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**TECHNICAL REPORT COVERSHEET**

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Cultural Resource Assessment Survey

Florida Department of Transportation

District 5

LPGA Boulevard PD&E Study

Limits of Project: From US 92 (SR 600) to Williamson Boulevard

Volusia County, Florida

Financial Management Number: 448456-1

ETDM Number: 14332

Date: March 2023

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.



# LPGA BOULEVARD FROM US 92 (SR 600) TO WILLIAMSON BOULEVARD PD&E STUDY

FPID: 448456-1-22-01

## CULTURAL RESOURCE ASSESSMENT SURVEY

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March 2023



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**CULTURAL RESOURCE ASSESSMENT SURVEY  
OF LPGA BOULEVARD FROM US 92 (SR 600) TO WILLIAMSON  
BOULEVARD PROJECT DEVELOPMENT & ENVIRONMENT STUDY  
VOLUSIA COUNTY, FLORIDA**

FINANCIAL MANAGEMENT NO. 448456-1-22-01

SEARCH PROJECT NO. T21204

PREPARED FOR

HDR ENGINEERING, INC. AND  
FLORIDA DEPARTMENT OF TRANSPORTATION, DISTRICT 5  
DELAND, FLORIDA

PREPARED BY

**SEARCH**

DREW KINCHEN, CAROLINE STEFFY, ASHLEY PARHAM, MIKEL TRAVISANO, AND JESSICA FISH



---

JESSICA FISH, M.ST., RPA  
PRINCIPAL INVESTIGATOR, ARCHAEOLOGY



---

JASON NEWTON, MA, MLIS  
PRINCIPAL INVESTIGATOR, ARCHITECTURAL HISTORY

WWW.SEARCHINC.COM

MARCH 2023

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## Executive Summary

The Florida Department of Transportation (FDOT), District 5, is conducting a Project Development & Environment (PD&E) Study to widen sections of LPGA Boulevard and modifications to the LPGA Boulevard/I-95 Interchange. This report presents the findings of a Phase I cultural resource assessment survey (CRAS) conducted in support of the PD&E Study. The project limits begin at US 92 (SR 600) and continue north and east along LPGA Boulevard, terminating at Williamson Boulevard. The project corridor also includes smaller sections of roadway such as Williamson Boulevard at LPGA Boulevard, the I-95 corridor at LPGA Boulevard, North Tomoka Farms Road at LPGA Boulevard, and US 92 at LPGA Boulevard, for a total distance of approximately 15.5 kilometers (km) (9.5 miles [mi]). This project is federally funded. All improvements will be constructed within the existing LPGA Boulevard and I-95 right-of-way; no additional right-of-way will be acquired.

To encompass all potential improvements, the LPGA Boulevard archaeological area of potential effects (APE) was defined to include the existing LPGA Boulevard right-of-way from US 92 (State Road 600) to Williamson Boulevard, a 0.98-km (0.61-mi) section of Williamson Boulevard at LPGA Boulevard, a 2.7-km (1.7-mi) section of the Interstate 95 corridor, a 0.11-km (0.07-mi) section of North Tomoka Farms Road at LPGA Boulevard, and a 0.92-km (0.60-mi) section of US 92. The architectural history APE was extended to the back or side property lines of parcels adjacent to the right-of-way or a distance of no more than 100 meters (330 feet) from the right-of-way line to consider viewshed effects to aboveground resources.

The archaeological survey of the project corridor consisted of pedestrian reconnaissance and subsurface archaeological testing. In total, 96 shovel tests were excavated, nine of which contained artifacts. In addition to the excavated shovel tests, 200 “no dig” points were recorded due to extensive ground disturbing activities from buried utilities and development. Three archaeological sites (8VO10479, 8VO10480, and 8VO10481) and two archaeological occurrences (AO-1 and AO-2) were recorded as a result of this survey. SEARCH recommends all three sites as ineligible for listing on the NRHP due to site disturbance, absence of dense cultural deposits and features, small and ubiquitous artifact assemblages, and lack of research potential to significantly contribute to the archaeological record of the region. No further archaeological survey is recommended for sites 8VO10479, 8VO10480, and 8VO10481 in support of the proposed LPGA Boulevard improvements.

The architectural survey resulted in the identification and evaluation of one historic resource, the Tomoka River to Bennett Swamp Canal (8VO10488). Due to its commonality and lack of notable engineering features or historical associations, the Tomoka River to Bennett Swamp Canal (8VO10488) is recommended ineligible for listing in the NRHP. No further architectural history survey is required.

No NRHP-listed or eligible cultural resources were identified within the project APE. No further cultural resources work is recommended.

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## 1.0 Introduction

The Florida Department of Transportation (FDOT), District 5, is conducting a Project Development & Environment (PD&E) Study to widen sections of LPGA Boulevard and modifications to the LPGA Boulevard/I-95 Interchange. This report presents the findings of a Phase I cultural resource assessment survey (CRAS) conducted in support of the PD&E Study. The project limits begin at US 92 (SR 600) and continue north and east along LPGA Boulevard, terminating at Williamson Boulevard (**Figure 1**). The project corridor also includes smaller sections of roadway such as Williamson Boulevard at LPGA Boulevard, the I-95 corridor at LPGA Boulevard, North Tomoka Farms Road at LPGA Boulevard, and US 92 at LPGA Boulevard, for a total distance of approximately 15.5-kilometers (km) (9.5-miles [mi]). This project is federally funded. All improvements will be constructed within the existing LPGA Boulevard and I-95 right-of-way; no additional right-of-way will be acquired.

The project area of potential effects (APE) was developed to consider any physical, visual, audible, and atmospheric effects that the project may have on cultural resources. The archaeological APE was defined to include the existing 10.6-km (6.5-mi) section of the LPGA Boulevard right-of-way from US 92 (SR 600) to Williamson Boulevard, a 0.98-km (0.61-mi) section of Williamson Boulevard at LPGA Boulevard, a 2.7-km (1.7-mi) section of the I-95 corridor, a 0.11-km (0.07-mi) section of North Tomoka Farms Road at LPGA Boulevard, and a 0.92-km (0.60-mi) section of US 92. The architectural history APE was extended to the back or side property lines of parcels adjacent to the right-of-way or a distance of no more than 100 meters (m) (330 feet [ft]) from the right-of-way line to consider viewshed effects to aboveground resources (**Figure 2**). For the purposes of this report, the “APE” refers to the combined archaeological and architectural history areas of potential effects.

The purpose of the survey was to locate, identify, and bound any archaeological resources, historic buildings or structures, and potential historic districts within the project’s APE and assess their potential for listing in the National Register of Historic Places (NRHP). This survey was conducted to comply with Public Law 113-287 (Title 54 U.S.C.), 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 survey also meets the regulations for implementing NHPA Section 106 found in 36 CFR Part 800 (*Protection of Historic Properties*). This survey also complies with Chapter 267 of the Florida Statutes and Rule Chapter 1A-46, Florida Administrative Code. All work was performed in accordance with Part 2, Chapter 8 of the FDOT’s Project Development & Environment (PD&E) Manual (revised July 2020) as well as 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 investigators for this project meets the Secretary of the Interior’s Standards and Guidelines (48 FR 44716-42).

Jessica Fish, MSt, RPA, served as the principal investigator of archaeology and Jason Newton,

MA, MLIS, served as the principal investigator of architectural history. The report was written by Drew Kinchen, BA, Caroline Steffy, BA, Mr. Newton, and Ashley Parham, PhD. The fieldwork was conducted by Maddeline Voas, MA, RPA, Erin Martin, MA, Ariel Olivera, BA, and Jacob Lester, BA. All field maps and figures were created by Angelica Costa, MA. Varna Boyd, MA, RPA, conducted the quality control review, and Kevin Artiga, BA, edited and produced the document.

## 1.1 Project Description

FDOT is conducting a Project Development and Environment (PD&E) Study of LPGA Boulevard from US 92 (International Speedway Boulevard) to Williamson Boulevard within the City of Daytona Beach in Volusia County (approximately 6.2 miles). The proposed improvements involve widening of LPGA Boulevard which will include the addition of bicycle and pedestrian facilities and modifications to the LPGA Boulevard/I-95 interchange.

A project location map is provided in **Figure 1**. Existing LPGA Boulevard is a two-lane roadway from US 92 to Tomoka Farms Road (east of the Tomoka River), a four-lane roadway from Tomoka Farms Road to the I-95 Southbound Ramps, and a six-lane roadway from the I-95 Southbound Ramps over I-95 to Williamson Boulevard. There are 14 intersections along the corridor including ramp terminals at the I-95 interchange, nine of which are signalized.

LPGA Boulevard is a county road maintained by Volusia County, except between Tomoka Farms Road and Technology Boulevard/Outlet Boulevard where FDOT maintains the limited access right-of-way to the I-95 interchange. Most of LPGA Boulevard does not have paved shoulders and sidewalks, and there are only limited areas of sidewalks between Tymber Creek Road and Williamson Boulevard.

I-95 is a six-lane, Strategic Intermodal System (SIS) facility and is a hurricane evacuation route. The I-95 interchange at LPGA Boulevard (Exit 265) is a partial cloverleaf interchange, or parclo interchange, with six on and off ramps. This interchange is located approximately 3.5 miles north of the I-95 and US 92 interchange and approximately 2.7 miles south of the I-95 and SR 40 interchange.

## 1.2 Purpose and Need

The purpose of this project is to accommodate existing and projected future travel demand, enhance safety, and improve operations for the LPGA Boulevard corridor and the I-95 interchange.

The need for the project is based on existing and future transportation demand and safety along the LPGA Boulevard corridor and at the interchange area. Improvements are necessary to address unacceptable levels of service (LOS) (below target LOS D and LOS E) and enhance the safety of travel conditions along LPGA Boulevard and at the I-95 interchange area.

LPGA Boulevard from US 92 (SR 600) to Williamson Boulevard PD&E Study  
CRAS of LPGA Boulevard PD&E Study, Volusia County, Florida

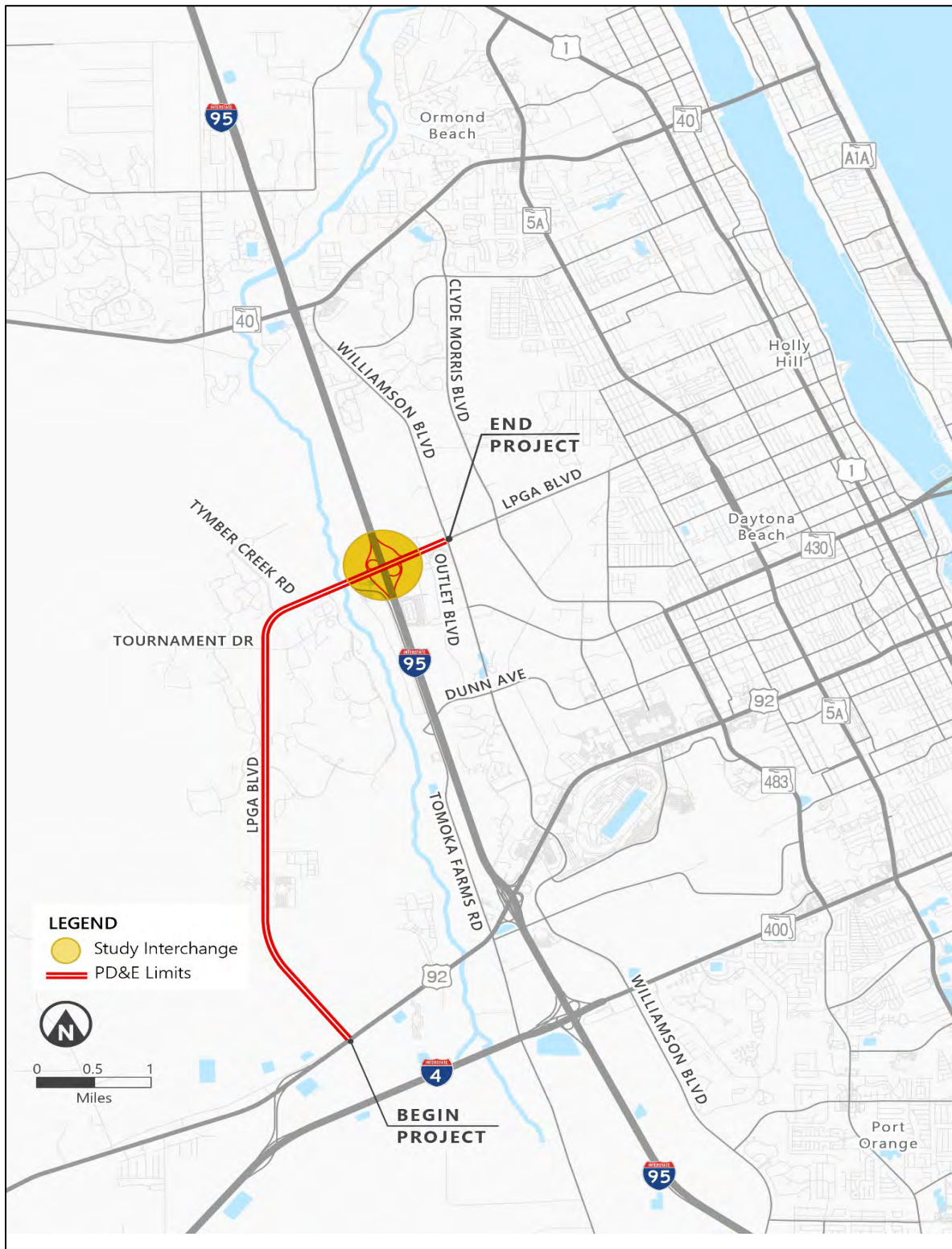


Figure 1. Project Location Map.



Figure 2. The LPGA Boulevard PD&E project APE in Volusia County, Florida.

### 1.2.1 Transportation Demand

LPGA Boulevard from US 92 to Williamson Boulevard is currently operating near capacity. A review of existing (2021) traffic volumes in the project area showed an Annual Average Daily Traffic (AADT) of 12,000 vehicles per day for LPGA Boulevard from US 92 to Tomoka Farms Road and an AADT of up to 44,000 vehicles per day from Tomoka Farms Road through the I-95 interchange to Williamson Boulevard. Large, approved developments and active construction projects (such as LPGA Preserve, Indian Road Warehouse, and Tomoka Village), in combination with additional planned growth in the vicinity of LPGA Boulevard, are expected to increase traffic to levels that would exceed maximum service volumes for two-lane and six-lane, non-state, signalized roadways per the 2020 FDOT Quality/Level of Service (QLOS) Handbook. Future (2050) travel demands along LPGA Boulevard are expected to double or triple in some locations. The AADT between US 92 and Tymber Creek Road is expected to reach 36,000 vehicles per day. Heavy volumes are expected east of the I-95 interchange where AADT will reach 78,000 vehicles per day in 2050. These volumes will significantly exceed the existing roadway capacity and cause LPGA Boulevard to operate at LOS F.

The target LOS for I-95 and LPGA Boulevard is LOS D per FDOT and LOS E per Volusia County. The I-95 freeway segment approaching LPGA Boulevard currently functions at LOS D or better. However, queuing has been observed on the I-95 northbound and southbound off-ramps and on westbound LPGA Boulevard west of I-95, indicating capacity deficiencies. Based on anticipated growth, the quality of traffic flow on I-95 and LPGA Boulevard in the study area is expected to decline in future years. Without improvements to the LPGA Boulevard corridor, the intersections on LPGA Boulevard as well as the I-95 off-ramps are anticipated to operate over capacity in the future resulting in longer travel times to reach workplaces, schools, and businesses.

### 1.2.2 Safety

A review of crash data reported in the study area for the five-year period from January 1, 2015, to December 31, 2019, indicated there were 1,354 crashes, an average of 270 crashes per year. The most predominant crash type reported for the overall study area is rear-end crashes (37%). There were 11 reported fatal crashes, 414 injury crashes and 929 property-damage-only crashes reported for the overall study area.

The highest numbers of crashes correspond to the locations with deficient LOS. These include the I-95 northbound off-ramp to LPGA Boulevard with crashes during the intersection's right turn on red condition; the I-95 southbound loop on-ramp from LPGA Boulevard westbound, and the eastbound approach of LPGA Boulevard to Williamson Boulevard. There are also high numbers of crashes at the intersections and uncontrolled access points along LPGA Boulevard. Most of LPGA Boulevard lacks pedestrian and bicycle facilities, which creates unsafe conditions for nonmotorized users. Between 2015 and 2019 six pedestrian/bicycle crashes were reported within the study area.

Without improvements to the LPGA Boulevard corridor and at the I-95 interchange, the number of crashes is expected to continue to rise as future traffic volumes increase substantially, compromising the safety for both vehicular and nonmotorized users.

### **1.3 Description of Considered Alternatives**

The PD&E Study evaluated the following alternatives.

- No-Build Alternative
- Transportation Systems Management and Operations (TSMO) Alternative
- Build Alternative

These alternatives are further described below.

#### **1.3.1 No-Build Alternative**

The No-Build Alternative maintains the existing roadway along LPGA Boulevard and loop ramp interchange configuration at the I-95 interchange. There are no additional planned and programmed improvements within the study limits. This alternative does not address the purpose and need for this project. However, it was evaluated throughout the PD&E Study process as a baseline for comparison against the No Build Alternative.

#### **1.3.2 Transportation Systems Management and Operations**

TSMO strategies for safety and congestion management, such as addition of turn lanes and storage lengths, signal timing optimization, auxiliary lanes, premium transit, and technology improvements were considered. However, these improvements by themselves do not address the levels of traffic demand projected to use LPGA Boulevard and the I-95 interchange in the design year (2050). It is noted that ramp metering (traffic signals on a ramp) was evaluated and included in the Build Alternative to control the rate vehicles enter a freeway facility. As part of the design and operational optimization of the proposed improvements, applicable TSMO strategies such as Wrong-Way Vehicle Detection Systems and Dynamic Speed Feedback Systems will be evaluated and included in the Build Alternative during the Design phase, as appropriate.

#### **1.3.3 Build Alternative**

One build alternative was developed and evaluated against the No-Build Alternative. The Build Alternative consists of widening LPGA Boulevard to an urban typical section with different number of lanes (depending on the future travel demand), intersection improvements, redesigning to the I-95 interchange to an innovative design concept called Signalized Turbine Interchange, and addition of shared use paths on both sides of the road to accommodate pedestrians and bicycles.

The proposed improvements along LPGA Boulevard are described as follows:

### **1.3.3.1 LPGA Boulevard from US 92 to Tymber Creek Road**

An urban typical section with two 12-ft travel lanes in each direction separated by a 54-ft raised grass median is proposed, a distance of 4.5 miles. The wider median will allow for future addition of two more lanes should the travel demand warrant beyond the design year for this project. Bicyclists and pedestrians will be accommodated by 14-ft shared use paths on both sides of the road. The design speed is 45 mph, and the proposed roadway improvements are within the existing 200-ft ROW.

### **1.3.3.2 LPGA Boulevard from Tymber Creek Road to Williamson Boulevard**

An urban typical section with three to four 11-ft travel lanes in each direction separated by a variable width raised median, a distance of 1.7 miles. The wider median will allow for accommodation of up to triple left turn lanes at LPGA Boulevard and Outlet Boulevard/Technology Boulevard intersection and LPGA Boulevard and Williamson Boulevard intersection. At some intersections (and ramp terminals) exclusive right turn lanes are proposed to accommodate heavy turning traffic volumes. Bicyclists and pedestrians will be accommodated by 12-ft shared use paths on both sides of the road. The design speed is 35 mph and the proposed roadway improvements are within the existing 185-ft to 320-ft of ROW.

### **1.3.3.3 Tomoka River Bridge**

Tomoka River Bridge will be replaced with a single wider and longer bridge to accommodate widening of LPGA Boulevard and address bridge hydraulics including sea-level rise effect. The proposed bridge typical section for the Tomoka River Bridge is based on the typical section for the segment between Tymber Creek Road and Williamson Boulevard and includes three 11-ft travel lanes in each direction, left turn lanes, and 12-ft shared use paths on both sides of the bridge to accommodate pedestrians and bicycles. The bridge will be approximately 340 ft long.

