _____

HISTORY

Construction Year: 1969 ☒approximately ☐year listed or earlier ☐year listed or later
Original Use Commercial From (year): 1969 To (year): 2026
Current Use Shop, auto repair From (year): 1987 To (year): 2026
Other Use _____ From (year): _____ To (year): _____
Moves: ☐yes ☒no ☐unknown Date: _____ Original address _____
Alterations: ☐yes ☒no ☐unknown Date: _____ Nature _____
Additions: ☐yes ☒no ☐unknown Date: _____ Nature _____
Architect (last name first): UNKN Builder (last name first): UNKN
Ownership History (especially original owner, dates, profession, etc.)

Current Owner: Discount Auto Parts, purchased in 1987.

Is the Resource Affected by a Local Preservation Ordinance? ☐yes ☐no ☒unknown Describe _____

DESCRIPTION

Style Masonry Vernacular Exterior Plan Square Number of Stories 1
Exterior Fabric(s) 1. Concrete block 2. Stucco 3. Vinyl Siding
Roof Type(s) 1. Flat 2. _____ 3. _____
Roof Material(s) 1. Built-up 2. _____ 3. _____
Roof secondary strucs. (dormers etc.) 1. _____ 2. _____
Windows (types, materials, etc.)

aluminum-frame transoms

Distinguishing Architectural Features (exterior or interior ornaments)

vinyl siding cornice; textured concrete blocks

Ancillary Features / Outbuildings (record outbuildings, major landscape features; use continuation sheet if needed.)

paved parking lot

DHR USE ONLY	OFFICIAL EVALUATION	DHR USE ONLY
NR List Date _____ ☐Owner Objection	SHPO – Appears to meet criteria for NR listing: ☐yes ☐no ☐insufficient info Date _____ Init._____ KEEPER – Determined eligible: ☐yes ☐no Date _____ NR Criteria for Evaluation: ☐a ☐b ☐c ☐d (see *National Register Bulletin 15*, p. 2)	

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Phone **850.245.6440** / Fax **850.245.6439** / E-mail **SiteFile@dos.myflorida.com**

HISTORICAL STRUCTURE FORM

Site # 8 MA03131

DESCRIPTION (continued)

Chimney: No. 0 Chimney Material(s): 1. Not applicable 2. _____

Structural System(s): 1. Concrete 2. _____ 3. _____

Foundation Type(s): 1. Slab 2. _____

Foundation Material(s): 1. Concrete, Generic 2. _____

Main Entrance (stylistic details)

two, single-leaf, metal-sash glass doors E facade

Porch Descriptions (types, locations, roof types, etc.)

N/A

Condition (overall resource condition): ☒ excellent ☐ good ☐ fair ☐ deteriorated ☐ ruinous

Narrative Description of Resource

Resource 8MA03131 is a 1-story, square-plan, Masonry vernacular auto shop set on a concrete slab foundation. The flat roof is built-up and the walls are concrete block.

Archaeological Remains _____ ☐ Check if Archaeological Form Completed

RESEARCH METHODS (select all that apply)

☒ FMSF record search (sites/surveys)	☒ library research	☐ building permits	☐ Sanborn maps
☐ FL State Archives/photo collection	☐ city directory	☐ occupant/owner interview	☐ plat maps
☒ property appraiser / tax records	☐ newspaper files	☐ neighbor interview	☐ Public Lands Survey (DEP)
☒ cultural resource survey (CRAS)	☐ historic photos	☐ interior inspection	☐ HABS/HAER record search

☒ other methods (describe) Pedestrian/Windshield Survey

Bibliographic References (give FMSF manuscript # if relevant, use continuation sheet if needed)

OPINION OF RESOURCE SIGNIFICANCE

Appears to meet the criteria for National Register listing individually? ☐ yes ☒ no ☐ insufficient information

Appears to meet the criteria for National Register listing as part of a district? ☐ yes ☒ no ☐ insufficient information

Explanation of Evaluation (**required**, whether significant or not; use separate sheet if needed)

Due to lack of sufficient historic significance and architectural distinction, 8MA03131 is ineligible for listing in the NRHP, either individually or as a contributing resource within a potential or existing historic district.

Area(s) of Historical Significance (see *National Register Bulletin 15*, p. 8 for categories: e.g. "architecture", "ethnic heritage", "community planning & development", etc.)

1. _____ 3. _____ 5. _____

2. _____ 4. _____ 6. _____

DOCUMENTATION

Accessible Documentation Not Filed with the Site File - including field notes, analysis notes, photos, plans and other important documents

1) Document type All materials at one location Maintaining organization Southeastern Archaeological Research

Document description Photos, Maps, Field Notes, Aerial File or accession #'s 260003

2) Document type _____ Maintaining organization _____

Document description _____ File or accession #'s _____

RECORDER INFORMATION

Recorder Name Bonatakis, Mary Affiliation Southeastern Archaeological Research

Recorder Contact Information 3117 Edgewater Dr, Orlando, FL 32804/407-236-7711/Mary.Bonatakis@searchinc

(address / phone / fax / e-mail)

Required Attachments

❶ **USGS 7.5' MAP WITH STRUCTURE LOCATION CLEARLY INDICATED**

❷ **LARGE SCALE STREET, PLAT OR PARCEL MAP** (available from most property appraiser web sites)

❸ **PHOTO OF MAIN FACADE, DIGITAL IMAGE FILE**

When submitting an image, it must be included in digital AND hard copy format (plain paper grayscale acceptable). Digital image must be at least 1600 x 1200 pixels, 24-bit color, jpeg or tiff.

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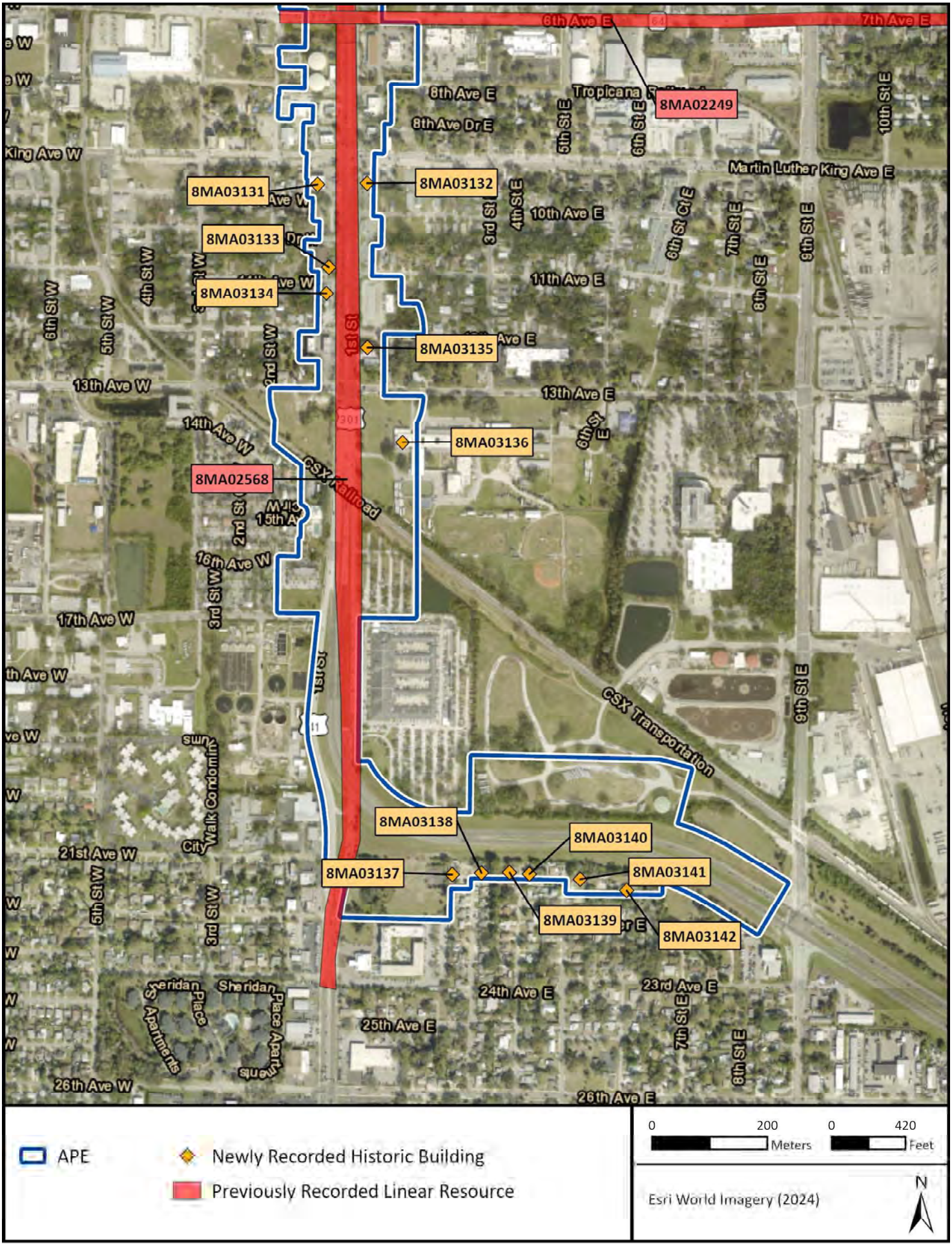
8MA03131_b Facing W

8MA03131_c Facing S

8MA03131_d Facing SW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CSX Transportation
Sheridan Place Apartments
Walk Condomin
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Newly Recorded Historic Building
Previously Recorded Linear Resource
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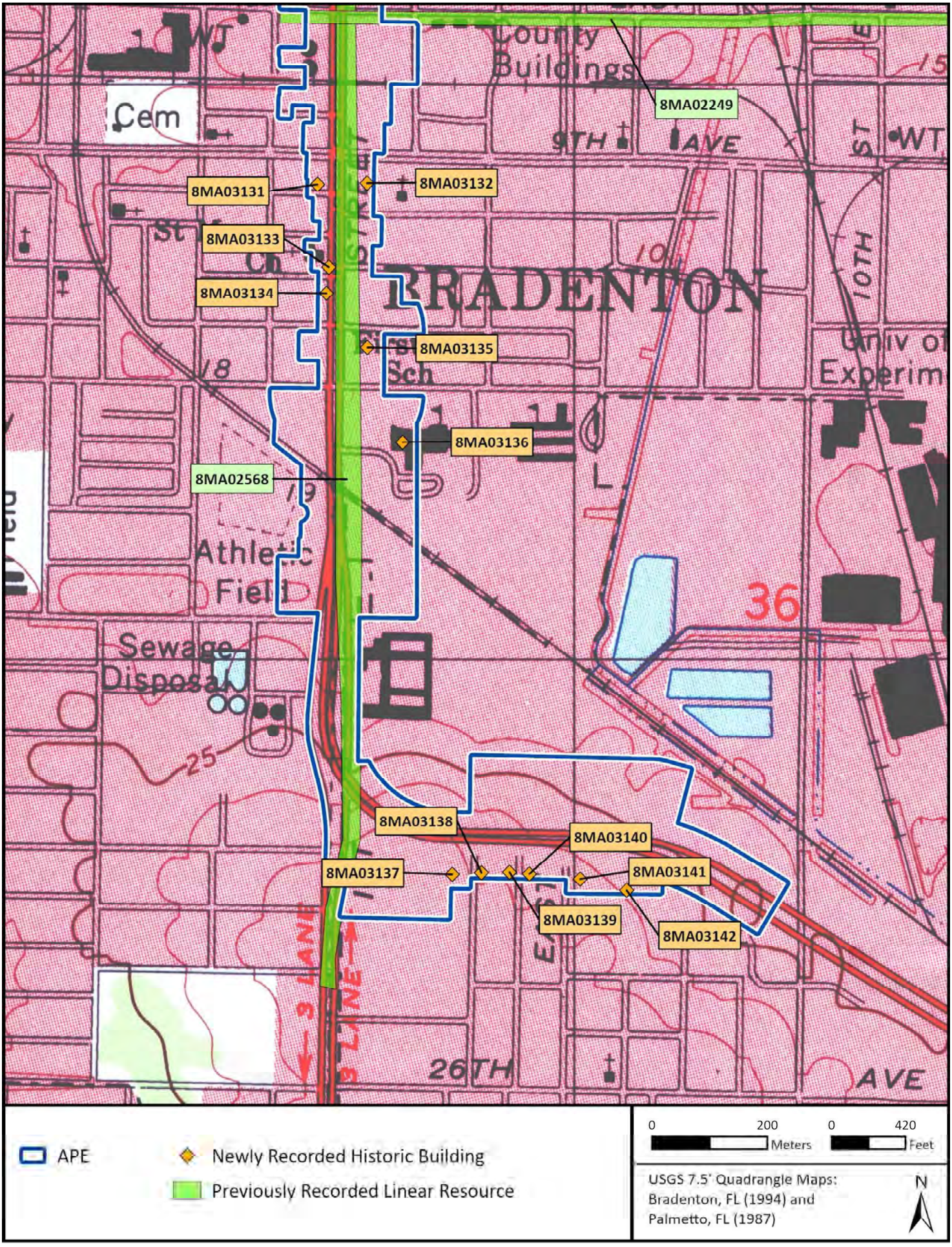
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8MA03142
BRADENTON
9TH AVE
10TH ST
26TH AVE
Cem
Athletic Field
Sewage Disposal
36
APE
Newly Recorded Historic Building
Previously Recorded Linear Resource
0 200 Meters
0 420 Feet
USGS 7.5' Quadrangle Maps:
Bradenton, FL (1994) and
Palmetto, FL (1987)
N

☒ Original
☐ Update

HISTORICAL STRUCTURE FORM
FLORIDA MASTER SITE FILE
Version 5.0 3/19

Site#8 MA03132
Field Date 2-16-2025
Form Date 2-26-2026
Recorder # _____

Shaded Fields represent the minimum acceptable level of documentation.
Consult the *Guide to Historical Structure Forms* for detailed instructions.

Site Name(s) (address if none) 909 1st Street W Multiple Listing (DHR only) _____
Survey Project Name Bradenton-Palmetto Connector PD&E Survey # (DHR only) _____
National Register Category (please check one) ☒building ☐structure ☐district ☐site ☐object
Ownership: ☒private-profit ☐private-nonprofit ☐private-individual ☐private-nonspecific ☐city ☐county ☐state ☐federal ☐Native American ☐foreign ☐unknown

LOCATION & MAPPING

	Street Number	Direction	Street Name	Street Type	Suffix Direction
Address:	909		1st	Street	W

Cross Streets (nearest / between) 9th Ave E/10th Ave E
USGS 7.5 Map Name BRADENTON USGS Date 2024 Plat or Other Map _____
City / Town (within 3 miles) Bradenton In City Limits? ☒yes ☐no ☐unknown County Manatee
Township 34S Range 17E Section 36 ¼ section: ☐NW ☐SW ☐SE ☐NE Irregular-name: _____
Tax Parcel # 4619900006 Landgrant _____
Subdivision Name Bradenton S of River Block A Lot 8
UTM Coordinates: Zone ☐16 ☐17 Easting ☐☐☐☐☐☐ Northing ☐☐☐☐☐☐☐
Other Coordinates: X: _____ Y: _____ Coordinate System & Datum _____
Name of Public Tract (e.g., park) _____

HISTORY

Construction Year: 1978 ☒approximately ☐year listed or earlier ☐year listed or later
Original Use Store From (year): 1978 To (year): 2016
Current Use Restaurant From (year): 2018 To (year): 2026
Other Use _____ From (year): _____ To (year): _____
Moves: ☐yes ☒no ☐unknown Date: _____ Original address _____
Alterations: ☒yes ☐no ☐unknown Date: _____ Nature Full remodel, ca.2016
Additions: ☒yes ☐no ☐unknown Date: _____ Nature parapet & cornice, ca.2016-2018
Architect (last name first): UNKN Builder (last name first): UNKN
Ownership History (especially original owner, dates, profession, etc.)

Current Owner: Loxley Hall Nine LLC, purchased in 2021.

Is the Resource Affected by a Local Preservation Ordinance? ☐yes ☐no ☒unknown Describe _____

DESCRIPTION

Style Masonry Vernacular Exterior Plan Rectangular Number of Stories 1
Exterior Fabric(s) 1. Concrete block 2. Stucco 3. _____
Roof Type(s) 1. Flat 2. _____ 3. _____
Roof Material(s) 1. Built-up 2. _____ 3. _____
Roof secondary strucs. (dormers etc.) 1. _____ 2. _____
Windows (types, materials, etc.)

replacement, vinyl-frame commercial windows & transoms.

Distinguishing Architectural Features (exterior or interior ornaments)

projecting commercial cornice; parapet

Ancillary Features / Outbuildings (record outbuildings, major landscape features; use continuation sheet if needed.)

paved parking lot

DHR USE ONLY	OFFICIAL EVALUATION	DHR USE ONLY
NR List Date _____ ☐Owner Objection	SHPO – Appears to meet criteria for NR listing: ☐yes ☐no ☐insufficient info Date _____ Init._____ KEEPER – Determined eligible: ☐yes ☐no Date _____ NR Criteria for Evaluation: ☐a ☐b ☐c ☐d (see *National Register Bulletin 15*, p. 2)	

Florida Master Site File / Div. of Historical Resources / R. A. Gray Bldg / 500 S Bronough St., Tallahassee, FL 32399-0250
Phone **850.245.6440** / Fax **850.245.6439** / E-mail **SiteFile@dos.myflorida.com**

HISTORICAL STRUCTURE FORM

Site # 8 MA03132

DESCRIPTION (continued)

Chimney: No. 0 Chimney Material(s): 1. Not applicable 2. _____

Structural System(s): 1. Concrete 2. _____ 3. _____

Foundation Type(s): 1. Slab 2. _____

Foundation Material(s): 1. Concrete, Generic 2. _____

Main Entrance (stylistic details)

double-leaf, vinyl-sash glass doors E facade

Porch Descriptions (types, locations, roof types, etc.)

n/A

Condition (overall resource condition): ☒ excellent ☐ good ☐ fair ☐ deteriorated ☐ ruinous

Narrative Description of Resource

Resource 8MA03132 is a 1-story, rectangular-plan, Masonry Vernacular restaurant set on a concrete slab foundation. The flat roof is built-up and the walls are concrete block and clad in stucco.

Archaeological Remains _____ ☐ Check if Archaeological Form Completed

RESEARCH METHODS (select all that apply)

☒ FMSF record search (sites/surveys)	☒ library research	☐ building permits	☐ Sanborn maps
☐ FL State Archives/photo collection	☐ city directory	☐ occupant/owner interview	☐ plat maps
☒ property appraiser / tax records	☐ newspaper files	☐ neighbor interview	☐ Public Lands Survey (DEP)
☒ cultural resource survey (CRAS)	☐ historic photos	☐ interior inspection	☐ HABS/HAER record search

☒ other methods (describe) Pedestrian/Windshield Survey

Bibliographic References (give FMSF manuscript # if relevant, use continuation sheet if needed)

OPINION OF RESOURCE SIGNIFICANCE

Appears to meet the criteria for National Register listing individually? ☐ yes ☒ no ☐ insufficient information

Appears to meet the criteria for National Register listing as part of a district? ☐ yes ☒ no ☐ insufficient information

Explanation of Evaluation (**required**, whether significant or not; use separate sheet if needed)

Due to lack of sufficient historic significance and architectural distinction, 8MA03132 is ineligible for listing in the NRHP, either individually or as a contributing resource within a potential or existing historic district.

Area(s) of Historical Significance (see *National Register Bulletin 15*, p. 8 for categories: e.g. "architecture", "ethnic heritage", "community planning & development", etc.)

1. _____ 3. _____ 5. _____

2. _____ 4. _____ 6. _____

DOCUMENTATION

Accessible Documentation Not Filed with the Site File - including field notes, analysis notes, photos, plans and other important documents

1) Document type All materials at one location Maintaining organization Southeastern Archaeological Research

Document description Photos, Maps, Field Notes, Aerial File or accession #'s 260003

2) Document type _____ Maintaining organization _____

Document description _____ File or accession #'s _____

RECORDER INFORMATION

Recorder Name Bonatakis, Mary Affiliation Southeastern Archaeological Research

Recorder Contact Information 3117 Edgewater Dr, Orlando, FL 32804/407-236-7711/Mary.Bonatakis@searchinc

(address / phone / fax / e-mail)

Required Attachments

❶ **USGS 7.5' MAP WITH STRUCTURE LOCATION CLEARLY INDICATED**

❷ **LARGE SCALE STREET, PLAT OR PARCEL MAP** (available from most property appraiser web sites)

❸ **PHOTO OF MAIN FACADE, DIGITAL IMAGE FILE**

When submitting an image, it must be included in digital AND hard copy format (plain paper grayscale acceptable). Digital image must be at least 1600 x 1200 pixels, 24-bit color, jpeg or tiff.

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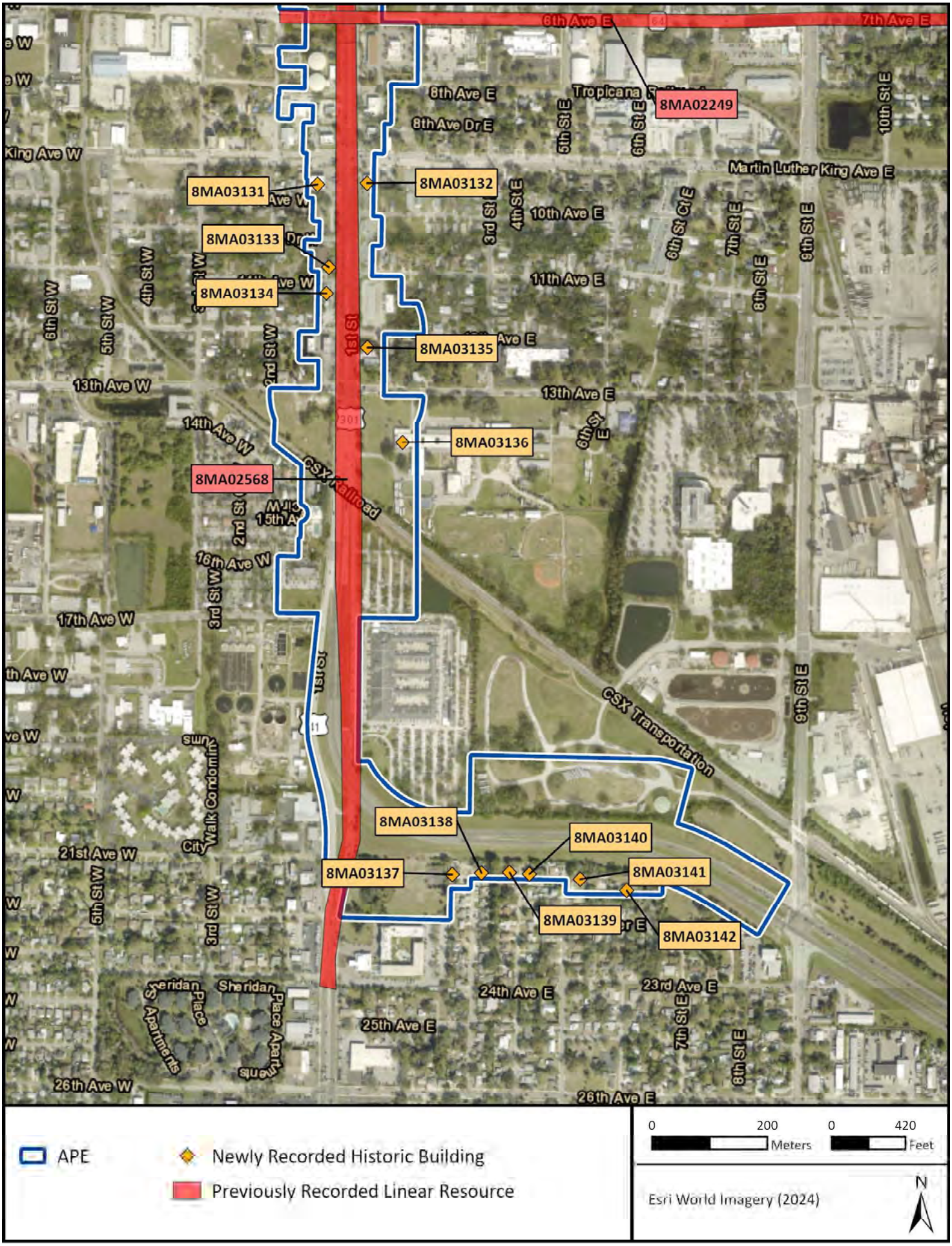
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Sheridan Place Apartments
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Newly Recorded Historic Building
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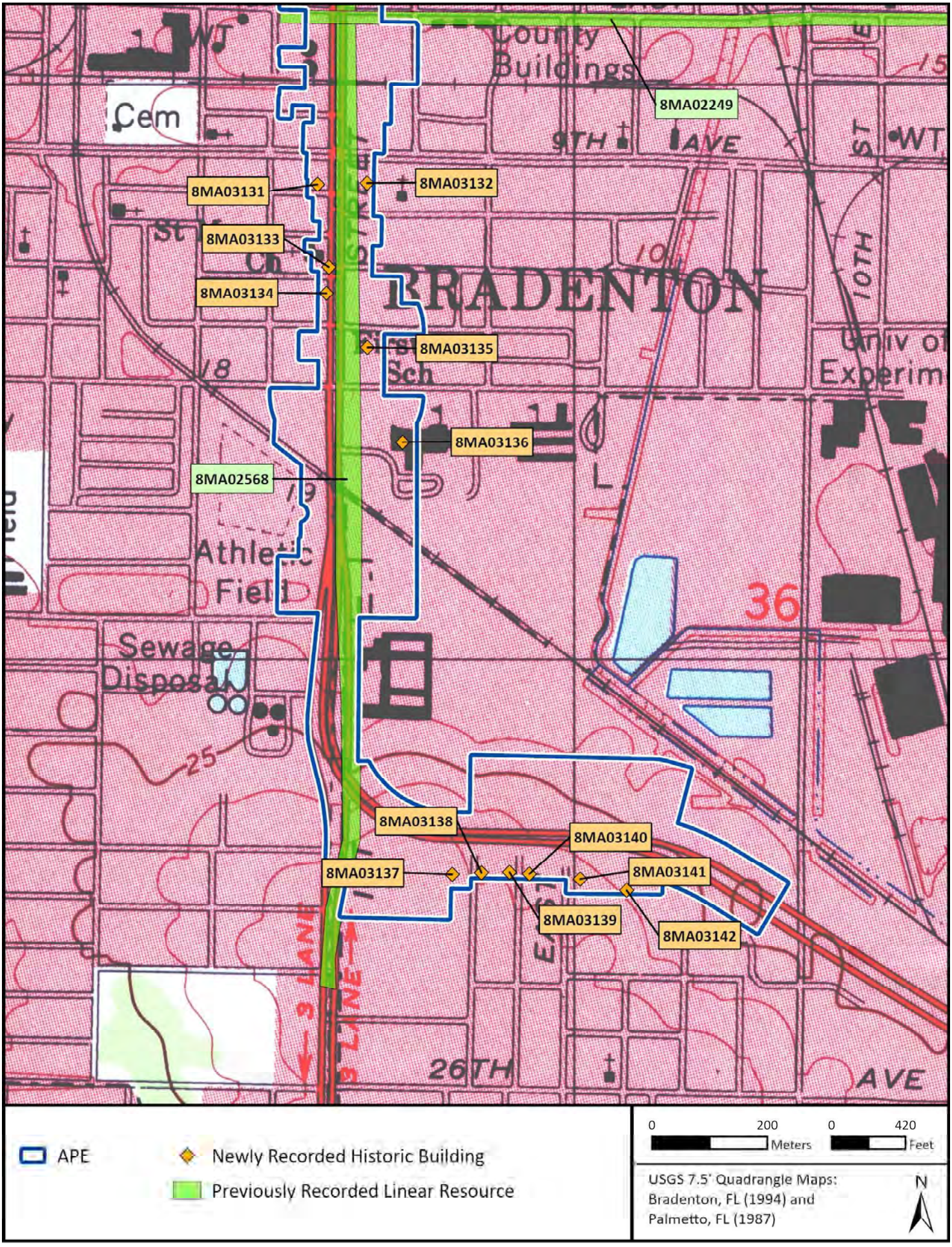
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USGS 7.5' Quadrangle Maps:
Bradenton, FL (1994) and
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☒ Original
☐ Update

HISTORICAL STRUCTURE FORM
FLORIDA MASTER SITE FILE
Version 5.0 3/19

Site#8 MA03133
Field Date 2-16-2025
Form Date 2-26-2026
Recorder # _____

Shaded Fields represent the minimum acceptable level of documentation.
Consult the *Guide to Historical Structure Forms* for detailed instructions.

Site Name(s) (address if none) St. Mary's Baptist Missionary Church Multiple Listing (DHR only) _____
Survey Project Name Bradenton-Palmetto Connector PD&E Survey # (DHR only) _____
National Register Category (please check one) ☒building ☐structure ☐district ☐site ☐object
Ownership: ☐private-profit ☒private-nonprofit ☐private-individual ☐private-nonspecific ☐city ☐county ☐state ☐federal ☐Native American ☐foreign ☐unknown

LOCATION & MAPPING

Street Number	Direction	Street Name	Street Type	Suffix Direction
1006		1st	Street	W

Address:
Cross Streets (nearest / between) 9th Ave E/10th Ave E
USGS 7.5 Map Name BRADENTON USGS Date 2024 Plat or Other Map _____
City / Town (within 3 miles) Bradenton In City Limits? ☒yes ☐no ☐unknown County Manatee
Township 34S Range 17E Section 35 ¼ section: ☐NW ☐SW ☐SE ☐NE Irregular-name: _____
Tax Parcel # 4292100109 Landgrant _____
Subdivision Name Bradenton S of River Block C Lot 3
UTM Coordinates: Zone ☐16 ☐17 Easting ☐☐☐☐☐☐ Northing ☐☐☐☐☐☐☐
Other Coordinates: X: _____ Y: _____ Coordinate System & Datum _____
Name of Public Tract (e.g., park) _____

HISTORY

Construction Year: 1962 ☒approximately ☐year listed or earlier ☐year listed or later
Original Use Church/Temple/Synagogue From (year): 1962 To (year): 2026
Current Use Church/Temple/Synagogue From (year): 1962 To (year): 2026
Other Use _____ From (year): _____ To (year): _____
Moves: ☐yes ☒no ☐unknown Date: _____ Original address _____
Alterations: ☐yes ☒no ☐unknown Date: _____ Nature _____
Additions: ☐yes ☒no ☐unknown Date: _____ Nature _____
Architect (last name first): UNKN Builder (last name first): UNKN
Ownership History (especially original owner, dates, profession, etc.)

Current & Original Owner: ST MARYS BAPTIST MISSIONARY CHURCH

Is the Resource Affected by a Local Preservation Ordinance? ☐yes ☐no ☒unknown Describe _____

DESCRIPTION

Style Masonry Vernacular Exterior Plan L-shaped Number of Stories 1
Exterior Fabric(s) 1. Concrete 2. Stucco 3. _____
Roof Type(s) 1. Cross-gabled 2. _____ 3. _____
Roof Material(s) 1. Asphalt shingles 2. _____ 3. _____
Roof secondary strucs. (dormers etc.) 1. _____ 2. _____
Windows (types, materials, etc.)

2/2, aluminum, SHS, grouped in 2; arched, 4-pane stained glass; fixed, vinyl-fame w/ arched transom, grouped in 2

Distinguishing Architectural Features (exterior or interior ornaments)

protruding bay with a wooden cross in the center

Ancillary Features / Outbuildings (record outbuildings, major landscape features; use continuation sheet if needed.)

paved parking lot; fallen steeple; metal bell on concrete platform

DHR USE ONLY	OFFICIAL EVALUATION	DHR USE ONLY
NR List Date _____ ☐Owner Objection	SHPO – Appears to meet criteria for NR listing: ☐yes ☐no ☐insufficient info Date _____ Init._____ KEEPER – Determined eligible: ☐yes ☐no Date _____ NR Criteria for Evaluation: ☐a ☐b ☐c ☐d (see *National Register Bulletin 15*, p. 2)	

Florida Master Site File / Div. of Historical Resources / R. A. Gray Bldg / 500 S Bronough St., Tallahassee, FL 32399-0250
Phone **850.245.6440** / Fax **850.245.6439** / E-mail **SiteFile@dos.myflorida.com**

HISTORICAL STRUCTURE FORM

Site # 8 MA03133

DESCRIPTION (continued)

Chimney: No. 0 Chimney Material(s): 1. Not applicable 2. _____
Structural System(s): 1. Concrete 2. _____ 3. _____
Foundation Type(s): 1. Slab 2. _____
Foundation Material(s): 1. Concrete, Generic 2. _____
Main Entrance (stylistic details)

double, wood-paneled doors, N & E elevations of 'L'

Porch Descriptions (types, locations, roof types, etc.)

n/A

Condition (overall resource condition): ☐excellent ☒good ☐fair ☐deteriorated ☐ruinous
Narrative Description of Resource

Resource 8MA03133 is a 1-story, L-shaped, Masonry Vernacular church set on a concrete slab foundation. Asphalt shingles cover the cross-gabled roof, and stucco clads the walls.

Archaeological Remains _____ ☐Check if Archaeological Form Completed

RESEARCH METHODS (select all that apply)

☒FMSF record search (sites/surveys)	☒library research	☐building permits	☐Sanborn maps
☐FL State Archives/photo collection	☐city directory	☐occupant/owner interview	☐plat maps
☒property appraiser / tax records	☐newspaper files	☐neighbor interview	☐Public Lands Survey (DEP)
☒cultural resource survey (CRAS)	☐historic photos	☐interior inspection	☐HABS/HAER record search

☒other methods (describe) Pedestrian/Windshield Survey
Bibliographic References (give FMSF manuscript # if relevant, use continuation sheet if needed)

OPINION OF RESOURCE SIGNIFICANCE

Appears to meet the criteria for National Register listing individually? ☐yes ☒no ☐insufficient information
Appears to meet the criteria for National Register listing as part of a district? ☐yes ☒no ☐insufficient information
Explanation of Evaluation (**required**, whether significant or not; use separate sheet if needed)

Due to lack of sufficient historic significance and architectural distinction, 8MA03133 is ineligible for listing in the NRHP, either individually or as a contributing resource within a potential or existing historic district.

