

CULTURAL RESOURCE ASSESSMENT SURVEY

PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDY (PD&E)

AVALON ROAD (C.R. 545)

FROM U.S. 192 TO HARTZOG ROAD

ORANGE COUNTY, FLORIDA

Orange County Capital Improvement Project (CIP) No. 5154

Orange County Government
Orange County Public Works Department
4200 South John Young Parkway
Orlando, Florida 32839

April 2026

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Prepared for:

Orange County Government
Orange County Public Works Department
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EXECUTIVE SUMMARY

Orange County is conducting a Project Development and Environmental (PD&E) Study to evaluate capacity and multimodal improvements along Avalon Road (C.R. 545) in Orange County, Florida. The project distance is approximately 1.6-miles. In 2024, a Roadway Conceptual Analysis (RCA) was prepared to identify the preferred improvements needed to address the current and future transportation needs along the Avalon Road (C.R. 545) corridor. The current work effort is to convert the 2024 RCA to a PD&E Study for use as part of the South Florida Water Management District (SFWMD) permitting so the project may continue with design, right-of-way (ROW) acquisition, and construction. The proposed project includes widening the existing two-lane roadway to four 12-foot (ft) travel lanes with curb and gutter, a 22-ft raised median, a six-foot-wide sidewalk on the east side of the roadway, and a 10-ft-wide multi-use path on the west side to accommodate pedestrians and bicyclists. In addition, three Stormwater Management Facilities (SMF) and one Floodplain Compensation (FPC) site, hereinafter referred to as pond sites, are included as part of this project. The Concept Plans from the 2024 RCA are contained in **Appendix A**. This project is funded by Orange County.

The purpose of the Cultural Resource Assessment Survey (CRAS) was to locate and identify any archaeological sites and historic resources within the project Area of Potential Effects (APE) and to assess their significance in terms of eligibility for listing in the National Register of Historic Places (NRHP). As defined in *36 Code of Federal Regulations (CFR) Part § 800.16(d)*, the APE is the “geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist.” Based on the scale and nature of the activities, the archaeological APE is limited to the footprint of construction for both the roadway widening and the proposed ponds. The historical/architectural APE includes the footprint of construction and immediately adjacent parcels, up to 500-ft from proposed ROW, which also encompasses the proposed pond sites. The fieldwork was conducted in March 2026.

All work was conducted in accordance with Section 106 of the *National Historic Preservation Act (NHPA)* of 1966 (Public Law 89-665, as amended), as implemented by *36 CFR Part § 800 (Protection of Historic Properties)*, effective August 2004) as well as Chapters 267 and 373, *Florida Statutes (FS)*. All work was performed in accordance with the standards outlined in the *Cultural Resources Management Standards & Operational Manual* (FDHR 2003) and the *Project Development and Environment (PD&E) Manual* (FDOT 2024). The report meets the specifications set forth in Chapter 1A-46, *Florida Administrative Code (FAC)* and the Principal Investigators meet the *Secretary of the Interior's Historic Preservation Professional Qualification Standards (48 Federal Register 44716)* for archaeology, history, architecture, architectural history, or historic architecture.

Archaeological background research, including a review of the Florida Master Site File (FMSF) database and the NRHP, indicated that no previously recorded archaeological sites are recorded within the APE, but three sites have been recorded within one mile. All three sites (8OR04147; 8OR11766; 8OS00598) are artifact scatters. Site 8OR04147 was determined ineligible for listing on the NRHP by the State Historic Preservation Officer (SHPO) on October 22, 2008 and site 8OS00598 was also determined ineligible for listing on April 28, 1992. Site 8OR11766 (SL-1) has not been evaluated by the SHPO. A review of relevant site locational information for environmentally similar areas within Orange County and the surrounding region indicated the archaeological APE was considered historically to have a variable probability for pre-Contact archaeological site occurrence but was downgraded to low-moderate due to the APE having been disturbed by roadway development and agricultural activities throughout the twentieth century. The APE also had a low probability for historic

period archaeological sites. Background research also indicated that sites, if present, would most likely be small lithic/artifact scatters, or possibly sites associated with the early development of the area. A total of 67 shovel tests were excavated and all were negative.

Historical background research, including a review of the FMSF and the NRHP digital databases, indicated that two historic resources (8OR11764 and 8OR11765) have been previously recorded within the APE. These include two Ranch style buildings (8OR11764 and 8OR11765), constructed circa (ca.) 1960. The resources were recorded during the *Cultural Resource Assessment Survey Sutton Lakes Site, Orange County, Florida* conducted by S&ME, Inc. in 2021 and have not been evaluated by the SHPO (Carpini et al. 2021). Because the resources have not been evaluated by the SHPO, an updated FMSF form will be prepared for each extant resource. A review of relevant historic United States Geological Survey (USGS) quadrangle maps, historic aerial photographs, and the Orange County property appraiser's website data revealed the potential for no new historic resources 49 years of age or older (constructed in 1977 or earlier) within the APE (Mercado 2026).

The historical/architectural field survey resulted in the identification and re-evaluation of one previously recorded historic resource (8OR11764) within the APE. This includes one Ranch style building (8OR11764), constructed ca. 1960. Overall, the historic resource has been altered, lacks sufficient architectural features, and is not a significant embodiment of a type, period, or method of construction. In addition, background research did not reveal any historic associations with significant persons and/or events. Thus, the resource does not appear eligible for listing in the NRHP, either individually or as a part of a historic district. In addition, one previously recorded historic resource (8OR11765) was confirmed as demolished during the field survey.

Based on the results of background research and field investigations, including the excavation of 67 shovel tests, no archaeological sites were identified. As a result of the historical/architectural field survey, one previously recorded historic resource (8OR11764) was identified within the APE, the FMSF form was updated, and the resource was re-evaluated. Overall, the historic resource has been altered, lacks sufficient architectural features, and is not a significant embodiment of a type, period, or method of construction. In addition, background research did not reveal any historic associations with significant persons and/or events. Thus, the resource does not appear eligible for listing in the NRHP, either individually or as a part of a historic district. Thus, no archaeological sites or historic resources that are listed, determined eligible, or that appear potentially eligible for listing in the NRHP are located within the APE. Therefore, it is the professional opinion of ACI that the proposed undertaking will result in No Historic Properties Affected. No further cultural resource work is recommended.

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1.0 INTRODUCTION

Orange County is conducting a Project Development and Environmental (PD&E) Study to evaluate capacity and multimodal improvements along Avalon Road (C.R. 545) in Orange County, Florida (**Figure 1.1**). The project distance is approximately 1.6-miles. In 2024, a Roadway Conceptual Analysis (RCA) was prepared to identify the preferred improvements needed to address the current and future transportation needs along the Avalon Road (C.R. 545) corridor. The current work effort is to convert the 2024 RCA to a PD&E study for use as part of the South Florida Water Management District (SFWMD) so the project may continue with design, right-of-way (ROW) acquisition, and construction. This project is funded by Orange County.

1.1 Project Description

The proposed project includes widening the existing two-lane roadway to four 12-foot (ft) travel lanes with curb and gutter, a 22-ft raised median, a six-ft-wide sidewalk on the east side of the roadway, and a 10-ft-wide multi-use path on the west side to accommodate pedestrians and bicyclists. These facilities will be separated from the roadway by a grass utility strip and will connect to planned regional pedestrian and bicycle facilities north of Hartzog Road. Pedestrian features, including crosswalks and pedestrian signals, will be provided at U.S. 192, which is the only signalized intersection within the project limits. All facilities will comply with the American with Disabilities Act (ADA). The Concept Plans from the 2024 RCA are contained in **Appendix A**.

This project is being designed to minimize, to the extent possible, ROW impacts to adjacent existing and planned developments. The Preferred Alternative accommodates projected future traffic demands, improves roadway operations and safety, and incorporates stormwater management features designed to meet SFWMD and Orange County requirements. Three stormwater management ponds and a floodplain compensation site are planned to provide water quality treatment and runoff attenuation while avoiding impacts to nearby wetlands and floodplain areas, where feasible.

1.2 Purpose and Need

The purpose of the project is to reduce congestion and improve mobility along Avalon Road between U.S. 192 and Hartzog Road. Improvements will also address safety concerns and support the County's vision for corridors to serve as multi-modal facilities that serve motorists, pedestrians, and bicyclist. The project need is due to many of the existing segments along Avalon Road currently operating at Level of Service (LOS) F with traffic operations expected to worsen through 2048.

A RCA was originally completed for the project in 2024. It recommended a 4-lane divided roadway with multi-modal enhancements including a sidewalk on the east side, a 10-ft multi-use path on the west side, and a pedestrian crossing at U.S. 192. The project began design in April 2025. To support permitting efforts under the stormwater rule transition period, the RCA has been updated to a PD&E study. It is also funded for ROW and construction in the Metroplan Orlando Fiscal Year (FY) 26-30 Transportation Improvement Program (#7640).

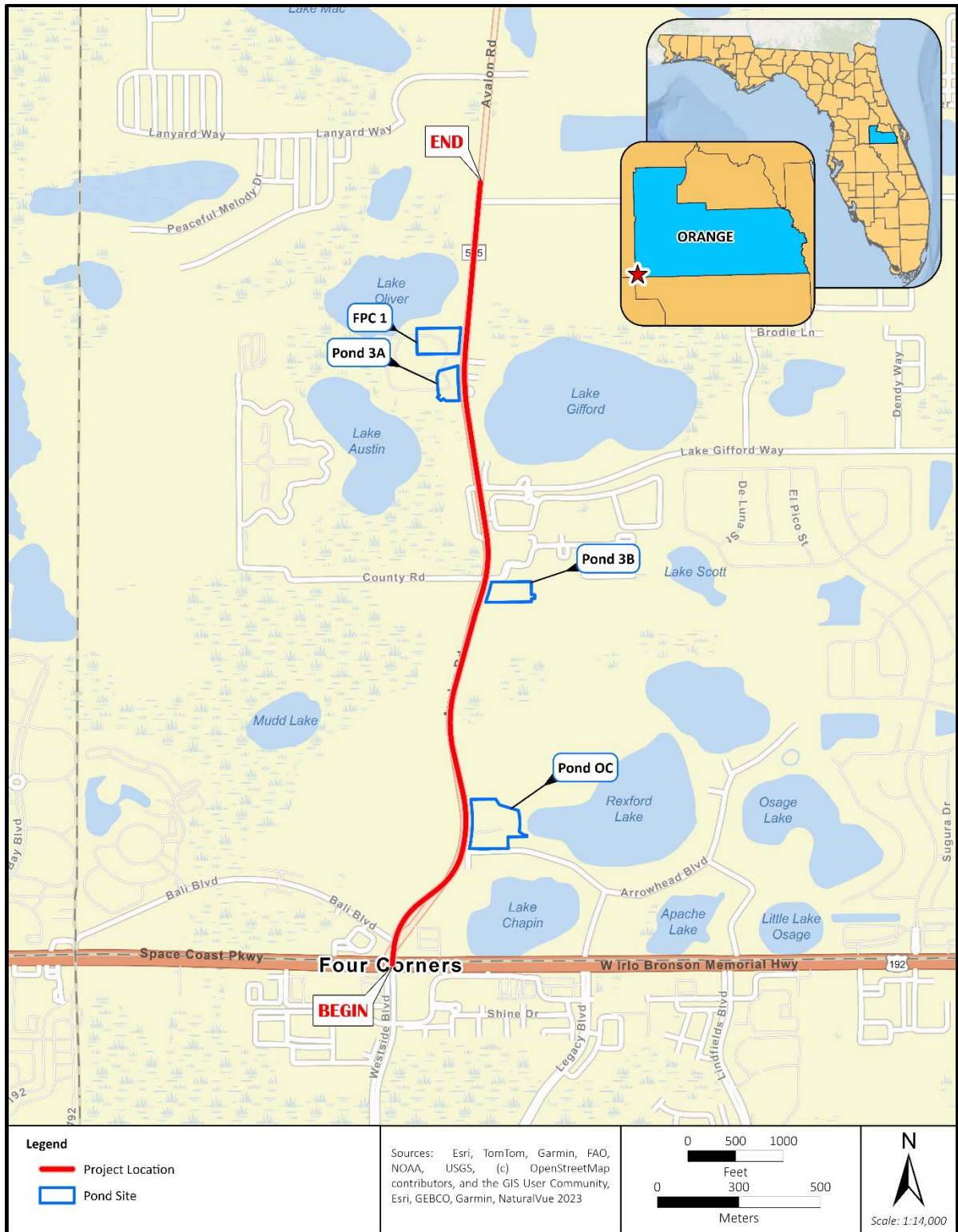


Figure 1.1. Location of the Avalon Road (C.R. 545) project corridor, Orange County, Florida.

1.3 Report Purpose

The purpose of the Cultural Resource Assessment Survey (CRAS) was to locate and identify any archaeological sites and historic resources within the project Area of Potential Effects (APE) and to assess their significance in terms of eligibility for listing in the National Register of Historic Places (NRHP). All work was conducted in accordance with Section 106 of the *National Historic Preservation Act (NHPA)* of 1966 (Public Law 89-665, as amended), as implemented by *36 Code of Federal Regulations (CFR) Part § 800 (Protection of Historic Properties)*, effective August 2004) as well as Chapters 267 and 373, *Florida Statutes (FS)*. All work was performed in accordance with the standards outlined in the *Cultural Resources Management Standards & Operational Manual* (Florida Division of Historical Resources [FDHR] 2003) and the *Project Development and Environment (PD&E) Manual* (Florida Department of Transportation [FDOT] 2024). The report meets the specifications set forth in Chapter 1A-46, *Florida Administrative Code (FAC)* and the Principal Investigators meet the *Secretary of the Interior's Historic Preservation Professional Qualification Standards (48 Federal Register 44716)* for archaeology, history, architecture, architectural history, or historic architecture.

1.4 Area of Potential Effects (APE)

As defined in *36 CFR Part § 800.16(d)*, the APE is the “geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist.” Based on the scale and nature of the activities, the archaeological APE is limited to the footprint of construction for both the roadway widening and the proposed ponds. The historical/architectural APE includes the footprint of construction and immediately adjacent parcels, up to 500-ft from proposed ROW, which also encompasses the proposed pond sites.

2.0 ENVIRONMENTAL SETTING

Environmental factors such as geology, topography, relative elevation, soils, vegetation, and water resources are important in determining where pre-colonial and historic period archaeological sites are likely to be located. These variables influenced what types of resources were available for utilization in each area. This, in turn, influenced decisions regarding settlement location and land-use patterns. These variables have also influenced modern development and in some instances these variables have been significantly modified from their historic condition. Because of the influence of the local environmental factors upon archaeological site location as well as modern changes, a discussion of the effective environment is included. A more detailed discussion of environmental, archaeological, and historical considerations and resource probability can be found in **Section 4 Research Considerations**.

2.1 Project Location

The project is located in Section 30-31 of Township 24 South, Range 27 East in the southwestern portion of Orange County, Florida (United States Geological Survey [USGS] Lake Louisa SW 2013) (**Figure 2.1**). The beginning of the project corridor to the south intersects with U.S. 192, which runs along the Osceola County Line. The project is also proximate to the Lake County line to the west and itself is surrounded by lakes on both sides of the corridor (Lake Chaplin, Grass Lake, Rexford Lake, Mudd Lake, and Lakes Austin, Gifford, and Oliver).

2.2 Geomorphology and Geology

The project is within the Mid-peninsular physiographic zone which is characterized by discontinuous highlands forming sub-parallel ridges separated by broad valleys that roughly parallel the coast (White 1970). More specifically, the project area is within the Lake Wales Ridge (Scott 1978; White 1970). Geologically, the area is underlain by Pleistocene sediments that are surficially evidenced by clayey sand (Scott 1978, 2001; Scott et al. 2001). The elevation of the project area is around 115 to 120 ft above mean sea level (amsl). The vegetation around this area once consisted of forests of longleaf pine and xerophytic oaks, swamp forests mostly of hardwoods, and pine flatwoods; much of this within the project is now gone.