### **1.3.3.4 Intersections**

LPGA Boulevard improvements include the following intersection concepts.

- US 92 – Signalized Intersection
- Welshinger Butler Circle South – Roundabout
- Welshinger Butler Circle North – Signalized Intersection
- International Tennis Drive/International Golf Drive - Roundabout
- Tournament Drive – Signalized Intersection
- Tymber Creek Road – Signalized Intersection
- Tomoka Farms Road – Signalized Intersection with a Partial Thru-Cut and Restricted Control U Turn (RCUT)
- Outlet Boulevard/Technology Boulevard – Signalized Thru-Cut Intersection
- Williamson Boulevard – Signalized Intersection
- Concierge Boulevard – Right-In-Right-Out Intersection

### 1.3.3.5 I-95 Interchange

After consideration of the future (2050) demand volumes, potential future growth trends in the LPGA Boulevard area, and coordination with District 5, a Signalized Turbine Interchange concept was proposed to be evaluated at the I-95 interchange. This interchange concept is needed to accommodate heavy traffic flows which head to and from I-95; in addition to traffic volumes between the I-95 ramp terminals and the Outlet Boulevard/Technology Boulevard intersection. The Signalized Turbine Interchange is expected to address unbalanced and heavy traffic movements from/to I-95 and Technology Boulevard, Outlet Boulevard, and Williamson Boulevard.

The Signalized Turbine Interchange concept is an innovative low speed with signal controls interchange variant of the turbine interchange typically implemented in freeway-to-freeway (system) interchanges. Compared to a conventional high-speed turbine interchange, this concept has two levels, and its ramps are curved to connect along LPGA Boulevard with two-phase signals. The LPGA Boulevard is split into separate one-way pairs by 200–300 feet, providing additional queue storage of left turning vehicles without conflicting to the oncoming traffic.

The signalized turbine interchange concept spreads the traffic across westbound and eastbound LPGA Boulevard and, as a result, it moves high traffic volumes and provides enough queue storage between signalized ramp terminals. This concept would provide better safety and operational benefits than the other conventional concepts during the design year. Additionally, the Signalized Turbine Interchange can more easily allow for expansion of through lanes along LPGA Boulevard should future travel demand warrant.

## 2.0 Project Location and Environment

### 2.1 Location and Modern Conditions

The project corridor is an approximately 10.6-km (6.5-mi) segment of LPGA Boulevard located near the City of Daytona Beach in northeastern Volusia County, Florida, within Sections 3, 4, 8, 9, 10, 17, 20, 29, 32, and 33 of Township 15 South, Range 32 East. Beginning at US 92 (SR 600), the project corridor follows LPGA Boulevard northward and eastward as the road curves, encompassing the interchange with I-95, and terminating at Williamson Boulevard. The project limits also include a 0.98-km (0.61-mi) section of Williamson Boulevard at LPGA Boulevard, a 2.7-km (1.7-mi) section of the I-95 corridor, a 0.11-km (0.07-mi) section of North Tomoka Farms Road at LPGA Boulevard, and a 0.92-km (0.60-mi) section of US 92. LPGA Boulevard is a two-lane road from US 92 (SR 600) to Tomoka Farms Road, and a four-lane facility from Tomoka Farms Road through the I-95 interchange to Williamson Boulevard.

The project corridor abuts Tiger Bay State Forest from its beginning point to approximately 1.3 km (0.8 mi) north of US 92 (SR 600). The majority of the land located along the northbound segment of the corridor is undeveloped, with some minor development including a high school, stadium, tennis center, and residential housing complexes. Along the eastbound segment of the

corridor, the majority of adjacent land is developed with residential housing, shops, and the I-95 interchange. The elevation within the relatively flat project corridor is 1.8 m (6.0 ft) to 15 m (49 ft) above mean sea level. Geologically, the APE is a part of the larger Volusia Ridge Sets physiographic province. Soils within the archaeological APE are primarily somewhat and very poorly drained Pompano and Pomona fine sands with small amounts of moderately well drained Daytona and Orsino fine sands just west of the I-95 interchange (**Figure 3**).

## 2.2 Paleoenvironment

Between 18,000 to 12,000 years before present (BP), Florida was a much cooler and drier place than it is today. Melting of the continental ice sheets led to a major global rise in sea level (Rohling et al. 1998) that started from a low stand of 120 m (394 ft) below current sea level at 18,000 BP. At that time, the temperature of southeastern United States, from North Carolina to Florida, was roughly 12 degrees Celsius (53.6 degrees Fahrenheit) colder than today, as well as drier and windier (Watts 1980). The rise was slow while glacial conditions prevailed at high latitudes but became very rapid in the latest Pleistocene and earliest Holocene. It became warmer and wetter rather rapidly during the next three millennia. Sea levels rose rapidly between 12,000 BP and 8000 BP (Watts 1980). By about 9000 BP, a warmer and drier climate began to prevail. These changes were more drastic in northern Florida and southern Georgia than in southern Florida, where the “peninsular effect” and a more tropically influenced climate tempered the effects of the continental glaciers that were melting far to the north (Watts 1969, 1971, 1975, 1980). Sea levels, though higher, were still much lower than at present; surface water was limited, and extensive grasslands probably existed, which may have attracted large grazing mammals. By 6000–5000 BP, the climate had changed to one of increased precipitation and surface water flow (Watts 1969, 1971, 1975, 1980). By the late Holocene, ca. 4000 BP, the climate, water levels, and plant communities of Florida attained essentially modern conditions. The small prairies and oak savannas gave way to the more current species-rich pine forests. These have been relatively stable with only minor fluctuations over the past 4,000 years (Watts 1971).

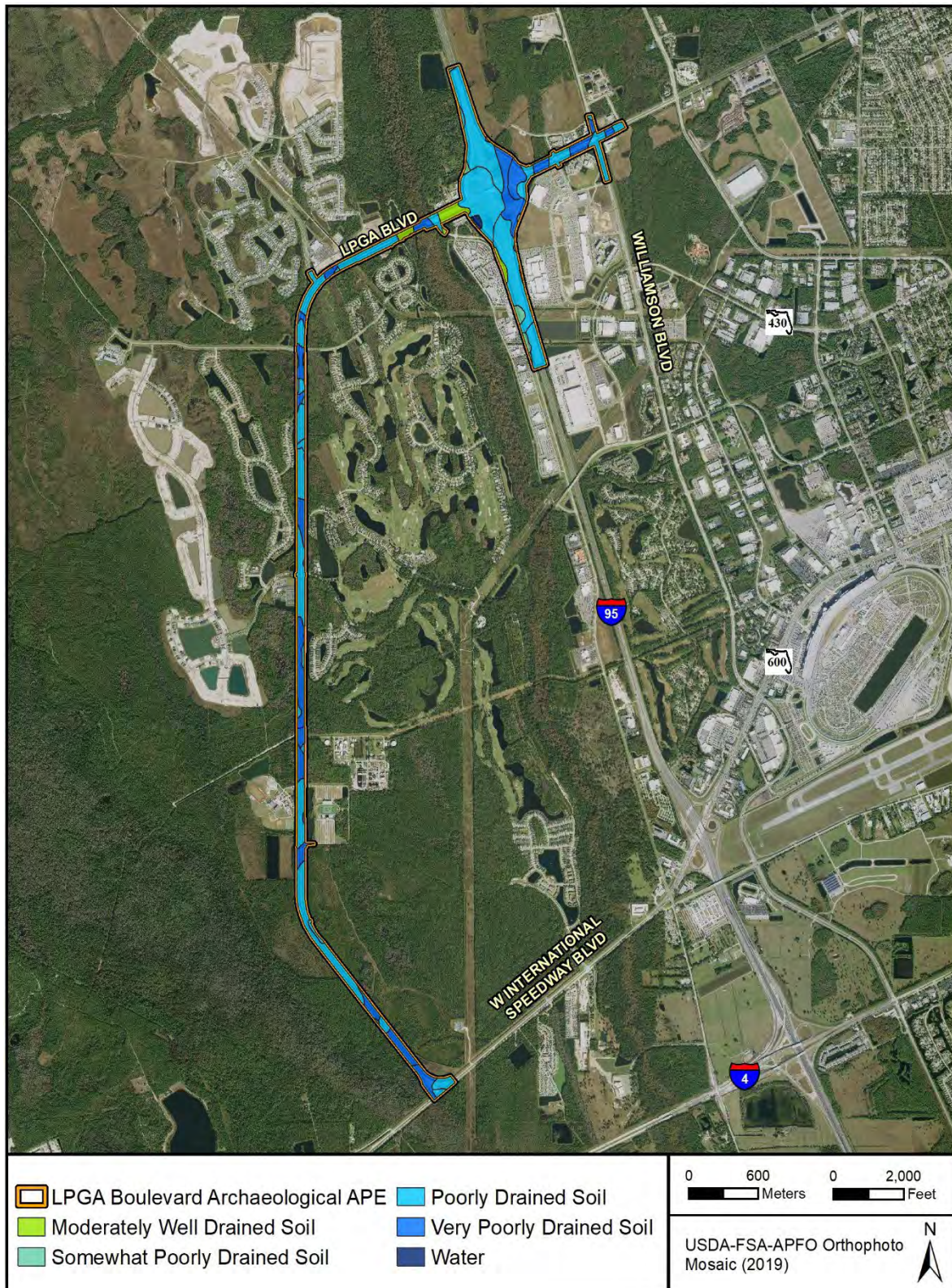


Figure 3. Soil drainage within the archaeological APE.

### 3.0 Historic Overview

#### 3.1 Native American Culture History

The following precontact historic overview of central Florida consists of a four-part chronology, with each period based on distinct cultural and technological characteristics recognized by archaeologists. The four temporal periods are Paleoindian, Archaic, Woodland, and Mississippian, with some having regional subperiods (**Table 1**). While each period is briefly discussed below, readers are referred to Milanich (1994) for a more comprehensive treatment of the precontact history of Florida.

##### 3.1.1 Paleoindian Period (10,000–8000 BP)

While definitive evidence of human occupation in the region is generally attributed to the Clovis culture with its signature fluted projectile points, traces of earlier occupation, beginning about 12,000 BP, are present at several eastern North American sites (Goodyear 2005; Lothrop et al. 2016). The Meadowcroft Rockshelter site in southwestern Pennsylvania (Adovasio et al. 1998), the Barton site in western Maryland (Lothrop et al. 2016), the Cactus Hill site in southern Virginia (McAvoy and McAvoy 1997; Virginia Department of Historic Resources 2022), the SV-2 site in southwestern Virginia (Goodyear 2005), and the Topper site in South Carolina (Goodyear 2005) have all yielded carbon-dates pre-dating Clovis occupation, although no clear diagnostic artifacts have been identified in the earliest deposits at these sites. Regardless, it is now well accepted that pre-Clovis peoples precede the traditional Paleoindian period peoples.

Alternative pre-12,000 BP migration routes 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). Many early occupation sites would now be inundated as a result of rising sea levels. Evidence from the Page-Ladson site (8JE00591) provides the earliest evidence of human occupation of Florida, roughly 14,500 BP (Halligan et al. 2016). Butchered mammoth remains and lithic debitage, as well as a single biface, were recovered from intact deposits in an underwater sinkhole at the Aucilla River. This site correlates with an increasing acceptance of a moderately rapid pre-Clovis peopling of the Americas.

**Table 1. Prehistory of Central Florida**

Name	Time Period
<b>Paleoindian Period</b>	10,000+–8000 BP
<b>Archaic Period</b>	10000–2500 BP
<b>Early</b>	10000–7000 BP
<b>Middle</b>	7000–5000 BP
<b>Late</b>	5000–2500 BP
<b>Preceramic</b>	5000–4000 BP
<b>Orange</b>	4000–2500 BP
<b>Woodland Period</b>	2500-1250 BP
<b>St. Johns I</b>	2500–1900 BP
<b>St. Johns Ia</b>	1900–1500 BP
<b>St. Johns Ib</b>	1500–1250BP
<b>Mississippian Period</b>	1250–435 BP
<b>St. Johns IIa</b>	1250–950 BP
<b>St. Johns IIb</b>	950–487 BP
<b>St. Johns IIc</b>	487–435 BP

The conventional view of Paleoindian existence in Florida is that people were nomadic hunters and gatherers who entered an environment quite different than that of the present. Excavations at the Harney Flats site in Hillsborough County altered this view, and many archaeologists believe that people during the Paleoindian period lived part of the year in habitation sites that were located near critical resources such as fresh water. The climate during the Paleoindian period was cooler than at present and the land drier, with much lower coastal sea levels and inland water table (Carbone 1983; Watts and Hansen 1988). The paucity of potable water sources likely played a crucial role in the distribution of Paleoindian groups across the landscape. Archaeologists hypothesize that these populations frequented sinkholes and springs to collect water and exploit the flora and fauna that were also attracted to these locations (Dunbar 1991; Milanich 1994; Webb et al. 1984). Numerous freshwater sources were in areas of exposed Tertiary-age limestone that had become silicified, providing people with a raw material source (chert) for tool manufacture. Thus, it is thought that permanent freshwater sources (i.e., sinkholes and springs), along with locations of high-quality chert, were primary factors influencing Paleoindian settlement patterns in Florida.

### **3.1.2 Archaic Period (10,000–2500 BP)**

Around 10000 BP, climatic amelioration prompted pronounced environmental and physiological changes in Florida. These interconnected changes included a gradual warming trend, a rise in sea levels, a reduction in the width of peninsular Florida, and the spread of oak-dominated forests and hammocks throughout much of Florida (Milanich 1994; Smith 1986). Alterations in native subsistence strategies, which became more diverse due to the emergence of new plant, animal, and aquatic species, were concomitant with these environmental changes. A significant increase in population numbers and density, with native groups developing regional habitat-specific adaptations and material assemblages, also occurred (Milanich 1994; Smith 1986:10). Wetter conditions increasingly encouraged coastal, riparian, and lacustrine adaptations.

Within the East and Central Lakes District of the Florida Archaeological Regions, evidence of the earliest Archaic period occupations usually consists of lithic scatters containing chert debitage and, occasionally, projectile points (Milanich and Fairbanks 1980). While Early Archaic Bolen projectile points have been recovered at sites in central Florida, Middle Archaic points, such as Hardee, Sumter, Alachua, Putnam, and Newnan, are typically more common (Smith and Bond 1984:53-55). As life became more settled during the Archaic period, an array of site types evolved, including residential bases, short-term settlements, specialized procurement camps, and cemeteries (Milanich 1994:75-85). These sites comprised the regional settlement-subsistence system.

The trend toward increased sedentism and more circumscribed territories continued into the Late Archaic period, as environmental and climatic conditions approached those of today. The emergence of ceramic traditions and the inception of limited horticulture characterizes this period (Sassaman 1993). In north-central Florida, the development of pottery occurred around 4000 BP. Referred to regionally as Orange pottery, this early ceramic ware contained vegetal fibers, such as thin strands of palmetto or Spanish moss, as temper (Bullen 1972; Griffin 1945).

During a span of approximately 1,500 years, plain, incised, and punctated types were produced; however, decorated variants underwent periods of stylistic popularity. Early vessel forms were hand molded and generally thick walled, whereas some of the later vessels were thinner and were formed by coiling. Orange pottery is found sparingly in Florida and is primarily recovered in eastern and central portions of the state.

Orange fiber-tempered ceramics were first described by James Griffin (1945:219) and are considered among the earliest pottery types in the region. Norwood, the next recognized early fiber-tempered ceramic culture, extended from the Gulf Coast to the Orange series on the East Coast. Fiber-tempered ceramics with sand temper or inclusions characterize these early ceramic periods. The fiber-tempered Norwood pottery is usually undecorated or stick impressed. A variety of the later Deptford simple-stamped ceramic ware found on the Gulf Coast also is stick impressed and seems to be derived from the earlier Norwood ceramic assemblage (Milanich and Fairbanks 1980).

A third fiber-tempered ceramic variant, known as Tick Island Incised, was produced concomitantly with the Orange series ware and occurs in the Upper St. Johns River drainage area. The curvilinear designs incised onto the exterior of Tick Island ware incorporate small dashes or punctations. A typical design uses concentric circles and dashes between the lines of the circle. This type is somewhat localized and is not typical at sites outside of the Upper St. Johns area.

Over time, increasing amounts of sand was added as a tempering agent to the clay used to make pottery. This technique eventually replaced the practice of using plant fibers as temper. The Deptford culture produced early sand- and grit-tempered pottery in north Florida. St. Johns ware, the other dominant pottery type that followed the fiber-tempered tradition, was produced in northeast Florida. St. Johns pottery temper contains microscopic sponge spicules, or exoskeletons. Although some sand was added to this pottery, St. Johns ware lacks the fiber, sand, and grit temper that is typical of pre-contact pottery in many parts of the southeastern United States. Deptford and St. Johns were produced at the same time and are often recovered in association with each other.

### **3.1.3 St. Johns Tradition (2500–435 BP)**

Although the East and Central Lakes District is not well studied archaeologically, research suggests that St. Johns is the dominant ceramic type in the region. Chalky pottery produced between 2500 BP and 435 BP, increased population and settlement numbers, construction of sand burial mounds, continued economic dependence on aquatic resources, and greater emphasis on plant cultivation characterize the St. Johns culture (Goggin 1952:40; Milanich 1994:243-274). While St. Johns ceramics are found across the peninsula, the St. Johns River drainage in central and northeastern Florida was the core area of the St. Johns culture. In eastern and central Florida, the St. Johns culture grew directly out of the Orange culture as evidenced by the carryover of late Orange period designs to early St. Johns period pottery. Within the St. Johns period, there are two major subdivisions (I and II).

In addition to St. Johns wares, sites in the Central Lakes District typically contain Glades and Belle Glade ceramics, which originate in the Lake Okeechobee region. These are more common in the south-central portion of this district, whereas homogeneous St. Johns assemblages are found in the northern portion of the region (Sears 1959). Freshwater shell and black earth middens often characterize sites located along the banks of inland rivers and lakes in this area (Austin and Hansen 1988; Hardin et al. 1984).

### **3.1.3.1 St. Johns I**

The St. Johns I period is divided into three subperiods (I, Ia, and Ib) based on observable changes in material culture, particularly ceramics (Goggin 1952:40; Milanich 1994:247). People of the St. Johns I culture (2500 – 1900 BP) were foragers who relied primarily upon hunting, fishing, and wild plant collecting. During this time, resources found near freshwater wetlands, swamps, and the coastal zones were typically the most heavily exploited. St. Johns I sites are often shell middens in coastal zones that contain St. Johns Plain and St. Johns Incised pottery. Notably, the construction of sand burial mounds also occurred in the St. Johns I period. These mounds, described by Goggin (1952) as low rises or truncated cones, were present in east Florida prior to 1900 BP (Milanich 1994:260).

At St. Johns Ia sites (1900–1500 BP), St. Johns Plain and Incised pottery continued to be produced, and a red-painted St. Johns variant, called Dunns Creek Red, also was made. Exotic Hopewellian artifacts also occur in burial mounds. Weeden Island pottery, primarily a Gulf Coast ware, has been recovered from late St. Johns Ia sites, probably as a product of trade. The St. Johns Ib period (1500–1250 BP) assemblages also included St. Johns Plain and Incised wares and Dunns Creek Red; however, Weeden Island pottery became more common. Everyday ceramics are typically plain. As the St. Johns culture progressed, sand mounds construction continued with the mounds becoming larger through time.

### **3.1.3.2 St. Johns II**

St. Johns II period is further divided into three subperiods (IIa, IIb, and IIc). As populations grew, the number and size of mounds and villages increased. The emergence of check stamped ceramics marks the beginning of the St. Johns II period around 1250 BP. This ceramic type, along with plain pottery, dominates artifact assemblages throughout the period. During St. Johns IIa (1250–950 BP), incised and punctated wares, possibly a reflection of Gulf Coast influences, occur with some frequency in mounds and middens. Late Weeden Island pottery continued to be traded into the St. Johns region and is recovered in sand burial mounds.