Area(s) of Historical Significance (see *National Register Bulletin 15*, p. 8 for categories: e.g. "architecture", "ethnic heritage", "community planning & development", etc.)
1._____ 3._____ 5._____
2._____ 4._____ 6._____

DOCUMENTATION

Accessible Documentation Not Filed with the Site File - including field notes, analysis notes, photos, plans and other important documents

1) Document type All materials at one location Maintaining organization Southeastern Archaeological Research
Document description Photos, Maps, Field Notes, Aerial File or accession #'s 260003

2) Document type _____ Maintaining organization _____
Document description _____ File or accession #'s _____

RECORDER INFORMATION

Recorder Name Bonatakis, Mary Affiliation Southeastern Archaeological Research
Recorder Contact Information 3117 Edgewater Dr, Orlando, FL 32804/407-236-7711/Mary.Bonatakis@searchinc
(address / phone / fax / e-mail)

Required Attachments

❶ **USGS 7.5' MAP WITH STRUCTURE LOCATION CLEARLY INDICATED**
❷ **LARGE SCALE STREET, PLAT OR PARCEL MAP** (available from most property appraiser web sites)
❸ **PHOTO OF MAIN FACADE, DIGITAL IMAGE FILE**
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8MA03133_a Facing SW

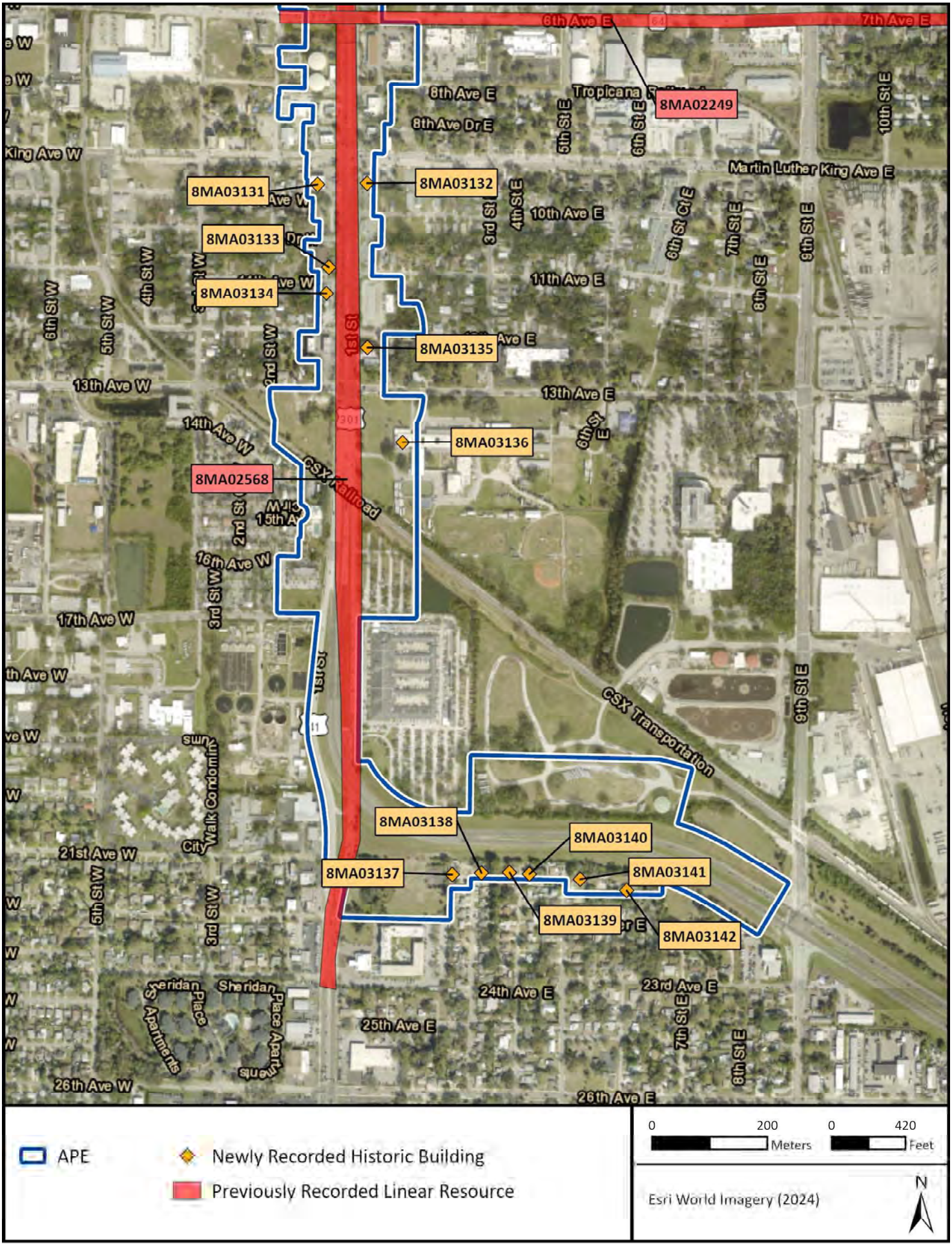
8MA03133_b Facing SE

8MA03133_c Facing SW

8MA03133_d Facing NW

8MA03133_e Facing N

8MA03133_f Facing NE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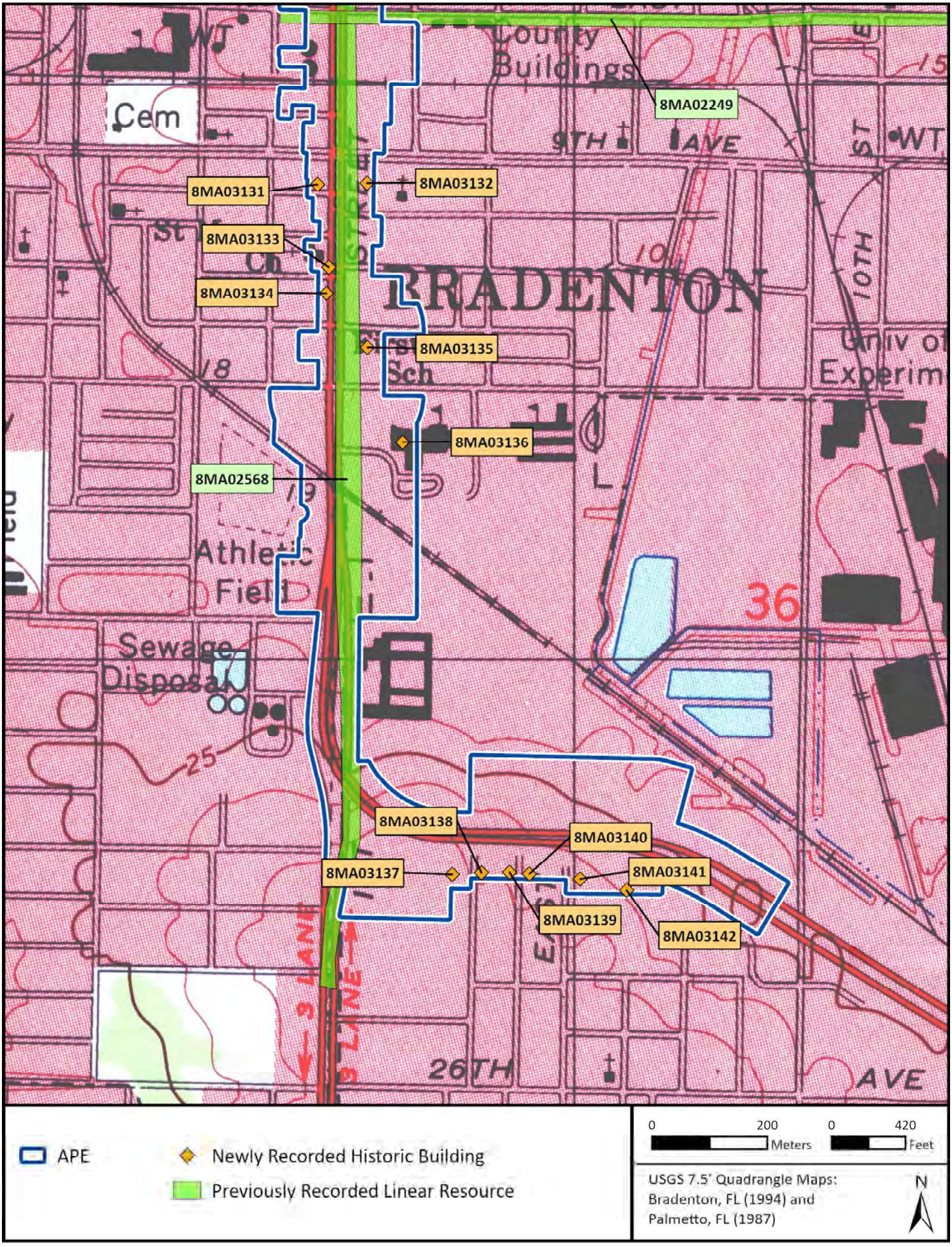
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0 200 Meters
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USGS 7.5' Quadrangle Maps:
Bradenton, FL (1994) and
Palmetto, FL (1987)
N

☒ Original
☐ Update

HISTORICAL STRUCTURE FORM
FLORIDA MASTER SITE FILE
Version 5.0 3/19

Site#8 MA03134
Field Date 2-16-2025
Form Date 3-2-2026
Recorder # _____

Shaded Fields represent the minimum acceptable level of documentation.
Consult the *Guide to Historical Structure Forms* for detailed instructions.

Site Name(s) (address if none) 101 11th Avenue W — Multiple Listing (DHR only) _____
Survey Project Name Bradenton-Palmetto Connector PD&E — Survey # (DHR only) _____
National Register Category (please check one) ☒building ☐structure ☐district ☐site ☐object
Ownership: ☒private-profit ☐private-nonprofit ☐private-individual ☐private-nonspecific ☐city ☐county ☐state ☐federal ☐Native American ☐foreign ☐unknown

LOCATION & MAPPING

Street Number	Direction	Street Name	Street Type	Suffix Direction
101		11th	Avenue	W

Address:
Cross Streets (nearest / between) W 1st St./12th Ave W
USGS 7.5 Map Name BRADENTON — USGS Date 2024 — Plat or Other Map _____
City / Town (within 3 miles) Bradenton — In City Limits? ☒yes ☐no ☐unknown — County Manatee
Township 34S — Range 17E — Section 35 — ¼ section: ☐NW ☐SW ☐SE ☐NE — Irregular-name: _____
Tax Parcel # 4299600009 — Landgrant _____
Subdivision Name Bradenton S of River — Block G — Lot 1
UTM Coordinates: Zone ☐16 ☐17 — Easting ☐☐☐☐☐☐ — Northing ☐☐☐☐☐☐☐
Other Coordinates: X: _____ Y: _____ — Coordinate System & Datum _____
Name of Public Tract (e.g., park) _____

HISTORY

Construction Year: 1968 ☒approximately ☐year listed or earlier ☐year listed or later
Original Use Shop, auto repair — From (year): 1968 — To (year): 2026
Current Use Shop, auto repair — From (year): 1968 — To (year): 2026
Other Use _____ — From (year): _____ — To (year): _____
Moves: ☐yes ☒no ☐unknown Date: _____ Original address _____
Alterations: ☐yes ☒no ☐unknown Date: _____ Nature _____
Additions: ☒yes ☐no ☐unknown Date: _____ Nature detached garage, date: UNKN
Architect (last name first): UNKN — Builder (last name first): UNKN
Ownership History (especially original owner, dates, profession, etc.)

Current Owner: Paul E Fields Jr, purchased in 1994.

Is the Resource Affected by a Local Preservation Ordinance? ☐yes ☐no ☒unknown Describe _____

DESCRIPTION

Style Masonry Vernacular — Exterior Plan Rectangular — Number of Stories 1
Exterior Fabric(s) 1. Concrete block 2. Stucco 3. Artif masonry veneer
Roof Type(s) 1. Cross-gabled 2. _____ 3. _____
Roof Material(s) 1. Asphalt shingles 2. _____ 3. _____
Roof secondary strucs. (dormers etc.) 1. _____ 2. _____
Windows (types, materials, etc.)

2/2, wooden, DHS, grouped in 2

Distinguishing Architectural Features (exterior or interior ornaments)

Masonry veneer water table; shed extension awning; parapet; 6 auto bays; vinyl-siding entablature

Ancillary Features / Outbuildings (record outbuildings, major landscape features; use continuation sheet if needed.)

detached garage and outbuilding; metal, chain-link fence

DHR USE ONLY	OFFICIAL EVALUATION	DHR USE ONLY
NR List Date _____ ☐Owner Objection	SHPO – Appears to meet criteria for NR listing: ☐yes ☐no ☐insufficient info Date _____ Init._____ KEEPER – Determined eligible: ☐yes ☐no Date _____ NR Criteria for Evaluation: ☐a ☐b ☐c ☐d (see *National Register Bulletin 15*, p. 2)	

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HISTORICAL STRUCTURE FORM

Site # 8 MA03134

DESCRIPTION (continued)

Chimney: No. 0 Chimney Material(s): 1. Not applicable 2. _____

Structural System(s): 1. Concrete block 2. _____ 3. _____

Foundation Type(s): 1. Slab 2. _____

Foundation Material(s): 1. Concrete, Generic 2. _____

Main Entrance (stylistic details)

wood frame door w/ full-light, E facade

Porch Descriptions (types, locations, roof types, etc.)

n/A

Condition (overall resource condition): ☐excellent ☐good ☒fair ☐deteriorated ☐ruinous

Narrative Description of Resource

Resource 8MA03134 is a 1-story, rectangular-plan, Masonry Vernacular auto repair shop set on a concrete slab foundation. Asphalt shingles cover the shed roof, and the walls are concrete block, clad in stucco, and a masonry veneer.

Archaeological Remains _____ ☐Check if Archaeological Form Completed

RESEARCH METHODS (select all that apply)

☒FMSF record search (sites/surveys)	☒library research	☐building permits	☐Sanborn maps
☐FL State Archives/photo collection	☐city directory	☐occupant/owner interview	☐plat maps
☒property appraiser / tax records	☐newspaper files	☐neighbor interview	☐Public Lands Survey (DEP)
☒cultural resource survey (CRAS)	☐historic photos	☐interior inspection	☐HABS/HAER record search

☒other methods (describe) Pedestrian/Windshield Survey

Bibliographic References (give FMSF manuscript # if relevant, use continuation sheet if needed)

OPINION OF RESOURCE SIGNIFICANCE

Appears to meet the criteria for National Register listing individually? ☐yes ☒no ☐insufficient information

Appears to meet the criteria for National Register listing as part of a district? ☐yes ☒no ☐insufficient information

Explanation of Evaluation (**required**, whether significant or not; use separate sheet if needed)

Due to lack of sufficient historic significance and architectural distinction, 8MA03134 is ineligible for listing in the NRHP, either individually or as a contributing resource within a potential or existing historic district.

Area(s) of Historical Significance (see *National Register Bulletin 15*, p. 8 for categories: e.g. "architecture", "ethnic heritage", "community planning & development", etc.)

1._____ 3._____ 5._____

2._____ 4._____ 6._____

DOCUMENTATION

Accessible Documentation Not Filed with the Site File - including field notes, analysis notes, photos, plans and other important documents

1) Document type All materials at one location Maintaining organization Southeastern Archaeological Research

Document description Photos, Maps, Field Notes, Aerial File or accession #'s 260003

2) Document type _____ Maintaining organization _____

Document description _____ File or accession #'s _____

RECORDER INFORMATION

Recorder Name Bonatakis, Mary Affiliation Southeastern Archaeological Research

Recorder Contact Information 3117 Edgewater Dr, Orlando, FL 32804/407-236-7711/Mary.Bonatakis@searchinc

(address / phone / fax / e-mail)

Required Attachments

❶ **USGS 7.5' MAP WITH STRUCTURE LOCATION CLEARLY INDICATED**

❷ **LARGE SCALE STREET, PLAT OR PARCEL MAP** (available from most property appraiser web sites)

❸ **PHOTO OF MAIN FACADE, DIGITAL IMAGE FILE**

When submitting an image, it must be included in digital AND hard copy format (plain paper grayscale acceptable). Digital image must be at least 1600 x 1200 pixels, 24-bit color, jpeg or tiff.

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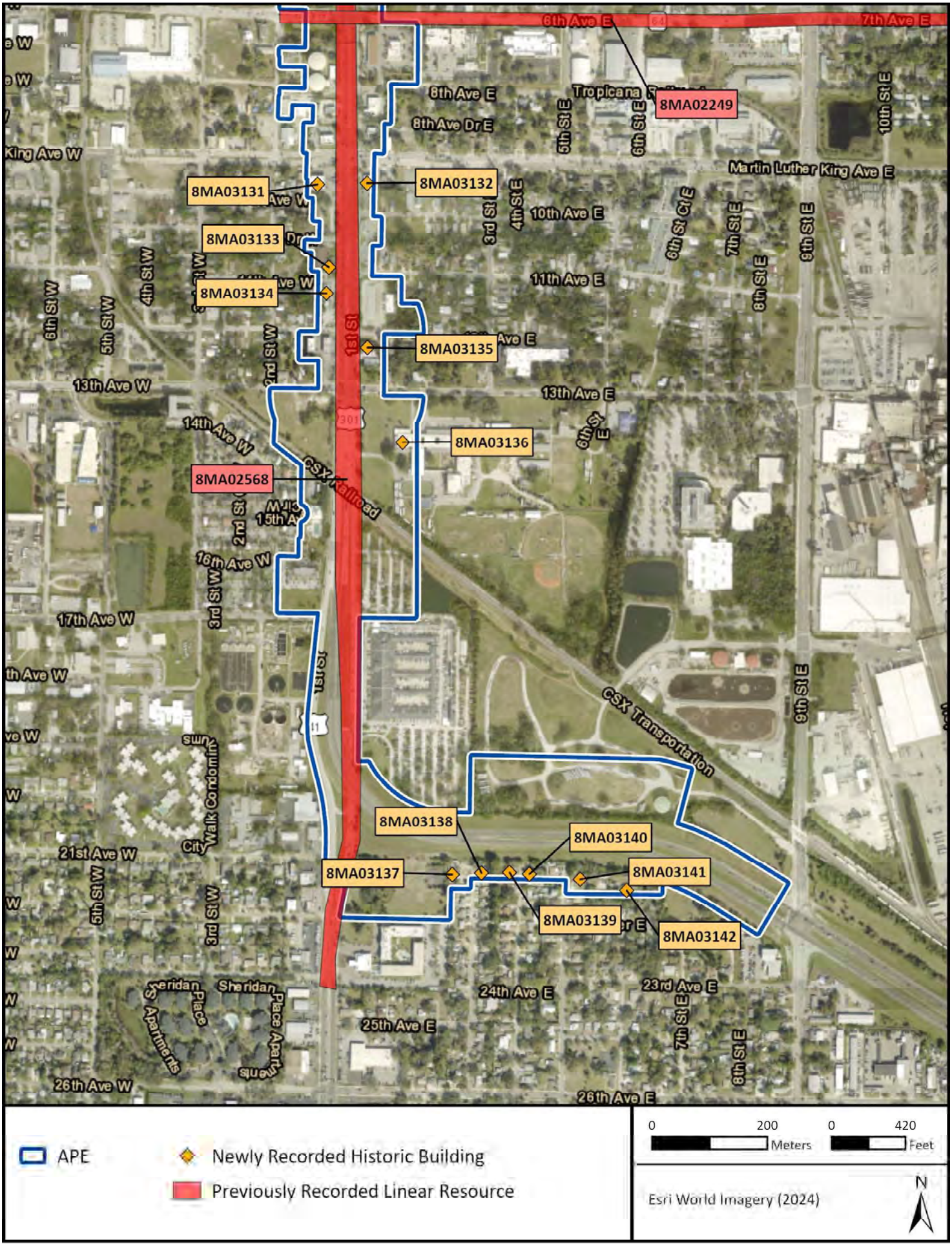
8MA03134_b Facing SW

8MA03134_c Facing SE

8MA03134_d Facing SW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CSX Railroad
CSX Transportation
Sheridan Place Apartments
Walk Condomin
APE
Newly Recorded Historic Building
Previously Recorded Linear Resource
0
200
Meters
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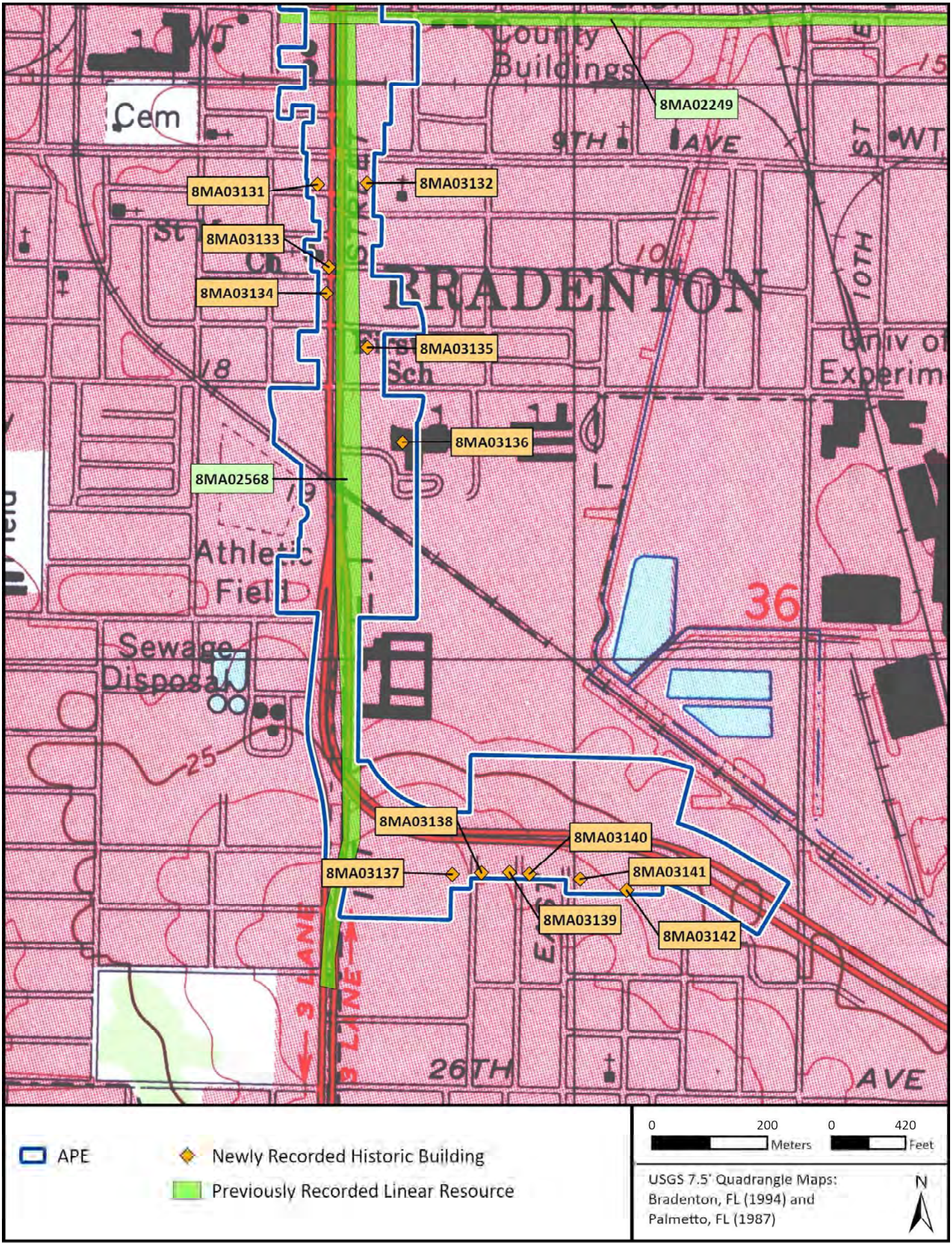
420
Feet
Esri World Imagery (2024)
N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BRADENTON
9TH AVE
10TH ST
26TH AVE
Cem
Athletic Field
Sewage Disposal
36
APE
Newly Recorded Historic Building
Previously Recorded Linear Resource
0 200 Meters
0 420 Feet
USGS 7.5' Quadrangle Maps:
Bradenton, FL (1994) and
Palmetto, FL (1987)
N

☒ Original
☐ Update

HISTORICAL STRUCTURE FORM
FLORIDA MASTER SITE FILE
Version 5.0 3/19

Site#8 MA03135
Field Date 2-16-2025
Form Date 3-2-2026
Recorder #

Shaded Fields represent the minimum acceptable level of documentation.
Consult the *Guide to Historical Structure Forms* for detailed instructions.

Site Name(s) (address if none) Pride of Bradenton Masonic Lodge #490 Multiple Listing (DHR only)
Survey Project Name Bradenton-Palmetto Connector PD&E Survey # (DHR only)
National Register Category (please check one) ☒building ☐structure ☐district ☐site ☐object
Ownership: ☒private-profit ☐private-nonprofit ☐private-individual ☐private-nonspecific ☐city ☐county ☐state ☐federal ☐Native American ☐foreign ☐unknown

LOCATION & MAPPING

	Street Number	Direction	Street Name	Street Type	Suffix Direction
Address:	1203		1st	Street	E

Cross Streets (nearest / between) W 1st St./12th Ave W
USGS 7.5 Map Name BRADENTON USGS Date 2024 Plat or Other Map
City / Town (within 3 miles) Bradenton In City Limits? ☒yes ☐no ☐unknown County Manatee
Township 34S Range 17E Section 36 ¼ section: ☐NW ☐SW ☐SE ☐NE Irregular-name:
Tax Parcel # 4626300000 Landgrant
Subdivision Name Bradenton S of River Block N/A Lot N/A
UTM Coordinates: Zone ☐16 ☐17 Easting ☐☐☐☐☐☐ Northing ☐☐☐☐☐☐☐
Other Coordinates: X: Y: Coordinate System & Datum
Name of Public Tract (e.g., park)

HISTORY

Construction Year: 1962 ☒approximately ☐year listed or earlier ☐year listed or later
Original Use Club or Lodge building From (year): 1962 To (year): 2026
Current Use Club or Lodge building From (year): 1962 To (year): 2026
Other Use From (year): To (year):
Moves: ☐yes ☒no ☐unknown Date: Original address
Alterations: ☐yes ☒no ☐unknown Date: Nature
Additions: ☐yes ☒no ☐unknown Date: Nature
Architect (last name first): UNKN Builder (last name first): UNKN
Ownership History (especially original owner, dates, profession, etc.)

Current & Original Owner: PRIDE OF BRADENTON THE FA & M NO 490 TRS OF, unknown purchase date

Is the Resource Affected by a Local Preservation Ordinance? ☐yes ☐no ☒unknown Describe

DESCRIPTION

Style Masonry Vernacular Exterior Plan Rectangular Number of Stories 2
Exterior Fabric(s) 1. Concrete block 2. Stucco 3. Vertical Wood Plank
Roof Type(s) 1. Gable 2. 3.
Roof Material(s) 1. Asphalt shingles 2. 3.
Roof secondary strucs. (dormers etc.) 1. 2.
Windows (types, materials, etc.)

1/1, aluminum, SHS, placed individually and grouped in 2

Distinguishing Architectural Features (exterior or interior ornaments)

Gable end clad in vertical wood plank siding; gable vent

Ancillary Features / Outbuildings (record outbuildings, major landscape features; use continuation sheet if needed.)

paved parking lot

DHR USE ONLY	OFFICIAL EVALUATION	DHR USE ONLY
NR List Date ☐Owner Objection	SHPO – Appears to meet criteria for NR listing: ☐yes ☐no ☐insufficient info Date Init. KEEPER – Determined eligible: ☐yes ☐no Date NR Criteria for Evaluation: ☐a ☐b ☐c ☐d (see *National Register Bulletin 15*, p. 2)	

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HISTORICAL STRUCTURE FORM

Site # 8 MA03135

DESCRIPTION (continued)

Chimney: No. 0 Chimney Material(s): 1. Not applicable 2.

Structural System(s): 1. Concrete block 2. 3.

Foundation Type(s): 1. Slab 2.

Foundation Material(s): 1. Concrete, Generic 2.

Main Entrance (stylistic details)

3, fiberglass paneled doors on W facade

Porch Descriptions (types, locations, roof types, etc.)

n/A

Condition (overall resource condition): ☐excellent ☐good ☐fair ☒deteriorated ☐ruinous

Narrative Description of Resource

Resource 8MA03135 is a 2-story, rectangular-plan, Masonry Vernacular Masonic Lodge set on a concrete slab foundation. Asphalt shingles cover the gabled roof, and the walls are concrete block and clad in stucco.

Archaeological Remains ☐Check if Archaeological Form Completed

RESEARCH METHODS (select all that apply)

☒FMSF record search (sites/surveys)	☒library research	☐building permits	☐Sanborn maps
☐FL State Archives/photo collection	☐city directory	☐occupant/owner interview	☐plat maps
☒property appraiser / tax records	☐newspaper files	☐neighbor interview	☐Public Lands Survey (DEP)
☒cultural resource survey (CRAS)	☐historic photos	☐interior inspection	☐HABS/HAER record search

☒other methods (describe) Pedestrian/Windshield Survey

Bibliographic References (give FMSF manuscript # if relevant, use continuation sheet if needed)

OPINION OF RESOURCE SIGNIFICANCE

Appears to meet the criteria for National Register listing individually? ☐yes ☐no ☒insufficient information

Appears to meet the criteria for National Register listing as part of a district? ☐yes ☒no ☐insufficient information

Explanation of Evaluation (**required**, whether significant or not; use separate sheet if needed)

More research is required in order to confirm 8MA03135's possible significance under Criterion A, as such, SEARCH finds there is insufficient information to make a recommendation. The resource is not located within a historic district.

Area(s) of Historical Significance (see *National Register Bulletin 15*, p. 8 for categories: e.g. "architecture", "ethnic heritage", "community planning & development", etc.)

1. 3. 5.

2. 4. 6.

DOCUMENTATION

Accessible Documentation Not Filed with the Site File - including field notes, analysis notes, photos, plans and other important documents

1) Document type All materials at one location Maintaining organization Southeastern Archaeological Research

Document description Photos, Maps, Field Notes, Aerial File or accession #'s 260003

2) Document type Maintaining organization

Document description File or accession #'s

RECORDER INFORMATION

Recorder Name Bonatakis, Mary Affiliation Southeastern Archaeological Research

Recorder Contact Information 3117 Edgewater Dr, Orlando, FL 32804/407-236-7711/Mary.Bonatakis@searchinc.

(address / phone / fax / e-mail)

Required Attachments

❶ **USGS 7.5' MAP WITH STRUCTURE LOCATION CLEARLY INDICATED**

❷ **LARGE SCALE STREET, PLAT OR PARCEL MAP** (available from most property appraiser web sites)

❸ **PHOTO OF MAIN FACADE, DIGITAL IMAGE FILE**

When submitting an image, it must be included in digital AND hard copy format (plain paper grayscale acceptable). Digital image must be at least 1600 x 1200 pixels, 24-bit color, jpeg or tiff.

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8MA03135_b Facing N

8MA03135_c Facing NE

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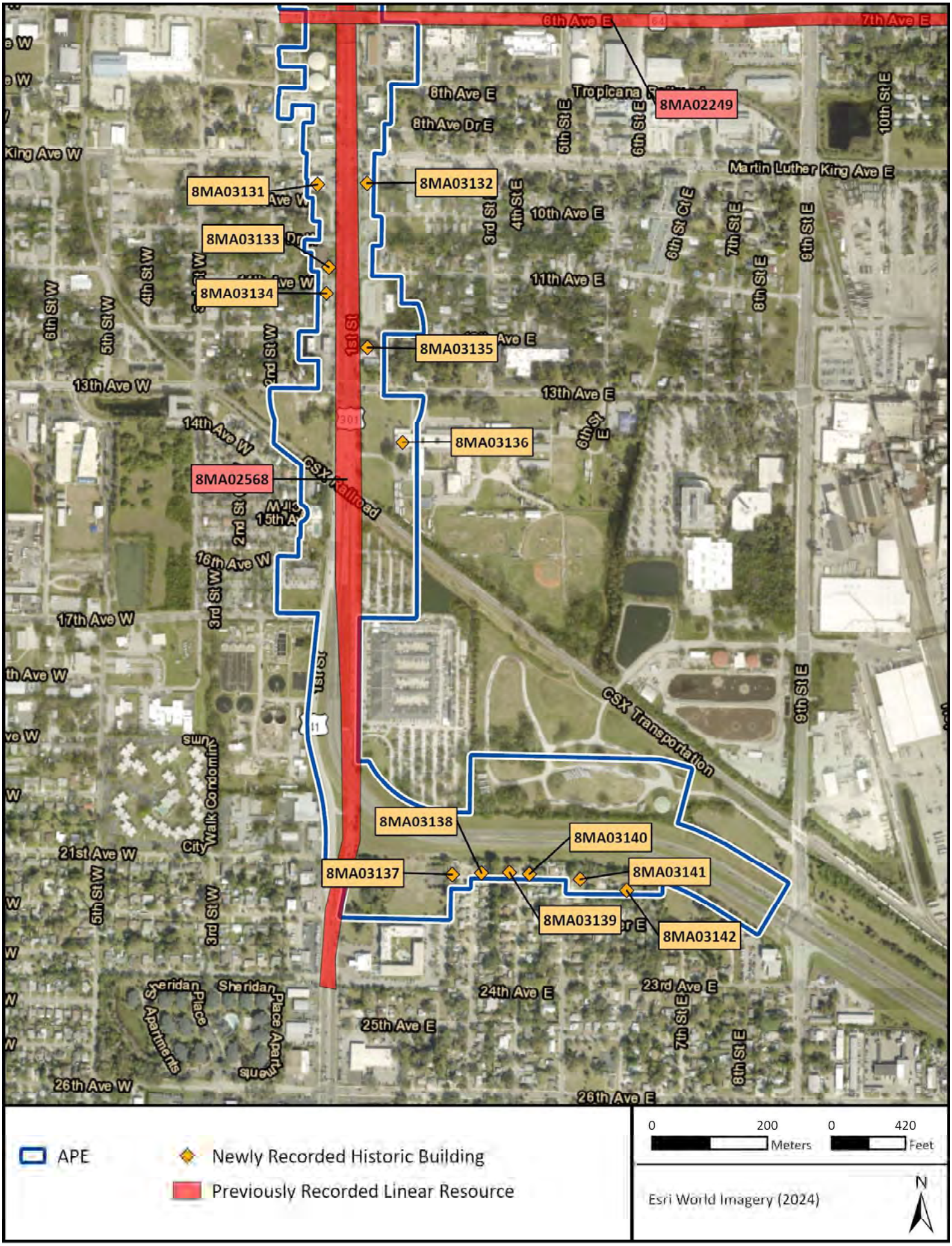
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10th St E
CSX Railroad
CSX Transportation
Sheridan Place Apartments
Walk Condomin
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Newly Recorded Historic Building
Previously Recorded Linear Resource
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Esri World Imagery (2024)
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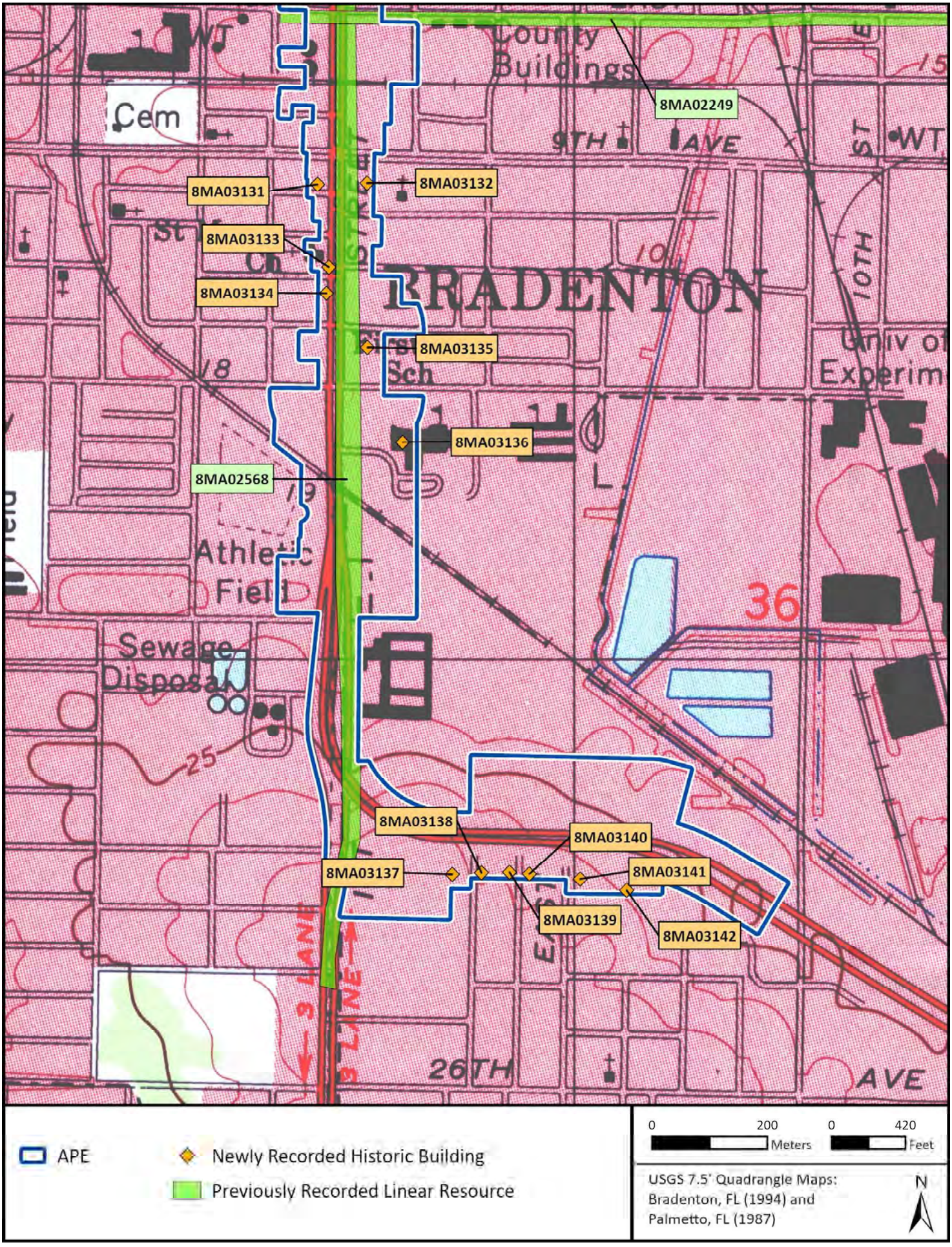
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Newly Recorded Historic Building
Previously Recorded Linear Resource
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USGS 7.5' Quadrangle Maps:
Bradenton, FL (1994) and
Palmetto, FL (1987)
N

☒ Original
☐ Update

HISTORICAL STRUCTURE FORM
FLORIDA MASTER SITE FILE
Version 5.0 3/19

Site#8 MA03136
Field Date 2-16-2025
Form Date 3-2-2026
Recorder # _____

Shaded Fields represent the minimum acceptable level of documentation.
Consult the *Guide to Historical Structure Forms* for detailed instructions.