2.3 Soils and Vegetation

According to the U.S. Department of Agriculture (USDA), the project lies within two different soil associations (USDA 1989). The Candler soil association is characterized by nearly level to strongly sloping, excessively drained soils that are sandy throughout. The natural vegetation consists of bluejack oak, live oak, and turkey oak with an understory of chalky bluestem, lopsided Indiangrass, hairy panicum, and pineland threeawn. The second soil association is Samsula-Hontoon-Basinger, which is characterized by nearly level, very poorly drained soils that are subject to ponding. The natural vegetation consists of mixed stands of cypress, red maple, sweetgum, and black tupelo, while the understory includes cutgrass, maiden cane, Jamaica sawgrass, sedges, ferns and other water-tolerant grasses. **Table 2.1** lists the specific soil types within the archaeological APE and their locations are depicted on **Figure 2.2**.



Figure 2.1. Environmental setting of the Avalon Road (C.R. 545) project corridor.

Table 2.1. Soil types and their descriptions

Soil Name, % slope	Drainage	Setting
Archbold fine sand, 0-5%	Moderately well	Low ridges and knolls on the flatwoods
Basinger fine sand, frequently ponded, 0-1%	Poor	Freshwater marshes and swamps
Immokalee fine sand, <2%	Poor	Broad flatwoods
Sanibel muck, <1%	Very poor	Depressions, freshwater swamps and marshes, and poorly defined drainageways
Tavares fine sand, 0-5%	Moderately well	Low ridges and knolls on the uplands
Tavares-Millhopper fine sands, 0-5%	Moderately well	Low ridges and knolls on the uplands and flatwoods

2.4 Current Conditions

The Avalon Road project corridor runs north from U.S. 92/West Irlo Bronson Highway to just north of Hartzog Road and includes a portion of Hartzog Road running to the east. General conditions consist of asphalt roadway and the ROW along Avalon Road and Hartzog Road, which contains paved sidewalks, mowed grass, and surrounding parcels for commercial services, high- and low- density housing, and retention ponds. Buried utilities are prevalent within the ROW. Surrounding vegetation consisted of sand live oak, slash pine, and palmetto at varying degrees throughout the project (**Photos 2.1-2.38**). The environment within the pond sites varies between oak forest with pine and a cabbage palm understory and pasture conditions. Ponds with pasture-like environments contained low grasses and scattered pine, oak and tall palmetto. Pond 3A and FPC 1 also had trails and structural foundations throughout.



Photo 2.1. Conditions at the Avalon Road/U.S. 192 intersection, facing southeast.



Photo 2.2. Avalon Road with flagged utilities at the south end of the project corridor, facing northeast.

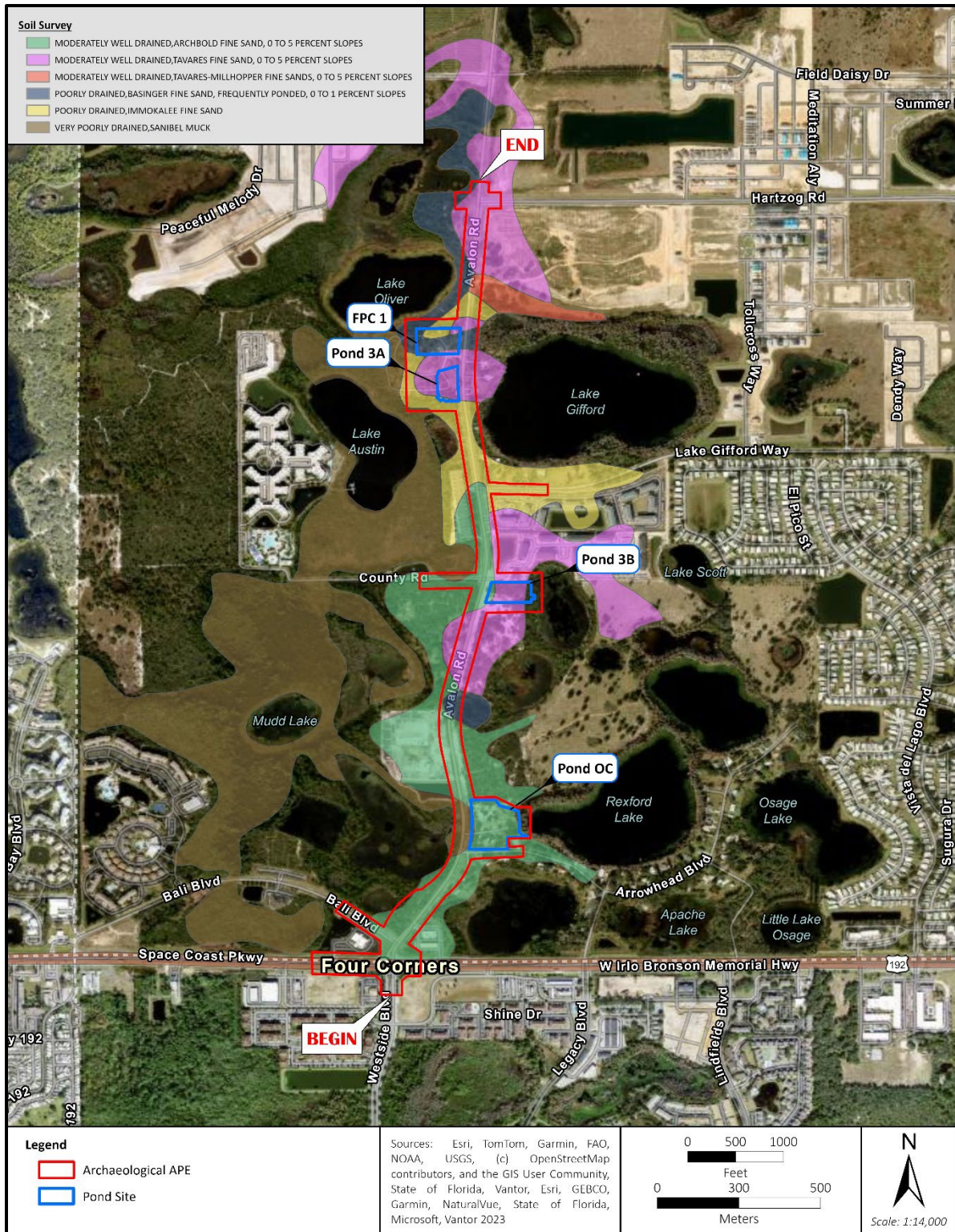


Figure 2.2. Soil types within the Avalon Road (C.R. 545) project corridor.



Photo 2.3. Commercial services (Wawa) just north of the Avalon Road/U.S. 192 intersection, facing southeast.



Photo 2.4. General vegetation along the southbound side of Avalon Road, facing west.



Photo 2.5. Vegetative conditions with modern debris along the southbound side of Avalon Road in the south, facing north. Note the homeless encampment in the background.



Photo 2.6. Utilities (powerlines, gas line, fiber optic) along the northbound side of Avalon Road, facing north.

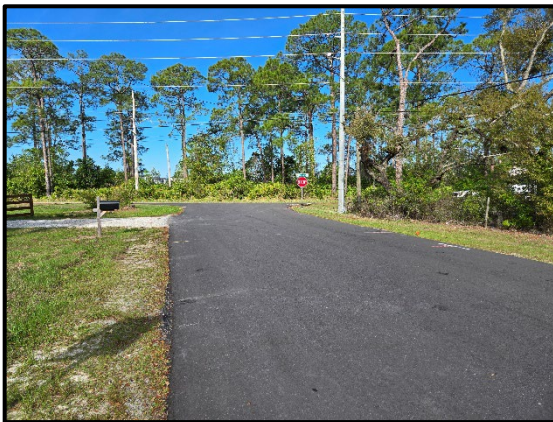


Photo 2.7. General conditions of Arrowhead Boulevard looking west toward Avalon Road.



Photo 2.8. Entrance to Pond OC with ornamental vegetation, facing east.



Photo 2.9. Pasture conditions within Pond OC with barn in the background, facing northwest.



Photo 2.10. Driveway with a powerline leading to Avalon Road in Pond OC, facing southwest.



Photo 2.11. Utilities along northbound Avalon Road, with apartment complex across the road, facing north.



Photo 2.12. Palmetto environment along northbound Avalon Road, facing east.



Photo 2.13. Wetland environment along northbound Avalon Road, facing east.



Photo 2.14. Sandy utility corridor along northbound Avalon Road, facing northeast



Photo 2.15. Cleared area with push pile within Pond 3B, facing east.



Photo 2.16. Oak and palmetto environment within Pond 3B, facing southwest.



Photo 2.17. Landscaping along eastbound County Road, facing west.



Photo 2.18. Apartment residences along northbound Avalon Road, facing northeast.

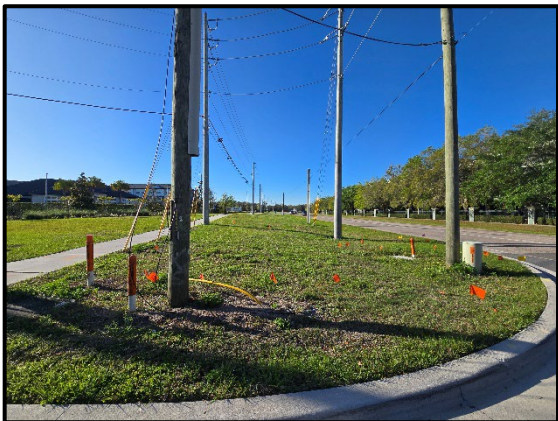


Photo 2.19. Powerline corridor along northbound Avalon Road with utilities adjacent Lake Gifford Way, facing south.



Photo 2.20. Private residential fence with clustered marked utilities along northbound Avalon Road, facing south.



Photo 2.21. Additional view of private residential fence with “no trespassing” sign, facing east.



Photo 2.22. Example of concrete drainage along southbound Avalon Road, facing west.



Photo 2.23. Natural Conservation Area with sign in the south portion of Pond 3A, facing west.



Photo 2.24. General environment and trail within Pond 3A, facing north.



Photo 2.25. Additional view of vegetation within Pond 3A, facing southwest.

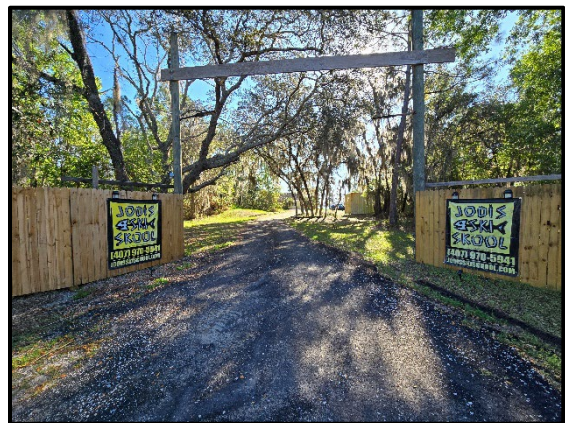


Photo 2.26. Jodi’s Ski Skool driveway entrance and landscaping along northbound Avalon Road, facing east.



Photo 2.27. Elevated concrete foundation within south portion of FPC 1, facing north.



Photo 2.28. Pasture environment within FPC 1, facing south.



Photo 2.29. Drainage ditch between berm and powerline corridor adjacent northbound Avalon Road, facing north.



Photo 2.30. Multiple reclaimed water/water line utility grates southbound Avalon Road, facing west.



Photo 2.31. Conditions of swamp along southbound Avalon Road west of Hartzog Road, facing north.



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Photo 2.33. General conditions of Hartzog Road facing west towards Avalon Road.

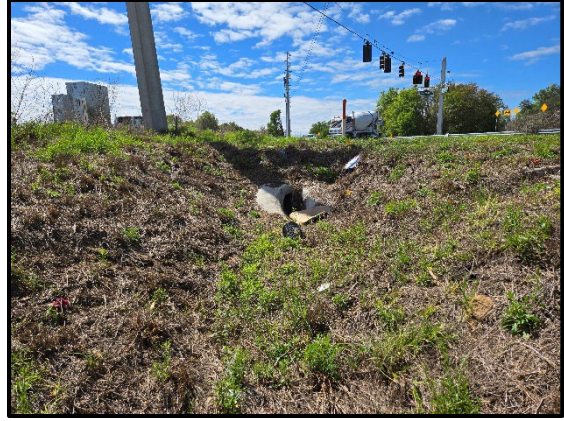


Photo 2.34. Concrete drainage under a ditch beneath utilities on the corner of the Avalon Road/Hartzog road intersection, facing south.



Photo 2.35. Example of drainage adjacent northbound Avalon Road, with field tech, facing west.



Photo 2.36. Citrus tree growing within an oak canopy along southbound Avalon Road, facing northwest.



Photo 2.37. Sandhill conditions with pine, oak and cabbage palm along northbound Avalon Road, facing east.



Photo 2.38. General conditions at the northern extent of the project corridor, facing south.

3.0 CULTURAL CHRONOLOGY

A discussion of regional history is included in cultural resource assessment reports to provide a framework within which the local archaeological record can be examined. Archaeological sites are not individual entities, but rather were part of once, dynamic cultural systems. As a result, individual sites cannot be adequately examined, interpreted, or evaluated without reference to other sites and resources in the general area.

Archaeologists summarize the pre-Contact history of a given area (i.e., a region) by outlining their sequence through time. Defined largely in geographical terms, these sequences also reflect shared environmental and cultural factors. The project is located in the East and Central Lakes archaeological region (Milanich and Fairbanks 1980:24-26). This region extends from the northern portions of Indian River, Osceola, and Polk counties up to Nassau County, and includes eastern Marion and Sumter counties (**Figure 3.1**). Within this zone, the Paleoindian, Archaic, Woodland, and Mississippian stages have been defined based on material culture traits such as stone tool forms, ceramics, subsistence, settlement, and burial patterns. These broad temporal units are further subdivided into culture phases or periods.

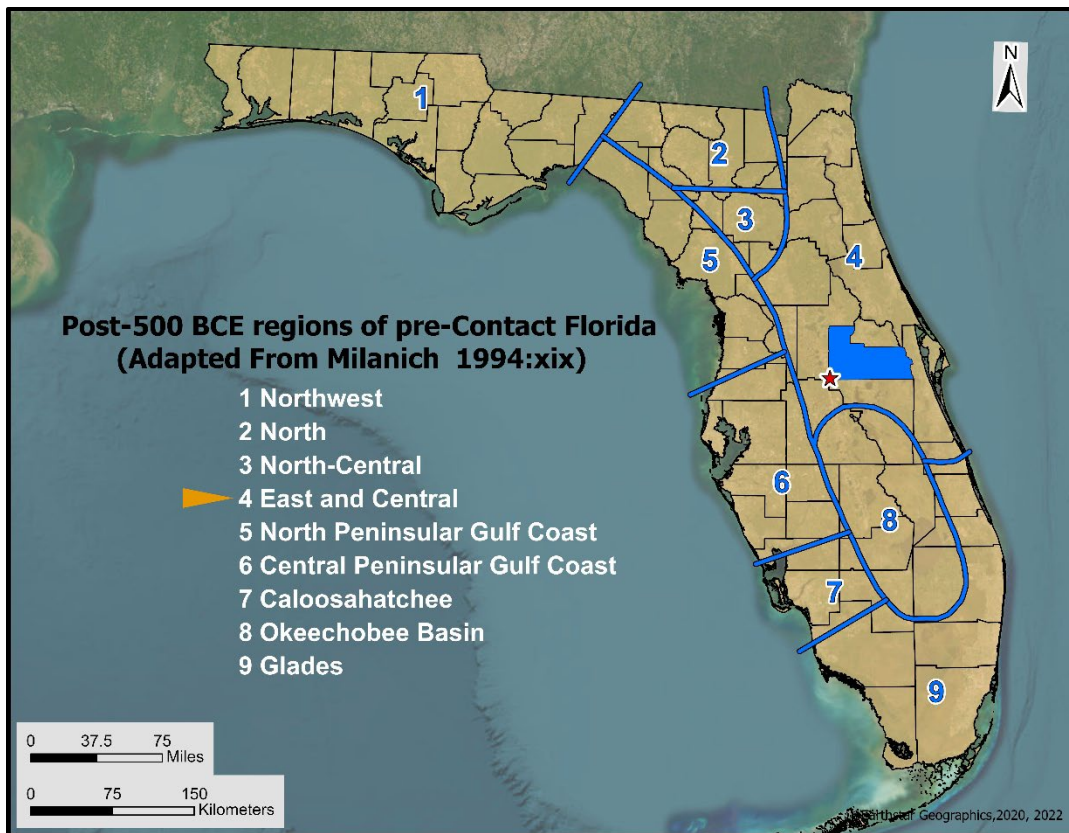


Figure 3.1. Florida Archaeological Regions.