The St. Johns II tradition reached its apex in terms of social, political, and ceremonial complexity during the St. Johns IIb period (950–487 BP). Evidence of classic Mississippian traits, such as the construction of large, truncated mounds and the presence of Southern Cult burial paraphernalia in association with perceived elite burials, indicates influence from northwest Florida (Milanich 1994; Smith 1986). Some sand burial mounds were quite large and ceremonially complex, including truncated pyramidal mounds with ramps or causeways leading

up to their summits (Milanich 1994:269-270). The rise in the number of St. Johns village and mound sites implies greater cultural complexity compared to that of the earlier St. Johns I period (Milanich 1994:267-274; Miller 1991). Shell and bone ornaments, worked copper, and other exotic materials and artifacts occur with frequency in burial mounds (Goggin 1952; Milanich 1994).

In addition to the exploitation of aquatic resources for subsistence, archaeologists have suggested that native populations were more dependent on horticulture during St. Johns II times (Goggin 1952; Milanich 1994:263-264). In fact, sixteenth-century French and Spanish documents allege that the Timucua of northern Florida heavily cultivated beans, squash, and maize (Bennett 1964, 1968, 1975; Lawson 1992), although direct evidence of pre-contact horticulture is lacking for the St. Johns region (Bennett 1964, 1968, 1975; Lawson 1992).

The St. Johns IIc period (487–435 BP) represents the protohistoric period in northeastern Florida and is characterized by the introduction of European artifacts. Prior to the founding of St. Augustine by Pedro Menéndez de Avilés in 1565, the Spaniards made several forays into Florida, beginning with Juan Ponce de León in 1513. Apart from natives' intermittent exposure to European goods and diseases, the St. Johns IIc generally represents a continuation of the earlier St. Johns II period. Items such as glass beads, European pottery, hawk's bells, mirrors, metal hoes, axes, and chisels have been recovered in association with St. Johns IIc burials. Native artisans also acquired and reworked metals such as copper, silver, and gold.

## **3.2 Postcontact History**

The following is a historic context of Volusia County from European exploration to the present.

### **3.2.1 Early Spanish Exploration and Colonization, 1513–1763**

After several exploratory ventures, early failures to colonize Florida led Spanish king, Phillip II, to abandon the effort. However, this changed with the establishment of French settlements and military fortifications on Florida's east coast, including Fort Caroline near present-day Jacksonville in 1564 (Lyon 1983). The French settlement not only undermined Spanish claims to Florida, but also threatened Spanish fleets loaded with gold that sailed through the Straits of Florida. Consequently, King Phillip II sent Pedro Menéndez de Avilés to Florida with orders to expel the French. Menéndez arrived in Florida in 1565 to rid the area of the French; after doing so, he established St. Augustine, chosen for its strategic location. St. Augustine, as the first permanent Spanish settlement in the state, existed for two primary reasons: as a military outpost and as a base for missionaries sent to convert the native peoples to Catholicism (Deagan 1983).

The mission system focused largely on a line of missions that connected St. Augustine with the Apalachee region in the panhandle. After the failures of Jesuit missionaries, Menéndez brought in the Franciscan order, whose strategy involved establishing missions in existing native communities, often the larger settlements in the region (Bushnell 1990:478-479). Spain focused on the east-west route extending from St. Augustine, but missionaries also traveled the St. Johns River, looking for new places to establish contact with Native Americans to convert them. Some

historians of Volusia County (Schene 1976:3) claim that the San Antonio de Enacape mission held “the first church services” in the county, though other scholars (Milanich 1999:110-111) place the mission (spelled Enecape) in Putnam County. The introduction of the British into Florida led to the destruction of the mission system, though the British did continue to use connections from the Spanish period to trade with native groups.

### **3.2.2 British Period 1763–1784**

In 1763, Spain ceded Florida to Great Britain. Officials divided Florida at the Apalachicola River into East and West Florida. East Florida had its capital at St. Augustine and included present-day Volusia County (Fabel 1996). The British granted large swaths of land to settlers who promised to develop the interior of the territory. One of the largest English efforts to establish a colony in Florida was at Smyrna in modern New Smyrna Beach. In 1768, a Scottish physician, Dr. Andrew Turnbull, established a plantation on his 8,093.7-hectare (20,000-acre) land grant and raised indigo, rice, and other crops. Turnbull brought over 1,200 indentured servants from Europe, primarily Minorcans from Minorca, to work his land (Griffin 1991). Several years of drought eventually brought Turnbull’s effort to ruin. By 1777 the colonists abandoned the settlement to relocate to St. Augustine. However, the impact of the New Smyrna plantation lasted much longer than the colony itself. By the time of their departure from the settlement, Turnbull’s workers had cleared over 3,000 acres (1,214 hectares) of land and covered the country with an intricate and extensive canal system; today the remains of building foundations from the plantation are still present (Griffin 1991: 90).

Additionally, the importance of Turnbull’s colony to British settlement efforts is made apparent by the British government financing the construction of the Kings Road, the southern portion of which went from St. Augustine to Turnbull’s settlement. Completed in 1775 during the British period of Florida history, the Kings Road stretched from New Smyrna in Volusia County to the St. Marys River in Nassau County. The road connected St. Augustine with points northward and southward, providing a land alternative to sea travel. From both a commercial and military standpoint, the 150-mi (241 km) road was vital. When the Spanish returned to Florida in 1784, they maintained the road which continued to serve as a major corridor in the region into the early American period (Coomes 1975; Adams et al. 1997).

### **3.2.3 Second Spanish Period 1784-1821**

In 1783, the Treaty of Paris returned Florida to the Spanish. However, English-speaking settlers continued to reside in the area. The combination of former British subjects, Spanish soldiers and returning families, enslaved people, white and Black immigrants from the United States and Caribbean, and Seminole Indians made East Florida, including present-day Volusia County, a culturally and racially heterogeneous area (Coker and Parker 1996:158-159). A royal order issued on October 20, 1790, by the King of Spain to Governor Quesada of Florida encouraged foreign, particularly American, settlement of East Florida. The order authorized Quesada to grant lands to foreigners under certain conditions, particularly the cultivation of land (Gold 1929:34). Josef Bonelly (also spelled “Bonely” and “Bonelli”) received 242.8 hectares (600 acres) of land near Turnbull Bay

in 1796, and some sources suggest that Bonelly was a former worker on the Turnbull plantation (56 Marine n.d.; State Library and Archives of Florida 1827). The most notable of these land grants near present-day Daytona Beach was a 1,214-hectare (3,000-acre) plot along the Halifax River given to Samuel Williams in 1804. The Williams plot makes up the bulk of today's Daytona Beach (Cardwell 2004:7). The early settlers found the area ideal for the cultivation of sugar cane, indigo, rice and cotton and the plantations flourished until the Seminole Indian Wars.

Spanish control over Florida during the period from 1784 to 1821 remained tenuous. The influx of foreign nationals into north Florida, combined with the growing sentiment that the United States should control the territory, eventually led to the deterioration of Spanish dominance in the area. Spanish authority in Florida slowly waned until 1819, when the United States purchased the territory for five million dollars. The United States officially took over Florida in 1821, with Andrew Jackson serving as the first Territorial Governor (Coker and Parker 1996).

### **3.2.4 Early American Settlement and the Seminole Wars, 1821–1861**

With the establishment of Florida as a territory of the U.S., the new government created two large counties divided by the Suwannee River—Escambia County to the west of the river and St. Johns County to the east. On December 29, 1824, the state divided St. Johns County and a portion became Mosquito County that measured 306 km (190 mi) long and 96 km (60 mi) wide. New Smyrna eventually emerged as the county seat of Mosquito County on January 29, 1835 (Morris 1998).

Disputes between the Seminole Indians and white settlers led to three successive wars, the first taking place between 1817 and 1818, predominantly in the northern part of Florida. In 1823, the Treaty of Moultrie Creek formed an Indian Reservation in the interior of Florida (Mahon 1985). The treaty restricted the Seminoles to just over 1.6 million hectares (4 million acres) of land and isolated them from the coast of Florida (Mahon 1985:50). This treaty, as well as subsequent treaties (the Treaty of Payne's Landing [1832] and the Treaty of Fort Gibson [1833]) proved unpopular with the Seminole. This dissatisfaction led to years of conflict with white settlers and the United States military culminating in the Second Seminole War (1835-1842). Slavery further strained relationships between whites and Seminoles. For decades, enslaved people had sought and found refuge among the Seminole who incorporated them as members of their frontier communities. This comradeship between Blacks and Seminoles served as a beacon to the enslaved men and women living on plantations in Florida and neighboring states. Therefore, pro-slavery forces wanted the removal of the Seminole from Florida (Mahon 1985; Landers 1996).

At the start of the Second Seminole War, Native Americans destroyed several large and prosperous plantations, including Samuel Williams' property in today's Daytona. Many settlers left the area as a result. In response to requests from settlers, the military established a chain of forts as a protective measure, including one in New Smyrna in 1837. After pursuing the Seminoles to the Everglades, the U.S. government ended the war in 1842 and established a reservation farther south (Mahon 1985). After the desertion of these early settlers, the Daytona area remained predominantly abandoned, with the exception of a moderately productive live oak trade. Ship

construction utilized the trees, and the Halifax River made this area an ideal place for harvesting. Each year “Live Oakers” sailed from New England and set up camps along the river. The ships carried the harvested timber back to New England where shipwrights used it to build vessels (Atwell and Clarida 1998:7).

Following the war, the United States government attempted to encourage settlement into Florida by passing the Armed Occupation Act in 1842. The act made available for homesteading 80,972 hectares (200,000 acres) south of Gainesville to the Peace River. Homesteads of 65 hectares (160 acres) were available to any head of a family or single man, 18 years of age or older, who agreed to cultivate at least 2 hectares (5 acres), build a dwelling, and live on the land for five years (Tebeau 1980 [1971]:149). The Homestead Acts of 1866 and 1876 provided further incentives to settlers (Tebeau 1980 [1971]:266, 294). A portion of Mosquito County became Volusia County in 1854 and named for a landing called "Volusia" near Lake George on the St. Johns River (Morris 1998:247).

### **3.2.5 The Civil War and the Late Nineteenth Century, 1861–1900**

On January 10, 1861, Florida seceded from the United States, becoming the third state to join the Confederacy. During the war, Union soldiers raided the western part of the county three times in search of cattle and horses, destroying the town of DeLeon Springs and plantations in the area. In eastern Volusia County, federal gunboats bombarded New Smyrna and burned stockpiles of oak timber abandoned by loggers at the beginning of the war. The gunboats also watched for blockade runners at Mosquito Inlet, an important shipping point in the area (Hebel 1955:4).

Farmers with cattle did particularly well. During the Civil War, the Confederate government exempted cattlemen from military service due to the large demand for beef from the Confederate Army. Cattlemen in Volusia County contributed to the war effort by sending tons of beef to Confederate troops (Hebel 1955:26). Beef became such a valuable commodity during the war that the Confederacy organized a unit to protect herds of cattle from Union raiders (Schene 1976).

With the end of the Civil War in 1865, an influx of new settlers came to Florida: southerners looking for new homes, former slaves seeking a new beginning and northerners chasing new economic opportunities. Among these economic opportunists were cattlemen in search of a milder climate, longer pasture-growing season, and an extensive territory of grassland for their herds. Many of these cattlemen settled in Volusia County, where they established large cattle ranches (Hebel 1955:26).

Settlement stopped until after the conclusion of the Civil War and people attempted to return to the Daytona area. In 1870, Matthias Day, Jr. headed to Florida to pursue options for a settlement in the abandoned territorial period plantations. Day, an entrepreneur from Mansfield, Ohio, had invented the arc lamp and sold the rights to his invention in order to pursue these efforts (Cardwell 2004:7). Upon seeing the old Williams plantation in 1871, Day purchased 867.8 hectares (2,144.5 acres) of the plantation from Williams’s daughter, Christina Reft. Day immediately set to work on his community, hiring James H. Fowler and R. Hodgman to survey the property, and beginning construction on a sawmill and a two-story frame building he named the Colony House. However,

after a mix-up in the shipment of shingles for the Colony House roof, Day resorted to temporarily roofing his house with palmetto fronds, and the house became the Palmetto House.

By 1873, there were 20 homes, a mercantile business, and a post office, in addition to the Palmetto House and the sawmill. However, Day struggled to sell lots and land and as a result could not pay his mortgage. Christina Reft repossessed the property and resold it to P.W. Burr and Charles E. Jackson (Cardwell 2004:7-8). However, the settlement slowly grew and in July 1876, the settlement incorporated and was named Daytona in honor of Matthias Day. Over the next decades, the city grew around Palmetto House, one of the first structures built by Matthias Day after settling in what became Daytona Beach.

Over the next decades the city grew and expanded to include boarding houses, stores and a new sawmill. In 1886 the St. Johns and Halifax Railway Company added a stop in Daytona, opening lines of trade between the Daytona region and northern industries. The railroad also opened Daytona to a greater tourism industry, and several large hotels and resorts emerged to cater towards the desires of the affluent northern visitors. Henry Flagler took over the St. Johns and Halifax Railway Company in 1893 merging it with his Florida East Coast (FEC) Railway. He replaced the narrow-gauge tracks with new standard gauge tracks, further opening Daytona to the rest of the country (Cardwell 2004:8). The railroad continued to play an important part in the growth of Daytona as a prime resort community (Atwell 1998:8)

### **3.2.6 Twentieth Century to Recent Times, 1900–present**

Shortly after the turn of the century, automobiles came to Daytona, and drivers realized the hard compacted sand of the Daytona beaches provided an ideal surface for a racecourse. Beginning in 1903, men from all over the world brought cars to Daytona to race its measured mile in attempts to break the world's speed records. Publicity for these events earned Daytona the nicknames "World's Most Famous Beach" and the "Birthplace of Speed" (Atwell and Clarida 1998:8). Races on the beach continued for more than half of the 20<sup>th</sup> century, until 1959 with the opening of the Daytona International Speedway. The excitement of the early races contributed to the growth the area underwent throughout the 1920s. In 1926, Daytona, Daytona Beach, and Seabreeze merged to create a consolidated Daytona Beach. Daytona struggled in the second half of the 1920s as massive hurricanes hit the area in 1926 and 1928, and in 1929 the Great Depression began (Cardwell 2004).

In the 1930s, Volusia County boosters marketed their land as "the most productive in Florida" and invited outsiders, particularly Northerners, to tourist centers of Daytona Beach, DeLand, and New Smyrna. The diversity of soil types won the county the nickname of "Versatile Volusia." Farmers produced many varieties of fruits and vegetables. The county annually produced approximately 1.5 million boxes of citrus. Freight steamers traveled the Halifax, Indian, and St. Johns Rivers. By 1935, the population had grown to 50,591 as compared to 42,725 in 1930 (Florida Department of Agriculture 1935).

The federal government's efforts to relieve the Great Depression could be seen across Volusia County in the 1930s. The Works Progress Administration (WPA) provided hundreds with jobs.

World War II precipitated another cattle boom in Volusia County. Thousands of acres became permanent pastures. In 1952, land suitable for pasture sold for \$27 per acre. Inquiries for pastureland became so great that the Agricultural Extension Service began distributing information on available properties to interested buyers. The Soil Conservation Service provided valuable resources to ranchers buying land, furnishing seed and planting materials for new pastures (Hebel 1955:29). By the mid-1950s, there were nearly 4,856 hectares (12,000 acres) of improved pasture in grasses and clovers in the county, while the number of cattle increased from approximately 10,000 in 1940 to approximately 25,000 in 1954 (Hebel 1955:29).

Tourism remained a major draw for Volusia County, particularly the beach communities in Daytona and New Smyrna Beach. A growing surfing culture developed in New Smyrna during the postwar period, after the city voted to allow the sport in the early 1960s. The waves off the beach's shore provided a proving ground for later East Coast competition champions such as Kem McNair and Charley Baldwin in the 1970s and into the 1980s. The popularity of surfing in the area later spawned a monument and museum dedicated to telling the story of New Smyrna Beach surfing culture (Conn 2014; Cumiskey 2010:7-8).

In the twenty-first century Volusia County continues to grow. In 2010, the population reached 494,593 and by 2020, 553,543 called Volusia County home (US Census Bureau 2022). While watersports are still popular in Volusia County, Daytona hosts the Daytona International Speedway, one of the world's finest racing facilities and the home of the world-famous Daytona 500, an event larger than the Super Bowl. Four of the largest companies in Florida have bases in Volusia County including the National Association of Stock Car Auto Racing (NASCAR), Brown & Brown, International Speedway Corporation and Consolidated-Tomoka Land Company (Volusia County, Florida 2022). In recent years, the Daytona Beach area has attracted golfers with nearly 20 courses to choose from. The LPGA International Courses include a 36-hole facility designed by Rees Jones and Arthur Hills in 1994 (Daytona Beach Convention and Visitors Bureau 2022).

## 4.0 Background Research

### 4.1 Florida Master Site File Review

Florida Master Site File (FMSF) data from October 2022 were reviewed to identify any previously recorded cultural resources within the project APE. The FMSF review indicates that 15 previous cultural resource surveys have been conducted within the current project corridor (**Figure 4, Table 2**). Of these, the most relevant to the current project are FMSF Survey Nos. 2791, 3214, and 21696.

FMSF Survey No. 2791 was an archaeological and architectural history survey conducted in 1991 in support of proposed improvements to property east of the LPGA Boulevard corridor (Estabrook and Austin 1991). Survey methods included pedestrian survey, surface collection, and shovel testing at varying intervals. The survey identified one archaeological site adjacent to the Tomoka River, located approximately 0.41-km (0.25-mi) west of the current APE at the

southern boundary of the I-95 interchange. Based on maps provided in the report, it is unclear if archaeological testing was completed within the LPGA Boulevard project corridor.

FMSF Survey No. 3214 was conducted in 1992 (Austin and Weant 1992) and was the Phase II expansion of FMSF Survey No. 2791. Survey methods included pedestrian survey, surface collection, and shovel testing at 25- and 50-m (82- and 164-ft) intervals with supplemental judgmentally placed shovel tests. The survey identified nine archaeological sites, none of which are located within the current APE.

FMSF Survey No. 21696 was an archaeological and architectural history survey conducted in 2015 on a parcel located northwest of the LPGA Boulevard corridor (Archaeological Consultants, Inc. [ACI] 2015). Survey methods included pedestrian survey, surface collection, and systematic shovel testing, meeting the FDHR Module 3 Guidelines. No archaeological testing was conducted within the current project area and no cultural resources were identified.

The FMSF review also indicates that no previously recorded resources intersect the APE. The closest resource is the Old Railroad Grade linear resource group (8VO10231) located approximately 125 m (410 ft) northeast of the APE. This leveled railroad was recommended ineligible for the NRHP by the State Historic Preservation Office (SHPO) in 2019.

Table 2. Previous Cultural Resource Assessment Surveys within the APE.