Site Name(s) (address if none) Bradenton Middle School — Multiple Listing (DHR only) _____
Survey Project Name Bradenton-Palmetto Connector PD&E — Survey # (DHR only) _____
National Register Category (please check one) ☒building ☐structure ☐district ☐site ☐object
Ownership: ☒private-profit ☐private-nonprofit ☐private-individual ☐private-nonspecific ☐city ☐county ☐state ☐federal ☐Native American ☐foreign ☐unknown

LOCATION & MAPPING

Street Number	Direction	Street Name	Street Type	Suffix Direction
202		13th	Avenue	E

Address:
Cross Streets (nearest / between) W 1st St./12th Ave W
USGS 7.5 Map Name BRADENTON — USGS Date 2024 — Plat or Other Map _____
City / Town (within 3 miles) Bradenton — In City Limits? ☒yes ☐no ☐unknown — County Manatee
Township 34S — Range 17E — Section 36 — ¼ section: ☐NW ☐SW ☐SE ☐NE — Irregular-name: _____
Tax Parcel # 4633200003 — Landgrant _____
Subdivision Name Bradenton S of River — Block N/A — Lot 2-10
UTM Coordinates: Zone ☐16 ☐17 — Easting ☐☐☐☐☐☐ — Northing ☐☐☐☐☐☐☐
Other Coordinates: X: _____ Y: _____ — Coordinate System & Datum _____
Name of Public Tract (e.g., park) _____

HISTORY

Construction Year: 1962 ☒approximately ☐year listed or earlier ☐year listed or later
Original Use School — From (year): 1962 — To (year): 2026
Current Use School — From (year): 1962 — To (year): 2026
Other Use _____ — From (year): _____ — To (year): _____
Moves: ☐yes ☒no ☐unknown Date: _____ Original address _____
Alterations: ☐yes ☒no ☐unknown Date: _____ Nature _____
Additions: ☒yes ☐no ☐unknown Date: _____ Nature SE block, c.1969
Architect (last name first): UNKN — Builder (last name first): UNKN
Ownership History (especially original owner, dates, profession, etc.)

Current Owner: Jack 95, LLC, purchased in 2025.

Is the Resource Affected by a Local Preservation Ordinance? ☐yes ☐no ☒unknown Describe _____

DESCRIPTION

Style Mid-Century Modern — Exterior Plan Irregular — Number of Stories 1-2
Exterior Fabric(s) 1. Brick 2. Stucco 3. Vertical Wood Plank
Roof Type(s) 1. Flat 2. _____ 3. _____
Roof Material(s) 1. Built-up 2. _____ 3. _____
Roof secondary strucs. (dormers etc.) 1. Not applicable 2. _____
Windows (types, materials, etc.)

fixed, aluminum-frame & transoms

Distinguishing Architectural Features (exterior or interior ornaments)

concrete breezeway w/ exposed eaves

Ancillary Features / Outbuildings (record outbuildings, major landscape features; use continuation sheet if needed.)

several outbuildings; sports fields, metal pole fence

DHR USE ONLY	OFFICIAL EVALUATION	DHR USE ONLY
NR List Date _____ ☐Owner Objection	SHPO – Appears to meet criteria for NR listing: ☐yes ☐no ☐insufficient info Date _____ Init._____ KEEPER – Determined eligible: ☐yes ☐no Date _____ NR Criteria for Evaluation: ☐a ☐b ☐c ☐d (see *National Register Bulletin 15*, p. 2)	

Florida Master Site File / Div. of Historical Resources / R. A. Gray Bldg / 500 S Bronough St., Tallahassee, FL 32399-0250
Phone **850.245.6440** / Fax **850.245.6439** / E-mail **SiteFile@dos.myflorida.com**

HISTORICAL STRUCTURE FORM

Site #8 MA03136

DESCRIPTION (continued)

Chimney: No. 0 Chimney Material(s): 1. Not applicable 2. _____
Structural System(s): 1. Brick 2. _____ 3. _____
Foundation Type(s): 1. Slab 2. _____
Foundation Material(s): 1. Concrete, Generic 2. _____
Main Entrance (stylistic details)

recessed, single, metal-panel door N & S elevations

Porch Descriptions (types, locations, roof types, etc.)

roof-overhang open porch

Condition (overall resource condition): ☒excellent ☐good ☐fair ☐deteriorated ☐ruinous
Narrative Description of Resource

Resource 8MA03136 is a 1-and-2-story, irregular-plan, Mid-Century Modern school set on a concrete slab foundation. the flat roof is built-up, and the walls are brick and clad in stucco and vertical wood siding.

Archaeological Remains _____ ☐Check if Archaeological Form Completed

RESEARCH METHODS (select all that apply)

☒FMSF record search (sites/surveys)	☒library research	☐building permits	☐Sanborn maps
☐FL State Archives/photo collection	☐city directory	☐occupant/owner interview	☐plat maps
☒property appraiser / tax records	☐newspaper files	☐neighbor interview	☐Public Lands Survey (DEP)
☒cultural resource survey (CRAS)	☐historic photos	☐interior inspection	☐HABS/HAER record search

☒other methods (describe) Pedestrian/Windshield Survey
Bibliographic References (give FMSF manuscript # if relevant, use continuation sheet if needed)

OPINION OF RESOURCE SIGNIFICANCE

Appears to meet the criteria for National Register listing individually? ☐yes ☒no ☐insufficient information
Appears to meet the criteria for National Register listing as part of a district? ☐yes ☒no ☐insufficient information
Explanation of Evaluation (**required**, whether significant or not; use separate sheet if needed)

Due to lack of sufficient historic significance and architectural distinction, 8MA03136 is ineligible for listing in the NRHP, either individually or as a contributing resource within a potential or existing historic district.

Area(s) of Historical Significance (see *National Register Bulletin 15*, p. 8 for categories: e.g. "architecture", "ethnic heritage", "community planning & development", etc.)
1._____ 3._____ 5._____
2._____ 4._____ 6._____

DOCUMENTATION

Accessible Documentation Not Filed with the Site File - including field notes, analysis notes, photos, plans and other important documents

1) Document type All materials at one location Maintaining organization Southeastern Archaeological Research
Document description Photos, Maps, Field Notes, Aerial File or accession #'s 260003

2) Document type _____ Maintaining organization _____
Document description _____ File or accession #'s _____

RECORDER INFORMATION

Recorder Name Bonatakis, Mary Affiliation Southeastern Archaeological Research
Recorder Contact Information 3117 Edgewater Dr, Orlando, FL 32804/407-236-7711/Mary.Bonatakis@searchinc
(address / phone / fax / e-mail)

Required Attachments

❶ **USGS 7.5' MAP WITH STRUCTURE LOCATION CLEARLY INDICATED**
❷ **LARGE SCALE STREET, PLAT OR PARCEL MAP** (available from most property appraiser web sites)
❸ **PHOTO OF MAIN FACADE, DIGITAL IMAGE FILE**
When submitting an image, it must be included in digital AND hard copy format (plain paper grayscale acceptable). Digital image must be at least 1600 x 1200 pixels, 24-bit color, jpeg or tiff.

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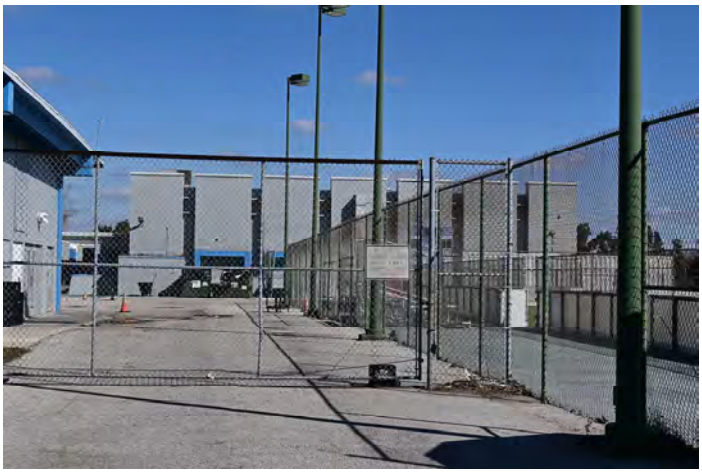
8MA03136_b Facing S

8MA03136_c Facing NE

8MA03136_d facing SE



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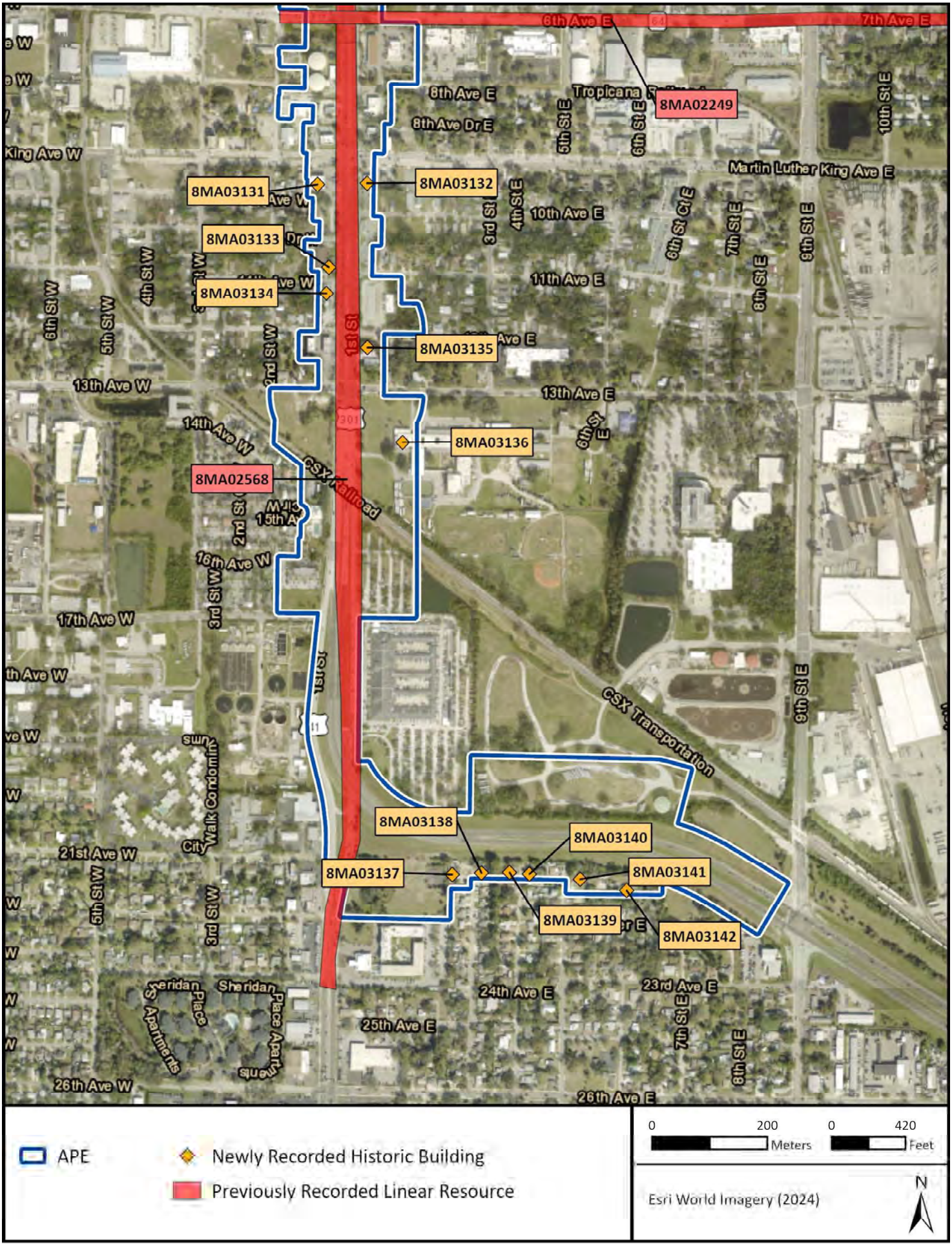
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CSX Railroad
CSX Transportation
Sheridan Place Apartments
Walk Condomin
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Newly Recorded Historic Building
Previously Recorded Linear Resource
0
200
Meters
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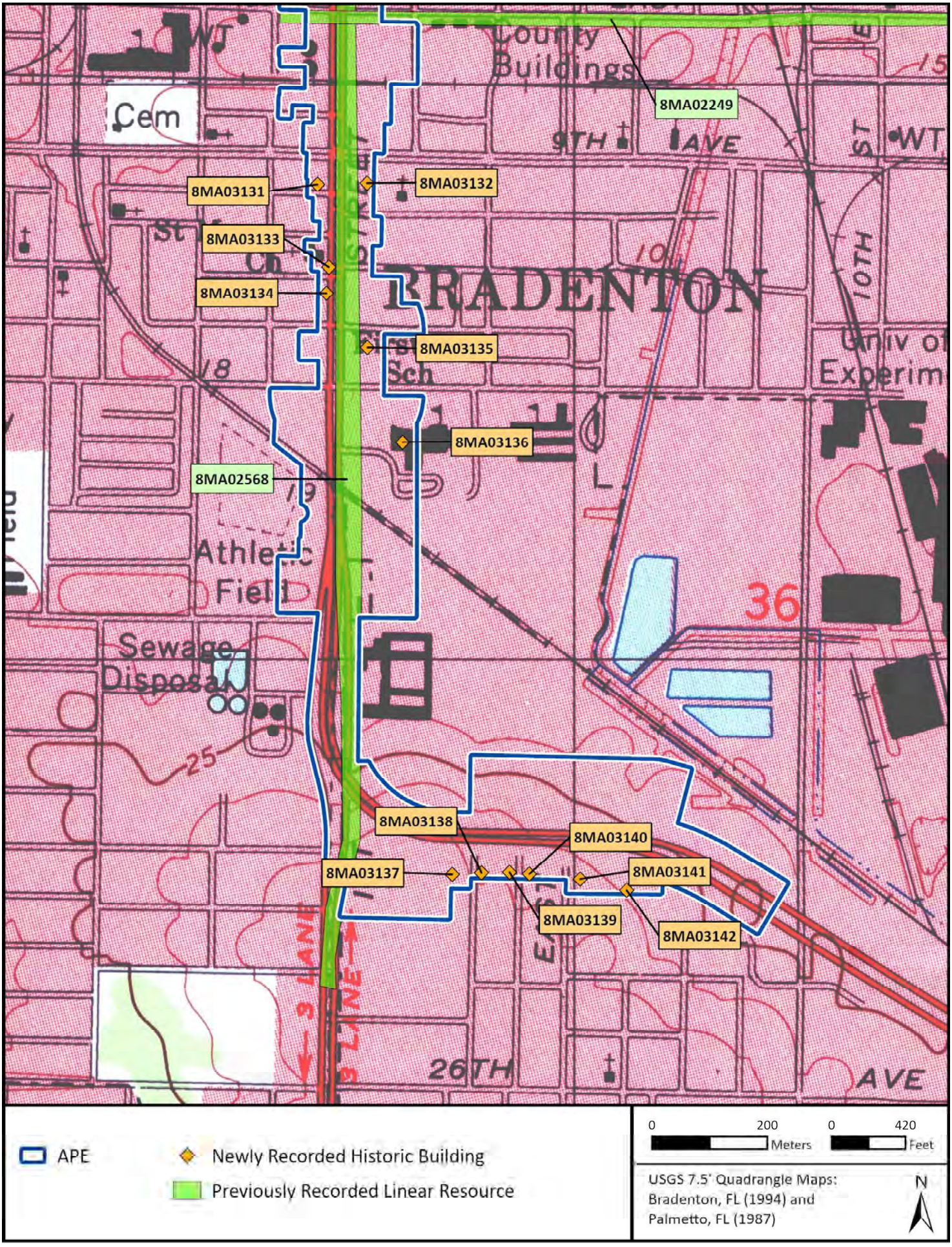
420
Feet
Esri World Imagery (2024)
N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8MA03137
8MA03141
8MA03139
8MA03142
BRADENTON
9TH AVE
10TH ST
26TH AVE
Cem
Athletic Field
Sewage Disposal
36
APE
Newly Recorded Historic Building
Previously Recorded Linear Resource
0 200 Meters
0 420 Feet
USGS 7.5' Quadrangle Maps:
Bradenton, FL (1994) and
Palmetto, FL (1987)
N

☒ Original
☐ Update

HISTORICAL STRUCTURE FORM
FLORIDA MASTER SITE FILE
Version 5.0 3/19

Site#8 MA03137
Field Date 2-16-2025
Form Date 3-2-2026
Recorder # _____

Shaded Fields represent the minimum acceptable level of documentation.
Consult the *Guide to Historical Structure Forms* for detailed instructions.

Site Name(s) (address if none) 2100 3rd Street E — **M**ultiple Listing (DHR only) _____
Survey Project Name Bradenton-Palmetto Connector PD&E — **S**urvey # (DHR only) _____
National Register Category (please check one) ☒building ☐structure ☐district ☐site ☐object
Ownership: ☐private-profit ☐private-nonprofit ☒private-individual ☐private-nonspecific ☐city ☐county ☐state ☐federal ☐Native American ☐foreign ☐unknown

LOCATION & MAPPING

	Street Number	Direction	Street Name	Street Type	Suffix Direction
Address:	2100		3rd	Street	E

Cross Streets (nearest / between) US 301/1st. St. W
USGS 7.5 Map Name BRADENTON — **U**SGS Date 2024 — **P**lat or Other Map _____
City / Town (within 3 miles) Bradenton — **I**n City Limits? ☒yes ☐no ☐unknown — **C**ounty Manatee
Township 34S — **R**ange 17E — **S**ection 36 — ¼ section: ☐NW ☐SW ☐SE ☐NE — Irregular-name: _____
Tax Parcel # 4641400009 — **L**andgrant _____
Subdivision Name Orange Ridge — **B**lock N/A — **L**ot 56
UTM Coordinates: **Z**one ☐16 ☐17 — **E**asting ☐☐☐☐☐☐ — **N**orthing ☐☐☐☐☐☐☐
Other Coordinates: X: _____ Y: _____ — **C**oordinate System & Datum _____
Name of Public Tract (e.g., park) _____

HISTORY

Construction Year: 1962 ☒approximately ☐year listed or earlier ☐year listed or later
Original Use Private Residence (House/Cottage/Ca — From (year): 1962 — To (year): 2026
Current Use Private Residence (House/Cottage/Ca — From (year): 1962 — To (year): 2026
Other Use _____ — From (year): _____ — To (year): _____
Moves: ☐yes ☒no ☐unknown Date: _____ — Original address _____
Alterations: ☒yes ☐no ☐unknown Date: _____ — Nature bldgs combined, c. 1969-1984
Additions: ☒yes ☐no ☐unknown Date: _____ — Nature S cottage, c.1969
Architect (last name first): UNKN — **B**uilder (last name first): UNKN
Ownership History (especially original owner, dates, profession, etc.)

Current Owner: Maria Dudash, purchased in 2006.

Is the Resource Affected by a Local Preservation Ordinance? ☐yes ☐no ☒unknown — **D**escribe _____

DESCRIPTION

Style Frame Vernacular — **E**xterior Plan L-shaped — **N**umber of Stories 1
Exterior Fabric(s) 1. Clapboard 2. _____ 3. Bead Board
Roof Type(s) 1. Gable 2. _____ 3. _____
Roof Material(s) 1. Asphalt shingles 2. _____ 3. _____
Roof secondary strucs. (dormers etc.) 1. Not applicable 2. _____
Windows (types, materials, etc.)

fixed, 3-pane, wood-frame windows flanked by 3-pane, wooden-sash casement; replacement 1/1 & 12/8, vinyl, SHS

Distinguishing Architectural Features (exterior or interior ornaments)

metal, clamshell awning; gable ends clad in bead board; wooden shutters

Ancillary Features / Outbuildings (record outbuildings, major landscape features; use continuation sheet if needed.)

outbuilding N of building

DHR USE ONLY	OFFICIAL EVALUATION	DHR USE ONLY
NR List Date _____ ☐Owner Objection	SHPO – Appears to meet criteria for NR listing: ☐yes ☐no ☐insufficient info Date _____ Init._____ KEEPER – Determined eligible: ☐yes ☐no Date _____ NR Criteria for Evaluation: ☐a ☐b ☐c ☐d (see *National Register Bulletin 15*, p. 2)	

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HISTORICAL STRUCTURE FORM

Site # 8 MA03137

DESCRIPTION (continued)

Chimney: No. 0 Chimney Material(s): 1. Not applicable 2. _____

Structural System(s): 1. Wood frame 2. _____ 3. _____

Foundation Type(s): 1. Continuous 2. _____

Foundation Material(s): 1. Concrete Block 2. _____

Main Entrance (stylistic details)

wood-frame door w/ full-light & wood-paneled door w/ 3/3 half-light, E facade

Porch Descriptions (types, locations, roof types, etc.)

N/A

Condition (overall resource condition): ☐excellent ☐good ☒fair ☐deteriorated ☐ruinous

Narrative Description of Resource

Resource 8MA03137 is a 1-story, L-shaped residence set on a continuous concrete block foundation. Asphalt shingles cover the gabled roof and clapboard and bead board clads the walls.

Archaeological Remains _____ ☐Check if Archaeological Form Completed

RESEARCH METHODS (select all that apply)

☒FMSF record search (sites/surveys)	☒library research	☐building permits	☐Sanborn maps
☐FL State Archives/photo collection	☐city directory	☐occupant/owner interview	☐plat maps
☒property appraiser / tax records	☐newspaper files	☐neighbor interview	☐Public Lands Survey (DEP)
☒cultural resource survey (CRAS)	☐historic photos	☐interior inspection	☐HABS/HAER record search

☒other methods (describe) Pedestrian/Windshield Survey

Bibliographic References (give FMSF manuscript # if relevant, use continuation sheet if needed)

OPINION OF RESOURCE SIGNIFICANCE

Appears to meet the criteria for National Register listing individually? ☐yes ☒no ☐insufficient information

Appears to meet the criteria for National Register listing as part of a district? ☐yes ☒no ☐insufficient information

Explanation of Evaluation (**required**, whether significant or not; use separate sheet if needed)

Due to lack of sufficient historic significance and architectural distinction, 8MA03137 is ineligible for listing in the NRHP, either individually or as a contributing resource within a potential or existing historic district.

Area(s) of Historical Significance (see *National Register Bulletin 15*, p. 8 for categories: e.g. "architecture", "ethnic heritage", "community planning & development", etc.)

1._____ 3._____ 5._____

2._____ 4._____ 6._____

DOCUMENTATION

Accessible Documentation Not Filed with the Site File - including field notes, analysis notes, photos, plans and other important documents

1) Document type All materials at one location Maintaining organization Southeastern Archaeological Research

Document description Photos, Maps, Field Notes, Aerial File or accession #'s 260003

2) Document type _____ Maintaining organization _____

Document description _____ File or accession #'s _____

RECORDER INFORMATION

Recorder Name Bonatakis, Mary Affiliation Southeastern Archaeological Research

Recorder Contact Information 3117 Edgewater Dr, Orlando, FL 32804/407-236-7711/Mary.Bonatakis@searchinc

(address / phone / fax / e-mail)

Required Attachments

❶ **USGS 7.5' MAP WITH STRUCTURE LOCATION CLEARLY INDICATED**

❷ **LARGE SCALE STREET, PLAT OR PARCEL MAP** (available from most property appraiser web sites)

❸ **PHOTO OF MAIN FACADE, DIGITAL IMAGE FILE**

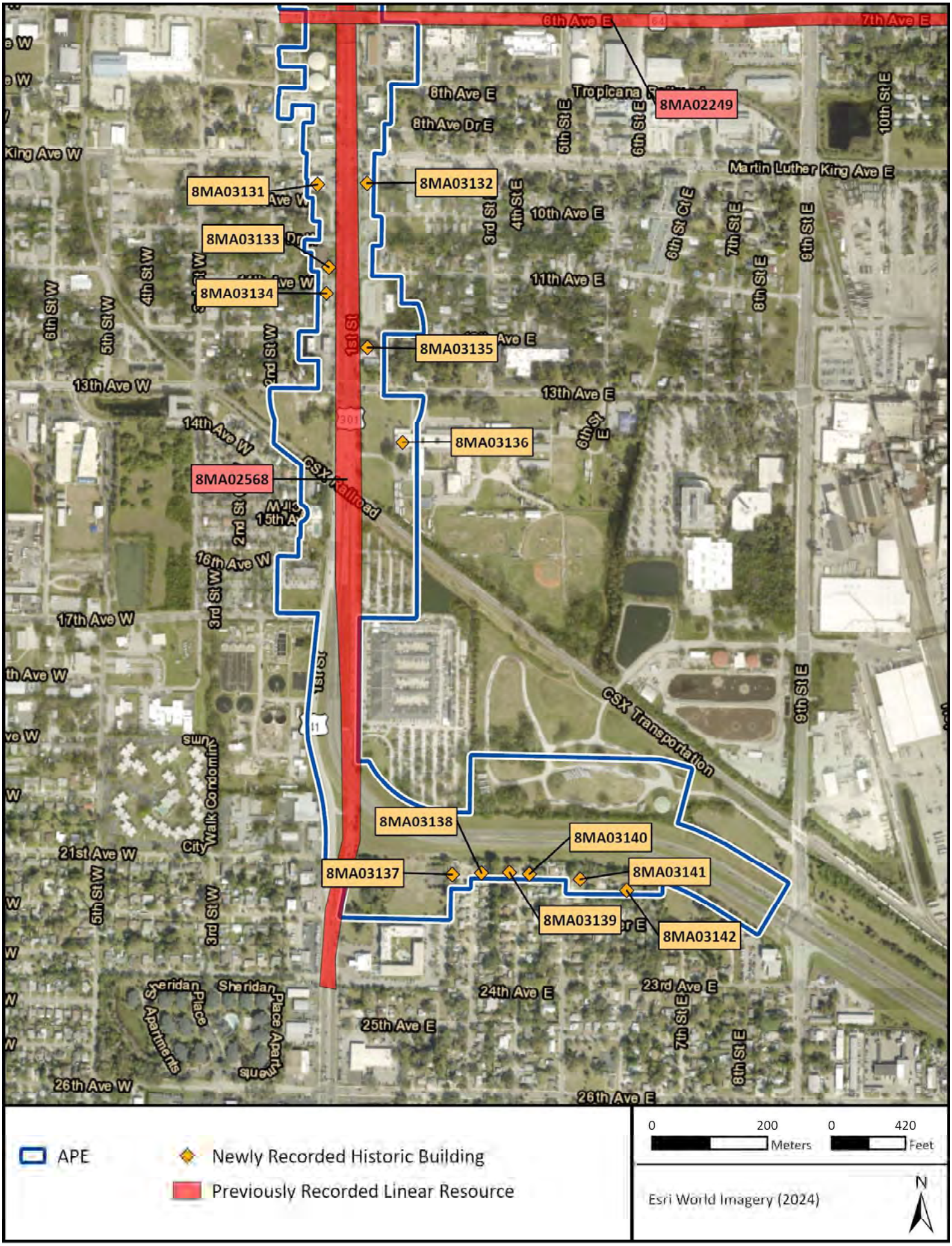
When submitting an image, it must be included in digital AND hard copy format (plain paper grayscale acceptable). Digital image must be at least 1600 x 1200 pixels, 24-bit color, jpeg or tiff.

8MA03137_a Facing SW

8MA03137_b Facing W

8MA03137_c Facing W

8MA03137_d Facing NW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7th St E
8th St E
9th St E
10th St E
CSX Railroad
CSX Transportation
Sheridan Place Apartments
Walk Condomin
APE
Newly Recorded Historic Building
Previously Recorded Linear Resource
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Meters
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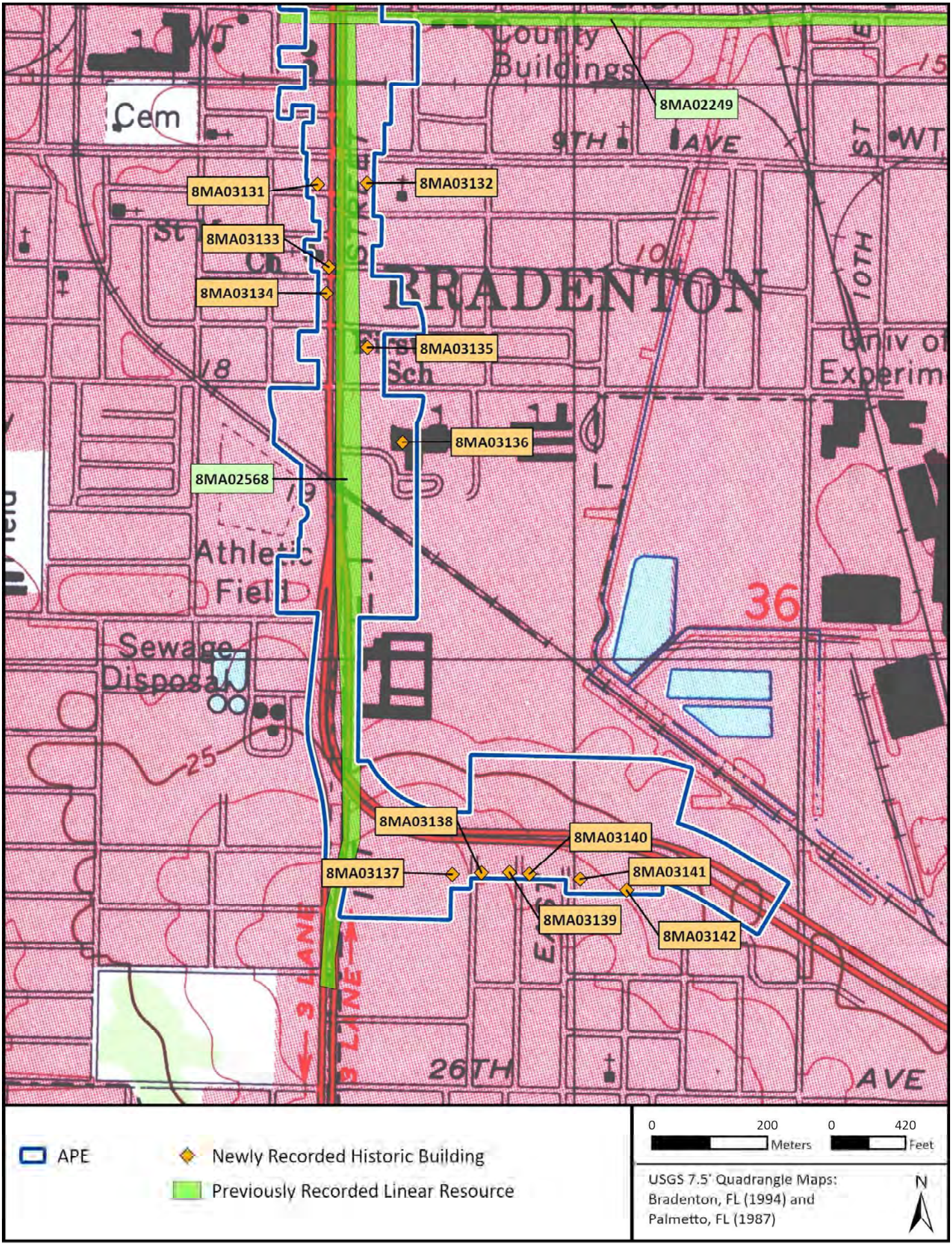
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Newly Recorded Historic Building
Previously Recorded Linear Resource
0 200 Meters
0 420 Feet
USGS 7.5' Quadrangle Maps:
Bradenton, FL (1994) and
Palmetto, FL (1987)
N

☒ Original
☐ Update

HISTORICAL STRUCTURE FORM
FLORIDA MASTER SITE FILE
Version 5.0 3/19

Site#8 MA03138
Field Date 2-16-2025
Form Date 3-2-2026
Recorder #

Shaded Fields represent the minimum acceptable level of documentation.
Consult the *Guide to Historical Structure Forms* for detailed instructions.