The historical overview of the region as compiled below is divided into four distinct yet equally important chronological divisions. The **Colonial Period** (circa [ca.] 1513-1824 CE [Common Era]) developed during the Age of Exploration and witnessed more than three centuries of adventurism by both the Spanish and British. During **Territory and Statehood**, (1822-1860 CE), a territorial government was established by the United States Congress on March 30, 1822 (Legislative Council of

the Territory of Florida 1822). This period also highlights conflict with the Seminole people and the events following Florida's admission to the Union on March 3, 1845. The **Civil War and Aftermath** (1861-1899 CE) period traces with the actions and consequences resulting from Florida's secession from the Union on January 10, 1861, the American Civil War, the succeeding era of Reconstruction and readmission on July 25, 1868, and the late nineteenth century when development and transportation increased and expanded throughout the state (Florida Constitutional Convention 1868; Florida Convention of the People 1861). The **Twentieth Century** period includes subperiods defined by important historic events such as the two World Wars, the Florida Land Boom of the 1920s, and the Great Depression. Each of these periods evidenced differential development and utilization of the land within specific regions, ultimately affecting the historic site distribution.

3.1 Paleoindian

The Paleoindian period is the earliest known cultural manifestation in Florida, dating from roughly 20,000 to 8000 BCE (Before Common Era) (Bense 1994; Milanich 1994; Rogers 2019; Webb and Dunbar 2006). Archaeological evidence for Paleoindians consists primarily of scattered finds of diagnostic lanceolate-shaped and fluted projectile points. The Paleoindian stage is divided into three temporal horizons based on characteristic tool forms called the Clovis (10,500-9000 BCE), Suwanee (9000-8500 BCE), and the Late Paleoindian (8500-8000 BCE) (Austin 2001). In addition, the Pre-Clovis Horizon predates 10,500 BCE and was previously identified based on artifacts retrieved from the Page-Ladson site in the Aucilla River, however, there is less representation of this horizon further south in Florida (Dunbar and Vojnovski 2007; Halligan et al. 2016; Hemmings 1999). Other Paleoindian sites within Florida include the Wakulla Springs Lodge, Ryan Harley, Norden, Lewis-McQuinn, Silver Springs, Warm Mineral Springs, and Harney Flats.

The Florida peninsula at that time was quite different than today. In general, the climate was cooler and drier with vegetation typified by xerophytic species with scrub oak, pine, open grassy prairies, and savannas (Milanich 1994:40). When human populations were arriving in Florida, the sea levels were still as much as 130-200 ft below present levels and coastal regions of Florida extended miles beyond present-day shorelines (Faught 2004). Based on research along the Aucilla and Wacissa Rivers, there were major variations in the inland water tables resulting from large-scale environmental fluctuations that depended on the local environmental conditions present at the time (Dunbar 2006b, 2016). According to Oasis Theory, scarce potable water and low water tables led Paleoindians and common game animals to cluster around the few available water holes that were associated with sinkholes (Neill 1964). When dry periods passed, migrating Pleistocene animals dispersed and moved freely over a wider range for abundant water resources and Paleoindians would gather around river-crossings to ambush large animals (Waller 1970). Rivers developed from sinkholes where populations settled during the drier periods. Thus, many sites, such as Page-Ladson and Sloth Hole, have been inundated (Faught and Donoghue 1997; Florida Museum of Natural History 2021).

Investigations at additional sites within the north Florida rivers have provided important information on the Paleoindian period and how the aboriginals adapted to their environmental setting (Webb 2006). It has been suggested that Paleoindian settlement and movement may have been related to the scheduling of toolkit replacement, social needs, and the availability of water, among other factors, rather than to seasonal changes as postulated for the Archaic period (Daniel and Wisenbaker 1987:175). Archaeologists hypothesize that Paleoindians lived in migratory bands and subsisted by gathering and hunting, including the now-extinct Pleistocene megafauna (Anderson and Sassaman 2012). Studies of Pleistocene faunal remains clearly demonstrate the importance of these animals not only for food, but also as raw material for the bone tool industry (Daniel and Wisenbaker 1987). In addition, they likely trapped smaller mammals (e.g., mink, muskrat, and rabbit) for their fur and medium to large sized

mammals (e.g., deer) for food and producing bone tools (Dunbar 2016; Dunbar and Vojnovski 2007). These nomadic hunters likely traveled between permanent and semi-permanent sources of water, such as artesian springs, to exploit available water and food resources. In addition to being tied to water sources, most of the Paleoindian sites are close to good quality lithic resources (Anderson and Sassaman 2012). Paleoindian settlements consisted of established semi-permanent habitation areas and the movement of the materials from their procurement sources to the residential locale by specialized task groups (Austin 2001:25; Rogers and Fitzhugh 2022).

3.2 Archaic

The Archaic period (ca. 8000-1000 BCE) is characterized by climate change leading to marked environmental transformations and the extinction of Pleistocene megafauna (Hudson 1984; Rogers 2019). Among the landscape alterations were rises in sea and water table levels that resulted in the creation of more available surface water. Miller (1998:68) suggests that when sea levels reached their current positions, the St. Johns River changed its riverine characteristics to become like a lake in its upper reaches and an estuary in its lower reaches, widening the available resource base. Most of the botanical remains were from wetland species common along the lake's margin, river swamp, and backwaters. Upland species were also utilized. Middens of mystery snail, apple snail, and mussel provide evidence of occupation and resource exploitation along the rivers of east and central Florida (Cumbaa 1976; Ellis et al. 1994; Fryman et al. 1978). In addition, this period is characterized by the spread of mesic forests and the beginnings of modern vegetation communities including pine forests and cypress swamps (Bense 1994). Pine-dominated forests began to cover the landscape. Humans adapted to this changing environment and regional and local differences are reflected in the archaeological record (Russo 1994a, 1994b; Sassaman 2008). Interior sites include the smaller lithic and ceramic scatter campsites that were most likely used for hunting or served as special use extractive sites for such activities as gathering nuts or other botanical materials (Ste. Claire 1989, 1990).

Archaeological evidence suggests a slow cultural change that led to an increasingly intensive exploitation of localized food resources, which may reflect the transition to a more seasonal, modern climate compared to the Pleistocene. With loss of Ice Age mammals, Archaic populations turned to the hunting of smaller game such as deer, raccoon, and opossum, and relied on wild plants and shellfish, where available (Rogers and Fitzhugh 2022). The disappearance of the mammoths and mastodons resulted in a reduction of open grazing lands, and thus, the subsequent disappearance of grazers such as horses, bison, and camels. As a result, herd animals were replaced by the more solitary, woodland browser: the white-tailed deer (Dunbar 2006a:426). The intertwined data of megafaunal extinction and cultural change suggests a rapid and significant disruption in both faunal and floral assemblages. The Bolen people represent the first culture adapted to the Holocene environment using a more specialized toolkit and the introduction of chipped-stone woodworking implements (Carter and Dunbar 2006).

The Archaic period is commonly subdivided into three subperiods: Early (ca. 8000-6000 BCE), Middle (6000-4000 BCE), and Late (4000-1000 BCE) Archaic (Bense 1994). These three periods saw transitional changes in lifestyle through settlement patterns and resource procurement in response to climate changes and population growth (Anderson and Sassaman 2012). In the Early period, most sites were small, seasonal campsites that followed a diffuse yet well-patterned schedule in areas with access to both coastal and interior resources. There is also additional evidence of mortuary ceremonialism with the use of marked cemeteries and internments found in bogs, springs, and wetlands (Anderson and Sassaman 2012). Milanich (1994:81) suggests that Early and Middle Archaic peoples used aquatic environments for burial. The Early Archaic Windover Site contained primary and flexed burials within a peat pond. These were held in place with wooden stakes and the interments included grave goods such as textiles and worked bone, shell, and wood (Doran 2002).

During the Middle Archaic, these settlements shifted to a system of base camps with smaller satellite camps to maximize forest resources during parts of the year, with some sites seeing year-round occupation (Byrd 2011; Russo 1996; Wheeler et al. 2000). The Mount Taylor period has been identified for the period 4000-2000 BCE, which bridges the Middle to Late Archaic period, in the Middle and Upper St. Johns River Basin (Bense 1994; Byrd 2011). Subsistence was based on hunting, fishing, shellfish collecting, and plant gathering. Sites are generally located along the Atlantic coast, the upper reaches of the St. Johns River, and the Ocklawaha and Wekiva Rivers, although there are coastal analogs where groups established sedentary, marine-adapted settlement focusing on local estuarine foraging and utilizing shell tools (Byrd 2011; Ste. Claire 1990; Weisman 1993; Wheeler et al. 2000). Mount Taylor sites include large base camps, smaller special-use campsites, burial areas, and extensive shell middens that were typically ovoid or ridge-like in shape (Byrd 2011). Interior sites include smaller lithic and ceramic scatter sites most likely used for hunting or served as special use extractive sites for gathering nuts or other botanical materials (Ste. Claire 1989, 1990). Sites that were multicomponent also consisted of a large shell mound, shell fields, and later shell and sand burial mounds (Byrd 2011; Wheeler et al. 2000). The artifact inventory of the Mt. Taylor people includes stone projectile points, tools, and microliths, as well as tools and decorative items of shell, bone, and wood (ACI/Janus Research 2001; Purdy 1994; Randall 2013; Wheeler and McGee 1994a, 1994b). Prior to the advent of pottery, baked clay balls for cooking set the precedent for ceramic making (Byrd 2011; Wheeler et al. 2000). One of the most interesting aspects of the Mount Taylor culture is evidence for mass burial interments in specially prepared areas within shell middens (Milanich and Fairbanks 1980).

By the Late Archaic, populations became more sedentary due to their growing size and the arrival of essentially modern environmental conditions. Settlements in coastal areas grew a greater reliance on marine resources, especially shellfish and fish which resulted in the accumulation of coastal and riverine shell middens due to new subsistence strategies and technology (Rick and Braje 2022). Tools became diverse and specialized for specific procurement tasks based on settlement type and location (Bullen 1975). New manufacturing processes, such as thermal alteration, became prevalent in shaping chert and coral tools, including broad-bladed projectile points, microliths, burins, large chopping implements, and stemmed and corner-notched projectile points (Bense 1994; Ste. Claire 1987). Discoveries at Little Salt Spring and the Windover Site indicate that bone and wood tools were also used (Clausen et al. 1979; Doran 2002). In terms of interaction, evidence from the Groves' Orange Midden indicates contact, either physically or through trade, with the Tampa Bay and possibly the Suwannee River valley areas (Purdy 1994). Other evidence of trade is seen in the use of soapstone and bannerstones, which were imported from Georgia, South Carolina, and Virginia likely via canoe (Newsom and Purdy 1990; Purdy 1988; Wheeler et al. 2003; Yates 2000).

The Late Archaic also saw the advent of pottery making, also known as the Orange Period, using clay paste with a variety of tempers including plant fibers, quartz sand, and sponge spicules. Fiber-tempered ceramics (also called the Orange series) in particular used Spanish moss or palmetto fibers that were pressed into clay and burned out during the firing process, leaving behind charred remnants within pottery, and gave the Orange period its name (Bense 1994; Cordell 2004). There is little difference between Middle/Late Archaic and Orange populations except that there are more Orange sites and the density of sites is higher (Byrd 2011). Orange settlements were more sedentary and primarily located near wetland locales, which allowed for abundant resources, especially marine, and larger settlements (Byrd 2011; Milanich 1994:86–87). This diversification of lithic and ceramic artifacts created several tool traditions that reflect cultural regionalism throughout the period.

3.3 Woodland

Evidence of culture changes in the Woodland period (1000 BCE-1000 CE) continued through increased trade and interaction with people moving into the interior on a permanent basis (Hudson 1984; Prendergast 2015; Rogers 2019). Native Americans began to construct burial and other ceremonial mounds during the Early Woodland period (1000 BCE-1 CE) and participated in an exchange of exotic items (e.g., copper, mica, conch shells, ear spools, and ceramics), which were also placed within these mounds. This practice constitutes a well-known trait that continued from the Late Archaic period (Luer 2014; Rogers and Fitzhugh 2022). This ceremonialism has been termed the Yent complex and is the Florida extension of the Hopewellian Interaction Sphere (Blankenship 2013; Caldwell 1964; Struever 1964). It is suggested that the elaboration of monuments may have fostered pluralism by creating spaces that combined diverse elements in new and unusual ways, while remaining rooted in earlier architectural traditions (Pluckhahn and Thompson 2014:70).

The Woodland period in the East-Central archaeological region can be divided into three subperiods: St. Johns I (500 BCE-100 CE), St. Johns Ia (100-500 CE), and St. Johns Ib (500-750 CE) based on characteristic ceramic types (Bense 1994; Milanich 1994:247). These periods collectively are known as the St. Johns I period (500 BCE-750 CE), and during this time, there was resource intensification, population growth, and increasing social complexity that continued through the St. Johns II period (Byrd 2011:19). In addition, there are two regional variants of this tradition. To the north, St. Marys is located at the mouth of the St. Johns River and extends northward into Georgia (Russo 1992). Sites in this area contain a mixture of Georgia and St. Johns ceramics. At the southern end is the Indian River Region, which was first defined by Rouse (1951)). There is a higher prevalence of sand-tempered wares in this region.

Settlement patterns during this time continued to be placed on coastal estuaries and larger rivers, and archaeological sites saw a tremendous increase in number (Byrd 2011). Year-round occupation of the coast and along rivers occurred with special use-activity sites, including short-term coastal campsites. Excavations at the Sligh and Lake Jessup South sites suggest that they served as villages or long-term encampments, suggesting that groups became relatively sedentary (Dickinson and Wayne 1996; Wayne and Dickinson 1993). Hunting, shell fishing, foraging, increased plant manipulation, food preparation and tool making, were common site activities. Site patterns consisted of small, probably individual household midden deposits with structural evidence limited to arcs of shallow post holes, often shell-filled, and fire pits (Byrd 2011; Dickinson and Wayne 1996:108). Faunal analysis at the Twin Mounds Site in Orange County suggests there was a slight decrease on dependence of freshwater shellfish during the St. Johns period, resulting in increased use of reptilian resources (Weisman 1993). Another trend from the St. Johns period was a population shift into the northern St. Johns River valley, possibly due to the need for arable land (Milanich and Fairbanks 1980:158). In fact, by the end of the St. Johns I period, Indigenous groups were growing plants in northern soil types (Byrd 2011:19; Milanich 1994:262).