FMSF No.	Title	Year	Author(s)
2472	Archaeological/Historical Resources Assessment Survey: 11th Street Interchange at I-95 in Holly Hill Volusia County, Florida	1990	Browning, William D., and Roy A. Jackson
2791	Cultural Resource Assessment Survey of the Consolidated-Tomoka Land Company's Proposed LPGA DRI Project Site, Volusia County, Florida	1991	Estabrook, Richard W., and Robert J. Austin
3214	Cultural Resource Assessment Survey of the Consolidated-Tomoka Land Company's Proposed LPGA DRI Project Site (Phase 2), Volusia County, Florida	1992	Austin, Robert J., and Laura M. Weant
3931	An Intensive Cultural Resource Assessment Survey of the I-95 Widening 11th Street to State Road 40 Volusia County, Florida	1994	Ashley, Keith and Greg Smith
4646	A Cultural Resource Survey of Interstate 95 From a Point 0.32 Km North of U.S. 92 in Volusia County to a Point 0.64 Km North of the St. Johns County Line in Flagler County, Florida	1995	Florida Archaeological Services, Inc.
6389	Cultural Resource Assessment and Survey within the Tiger Bay State Forest, Volusia County, Florida	2001	Newman, Christine and Pamela Vojnovski
9245	Phase 1 Cultural Resource Survey of the Bayberry Lakes Development Property, Volusia County, Florida	2003	Stokes, Anne

LPGA Boulevard from US 92 (SR 600) to Williamson Boulevard PD&E Study  
 CRAS of LPGA Boulevard PD&E Study, Volusia County, Florida

FMSF No.	Title	Year	Author(s)
12023	Cultural Resource Assessment Survey, LPGA Boulevard Extension Project Development and Environment (PD&E) Study from CR 415 near the Volusia County Landfill Entrance to SR 600 (US 92) at LPGA Boulevard, Volusia County, Florida	2005	Deming, Joan
13739	A Phase 1 Cultural Resource Assessment Survey of the Proposed Improvements to SR 600 (US 92) From the I-4 Ramps to Tomoka Farms Road in Volusia County	2006	Chambless, Elizabeth
16074	An Intensive Cultural Resource Assessment Survey of the City of Daytona Beach Transmission Line Corridor, Volusia County, Florida	2008	Arbuthnot, Michael and Brian Marks
21082	Technical Memorandum Cultural Resource Assessment Survey of Four Proposed Ponds in Support of the Proposed Improvements to State Road 600, Volusia County, Florida	2014	Chambless, Elizabeth, Edward Salo, and Ryan VanDyke
21696	Cultural Resource Assessment Survey of the Minto Tract, Volusia County, Florida	2015	ACI
25079	Cultural Resource Assessment Survey, Tomoka 95 Tract, Volusia County, Florida	2018a	ACI
25508	Cultural Resource Assessment Survey of the ICI Option Parcel, Volusia County, Florida	2018b	ACI
26417	Cultural Resource Assessment Survey of the Williamson Boulevard Property, Volusia County, Florida	2019	ACI

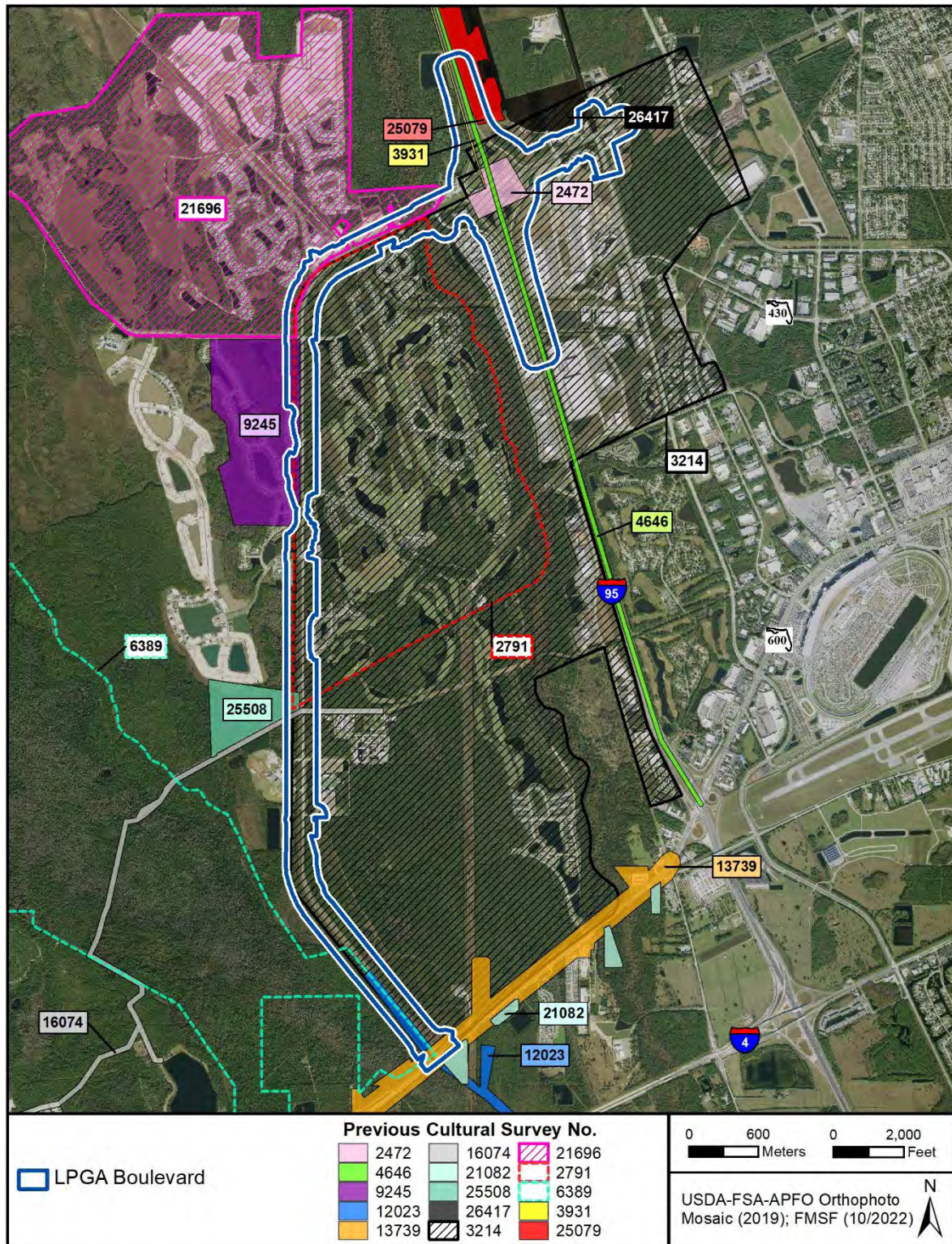


Figure 4. Previous cultural resource surveys and recorded resources within the APE and vicinity.

## 4.2 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. A GLO map of Florida Township 15 South, Range 32 East created in 1850 shows no improvement within the APE. All features are naturally occurring (**Figure 5**) (GLO 1850).

No development is illustrated in proximity to the APE until 1880, when Daytona is labeled to the east (Asher and Adams 1971; Leslie-Judge Company 1880; Mitchell 1860). By 1890, the APE is situated west of coastal development and the St. Johns and Halifax Railroad (Norton 1890). Maps of Volusia County between 1900 and 1920 show no improvement within the APE (C. S. Hammond and Company 1910; Rand McNally and Company 1900; US Railroad Administration 1920). A general highway map of Volusia County in 1935 shows a northeast-southwest oriented road labeled SR 21 on the present-day path of US 92/International Speedway Boulevard continuing through the area comprising the far south of the APE (Florida State Road Department [FSRD] 1935).

An aerial photograph taken in 1950 shows US 92 intersecting the APE. Several unimproved paths are depicted crossing the APE, but no other development is apparent (**Figure 6**) (US Geological Survey [USGS] 1950).

By 1970, US 92 is officially labeled. A small canal is evident north of US 92. The intersection of US 95 and LPGA Boulevard is within the APE. The APE would have crossed several unimproved roads including one located on the modern alignment of International Tennis Drive and International Golf Drive (**Figure 7**) (USGS 1970a, 1970b).

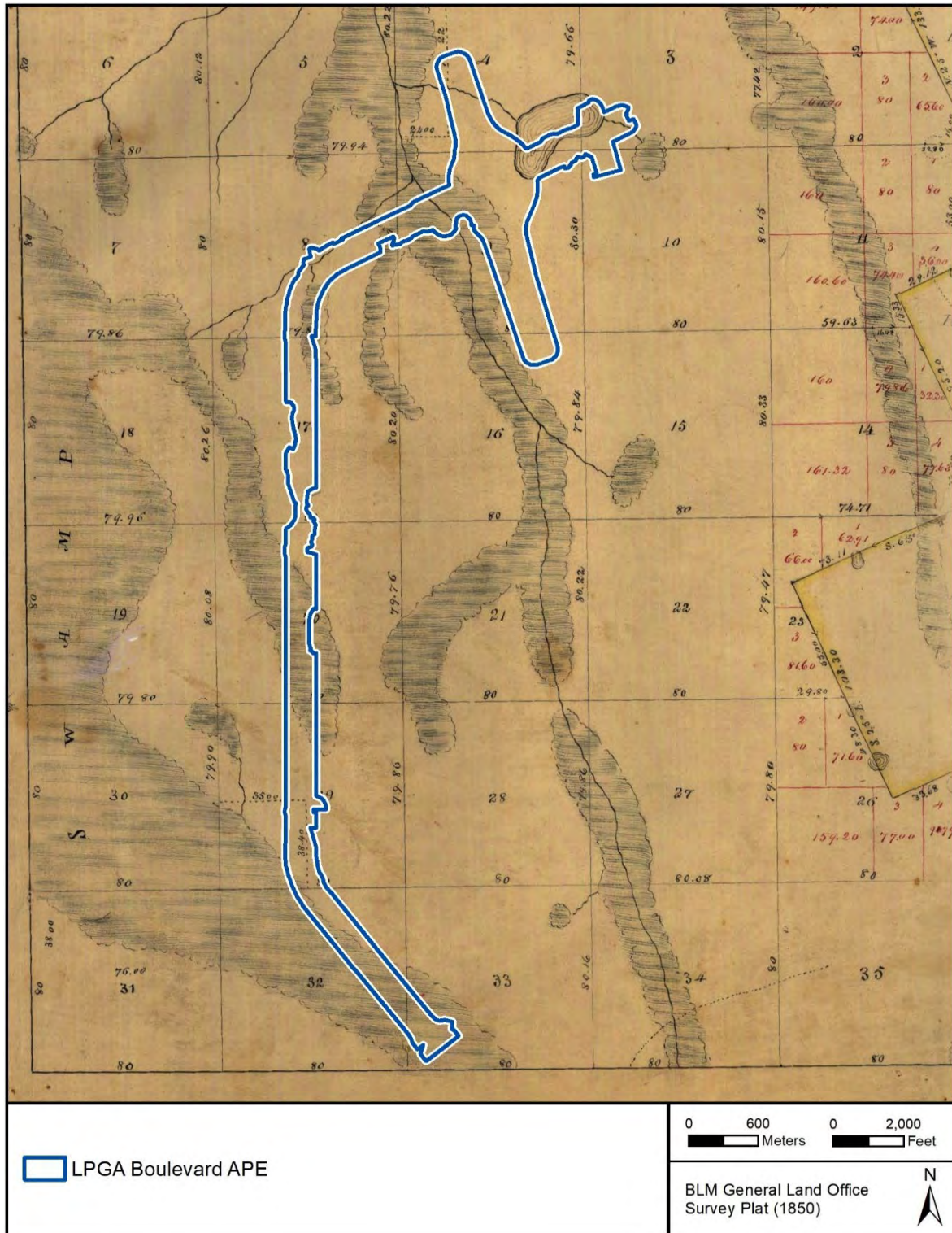


Figure 5. GLO survey map of Township 15 South, Range 32 East (GLO 1850).

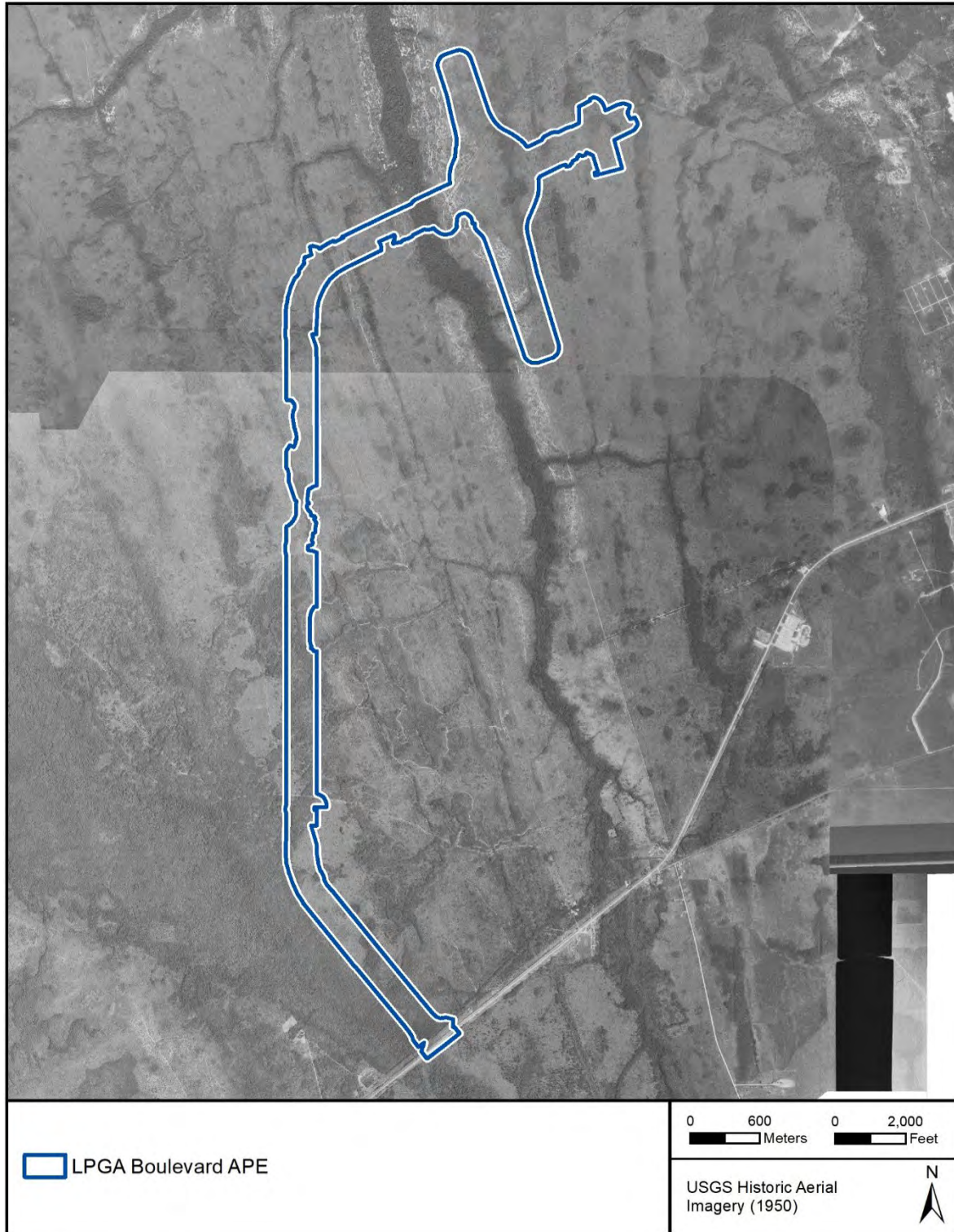


Figure 6. USGS aerial photograph of Volusia County, FL (USGS 1950).

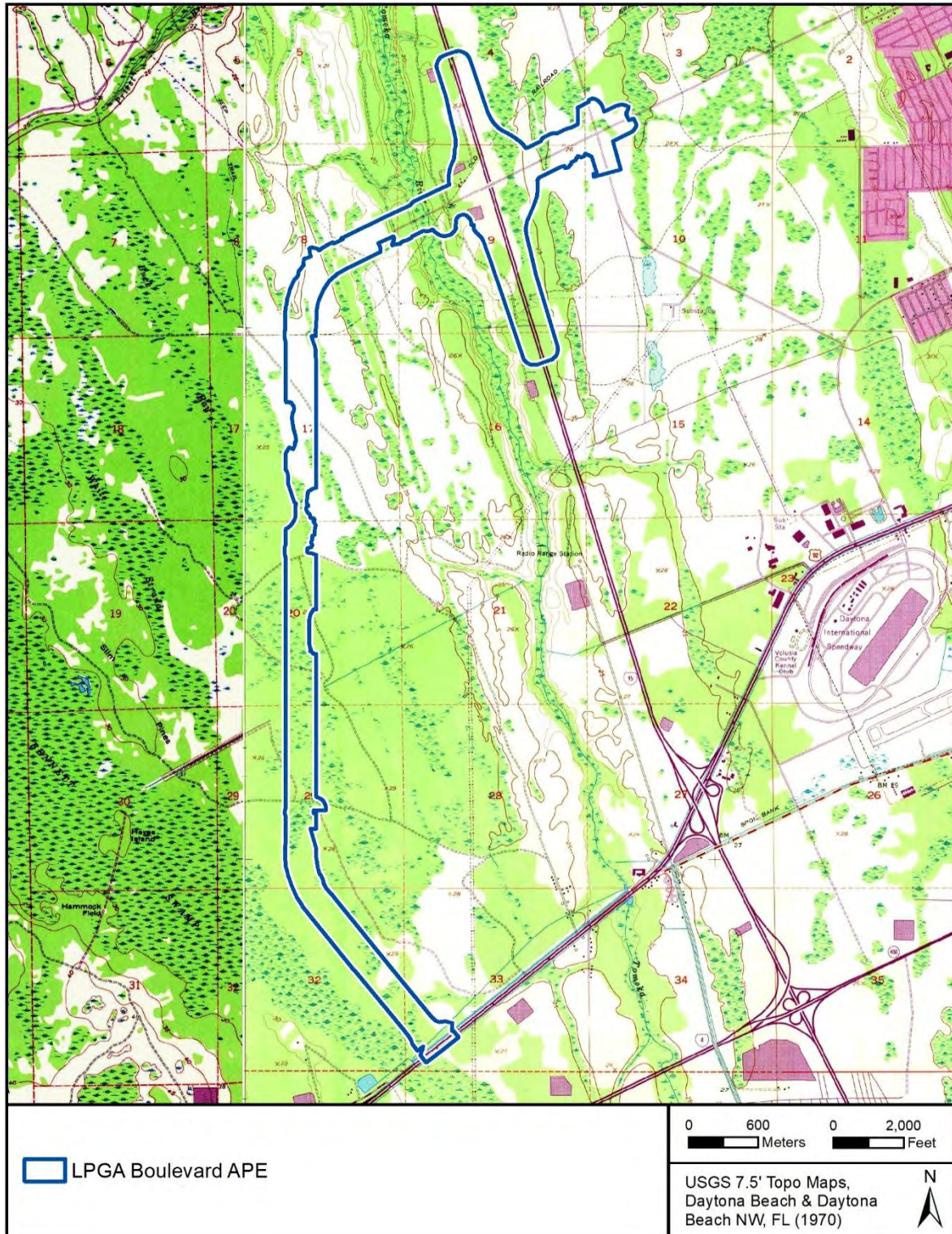


Figure 7. Daytona Beach NW, FL USGS topographic maps (USGS 1970a, 1970b).

## 5.0 Research Design

### 5.1 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 minimally account for three things: (1) it should make explicit the goals and intentions of the research, (2) it should define the sequence of events to be undertaken in pursuit of the research goals, and (3) it should 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 (archaeological or historic sites, historic resources, or archaeological occurrences [isolated artifact finds]), and to evaluate these for their potential eligibility for listing in the NRHP. The research strategy was composed of 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 as well as a review of the FMSF for any 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 project limits.

### 5.2 NRHP Criteria

Cultural resources identified within the project 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.

### 5.3 Cultural Resources Potential

Based on an examination of environmental variables (soil drainage, access to wetlands and marine resources, relative elevation), as well as the results of previously conducted surveys, the potential for Native American archaeological sites to be present within the APE was considered to be generally low to moderate. While previous surveys (FMSF Survey Nos. 2791 and 3214) have identified Native American sites in proximity to the APE, the soils within the right-of-way are generally poorly drained. The closest previously recorded precontact sites to the current APE are both located approximately 0.41-km (0.25-mi) from the current project area. One previously recorded site is located southwest of the southern portion of the LPGA Boulevard and I-95 interchange along the Tomoka River (Estabrook and Austin 1991, FMSF Survey No. 2791), and the other previously recorded precontact site is located to the east of the LPGA Boulevard corridor on a small sand ridge bordered by a slough (Austin and Weant 1992, FMSF Survey No. 3214). Additionally, much of the LPGA Boulevard right-of-way, such as the I-95 interchange, has undergone extensive disturbance due to road construction and maintenance. Higher probability for precontact archaeological sites is expected in areas of better soil drainage and elevated landforms; however, modern development is likely to have disturbed any cultural deposits within the APE.