Site Name(s) (address if none) 2101 3rd Street E — Multiple Listing (DHR only)
Survey Project Name Bradenton-Palmetto Connector PD&E — Survey # (DHR only)
National Register Category (please check one) ☒building ☐structure ☐district ☐site ☐object
Ownership: ☐private-profit ☐private-nonprofit ☒private-individual ☐private-nonspecific ☐city ☐county ☐state ☐federal ☐Native American ☐foreign ☐unknown

LOCATION & MAPPING

Street Number	Direction	Street Name	Street Type	Suffix Direction
2101		3rd	Street	E

Address:
Cross Streets (nearest / between) US 301/1st. St. W
USGS 7.5 Map Name BRADENTON — USGS Date 2024 — Plat or Other Map
City / Town (within 3 miles) Bradenton — In City Limits? ☒yes ☐no ☐unknown — County Manatee
Township 34S — Range 17E — Section 36 — ¼ section: ☐NW ☐SW ☐SE ☐NE — Irregular-name:
Tax Parcel # 4641500006 — Landgrant
Subdivision Name Orange Ridge — Block N/A — Lot 58
UTM Coordinates: Zone ☐16 ☐17 — Easting ☐☐☐☐☐☐ — Northing ☐☐☐☐☐☐☐
Other Coordinates: X: — Y: — Coordinate System & Datum
Name of Public Tract (e.g., park)

HISTORY

Construction Year: 1954 ☒approximately ☐year listed or earlier ☐year listed or later
Original Use Private Residence (House/Cottage/Ca — From (year): 1954 — To (year): 2026
Current Use Private Residence (House/Cottage/Ca — From (year): 1954 — To (year): 2026
Other Use — From (year): — To (year):
Moves: ☐yes ☒no ☐unknown — Date: — Original address
Alterations: ☒yes ☐no ☐unknown — Date: — Nature windows replaced, full remodel, date: UN
Additions: ☐yes ☒no ☐unknown — Date: — Nature
Architect (last name first): UNKN — Builder (last name first): UNKN
Ownership History (especially original owner, dates, profession, etc.)

Current Owner: Sharon Lynn Woods, purchased in 2015.

Is the Resource Affected by a Local Preservation Ordinance? ☐yes ☐no ☒unknown — Describe

DESCRIPTION

Style Frame Vernacular — Exterior Plan Rectangular — Number of Stories 1
Exterior Fabric(s) 1. Horizontal plank — 2. — 3.
Roof Type(s) 1. Hip — 2. Gable — 3.
Roof Material(s) 1. Asphalt shingles — 2. — 3.
Roof secondary strucs. (dormers etc.) 1. Not applicable — 2.
Windows (types, materials, etc.)

replacement, 1/1, vinyl, SHS, placed individually and flanking vinyl-frame picture window

Distinguishing Architectural Features (exterior or interior ornaments)

Ancillary Features / Outbuildings (record outbuildings, major landscape features; use continuation sheet if needed.)

non-historic outbuilding N of building; wooden privacy fence

DHR USE ONLY	OFFICIAL EVALUATION	DHR USE ONLY
NR List Date ☐Owner Objection	SHPO – Appears to meet criteria for NR listing: ☐yes ☐no ☐insufficient info Date Init. KEEPER – Determined eligible: ☐yes ☐no Date NR Criteria for Evaluation: ☐a ☐b ☐c ☐d (see *National Register Bulletin 15*, p. 2)	

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HISTORICAL STRUCTURE FORM

Site # 8 MA03138

DESCRIPTION (continued)

Chimney: No. 0 Chimney Material(s): 1. Not applicable 2.

Structural System(s): 1. Wood frame 2. 3.

Foundation Type(s): 1. Continuous 2.

Foundation Material(s): 1. Concrete Block 2.

Main Entrance (stylistic details)

paneled door sheltered by metal-frame screen-door, w facade

Porch Descriptions (types, locations, roof types, etc.)

N/A

Condition (overall resource condition): ☐excellent ☒good ☐fair ☐deteriorated ☐ruinous

Narrative Description of Resource

Resource 8MA03138 is a 1-story, rectangular-plan Frame Vernacular residence set on a continuous concrete block foundation. Asphalt shingles cover the hipped and gabled roof and horizontal wood plank clads the walls.

Archaeological Remains ☐Check if Archaeological Form Completed

RESEARCH METHODS (select all that apply)

☒FMSF record search (sites/surveys)	☒library research	☐building permits	☐Sanborn maps
☐FL State Archives/photo collection	☐city directory	☐occupant/owner interview	☐plat maps
☒property appraiser / tax records	☐newspaper files	☐neighbor interview	☐Public Lands Survey (DEP)
☒cultural resource survey (CRAS)	☐historic photos	☐interior inspection	☐HABS/HAER record search

☒other methods (describe) Pedestrian/Windshield Survey

Bibliographic References (give FMSF manuscript # if relevant, use continuation sheet if needed)

OPINION OF RESOURCE SIGNIFICANCE

Appears to meet the criteria for National Register listing individually? ☐yes ☒no ☐insufficient information

Appears to meet the criteria for National Register listing as part of a district? ☐yes ☒no ☐insufficient information

Explanation of Evaluation (**required**, whether significant or not; use separate sheet if needed)

Due to lack of sufficient historic significance and architectural distinction, 8MA03138 is ineligible for listing in the NRHP, either individually or as a contributing resource within a potential or existing historic district.

Area(s) of Historical Significance (see *National Register Bulletin 15*, p. 8 for categories: e.g. "architecture", "ethnic heritage", "community planning & development", etc.)

1. 3. 5.

2. 4. 6.

DOCUMENTATION

Accessible Documentation Not Filed with the Site File - including field notes, analysis notes, photos, plans and other important documents

1) Document type All materials at one location Maintaining organization Southeastern Archaeological Research

Document description Photos, Maps, Field Notes, Aerial File or accession #'s 260003

2) Document type Maintaining organization

Document description File or accession #'s

RECORDER INFORMATION

Recorder Name Bonatakis, Mary Affiliation Southeastern Archaeological Research

Recorder Contact Information 3117 Edgewater Dr, Orlando, FL 32804/407-236-7711/Mary.Bonatakis@searchinc.

(address / phone / fax / e-mail)

Required Attachments

❶ **USGS 7.5' MAP WITH STRUCTURE LOCATION CLEARLY INDICATED**

❷ **LARGE SCALE STREET, PLAT OR PARCEL MAP** (available from most property appraiser web sites)

❸ **PHOTO OF MAIN FACADE, DIGITAL IMAGE FILE**

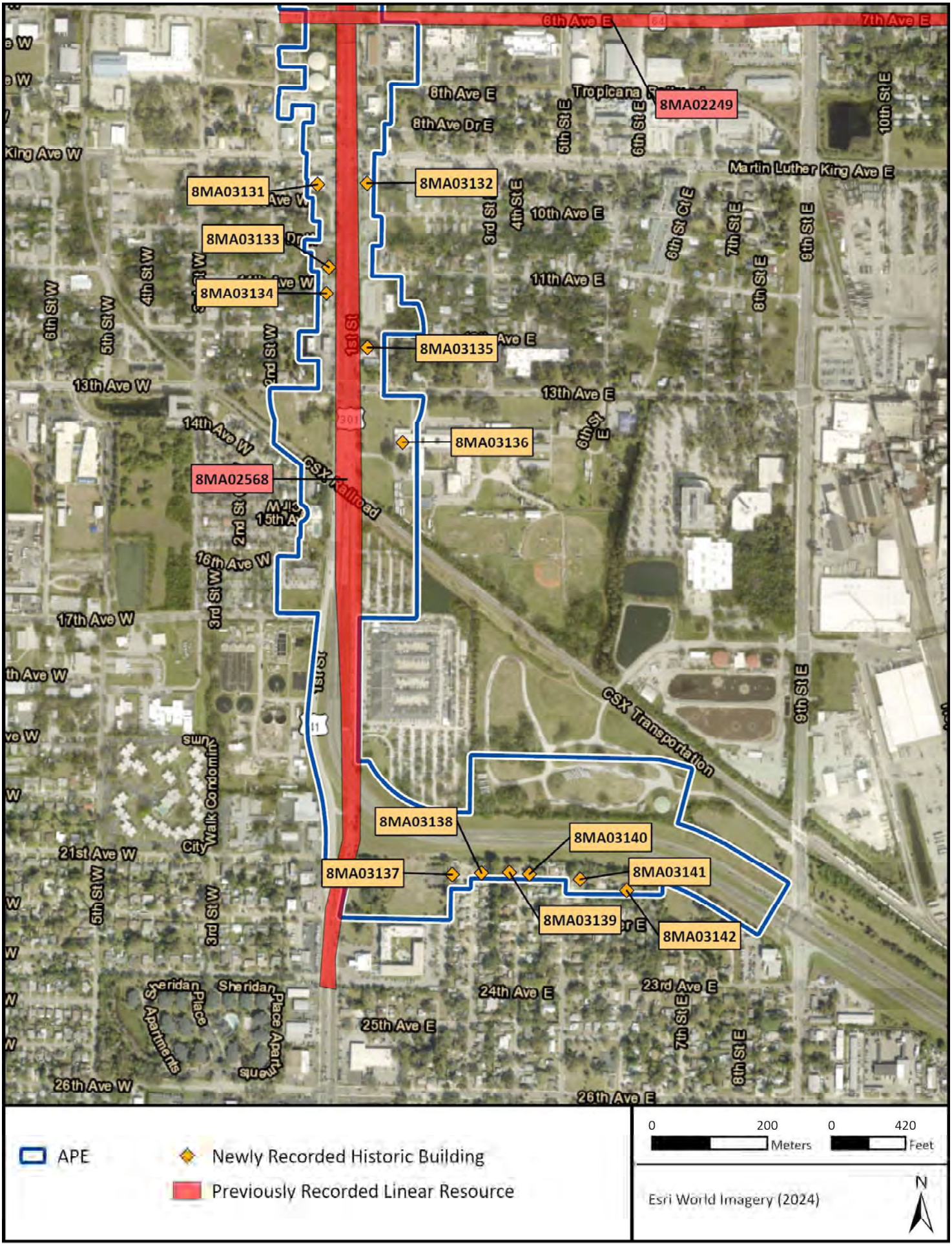
When submitting an image, it must be included in digital AND hard copy format (plain paper grayscale acceptable). Digital image must be at least 1600 x 1200 pixels, 24-bit color, jpeg or tiff.

8MA03138_a Facing E

8MA03138_b Facing NE

8MA03138_c Facing SE

8MA03138_d Facing SE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6th Ave E
7th Ave E
8th Ave E
8th Ave Dr E
Martin Luther King Ave E
10th Ave E
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CSX Railroad
CSX Transportation
Sheridan Place Apartments
Walk Condomin
APE
Newly Recorded Historic Building
Previously Recorded Linear Resource
0
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Meters
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Feet
Esri World Imagery (2024)
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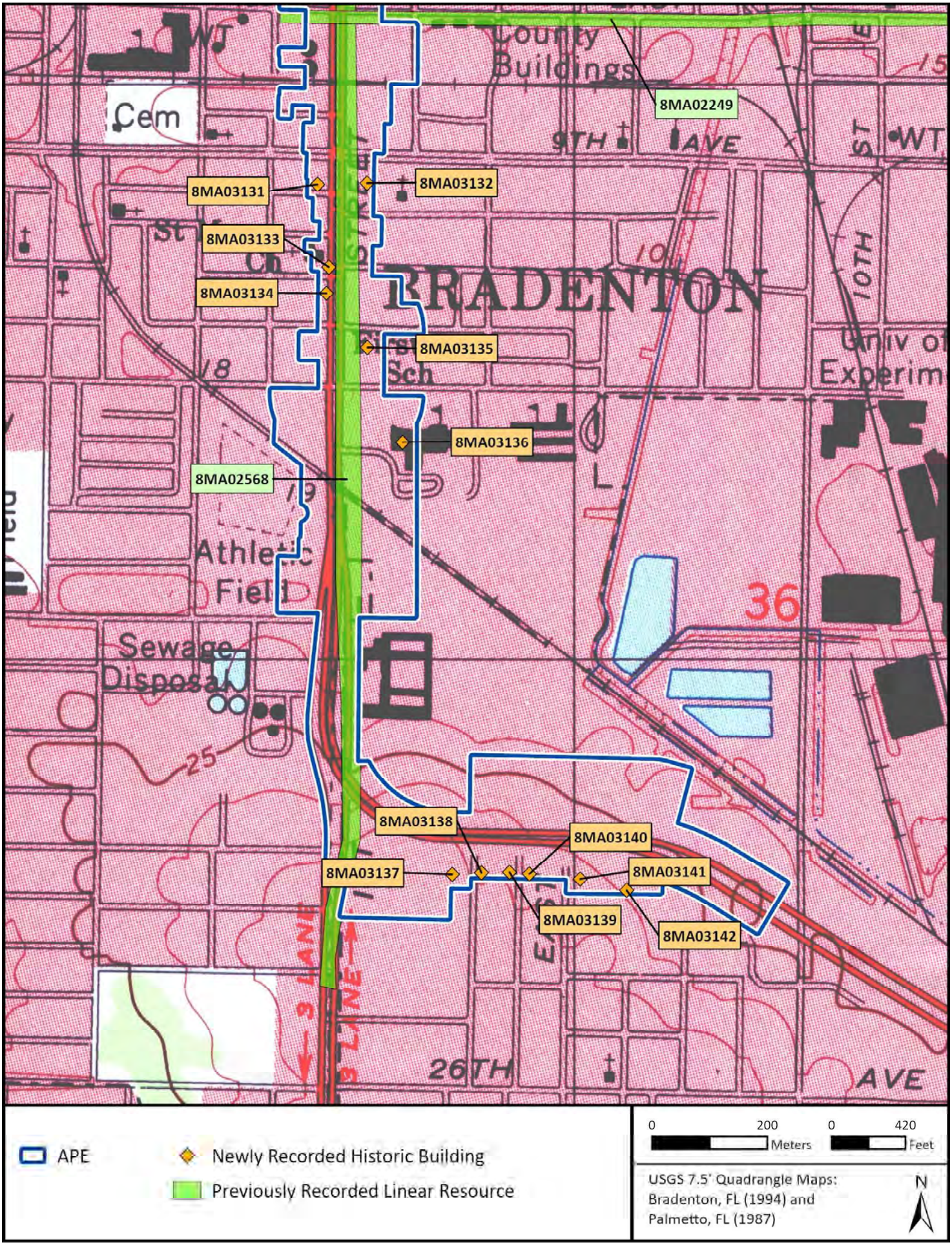
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Newly Recorded Historic Building
Previously Recorded Linear Resource
0 200 Meters
0 420 Feet
USGS 7.5' Quadrangle Maps:
Bradenton, FL (1994) and
Palmetto, FL (1987)
N

☒ Original
☐ Update

HISTORICAL STRUCTURE FORM
FLORIDA MASTER SITE FILE
Version 5.0 3/19

Site#8 MA03139
Field Date 2-16-2025
Form Date 3-2-2026
Recorder # _____

Shaded Fields represent the minimum acceptable level of documentation.
Consult the *Guide to Historical Structure Forms* for detailed instructions.

Site Name(s) (address if none) 2102 4th Street E — Multiple Listing (DHR only) _____
Survey Project Name Bradenton-Palmetto Connector PD&E — Survey # (DHR only) _____
National Register Category (please check one) ☒building ☐structure ☐district ☐site ☐object
Ownership: ☐private-profit ☐private-nonprofit ☒private-individual ☐private-nonspecific ☐city ☐county ☐state ☐federal ☐Native American ☐foreign ☐unknown

LOCATION & MAPPING

	Street Number	Direction	Street Name	Street Type	Suffix Direction
Address:	2102		4th	Street	E

Cross Streets (nearest / between) US 301/24th Ave E.
USGS 7.5 Map Name BRADENTON — USGS Date 2024 — Plat or Other Map _____
City / Town (within 3 miles) Bradenton — In City Limits? ☒yes ☐no ☐unknown — County Manatee
Township 34S — Range 17E — Section 36 — ¼ section: ☐NW ☐SW ☐SE ☐NE — Irregular-name: _____
Tax Parcel # 4641700002 — Landgrant _____
Subdivision Name Orange Ridge — Block N/A — Lot 60
UTM Coordinates: Zone ☐16 ☐17 — Easting ☐☐☐☐☐☐ — Northing ☐☐☐☐☐☐☐
Other Coordinates: X: _____ Y: _____ — Coordinate System & Datum _____
Name of Public Tract (e.g., park) _____

HISTORY

Construction Year: 1953 ☒approximately ☐year listed or earlier ☐year listed or later
Original Use Private Residence (House/Cottage/Ca — From (year): 1953 — To (year): 2026
Current Use Private Residence (House/Cottage/Ca — From (year): 1953 — To (year): 2026
Other Use _____ — From (year): _____ — To (year): _____
Moves: ☐yes ☒no ☐unknown Date: _____ — Original address _____
Alterations: ☒yes ☐no ☐unknown Date: _____ — Nature windows replaced, full remodel, date: UN
Additions: ☐yes ☒no ☐unknown Date: _____ — Nature _____
Architect (last name first): UNKN — Builder (last name first): UNKN
Ownership History (especially original owner, dates, profession, etc.)

Current Owner: Roberto Mojica, purchased in 2023.

Is the Resource Affected by a Local Preservation Ordinance? ☐yes ☐no ☒unknown — Describe _____

DESCRIPTION

Style Frame Vernacular — Exterior Plan Rectangular — Number of Stories 1
Exterior Fabric(s) 1. Clapboard 2. _____ 3. _____
Roof Type(s) 1. Gable 2. _____ 3. _____
Roof Material(s) 1. Asphalt shingles 2. _____ 3. _____
Roof secondary strucs. (dormers etc.) 1. Not applicable 2. _____
Windows (types, materials, etc.)

replacement, 1/1, vinyl, SHS

Distinguishing Architectural Features (exterior or interior ornaments)

brick chimney

Ancillary Features / Outbuildings (record outbuildings, major landscape features; use continuation sheet if needed.)

non-historic outbuilding S of building

DHR USE ONLY	OFFICIAL EVALUATION	DHR USE ONLY
NR List Date _____ ☐Owner Objection	SHPO – Appears to meet criteria for NR listing: ☐yes ☐no ☐insufficient info Date _____ Init._____ KEEPER – Determined eligible: ☐yes ☐no Date _____ NR Criteria for Evaluation: ☐a ☐b ☐c ☐d (see *National Register Bulletin 15*, p. 2)	

Florida Master Site File / Div. of Historical Resources / R. A. Gray Bldg / 500 S Bronough St., Tallahassee, FL 32399-0250
Phone **850.245.6440** / Fax **850.245.6439** / E-mail **SiteFile@dos.myflorida.com**

HISTORICAL STRUCTURE FORM

Site # 8 MA03139

DESCRIPTION (continued)

Chimney: No. 1 Chimney Material(s): 1. Brick 2. _____

Structural System(s): 1. Wood frame 2. _____ 3. _____

Foundation Type(s): 1. Continuous 2. _____

Foundation Material(s): 1. Concrete Block 2. _____

Main Entrance (stylistic details)

Fiberglass paneled door w/ fanlight, E facade

Porch Descriptions (types, locations, roof types, etc.)

N/A

Condition (overall resource condition): ☒ excellent ☐ good ☐ fair ☐ deteriorated ☐ ruinous

Narrative Description of Resource

Resource 8MA03139 is a 1-story, rectangular-plan Frame Vernacular residence set on a continuous concrete block foundation. Asphalt shingles cover the gabled roof and clapboard clads the walls.

Archaeological Remains _____ ☐ Check if Archaeological Form Completed

RESEARCH METHODS (select all that apply)

☒ FMSF record search (sites/surveys)	☒ library research	☐ building permits	☐ Sanborn maps
☐ FL State Archives/photo collection	☐ city directory	☐ occupant/owner interview	☐ plat maps
☒ property appraiser / tax records	☐ newspaper files	☐ neighbor interview	☐ Public Lands Survey (DEP)
☒ cultural resource survey (CRAS)	☐ historic photos	☐ interior inspection	☐ HABS/HAER record search

☒ other methods (describe) Pedestrian/Windshield Survey

Bibliographic References (give FMSF manuscript # if relevant, use continuation sheet if needed)

OPINION OF RESOURCE SIGNIFICANCE

Appears to meet the criteria for National Register listing individually? ☐ yes ☒ no ☐ insufficient information

Appears to meet the criteria for National Register listing as part of a district? ☐ yes ☒ no ☐ insufficient information

Explanation of Evaluation (**required**, whether significant or not; use separate sheet if needed)

Due to lack of sufficient historic significance and architectural distinction, 8MA03139 is ineligible for listing in the NRHP, either individually or as a contributing resource within a potential or existing historic district.

Area(s) of Historical Significance (see *National Register Bulletin 15*, p. 8 for categories: e.g. "architecture", "ethnic heritage", "community planning & development", etc.)

1. _____ 3. _____ 5. _____

2. _____ 4. _____ 6. _____

DOCUMENTATION

Accessible Documentation Not Filed with the Site File - including field notes, analysis notes, photos, plans and other important documents

1) Document type All materials at one location Maintaining organization Southeastern Archaeological Research

Document description Photos, Maps, Field Notes, Aerial File or accession #'s 260003

2) Document type _____ Maintaining organization _____

Document description _____ File or accession #'s _____

RECORDER INFORMATION

Recorder Name Bonatakis, Mary Affiliation Southeastern Archaeological Research

Recorder Contact Information 3117 Edgewater Dr, Orlando, FL 32804/407-236-7711/Mary.Bonatakis@searchinc

(address / phone / fax / e-mail)

Required Attachments

❶ **USGS 7.5' MAP WITH STRUCTURE LOCATION CLEARLY INDICATED**

❷ **LARGE SCALE STREET, PLAT OR PARCEL MAP** (available from most property appraiser web sites)

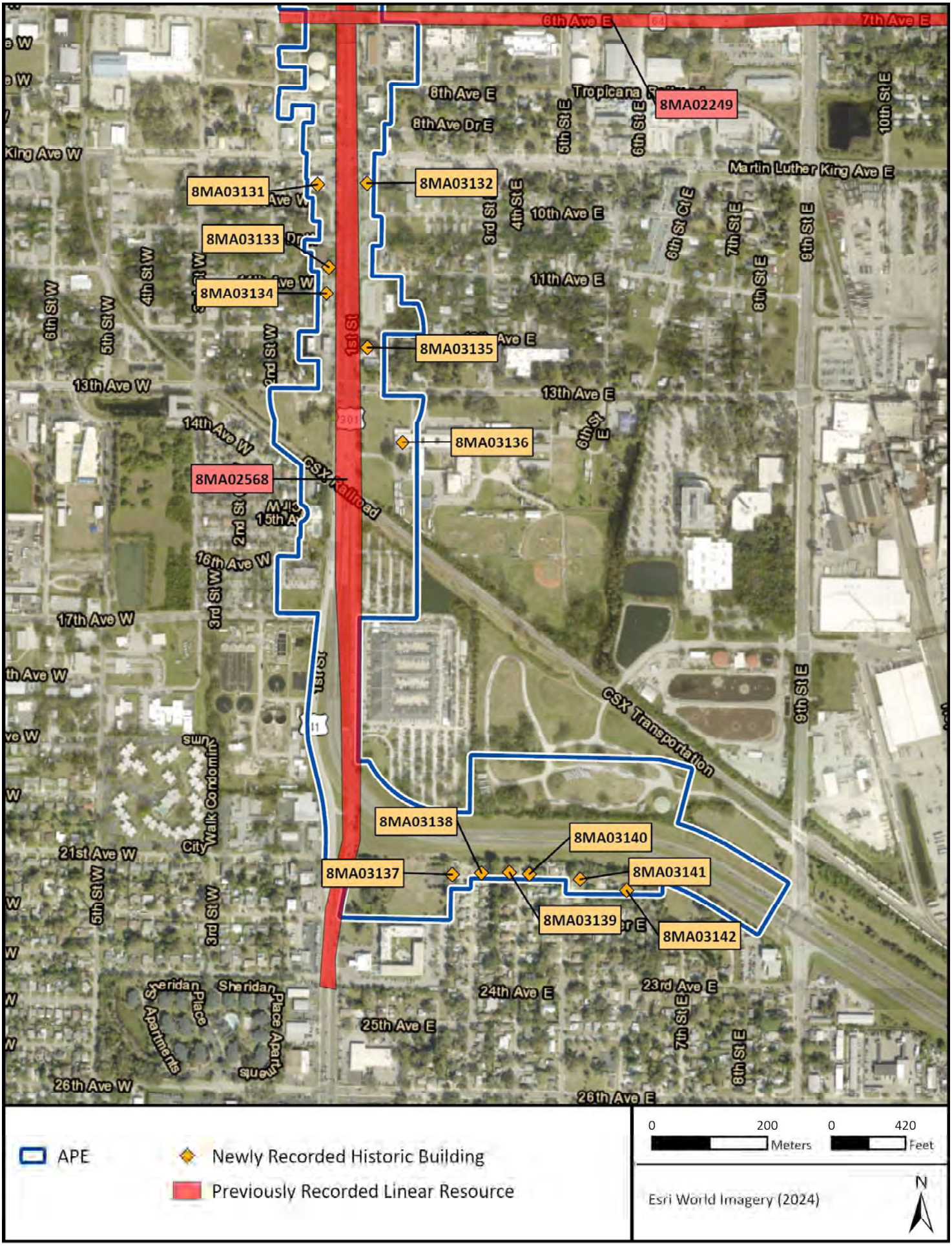
❸ **PHOTO OF MAIN FACADE, DIGITAL IMAGE FILE**

When submitting an image, it must be included in digital AND hard copy format (plain paper grayscale acceptable). Digital image must be at least 1600 x 1200 pixels, 24-bit color, jpeg or tiff.

8MA03139_a Facing W

8MA03139_b Facing SW

8MA03139_c Facing NW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CSX Railroad
CSX Transportation
Sheridan Place Apartments
Walk Condomin
APE
Newly Recorded Historic Building
Previously Recorded Linear Resource
0
200
Meters
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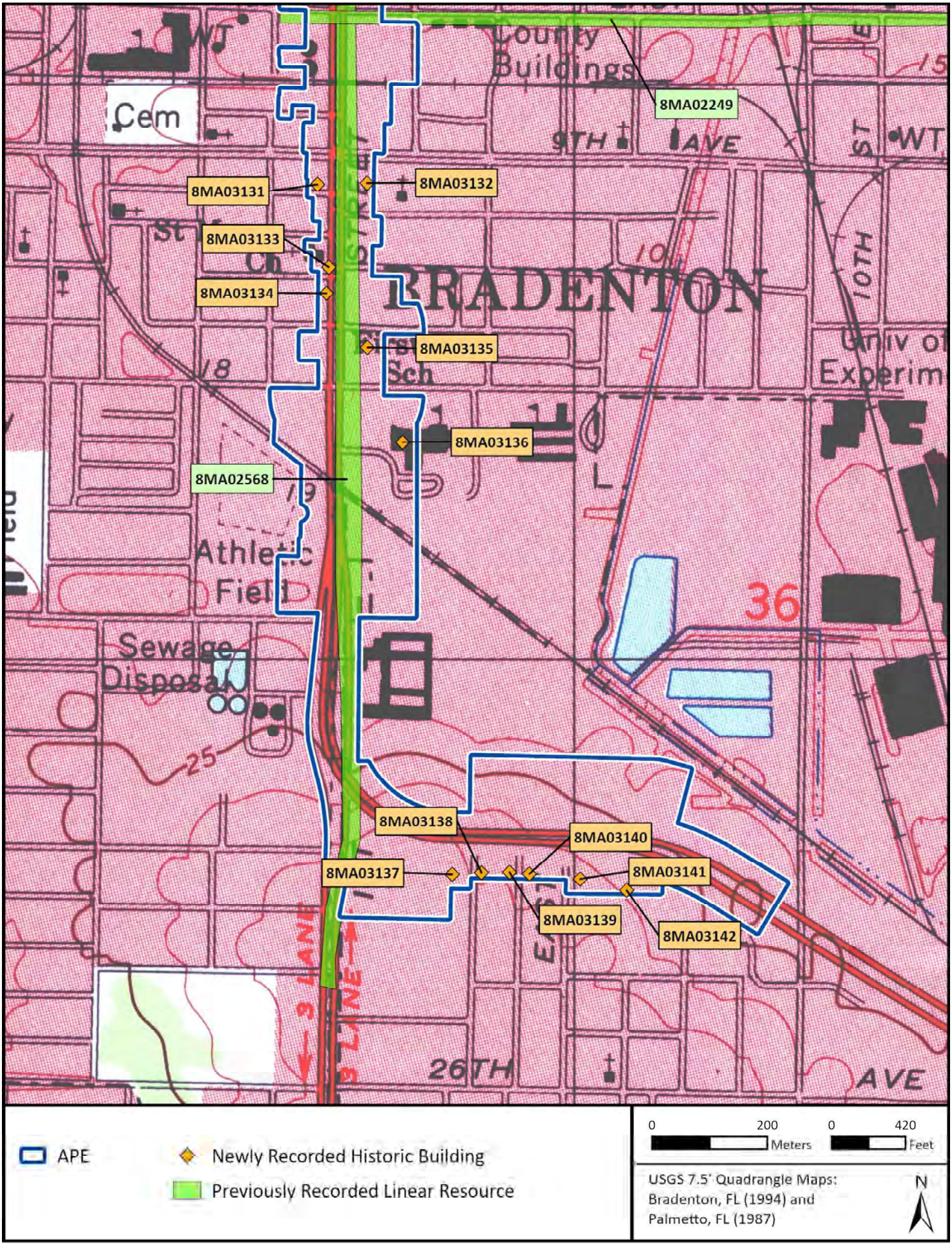
Feet
Esri World Imagery (2024)
N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BRADENTON
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Sewage Disposal
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APE
Newly Recorded Historic Building
Previously Recorded Linear Resource
0 200 Meters
0 420 Feet
USGS 7.5' Quadrangle Maps:
Bradenton, FL (1994) and
Palmetto, FL (1987)
N

☒ Original
☐ Update

HISTORICAL STRUCTURE FORM
FLORIDA MASTER SITE FILE
Version 5.0 3/19

Site#8 MA03140
Field Date 2-16-2025
Form Date 3-2-2026
Recorder # _____

Shaded Fields represent the minimum acceptable level of documentation.
Consult the *Guide to Historical Structure Forms* for detailed instructions.

Site Name(s) (address if none) 2101 4th Street E — Multiple Listing (DHR only) _____
Survey Project Name Bradenton-Palmetto Connector PD&E — Survey # (DHR only) _____
National Register Category (please check one) ☒building ☐structure ☐district ☐site ☐object
Ownership: ☐private-profit ☐private-nonprofit ☒private-individual ☐private-nonspecific ☐city ☐county ☐state ☐federal ☐Native American ☐foreign ☐unknown

LOCATION & MAPPING

	Street Number	Direction	Street Name	Street Type	Suffix Direction
Address:	2101		4th	Street	E

Cross Streets (nearest / between) US 301/24th Ave E.
USGS 7.5 Map Name BRADENTON — USGS Date 2024 — Plat or Other Map _____
City / Town (within 3 miles) Bradenton — In City Limits? ☒yes ☐no ☐unknown — County Manatee
Township 34S — Range 17E — Section 36 — ¼ section: ☐NW ☐SW ☐SE ☐NE — Irregular-name: _____
Tax Parcel # 4643600059 — Landgrant _____
Subdivision Name Orange Ridge — Block N/A — Lot 80
UTM Coordinates: Zone ☐16 ☐17 — Easting ☐☐☐☐☐☐ — Northing ☐☐☐☐☐☐☐
Other Coordinates: X: _____ Y: _____ — Coordinate System & Datum _____
Name of Public Tract (e.g., park) _____

HISTORY

Construction Year: 1950 ☒approximately ☐year listed or earlier ☐year listed or later
Original Use Duplex — From (year): 1950 — To (year): 2026
Current Use Duplex — From (year): 1950 — To (year): 2026
Other Use _____ — From (year): _____ — To (year): _____
Moves: ☐yes ☒no ☐unknown Date: _____ — Original address _____
Alterations: ☒yes ☐no ☐unknown Date: _____ — Nature windows replaced, full remodel, date: UN
Additions: ☒yes ☐no ☐unknown Date: _____ — Nature outbuilding apt. Date: UNKN
Architect (last name first): UNKN — Builder (last name first): UNKN
Ownership History (especially original owner, dates, profession, etc.)

Current Owner: Mishka Investments LLC, purchased in 2010.

Is the Resource Affected by a Local Preservation Ordinance? ☐yes ☐no ☒unknown — Describe _____

DESCRIPTION

Style Masonry Vernacular — Exterior Plan Rectangular — Number of Stories 1
Exterior Fabric(s) 1. Stucco 2. Vinyl 3. _____
Roof Type(s) 1. Gable 2. _____ 3. _____
Roof Material(s) 1. Asphalt shingles 2. _____ 3. _____
Roof secondary strucs. (dormers etc.) 1. Not applicable 2. _____
Windows (types, materials, etc.)

1/1, aluminum, SHS; replacement 2/4 vinyl-sash horizontal sliders

Distinguishing Architectural Features (exterior or interior ornaments)

gable vents; aluminum clamshell awning

Ancillary Features / Outbuildings (record outbuildings, major landscape features; use continuation sheet if needed.)

non-historic outbuilding converted to apartment NE of building

DHR USE ONLY	OFFICIAL EVALUATION	DHR USE ONLY
NR List Date _____ ☐Owner Objection	SHPO – Appears to meet criteria for NR listing: ☐yes ☐no ☐insufficient info Date _____ Init._____ KEEPER – Determined eligible: ☐yes ☐no Date _____ NR Criteria for Evaluation: ☐a ☐b ☐c ☐d (see *National Register Bulletin 15*, p. 2)	

Florida Master Site File / Div. of Historical Resources / R. A. Gray Bldg / 500 S Bronough St., Tallahassee, FL 32399-0250
Phone **850.245.6440** / Fax **850.245.6439** / E-mail **SiteFile@dos.myflorida.com**

HISTORICAL STRUCTURE FORM

Site # 8 MA03140

DESCRIPTION (continued)

Chimney: No. 0 Chimney Material(s): 1. Not applicable 2. _____

Structural System(s): 1. Concrete 2. _____ 3. _____

Foundation Type(s): 1. Slab 2. _____

Foundation Material(s): 1. Concrete, Generic 2. _____

Main Entrance (stylistic details)

wood paneled doors W/ facade

Porch Descriptions (types, locations, roof types, etc.)

N/A

Condition (overall resource condition): ☐excellent ☒good ☐fair ☐deteriorated ☐ruinous

Narrative Description of Resource

Resource 8MA03140 is a 1-story, rectangular-plan Masonry vernacular duplex set on a concrete slab foundation. Asphalt shingles cover the gabled roof and stucco clads the walls.

Archaeological Remains _____ ☐Check if Archaeological Form Completed

RESEARCH METHODS (select all that apply)

☒FMSF record search (sites/surveys)	☒library research	☐building permits	☐Sanborn maps
☐FL State Archives/photo collection	☐city directory	☐occupant/owner interview	☐plat maps
☒property appraiser / tax records	☐newspaper files	☐neighbor interview	☐Public Lands Survey (DEP)
☒cultural resource survey (CRAS)	☐historic photos	☐interior inspection	☐HABS/HAER record search

☒other methods (describe) Pedestrian/Windshield Survey

Bibliographic References (give FMSF manuscript # if relevant, use continuation sheet if needed)

OPINION OF RESOURCE SIGNIFICANCE

Appears to meet the criteria for National Register listing individually? ☐yes ☒no ☐insufficient information

Appears to meet the criteria for National Register listing as part of a district? ☐yes ☒no ☐insufficient information

Explanation of Evaluation (**required**, whether significant or not; use separate sheet if needed)

Due to lack of sufficient historic significance and architectural distinction, 8MA03140 is ineligible for listing in the NRHP, either individually or as a contributing resource within a potential or existing historic district.