There is evidence of the continuous use of sand burial mounds during the St. Johns period (Byrd 2011). Many burials were found in large central pits, probably the result of secondary interments. Some changes in the burial practices include the possible use of log tombs during the St. Johns Ia period as well as the inclusion of Hopewellian-Yent complex exotic trade items (Ashley 2009; Klinge 2006; Milanich 1994:261; Parsons 2008). Much of the information on St. Johns I period burial practices have been obtained from the Ross Hammock Site in Volusia County, which consists of two large burial mounds and an extensive village midden located on the west shore of Mosquito Lagoon (Bullen et al. 1967:16). Other ceremonial activities associated with these sites include perforating holes into ceramic pots, a process also known as “killing” a pot (Klinge 2006; Messer 2019; Moore 1902). Decorated wares were more often found in villages, while the most common pottery in burials were undecorated

St. Johns Plain (Klinge 2006). St. Johns Incised is associated with the early St. Johns I period, and later check stamping became the common decoration (Collore 2021). Deptford and Swift Creek pottery or copies are occasionally present in St. Johns I and Ia period sites (Ashley 2009). St. Johns Cordmarked ceramics are associated with the St. Johns Ia period while Dunns Creek Red is associated with the St. Johns Ia and Ib periods, and village ceramics, associated with the St. Johns Ib period, were almost all plain wares (Parsons 2008). In her analysis of the ceramics from Edgewater Landing, Cordell (Russo et al. 1989:68) notes that through time, St. Johns Plain ceramics become sandier due to increased use of quartz sand as an aplastic agent.

3.4 Mississippian

The Mississippian (1000-1500 CE) is the last pre-Contact period prior to the arrival of the first Europeans (Bense 1994; Rogers 2019; Wallis and Thompson 2019). This time is characterized by the St. Johns II period, which is further divided into three sub-periods starting from the late Woodland period and marked by the presence of St. Johns Check Stamped pottery: St. Johns IIa (750-1050 CE), St. Johns IIb (1050-1513 CE), and St. Johns IIc (1513-1565), although this last sub-period and later St. Johns IIb both extend well into the Colonial period (Collore 2021; Goggin 1952:70). Occupation of riverine and coastal shell middens continued, although Miller (1998:80) notes that there is a relative increase in the number of non-riverine and non-coastal sites, perhaps due to locating more agriculturally suited locales. Hunting and gathering remained important, but the dependence upon cultivated crops such as maize, squash, and gourds increased in some areas. Squash and gourds were actively cultivated during the St. Johns II period for use as containers (Collore 2021:263, 264; Milanich 1994). In the upper St. Johns basin, the practice of horticulture was not adopted because the wetland ecology and subsistence strategies were different (Russo 1984; Sigler-Eisenberg 1984; Sigler-Eisenberg et al. 1985).

There was an increase in the number and size of villages during the St. Johns IIa period (750-1050 CE) suggesting population expansion (Parsons 2008). Deagan (1978:109) notes that around 1000 CE populations shifted from the south and southwest into northern areas, based on evidence of changing relative frequency of burial mounds in the area over time. A ranked society may have evolved as evidenced by differential burial customs. No longer were all people interred in burial mounds, and excavations of several burial mounds revealed a new pattern: people were placed on their backs with their heads or feet pointing toward the mound center (Jennings et al. 1957; Willey 1954). In addition, mounds also contained late Weeden Island pottery and local reproductions of this type (Parsons 2008).

The St. Johns IIb period (1050-1513 CE) is characterized by the adoption of some Mississippian traits into the ceremonial system and the presence of St. Johns Simple Stamped ceramics. Within mounds, some Fort Walton and Safety Harbor pottery have been found, along with objects reflecting influence from the Southeastern Ceremonial Complex/Mississippian Interaction Sphere (Ethridge et al. 2022; Parsons 2008). The Mississippian lifestyle, however, never became dominant, possibly because the soil was not suitable for full agricultural pursuits (Klinge 2006). The presence of platform mounds at ceremonial centers suggests a more complex socio-political organization, such as the Mill Cove Complex near the mouth of the St. Johns River and Mt. Royal just north of Lake George (Ashley 2021; Collore 2021). Copper beads and ornaments, as well as greenstone celts, have been recovered from several sites, indicating contact with the Mississippian world (Ashley 2012; Klinge 2006; Parsons 2008). Unmodified marine shell was a highly desirable raw material throughout the greater Southeast, which may have involved several St. Johns II communities, especially in northeast Florida (Ashley 2012). By around 1300 CE, this influence waned, probably due to the fall and abandonment of the Macon Plateau to the north and the disruption of existing interaction networks (Ashley and Thunen 2020). At that time, major sites were apparently abandoned, and the St. Johns II people moved further south, along the St. Johns River (Ashley and Thunen 2020; Parsons 2008).

However, within two centuries, the introduction of corn farming and the shift from long-distance trading to territorial raiding created the volatile landscape that was encountered by the Europeans when they first arrived (Ashley 2012:125).

3.5 Colonial Period

The St. Johns II period extends well into the Colonial period, with the St. Johns IIc period running from 1513-1565 CE. Three Native American ethnic groups were known to inhabit east central Florida at the time of Spanish contact: the Ais, the Mayaca, and the Jororo. The Ais lived along the Atlantic Coast and were closely involved with the Spanish. They inhabited the coastal strand and Indian River areas, and apparently mixed the indigenous hunting, gathering, and fishing economy with the salvaging of Spanish shipwrecks (Milanich 1995:64–65; Penders 2012). The Mayaca occupied areas of the St. Johns River in eastern Lake, western Volusia, and Seminole counties. The Jororo occupied the area south of the St. Johns River in Orange and Seminole Counties, extending southward into the Polk and Highlands Counties (Collore 2021; Milanich 1995). They also pursued a hunting-gathering-fishing economy (Newsom 1987). Although these Native Americans apparently continued the St. Johns tradition, they did not share the same Timucuan language as the St. Johns people further north (Milanich 1995; Penders 2012).

The cultural traditions of the native Floridians waned with the advent of European expeditions to the Americas. The initial events, authorized by the Spanish crown in the 1500s, ushered in devastating European contact, marked by the introduction of European artifacts during the St. Johns IIc period, which included glass beads, bells, and trinkets recovered from village sites (Ethridge et al. 2022). The first European to have contact with the west coast of Florida was Ponce de León. After arriving in St. Augustine in 1513, he explored the Florida coast through the Keys and, based on recent research, ended near Safety Harbor in 1521, attempting to settle in the Tampa Bay area (MacDougald 2021; Worth 2014). Next, Pánfilo de Narvaéz arrived in the Tampa Bay area in 1528 and explored northward from Tampa Bay and crossed the Withlacoochee River near present day Dunnellon in an attempt to reach the northeastern coast of Mexico (MacDougald 2021). Finally, Hernando de Soto landed in the Tampa Bay area in 1539; he sought the allegedly rich Native American village of Cale (Lavender 1992). In addition, Cape Canaveral became a nautical landmark and the French established Fort Caroline near Jacksonville, which was subjugated by Pedro Menéndez de Avilés to protect Spanish galleons (Frank 2017).

By 1565, Spain had established its first occupancy of Florida, lasting until 1763 when the British took over. During Spain's first period of occupancy, it failed to establish permanent settlements in the area. Orange County was located on the fringe of Spanish activity centered in St. Augustine, too far removed for Spain to exert political control and permanent settlements failed to get established (Milanich and Fairbanks 1980). Missionization of the Jororo and Mayaca began in the late 1600s, with evidence of European contact with the Jororo present at the Philip and Goodnow mounds, where glass beads and iron scissors were recovered (Brown 2001; Milanich 1995). By the early 1700s, the traditional lifeways surviving Indigenous populations were severely altered due to attempts of Spanish missionization.

The geographic area that now constitutes the State of Florida was ceded per terms of the Treaty of Paris (1763) by Spain to Great Britain as a result of the British victory in the Anglo-Spanish War (1762-1763), the last-stage theater of the wider, global Seven Years' War (1756-1763) (Anderson 2000). Britain governed East and West Florida until the Treaty of Paris (1783) returned Florida to Spain; however, Spanish influence was nominal during this second period of occupation (1763-1821). During this time, English loyalists moved into Florida during the American Revolution, which would

later contribute to rising tensions over land settlement (Frank 2017) Prior to American colonial settlement, members of the Muskogean Creek, Yamassee, and Oconee tribes moved into Florida and repopulated the area once inhabited by the original Indigenous inhabitants; these migrating groups of Native Americans became known as the Seminoles (Mulroy 1993). They had an agriculturally based society, focused upon cultivation of crops and the raising of horses and cattle. Creek settlements included large villages located near rich agricultural fields and grazing lands (Sturtevant and Cattelino 2004). Seminole sites tend to be in the scattered oak-hickory uplands surrounding the Alachua savanna; south of that area, they tend to be located along the Brooksville Ridge (Weisman 1989). While the Seminoles did also focus on hunting, they did not heavily exploit maritime and riverine resources (Weisman 1989). The material culture of the Seminoles remained like the Creeks; the dominant pottery type being Chattahoochee Brushed (White 2014; WPA 1941). European trade goods, especially British, were common (Allender 2018).

Seminole early history can be divided into two basic periods: *Colonization* (1716-1767), when the initial movement of Creek towns into Florida occurred, and *Enterprise* (1767-1821) which was an era of prosperity under British and Spanish rule prior to American presence (Mahon and Weisman 1996). The Seminoles formed loose confederacies at various times for mutual protection against the new American Nation to the north (Tebeau 1980:72). They also provided refuge for escaped enslaved Africans from the north, and both were later targeted for enslavement when the British outlawed the importation of enslaved Africans in 1807 (Frank 2017; Neill 1956). The assimilation of African refugees into the Seminole tribe brought rise to Black Seminole communities (Frank 2017). Rising tensions from re/enslavement attempts, land acquisition, and border raids led by Andrew Jackson and the U.S. Army in 1817 ignited the Seminole War (1818-1830s), which lasted until well past Florida's acquisition as a United States territory in 1821 (Knetsch 2003; Missall and Missall 2004). During this time, Spain ceded Florida to the United States in the Adam-Onis Treaty of 1819 in exchange for territory west of the Sabine River.

3.6 Territorial and Statehood

The Territorial and Statehood period (1822-1861) is characterized by conflicts between settlers and the Seminole Tribe, particularly events relating to the Seminole War. The timeline and events of the Seminole War tends to be divided into three segments according to U.S. military history and encompass Andrew Jackson's invasion into Florida (First Seminole War, 1817-1818) and the first and second removal wars (Second Seminole War, 1835-1842; Third Seminole War, 1855-1858) (Seminole Tribe of Florida 2024). It should be noted that the Seminole War tends to be viewed as a single event by the Seminole Tribe as the U.S. military never conceded after each individual "war" and in between each conflict there was still aggression from American settlers, slave catchers, militia and lawmen, as well as legislation enacted targeting the removal of the Seminole, particularly the Armed Occupation Act of 1842 (FSU 2024).

As mentioned previously, the "First" Seminole War culminated from previous border tensions between Spanish Florida, European settlers, and the Seminoles and their allies maintaining their territory in the Alachua savannah area (Knetsch 2003). For the Seminole, that start of the war was 1812, when southern military forces invaded Florida in what is also known as the Patriot War of East Florida (Seminole Tribe of Florida 2024). Spanish holdings and the town of Alachua was attacked, where the Seminole suffered the loss of their leader King Payne, who was succeeded by his brother Bowlek (Bowlegs) as the new leader of the Alachua band (Seminole Tribe of Florida 2024). Meanwhile, the first Seminole War battle was fought in 1817. The U.S. military attacked Fowltown, a Seminole town led by Neamathla. He threatened U.S expansion by claiming hereditary and legal rights on land near the Flint River and defended warriors who attacked settlers in response to hostility from both the settlers

and the military (Pinell-Hernandez 2017). That same year, American forces led by Andrew Jackson returned and attacked several Seminole towns, as well as Pensacola, Bowleg's Town, and the neighboring Nero's Town, which was the largest Maroon settlement in Florida (Seminole Tribe of Florida 2024). The alleged end of the First Seminole War came with the signing of the 1819 Adams-Onís Treaty, however, tensions continued to rise as settlers and government officials demanded for the removal of the Seminoles. When Florida became a U.S. territory in 1821, Andrew Jackson was named provisional governor and divided the territory into St. Johns and Escambia Counties, with the Suwanee River demarcating these two counties. St. Johns County encompassed all of Florida to the east, while Escambia County included all lands to the west (Tebeau 1980). In 1824, Mosquito County was established, which encompassed present Osceola, Lake, Orange, Seminole, Brevard, and Volusia Counties as well as parts of several other counties and was sparsely occupied with mostly sugar plantations along the rivers near the coast (Florida Memory 2018).

Land ownership was intensified with the Treaty of Moultrie Creek in 1823, which forced the Seminoles out of the Alachua savannah area and south into an approximately four-million-acre reservation south of Ocala and north of Charlotte Harbor (Covington 1958; Lawres 2011; Mahon 1985; Monaco 2018; Seminole Tribe of Florida 2024). The inadequacy of the reservation, the desperate situation of the Tribe, and the mounting demand of the settlers for their removal west of the Mississippi produced yet more conflict (Monaco 2018). As a result, tensions erupted periodically between the settlers and the Seminoles. In the 1830s, legislation was enacted prompting the further removal of the Seminole Tribe, including the Indian Removal Act (1830), the Treaty of Payne's Landing (1832), and the Treaty of Fort Gibson (1833), each demanding the Seminoles be removed to a further isolated location, until eventually they were being forced into Creek reservation lands in Oklahoma (Frank 2014; FSU 2024; Monaco 2018). These treaties and increased frontier settlement, which was not in accord with the Treaty of Moultrie Creek, exacerbated tensions between Seminoles and settlers (Guthrie 1974:10).

By the early 1830s, governmental policy shifted in terms of relocating the Seminoles to lands west of the Mississippi River to clear the way for homesteaders. As a result of policy and settlement, some tribal members agreed to emigrate while others resisted leading to armed conflicts around Florida, particularly in the Alachua area, as prewar efforts were underway (Carrier 2005; Knetsch 2003). This activity culminated in late December of 1835 into the Second Seminole War (1835-1842) when Major Francis Langborne Dade and his company was attacked by a Seminole group led by Chief Jumper when they traveled along the Fort King Road, an event now known as the Dade Massacre (Hendley 1941:16). In 1837, General Thomas Jesup established Fort Dade in honor of the Dade Company to function as a supply depot between Fort Brooke and Fort King (now Ocala), but only operated for a few months (Horgan et al. 1992:64-96). Other Seminole War period forts in the area include Fort Butler (Lake George), Forts Mellon and Kingsbury (Lake Monroe), Fort Lane (Lake Harney), Forts Maitland, Gatlin, Christmas, and Tayler (west of Lake Winder), Fort McNeal (west of Lake Poinsett), and Fort Ann on the Halifa River (Blackman 1927:19).