Based on the results of the historic map review of this survey, the LPGA Boulevard APE was judged to have low potential for historic-period archaeological sites and historic structures. Although previous surveys (FMSF survey Nos. 3153, 3214, 10896, 13739, 23903, and 26417) have identified historic structures in proximity to the project corridor, a review of the Volusia County Property Appraiser's database (2022) identified only one parcel adjacent to the LPGA Boulevard right-of-way dating to 1970 that may include unrecorded historic resources. The parcel is located west of I-95 and currently includes the Halifax Humane Society. With the exception of this parcel, the historic map review shows minimal historic development.

### 5.4 Survey Methods

#### 5.4.1 Archaeological Field Methods

The archaeological APE was surveyed employing a combination of pedestrian reconnaissance and shovel testing methods. Pedestrian reconnaissance was utilized across the main corridor

portions of the project investigation where shovel testing was not possible due to buried utilities, disturbance, or impenetrable surfaces. Where shovel testing was not possible, “no dig” shovel test points were recorded by collecting GPS coordinates and photographing the area to document the impediments to excavation.

Systematic shovel testing was conducted according to the potential for subsurface archaeological sites. In areas of moderate archaeological potential, shovel tests were excavated at 100-m (328-ft) intervals along parallel unaligned transects, one on either side of the existing roadway. The effective distance between shovel tests staggered in such a way was 50-m (164-ft). In areas of low archaeological potential, shovel tests were excavated in a similar fashion but at staggered 200-m (656-ft) intervals, with an effective distance between shovel tests of 100-m (328-ft). Site boundaries were established with delineation shovel tests excavated at reduced intervals (12.5-m [41-ft]) within the right-of-way. Delineation testing continued until two negative shovel tests were excavated or until the boundary of the right-of-way was reached.

Shovel tests measured approximately 50 centimeters (cm) (19.7 inches [in]) in diameter and were excavated to a minimum depth of 100 cm (39.4 in) below surface (cmbs [inbs]), subsurface conditions permitting. All excavated sediments were screened through 1/4-inch-mesh hardware cloth. The location of each shovel test was marked on aerial photographs and recorded on WAAS-enabled handheld GPS units. Artifacts were placed in zip-top plastic bags with the provenience information written on their exteriors and on tags placed inside the bag. The cultural content, soil strata, and environmental setting of each shovel test were recorded in field notebooks.

#### **5.4.2 Architectural Field Methods**

The architectural survey for the project used standard procedures to locate, investigate, and record historic properties. In addition to a FMSF search for previously recorded historic resources within the project area, USGS quadrangle maps were reviewed for buildings and structures built before 1978. The field survey inventoried existing buildings, structures, and other aspects of the built environment within the project APE. The location of each historic resource was plotted on USGS quadrangle maps and on project aerials. All identified historic resources were photographed with a digital camera, and all pertinent information regarding the architectural style, distinguishing characteristics, and present condition was recorded on FMSF resource forms. Upon completion of fieldwork, forms and photographs were returned to the SEARCH offices for analysis. Date of construction, design, architectural features, condition, and integrity of the resources, as well as how the resources relate to the surrounding landscape, were carefully considered. The resources were evaluated regarding their eligibility for listing in the NRHP and then recommended eligible, potentially eligible, or not eligible.

### 5.4.3 Advisory Council on Historic Preservation Program Comment Regarding Historic Bridges

The 2012 Advisory Council on Historic Preservation *Program Comment Issued for Streamlining Section 106 Review for Actions Affecting Post-1945 Concrete and Steel Bridges* (Federal Register 2012:68793–68795) “relieves federal agencies from the Section 106 requirement to consider the effects of undertakings on the bridge types identified in Section V of this Program Comment” if a bridge does not meet three considerations listed in Section IV (Federal Register 2012:68793). Using these three considerations, SEARCH examined the LPGA Boulevard over Tomoka River Bridge (FDOT Bridge No. 794038) and the culvert carrying LPGA Boulevard over the Tomoka River to Bennett Swamp Canal (no FDOT bridge number identified) to determine if the bridge and culvert met the qualifications for application of the Program Comment. The bridge was constructed ca. 1968 and the culvert was constructed ca. 1975.

First, based on a review of the FMSF, SEARCH determined that neither Bridge No. 794038 nor the culvert are listed in the NRHP, nor have they been determined eligible for such listing. The bridge and culvert are not adjacent to or within NRHP-listed or -eligible historic districts. SEARCH personnel examined Bridge No. 794038 and determined that it does not constitute an example of one of the following bridge types: an arch bridge; a truss bridge; a bridge with movable spans; a suspension bridge; a cable-stayed bridge; or a covered bridge. Finally, neither the culvert nor Bridge No. 794038 were identified in the latest statewide bridge survey (Deming et al. 2012) as having the characteristics that would exempt them from the Program Comment:

Exceptional significance for association with an event or individual, or being a very early or particularly important example of its type in a State or the nation, having distinctive engineering or architectural features that depart from standard designs, such as an aesthetic railing or balustrade, includes spans of exceptional length or complexity, or displaying other elements that were engineered to respond to a unique environmental context (Federal Register 2012:68794).

The culvert carrying LPGA Boulevard over the Tomoka River to Bennett Swamp Canal is a simple box culvert of a type found throughout Florida. Bridge No. 794038 is a post-1945 example of a concrete multi-beam bridge with a fixed deck. Based on the above Program Comment considerations, both the bridge and the culvert are excluded from Section 106 consideration (Federal Register 2012:68793). As such, the bridge and culvert were not recorded or evaluated for the present project. The Section 106 responsibilities of the Federal Highway Administration are completed with regard to Bridge No. 794038 and the culvert taking LPGA Boulevard over the Tomoka River to Bennett Swamp Canal, and no bridge forms are required.

### 5.4.4 Laboratory Methods

Artifacts were brought to SEARCH’s laboratory facility in Newberry, Florida, where they were washed, sorted, analyzed, and classified according to a coding system loosely based on South’s method of artifact classification (South 1977). This information was recorded in a

Microsoft Access database under the supervision of the Lab Director. Artifacts were coded to allow for systematic, comparable data entry. Native American lithic artifacts were analyzed by source material, method of manufacture, and artifact function. Historic artifacts were analyzed by use, material type, and function. Materials were then rebagged and organized by provenience and artifact class. Field specimen (FS) catalog numbers were assigned in the lab and the FS log is provided in **Appendix A**.

#### **5.4.5 Curation**

SEARCH processed, cataloged, analyzed, and prepared all artifacts for permanent curation in accordance with 36 CFR Part 79. Artifacts are stored in acid-free primary containers that are labeled according to site number and provenience, if applicable. Artifacts within the primary containers are stored in zipper-type polyethylene bags. Each bag is labeled with a permanent black marker with the site number, provenience, material or artifact class, and other pertinent information. In addition, site number and provenience data are written with a permanent, waterproof marker on a small strip of acid-free paper or polyethylene film and included on each container. Material from the survey will be curated at the Florida Bureau of Archaeological Research or as directed by FDOT.

The original maps and field notes are presently housed at the Newberry, Florida SEARCH office. The original maps and field notes will be turned over to FDOT, District 5, upon project completion; copies will be retained by SEARCH.

#### **5.4.6 Certified Local Government Consultation**

Because this project is located in the City of Daytona Beach, a Certified Local Government (CLG), SEARCH initiated consultation with Mr. Steven Bapp, the CLG representative for the city. On April 8, 2022, SEARCH e-mailed project information and maps to Mr. Bapp to inquire whether the city might have any concerns related to cultural resources. As of the submittal of this report, City staff have not responded with any concerns regarding the project.

#### **5.4.7 Procedures to Deal with Unexpected Discoveries**

Every reasonable effort has been made during this investigation to identify and evaluate possible locations of Native American and historic archaeological sites; however, the possibility exists that evidence of cultural resources may yet be encountered within the project limits. Should any evidence of unrecorded cultural resources be discovered during construction activities, all work in that portion of the project area must stop. Evidence of cultural resources includes precontact or historic pottery, stone tools, bone or shell tools, historic trash pits, and historic building foundations. Should potential cultural artifacts or features be uncovered during the excavation of the project area, representatives of FDOT, District 5, will assist in the identification and preliminary assessment of the resources. 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 FDOT, District 5, cultural resources coordinator 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 or not the state archaeologist should be contacted per the requirements of Chapter 872.05, Florida Statutes.

## 6.0 Results

### 6.1 Archaeological Survey Results

The archaeological APE consists of an approximately 10.6-km (6.5-mi) corridor segment of LPGA Boulevard with additional smaller sections of roadway such as Williamson Boulevard at LPGA Boulevard, the I-95 corridor at LPGA Boulevard, North Tomoka Farms Road at LPGA Boulevard, and US 92 at LPGA Boulevard, for a total distance of approximately 15.5-km (9.5-mi). The project corridor is bordered by planted pine forests, buried and overhead utilities, and recent commercial and residential development (**Figure 8**).

The field visit confirmed the artificial and disturbed nature of the soils within the APE, resulting in 200 no-dig points recorded to document areas where subsurface testing was not possible due to various disturbances. In total, 96 shovel tests were excavated in the archaeological APE (**Figures 9-12**). Marked field maps showing the location of shovel tests, buried utilities, and other disturbances identified in the current survey are included in **Appendix B**. An FDHR survey log sheet is provided in **Appendix C**.



Figure 8. Representative views of the archaeological APE. Top left: Overview of buried utilities and sidewalk in corridor, view north; Top right: View south of buried utilities adjacent to LPGA Boulevard; Center left: View south from central portion of APE, on western side of LPGA Boulevard; Center right: View north of berm up to LPGA Boulevard roadway; Bottom left: View west, ongoing development adjacent to archaeological APE in northern portion of project area; Bottom right: west, heavily modified section of the LPGA Boulevard corridor.

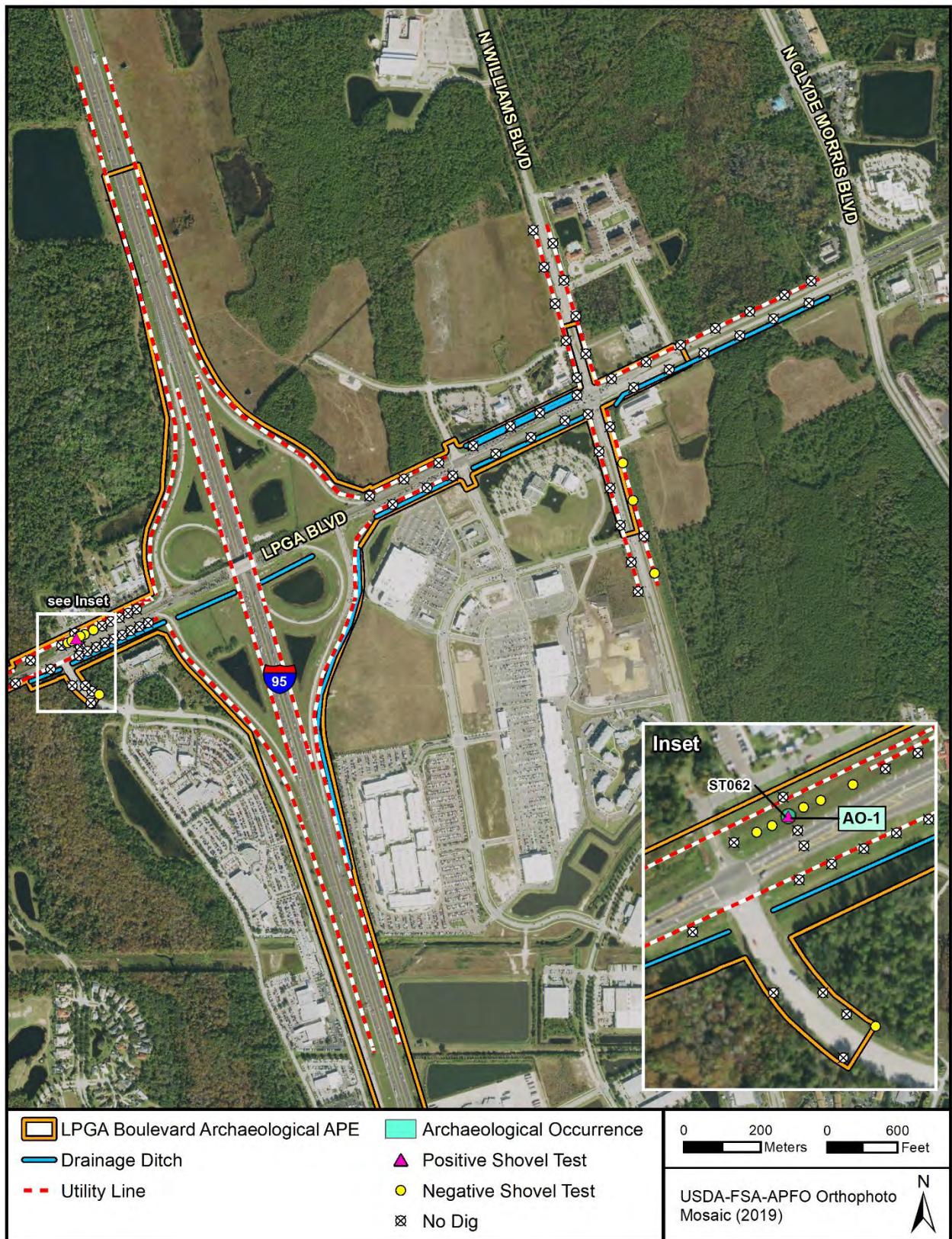


Figure 9. Results of Archaeological Survey in the APE, Map 1 of 4.

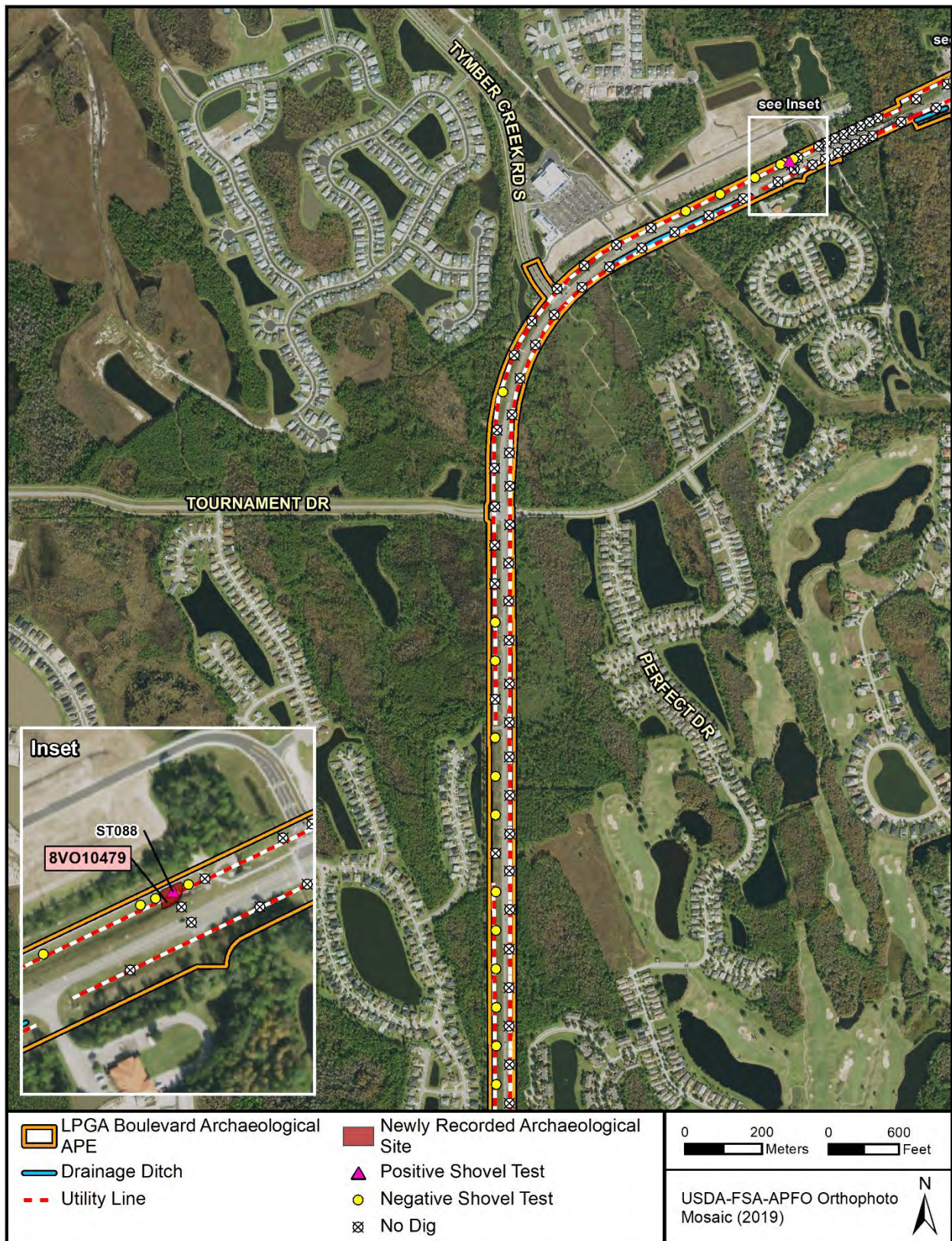


Figure 10. Results of Archaeological Survey in the APE, Map 2 of 4.

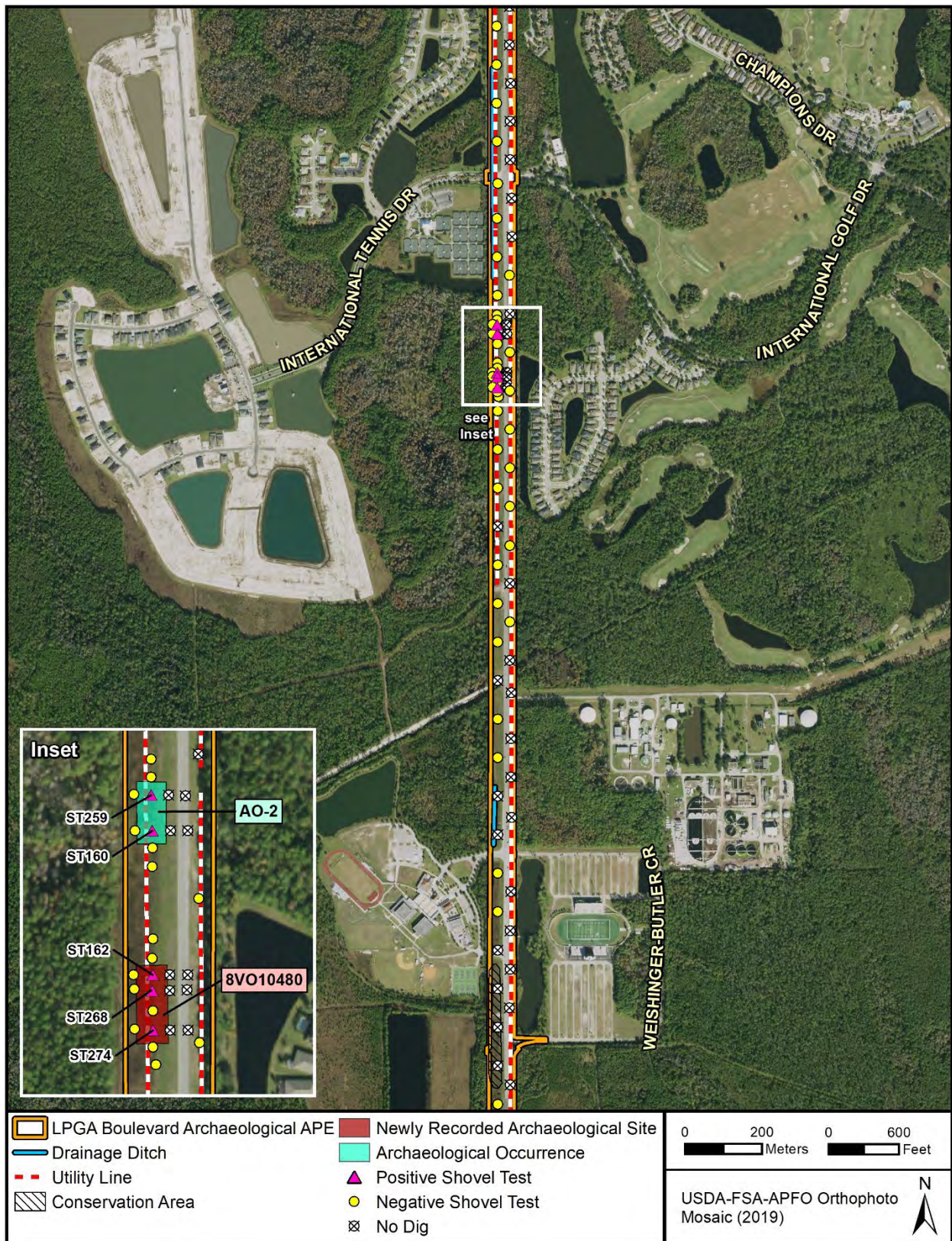


Figure 11. Results of Archaeological Survey in the APE, Map 3 of 4.