Area(s) of Historical Significance (see *National Register Bulletin 15*, p. 8 for categories: e.g. "architecture", "ethnic heritage", "community planning & development", etc.)

1._____ 3._____ 5._____

2._____ 4._____ 6._____

DOCUMENTATION

Accessible Documentation Not Filed with the Site File - including field notes, analysis notes, photos, plans and other important documents

1) Document type All materials at one location Maintaining organization Southeastern Archaeological Research

Document description Photos, Maps, Field Notes, Aerial File or accession #'s 260003

2) Document type _____ Maintaining organization _____

Document description _____ File or accession #'s _____

RECORDER INFORMATION

Recorder Name Bonatakis, Mary Affiliation Southeastern Archaeological Research

Recorder Contact Information 3117 Edgewater Dr, Orlando, FL 32804/407-236-7711/Mary.Bonatakis@searchinc

(address / phone / fax / e-mail)

Required Attachments

❶ **USGS 7.5' MAP WITH STRUCTURE LOCATION CLEARLY INDICATED**

❷ **LARGE SCALE STREET, PLAT OR PARCEL MAP** (available from most property appraiser web sites)

❸ **PHOTO OF MAIN FACADE, DIGITAL IMAGE FILE**

When submitting an image, it must be included in digital AND hard copy format (plain paper grayscale acceptable). Digital image must be at least 1600 x 1200 pixels, 24-bit color, jpeg or tiff.

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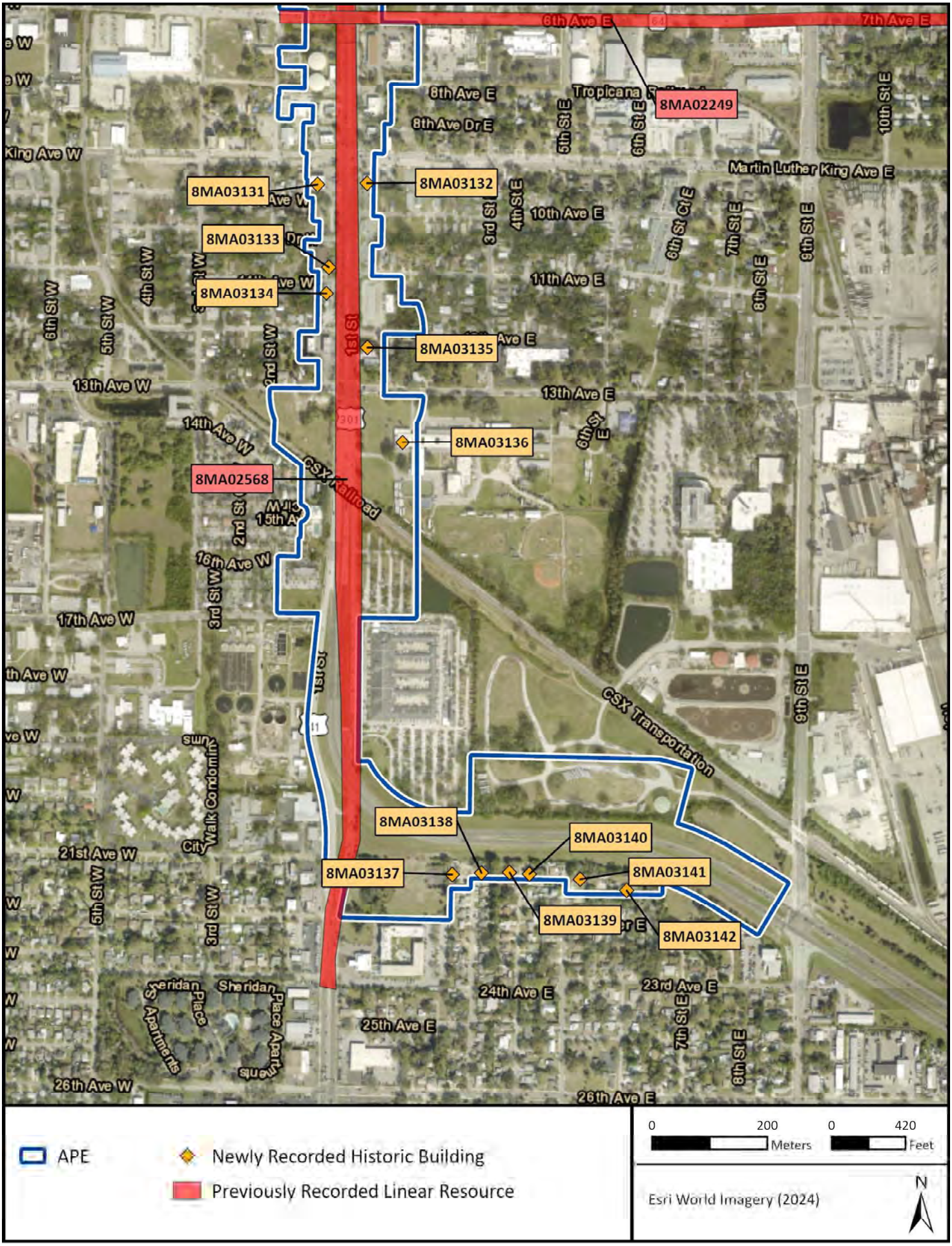
8MA03140_c Facing NE

8MA03140_d Facing SE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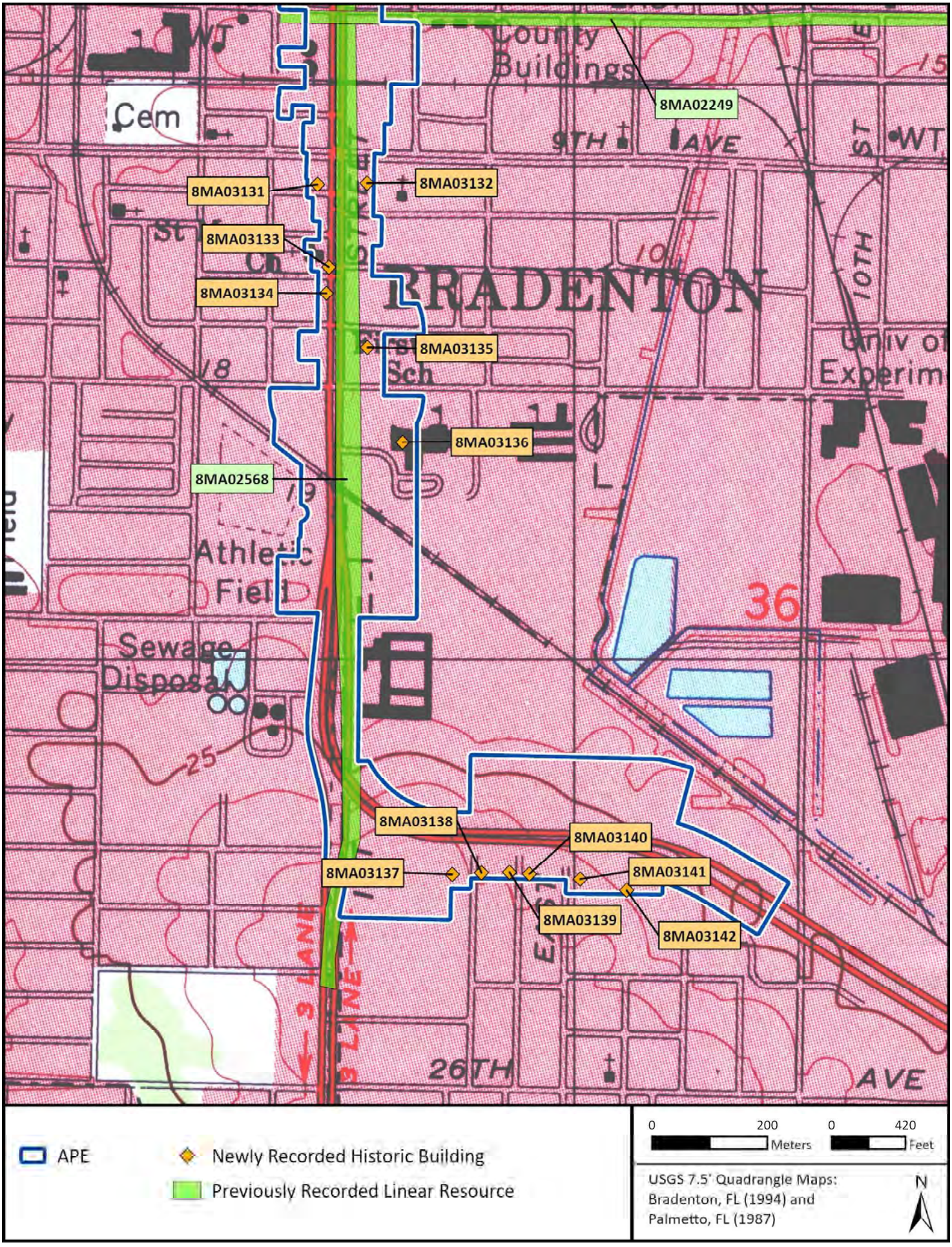
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USGS 7.5' Quadrangle Maps:
Bradenton, FL (1994) and
Palmetto, FL (1987)
N

☒ Original
☐ Update

HISTORICAL STRUCTURE FORM
FLORIDA MASTER SITE FILE
Version 5.0 3/19

Site#8 MA03141
Field Date 2-16-2025
Form Date 3-2-2026
Recorder # _____

Shaded Fields represent the minimum acceptable level of documentation.
Consult the *Guide to Historical Structure Forms* for detailed instructions.

Site Name(s) (address if none) 2103 5th Street E Apt. A — **M**ultiple Listing (DHR only) _____
Survey Project Name Bradenton-Palmetto Connector PD&E — **S**urvey # (DHR only) _____
National Register Category (please check one) ☒building ☐structure ☐district ☐site ☐object
Ownership: ☐private-profit ☐private-nonprofit ☒private-individual ☐private-nonspecific ☐city ☐county ☐state ☐federal ☐Native American ☐foreign ☐unknown

LOCATION & MAPPING

	Street Number	Direction	Street Name	Street Type	Suffix Direction
Address:	2103		5th	Street	E

Cross Streets (nearest / between) US 301/22nd Ter. E
USGS 7.5 Map Name BRADENTON — **U**SGS Date 2024 — **P**lat or Other Map _____
City / Town (within 3 miles) Bradenton — **I**n City Limits? ☒yes ☐no ☐unknown — **C**ounty Manatee
Township 34S — **R**ange 17E — **S**ection 36 — ¼ section: ☐NW ☐SW ☐SE ☐NE — Irregular-name: _____
Tax Parcel # 4659200002 — **L**andgrant _____
Subdivision Name N/A — **B**lock N/A — **L**ot 4
UTM Coordinates: **Z**one ☐16 ☐17 — **E**asting ☐☐☐☐☐☐ — **N**orthing ☐☐☐☐☐☐☐
Other Coordinates: X: _____ Y: _____ — **C**oordinate System & Datum _____
Name of Public Tract (e.g., park) _____

HISTORY

Construction Year: 1979 ☒approximately ☐year listed or earlier ☐year listed or later
Original Use Private Residence (House/Cottage/Ca — From (year): 1979 — To (year): 2026
Current Use Private Residence (House/Cottage/Ca — From (year): 1979 — To (year): 2026
Other Use _____ — From (year): _____ — To (year): _____
Moves: ☐yes ☒no ☐unknown — Date: _____ — Original address _____
Alterations: ☒yes ☐no ☐unknown — Date: _____ — Nature windows replaced, date: UN
Additions: ☐yes ☒no ☐unknown — Date: _____ — Nature _____
Architect (last name first): UNKN — **B**uilder (last name first): UNKN
Ownership History (especially original owner, dates, profession, etc.)

Current Owner: Protected per 781

Is the Resource Affected by a Local Preservation Ordinance? ☐yes ☐no ☒unknown — **D**escribe _____

DESCRIPTION

Style Ranch — **E**xterior Plan L-shaped — **N**umber of Stories 1
Exterior Fabric(s) 1. Stucco — 2. Plank-vertical — 3. _____
Roof Type(s) 1. Cross-gabled — 2. _____ — 3. _____
Roof Material(s) 1. Asphalt shingles — 2. _____ — 3. _____
Roof secondary strucs. (dormers etc.) 1. Not applicable — 2. _____
Windows (types, materials, etc.)

1/1, vinyl, SHS

Distinguishing Architectural Features (exterior or interior ornaments)

tarps & lattice covering windows; wood plank siding in gable ends

Ancillary Features / Outbuildings (record outbuildings, major landscape features; use continuation sheet if needed.)

shares parcel with 8MA03141; metal, chain-link fence; yard debris

DHR USE ONLY	OFFICIAL EVALUATION	DHR USE ONLY
NR List Date _____ ☐Owner Objection	SHPO – Appears to meet criteria for NR listing: ☐yes ☐no ☐insufficient info Date _____ Init._____ KEEPER – Determined eligible: ☐yes ☐no Date _____ NR Criteria for Evaluation: ☐a ☐b ☐c ☐d (see *National Register Bulletin 15*, p. 2)	

Florida Master Site File / Div. of Historical Resources / R. A. Gray Bldg / 500 S Bronough St., Tallahassee, FL 32399-0250
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HISTORICAL STRUCTURE FORM

Site # 8 MA03141

DESCRIPTION (continued)

Chimney: No. 0 Chimney Material(s): 1. Not applicable 2. _____
Structural System(s): 1. Concrete 2. _____ 3. _____
Foundation Type(s): 1. Slab 2. _____
Foundation Material(s): 1. Concrete, Generic 2. _____
Main Entrance (stylistic details)

paneled doors w/ half-light, S facade

Porch Descriptions (types, locations, roof types, etc.)

N/A

Condition (overall resource condition): ☐excellent ☐good ☒fair ☐deteriorated ☐ruinous
Narrative Description of Resource

Resource 8MA03141 is a 1-story, L-shaped Ranch Residence set on a concrete slab foundation. Asphalt shingles cover the cross-gabled roof and stucco clads the walls.

Archaeological Remains _____ ☐Check if Archaeological Form Completed

RESEARCH METHODS (select all that apply)

☒FMSF record search (sites/surveys)	☒library research	☐building permits	☐Sanborn maps
☐FL State Archives/photo collection	☐city directory	☐occupant/owner interview	☐plat maps
☒property appraiser / tax records	☐newspaper files	☐neighbor interview	☐Public Lands Survey (DEP)
☒cultural resource survey (CRAS)	☐historic photos	☐interior inspection	☐HABS/HAER record search

☒other methods (describe) Pedestrian/Windshield Survey

Bibliographic References (give FMSF manuscript # if relevant, use continuation sheet if needed)

OPINION OF RESOURCE SIGNIFICANCE

Appears to meet the criteria for National Register listing individually? ☐yes ☒no ☐insufficient information
Appears to meet the criteria for National Register listing as part of a district? ☐yes ☒no ☐insufficient information
Explanation of Evaluation (**required**, whether significant or not; use separate sheet if needed)

Due to lack of sufficient historic significance and architectural distinction, 8MA03141 is ineligible for listing in the NRHP, either individually or as a contributing resource within a potential or existing historic district.

Area(s) of Historical Significance (see *National Register Bulletin 15*, p. 8 for categories: e.g. "architecture", "ethnic heritage", "community planning & development", etc.)
1._____ 3._____ 5._____
2._____ 4._____ 6._____

DOCUMENTATION

Accessible Documentation Not Filed with the Site File - including field notes, analysis notes, photos, plans and other important documents

1) Document type All materials at one location Maintaining organization Southeastern Archaeological Research
Document description Photos, Maps, Field Notes, Aerial File or accession #'s 260003

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RECORDER INFORMATION

Recorder Name Bonatakis, Mary Affiliation Southeastern Archaeological Research
Recorder Contact Information 3117 Edgewater Dr, Orlando, FL 32804/407-236-7711/Mary.Bonatakis@searchinc
(address / phone / fax / e-mail)

Required Attachments

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❷ **LARGE SCALE STREET, PLAT OR PARCEL MAP** (available from most property appraiser web sites)
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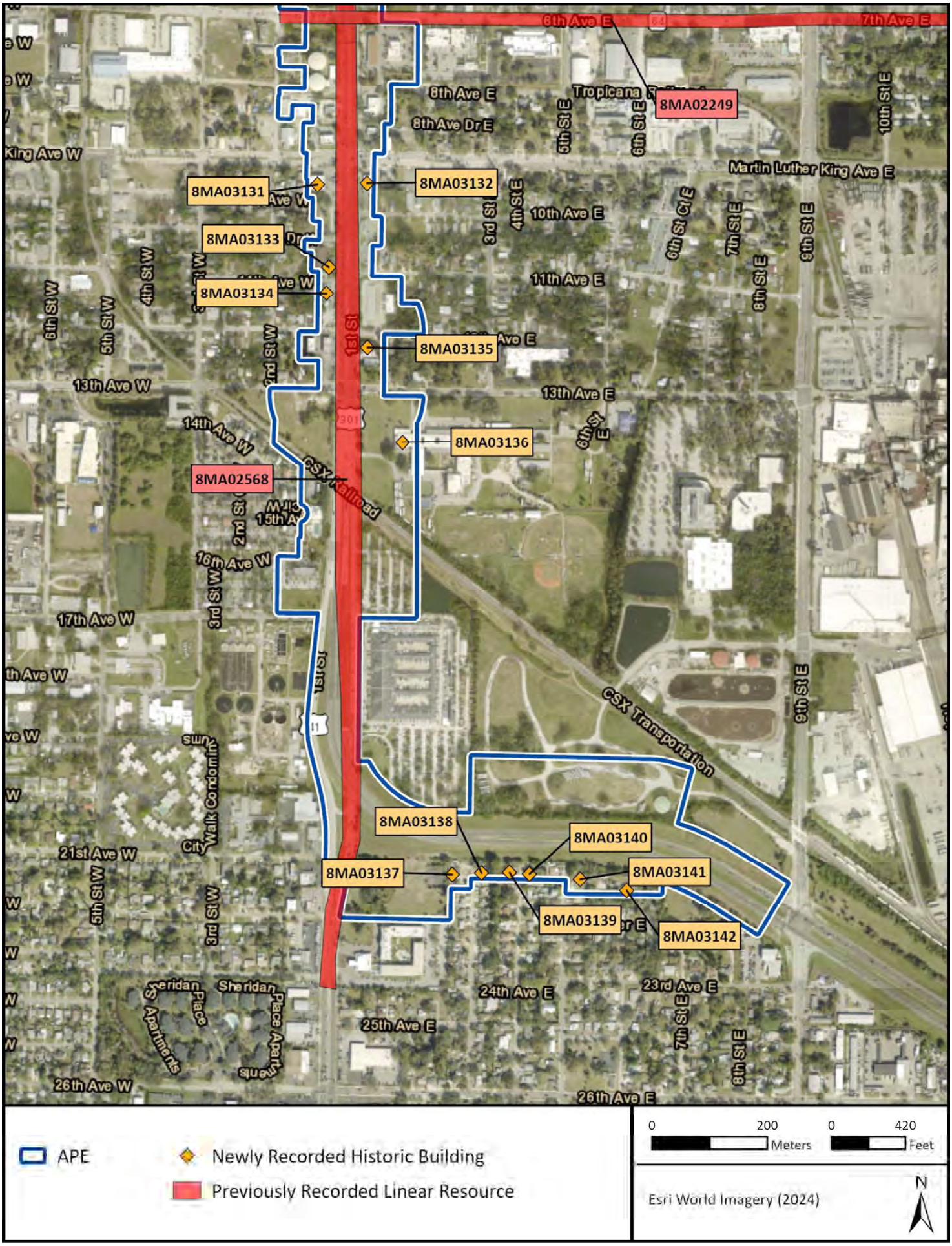
8MA03141_b Facing N

8MA03141_c Facing NW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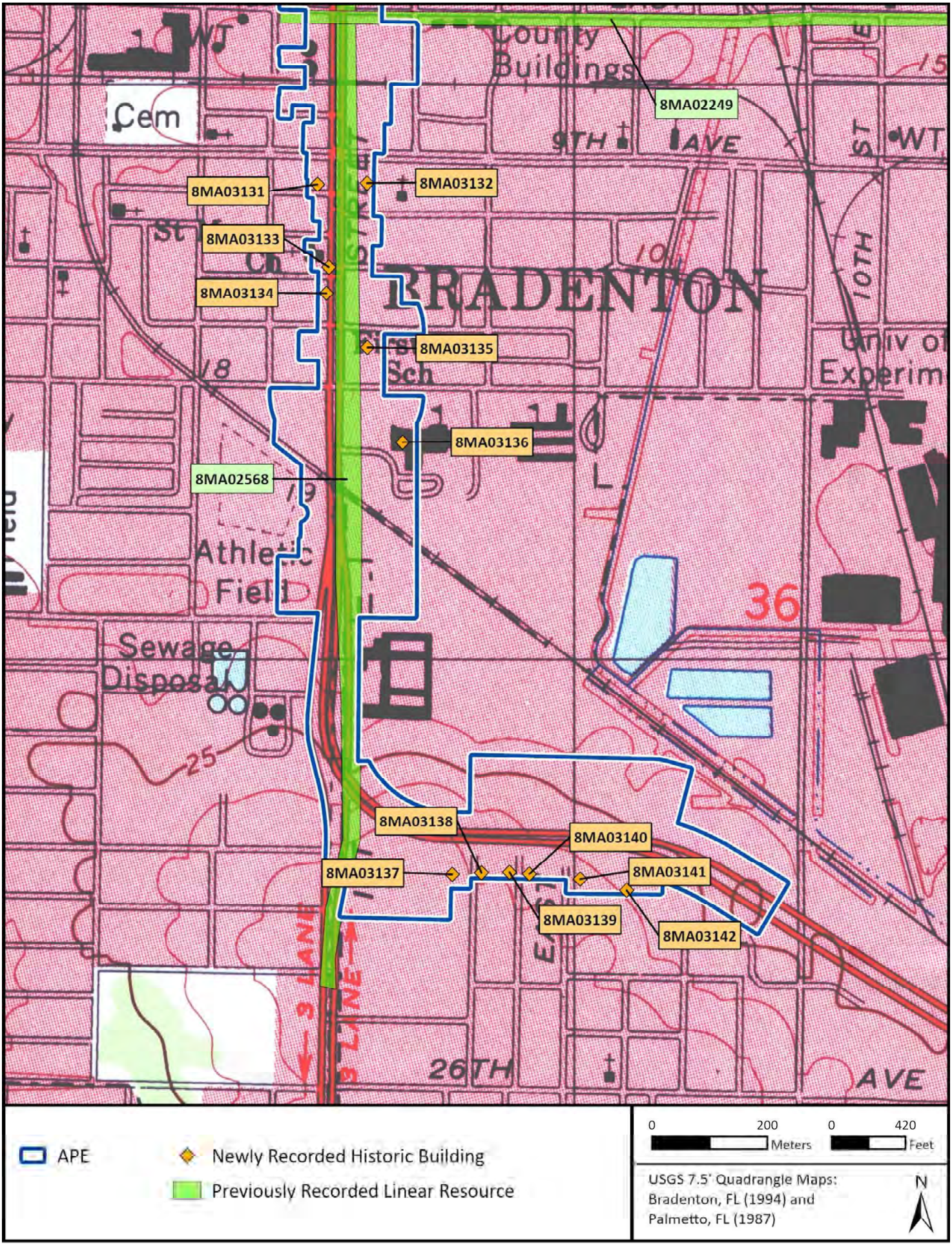
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Bradenton, FL (1994) and
Palmetto, FL (1987)
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☒ Original
☐ Update

HISTORICAL STRUCTURE FORM
FLORIDA MASTER SITE FILE
Version 5.0 3/19

Site#8 MA03142
Field Date 2-16-2025
Form Date 3-2-2026
Recorder # _____

Shaded Fields represent the minimum acceptable level of documentation.
Consult the *Guide to Historical Structure Forms* for detailed instructions.

Site Name(s) (address if none) 2103 5th Street E Apt. B — Multiple Listing (DHR only) _____
Survey Project Name Bradenton-Palmetto Connector PD&E — Survey # (DHR only) _____
National Register Category (please check one) ☒building ☐structure ☐district ☐site ☐object
Ownership: ☐private-profit ☐private-nonprofit ☒private-individual ☐private-nonspecific ☐city ☐county ☐state ☐federal ☐Native American ☐foreign ☐unknown

LOCATION & MAPPING

Street Number	Direction	Street Name	Street Type	Suffix Direction
2103		5th	Street	E

Address:
Cross Streets (nearest / between) US 301/22nd Ter. E
USGS 7.5 Map Name BRADENTON — USGS Date 2024 — Plat or Other Map _____
City / Town (within 3 miles) Bradenton — In City Limits? ☒yes ☐no ☐unknown — County Manatee
Township 34S — Range 17E — Section 36 — ¼ section: ☐NW ☐SW ☐SE ☐NE — Irregular-name: _____
Tax Parcel # 4659200002 — Landgrant _____
Subdivision Name N/A — Block N/A — Lot 4
UTM Coordinates: Zone ☐16 ☐17 — Easting ☐☐☐☐☐☐ — Northing ☐☐☐☐☐☐☐
Other Coordinates: X: _____ Y: _____ — Coordinate System & Datum _____
Name of Public Tract (e.g., park) _____

HISTORY

Construction Year: 1980 ☒approximately ☐year listed or earlier ☐year listed or later
Original Use Private Residence (House/Cottage/Ca — From (year): 1980 — To (year): 2026
Current Use Private Residence (House/Cottage/Ca — From (year): 1980 — To (year): 2026
Other Use _____ — From (year): _____ — To (year): _____
Moves: ☐yes ☒no ☐unknown Date: _____ Original address _____
Alterations: ☐yes ☐no ☒unknown Date: _____ Nature obscured
Additions: ☐yes ☐no ☒unknown Date: _____ Nature obscured
Architect (last name first): UNKN — Builder (last name first): UNKN
Ownership History (especially original owner, dates, profession, etc.)

Current Owner: Protected per 781

Is the Resource Affected by a Local Preservation Ordinance? ☐yes ☐no ☒unknown Describe _____

DESCRIPTION

Style Masonry Vernacular — Exterior Plan Rectangular — Number of Stories 1
Exterior Fabric(s) 1. Stucco 2. Plank-vertical 3. _____
Roof Type(s) 1. Gable 2. _____ 3. _____
Roof Material(s) 1. Asphalt shingles 2. _____ 3. _____
Roof secondary strucs. (dormers etc.) 1. Not applicable 2. _____
Windows (types, materials, etc.)

obscured from ROW

Distinguishing Architectural Features (exterior or interior ornaments)

cloth, clamshell awning; vertical wood plank clads gable end

Ancillary Features / Outbuildings (record outbuildings, major landscape features; use continuation sheet if needed.)

shares parcel with 8MA03141; vinyl privacy fence

DHR USE ONLY	OFFICIAL EVALUATION	DHR USE ONLY
NR List Date _____ ☐Owner Objection	SHPO – Appears to meet criteria for NR listing: ☐yes ☐no ☐insufficient info Date _____ Init._____ KEEPER – Determined eligible: ☐yes ☐no Date _____ NR Criteria for Evaluation: ☐a ☐b ☐c ☐d (see *National Register Bulletin 15*, p. 2)	

Florida Master Site File / Div. of Historical Resources / R. A. Gray Bldg / 500 S Bronough St., Tallahassee, FL 32399-0250
Phone **850.245.6440** / Fax **850.245.6439** / E-mail **SiteFile@dos.myflorida.com**

HISTORICAL STRUCTURE FORM

Site # 8 MA03142

DESCRIPTION (continued)

Chimney: No. 0 Chimney Material(s): 1. Not applicable 2. _____

Structural System(s): 1. Concrete 2. _____ 3. _____

Foundation Type(s): 1. Unknown 2. _____

Foundation Material(s): 1. Obscured 2. _____

Main Entrance (stylistic details)

obscured from ROW

Porch Descriptions (types, locations, roof types, etc.)

N/A

Condition (overall resource condition): ☐excellent ☐good ☒fair ☐deteriorated ☐ruinous

Narrative Description of Resource

Resource 8MA03142 is a 1-story, rectangular-plan Masonry Vernacular residence set on an obscured foundation. Asphalt shingles cover the gabled roof and stucco clads the walls.

Archaeological Remains _____ ☐Check if Archaeological Form Completed

RESEARCH METHODS (select all that apply)

☒FMSF record search (sites/surveys)	☒library research	☐building permits	☐Sanborn maps
☐FL State Archives/photo collection	☐city directory	☐occupant/owner interview	☐plat maps
☒property appraiser / tax records	☐newspaper files	☐neighbor interview	☐Public Lands Survey (DEP)
☒cultural resource survey (CRAS)	☐historic photos	☐interior inspection	☐HABS/HAER record search

☒other methods (describe) Pedestrian/Windshield Survey

Bibliographic References (give FMSF manuscript # if relevant, use continuation sheet if needed)

OPINION OF RESOURCE SIGNIFICANCE

Appears to meet the criteria for National Register listing individually? ☐yes ☒no ☐insufficient information

Appears to meet the criteria for National Register listing as part of a district? ☐yes ☒no ☐insufficient information

Explanation of Evaluation (**required**, whether significant or not; use separate sheet if needed)

Due to lack of sufficient historic significance and architectural distinction, 8MA03142 is ineligible for listing in the NRHP, either individually or as a contributing resource within a potential or existing historic district.

Area(s) of Historical Significance (see *National Register Bulletin 15*, p. 8 for categories: e.g. "architecture", "ethnic heritage", "community planning & development", etc.)

1._____ 3._____ 5._____

2._____ 4._____ 6._____

DOCUMENTATION

Accessible Documentation Not Filed with the Site File - including field notes, analysis notes, photos, plans and other important documents

1) Document type All materials at one location Maintaining organization Southeastern Archaeological Research

Document description Photos, Maps, Field Notes, Aerial File or accession #'s 260003

2) Document type _____ Maintaining organization _____

Document description _____ File or accession #'s _____

RECORDER INFORMATION

Recorder Name Bonatakis, Mary Affiliation Southeastern Archaeological Research

Recorder Contact Information 3117 Edgewater Dr, Orlando, FL 32804/407-236-7711/Mary.Bonatakis@searchinc

(address / phone / fax / e-mail)

Required Attachments

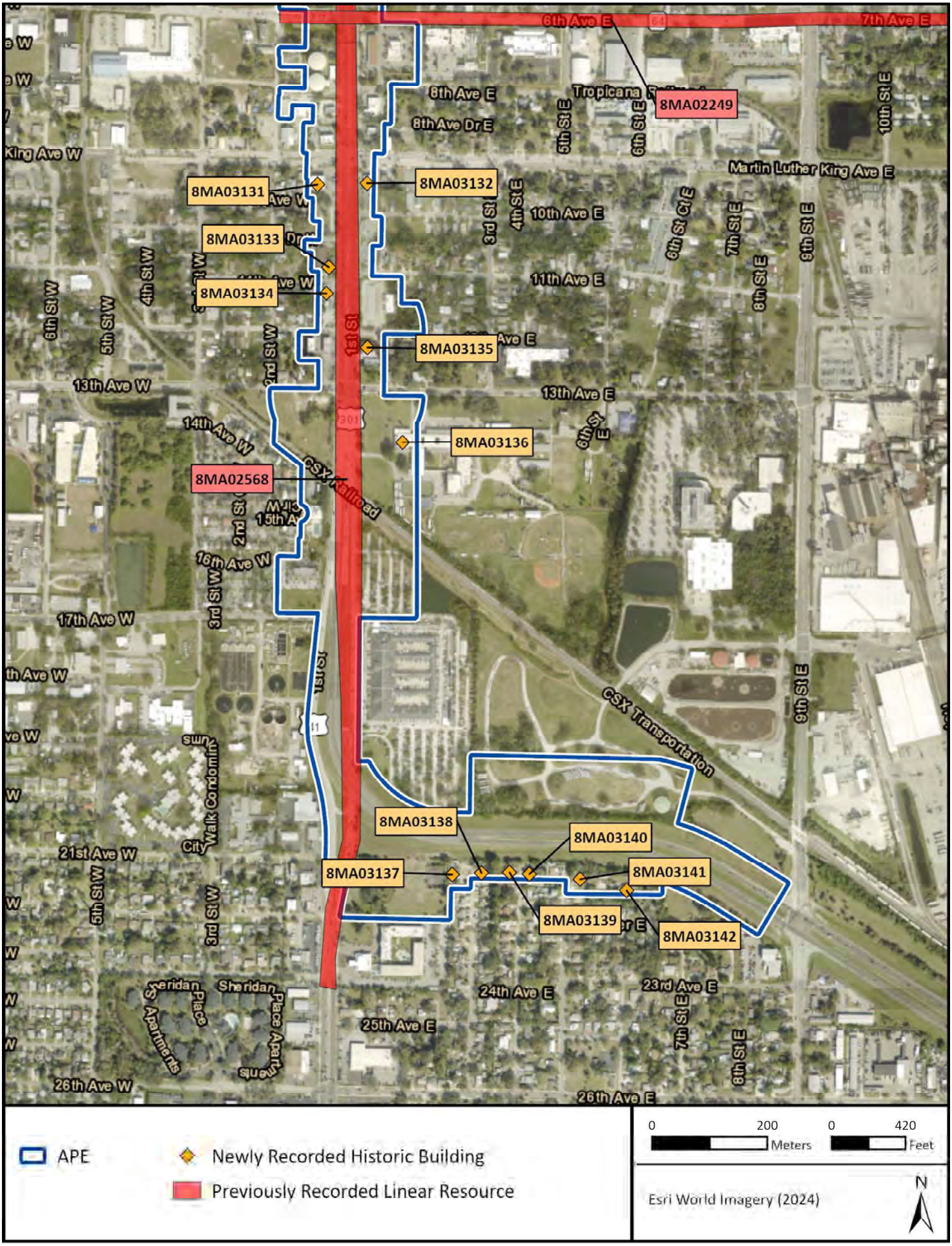
❶ **USGS 7.5' MAP WITH STRUCTURE LOCATION CLEARLY INDICATED**

❷ **LARGE SCALE STREET, PLAT OR PARCEL MAP** (available from most property appraiser web sites)

❸ **PHOTO OF MAIN FACADE, DIGITAL IMAGE FILE**

When submitting an image, it must be included in digital AND hard copy format (plain paper grayscale acceptable). Digital image must be at least 1600 x 1200 pixels, 24-bit color, jpeg or tiff.