Fort Mellon was located near present-day Sanford and was the principal military operation in east central Florida. The Seminoles also had their own military fortifications in the region. The area around Lake "Ahapopka" (now Apopka) became a refuge for Seminole groups headed by Chief Osuchee (Tebeau 1980). Military and civilian suppliers passed through the region traveling to reach Seminole villages and fortifications. The lands around Lake Tohopekaliga were a Seminole stronghold during the war. The Seminoles kept their cattle here and retreated into the cypress swamp west of the lake at the approach of U.S. military (Mahon 1985; Sprague 1964). Tohopekaliga means "Fort Site," so named because Seminole fortifications were located on its islands. In January 1837, General Jesup's men encountered the Seminoles near the "Great Cypress Swamp" and drove them into the dense swamp and confiscated several hundred head of their cattle (Sprague 1964:258). The locations of these routes

and forts were recorded in 1839 and the military map of the Seat of War, a section of which depicts the approximate project location on top of some “high sand hills” to the northeast of Fort Davenport (**Figure 3.2**) (Mackay and Blake 1839). There are also military trails surrounding the project to the north, east and south connecting to forts Maitland, Gatlin, and Cummings

The “Second” Seminole War is considered to be the longest and most expensive “Indian War” campaigned by the U.S. government (Seminole Tribe of Florida 2024). During this time, Black Seminoles had allied themselves with the Seminoles, particularly with the war parties of Osceola, based on their shared opposition to re-enslavement efforts (Carrier 2005; Dixon 2007). Eventually, Seminole warriors Coacoochee (Wildcat) and Osceola were captured by General Jesup under a flag of truce. While Coacoochee managed to escape imprisonment in St. Augustine, Osceola was unable to follow due to illness and died outside of Florida (Seminole Tribe of Florida 2024). This segment of war ended when the federal government withdrew troops from Florida due to its costliness and rising unpopularity with American settlers (Carrier 2005; Monaco 2018; Seminole Tribe of Florida 2024). At the end of this conflict, the Armed Occupation Act was passed by the U.S. Congress in order to pressure the Seminoles to leave by encouraging settler population growth in South Florida from south of Gainesville to the Peace River, except for coastal lands and those within a two-mile radius of a fort (Covington 1961; Schafer 2018). By 1843, 3,824 Seminoles had been shipped west to the Oklahoma Indian Reservation, which served as a catch-all for many different tribal nations (Mahon 1985; Settle 2015). Those who wished to remain could do so but were pushed further south into the Everglades and Big Cypress Swamp. This area became the last stronghold for the Seminoles and was a reservation bounded by the Peace and Kissimmee Rivers in the north-northwest down through Lake Okeechobee and the Everglades in the east-southeast with the Gulf Coast in the west (Knetsch et al. 2018; Mahon 1985).

To hasten settlement of central Florida, the U.S. government began surveying the public lands. In 1847 and 1848, B.F. Whitner surveyed the exteriors and subdivisions of Township 24 South, Range 27 East (**Figure 3.3**). He described the area as “3rd rate pine and palmetto flat” and “ponds, scrub flat, 3rd rate pine” (State of Florida 1847:119; 1848a:304). No historic features were on the Plat that intersect or are proximate to the APE (State of Florida 1848b).

In 1845, the State of Florida was admitted to the Union, and Tallahassee was selected as the capital (Schafer 2018). In the same year, due to the thriving citrus industry, Mosquito County was renamed Orange County. At the same time, the Legislature moved the county seat to Mellonville, but in 1856 relocated it to the community which became Orlando (Hebel 1955:2). Much of the early development occurred along the coast or inland waterways. Cities such as Enterprise, Sanford, and New Smyrna developed along waterways such as the St. Johns, Halifax, and Indian Rivers. The rivers were heavily used transporting residents, goods, and crops from the 1850s until the advent of the railroad (Hebel 1955). Prior to the Civil War (1861-1865), the cotton, cattle, and sugar industries thrived while the developing citrus, turpentine, and logging industries were in their infancy. Cattle ranching served as one of the first important economic activities reported in the area. Mavericks left by early Spanish explorers provided the source for the herds raised by the mid-eighteenth century “Cowkeeper” Seminoles, while many of the new settlers to this area were also cattle owners. As Seminoles pressed further south, their cattle were either sold or left to roam and subsequently captured or bought by settlers. The disputed ownership of these free roaming cattle often caused friction between settlers and the local Seminoles, adding to the settlement tension fueling much of the Seminole War (Akerman 1976; McDuffee 1967). By the late 1850s, the cattle industry of southwest Florida was developing on a significant scale.

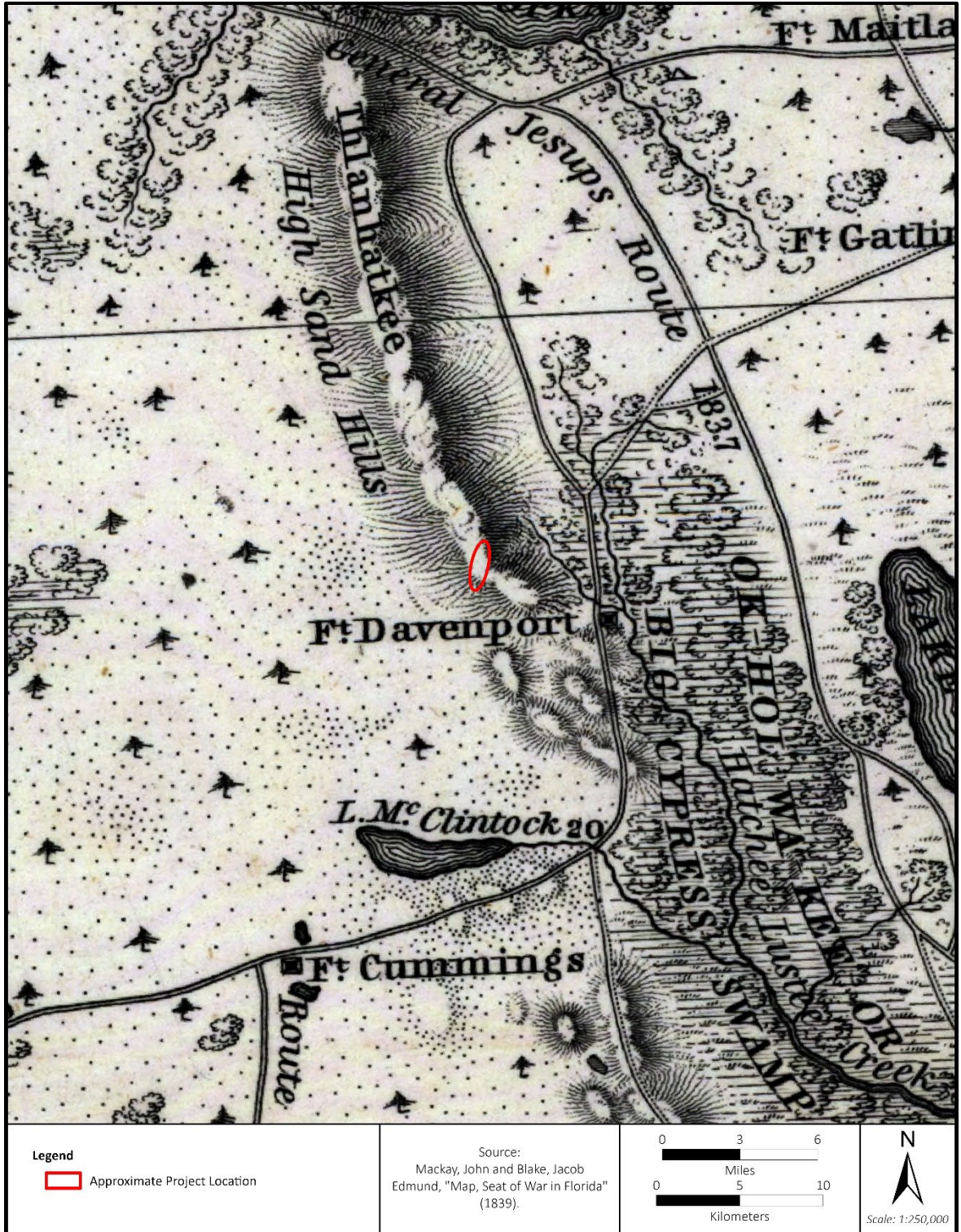


Figure 3.2. 1839 Map of the Seat of War in Florida showing the Avalon Road project, Orange County, Florida (Mackay and Blake 1839).

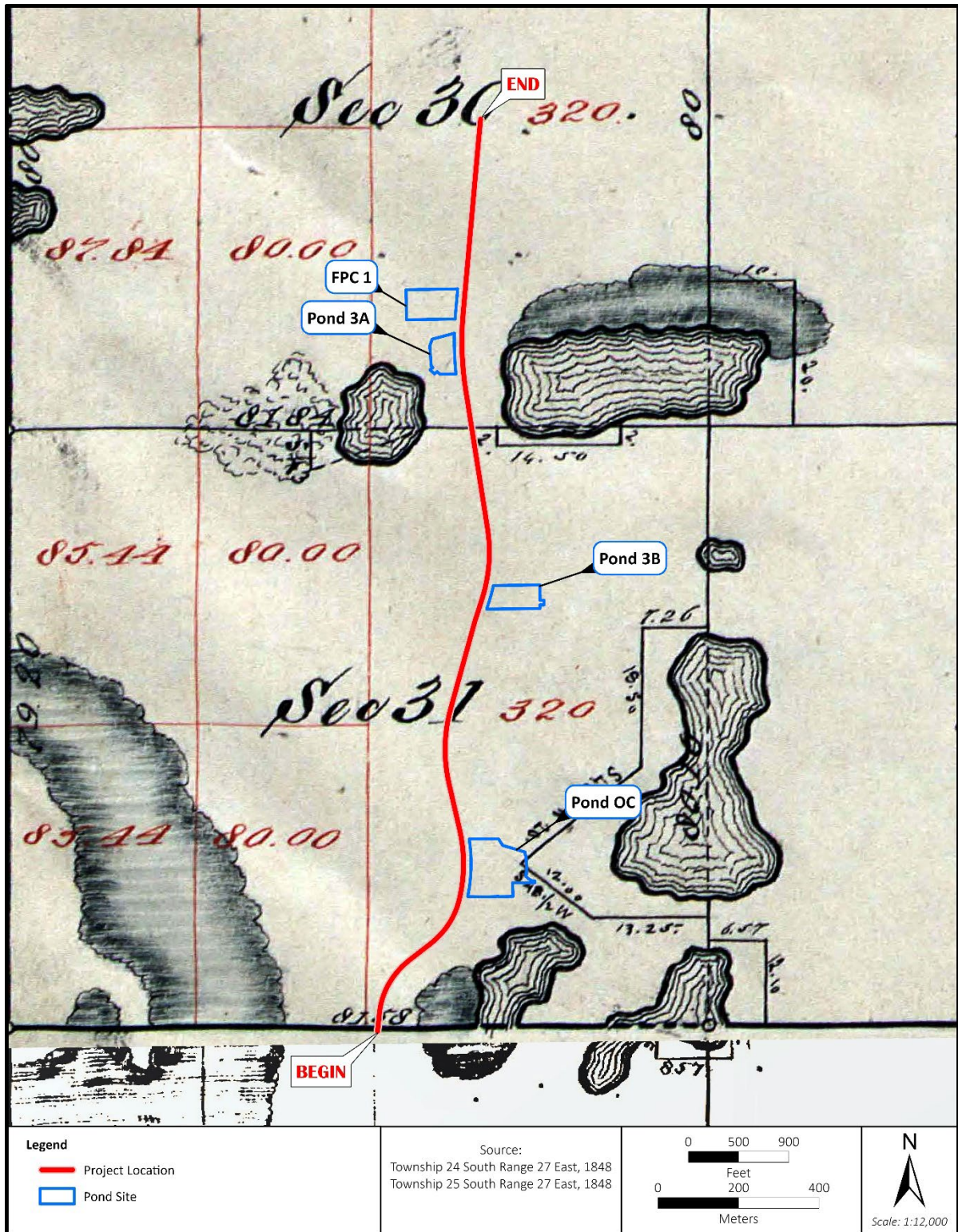


Figure 3.3. 1848 plat showing the Avalon Road (C.R. 545) project corridor (State of Florida 1848b).

In December 1855, the “Third” Seminole War, or the “Billy Bowlegs” War, started in response to renewed pressure placed on the Seminoles remaining in Florida to migrate west, despite the efforts of Holatta Micco (Billy Bowlegs) and U.S. allies to find peace (Seminole Tribe of Florida 2024). The resulting violence involved hit-and-run tactics by the Seminoles on isolated outposts and settlements, while the U.S. militia focused on destroying Seminole strongholds and villages (Settle 2015:7). However, military action was not decisive during the war, and most of the Seminoles capitulated due to the death of Oscen Tustenuggee (who led a band with his brother west of Lake Okeechobee), the destruction of Holatta Micco’s camp, and the Florida militia gaining access to these strongholds using shallow-draft boats (Settle 2015). In 1858, the U.S. government resorted to monetary persuasion to induce the remaining Seminoles to migrate west. Chief Billy Bowlegs accepted \$5000 for himself and \$2500 for his lost cattle, each warrior received \$500, and \$100 was given to each woman and child. On May 8, 1858, the Seminole War was declared over, although more than one hundred Seminoles remained scattered throughout South Florida (Covington 1982; Settle 2015:7). Douglas Dummett settled on the southern end of Mosquito Lagoon, “discovered” a large number of orange trees along the coast and river and started grafting and cultivating groves. By 1865, Dummett was famous for his “Indian River” oranges (Eriksen 1994:31–33).

3.7 Civil War and Aftermath

In 1861, Florida followed South Carolina’s lead and seceded from the Union in the prelude to the Civil War. Florida had much at stake in this war, as evidenced in a report released from Tallahassee in June 1861. It listed the Florida land value as \$35,127,721 and the value of slaves at \$29,024,513 (Dunn 1989:59). While the coast of Florida experienced a naval blockade during the war, the interior of the state saw very little military action. One of the major contributions of the state to the war effort was in the supplying of beef and salt to the Confederate Government. The blockade along the coast made it very difficult to ship cattle from Florida to Cuba. Therefore, Florida ranchers herded their cattle to Charleston, South Carolina and sold them to the Confederate Government. The Confederate Government estimated that three-fourths of the cattle which Florida supplied to them originated from Brevard and Manatee counties (Shofner 1995:72). The war lasted until 1865.

At the close of the Civil War, the first commercial citrus grove was planted near present-day Orlando by W.H. Holden. His produce was hauled via the St. Johns River to present day Sanford and continued by boat to Charleston (FWP 1939). In 1871, General Henry R. Sanford purchased 12,000 acres near Mellonville. He brought in hundreds of workers to clear the land and plant citrus. Sanford’s goal was to establish a city as large as Jacksonville and bring prosperity to the upper St. Johns region. Sanford even sent an agent to Sweden to recruit workers who were guaranteed passage and expenses in exchange for one year of work. Because of this arrangement, Sanford was accused of operating a form of slavery and many of the workers ran away. Other Swedes, however, fulfilled their contracts and were given a five-acre grove (FWP 1939:360).

Immediately following the war, the South underwent a period of “Reconstruction” to prepare the Confederate States for readmission to the Union. The program was administered by the U.S. Congress, and on July 25, 1868, Florida officially returned to the Union (Tebeau 1980:251). By 1870, the county population had risen from 987 in 1860 to 2,195 (Kendrick 1976:150). The Civil War encouraged growth in Florida in two ways: many Southerners sought new homes to escape the unrest in the neighboring ex-Confederate states, and the war brought prosperity to a large number of Northerners who sought vacation homes in the warmer climates (Shofner 1995:83). The Homestead Acts of 1866 and 1876 provided additional incentive for settlers to come to the area. The Act of 1866 gave Union-loyal African Americans and southerners the opportunity to receive 80-acre tracts in

Florida and the other four public land states. Former Confederates, however, were ineligible to receive homesteads until the Act of 1876 (Tebeau 1980:266, 294). Beginning about 1870, many settlers began to buy the land on which they had homesteaded for so many years in anticipation of the coming railroad (Hetherington 1980:86).