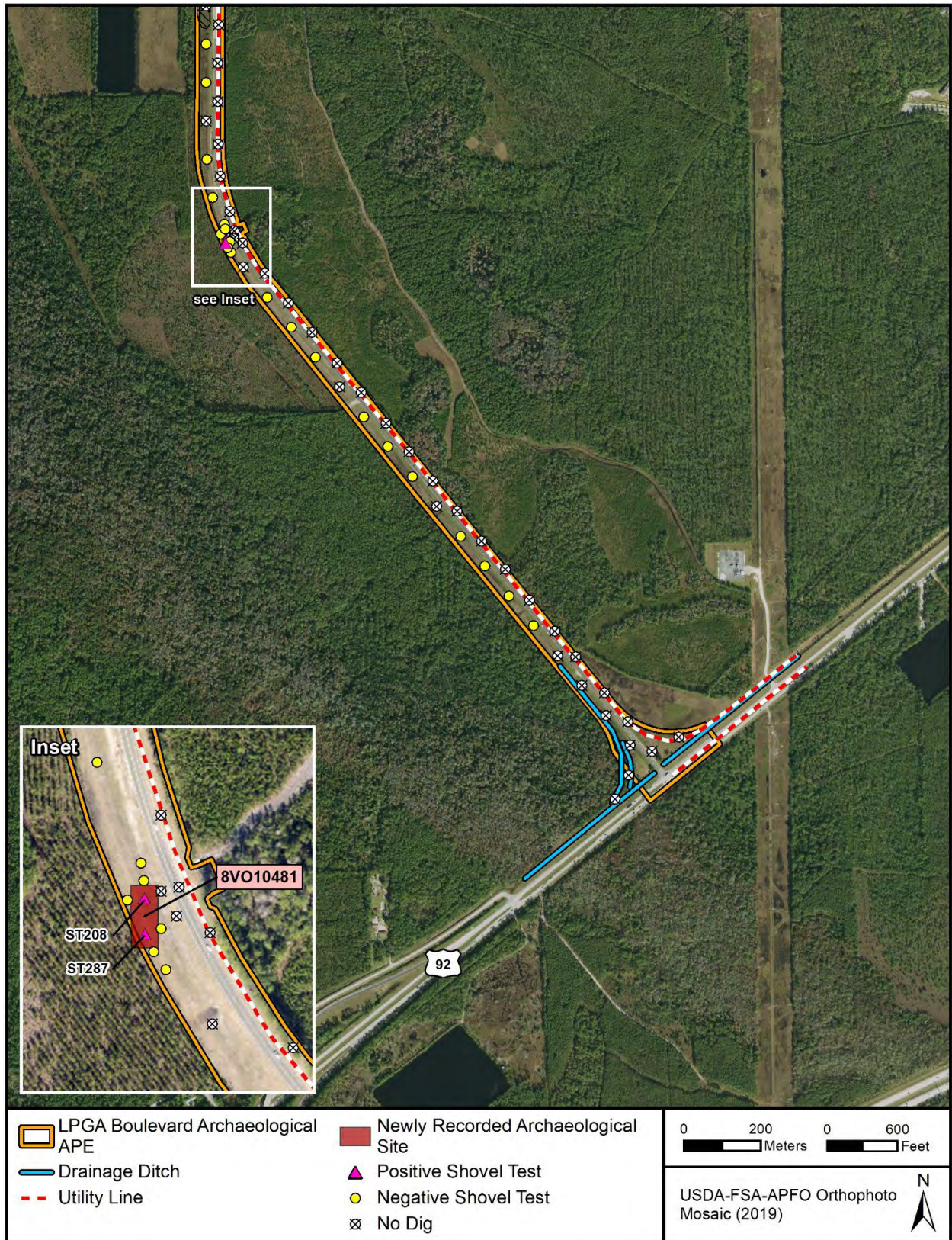


Figure 12. Results of Archaeological Survey in the APE, Map 4 of 4.

Shovel tests within the archaeological APE had stratigraphy indicative of various disturbances, including disturbance from silviculture practices in the central and southern portions of the project area. A typical soil profile in the project area consisted of dark grayish brown (10YR 4/2) sand from 0-10 cmbs (0-3.9 inbs), over light brownish gray (10YR 6/2) sand from 10-20 cmbs (3.9-7.9 inbs), over black (10YR 2/1) sand from 20-35 cmbs (7.9-13.8 inbs), over white (10YR 8/1) sand from 35-60 cmbs (13.8-23.6 inbs), above yellowish brown (10YR 5/6) sand from 60-100 cmbs (23.6-39.4 inbs) (Figure 13).



Figure 13. Typical Soil Profile in the Archaeological APE.

Nine shovel tests contained artifacts resulting in the recording of three archaeological sites (8VO10479, 8VO10480, 8VO10481) and two archaeological occurrences (AO-1 and AO-2). A discussion of each site and archaeological occurrence are provided below.

## 6.2 Archaeological Resources

### 6.2.1 Newly Recorded Sites

#### 6.2.1.1 8VO10479, "LPGA Boulevard Lithic Scatter 1"

Location: Located to the north of LPGA Boulevard, across from the Daytona Beach Fire Station and Champions Drive; Township 15 South, Range 32 East, Section 8

Setting: Located in the LPGA Boulevard right-of-way between paved sidewalk and the roadway (Figure 14). Overhead and buried utilities as well as a cut drainage ditch with a concrete culvert are also present.

Soils: Farmton fine sand, poorly drained

Survey Methods: 50-m (164-ft) interval shovel testing with 12.5-m (41-ft) interval delineation shovel testing in cardinal directions within the APE

Site Type: Precontact lithic scatter

Site Size: Approximately 0.02 hectare (ha) (0.04 acre [ac])

Depth of Deposits: 60-100 cmbs (23.4-39.4 inbs)



Figure 14. Overview photos of archaeological site 8VO10479. Top photo: Overview of site with modified landscape, sidewalk, and overhead utilities, view west; Bottom photo: Overview of the LPGA Boulevard Lithic Scatter 1 site with sidewalk, utilities, and nearby intersection, view east.

Chronology: Precontact unspecified

Artifacts: Five coastal plain chert flake fragments (total artifact count = 5)

Comments: The LPGA Boulevard Lithic Scatter 1 Site is a small lithic scatter identified by one positive shovel test located within an existing roadway corridor in a heavily modified landscape. Conditions of the site consist of buried and overhead utilities, cut ditches with concrete culverts, paved drives, and a sidewalk. The corridor is bordered to the north by pine forest and brush and much of the area has been subject to modern development.

The single positive shovel test (ST 88) presented disturbed upper strata due to disturbance from roadway corridor construction with gravel fill inclusions in Strata I-III. The soil profile of ST 88 consisted of light gray (10YR 7/1) sand from 0-10 cmbs (0-3.9 inbs), over very dark gray (10YR 3/1) sand from 10-35 cmbs (3.9-13.8 inbs), over light brownish gray (10YR 6/2) sand from 35-50 cmbs (13.8-19.7 inbs), over black (10YR 2/1) sand from 50-66 cmbs (19.7-26 inbs) over white (10YR 8/1) sand from 66-100 cmbs (26-39.3 inbs) (**Figure 15**). It is unlikely that the stratigraphy present in site 8VO10479 is naturally occurring, as evidenced by the construction fill and debris, as well as the adjacent roadway corridor and buried utilities. Artifacts from this shovel test consisted of four coastal plains chert fragments from 60-70 cmbs (23.6-27.6 inbs, Stratum IV), and one brown coastal plains chert fragment from 90-100 cmbs (35.4-39.3 inbs, Stratum V). Due to the limits of the APE and existing pavement, delineating shovel tests could only be excavated to the east and west at 12.5-m (41-ft) intervals (See **Figure 16**). All delineating shovel tests were negative for artifacts and the stratigraphy of these tests were indicative of disturbance.



Figure 15. Soil profile for positive ST 88 in site 8VO10479.

Evaluation: Site 8VO10479 is a small, low-density precontact artifact scatter with heavy disturbance from roadway construction and utility installation. The site is located between a cut ditch with buried utilities to the south, and a modified landscape with a sidewalk and overhead utilities to the north. The stratigraphy of the positive shovel test within the LPGA Boulevard Lithic Scatter 1 site presented evidence of disturbance including gravel and construction debris. It is unlikely that the site contains intact cultural deposits, and it is likely that the cultural materials present were redeposited from another location; therefore, it is the opinion of SEARCH that 8VO10479 is ineligible for NRHP listing. No further work is recommended.



Figure 16. Site boundary of 8VO10479 in the LPGA Boulevard APE.

### 6.2.1.2 8VO10480, “LPGA Turpentine 1”

**Location:** Located to the west of LPGA Boulevard, south of International Tennis Drive; Township 15 South, Range 32 East, Section 20

**Setting:** Located in the LPGA Boulevard right-of-way, between planted pine tree line and the roadway (**Figure 17**).

**Soils:** Pompano-Placid Complex, very poorly drained

**Survey Methods:** 50-m (164-ft) interval shovel testing with 12.5-m (41-ft) interval delineation shovel testing in cardinal directions within the APE

**Site Type:** Historic scatter

**Site Size:** Approximately 0.11 ha (0.28 ac)

**Depth of Deposits:** 0-30 cmbs (0-11.8 inbs)

**Chronology:** late nineteenth century – early twentieth century

**Artifacts:** Three herty cup fragments (total artifact count = 3)

**Comments:** The LPGA Turpentine 1 site is a small historic artifact scatter identified by three positive shovel tests located within the existing roadway corridor bordered by planted pine trees and overhead utilities to the west, and the LPGA Boulevard roadway to the east. Modern conditions of the site consist of maintained right-of-way with mixed grasses and a berm leading up to the LPGA Boulevard roadway.

Three positive shovel tests were excavated within the boundary of 8VO10480 (STs 162, 268, 274) (see **Figure 18**). Eight delineating tests were excavated at 12.5-m intervals where testing was not prevented by pavement. None of the delineating shovel tests contained artifacts. A typical soil profile at site 8VO10480 consisted of gray (10YR 6/1) sand from 0-10 cmbs (0-3.9 inbs), over black (2.5Y 2.5/1) sandy clay loam from 10-40 cmbs (3.9-15.7 inbs), over light brownish gray (10YR 6/2) sand from 40-80 cmbs (15.7-31.5 inbs), over gray (10YR 6/1) sand from 80-100 cmbs (31.5-39.3 inbs) (**Figure 19**). Artifacts recovered from site 8VO10480 consist of three herty cup (turpentine pot) fragments (**Table 3**).



Figure 17. Overview photos of archaeological site 8VO10480. Top photo: Overview of site located in open, grassy area adjacent to LPGA Boulevard, view north; Bottom photo: Overview of the LPGA Turpentine 1 site adjacent to overhead utilities and planted pine forest utilities, view west.



Figure 18. Site boundary of 8VO10480.

**Evaluation:** Site 8VO10480 presents as a low-density historic scatter along the western side of LPGA Boulevard bordered by planted pine forest, and soil stratigraphy of the site is indicative of silviculture. The herty cup fragments recovered from this site correspond to the height of the turpentine industry of the region in the late nineteenth and early twentieth century. Herty cups were developed as part of a harvesting system to extract turpentine from longleaf pine of the region, and low-density historic scatters associated with the turpentine industry are common throughout the State of Florida. The eastern portion of the site has been disturbed by roadway construction, and the site is bordered to the west by overhead and buried utilities between LPGA Boulevard and the planted pine forest. Given the small number of artifacts collected within the APE, the ubiquitous and unremarkable nature of the assemblage, and the absence of cultural features, site 8VO10480 lacks potential to yield important information to contribute to the archaeological record of the region. SEARCH recommends the LPGA Turpentine 1 site as ineligible for listing in the NRHP. No further work is recommended.



Figure 19. Positive shovel test profile in site 8VO10480.

Table 3. Artifact Inventory from Site 8VO10480

Shovel Test	Strata	Depth (cmbs)	Description	Artifact Count
162	I	0-10	Turpentine pot, ceramic; corrugated ceramic herty cup fragment	1
268	III	20-30	Turpentine pot, ceramic; corrugated ceramic herty cup fragment	1
274	II	20-30	Turpentine pot, ceramic; corrugated ceramic herty cup fragment	1

### 6.2.1.3 8VO10481, “LPGA Turpentine 2”

Location: Located to the west of LPGA Boulevard, across from Royal County Boulevard; Township 15 South, Range 32 East, Section 29

Setting: Located in the LPGA Boulevard right-of-way, between planted pine tree line and the roadway (**Figure 20**). Overhead and buried utilities as well as a roadway berm are also present.

Soils: Pomona fine sand, poorly drained

Survey Methods: 50-m (164-ft) interval shovel testing with 12.5-m (41-ft) interval delineation shovel testing in cardinal directions within the APE

Site Type: Historic scatter

Site Size: Approximately 0.06 ha (0.15 ac)

Depth of Deposits: 30-40 cmbs (11.8-15.7 inbs)

Chronology: late nineteenth century – early twentieth century

Artifacts: Five Herty cup fragments (total artifact count = 5)

Comments: The LPGA Turpentine 2 Site is a small historic scatter located within an existing roadway corridor with a modified landscape and buried utilities. Conditions of the site consist of buried and overhead utilities in the western portion, and a built-up roadway berm up to the LPGA roadway in the eastern portion. The corridor is bordered to the west by planted pine forest and brush.

Two positive shovel tests were excavated within the boundary of 8VO10481 (STs 208 and 287) (**Figure 21**). Shovel tests within the site presented disturbance from silviculture practices, with shovel tests containing decaying pine matter. A typical soil profile within site 8VO10481 consisted of grayish brown (10YR 5/2) sand from 0-14 cmbs (0-5.5 inbs), over dark grayish brown (10YR 4/2) sand from 14-38 cmbs (5.5-15 inbs), over white (10YR 8/1) sand from 38-50 cmbs (15-19.7 inbs), over black (10YR 2/1) sand from 50-57 cmbs (19.7-22.4 inbs) over dark brown (10YR 3/3) sand from 57-100 cmbs (22.4-39.3 inbs) (**Figure 22**). Artifacts from this shovel test (ST 208) consisted of one Herty cup fragment from 30-40 cmbs (11.8-15.7 inbs, Stratum II). Six delineating shovel tests were excavated at 12.5-m (41-ft) intervals due to the limitations of the surrounding area (APE boundary, existing roadway, and buried utilities). None of the delineating shovel tests contained artifacts.



Figure 20. Overview photos of archaeological site 8VO10481. Top photo: Overview of site located in LPGA Boulevard ROW with overhead utilities, view south; Bottom photo: Overview of LPGA Turpentine 2 site with buried and overhead utilities to the west, and a built-up roadway corridor to the east, view north.



Figure 21. Site boundary of 8VO10481 in the LPGA Boulevard APE.

**Evaluation:** Site 8VO10481 represents a low-density historic scatter located on the west side of LPGA Boulevard. As discussed similarly in site 8VO10480, the artifacts recovered from the LPGA Turpentine 2 site likely correspond to late nineteenth and early twentieth century turpentine harvesting. Soil stratigraphy is indicative of disturbance from silviculture, the eastern portion of the site has been disturbed by roadway construction, and the western portion of the site has been disturbed by buried and overhead utilities. Given the small number of artifacts collected within the APE, the ubiquitous and unremarkable nature of the assemblage, and the absence of dense cultural deposits or features, site 8VO10481 lacks potential to yield important information to contribute to the archaeological record of the region. SEARCH recommends the LPGA Turpentine 2 site as ineligible for listing in the NRHP. No further work is recommended.



Figure 22. Soil profile for positive shovel test 287 in site 8VO10481.

## 6.3 Archaeological Occurrences

### 6.3.1 AO-1

AO-1 consists of one medial-distal chert flake fragment recovered from ST 62 located in the northern portion of the APE between LPGA Boulevard and North Tomoka Farms Road (**Figure 23**). Modern conditions in this area consist of recent development with a modified landscape, buried and overhead utilities, and roadway berms. The flake fragment was collected from 10-20 cmbs (3.9-7.9 inbs) in Stratum II of the shovel test. Four delineating shovel tests were excavated at 12.5-m (41-ft) intervals where shovel testing was not prevented by modern disturbances (e.g., roadway, buried utilities). No delineating shovel tests contained artifacts. No further work is recommended at AO-1.

### 6.3.2 AO-2

AO-2 consists of two clear bottle glass fragments recovered from shovel tests 160 and 259 located on the western side of LPGA Boulevard, south of International Tennis Drive and north of site 8VO10480 (**Figure 24**). Modern conditions in this area consist of maintained right-of-way for LPGA Boulevard with mixed grasses and brush, buried and overhead utilities, a drainage channel, and a roadway berm. One clear bottle glass base with an Owen's Scar was collected from Stratum IV of ST 160 from 30-40 cmbs (11.8-15.7 inbs), and one clear bottle glass fragment was collected from Stratum III of ST 259 from 20-30 cmbs (7.9-11.8 inbs). Six delineating shovel tests were excavated at 12.5-m (41-ft) intervals where shovel testing was not limited by modern disturbances (e.g., roadway, buried utilities) or the APE boundary. No delineating shovel tests contained artifacts. No further work is recommended at AO-2.