8MA03142_a Facing E


8MA02249
8MA03131
8MA03132
8MA03133
8MA03134
8MA03135
8MA03136
8MA02568
8MA03137
8MA03138
8MA03139
8MA03140
8MA03141
8MA03142
6th Ave E
7th Ave E
8th Ave E
8th Ave Dr E
Martin Luther King Ave E
10th Ave E
11th Ave E
13th Ave E
13th Ave W
14th Ave W
16th Ave W
17th Ave W
21st Ave W
24th Ave E
25th Ave E
23rd Ave E
26th Ave W
26th Ave E
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4th St W
5th St W
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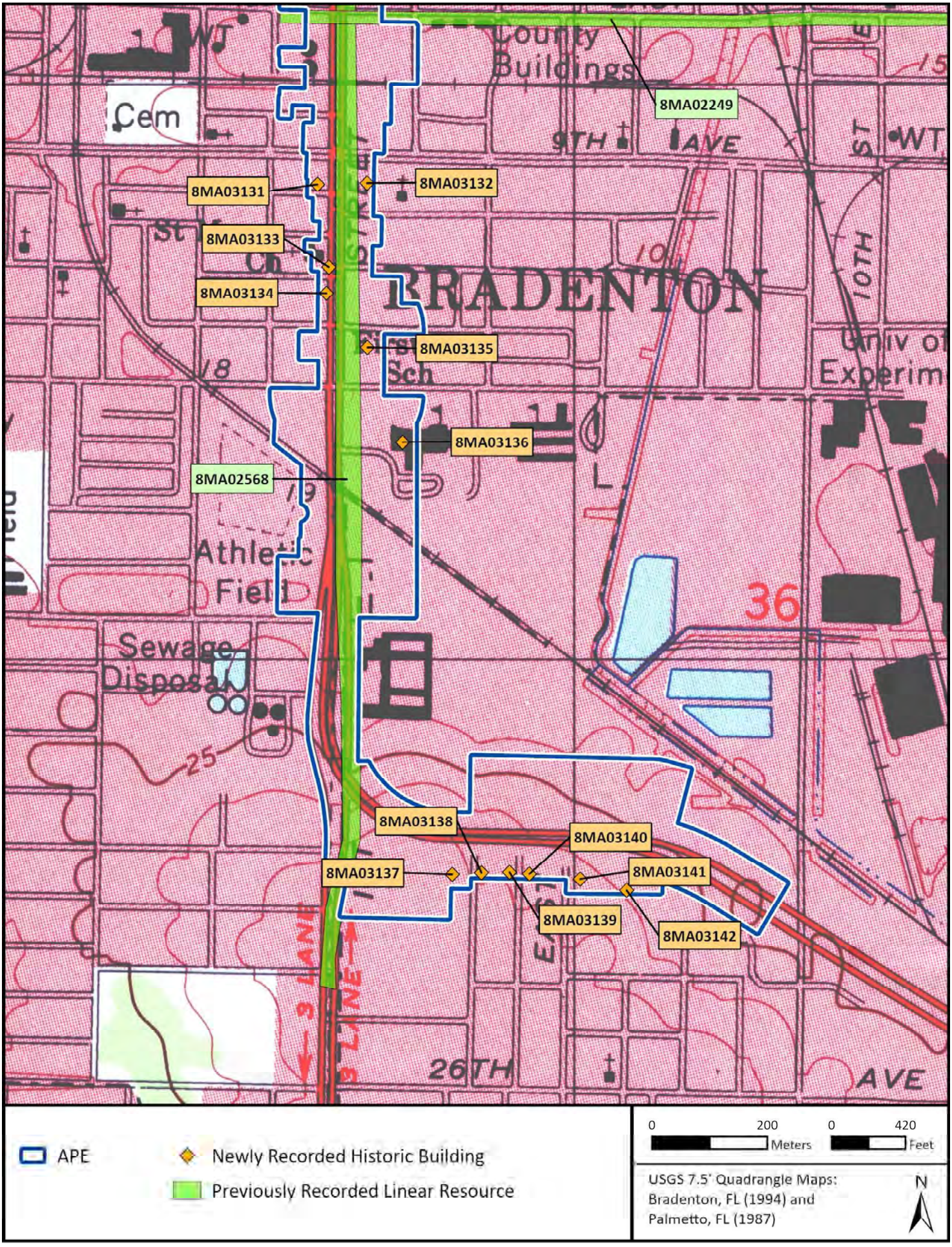
3rd St E
4th St E
5th St E
6th St E
7th St E
8th St E
9th St E
10th St E
CSX Railroad
CSX Transportation
Sheridan Place Apartments
Walk Condomin
APE
Newly Recorded Historic Building
Previously Recorded Linear Resource
0
200
Meters
0
420
Feet
Esri World Imagery (2024)
N


8MA02249
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8MA03137
8MA03141
8MA03139
8MA03142
BRADENTON
9TH AVE
10TH ST
26TH AVE
Cem
Athletic Field
Sewage Disposal
36
APE
Newly Recorded Historic Building
Previously Recorded Linear Resource
0 200 Meters
0 420 Feet
USGS 7.5' Quadrangle Maps:
Bradenton, FL (1994) and
Palmetto, FL (1987)
N

APPENDIX L

Supplemental Documents

BEST AVAILABLE COPY

13130-3202

STATE JOB NO 13130-3202

PALMETTO

LINE 'H' CURVE DATA
PI STA 21+78.16
Δ = 4° 37' 17"
D = 9° 30'
T = 322.09
L = 721.61
R = 602.28
PC STA 0+00.00
PT STA 7+35.84
SE 0.10 FT/FT (10 MPH)

LINE 'K' CURVE DATA
PI STA 7+50.00
Δ = 52° 24' 06"
D = 10° 45'
T = 322.64
L = 552.84
R = 532.00
PC STA 2+38.00
PT STA 7+90.84
SE 0.10 FT/FT (10 MPH)

LINE 'A' CURVE DATA
PI STA 41+23.27
Δ = 32° 24' 06"
D = 16° 28' 30"
T = 303.32
L = 590.33
R = 372.00
PC STA 3+00.00
PT STA 7+90.33
SE 0.10 FT/FT (55 MPH)

EQUALITY:
STA 257 + 20.70 BK =
STA 256 + 77.35 AHD =
STA 43 + 72.99 (S.R. 43)
FTA 70

QUANTITIES
STA 245+00 TO STA 276+00

ITEM NO	ITEM	QUANTITY
100-1A	LIMEROCK BASE (6IN THICK)	6880 SQ YD
100-1B	LIMEROCK BASE (8IN THICK)	18,310 SQ YD
130-12	CONCRETE APPROACH SLABS	4 EACH
*300-1	BIT. MATLS. (PLANT MIX & TACK COAT)	25,630 GAL
300-1	COVER MATL FOR SURFACE TREATMENT (TYPE 11B SHLDS ONLY)	61 CU YD
AS 300-6A	BIT MATL SURFACE TREATMENT (AC (150-200 PEN))	1464 GAL
AS 300-6B	BIT MATL SURFACE TREATMENT (EMULSIFIED ASPHALT)	1610 GAL
334-1-2	TYPE S ASPH CONC SURFACE COURSE (1"-1/2")	19,060 SQ YD
520-1A	CONCRETE CURB & GUTTER (STANDARD)	1551 LIN FT
520-1B	CONCRETE CURB & GUTTER (SPECIAL 9" CURB)	8406 LIN FT
520-2A	CONCRETE CURB (MEDIAN TYPE "A")	575 LIN FT
520-3A	CONCRETE TRAFFIC SEPARATOR (TYPE 1 - 6 INCH)	119 LIN FT
520-3B	CONCRETE TRAFFIC SEPARATOR (TYPE 1 - 4 INCH)	484 LIN FT
520-3C	CONCRETE TRAFFIC SEPARATOR (TYPE 2 - 4 INCH)	172 LIN FT
515-1	DEAD-END BARRICADES	1 EACH

*INCLUDES 3042 GALS TACK COAT

FOR PROFILES
SEE SHEET NO 27

CURVE DATA ℄ SURVEY
Δ = 7° 28' 54.4"
D = 40° 28' 27.3"
T = 91° 10"
L = 1799.96
R = 2450.00
P = 401.07
PC STA 221+97.24
PT STA 304+97.72
SE = 0.025 FT/FT

CURVE DATA ℄ LT. MEDIAN EDGE
Δ = 9° 20' LT
D = 1° 20' 34"
T = 340.31
L = 680.08
R = 425.00
SE = 0.026 FT/FT

CURVE DATA ℄ MEDIAN EDGE
Δ = 9° 20' LT
D = 1° 20' 20"
T = 349.53
L = 697.12
R = 427.50
SE = 0.026 FT/FT

℄ LT. ROADWAY
Δ = 9° 20' LT
D = 1° 21' 51"
T = 344.28
L = 686.98
R = 421.23'

℄ RT. ROADWAY
Δ = 9° 20' LT
D = 1° 20' 48"
T = 347.27'
L = 693.00'
R = 425.54'

PLAN OF
INTERCHANGE
SR 55 AND SR 49
STATE JOB NO 13130-3202
SCALE - 1"=80'

BEGIN CONSTRUCTION
STA 0+00 LINE 'H' TOUR TO
STA 53+94.58 ℄ SURVEY SR 49

BEGIN CONSTRUCTION
STA 2+90 DITCH PI
℄ SURVEY SR 55

BEGIN BRIDGE
STA 268+03.00

END BRIDGE
STA 271+40.00

ACL RAILROAD R/W LINE

ABANDONED GRADE

FED. ROAD DIVN. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	FLA.	~~F-076-2 (37)~~	60	13	

STATE JOB. NO. 13130-3202

1"=100'

℄ SURVEY
P.I. Sta. 289+97.14
Δ = 40°15'20" Lt.
D = 1°10'
T = 1,799.80'
L = 3,450.48'
R = 4,911.07'
P.C. Sta. 271+97.24
P.T. Sta. 306+47.72
Superel. 0.026'/Ft.
(No Superel. in Sta. C. & G.)

BEGIN BRIDGE "B" STA. 268+03
END BRIDGE "B" STA. 269+44
PROPOSED 141' BRIDGE "B"
CONST. APPROACH SLAB LEFT & RIGHT SEE SHEET NO. 51
Sta. 268+75.30
FOR PLAN DETAILS STA 265+00 TO STA. 276+00 SEE SHEET No. 24
FOR CONSTRUCTION DETAILS STA 276+00 TO STA. 312+00 SEE SHEETS NOS. 14 TO 19
For Outfall Ditch See Sh. No. 55
Exist. 4' B.W. Ditch
For Outfall Ditch See Sh. No. 55
P.C. Ref. Sta. 271+97.24
P.C. Sta. 293+54.57 ℄ Const.
S.A.L. R/W LINE
S.A.L. R.R. CENTER LINE
R/W Line
Abandoned A.C.L. R.R. Grade
Pipe in Place (Abandoned)
School
Drain Field
Clear Field
Cleared Field
Clear Field
Vacant Lots
Palmette & Underbrush
Fallow Field
1-Sty. Fr. Bld.
1-Sty. Fr. Res.
2-Sty. Fr.
1-Sty. Fr.
1-Sty. C.B.
9' Dirt Rd.
4' B.W. Ditch
16' S.B.S.T.
24" C.M.P.
1' Ditch
Bearing Orange Grove
Sterling's Grove
Beards
Grove
Grove
Grove

BEST AVAILABLE COPY

FED. ROAD DIVN. No.	STATE	PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
9	FLA	~~F-015-(2)37~~	'60	14	

State Job N° 13130-3202

Cleared Field

Scale: 1" = 20'

1 Sty. Fr. Bldg.

Special Ditch

R/W Line

Lt. Median Edge	Rt. Median Edge	℄ Lt. Roadway	℄ Rt. Roadway
Δ = 9°20' Lt.	Δ = 9°20' Lt.	Δ = 9°20' Lt.	Δ = 9°20' Lt.
D = 1°20'34"	D = 1°20'20"	D = 1°21'31"	D = 1°20'48"
T = 348.31'	T = 349.33'	T = 344.25'	T = 347.27'
L = 695.08'	L = 697.12'	L = 686.98'	L = 693.00'
R = 4267.00'	R = 4279.50'	R = 4217.23'	R = 4254.23'

Superel. 0.026'/Ft.

℄ Survey

Curve Data

P.I. Sta. 285+97.14
Δ = 40°15'20" Lt.
D = 1°10'
R = 4911.07'
T = 1799.90'
L = 3450.48'
P.C. Sta. 271+97.24
P.T. Sta. 306+47.72

Exist. 3' B.W. Ditch

Tool Shed

1 Sty. Fr. Res.

2 Sty. Fr. Res.

1 Sty. Fr. Res.

1 Sty. Fr. Res.

276 277 278 279 280 281 282

Sta. 279+97.24

Sta. 280+50 (52' Lt.) Const. Endwall FL 6.5

15' B.W. Ditch

4' Stock Wire - Fair

Const. Spec. 9" Curb and Gutter

Const. 10' of 24" Pipe

P.T. ℄ Lt. Roadway

P.T. Median Edge

Future Conc. Sidewalk

R/W Line

Const. 435' of 30" Pipe

Sta. 278+50 (57' Lt.) Const. Endwall FL 8.5

Sta. 278+50 Const. Inlet Type "S" (Mod.)

℄ Lt. Roadway

Tangent

104.13'

Const. 14' of 30" Pipe

24" C.M. Pipe to be removed

Sta. 280+50 Const. Inlet Type A-3

9' Shell Road

Const. Std. Curb and Gutter

Const. 486' of 24" Pipe

Sta. 279+80.00

Const. 93' of 36" Pipe

Pea Patch

Const. Conc. Curb & Gutter

Sta. 278+50 Const. Inlet Type "S"

Const. 141' of 24" Pipe

30° T.C.

P.C.C. Pedestrian

500' R

℄ Rt. Roadway

15' B.W. Ditch

Const. 56' of 15" Pipe

P.C.C. ℄

Shoulder Line

Future Conc. Sidewalk

Sta. 280+50 Const. Inlet Type A-3

R/W Line

Const. 12' of 42" Pipe

For Outfall Ditch See Sh. N° 55

Sta. 279+90 (40' Rt.) Const. Manhole Type "D"

Sta. 279+90 (55' Rt.) Const. Endwall FL. 5.6

Chicken Pen (Scattered Oaks & Palms)

NOTE: SIDESTREET PROFILES, NOT SHOWN IN PLANS, ARE TO BE ESTABLISHED BY THE ENGINEER.

Bearing Orange Grove - Poor

Exist. 4' B.W. Ditch

5' Stock & Chicken Wire - Fair

R/W Line

B.M. N° 24
R.R. Spike in base of 24" Oak
81' Lt. Sta. 281+35
Elev. 12.92

600' V.C.

Begin Superel. Transition Rt. Roadway

Profile Grade at Median Edge of Pavt

Begin Curb & Gutter Sta. 280+00

Begin Superel. Transition Lt. Roadway

End Superel. Transition Rt. & Lt. Roadway

Warp Rt. & Lt. Gutter

Profile Grade & Const.

Grade Equation
El. 12.00 B.K. =
El. 12.11 Ah.

+0.20%

-4.00%

-0.50%

+0.20%

=0.20%

Inlet "S" Rt. & "S" Mod. Lt.

M.H. "D" Rt.

A-3 Inlets Rt. & Lt.

H.W. 9.5

Const. 24" Pipe

Const. 24" Pipe

Const. 15" Pipe

Const. 30" Pipe

Const. 42" Pipe

Const. 36" Pipe

Special A.B.W. Ditch Lt.

P.I. 11.40

P.I. 11.31

11.51

11.39

8.4

8.0

7.8

7.5

6.4

5.9

5.7

5.6

El. 12.31 New V.C.

20 19.75 18.19 16.80 15.59 14.55 13.69 13.00 12.49 12.15 11.99 12.00

18 16 14 12 10 8 6

3.00

276 277 278 279 280 281

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FED. ROAD PROJ. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
0	FLA.	~~F-Co.-2(37)~~	60	15	

State Job No. 13130-3202

Scattered Oaks & Palms
Chicken Pen
Tool Shed
2' B.W. Ditch
1.5' B.W. Ditch
18" Conc. Pipe to be removed
Connect to Exist. Pavt. Sta. 1+00
Sta. 0+90 (Memphis Rd.) Const. Inlet Type C (24' Rt.)
Const. 60' of 15" Pipe
9' Dirt Road
P/L
Clear & Grub
End Pavt.
282
283
284
285
286
287
288
R/W Line
Const. 30" Pipe
9' Shell Road
Future Conc. Sidewalk
Const. Conc. Curb & Gutter
For Type 'B' Trans. Detail See Sh. No. 7
500'±R
200'±R
Const. Conc. Traffic Separator Type I (6' Wide)
Sta. 284+91.5 Const. Inlet Type 'A-2'
Const. 326' of 24" Pipe
Const. 70' of 15" Pipe
℄ SURVEY
Const. Conc. Curb & Gutter
Bearing Orange Grove
Bearing Grapefruit Grove
Sta. 284+96.5 Const. Inlet Type 'A-2'
Ref. No. 1
Ref. No. 2
Ref. No. 3
Ref. No. 4
Chicken Pen with Scattered Oaks & Palms
Cleared Field
5 Stock & Chicken Wire-Fair
Connect to Exist. Pavt. Sta. 1+00
Clear & Grub to this Line

℄ SURVEY
CURVE DATA
P.I. Sta. 283+97.14
Δ = 40°15' 20" Lt.
D = 1°10'
R = 4911.07'
T = 1799.30'
L = 3450.42'
P.C. Sta. 271+97.84
P.T. Sta. 306+47.72

Const. Paved Connection
Connect to Exist. Pavt.
Future Rt. & Lt. Gutters
℄ Survey
SIDESTREET PROFILE
STA. 284+42.30
Scale: 1"=5' Vert. 1"=20' Horiz.

Profile Grade & Const.
+0.30%
+0.38%
P.I. 12+31 No V.C.
P.I. 13+51 No V.C.
Inlet 'A-2' Lt.
Inlet 'A-2' Rt.
Inlet 'C' Lt.
Const. 30" Pipe
Const. 15" Pipe
Const. 24" Pipe
8.9
9.0
8.7
8.2
7.5

BEST AVAILABLE COPY

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	FLA.	[illegible]	60	16	

State Job No. 13180-3202

Vacant Lots
Palmetto & Underbrush

℄ SURVEY
CURVE DATA
P.I. Sta. 289+97.14
Δ = 40° 15' 20" Lt.
D = 1° 10'
R = 4911.07'
T = 1799.90'
L = 3450.48'
P.C. Sta. 271+97.24
P.T. Sta. 306+47.72

℄ CONSTRUCTION
CURVE DATA
P.I. Sta. 297+40.50
Δ = 11° 32' 19" Lt.
D = 1° 30'
T = 385.93'
L = 769.24'
R = 3819.72'
P.C.C. Sta. 293+54.57
P.T. Sta. 301+23.81
~~No Supered~~

P.C.C. Sta. 293+54.57 ℄ Const.

Sta. 288+23.3 ~~Const.~~ Inlet Type "A-2"

R/W Line & P/L

5' Dirt Road

P/L ?

1 Sty. Fr. Res.

4" Well

Cleared Field

Clear & Grub

288 289 290 291 292 293 294

End Pvt.

R/W Line & P/L

Future Conc. Sidewalk

~~Const.~~ 24" Pipe

~~Const.~~ 114' of 18" Pipe

Sta. 291+69.2 ~~Const.~~ Inlet Type "A-2"

~~Const.~~ 239' of 18" Pipe

℄ SURVEY

~~Const.~~ Conc. Curb & Gutter

Sta. 294+00 ~~Const.~~ Inlet Type "C-D"

~~Const.~~ 14' of 42" Pipe

Future Conc. Sidewalk

R/W Line

Sta. 285+12.2 ~~Const.~~ Inlet Type "A-2"

Bearing Grapefruit Grove

Follow Field

L. B. W. Ditch

Hog Pen (2' High Boards & Stock Wire)

Sta. 294+00 (53.5' Rt. ℄ Construction) Const. Engkoll

For Outfall See Sh. No. 55

B.M. No. 25
P.K. Spike in Power Pole
125 Lt. Sta. 291+25
Elev. 16.65

Profile Grade & Const.

P.I. 15.41 No V.C.

+0.38%

+0.30%

-0.20%

Inlet "A-2" Lt.

Inlet "A-2" Rt.

Const. 18" Pipe

Const. 24" Pipe

Warp Rt. Gutter

Inlet C.D. Rt.

~~Const.~~ 42" Pipe

14.27 16.27 15.57 15.54 16.31 11.2 10.2 9.9 9.4 10.6 8.8

288 289 290 291 292 293 294

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FED. ROAD DIVN. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	FLA.	~~F-010-1(67)~~	'60	17	

State Job N° 13130-3202

1 Sty Blk. Res.

Septic Tank

℄ CONSTRUCTION
CURVE DATA
P.I. Sta. 297+40.50
Δ = 11°32' 19" Lt.
D = 1°30'
T = 385.93'
L = 769.24'
R = 3819.72'
P.C.C. Sta. 293+54.57
P.T. Sta. 301+23.81
4% Superel.

℄ SURVEY
CURVE DATA
P.I. Sta. 289+97.14
Δ = 40° 15' 20" Lt.
D = 1° 10'
R = 4911.07'
T = 1799.90'
L = 3450.48'
P.C. Sta. 271+97.24
P.T. Sta. 306+47.72

Vacant Lot

Thick Palm & Gum Trees

W. W. Pond

Yard

Well

Outhouse

1 Sty. Fr.

294 295 296 297 298 299 300

Sta. 295+20.5 (53' Lt.) Const. Endwall FL. 11.8

Const. 15' of 18" Pipe

Sta. 295+20.5 Const. Inlet Type "A-2"

Const. 74' of 24" Pipe

Const. 118' of 36" Pipe

Const. 302' of 36" Pipe

Const. 14' of 42" Pipe

Const. Endwall FL 8.7

For Outfall Ditch See Sh. N° 55

Sta. 295+20.5 (41' Rt.) Const. Manhole Type "A"

Const. Inlet Type "C-D"

Const. Conc. Curb & Gutter

Future Conc. Sidewalk

R/W Line

Clear & Grub

Sta. 297+85.81 & 20' Shell Rd.

Sta. 297+87.90 ℄ Survey

12" Dirt Turnout

12" Conc. Pipe

Const. 47' of 15" Pipe

Sta. 297+90 (94' Lt.) Const. Inlet Type "C"

Sta. 298+36 (74' Lt.) Const. Inlet Type "C"

Const. Graded Conn.

End Pavt.

Sta. 298+23 (41' Rt.) Const. Manhole Type "A"

Const. 112' of 24" Pipe

Const. 251' of 36" Pipe

Const. Conc. Traffic Separator, Type I (6' Wide)

For Type "B" Trans. Detail, See Sh. N°7

Sta. 297+89.5 = Sta. 0+00

18" Conc. Pipe ~~Pipe~~ removed

Const. Conc. Curb & Gutter

2 Flower Hedges

+21.2 ℄ 12' Dirt Rd.

5' Chicken Wire - Post

Tin Tool Shed

Acquired R/W

Profile Grade & Const.

+0.30%

-0.20%

+0.60%

Warp Rt. Gutter

Inlet "C-D" Rt.

Const. 42" Pipe

Const. 24" Pipe

Const. 36" Pipe

Inlet "A-2" Lt.

Const. 18" Pipe

Manhole "A" Rt.

H.W. 11:5

Const. 36" Pipe

Inlet "C" Lt.

Const. 15" Pipe

Manhole "A" Rt.

Inlet "C" Lt.

Const. 24" Pipe

Const. 36" Pipe

P.I. 17.51 No VC

Const. Graded Conn.

℄ Const.

℄ Survey

SIDESTREET PROFILE
Sta 297+89.5 ℄ CONST.
Scale: 1"=5' Vert.
1"=20' Horiz.

BEST AVAILABLE COPY

FED. ROAD DIVN. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	FLA.	~~0111-2(69)~~	60	18	

State Job No. 13130-3202

℄ CONSTRUCTION
CURVE DATA
P.I. Sta. 297+40.50
Δ = 11°32'19" Lt.
D = 1°30'
T = 385.93'
L = 769.24'
R = 3819.72'
P.C.C. Sta. 293+54.57
P.T. Sta. 301+23.81
No Superel

℄ SURVEY
CURVE DATA
P.I. Sta. 289+97.14
Δ = 40°15'20" Lt.
D = 1°10'
R = 491.07'
T = 1799.90'
L = 3450.48'
P.C. Sta. 271+97.24
P.T. Sta. 306+47.72

℄ CONSTRUCTION
CURVE DATA
P.I. Sta. 308+49.94
Δ = 3°32'53" Lt.
D = 0°30'
T = 354.92'
L = 709.61'
R = 11,459.16'
P.C. Sta. 304+95.02
P.T. Sta. 312+04.63

B.M. No. 26
R.R. Spike in Power Pole
119' Rt. Sta. 300+84
Elev. 17.46

SIDESTREET PROFILE
STA. 305+10 ℄ CONST.
Scale: 1"=5' Vert.
1"=20' Horiz.

BEST AVAILABLE COPY

FED. ROAD DIVN. No.	STATE	PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3	FLA.	~~For 2437~~	'60	19	

State Job No. 13130-3202

℄ SURVEY
CURVE DATA
P.I. Sta. 289+97.14
Δ = 40° 15' 20" Lt.
D = 1° 10'
R = 4911.07'
T = 1799.90'
L = 3450.48'
P.C. Sta. 271+97.24
P.T. Sta. 306+47.72

℄ CONSTRUCTION
CURVE DATA
P.I. Sta. 306+49.94
Δ = 3° 32' 58" Lt.
D = 0° 30'
T = 354.92'
L = 709.61'
R = 11,459.16'
P.C. Sta. 304+95.02
P.T. Sta. 312+04.63 Bk.
Sta. 312+06.92 ℄ Survey Ah.
No Superel.

Vacant Lot
P.T. Sta. 306+47.72 ℄ Survey
R/W Line
Future Conc. Sidewalk
4 Stock Wire
1 Sty. C.B.
306
307
308
309
310
311
312
200' R.
500' R.
For Type 'B' Trans. Detail See Sh. No. 7
℄ SURVEY
℄ CONSTRUCTION
N-22° 20' 24"-W
~~Const.~~ 354' of 24" Pipe
~~Const.~~ 87' of 15" Pipe
~~Const.~~ Conc. Curb & Gutter
~~Const.~~ Conc. Traffic Separator Type I (6' Wide)
Sta. 309+49 ~~Const.~~ Inlet Type "A-2"
Sta. 308+97.2 ~~Const.~~ Inlet Type "A-2"
Const. 256' of 18" Pipe
~~Const.~~ 62' of 15" Pipe
Sta. 308+71 (95' Rt.) ~~Const.~~ Inlet Type "C"
Sta. 311+56 (41' Rt.) Const. Manhole Type "B"
~~Const.~~ 92' of 18" Pipe
End Pavt.
Clear & Grub
12" Conc. Pipe ~~Remove~~ removed
10' Dirt Driveway
10' Dirt D.W.
20' Dirt Rd.
Spigot
1 Sty. Fr. Res.
½" G.I. Water Pipe
Well
N&C in 36" Oak
5'x5' Lined Hubs
PT Sta. 306+47.72 4"x4" Conc. Mon.
Artesian Well
Outhouse
Chicken Yard
5' Chicken Wire - Good
Bearing Grapefruit
℄ Const.
P.T. ℄ Const.
R/W ℄ Survey Ah.
Elev. 18.31

B.M. No. 27
R.R. Spike in Power Pole
162' Rt. Sta. 311+40
Elev. 18.31

Profile Grade & Const.
10.318%
+3.00%
Inlet "C" Rt.
Inlet A-2" Rt.
℄ Inlet A-2" Lt.
Manhole "B" Rt.
~~Const.~~ 24" Pipe
~~Const.~~ 15" Pipe
~~Const.~~ 18" Pipe
400' V.C.

~~Const.~~ Graded Connection
End Pavt.
℄ Survey

SIDESTREET PROFILE
STA. 312+38.88
Scale: 1"=5' Vert.
1"=20' Horiz.

BEST AVAILABLE COPY

FOR PLAN DET. FROM STA 321+21.25 AHEAD SEE SH. 25 &
FOR PROFILE DETAILS THRU INTERCHGE SEE SH. 28 to 32

REVERSE CURVE DATA
LT & RT MEDIAN EDGES

310
P.I. Sta. 315+20.46 ℄ SURVEY (9' Rt. ℄ Lt.)
Δ = 1°-00'-05"
D = 0°-15'
T = 200.28'
L = 400.56'
R = 22,918.32'
P.C. Sta 313+20.18 ℄ SURVEY (9' RT. ℄ LT.)
P.R.C. Sta 317+20.71 ℄ SURVEY (5.50 RT. ℄ LT.)
SE = NONE

315
P.I. Sta. 319+20.97 ℄ SURVEY (7' RT. ℄ LT.)
Δ = 1°-00'-05"
D = 0°-15'
T = 200.28'
L = 400.56'
R = 22,918.32'
P.R.C. Sta. 317+20.71 ℄ SURVEY (5.50 RT. ℄ LT.)
P.T. Sta 321+21.25 ℄ SURVEY (2 RT. ℄ LT.)
SE = NONE

320 **325** **330** **335** **195** **200**

EASEMENT LINE — R/W LINE — PIPES TO BE REMOVED

Bearing Spruce 24" Dia.

N F.C. in 30" Oak

All 3"x3" Creos. Hubs

POINT (ST) 60' 20'

State Job No. 13130-3202

EQUALITY
STA 339+96.12 LINE "B" BK =
STA. 200+39.33 AH

P.I. Rel. Eq.
Sta. 3.331.26 Ab. Bk. =
Sta. 193+18.66 Ahd.
Sta 193+19.66 Line "T"
Δ = 22°-24' Rt.

END BRIDGE "C"
STA. 328+38.67

REMOVED

P.I. EQUATION
Sta. 193+19.66 Bk. =
Sta. 193+19.66 Ahd.
Sta. 193+19.66 Line "T"
Δ = 22°-24' Rt.

Improved Pasture

N 00°-09'-36" E

N 22°-20'-24" W

Line "A"

Line "B"

Line "C"

CONST. DEAD END BARRICADE INDEX No 301.14

Sta. 325+68.85 ℄ Survey

℄ SURVEY

CONST. APPROACH SLAB LEFT & RIGHT SEE SHEET NO. 51

DEAD END BARRICADE INDEX NO. 301.1A

Eq: Sta. 312+04.63 ℄ Const. Bk. =
Sta. 312+06.92 ℄ Survey Ah.

BEGIN LINE "A"
P.R.C. Sta. 321+21.25
2' Lt. of SURVEY ℄

BEGIN BRIDGE
STA. 324+06.82

P.O.T. Ref. Sta 52.3 + 57.23
4" x 4" Conc. Mon.

PROPOSED 351.99' BRIDGE "C"

N F.C. in 10" A. Pine

3"x3" Creosoted Hubs

BEGIN LINE "B"
P.C.C. Sta 332+52.53
4 Rt. (Radial) of '
P.O.C. Sta 332+52.53 LINE "A"

CONST. APPROACH SLAB LEFT & RIGHT SEE SHEET NO. 51

Follow Field ℄ CONST. Rt. ROADWAY

CURVE DATA - ℄ CONST.
P.I. Sta. 308+49.94
Δ = 3°-32'-53" Lt.
D = 0°-30'
T = 354.92'
L = 709.61'
R = 11,459.16'
P.C. Sta. 304+95.02
P.T. Sta. 312+04.63

For Construction Details
Sta 311+00 to Sta. 321+21.25
See Sh. No. 25

LINE "A" CURVE DATA
P.I. Sta. 332+39.20
Δ = 22°-23'-00"
D = 1°-00'-00"
R = 5729.58
T = 1157.35
L = 2246.67
P.R.C. Sta. 321-21.25
P.T. Sta 343+67.92 Bk =
P.T. Sta. 203+88.34 Ah.
Superel = 0.024 Ft. (60 M.P.H.)

LINE "B" CURVE DATA
P.I. Sta 336+25.50
Δ = 11°-09'-14"
D = 1°-30'-00"
R = 3819.72
T = 372.97
L = 743.59
P.C.C. Sta 332+52.53
P.T. Sta 339+96.12 Bk =
P.T. Sta. 200+19.66 Ah.
Superel = 0.036 Ft. (60 M.P.H.)

B.M. No 27
R.R. Spike in Power Pole
16.2' Rt. Sta. 311+40
Elev. 18.31

B.M. No 28
R.R. Spike in Power Pole
160' Lt. Sta. 319+69
Elev. 18.48

B.M. No 29
R.R. Spike in R.R. Tele. Pole
80' Rt. Sta. 326+95
Elev. 16.52

B.M. No 30
60¢ Nail in Base of 18" Oak
160' Lt. Sta. 332+34
Elev. 16.41

Sta. 312+80 Profile Grade Line
Sta. 313+20.18 Profile Grade Line

9' Rt. & Lt. ℄	0.09'	0.14'
23' Rt. & Lt. ℄	0.22'	0.22'
35' Rt. & Lt. ℄	0.25'	0.19'

STRAIGHT LINE DIAGRAM
PAVT CROWN TRANSITION

Profile Grade Line Median Edge Pavt

400' V.C.

+3.0000 %

1100' V.C.

600' V.C.

-4.0000 %

+0.318%

+0.10%

+0.6262 %

Eq: Sta 312+04.63 Bk. = Sta. 312+06.92 Ah.
℄ Const.

Sta. 313+20.18 Grade Line Shifts to 9' Rt. & Lt. ℄

Const. 18" Pipe

SPEC. DITCH RT.

Sta. 312+50 (63.5 Rt.) Const. Endwall FL. 15.75

STA. 315+00 Rt. & Lt. CONST. INLET, TYPE "S" Mod FL LT 24.3, FL RT 24.3

STA. 318+50 Rt. & Lt. CONST. INLET TYPE A-2" Mod FL. LT. 36.1, FL. RT. 34.1

STA. 321+25 CONST. TYPE "M" INLET, MED. 15" PIPE CULV'T. FL LT. 17.5, FL MED. 39.1

CONST. APPROACH SLAB LEFT & RIGHT SEE SHEET NO. 51

STA. 321+50 Rt. CONST. INLET TYPE A-2" MOD FL. 42.0

STA. 324+98 CONS'T. 24" PIPE CULVT FL. EL. 12.0 Lt., 12.2 Rt.

STA. 331+00 Rt. CONST. INLET TYPE A-2 MOD FL. EL. 30.0

STA. 331+55 CONST. TYPE "M" INLET, MED. 15" PIPE CULVT FL. LT. 12.0, FL MED 28.9

STA. 332+50 CONST. D3L. 42" PIPE CULV'T. FL. LT. 10.4, FL. RT. 10.6

CONST. APPROACH SLAB LEFT & RIGHT SEE SHEET NO. 51

H.W. EL. 15.0

STA. 334+78 CONST. TYPE "S" INLET, MED. RT. FL. RT 19.6
TYPE "S" INLET LT. FL. LT. 17.0.
#15" PIPE CULV'T. FL 14.4

STA. 337+53 CONST. TYPE "V" INLET, MED & 15" PIPE CULV'T FL. MED 12.7, FL. RT. 12.5

+56.79 P.V.C. EL 18.76 - EQUALITY Sta. 339+96.12 Bk. = Sta. 200+39.33 Ahd

SPEC. DITCH REQ'D RT.

NO DITCH REQ'D LT. OR RT.

SPEC. DITCH REQ'D LT.

SPEC. DITCH REQ'D RT.

BEGIN LINE "A"

BEGIN LINE "B"
For Profiles on Line "A" see Sh. No 28

Profile Grade Line Line "A" & 4' Rt. Line "A"

Profile Grade Line Line "B"

P.O.B. Sta 200+16.88 Line "C"

Line "C" Sta 200+16.88 Ahd. Equality Sta 332+34.00 Bk.