By 1881, the State of Florida faced a financial crisis involving a title to public lands. On the eve of the Civil War, the Internal Improvement Fund had pledged land to underwrite railroad bonds. After the War, when the railroads failed, the land reverted to the State. Almost \$1 million was needed by the state to pay off the principal and accumulated interest on the debt, thereby giving clear title. Hamilton Disston contracted with the State of Florida in two large land deals: the Disston Drainage Contract and the Disston Land Purchase. The drainage contract stipulated that Disston, and his associates, would drain and reclaim all overflow lands south of present-day Orlando and east of the Peace River in exchange for one-half the acreage that could be reclaimed and made fit for cultivation. They agreed to purchase Internal Improvement Fund Lands at \$0.25 an acre to satisfy the indebtedness of the fund. A contract was signed on June 1, 1881, for the sale of four million acres for the sum of \$1 million, the estimated debt owed by the Improvement Fund. In 1888, George W. McGaffey was deeded portions of the southeast quarter of Section 30 and portions of the northeast quarter of Section 31. Lands in the southeast quarter of Section 30 were also deeded to John Ames that same year. Later in 1908, portions of the southeast quarter of Section 31 was deeded to the Wisner Land Company while the portions of the northeast and southeast quarters of Section 31 were deeded to George A. Rexford in 1926 (State of Florida n.d.:273).

Channels were dug between numerous lake systems and the Kissimmee River in 1881 and 1882 (Tebeau 1980:279). The Atlantic and Gulf Coast Canal and Okeechobee Land Company was connected Lake Okeechobee with the Gulf of Mexico by dredging a channel to the Caloosahatchee River. Disston and his associates received 1,652,711 acres of land under the contract, although they probably never permanently drained more than 50,000 acres (Tebeau 1980:280). Drainage operations began and the Florida Land and Improvement Company and Kissimmee Land Company were formed to help fulfill the drainage contract (Hetherington 1980:6). Sir Edward James Reed purchased half of Disston's landholdings (Tischendorf 1954).

Disston changed Florida from a wilderness of swamps, heat, and mosquitoes into an area ripe for investment. This enabled Henry B. Plant to move forward with his plans to open the west coast of Florida with a railroad-steamship operation called the Jacksonville, Tampa & Key West Railway. Through the Plant Investment Company, he bought up defunct rail lines such as the Silver Springs, Ocala & Gulf Railroad, Florida Transit and Peninsular Railroad, South Florida Railroad, and Florida Southern Railroad to establish his operation (Harner 1973:18–23; Mann 1983:68). In 1902, all of his Florida railroad holdings were sold to the Atlantic Coast Line (ACL), which would become the backbone of the southeast (Mann 1983:68).

In the early 1880s, railroads made the previously isolated area of central Florida accessible to tourists and prospective settlers. Citrus production was the main industry in the region until the winter of 1894–1895, when the “Great Freeze” devastated many citrus crops causing many settlers to return to the north. Those that chose to stay and replant their groves slowly regained their prosperity in the citrus business (Robison and Andrews 1995:183). The outbreak of the Spanish-American War in 1898 had a tremendous effect on development in the state. As Florida is the closest state to Cuba, American troops were stationed and deployed from the state's coastal cities. Harbors in Tampa, Pensacola, and Key West were improved as more ships were launched with troops and supplies. The war was short, but evidence of the conflict remains in the form of improved harbors, expanded railroads, and military installations (George 1990).

3.8 Twentieth Century

In 1904, Governor Broward initiated significant reforms in Florida's politics. Several of his major issues included the Everglades drainage project, railroad regulation, and the construction of roads. During this time, railroads were constructed throughout the state and automobile use became more prevalent. Improved transportation in the state opened the lines to export Florida's agricultural and industrial products (George 1990). As various products, such as fruits and vegetables were leaving the state, people were arriving in Florida. Thousands of miles of railroad tracks were laid by the Florida East Coast (FEC), Seaboard Air Line (SAL), and ACL railways. While agriculture, especially the citrus industry, had become the backbone of Florida's economy, manufacturing and industry began growing during the early 20th century. Fertilizer production, boat building, and lumber and timber products were strong secondary industries (Weaver et al. 1996).

Road building became a statewide concern as it shifted from a local to a state function. A state highway association, established in Orlando in 1917, sponsored the development of an improved highway system. These roads made even remote areas of the state accessible and allowed the boom to spread. The Dixie Highway, constructed between 1915 and the early 1930s by Carl Fisher, encouraged travelers to come south to Florida (Harner 1973:63) and it became a significant route for travelers through the state (Blackman 1927:28; Shofner 1982:155). Florida's legislative prohibition on income and inheritance taxes also encouraged more people to move into the state and Florida experienced unprecedented growth. Bank deposits increased, real estate companies opened in many cities, and state and county road systems expanded quickly. Real estate activity increased steadily after World War I (WWI) and drove up property values. Prices on lots were inflated to appear more enticing to out-of-state buyers. Every city and town in Florida had new subdivisions platted and lots were selling and reselling for quick profits. Southeast Florida, including cities such as Miami and Palm Beach, experienced the most activity, although the boom affected most communities in central and southern Florida (Weaver et al. 1996:3).

The Boom Period began to decline in the mid-1920s, when the FEC placed an embargo on freight shipments to South Florida. Ports and rail terminals were overflowing with unused building materials. In addition, northern newspapers published reports of fraudulent land deals in Florida. In 1926 and 1928, two hurricanes hit southeastern Florida, killing hundreds of people, and destroying thousands of buildings. The collapse of the real estate market and the subsequent hurricane damage effectively ended the boom. The 1929 Mediterranean fruit fly infestation that devastated citrus groves throughout the state only worsened the recession (Weaver et al. 1996:4).

By the time the stock market collapsed in 1929, Floridians were already accustomed to economic depression. Construction activity had halted, and industry dramatically declined. Subdivisions platted several years earlier remained empty and buildings stood on lots partially finished and vacant (Weaver et al. 1996). However, the relatively small amount of real estate activity in rural citrus and vegetable-growing towns in the central part of the state somewhat mitigated the effects of the real estate market collapse (Shofner 1982; Tebeau 1980).

The Depression affected most areas of the state's economy. Between 1929 and 1933, 148 state and national banks collapsed, more than half of the state's teachers were owed back pay, and a quarter of the residents were receiving public relief (George 1990). New building and development in the Boom Period's subdivisions for the most part ceased. Beef and citrus production declined, manufacturing slowed, and development projects were stopped. Even the railroad industry felt the pressures of the 1930s and had to reduce service. In addition, the increasing use of the automobile lessened the demand for travel by rail. Because of hard economic times, President Franklin D. Roosevelt initiated several

national relief programs including the Works Progress Administration (WPA) and the Civilian Conservation Corps (CCC). The WPA provided jobs for professional workers and laborers, who constructed or improved many roads, public buildings, parks, and airports in Florida. The CCC improved and preserved forests, parks, and agricultural lands (Shofner 1987). A cross-Florida sea-level canal was proposed to create federal jobs in the area but was rejected by many farmers in the area who feared salt water would seep into their fields and kill crops (HPA 1995).

From the end of the Great Depression until after the close of the post-war era, Florida's history was inextricably bound with World War II and its aftermath. It became one of the nation's major training grounds for the various military branches including the Army, Navy, and Air Force (George 1990). Prior to this time, tourism had been the state's major industry. However, it was brought to a halt as tourist and civilian facilities, such as hotels and private homes, were placed into wartime service. The influx of service personnel and their families increased industrial and agricultural production in Florida and introduced these new residents to the warm weather and tropical beauty of Florida. The State Road Department constructed 1,560 miles of highway during the war era (George 1990). The 1956 Highway Act initiated a plan for 41,500 miles of interstate highway throughout the country. Interstate 4 (I-4), which was constructed in the late 1950s and early 1960s, was part of the plan. Completed in 1965, it passed through downtown Orlando, connecting Tampa to Daytona.

After World War II, Florida's economy was almost fully recovered. Tourism quickly rebounded and once again became a major source of the state's economy. Additionally, former military personnel found the local climate amenable and remained in Florida permanently after the war. These new residents greatly increased the population in the 1940s (George 1990). I-4 served as the beltway across central Florida, providing access to both coasts and many tourist attractions. After Walt Disney World opened in 1971, growth and development along I-4 exploded. Cities in this area have experienced large growth in recent years due to the proximity to the Orlando area. Several other routes have been constructed through the area increasing connectivity throughout the state. These include Florida's Turnpike in 1964 and S.R. 429 (Western Expressway) completed during the early 2000s (City of Ocoee n.d.).

Orange County is a fast-growing county, with a 25% increase in population from 2010 (1,145,956) to 1,429,908 in 2020 (USCB 2025). The accommodation and food services employment accounts for 12.9% of the local economy, with retail trade accounting for another 12.9%. The health care and social assistance programs account for another 11.2% of the economy. Although agriculture/forestry/fishing/hunting only account for 0.3% of the economy, Orange County is ranked 2nd in the state for nursery, greenhouse, floriculture, and sod production. As of 2017, there were 622 farms in Orange County, covering 109,361 acres (USDA 2017).

3.9 Project Area Specifics

A review of historic aerial photographs revealed that Avalon Road was present within the APE by 1941; however, the surrounding area was largely undeveloped wetlands with minor paths/trails intersecting the route (USDA 1941) (**Figure 3.4**). At this time, Avalon Road ended abruptly just south of the APE and the northern end of the APE was planted with citrus. By 1959, the APE and surrounding area had been further planted in citrus (**Figure 3.5**), and by 1969 Lake Gifford Way and Arrowhead Boulevard had been constructed, as well as Bali Boulevard which is where Avalon Road terminated in the south at this time (USDA 1941; USGS 1959) (**Figure 3.4**). In addition, a residence had been constructed within Pond OC. With the exception of the construction of S.R. 530 (W Irlo Bronson Memorial Highway) and a now vacant mobile home park by ca. 1978, development within the APE

was minimal until the 2020s when Hartzog Road was constructed at the northern terminus of the APE, and multi-family developments were constructed in the vicinity of Grass Lake and the corner of Avalon Road and Lake Gifford Way (FDOT 1978; Google Earth 2026). S.R. 530 was named the Irlo Bronson Memorial Highway following the death of politician and rancher, Irlo Bronson Sr., during the early 1970s.

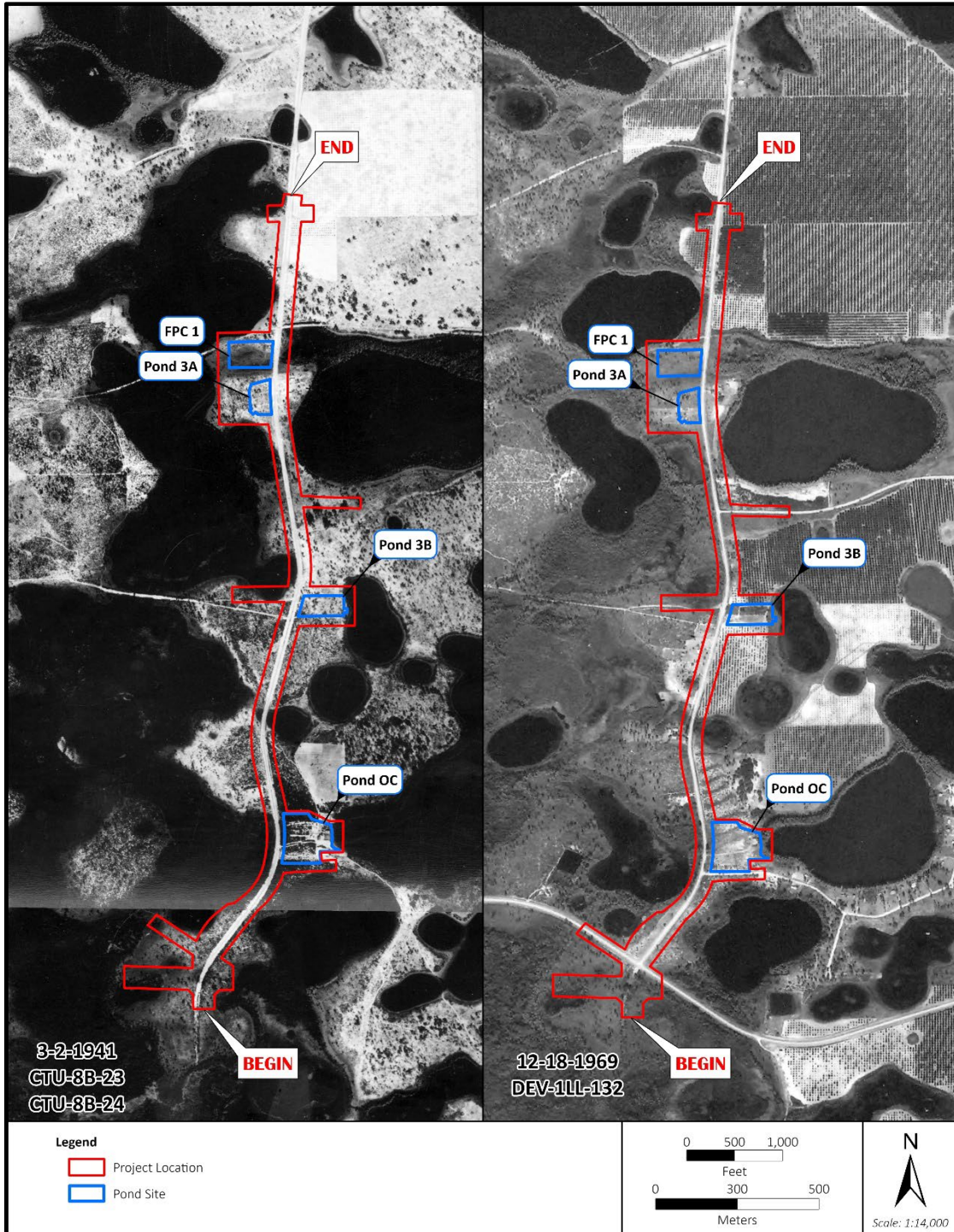


Figure 3.4. 1941 and 1969 historic aerial photographs of the Avalon Road (C.R. 545) project corridor (USDA 1941, 1969).