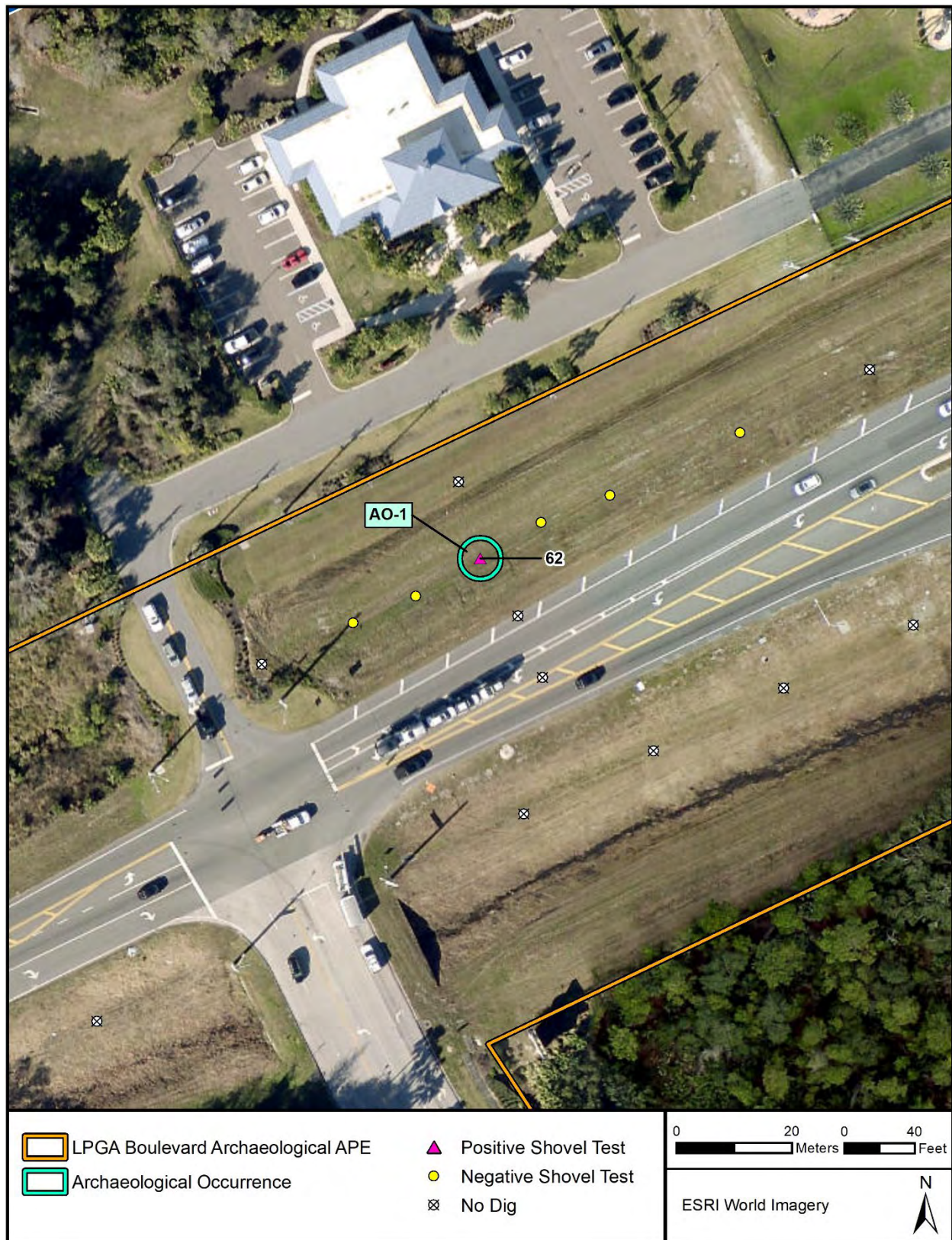


Figure 23. Location of Archaeological Occurrence 1 (AO-1) in the LPGA Boulevard APE.

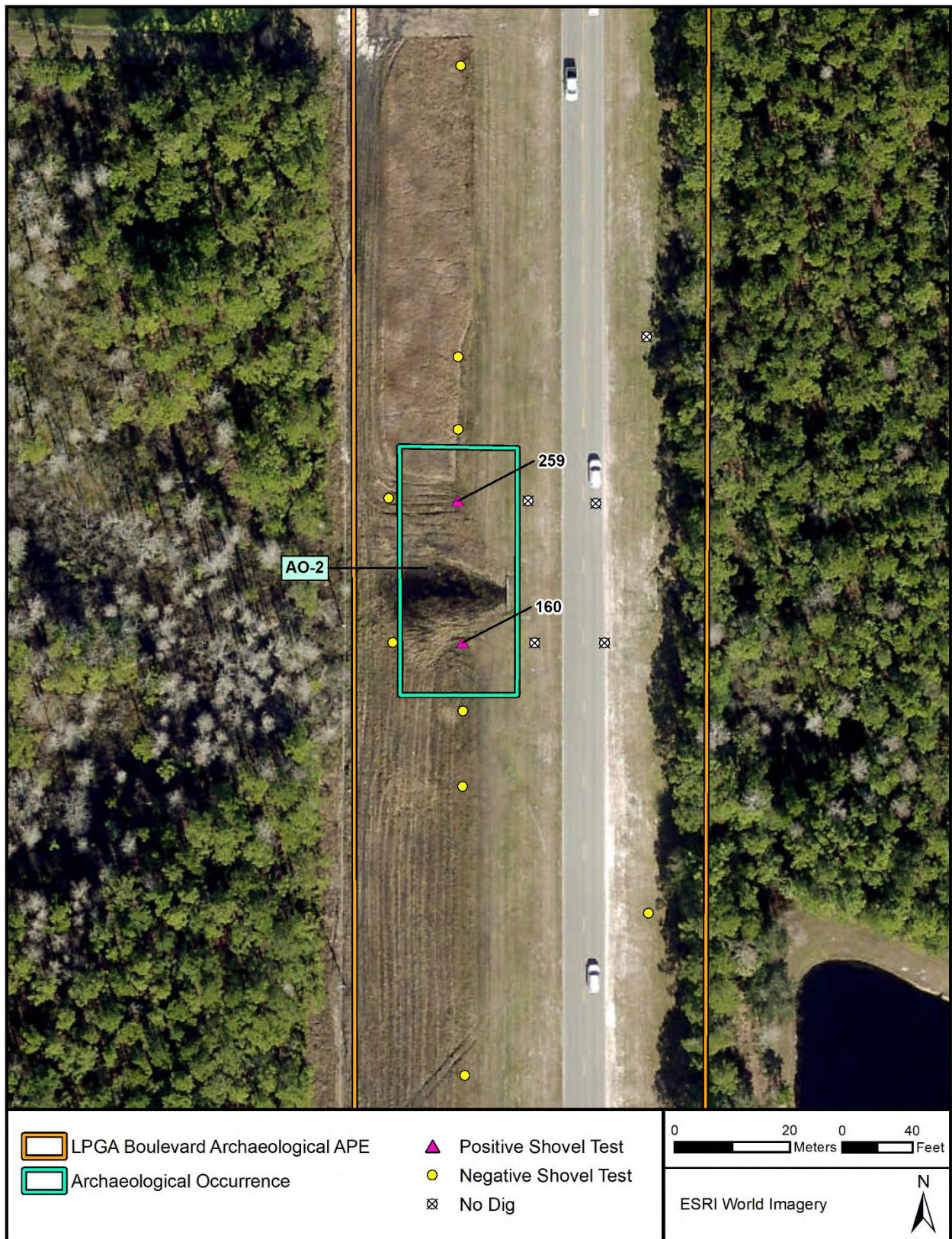


Figure 24. Location of Archaeological Occurrence 2 (AO-2) in the LPGA Boulevard APE.

## 6.4 Architectural Survey Results

The architectural survey resulted in the identification and evaluation of one historic resource within the APE (**Figure 25**). The resource within the APE is the newly recorded Tomoka River to Bennett Swamp Canal (8VO10488).

No existing or potential historic districts were identified within the APE. A description and evaluation are provided below for Tomoka River to Bennett Swamp Canal (8VO10488). The FMSF Resource form and its associated maps and photographs are provided in **Appendix D**. An FDHR survey log sheet is included in **Appendix C**.

### 6.3.1 NRHP Evaluations

#### 6.3.1.1 Linear Resource

##### 8VO10488, Tomoka River to Bennett Swamp Canal

The Tomoka River to Bennett Swamp Canal (8VO10488) is a newly recorded linear resource within Volusia County. The segment of the canal within the project APE is located in Sections 20 and 29 of Township 15 South, Range 31 East, as shown on the 2021 *Daytona Beach, Fla.* USGS quadrangle map. Within the APE, the canal crosses under LPGA Boulevard and features grassy earthen banks (**Figures 26** and **27**). The canal runs in a northeast to southwest direction and is intermittently overgrown with dense vegetation. It is in a suburban area within the eastern city limits of Daytona Beach and is bounded by timbered vacant parcels and a dirt road within the APE. The canal averages approximately five to 10 meters (16.4 to 32.8 feet) wide in and around the APE. In its entirety, the canal runs for approximately 3.85 km (2.39 mi) and connects the Tomoka River in the east to Bennett Swamp in the west.

The earliest evidence of the Tomoka River to Bennett Swamp Canal comes from the 1952 USGS topographical map, where it appears with its current length (USGS 1952). The canal does not appear on the 1943 aerial photograph (USDA 1943) but does appear on the 1958 aerial photograph (FDOT 1958). Based on the evidence from the aerial photographs and the topographical maps, Resource 8VO10488 was constructed sometime between 1943 and 1952. The canal features typical design elements and construction techniques associated with canals that were built for drainage purposes. It is a common canal representative of similar drainage canals found throughout Central and South Florida. Due to its commonality and lack of notable engineering features or historical associations, the Tomoka River to Bennett Swamp Canal (8VO10488) is recommended ineligible for listing in the NRHP under Criteria A, B, C, or D, either individually or as a contributor to a historic district.

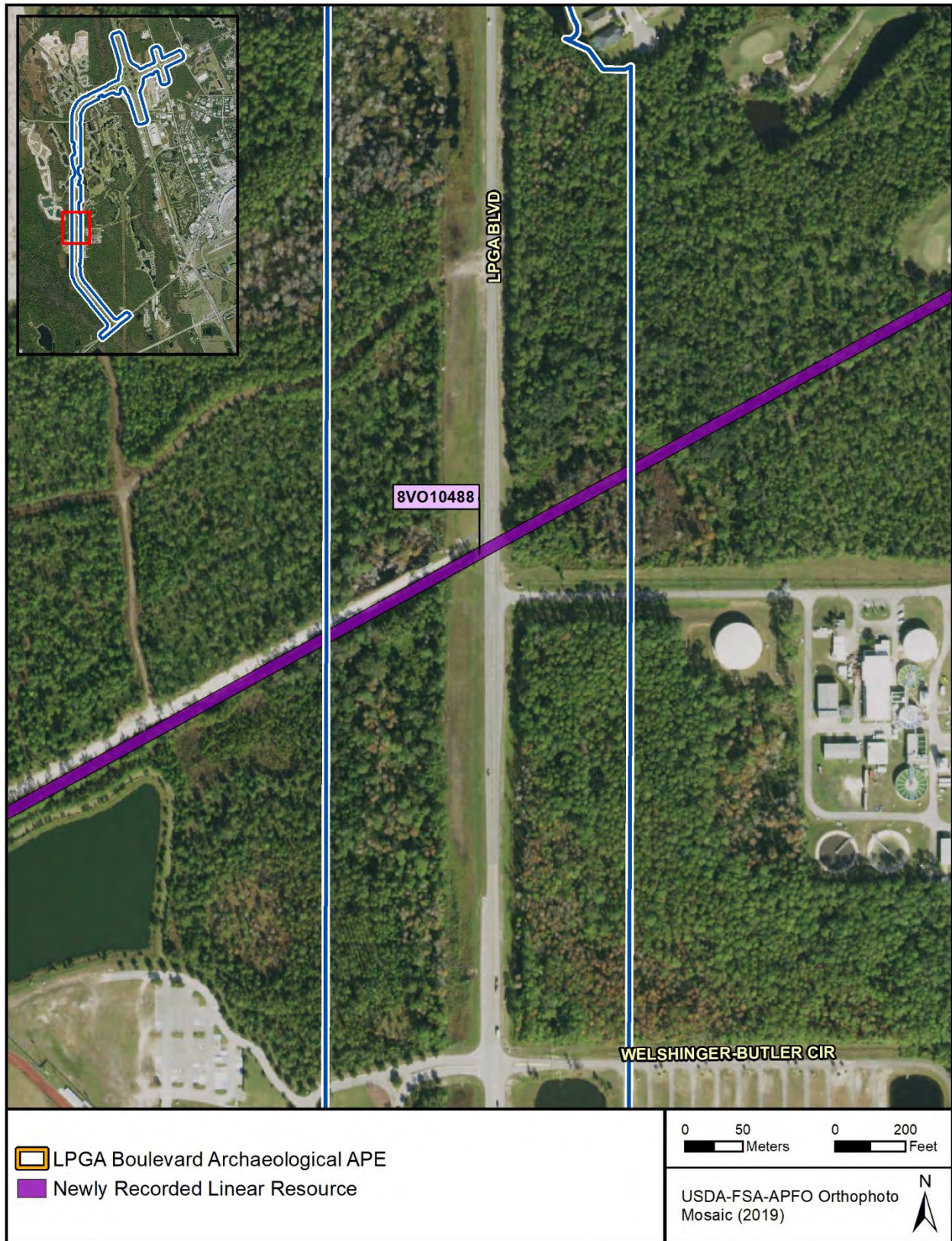


Figure 25. Historic resource identified and evaluated within the APE.



Figure 26. Resource 8VO10488, view east.



Figure 27. Resource 8VO10488, view west.

## 7.0 Conclusions and Recommendations

This report presents the findings of a Phase I CRAS conducted in support of improvements to the I-95 at LPGA Boulevard interchange in Volusia County, Florida. The FDOT, District 5, is proposing improvements LPGA Boulevard from US 92 (SR 600) to Williamson Boulevard. The project proposes to widen this section of LPGA Boulevard from its current two- and four-lanes and improve the operations of existing intersections and the existing I-95 interchange. The project limits begin at US 92 (SR 600) and continue north and east along LPGA Boulevard, terminating at Williamson Boulevard. The project corridor also includes smaller sections of roadway such as Williamson Boulevard at LPGA Boulevard, the I-95 corridor at LPGA Boulevard, North Tomoka Farms Road at LPGA Boulevard, and US 92 at LPGA Boulevard, totaling a distance of approximately 15.5-km (9.5-mi). This project is federally funded for 2029.

The archaeological survey included the excavation of 96 shovel tests within the LPGA Boulevard APE. Of the shovel tests, nine contained artifacts. In addition to the shovel tests, 200 “no digs” points were recorded due to extensive ground disturbing activities by buried utilities and development. Three archaeological sites (8VO10479, 8VO10480, and 8VO10481) and two archaeological occurrences (AO-1 and AO-2) were recorded as a result of this survey. SEARCH recommends all three sites as ineligible for listing on the NRHP due to site disturbance, absence of dense cultural deposits and features, small and ubiquitous artifact assemblages, and lack of research potential to significantly contribute to the archaeological record of the region. No further archaeological survey is recommended for sites 8VO10479, 8VO10480, and 8VO10481 in support of the proposed LPGA Boulevard improvements.

The architectural survey resulted in the identification and evaluation of one historic resource within the APE, Tomoka River to Bennett Swamp Canal (8VO10488). Due to its commonality and lack of notable engineering features or historical associations, the Tomoka River to Bennett Swamp Canal (8VO10488) is recommended ineligible for listing in the NRHP. No further architectural history survey is required.

No NRHP-listed or eligible cultural resources were identified within the project APE. No further cultural resources work is recommended.

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## 9.0 Appendices

### 9.1 Appendix A – FS Log

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LPGA Boulevard from US 92 (SR 600) to Williamson Boulevard PD&E Study  
 CRAS of LPGA Boulevard PD&E Study, Volusia County, Florida

Site Number	FS#	Catalog#	ST#	Strata	Depth	Description	Count	Weight	Date Excavated
AO-1	1	1.01	62	II	10-20	Flake fragment; chert; Medial-Distal; Cortex Present	1	0.46	6/1/2022
8VO10479	2	2.01	88	IV	60-70	Flake fragment; chert; Medial-Distal; Cortex Absent; potentially machine cracked road gravel based on context and presence of road gravel in above strata	4	24.67	6/1/2022
8VO10479	3	3.01	88	V	90-100	Flake fragment; chert; Medial-Distal; Cortex Absent	1	1.28	6/1/2022
8VO10481	4	4.01	208	III	30-40	Turpentine pot, ceramic; corrugated ceramic herty cup fragments	4	41.09	6/3/2022
AO-2	5	5.01	160	IV	30-40	Bottle base, Owen's scar; clear	1	21.05	6/3/2022
8VO10480	6	6.01	162	I	0-10	Turpentine pot, ceramic; corrugated ceramic herty cup fragment	1	40.28	6/3/2022
AO-2	7	7.01	259	III	20-30	Bottle glass; clear	1	1.56	6/4/2022
8VO10480	8	8.01	268	III	20-30	Turpentine pot, ceramic; corrugated ceramic herty cup fragment	1	11.35	6/4/2022
8VO10480	9	9.01	274	II	20-30	Turpentine pot, ceramic; corrugated ceramic herty cup fragment	1	41.16	6/4/2022
8VO10481	10	10.01	287	III	30-40	Turpentine pot, ceramic; corrugated ceramic herty cup fragment	1	6.11	6/4/2022

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## 9.2 Appendix B – Marked Field Maps

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### 9.3 Appendix C – FDHR Survey Log Sheet

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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 of LPGA Boulevard PD&E Study Volusia County, Florida

### Report Title (exactly as on title page)

CULTURAL RESOURCE ASSESSMENT SURVEY OF LPGA BOULEVARD FROM US 92 (SR 600) TO WILLIAMSON BOULEVARD  
PROJECT DEVELOPMENT & ENVIRONMENT STUDY VOLUSIA COUNTY, FLORIDA

### Report Authors (as on title page)

1. Kinchen, Drew3. Newton, Jason2. Steffy, Caroline4. Parham, AshleyPublication Year 2023Number of Pages in Report (do not include site forms) 76

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Supervisors of Fieldwork (even if same as author) Names Boyd, VarnaAffiliation of Fieldworkers: Organization Southeastern Archaeological Research City Orlando, FL

### Key Words/Phrases (Don't use county name, or common words like *archaeology, structure, survey, architecture, etc.*)

1. LPGA3. SR 600

5. \_\_\_\_\_

7. \_\_\_\_\_

2. US 924. Williamson Blvd

6. \_\_\_\_\_

8. \_\_\_\_\_

### Survey Sponsors (corporation, government unit, organization, or person funding fieldwork)

Name FDOTOrganization Florida Dept of Transportation - District 5Address/Phone/E-mail DeLand, FloridaRecorder of Log Sheet Drew KinchenDate Log Sheet Completed 2-1-2023Is 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. Volusia

3. \_\_\_\_\_

5. \_\_\_\_\_

2. \_\_\_\_\_

4. \_\_\_\_\_

6. \_\_\_\_\_

### USGS 1:24,000 Map Names/Year of Latest Revision (attach additional sheet if necessary)

1. Name DAYTONA BEACHYear 2018

4. Name \_\_\_\_\_

Year \_\_\_\_\_

2. Name DAYTONA BEACH NWYear 2018

5. Name \_\_\_\_\_

Year \_\_\_\_\_

3. Name \_\_\_\_\_

Year \_\_\_\_\_

6. Name \_\_\_\_\_

Year \_\_\_\_\_

## Field Dates and Project Area Description

Fieldwork Dates: Start 5-30-2022 End 6-4-2022 Total Area Surveyed (fill in one) \_\_\_\_\_ hectares 1015.00 acresNumber of Distinct Tracts or Areas Surveyed 1If Corridor (fill in one for each) Width: \_\_\_\_\_ meters 200 feet Length: \_\_\_\_\_ kilometers 9.50 miles

Research and Field Methods

Types of Survey (select all that apply): [X]archaeological [X]architectural [ ]historical/archival [ ]underwater
[ ]damage assessment [ ]monitoring report [ ]other(describe): \_\_\_\_\_

Scope/Intensity/Procedures

Phase 1 survey, systematic shovel testing and pedestrian survey, site delineations at 12.5-m intervals, recording of pre-1978 historic resources

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 [X]other historic maps [ ]LIDAR
[ ]Florida Photo Archives (Gray Building) [ ]library-special collection [ ]newspaper files [X]soils maps or data [ ]other remote sensing
[X]Site File property search [ ]Public Lands Survey (maps at DEP) [ ]literature search [ ]windshield survey
[X]Site File survey search [ ]local informant(s) [ ]Sanborn Insurance maps [X]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, uncontrolled [ ]water screen [ ]soil resistivity [ ]other remote sensing
[X]shovel test-1/4" screen [ ]posthole tests [ ]magnetometer [X]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 [X]windshield survey [ ]occupant interview [ ]tax records
[ ]interior documentation [X]local property records [ ]occupation permits [ ]unknown
[ ]other (describe): \_\_\_\_\_