P.I. Sta 332+52.53 Line "C"

P.I. Sta 332+52.53 Line "C"

P.C. Sta 200+16.88 Line "C"

P.I. (+70) El. 12.02

P.I. (+53) El. 15.05

P.I. (+53) El. 12.5

+50 P.V.C. El. 16.20

+50 P.V.T. 16.02

+50 P.V.C. 47.10

+50 P.V.T. 46.02

+50.00 P.V.C.

+50.00 P.V.T.

310 315 320 325 330 335 200

BEST AVAILABLE COPY

FED. ROAD DIVN. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	FLA.	~~FCH-3-(97)~~	60	21	

State Job No. 13130-3202

DEAD END BARRICADE INDEX No. 5011-A

LINE "T"

R/W LINE

TO BE REMOVED

N 00°-01'-36" E

P.C. Sta. 206+34.27 Line "B" Equiv. to P.O.T. Sta. 206+34.60 Line "T" per Survey

P.I. Sta. 210+08.72 Δ = 0°02' Lt. — No Curve

TO BE REMOVED

N 00°-05'-56" E

TO BE REMOVED

TO BE PLUGGED

TO BE REMOVED

TO BE REMOVED

TO BE REMOVED

TO BE PLUGGED

TO BE REMOVED

TO BE REMOVED

TO BE REMOVED

TO BE EXTENDED

LINE "B" Δ = 23°12' R D = 5°

Improved Land

R/W LINE

LINE "C"

LINE "C"

R/W LINE

PIPES TO BE REMOVED

1-57' Blk. Bldg.

N.f.C. in 12" Pipe

2-57' Blk. Bldg. Motel

End Line "C" P.C. Sta. 206+34.60 Line "A" P.T. Sta. 206+34.60 Line "C"

P.I. Ref. Sta. 210+08.72 Δ = 0°02' Lt.

℄ Job

108.01'

40.23'

70.01'

N.f.C. in Pork

N.f.C. in 12" Palm

LINE "B" Δ = 30°02'-00" D = 2°-08'-15.24" R = 2680.42 T = 719.05 L = 1405.02 P.C. Sta. 206+34.27 P.T. Sta. 220+39.29 Superel. = 0.051'/Ft. (60 M.P.H.)

LINE "B" CURVE DATA P.I. Sta. 218+73.32 Δ = 30°02'-00" D = 2°-08'-15.24" R = 2680.42 T = 719.05 L = 1405.02 P.C. Sta. 206+34.27 P.T. Sta. 220+39.29 Superel. = 0.051'/Ft. (60 M.P.H.)

LINE "G"

LINE "B" Δ = 6°30' Rt. D = 2°00'

LINE "B" CURVE DATA P.I. Sta. 218+01.29 Δ = 55°-30'-36" D = 5°00'-00" R = 1145.92' T = 603.02' L = 1110.20' P.C. Sta. 221+98.27 (P.T. Sta. 233+08.47 Superel = -0.098'/Ft.(60 M.P.H.)

℄ CONST. LT. ROADWAY

℄ CONST. RT. ROADWAY 230

END CONST. Sta. 230+00 ℄ Surv. BR 55

LINE "A"

W. W. Low Water Ditch

FOR LATERAL DITCH DETAILS SEE SHEET No. 55-A

PIPES TO BE REMOVED

LINE "C"

LINE "B" ℄

LINE "C"

R/W LINE

℄ LINE "C"

Fallow Field

Bearing Grapefruit Grove

Fallow Field

Fallow Field

FOR PLAN DETAILS THRU INTERCHANGE SEE SH. NO'S. 25 and 26
FOR PROFILE DETAILS THRU INTERCHANGE SEE SH. NO'S. 28 to 32

B.M. No 31
R.R. Spike in Base of 20" Oak
120' Lt. of Sta. 201+15
Elev. 17.59

B.M. No 32
80¢ Nail in Base of 30" Pine
125' Lt. of Sta. 210+30
Elev. 19.95

B.M. No 33
R.R. Spike in Base of 24" Oak
140' Rt. of Sta. 220+85
Elev. 16.99

PROFILE GRADE LINE "B" ℄

EQUALITY Sta. 339+96.12 Bk. = Sta. 300+38.33 Ahd.

D.P. Sta. 220 El. 19.41

+0.6262 %

+0.3200 %

-0.11%

+0.6400 %

+3.4400 %

+0.10 %

+00 P.V.C. El. 20.00

+00 P.V.C. El. 21.12

+00 P.V.C. El. 21.00

+00 P.V.C. El. 20.00

+00 P.V.C. El. 16.80

600' V.C.

400' V.C.

600' V.C.

H.W.El. 16.8

Elev. 16.79 P.V.C.

STA. 201+20 ℄ TYPE "C" INLET, MED. 15" PIPE CULV'T. FL. MED 15.6 FL. RT 16.4

NO DITCH REQ'D LT. SPEC. DITCH REQ'D RT.

NO DITCH REQ'D LT. OR RT.

NO DITCH REQ'D LT. STD. DITCH REQ'D LT. SPEC. DITCH REQ'D RT.

Spec. Ditch Rt. Only

Sta. 226+80 Const. Inlet Type S Mod. FL. 20.1

Spec. Ditch Rt. Only

Sta. 229+00 to STA. 228+50 ℄ 24" PIPE CULV'T. FL. LT 14.12, RT. 12.6

NO DITCH REQ'D LT.

1" Tel Cable

2" Tel Cable

2" Tel Cable

1" Tel Cable

2" Tel Cable

1" Tel Cable

2" Tel Cable

2" Tel Cable

Line "F"

Fallow Field

P. Pole P. Guy

P. Pole P. Guy

Gray Pole

Sign

Sign

Sign

BEST AVAILABLE COPY

FED. ROAD DIVN. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	FLA.	~~F-011-2(37)~~	'60	22	

State Job No. 13130-3202

1" = 100' H
1" = 10' V

230 235 240 245 250 255 260

℄ Survey
Existing S.R. 55 (U.S. 19)

P.I. Sta. 254+32.65
Δ=0°02' RT.

N 00°05'36" E

N 0°07'36" E

R/W LINE

TO BE REMOVED

TO BE EXTENDED

TO BE PLUGGED

Fallow Field

Clear Field

Scattered Oaks

PIPES TO BE REMOVED

LINE "B" ℄

LINE "A"

LINE "E"

℄ CONST. LT. ROADWAY

℄ CONST. RT. ROADWAY

PROPOSED 121' BRIDGE "D"

BEGIN BRIDGE "D" Sta. 233+32.00

END BRIDGE "D" Sta. 234+53.00

CONST. APPROACH SLAB SEE SHEET NO. 51

1-3½ Fr. Res.

1-3½ Fr. Packing House

1-3½ Blk. Bld. Block

1-3½ Fr. Fruit Stand

Flower Garden

Oak Thicket With Scattered Palms

Bearing Orange Grove

Non-bearing Orange Grove

Mango

Eucalyptus

6" Shell Dr.

DEAD END BARRICADE INDEX No. 5011-A

END CONST.
Sta. 260+76.95 Line B Equiv. To
Sta. 258+30.00 ℄ Survey SR 55

END LINE "B" RT. Sta. 259+62.04 Equiv. To Sta. 247+15.09 ℄ Survey

END PROJECT No. F-011-2(37)
END STATE JOB No. 13130-3202
P.R.C. Sta. 247+50.38 Line "B" Equiv. To
P.O.T. Sta. 245+05.67 ℄ Survey

FOR PLAN DETAILS THRU INTERCHANGE SEE SH. NOS: 25 and 26
FOR PROFILE DETAILS THRU INTERCHANGE SEE SH NOS 28 To 32

LINE "B" CURVE DATA
P.I. Sta. 244+37.67
Δ = 25°-26'-36"
D = 4°-00'-00"
R = 1432.39'
T = 323.37'
L = 636.08
P.C. Sta. 241+14.30
P.T. Sta. 247+50.38
Superel. = 0.089 "/Ft (60 M.P.H.)

LINE "B" REVERSE CURVE DATA
P.I. Sta. 250+53.58
P.I. Sta. 256+59.41
Δ = 6°-03'-30"
D = 1°-00'-00"
R = 5729.58
T = 303.20
L = 605.83
Superel. = 0.019 "/Ft (50 M.P.H.)
P.R.C. Sta. 247+50.38
P.R.C. Sta. 253+56.21
P.T. Sta. 259+62.04 Equiv. To
P.O.T. Sta. 257+15.09 ℄ Survey

B.M. No. 33
R.R. Spike in Base of 24" Oak
140' Rt. of Sta. 220+85
Elev. 16.99

PROFILE GRADE LINE "B" ℄

+3.7400 %
-3.6400 %
+0.10%
-0.10%
-0.3200 %

+50 P.V.I. El. 49.24
+1.00 P.V.C.
550' V.C.
+50 P.V.T.
1100' V.C.
+75 P.V.I. El. 19.21

Sta. 230+50 Const Inlet Type "A-2 Mod FL 30.0

STA. 236+20 LT. INLET TYPE A-2 "MOD. FL 34.8

D.P.I. (+40) EL. 14.22

Sta. 241+20

Sta. 241+97.5

Sta. 247+50.38 Line "B" Shifts 24' Right

Grade Line 24' Left of Line "B"

SPEC. DITCH RT. ONLY

STA. 258+02 42" PIPE CULV'T. EXTEN. FL LT. 2.7, FL RT. 3.2

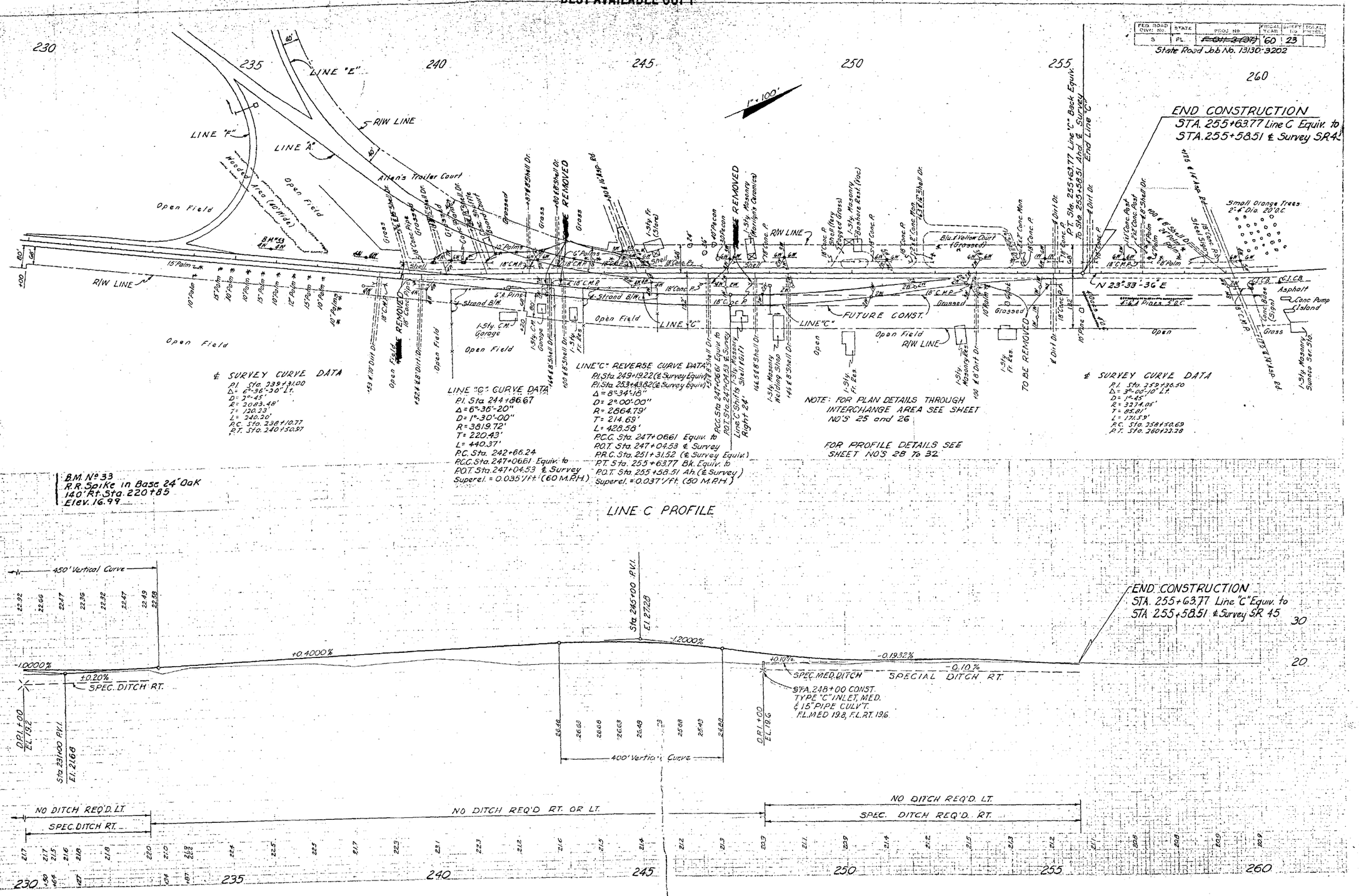
NO DITCH REQ'D LT.
SPEC. DITCH REQ'D RT.
NO DITCHES REQ'D LT. OR RT.
STD. DITCH REQ'D LT.
STD. DITCH REQ'D RT.

20" x 1" = 10'

BEST AVAILABLE COPY

FED. ROAD DIVIS. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	FL	~~F-041-2(10)~~	60	23	

State Road Job No. 13130-3202



B.M. No 33
R.R. Spike in Base 24" Oak
140' Rt. Sta. 220+85
Elev. 16.99

LINE C PROFILE

BEST AVAILABLE COPY

FED. ROAD DIVN. NO.	STATE	PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3	FLA.	~~F-011-2(37)~~	60	12	

State Job No. 13130-3202

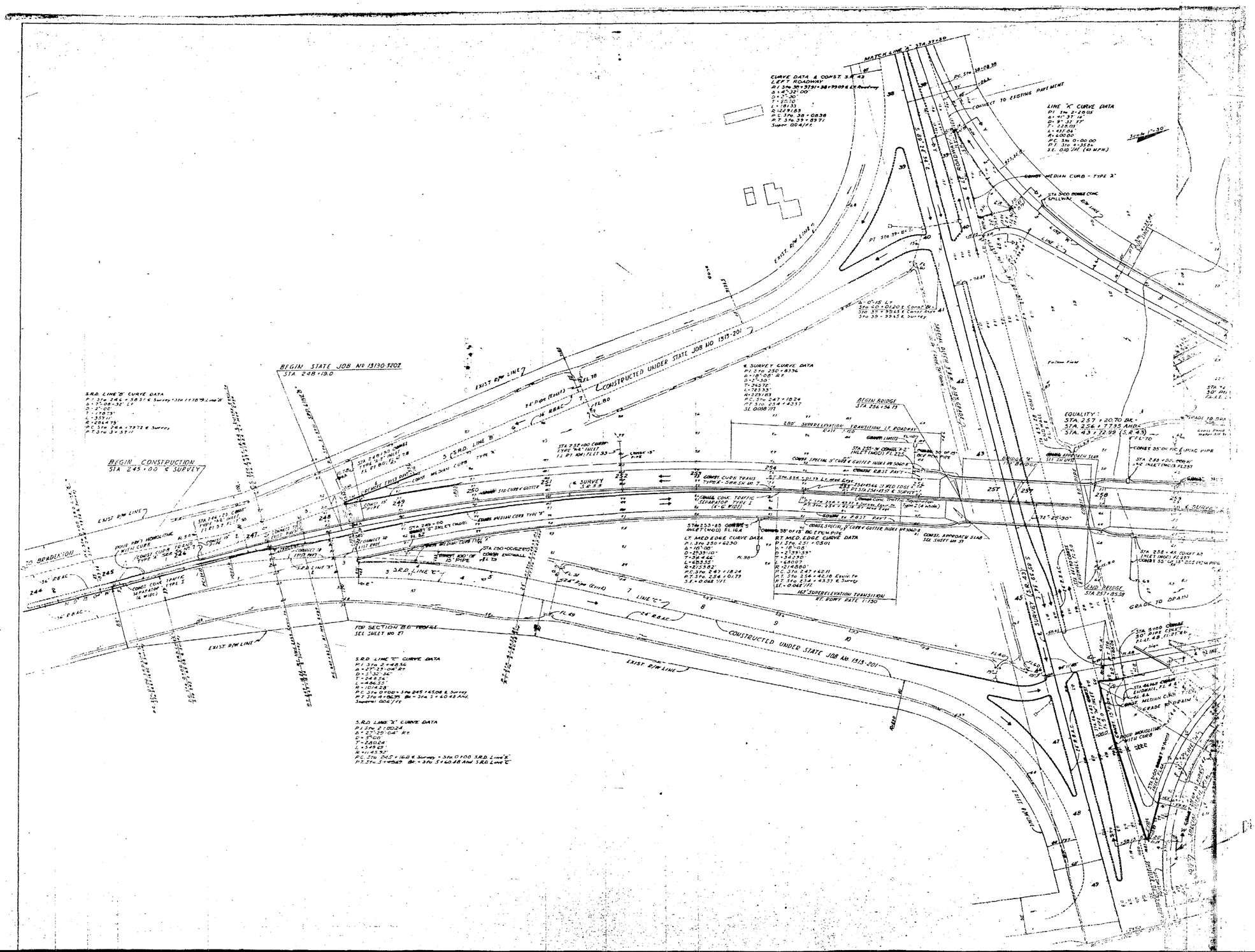
NOTE: POWER LINES OWNED BY FLA. POWER & LIGHT CO.
TELEPHONE LINES AND CABLES OWNED BY
PENINSULAR TELEPHONE CO.

BEGIN CONSTRUCTION
STA. 245+00

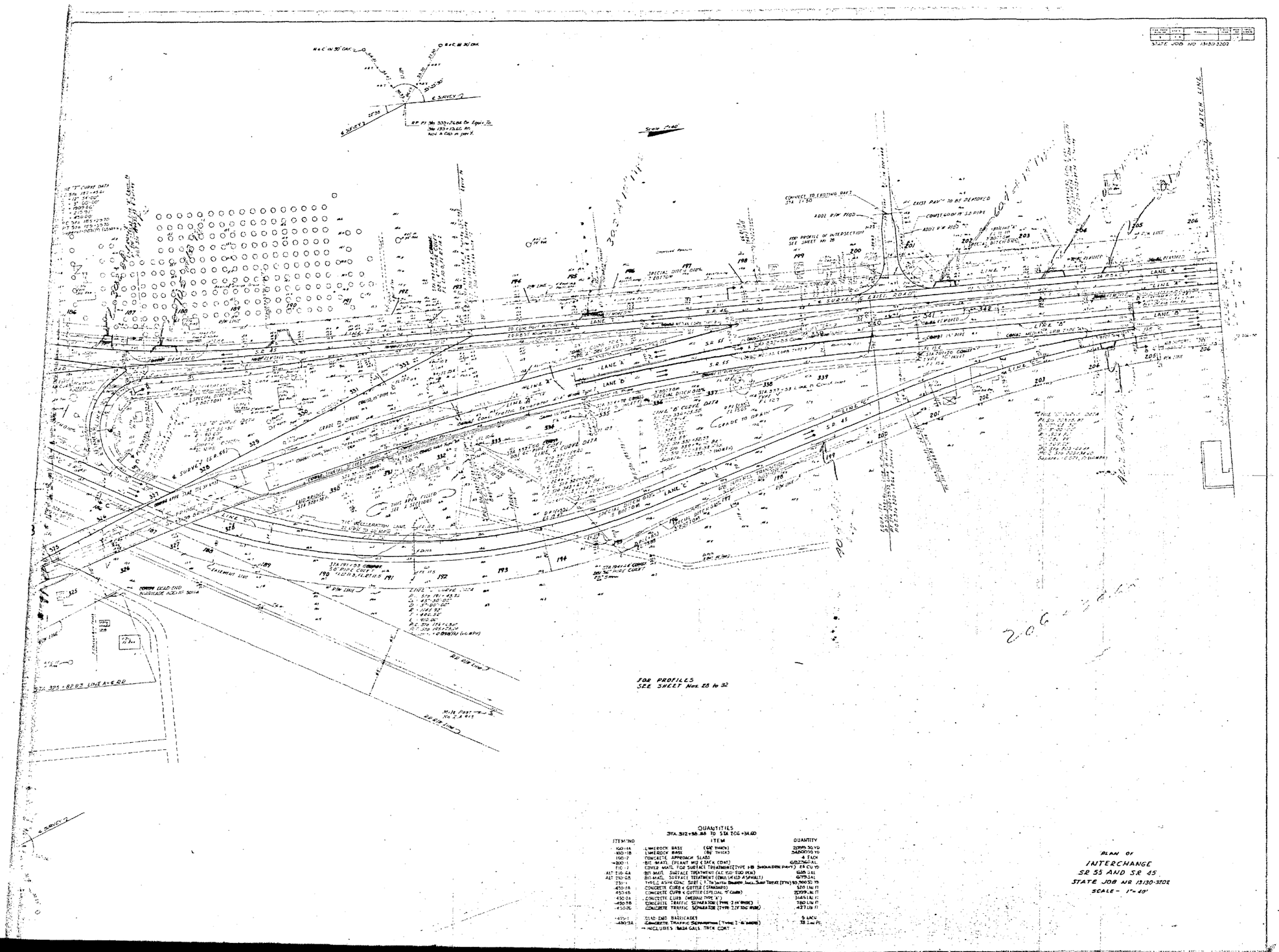
BEGIN STATE JOB No. 13130-3202
STA. 248+19.00

2-NEC. in 15" Oak
2-NEC. in 48" Oak
4"x4" Conc. Mon
2"x2" Hub
P.I. Ref Sta. 250+83.96
Scale 1"=100'
78°26
47°22'30"
1125
1000
1200
1210
1000
1000
1000

BEST AVAILABLE COPY


BEGIN STATE JOB Nº 13130-5202
STA 248+19.0
CONSTRUCTED UNDER STATE JOB NO 1515-201
EXIST R/W LINE
BEGIN CONSTRUCTION
STA 245+00 ℄ SURVEY
S.R.D. LINE "B" CURVE DATA
S.R.D. LINE "C" CURVE DATA
S.R.D. LINE "X" CURVE DATA
℄ SURVEY CURVE DATA
CURVE DATA & CONST. S.R. 43
LEFT ROADWAY
LINE "K" CURVE DATA
LINE "L" CURVE DATA
LINE "R" CURVE DATA
LT. MED. EDGE CURVE DATA
RT. MED. EDGE CURVE DATA
BEGIN BRIDGE
STA 256+36.73
END BRIDGE
STA 257+85.39
EQUALITY:
STA. 2.57 + 20.70 BK.
STA. 256 + 77.35 AHD.
STA. 43 + 72.99 (S.R. 43)
CONSTR. MEDIAN CURB - TYPE 2
CONSTR. MEDIAN CURB TYPE "B"
CONSTR. CONC. TRAFFIC SEPARATOR TYPE I
CONSTR. SPECIAL 9" CURB & GUTTER RIDGE MT SOLID
CONSTR. SPECIAL 9" CURB & GUTTER RIDGE MT SOLID B
CONSTR. APPROACH SLAB
SEE SHEET NO 37
CONSTR. CONC. TRANS TYPE "B" SEE SH NO 7
CONSTR. 38" OF 15" RC PIPE CULVERT
CONSTR. 30" OF 15" RC PIPE CULVERT
CONSTR. 24" RC PIPE CULVERT
CONSTR. 15" PIPE
CONSTR. 18" PIPE
CONSTR. 24" PIPE (East)
CONSTR. 24" PIPE (West)
CONSTR. 35" OF RC ELLIPTICAL PIPE
CONSTR. 30" OF RC ELLIPTICAL PIPE
CONSTR. 38" OF RC ELLIPTICAL PIPE
CONSTR. 24" RC PIPE
CONSTR. 18" RC PIPE
CONSTR. 15" RC PIPE
CONSTR. 12" RC PIPE
CONSTR. 30" OF RC PIPE
CONSTR. 24" OF RC PIPE
CONSTR. 18" OF RC PIPE
CONSTR. 15" OF RC PIPE
CONSTR. 12" OF RC PIPE
CONSTR. 24" OF RC PIPE CULVERT
CONSTR. 18" OF RC PIPE CULVERT
CONSTR. 15" OF RC PIPE CULVERT
CONSTR. 12" OF RC PIPE CULVERT

BEST AVAILABLE COPY



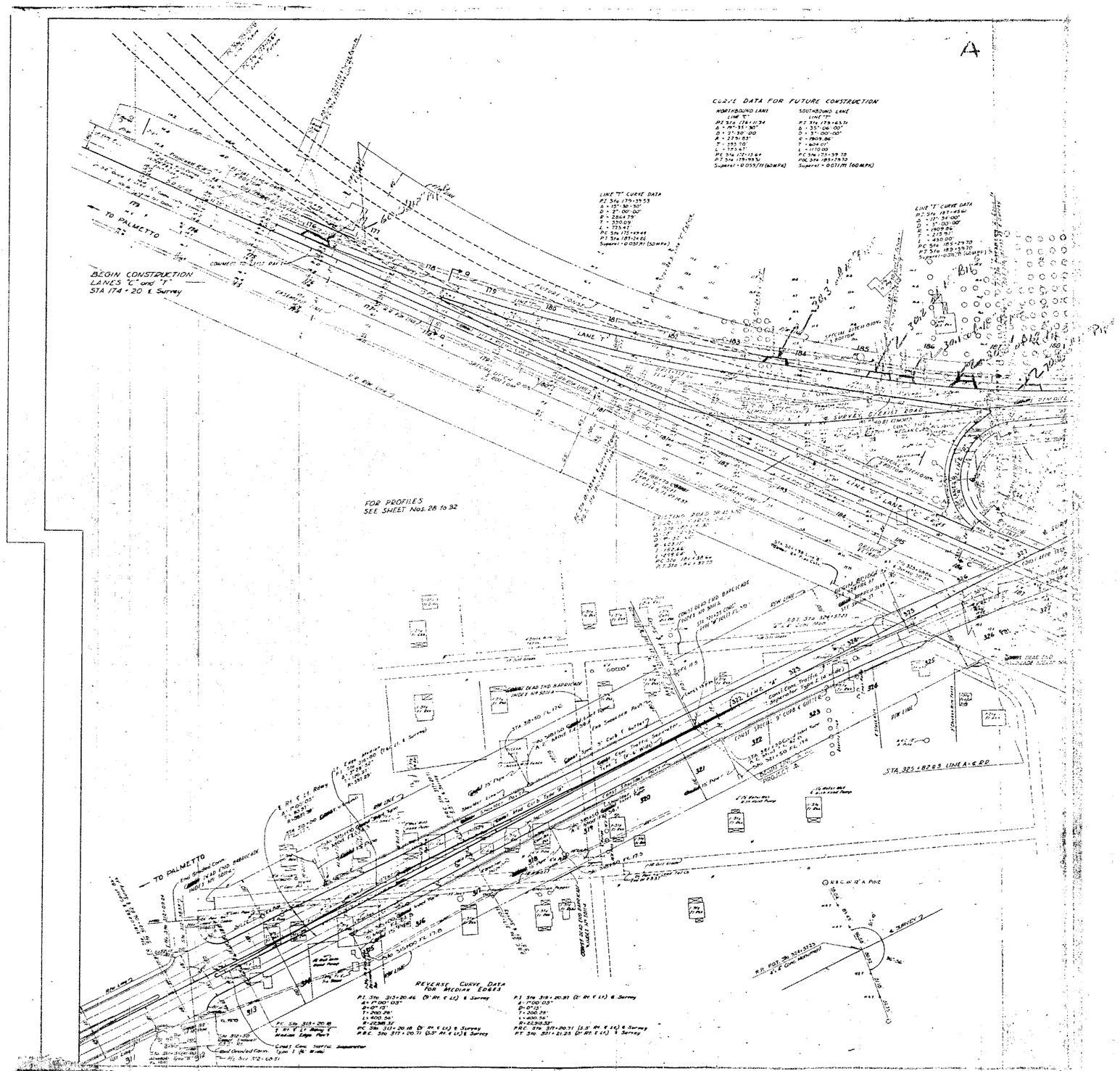
QUANTITIES
STA. 312+56.86 TO STA 326+34.60

ITEM NO	ITEM	QUANTITY
150-1A	LIMEROCK BASE (6" THICK)	22905.30 YD
150-1B	LIMEROCK BASE (8" THICK)	34200.00 YD
150-2	CONCRETE APPROACH SLABS	4 EACH
160-1	BIT. MAST. (PLANT MIX) (SEAL COAT)	6257.50 GAL
160-2	COVER MATL. FOR SURFACE TREATMENT (TYPE #8 SHOULDER PAVT.)	28 CU YD
ALT 210-6A	BIT. MAST. SURFACE TREATMENT (1ST COURSE) (1100 GAL)	6285 GAL
ALT 210-6B	BIT. MAT'L. SURFACE TREATMENT (DOUBLE) (DOUBLE ASPHALT)	6779 GAL
230-1	TYPE S ASPH CONC SURF. (1.75" Inc'ds Bitumin. Incl. Surf Treat (FTN))	55,700.70 TN
450-1A	CONCRETE CURB & GUTTER (STANDARD)	520 LIN FT
450-1B	CONCRETE CURB & GUTTER (SPECIAL 'S' Curb)	2099 LIN FT
450-2A	CONCRETE CURB (MEDIAN TYPE 'A')	3145 LIN FT
450-2B	CONCRETE TRAFFIC SEPARATOR (TYPE 2 (6" RISE))	780 LIN FT
450-2C	CONCRETE TRAFFIC SEPARATOR (TYPE 2 (9" TOC RISE))	427 LIN FT
470-1	DEAD END BARRICADES	5 EACH
480-2A	CONCRETE TRAFFIC SEPARATOR (Type 1 - 6" RISE)	33 Lin Ft

→ INCLUDES 1634 GALS. TACK COAT

PLAN OF
INTERCHANGE
SR 55 AND S.R 45
STATE JOB NO 13130-3202
SCALE - 1"= 40'

BEST AVAILABLE COPY



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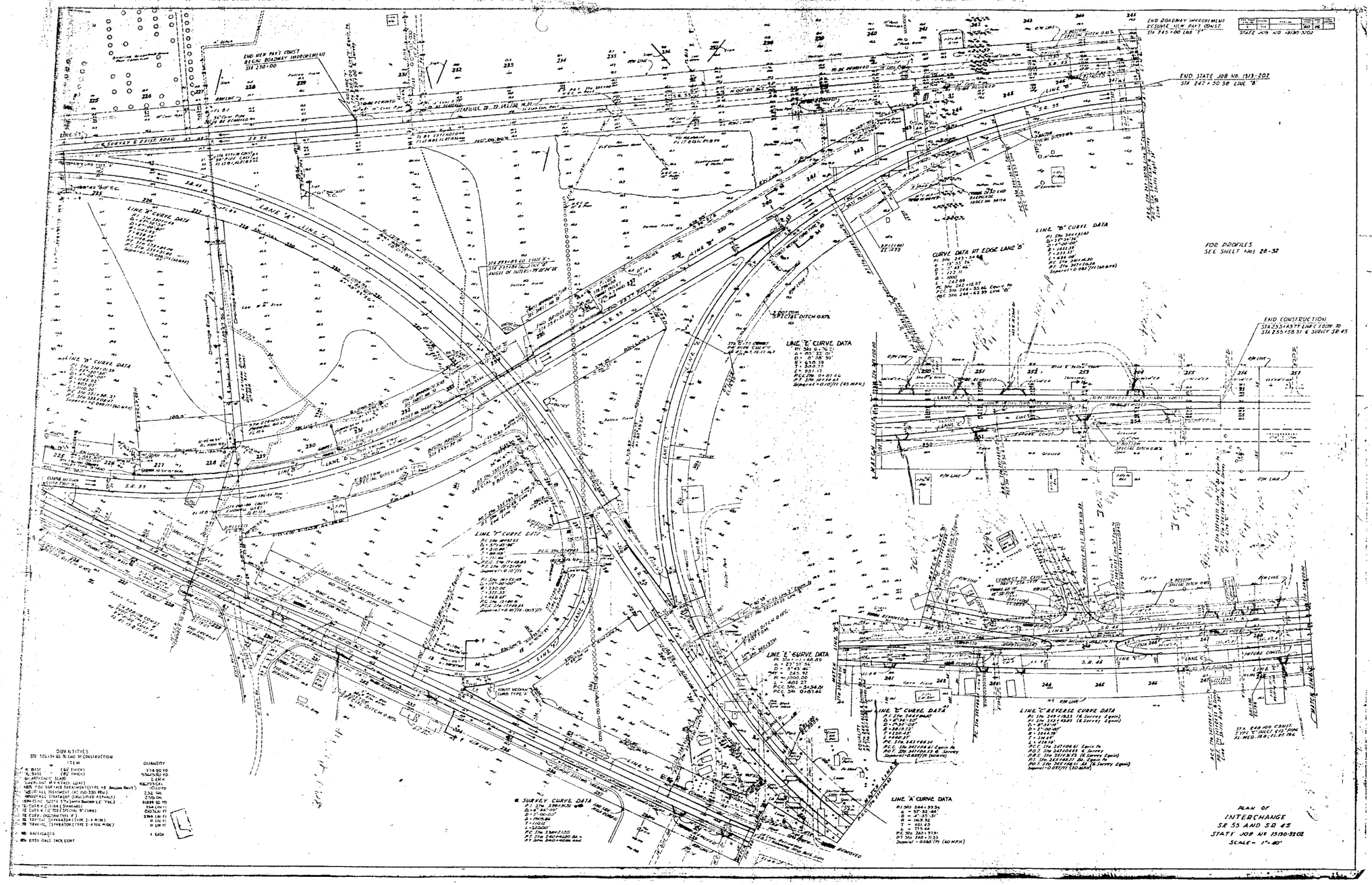


Exist pavt. slope
0.036
Level
0.020 ft
Prop. Normal Crown.

.84
.50
1.34
260' Runoff

6700
268
335.00 Transl.

.2 L in curve.

335
.2
67.0' Bk of P.T.

P.T. STA. 247+04.53
( ) 67.00
246+37.53
Beg. Const. Rt. Rdwy.

Note: To be checked.