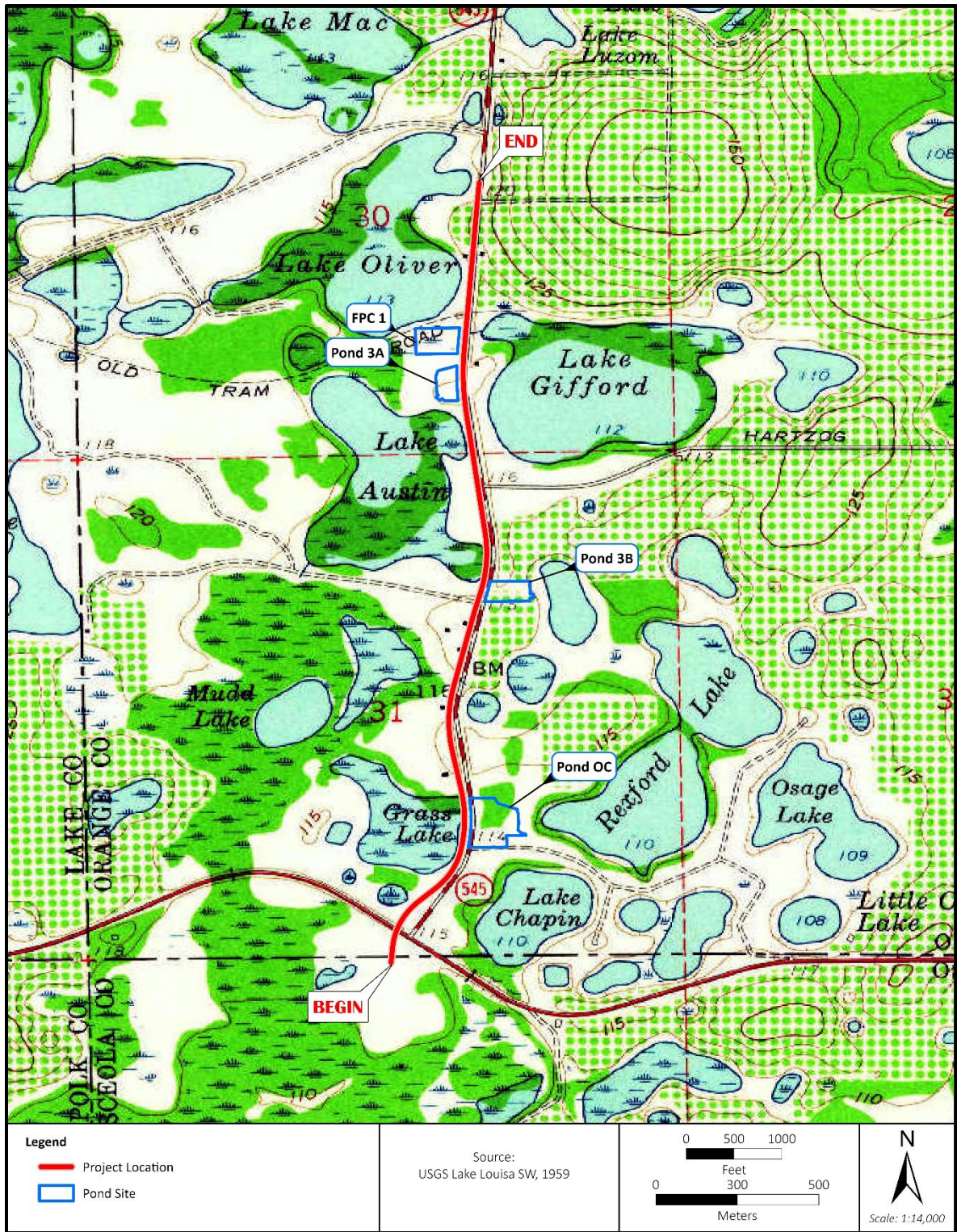


Figure 3.5. 1959 USGS quad map depicting the Avalon Road (C.R. 545) project corridor (USGS 1959).

4.0 RESEARCH CONSIDERATIONS AND METHODS

4.1 Background Research and Literature Review

A review of archaeological and historical literature, records, and other documents and data pertaining to the APE was conducted. This included a review of the sites listed in the NRHP, the Florida Master Site File (FMSF) (January 2026 GIS update), published books and articles, unpublished manuscripts, maps, and CRAS reports. The FMSF online database input may be about a month behind receipt of reports and site files, in addition, the GIS data are updated quarterly. Thus, the findings of the background research phase of investigation may not be current with actual work performed in the general project area and may include some discrepancies due to the differing update timelines. The APE is not located within a County or City Certified Local Government (CLG); therefore, no CLG representatives have been contacted for this project.

4.1.1 Archaeological Considerations

Research designs are formulated prior to initiating fieldwork to delineate project goals and strategies. Of primary importance is an attempt to understand, based on prior investigations, the spatial distribution of known resources. Such knowledge generates an informed set of expectations concerning the kinds of sites that may be expected to occur within the APE, as well as providing a valuable regional perspective, and a basis for evaluating any new sites discovered.

4.1.1.1 Previously Recorded Sites and Surveys

A review of the FMSF indicated that no pre-Contact or historic period archaeological site has been recorded within the APE, but three archaeological sites have been recorded within one mile (**Figure 4.1**). All three sites (8OR00598; 8OR04147; 8OR11766) are artifact scatters with one containing a single isolated find (8OR04147, Pit Number 5) and one also having a campsite component (8OS00598, Oak Island Road). Site 8OR04147 was determined ineligible for listing on the NRHP by the State Historic Preservation Officer (SHPO) on October 22, 2008 and site 8OS00598 was also determined ineligible for listing on April 28, 1992. Site 8OR11766 (SL-1) has not been evaluated by the SHPO.

In the general area, there have been 17 other CRAS projects conducted within one mile of the APE. These surveys were conducted for roadway improvements, private development and DRI projects, proposed ponds, and cell tower installations. The details of these previously conducted surveys are listed in **Table 4.1**. Portions of the APE were previously included in three of these surveys. In 2007, SouthArc conducted a survey for the Grand Palisades DRI, which included the APE just south of Lake Oliver (Pond 3A and FPC 1) (Rayle et al. 2007; Survey No. 14724). The following year, SouthArc also conducted a survey of Hartzog Road for developing a new roadway alignment with four stormwater retention areas (Belcourt et al. 2008; Survey No. 15936). In 2021, a survey for Sutton Lakes was conducted that included the APE adjacent to Rexford Lake and Arrowhead Boulevard (Pond OC) (Carpini et al. 2021; Survey No. 27861). As a result of these surveys, no cultural resources were encountered, but one archaeological occurrence (fragmented piece of bird bone) was encountered, which is not considered a site and not considered NRHP eligible but is an archaeological occurrence (AO). An AO is defined as “the presence of one or two non-diagnostic artifacts, not known to be distant from their original context, which fit within a hypothetical cylinder of 30 meter (m) diameter, regardless of depth below surface” (FDHR 2003). SHPO concurred with the findings at the time that no additional work was needed (Survey Nos. 14724, 15936, 27861).

Table 4.1. CRAS within one mile of the project.

Survey #	Title	Reference
2230	An Archaeological Resources Assessment Survey S.R. 530/U.S. 92 from Airport Road to S.R. 25/U.S. 27 Lake, Orange, and Osceola Counties, Florida	(Browning and Jackson 1990)
3274	An Archaeological Site Assessment Survey of the Oak Island Road Project, Osceola County, Florida	(Ashley and Johnson 1992)
4237	An Archaeological and Historical Survey of the Pit Number 5 Property, Orange County, Florida	(Williams et al. 1994)
4801	CRA of the B&B Borrow Pit No. 5 Extension, Orange County, Florida	(Simpson and White 1995)
7140	Cultural Resources Survey and Assessment, Maesbury Homes DRI Osceola and Polk Counties, Florida	(Dickinson and Wayne 2000)
10991	Cultural Resources Survey and Assessment, Summer Bay, Lake County, Florida	(Water et al. 2004)
12048	Cultural Resources Survey and Assessment of the Grand Palisades, Orange County, Florida	(Dickinson and Water 2005)
14233	Reconnaissance Survey Liki Tiki III, Orange County, Florida	(Dickinson and Wayne 2007)
14724	Cultural Resource Survey and Assessment, Grand Palisades DRI, Orange County, Florida	(Rayle et al. 2007)
15936	Cultural Resource Survey and Assessment, Hartzog Road, Orange County, Florida	(Belcourt et al. 2008)
19172	Technical Memorandum: CRAS of Ponds 1 and 5 in Support of Proposed Improvements to S.R. 530 from the Lake County Line to Secret Lake Road, Osceola and Orange Counties, Florida	(Arbuthnot 2012)
21392	CRAS Wat Disney World Long Term Permit II, Orange and Osceola Counties and Mira Lago-Avatar, Osceola and Polk Counties	(Janus Research 2014)
25319	CRAS of the Jaffer Property, Orange County, Florida	(ACI 2018)
23988	CRA of the US-FL-5151 Avalon Road 140 Foot Cellular Tower, Avalon Road, Winter Garden, Orange County, Florida	(Dyle 2017)
27861	CRAS, Sutton Lakes Site, Orange County, Florida	(Carpini et al. 2021)
28198	CAS of the Serenade at Ovation and Accolades Property, Orange County, Florida	(ACI 2022)
29601	CRAS, State Road (S.R.) 530 (U.S. 92) from S.R. 25 (U.S. 27) to Orange County Line, Lake County, Florida; FPID No. 448764-1	(ACI 2024)

Green highlight indicates the previous survey included portions of the APE.

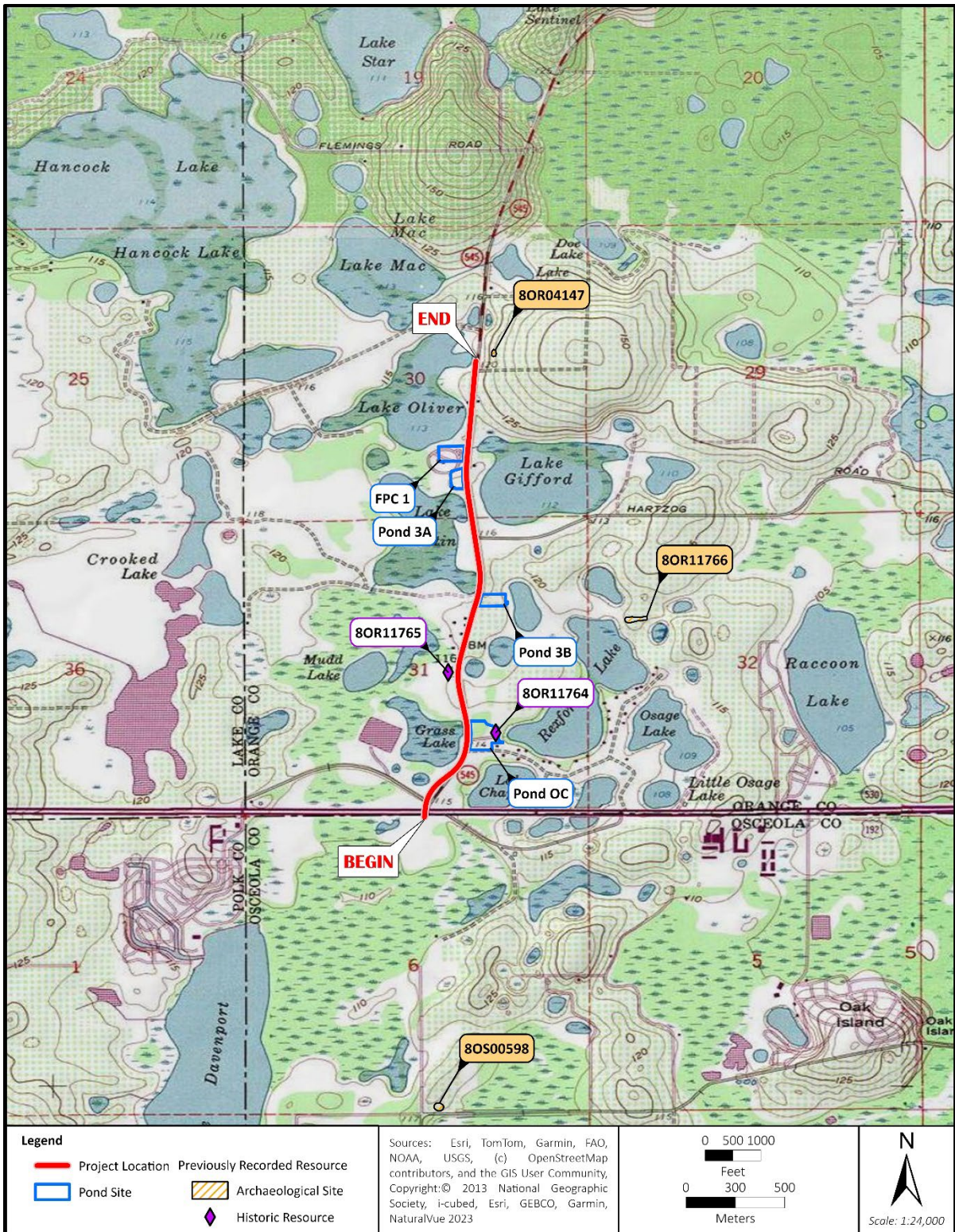


Figure 4.1. Previously recorded cultural resources within one mile of the Avalon Road (C.R. 545) project corridor.

4.1.1.2 Paleoenvironmental Considerations

The early environment of the region was different from that seen today. Sea levels were lower, the climate was arid, and fresh water was scarce. An understanding of human ecology during the earliest periods of human occupation in Florida cannot be based on observations of the modern environment because of changes in water availability, botanical communities, and faunal resources. Pre-Contact inhabitants would have developed cultural adaptations in response to the environmental changes taking place, which were then reflected in settlement patterns, site types, artifact forms, and subsistence economies.

Due to arid conditions between 16,500 and 12,500 years ago, the perched water aquifer and potable water supplies were absent (Dunbar 1981:95). Palynological studies conducted in Florida and Georgia suggest that between 13,000 and 5000 years ago, this area was covered with an upland vegetation community of scrub oak and prairie (Watts 1969, 1971, 1975). However, the environment was not static. Evidence recovered from the inundated Page-Ladson Site in north Florida has clearly demonstrated that there were two periods of low water tables and dry climatic conditions and two episodes of elevated water tables and wet conditions (Dunbar 2006c).

By 5000 years ago, a climatic event marking a brief return to Pleistocene climatic conditions induced a change toward more open vegetation. Southern pine forests replaced the oak savannahs. Extensive marshes and swamps developed along the coasts and subtropical hardwood forests became established along the southern tip of Florida (Delcourt and Delcourt 1981). Northern Florida saw an increase in oak species, grasses, and sedges (Carbone 1983). At Lake Annie, in south central Florida, pollen cores were dominated by wax myrtle and pine. The assemblage suggests that by this time, a forest dominated by longleaf pine along with cypress swamps and bayheads existed in the area (Watts 1971, 1975). About 5000 years ago, surface water was plentiful in karst terrains and the level of the Floridan aquifer rose to 5 ft above present levels. With the establishment of warmer winters and cooler summers than in the preceding early Holocene, the fire-adapted pine communities prevailed. These depend on the high summer precipitation caused by the thunderstorms and the accompanying lightning strikes to spark the fires (Watts et al. 1996; Watts and Hansen 1994). The increased precipitation also resulted in the formation of the large swamp systems such as the Okefenokee and Everglades (Gleason and Stone 1994). After this time, modern floral, climatic, and environmental conditions began to be established.

4.1.1.3 Modern Environmental Considerations

Based on these data, and other regional site location predictive models and studies, (Austin et al. 1991; Burger 1982; de Montmollin 1983; Deming 1980; Handley et al. 2008; Janus Research 1990, 1992, 2004; Weisman and Collins 2004) informed expectations concerning the types of sites likely to occur within the project area, as well as their probable environmental settings, was generated. As archaeologists have long realized, indigenous populations did not select their habitation sites and activity areas in a random fashion; rather, many environmental factors had a direct influence upon site location selection, including soil drainage, distance to freshwater, relative topography, and proximity to food and other resources including stone and clay.

It has been repeatedly demonstrated that non-coastal archaeological sites are most often located on better-drained soils at the upland margins of wetland features such as swamps, sinkholes, lakes, and ponds. Upland sites well removed from potable water are rare. In the pine flatwoods, sites tend to be situated on ridges and knolls near a freshwater source. It should be noted that this settlement pattern

could not be applied to sites of the Paleoindian and Early Archaic periods, which precede the onset of modern environmental conditions. These were tied to water and lithic resources, much more so than is evident during the later periods.

Soils support different vegetative regimes, which in turn provide habitats for the local animal population, and thus provide essential food resources. The soils have variable suitability for openland, woodland, and wetland habitats (good, fair, poor, very poor). The habitat for openland wildlife consists of cropland, pasture, meadows, and areas that are overgrown with grasses, herbs, shrubs, and vines. These areas produce grain and seed crops, grasses and legumes, and wild herbaceous plants. The wildlife attracted to these areas include bobwhite quail, dove, meadowlark, field sparrow, cottontail, and red fox. Woodland wildlife habitat includes areas of deciduous plants or coniferous plants or both and associated grasses, legumes, and wild herbaceous plants. Wildlife attracted to these areas include turkey, thrushes, woodpeckers, squirrels, gray fox, raccoon, and deer. Narcoossee sands are rated fair for woodland habitats. The habitat for wetland wildlife includes areas of open, marshy, or swampy, shallow water areas. Wildlife in these areas include ducks, geese, heron, shorebirds, mink, and otter. Sanibel muck is suitable for wetland habitats. Meanwhile, Tavares and Millhopper sands are rated fair for open and woodland habitats. Soils not mentioned above are rated poor or very poor for that habitat (USDA 1989:Table 8).