Survey Results

Resource Significance Evaluated? [X]Yes [ ]No

Count of Previously Recorded Resources 0 Count of Newly Recorded Resources 4

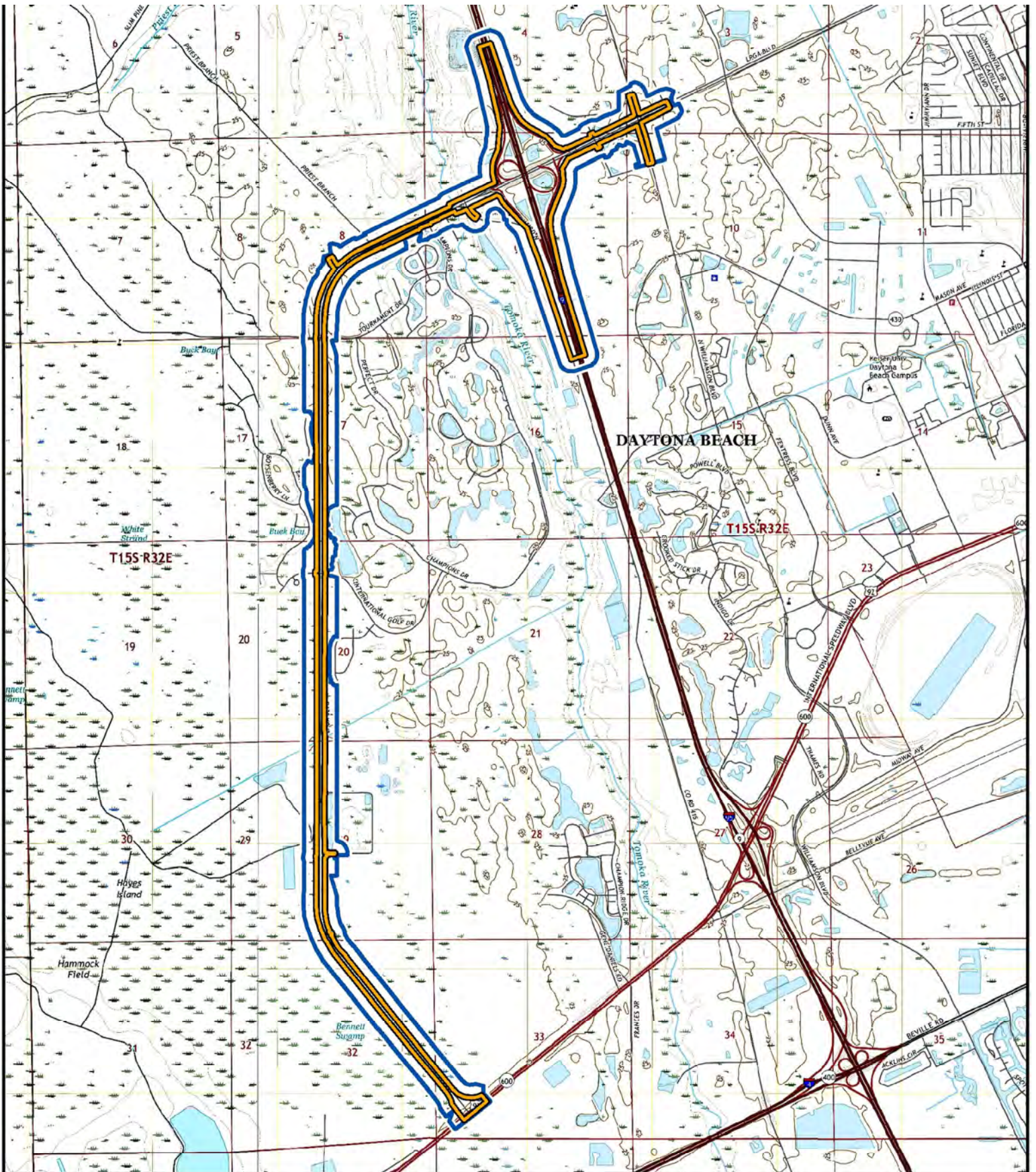
List Previously Recorded Site ID#s with Site File Forms Completed (attach additional pages if necessary)
[ ]

List Newly Recorded Site ID#s (attach additional pages if necessary)
8VO10479, 8VO10480, 8VO10481, 8VO10488

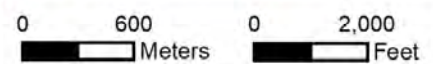
Site Forms Used: [ ]Site File Paper Forms [X]Site File PDF Forms

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: \_\_\_\_\_



- LPGA Boulevard Architectural History APE
- LPGA Boulevard Archaeological APE



USGS 7.5' Quadrangle Maps - Daytona Beach (2018) and Daytona Beach NVA (2018)



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## 9.4 Appendix D – FMSF Resource Form

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RESOURCE GROUP FORM
FLORIDA MASTER SITE FILE
Version 5.0 3/19

Site #8 VO10488
Field Date 8-19-2022
Form Date 8-19-2022
Recorder#

Original
Update

Consult the Guide to the Resource Group Form for additional instructions

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).

Check ONE box that best describes the Resource Group:

- Historic district
Archaeological district
Mixed district
Building complex
Designed historic landscape
Rural historic landscape
Linear resource

Resource Group Name Tomoka River to Bennett Swamp Canal
Project Name LPGA Blvd from US 92 to Williamson Blvd CRAS
National Register Category
Linear Resource Type
Ownership

LOCATION & MAPPING

Address:
City/Town Daytona Beach
County or Counties Volusia
Name of Public Tract
Township Range Section
USGS 7.5' Map(s)
Plat, Aerial, or Other Map
Landgrant
Verbal Description of Boundaries

Table with 3 columns: DHR USE ONLY, OFFICIAL EVALUATION, DHR USE ONLY. Contains fields for NR List Date, Owner Objection, SHPO criteria, and NR Criteria for Evaluation.

HISTORY & DESCRIPTION

Construction Year: 1952 [ ] approximately [x] year listed or earlier [ ] year listed or later
Architect/Designer: Builder:
Total number of individual resources included in this Resource Group: # of contributing 0 # of non-contributing 1
Time period(s) of significance (choose a period from the list or type in date range(s), e.g. 1895-1925)
1. 3.
2. 4.

Narrative Description (National Register Bulletin 16A pp. 33-34; attach supplementary sheets if needed)
Resource 8VO10488 was originally constructed between 1943 and 1952 to facilitate drainage in the area, based on historic aerials/topo maps. The canal ranges between 5 and 10 meters wide in the APE and features earthen banks with encroaching vegetation.

RESEARCH METHODS (check all that apply)

- [x] FMSF record search (sites/surveys) [ ] library research [ ] building permits [ ] Sanborn maps
[ ] FL State Archives/photo collection [ ] city directory [ ] occupant/owner interview [ ] plat maps
[x] property appraiser / tax records [ ] newspaper files [ ] neighbor interview [ ] Public Lands Survey (DEP)
[x] cultural resource survey [ ] historic photos [ ] interior inspection [ ] HABS/HAER record search
[x] 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 [x] no [ ] insufficient information
Potentially eligible as contributor to a National Register district? [ ] yes [x] 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 the common nature of this resource and the lack of significant engineering or historical associations, 8VO10488 is ineligible for inclusion in the NRHP, individually or as part of 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, Aerials File or accession #'s T21204
2) Document type Maintaining organization
Document description File or accession #'s

RECORDER INFORMATION

Recorder Name Newton, Jason Affiliation Southeastern Archaeological Research
Recorder Contact Information 3117 Edgewater Dr., Orlando, FL 32804/754-206-1056/jason.newton@searchinc.com
(address / phone / fax / e-mail)

Required Attachments
1 PHOTOCOPY OF USGS 7.5' MAP WITH DISTRICT BOUNDARY CLEARLY MARKED
2 LARGE SCALE STREET, PLAT OR PARCEL MAP WITH RESOURCES MAPPED & LABELED
3 TABULATION OF ALL INCLUDED RESOURCES - Include name, FMSF #, contributing? Y/N, resource category, street address or other location information if no address.
4 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.



**8VO10488\_a Facing East**



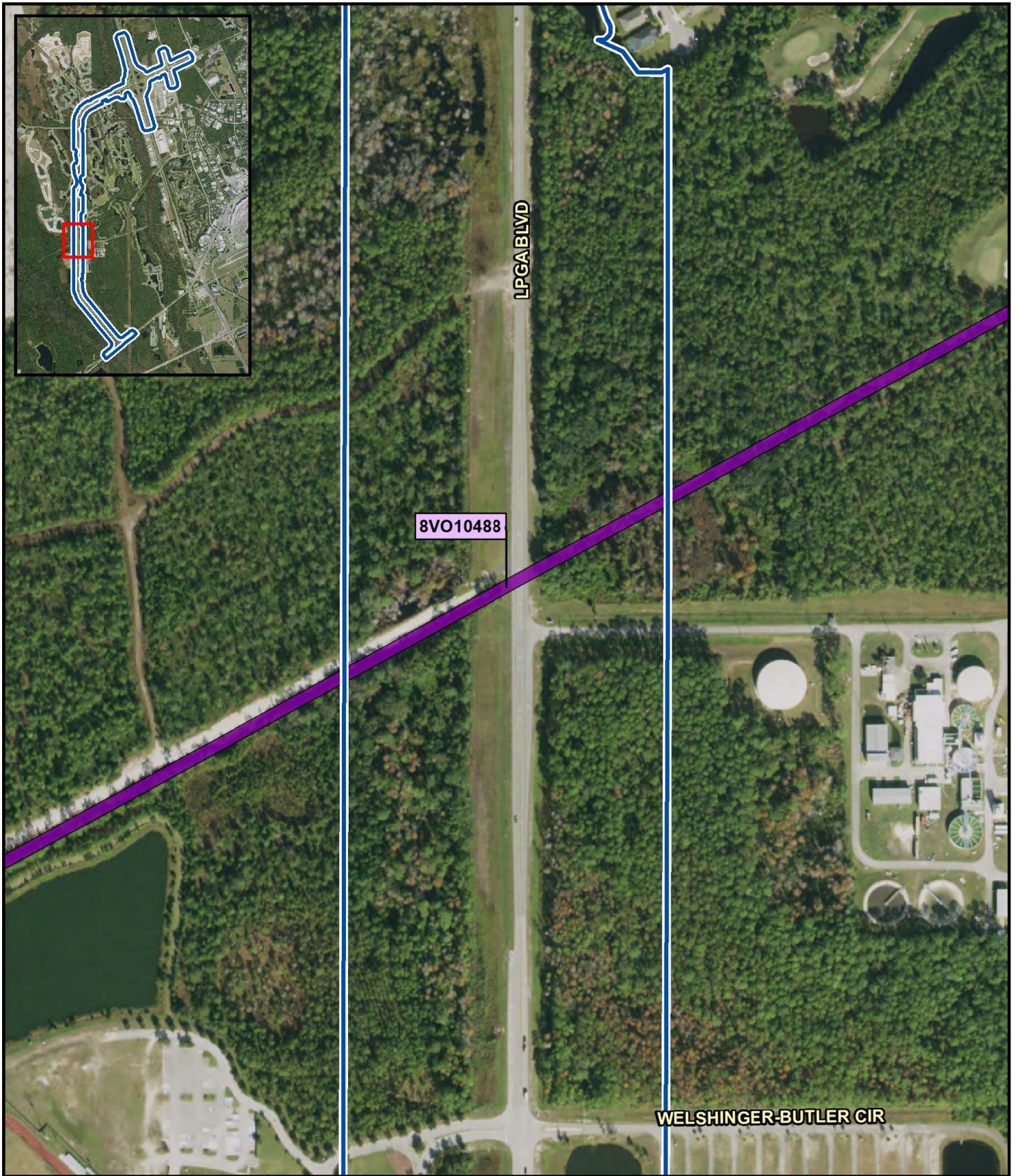
**8VO10488\_b Facing West**





**8VO10488\_c Facing West**



**8VO10488\_d Facing East**

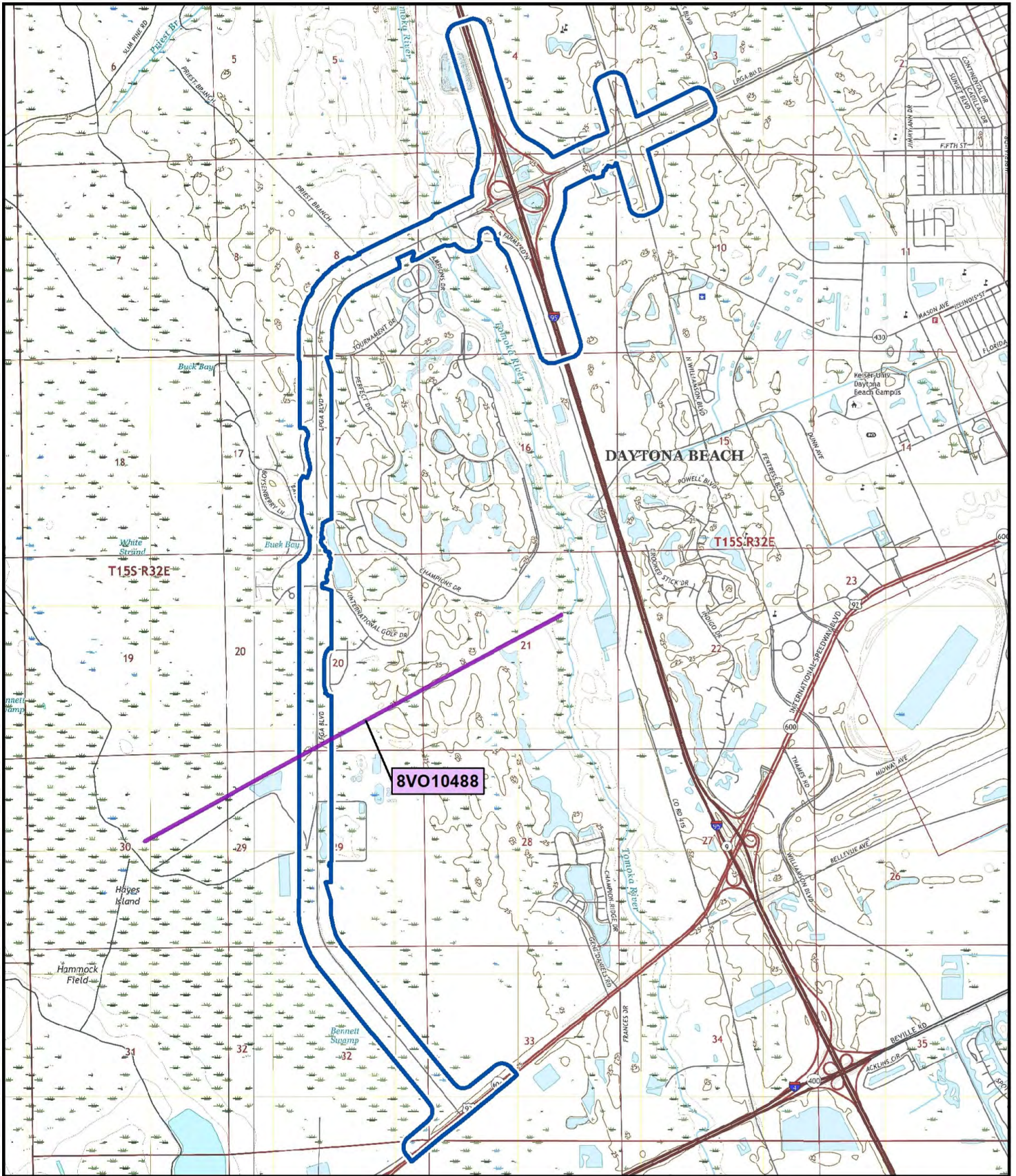


-  LPGA Boulevard Archaeological APE
-  Newly Recorded Linear Resource

0 50 0 200  
Meters Feet

USDA-FSA-APFO Orthophoto  
Mosaic (2019)



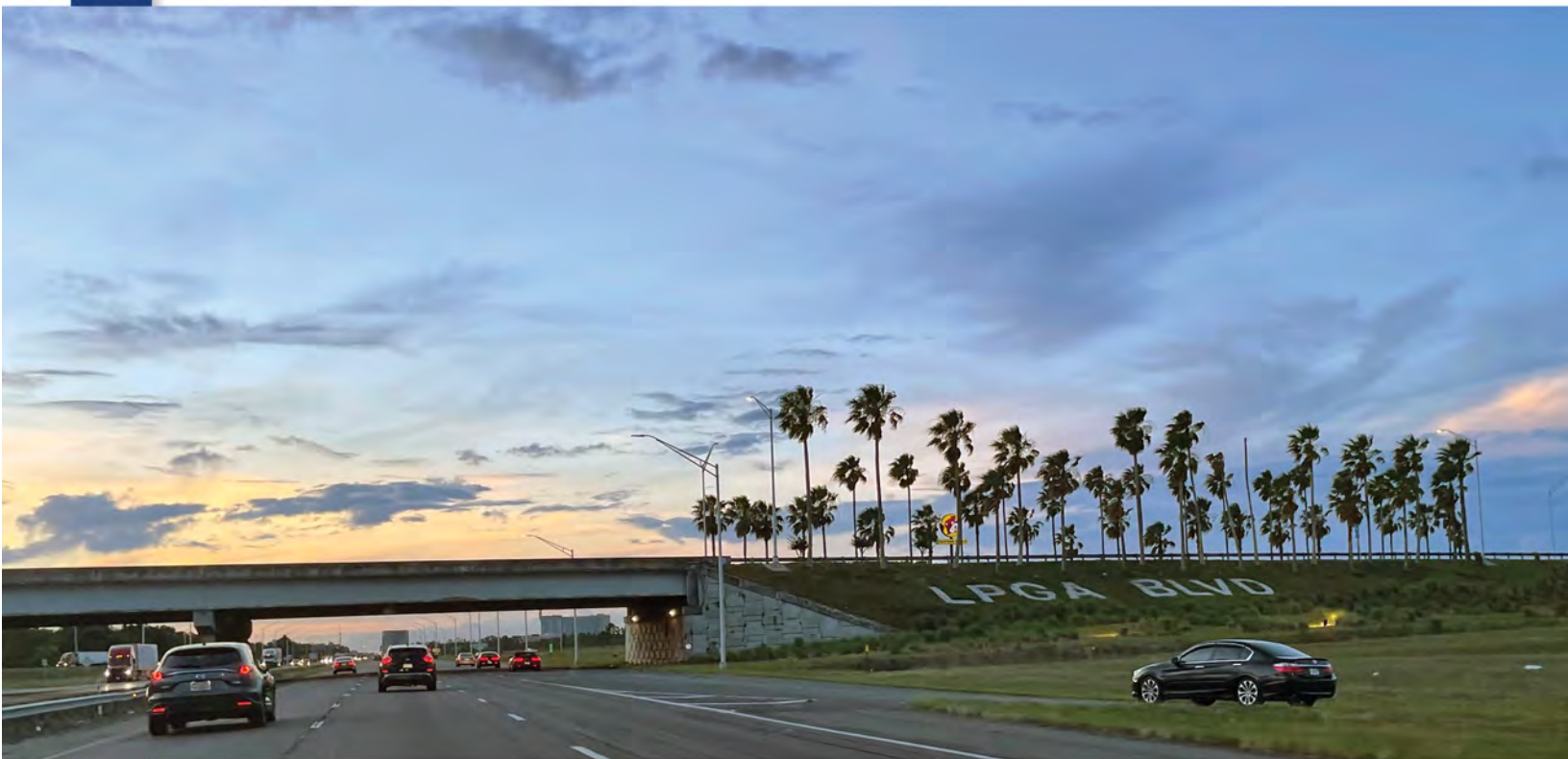


- LPGA Boulevard APE
- Newly Recorded Linear Resource



USGS 7.5' Quadrangle Maps - N  
 Daytona Beach (2018) and  
 Daytona Beach NW (2018)





## **Florida Department of Transportation District 5**

Environmental Management Office

719 S. Woodland Blvd.

DeLand, FL 32720