Begin Const Lt.
Rdwy & Proj. Sta. 250+75

BEST AVAILABLE COPY

26A

FOR PROFILES
SEE SHEET NOS 28 TO 32

END CONSTRUCTION
STA 260+74.99 LINE 'A' EQUATION
STA 258+30.00 ℄ SURVEY SR 55

QUANTITIES
STA 206+54.00 TO END OF CONSTRUCTION

ITEM NO	ITEM	QUANTITY
301-1A	LIMEROCK BASE (6" THICK)	1734.0 SQ YD
301-1B	LIMEROCK BASE (8" THICK)	7634.0 SQ YD
340-2	CONCRETE APRON(END SLABS)	2 EACH
*700-1	SIG. MATL. (PLANT MIX+TACK COAT)	102 TONS CAL
240-1	COVER MATL. FOR SURFACE TREATMENT(TYPE FD BELOW PAVT)	10 CU YD
ALT 210-44	BIT MATL. SURFACE TREATMENT (AC 10-300 PEN.)	2.52 Gal.
ALT 210-45	BIT MATL. SURFACE TREATMENT (LIQUIFIED ASPHALT)	2.76 Gal.
331-1	TYPE I ASPH CONC. SURFACE (1½" THICK)	3699.0 SQ YD
430-1A	CONCRETE CURB & GUTTER (STANDARD)	884 LIN FT
430-1B	CONCRETE CURB & GUTTER (SPECIAL 9" CURB)	1760 LIN FT
430-7A	CONCRETE CURB (INCLUDING TYPE K)	1,968 LIN FT
430-7B	CONCRETE TRAFFIC SEPARATOR (TYPE 2-4' WIDE)	0 LIN FT
430-7C	CONCRETE TRAFFIC SEPARATOR (TYPE 2-4' SIDE WIDE)	0 LIN FT
415-1	DEAD END BARRICADES	1 EACH

* INCLUDES 8520 GALS. TACK COAT

FINANCIAL PROJ. I.D.	STATE PROJ. NO.	SHEET NO.
196042-1-52-01	13130-3537	11

13130-3537

SCALE: 1 : 400

13+00

78+00

79+00

SR 55

N 17°54'56" E

SR 43 (US 301)

S 89°39'34" E

BEGIN PROJECT
BEGIN CONST.
STA. 77+76.533

+76.533 BEGIN GUARDRAIL

(S-3) DESILT EXIST. PIPE

375 CMP

STA. 77+88.870 BEGIN TYPE F CURB & GUTTER

+98.115 END TYPE F CURB & GUTTER

+00.593 END GUARDRAIL

EXIST. SLOPE PAVEMENT

CONST. 9.2 OF TYPE F CURB & GUTTER

TOE OF SLOPE

REMOVE EXIST. GUARDRAIL

REMOVE EXIST. CURB & GUTTER

BEGIN APPROACH SLAB
STA. 77+98.115

BEGIN BRIDGE
STA. 78+06.721

CONST. GUARDRAIL W/ MISC. PAVT.

EXIST. CONCRETE TRAFFIC SEPARATOR TYPE I

WIDEN EXISTING APPROACH SLAB

STA. 78+26.219 S.R. 55
STA. 13+32.890 S.R. 43

P.C. SURVEY & CONSTRUCTION

BEGIN APPROACH SLAB
STA. 78+00.818

REMOVE EXIST. CURB & GUTTER

LIMITS OF MILLING AND RESURFACING
77+76.533

REMOVE EXIST. GUARDRAIL

EXIST. TYPE F CURB & GUTTER

CONST. GUARDRAIL W/ MISC. PAVT.

CONST. 24.3 OF TYPE F CURB & GUTTER

+76.533 BEGIN TYPE F CURB AND GUTTER
BEGIN GUARDRAIL

+00.88 END TYPE F CURB & GUTTER

+07.521 END GUARDRAIL

EXIST. SLOPE PAVEMENT

TOE OF SLOPE

BT TO BE RELOCATED BY OTHERS

EXIST. DITCH

BT

RCP

7225.56

750 RCP

END BRIDGE
STA. 78+59.147

EXIST. DITCH

TOE OF SLOPE

EXIST. SLOPE PAVEMENT

+58.352 BEGIN GUARDRAIL

+65.050 BEGIN TYPE F CURB & GUTTER

375 CMP

(S-4) DESILT EXIST. PIPE

CONST. 31.2 OF TYPE F CURB AND GUTTER

+96.208 END TYPE F CURB AND GUTTER

END GUARDRAIL

END CONST.
BEGIN EXCEPTION
78+96.208

REMOVE EXIST. CURB & GUTTER

REMOVE EXIST. GUARDRAIL

CONST. GUARDRAIL W/ MISC. PAVT.

EXIST. TYPE F CURB & GUTTER

END APPROACH SLAB
STA. 78+65.050

EXIST. CONCRETE TRAFFIC SEPARATOR TYPE I

WIDEN EXISTING APPROACH SLAB

END APPROACH SLAB
STA. 78+67.753

LIMITS OF MILLING AND RESURFACING
78+96.208

REMOVE EXIST. CURB & GUTTER

REMOVE EXIST. GUARDRAIL

EXIST. TYPE F CURB & GUTTER

PULL BOX TO BE RELOCATED BY OTHERS

EXIST. SLOPE PAVEMENT

+65.276 BEGIN GUARDRAIL

+67.753 BEGIN TYPE F CURB & GUTTER

375 CMP

(S-5) DESILT EXIST. PIPE

CONST. 28.5 OF TYPE F CURB & GUTTER

CONST. GUARDRAIL W/ MISC. PAVT.

+96.208 END TYPE F CURB AND GUTTER

END GUARDRAIL

TOE OF SLOPE

EXIST. DITCH

NOTES: 1. REFER TO STRUCTURES PLANS MISCELLANEOUS DETAILS FOR LIMITS OF SLOPE PROTECTION REPLACEMENT.
2. REFER TO SHEET 20 AND 21 FOR S.R. 43 PLAN DETAIL.

11/8/99

REVISIONS											
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

PLAN02D1DGN 10/14/99

AVCON

FLORIDA DEPARTMENT OF TRANSPORTATION

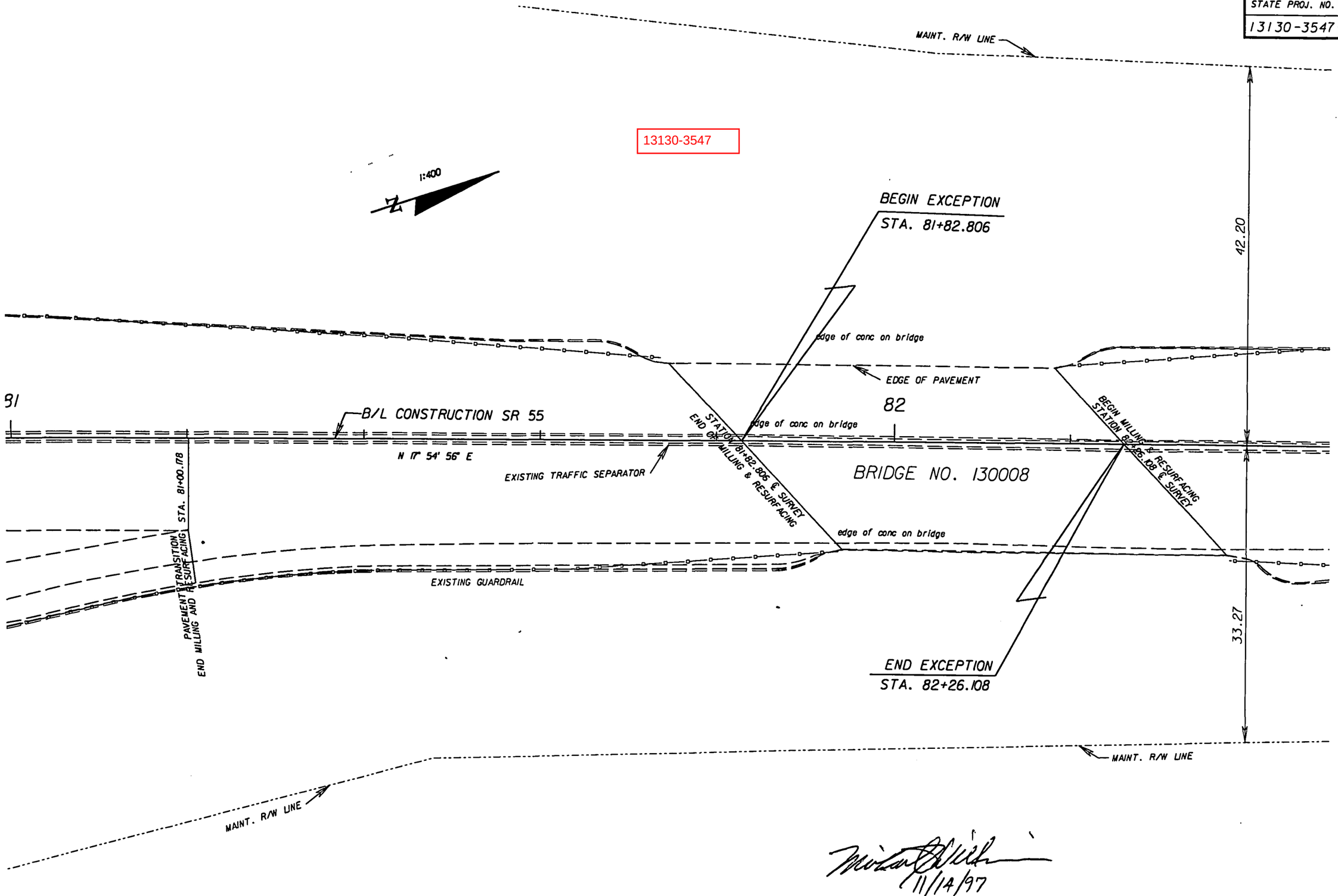
S.R. 55

PLAN DETAIL

BRIDGE NO. 130002 - STA. 77+90.000 TO STA. 78+96.208

STATE PROJ. NO.	SHEET NO.
13130-3547	22

13130-3547



11/14/97

REVISIONS											
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

FLORIDA DEPARTMENT OF TRANSPORTATION

PLAN DETAIL SHEET

C:\dgn\13035\dgn\detail05.dgn
$DATE$ $TIME$
12 NOV 97
$FILE$

STATE PROJ. NO.	SHEET NO.
13130-3547	23

PI Sta. = 86+37.116
Delta = 25° 10' 08" (LT)
T = 334.169
L = 657.556
R = 1,496.897
PC Sta. = 83+02.947
PT Sta. = 89+60.503
e = 0.024

1:400

610mm rcp good cond
TYPE F CURB & GUTTER
85
STATION 85+21.213
BEGIN TYPE D CURB
BEGIN WIDENING FOR
MEDIAN TURN LANE
31.64
STATION 85+36.213
END TYPE D CURB
BEGIN 1.8 TYPE I TRAFFIC SEPARATOR
3m +/- dirt drive
457mm cmp poor cond
MAINT. R/W LINE
back of sidewalk
toe of slope
762mm rcp fair cond
1.3m chain-link
762mm rcp fair cond
~~EXISTING CURB & GUTTER TO BE REMOVED~~
STA. 85+36.213 LT. TO STA. 85+40.398 LT.
B/L CONSTRUCTION SR 55
86
13.55
3.6
610mm rcp good cond
914mm rcp good cond
~~EXISTING CURB & GUTTER TO BE REMOVED~~
STA. 85+21.213 RT. TO STA. 85+40.398 RT.
13.61
STATION 86+40.398
END TYPE I TRAFFIC SEPARATOR
END WIDENING
EDGE OF PAVEMENT
EDGE OF PAVED SHOULDER
381mm rcp good cond
MAINT. R/W LINE
27.17
1067 mm rcp good cond
MAINT. R/W LINE

PI Sta. 89+37.116

11/14/97

REVISIONS											
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

FLORIDA DEPARTMENT OF TRANSPORTATION

PLAN DETAIL SHEET

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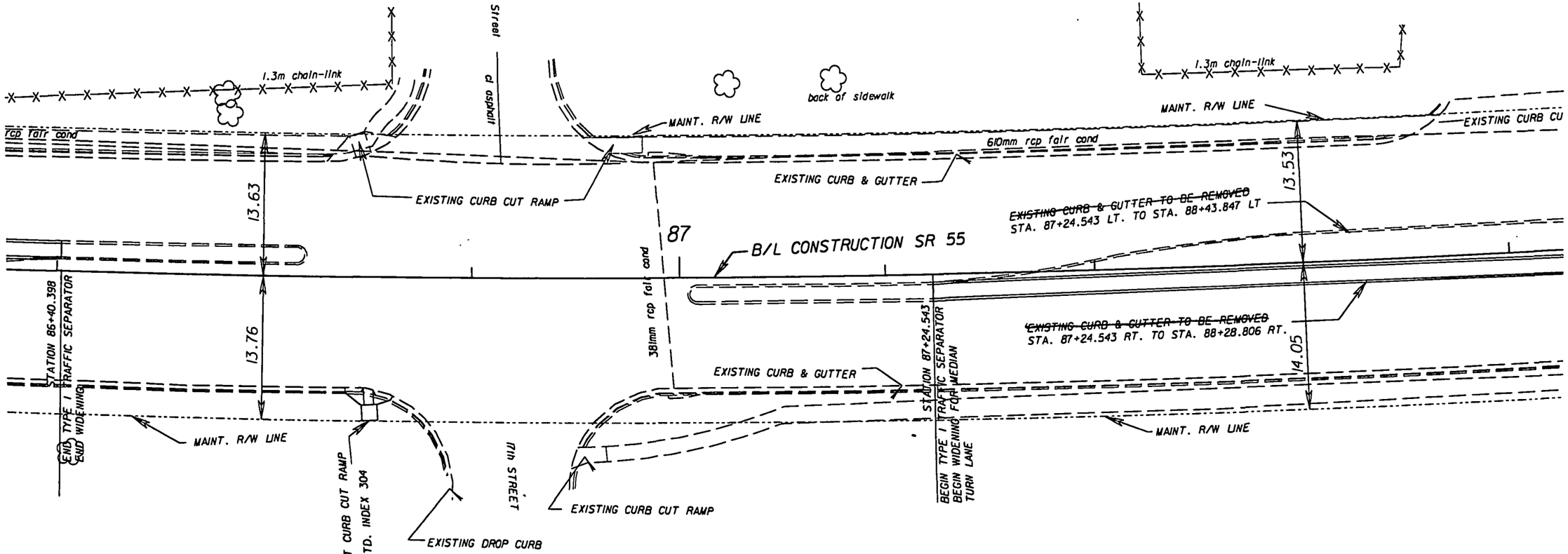
$DATE$
12 NOV 97
$FILE$

STATE PROJ. NO.	SHEET NO.
13130-3547	24

PI Sta. = 86+37.116
Delta = 25° 10' 08" (LT)
T = 334.169
L = 657.556
R = 1,496.897
PC Sta. = 83+02.947
PT Sta. = 89+60.503
e = 0.024

1:400



11/14/97

REVISIONS											
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

FLORIDA DEPARTMENT OF TRANSPORTATION

PLAN DETAIL SHEET

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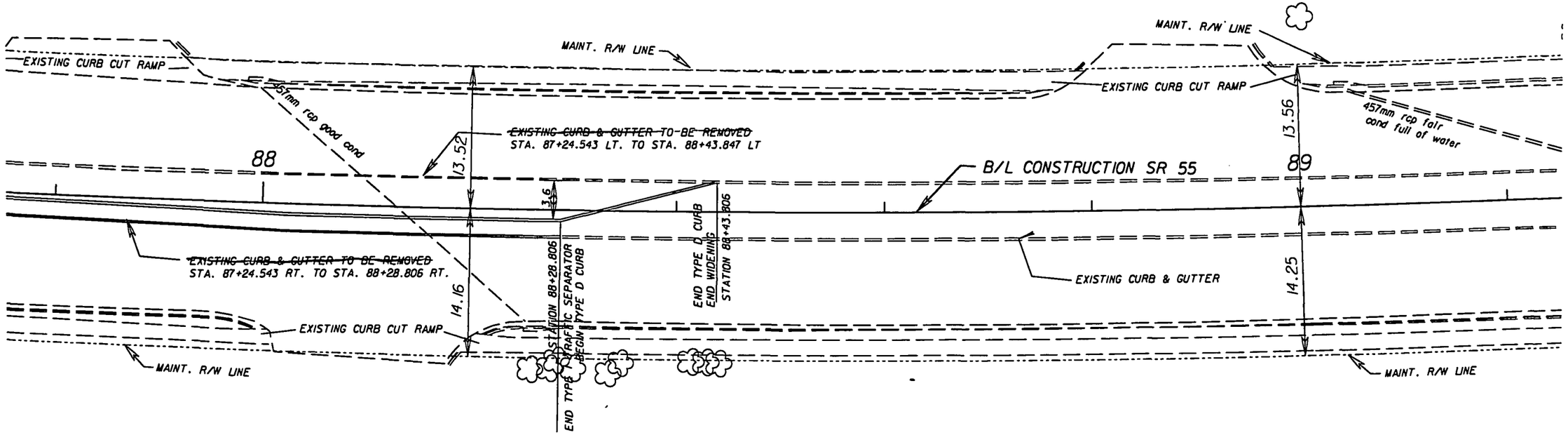
$DATE$ $TIME$
12 NOV 97
$FILE$

STATE PROJ. NO.	SHEET NO.
13130-3547	25

PI Sta. = 86+37.116
Delta = 25° 10' 08" (LT)
T = 334.169
L = 657.556
R = 1,496.897
PC Sta. = 83+02.947
PT Sta. = 89+60.503
e = 0.024

1:400



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$DATE$ $TIME$

12 NOV 97
$FILE$

REVISIONS											
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

11/14/97

FLORIDA DEPARTMENT OF TRANSPORTATION

PLAN DETAIL SHEET

1"=40'

447379-1-52-01

DIRECTION ONLY-END NOT FOUND
6" PP #1
ELEV: 22.94'
DIRECTION ONLY-END NOT FOUND
6" PP #1
ELEV: 22.88'
DIRECTION ONLY-END NOT FOUND
6" PP #1
ELEV: 22.45'
ACCESS DOOR
GRATE EL. @ E.O.P.=25.88'
ELEV: 21.57'
18" RCP #1
GRATE EL. @ E.O.P.=23.69'
ELEV: 19.69'
ELEV: 17.98'
18" RCP #1

DIRECTION ONLY-END NOT FOUND
6" PP #1
ELEV: 25.55'
ELEV: 25.71'
GRATE EL. @ E.O.P.=29.21'

112 SR 55 (US 41) 113 114 115 116 117

℄ SURVEY SR 55

GRATE EL. @ E.O.P.=45.48'
ELEV: 37.62'
ELEV: 37.51'
18" RCP #1
ELEV: 37.49'
GRATE EL. @ E.O.P.=42.38'

GRATE EL.=29.65'
ELEV: 26.28'
15" RCP #1
RECTION-END NOT FOUND
ELEV: 22.65'
GRATE EL. @ E.O.P.=27.85'
15" RCP #1
ELEV: 24.68'
RIM EL.=28.70'
ELEV: 21.51'
ELEV: 22.71'
30" RCP #1
ELEV: 22.00'
24" HDPE # 1
V: 27.04'
DOOR
27.38'
SR 55 (US 41)
6" PP #1
ELEV: 21.14'
ELEV: 21.06'
GRATE EL. @ E.O.P.=27.06'
ELEV: 21.01'
ELEV: 22.05'
18" RCP #1
GRATE EL.=29.90'
ELEV: 27.23'
: 31.24'

CONCRETE JACKET
INDEX 430-001
S. INV = 24" HDPE #1 & N. INV = 30" RCP #1
EX-02
RIM EL.=20.66'
ELEV: 15.30'
P-01
25"W X 14"H RCP #1
ELEV: 15.50'
EX-03
P-02
15"W X 11"H HDPE #1
ELEV: 15.86'
REMOVE PORTION
OF EXIST. PIPE
REMOVE EXIST. PIPE
ELEV: 16.04'
ELEV: 16.76'
GRATE EL.=19.82'
GRATE EL. @ E.O.P.=20.22'
36" RCP #1
RIM EL=20.43'
15" RCP
RIM EL.=

REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			DRAINAGE STRUCTURES (1)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	MANUEL MONREAL, JR., P.E. LICENSE NUMBER: 75553 PATEL, GREENE & ASSOCIATES, LLC 215 E. MAIN STREET BARTOW, FL 33830	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		78
					SR 55	MANATEE	447379-1-52-01		

12/18/2024 11:34:48 AM USER: jonathan.ellec
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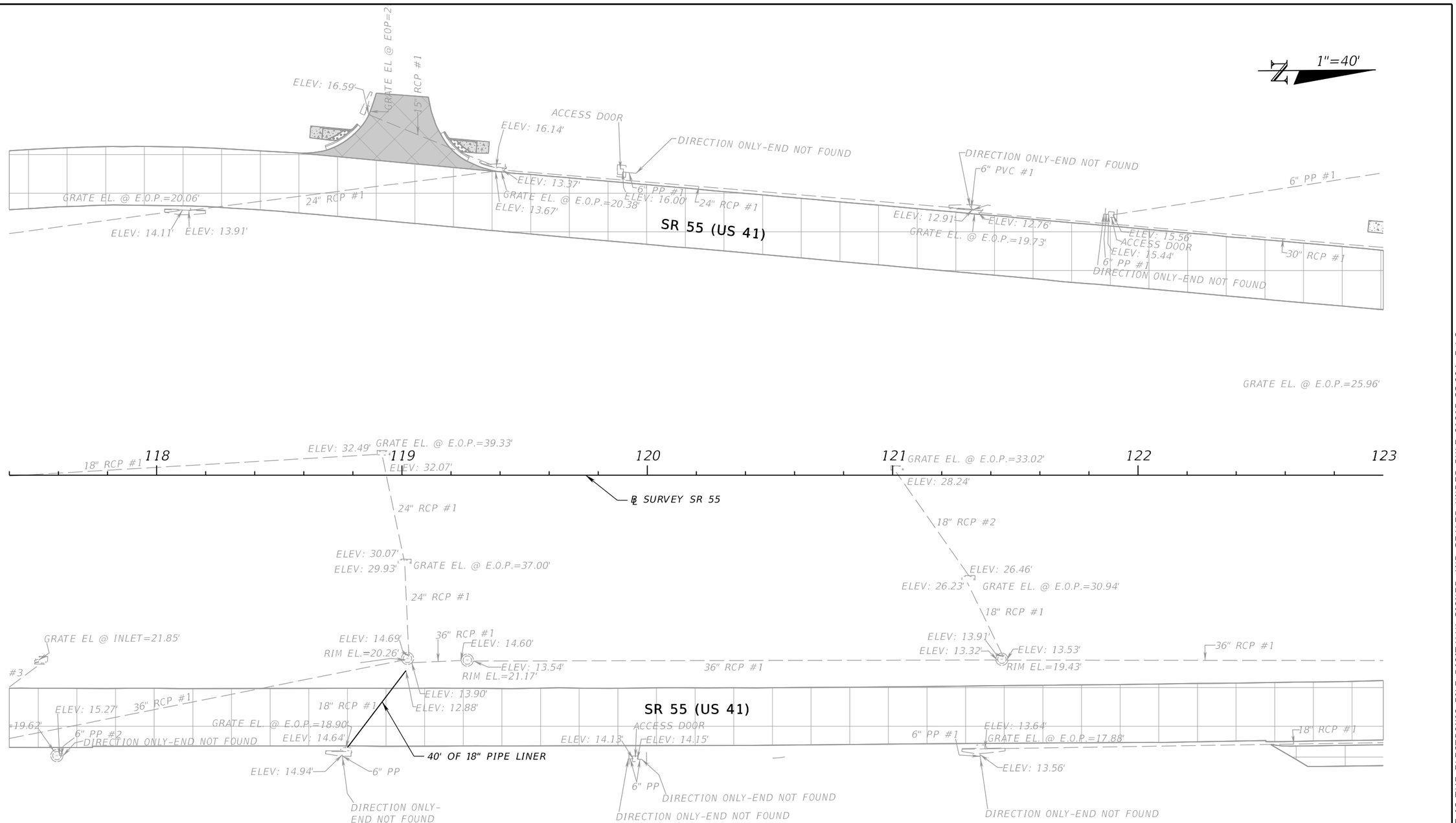

REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			DRAINAGE STRUCTURES (2)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	MANUEL MONREAL, JR., P.E. LICENSE NUMBER: 75553 PATEL, GREENE & ASSOCIATES, LLC 215 E. MAIN STREET BARTOW, FL 33830	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		79
					SR 55	MANATEE	447379-1-52-01		

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1"=40'

6TH AVE W

℄ SURVEY 6TH AVE

℄ SURVEY SR 55

SR 55 (US 301) (US 41)

538

539

540

541

157

158

159

160

161

162

ELEV: 8.64'
GRATE EL. @ E.O.P.=14.85'
ELEV: 9.70'
18" RCP #1
DIRECTION ONLY-END NOT FOUND

36" RCP #

DIRECTION ONLY-END NOT FOUND
18" RCP #1
GRATE EL. @ E.O.P.=14.08'

GRATE EL.=15.69'
ELEV: 11.56'
18" RCP #1

GRATE EL.=15.78'
ELEV: 11.57'

RIM EL.=15.00'

ATE EL. @ E.O.P.=14.97'
ELEV: 10.35'
18" RCP #1
DIRECTION ONLY-
END NOT FOUND

POT STA. +29.33

PI STA. 156+75.80

GRATE EL. @ E.O.P.=15.21'
ELEV: 10.76'
18" RCP #1

FULL OF DIRT
GRATE EL. @ E.O.P.=14.69'
RIM EL.=15.28'

DIRECTION ONLY-
END NOT FOUND

PRC STA. +51.16

PI STA. 160+27.40

ELEV: 8.97'
DIRECTION ONLY-END NOT FOUND
15" PP #1
ELEV: 10.02'
GRATE EL.=13.22'

ELEV: 13.30'

REMOVE EXIST.
INLET TOP

S-162

15" PP #1

ELEV: 8.7

RIM EL.=13.87'
DIRECTION ONLY-
END NOT FOUND

GRATE EL. @ E.O.P.=13.46'

PT STA. +03.20

6TH AVE E

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REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			DRAINAGE STRUCTURES (3)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	MANUEL MONREAL, JR., P.E. LICENSE NUMBER: 75553 PATEL, GREENE & ASSOCIATES, LLC 215 E. MAIN STREET BARTOW, FL 33830	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 55	MANATEE	447379-1-52-01		80

1"=40'

US 301

15" RCP #1

15" RCP #1

PI STA. 250+84.26

REMOVE EXIST. INLET TOP

RIM EL=7.89'

247

248

RIM EL=10.79'

15" RCP #1

249

℄ SURVEY SR 55

250

251

RIM EL=11.05'

SR 55 (US 41)

RIM EL=8.18'

S-246

PC STA.+18.87

US 301

24" RCP #1

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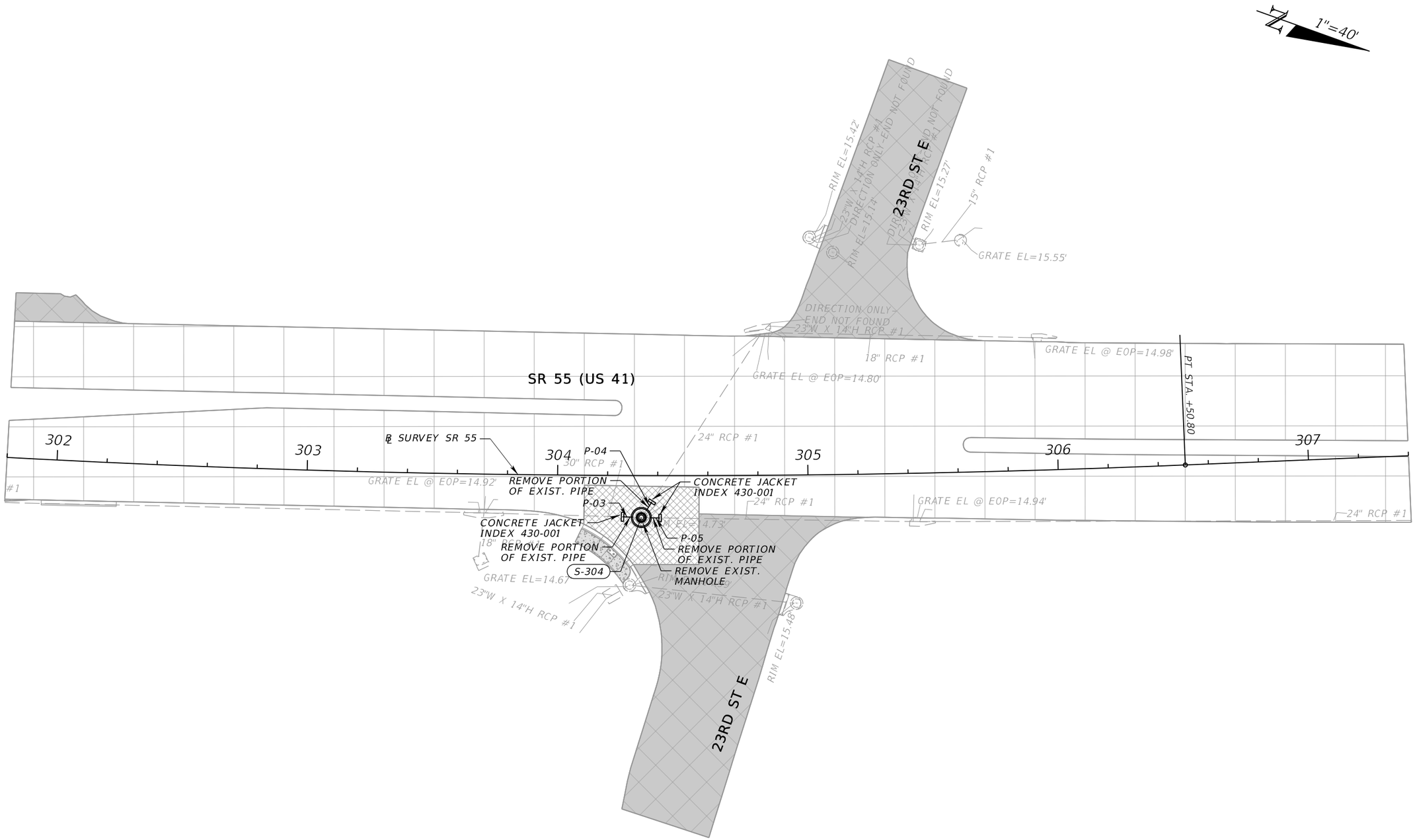
REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			DRAINAGE STRUCTURES (4)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	MANUEL MONREAL, JR., P.E. LICENSE NUMBER: 75553 PATEL, GREENE & ASSOCIATES, LLC 215 E. MAIN STREET BARTOW, FL 33830	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		81
					SR 55	MANATEE	447379-1-52-01		



REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			DRAINAGE STRUCTURES (5)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	MANUEL MONREAL, JR., P.E. LICENSE NUMBER: 75553 PATEL, GREENE & ASSOCIATES, LLC 215 E. MAIN STREET BARTOW, FL 33830	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		82
					SR 55	MANATEE	447379-1-52-01		

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12/18/2024 11:35:24 AM USER: jonathan.ellec
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1"=40'

18" CMP #1

195 196 ℄ SURVEY SR 55 S BND 197 BAYSHORE RD 198 199 200

N0°18'38"E

SR 55 (US 41)

RIM EL=17.12'

SR 55 (US 41)

S-195

RIM EL=20.54'

15" RCP #1

RIM EL=19.39'

REMOVE EXIST. INLET TOP

15" RCP #1

REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			DRAINAGE STRUCTURES (6)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	MANUEL MONREAL, JR., P.E. LICENSE NUMBER: 75553 PATEL, GREENE & ASSOCIATES, LLC 215 E. MAIN STREET BARTOW, FL 33830	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 55	MANATEE	447379-1-52-01		83

12/18/2024 11:35:25 AM USER: jonathan.ellec
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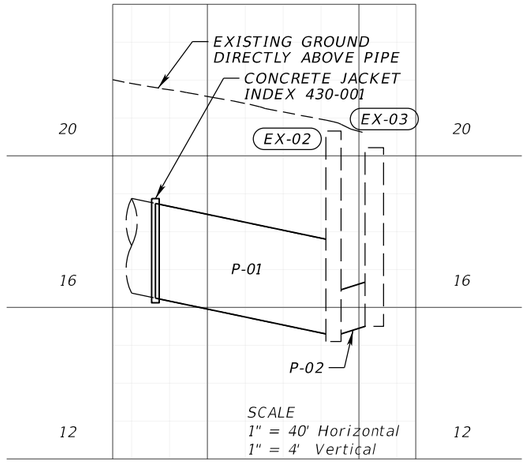

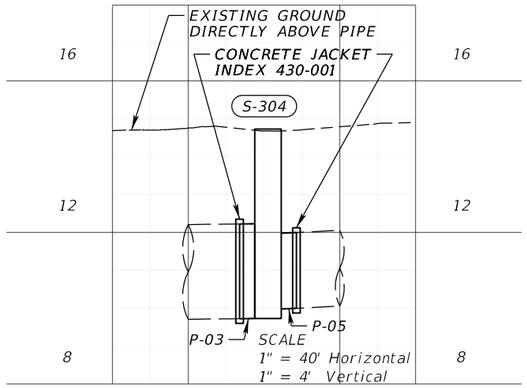

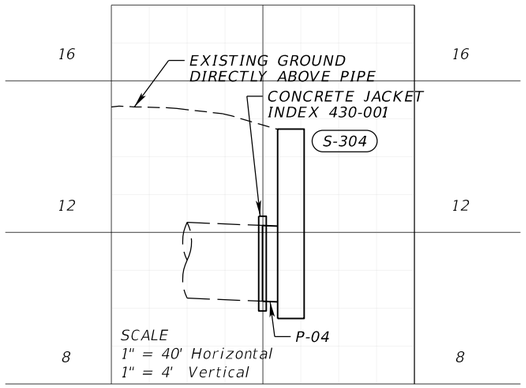

Pipe Data								
Label	Number of Barrels	Length (Construction) (ft)	Size	Start Node (Upper)	Start Invert (ft)	Stop Node (Lower)	Stop Invert (ft)	Optional Pipe
P-01	1	45	30 inch	CONCRETE JACKET	MATCH EXIST.	EX-02	MATCH EXIST.	RCP
P-02	1	7	14x23 inch	EX-03	MATCH EXIST.	EX-02	MATCH EXIST.	RCP
P-03	1	4	30 inch	S-304	9.73	CONCRETE JACKET	MATCH EXIST.	RCP
P-04	1	4	24 inch	CONCRETE JACKET	MATCH EXIST.	S-304	10.17	RCP
P-05	1	4	24 inch	CONCRETE JACKET	MATCH EXIST.	S-304	9.98	RCP

Structure Data									
Label	Baseline Feature	Baseline Station (ft)	Baseline Offset (ft)	Structure Type	Bottom Dimensions	FDOT Standard Plans (400 index series) Notes	Remarks	Reference Point Elevation (ft)	-Pipe- Label
S-162	SR55_S	162+12.90	-41.94	CURB INLET TYPE 4			REPLACE TOP	13.48	
S-246	SR55_N	246+25.61	3.90	CURB INLET TYPE 7			REPLACE TOP	7.35	
S-195	SR55_S_BND	195+03.29	93.29	CURB INLET TYPE 7			REPLACE TOP	19.71	
S-304	SR55_N	304+33.50	16.75	MANHOLE TYPE J-7	7' DIA.			14.73	
									(Out) P-03
									(In) P-04
									(In) P-05

BASELINE STATIONING, OFFSET AND ELEVATION REFERENCE POINT REFFERS TO EOP.

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

MANUEL MONREAL, JR., P.E.
LICENSE NUMBER: 75553
PATEL, GREENE & ASSOCIATES, LLC
215 E. MAIN STREET
BARTOW, FL 33830

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 55	MANATEE	447379-1-52-01

DRAINAGE STRUCTURES (7)

SHEET NO. 84

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

12/18/2024 11:35:37 AM USER: jonathanellec
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