4.1.1.4 Discussion

Using these criteria, the archaeological APE was considered historically to have a variable probability for pre-Contact archaeological site occurrence but was downgraded to low-moderate due to the APE having been disturbed by the roadway development and agricultural activities throughout the twentieth century, as noted by the quad and aerials in **Section 3.9**. Sites, if found, were expected to be small lithic and/or artifact scatters, like the previously recorded sites within the general area.

Given the results of the historic research, no nineteenth century forts, Native American encampments, or settlements was expected, as no structures or trails were indicated on the plat or military map in **Section 3.6**. Sites, if present, would possibly be sites associated with the naval stores or timber industries during the early 20th century. Thus, there was a low historic site probability.

4.1.2 Historical Considerations

A review of the FMSF and NRHP revealed that two historic resources have been previously recorded within the APE (8OR11764 and 8OR11765) (**Figure 4.1**). These include two ca. 1960 Ranch style buildings located at 14621 Avalon Road (8OR11764) and 14506 Avalon Road (8OR11765). The resources were recorded during the *Cultural Resource Assessment Survey Sutton Lakes Site, Orange County, Florida* conducted by S&ME, Inc. in 2021 and have not been evaluated by the SHPO (Carpini et al. 2021). A review of relevant historic USGS quadrangle maps, historic aerial photographs, and the Orange County property appraiser's website data revealed the potential for no new historic resources 49 years of age or older (constructed in 1977 or earlier) within the APE (Mercado 2026). Additionally, a review of the Veteran's Grave Registration compiled in 1940-1941, did not record any graves or cemeteries in the sections where the APE is located (WPA 1941).

4.2 Field Methodology

The FDHR's Module Three, *Guidelines for Use by Historic Professionals*, indicates that the first stage of archaeological field survey is a reconnaissance of the project APE to "ground truth," or ascertain the validity of the predictive model (FDHR 2003). During this part of the survey, the

researcher assesses whether the initial predictive model needs adjustment based on disturbance or conditions such as constructed features (i.e., parking lots, buildings, etc.), underground utilities, landscape alterations (i.e., ditches and swales, mined land, dredged and filled land, agricultural fields), or other constraints that may affect the archaeological potential. Additionally, these Guidelines indicate that non-systematic “judgmental” testing may be appropriate within property that have limited high and moderate probability zones, but where a larger subsurface testing sample may be desired. While predictive models are useful in determining preliminary testing strategies in a broad context, it is understood that testing intervals may be altered due to conditions encountered by the field crew at the time of survey. A reasonable and good faith effort has been made to locate any historic properties within the current property (ACHP n.d.).

Archaeological field methods consisted of surface reconnaissance and systematic shovel testing. Shovel tests were planned to be placed at 25-, 50- and 100 m intervals along Avalon Road and filling gaps in areas previously tested. Specifically, shovel tests were planned at 25-m intervals in areas of higher elevation, near freshwater and within the pond sites to ensure sufficient testing coverage. Intervals increased to 50-m in lower elevations and due to increased distance from freshwater. Shovel tests for bounding the previously recorded Archaeological Occurrence (AO) was also planned at 12.5- and 25-m intervals to confirm that the AO is not part of a larger site. The shovel tests were circular and measured approximately 50 centimeters (cm) in diameter by at least 1 m in depth unless impeded by impenetrable road fill and subsurface utilities including sewer lines and water mains. All soil removed was screened through 0.64 cm mesh hardware cloth to maximize the recovery of artifacts. The location of all tests was recorded using the data collection mobile application by ArcGIS, Field Maps, with a Samsung S24 cellular device. Following the recording of relevant data such as stratigraphic profile and setting, all shovel tests were refilled.

During the archaeological survey, ACI often follows a best practices or ideal circumstances pre-plotted testing strategy. ACI employs cellular triangulation and a Trimble Global Navigation Satellite Systems (GNSS) receiver for data collection accuracy while using the Field Maps application by ESRI. Research has documented that these systems have an inherent margin of error that is the result of varying distances from cellular towers as well as canopy coverage, but overall data collection falls within 3-5 m of accuracy (Kerski 2013; Yang et al. 2022). When greater accuracy is needed, such as in closer interval testing (<12.5 m), smaller testing areas, or other requirements, ACI utilizes a GNSS receiver which can provide up to 7 cm accuracy using location correction protocols. Due to this variation in accuracy field archaeologists also pace to “double-check” distances while conducting the field survey. In addition, archaeologists may shift tests a couple meters from their planned location due to field conditions; significant shifts are noted in the field notes. These factors combined with the scaling of the symbols in the figures needed to show the shovel tests yield results figures that are an accurate representation of the results, but not an exact representation of size/distance/etc.

The environmental and soil descriptions provided in Environmental Setting and Results and Conclusions are based on field observations. Although trained in plant and soil identification, archaeologists are not experts in these areas. Therefore, descriptions should be confirmed by an expert for any notations of interest to other disciplines, e.g., field notes/report may note wetland plants. However, the area may not be defined as a wetland by experts.

Historical/architectural field methodology consisted of a field survey of the APE to determine and verify the location of all buildings and other historic resources (i.e., bridges, roads, cemeteries) that are 49 years of age or older (constructed in or prior to 1977), and to establish if any such resources could be determined eligible for listing in the NRHP. The field survey focused on the assessment of existing conditions for all previously recorded historic resources located within the project APE, and the presence of unrecorded historic resources within the project area. For each

property, photographs were taken, and information needed for the completion of FMSF forms was gathered. In addition to architectural descriptions, each historic resource was reviewed to assess style, historic context, condition, and potential NRHP eligibility.

Also, if available, informant interviews were planned to be conducted with knowledgeable people to obtain APE specific information, site-specific building construction dates and/or possible associations with individuals or events significant to local or regional history.

4.3 Unexpected Discoveries

Occasionally, unmarked human remains are encountered during surveys. If human remains are encountered during the survey, the procedures outlined in Chapter 872.05 *FS* will be followed. All activities shall cease in the immediate vicinity of the discovery and the State Archaeologist, and local Medical Examiner, will be notified. The findings will be evaluated for significance in consultation with the State Archaeologist.

Archaeological survey work will continue in other areas of the project, if possible, until consultation is complete. Survey activities in the immediate vicinity of the discovery will continue to be suspended until a mitigation plan, acceptable to the SHPO, is developed and implemented. Activities may then resume within the discovery area, but only when conducted in accordance with the guidelines and conditions of the approved mitigation plan.

4.4 Laboratory Methods and Curation

Since no cultural materials were recovered, no artifact analysis was performed. ACI will maintain all project-related records (i.e., maps, field notes, and photos) (ACI Project No. P26029) unless the client requests otherwise.

5.0 SURVEY RESULTS AND RECOMMENDATIONS

5.1 Archaeological

The archaeological investigations which consisted of surface reconnaissance combined with systematic subsurface testing, resulted in the excavation of 67 shovel tests (**Figure 5.1**). In addition, 16 previous shovel tests are also located within the archaeological APE (**Figure 5.1**). Systematic shovel tests were placed at 25-, 50- and 100 m intervals along Avalon Road and filling gaps in areas previously tested. Specifically, shovel tests at 25-m intervals were placed in areas of higher elevation, near freshwater and within the pond sites to ensure sufficient testing coverage. Intervals increased to 50-m in lower elevations and due to increased distance from freshwater. The remainder of the APE was tested at 100-m intervals. In addition, a previously recorded AO was bounded within Pond 3A at 12.5- and 25-m to the north, west and south. Bounding to the east was limited due to a fenceline, encroaching tree line, and little green space available from the adjacent roadway and utilities. Some shovel tests were offset slightly to avoid areas of utility and powerline corridors, as well as obstructions such as asphalt or gravel driveways intersecting with Avalon Road (see **Section 2.0, Photos 2.1-2.39**).

The previously excavated sixteen shovel tests are from three previous surveys that were incorporated into the testing strategy. Six of these previous shovel tests were excavated in Pond OC (Carpini et al. 2021; Survey No. 27861), two in Pond 3A (Rayle et al. 2007; Survey No. 14724), three in FPC 1 (Rayle et al. 2007; Survey No. 14724), and five along the north side of Hartzog Road (Belcourt et al. 2008; Survey No. 15936). The SHPO concurred with the findings of the three reports; however, field work standards have changed so additional testing was conducted in these pond sites. Also, Pond 3A contained an AO that was not bounded as per today's standards. Thus, the AO was bounded to the north, west and south and all test pits were negative (**Figure 5.1, Photo 5.5**).

Based on the results of the testing that was conducted, which showed substantial modification of the area, as well as the negligible subsurface impacts that could result from this project, ACI believes that this testing strategy was sufficient to locate and evaluate any potential archaeological resources within the APE. Shovel tests were circular and measured approximately 50 cm in diameter; the depth of most shovel tests were terminated prior to 1 m due to obstruction by utilities and impenetrable fill. All shovel tests were negative. Stratigraphy varied throughout the project. At the south end, the stratigraphy consisted of 0-70 centimeters below surface (cmbs) of pale gray sand and 70-90 cmbs of pale brown wet sand with water at 90 cm (**Photo 5.1**). At the north end, the stratigraphy consisted of 0-20 cmbs of light brown sand, 20-70 cmbs orange-brown sand, and 70-100 pale brown sand (**Photo 5.2**). In shovel tests that terminated early, rocky brown hard pan or red clay was encountered at 10- to -60 cmbs, and some terminated early due to utilities at 60 cmbs (**Photos 5.3-5.4**).

As a result of the archaeological survey, no artifacts were recovered from the shovel tests, including tests bounding the AO. The AO was not found to be a part of a larger site and as previously noted, an AO is defined by the FMSF as “the presence of one or two nondiagnostic artifacts, not known to be distant from their original context which fit within a hypothetical cylinder of 30 meters diameter regardless of depth below surface.” (FDHR 2003). Thus, occurrences are not recorded as a site, but the presence of the artifact indicated pre-Contact period activity in the area. An AO is also not NRHP eligible. Thus, no archaeological sites which are listed, determined eligible, or appear to be considered potentially eligible for listing in the NRHP are located within the APE. A reasonable and good faith effort was made per the regulations laid out in *36 CFR § 800.4(b)(1)* (Advisory Council on Historic Preservation n.d.) to test all areas of the APE.

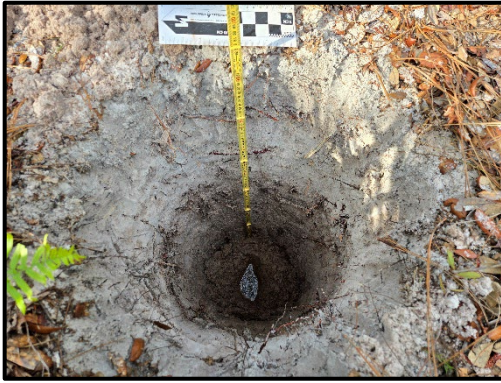


Photo 5.1. Example of stratigraphy at the south end of the project, facing east. Note terminated early due to water.



Photo 5.2. Example of stratigraphy at the north end of the project, facing east.



Photo 5.3. Example of shovel test terminated early at 60 cmbs due to sewer line, facing north.



Photo 5.4. Example of shovel test terminated early due to impenetrable red clay at 10 cmbs, facing north.



Photo 5.5. Location of the previously recorded AO that was bounded, facing east. Note the fencing in the background limiting testing to the east.

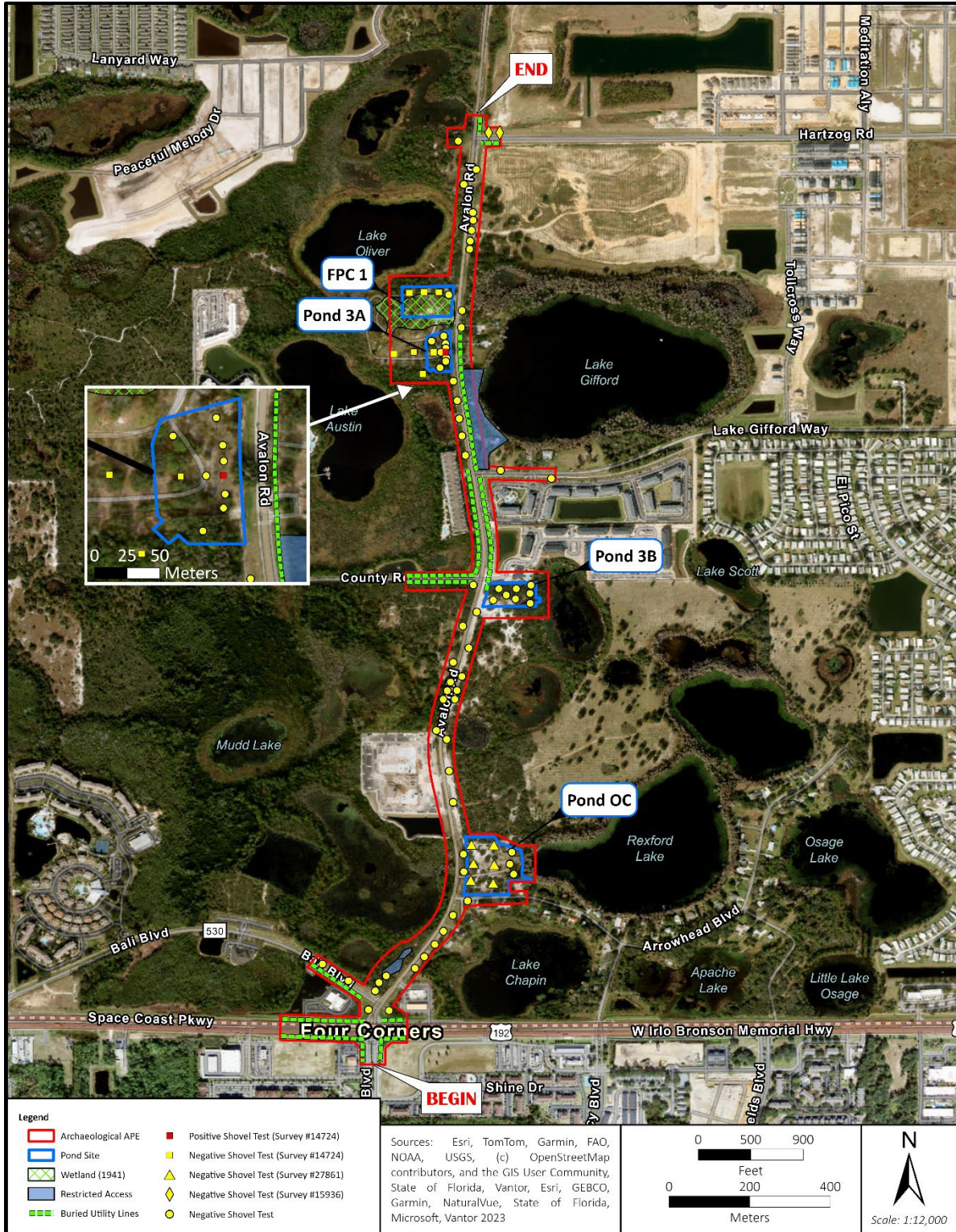


Figure 5.1. Location of the shovel tests within the Avalon Road (C.R. 545) project corridor.

5.2 Historical/Architectural

Background research revealed that two historic resources (8OR11764 and 8OR11765) have been previously recorded within the APE. These include two Ranch style buildings (8OR11764 and 8OR11765), constructed ca. 1960 which have not been evaluated by the SHPO. As a result of the historical/architectural field survey, one previously recorded historic resource (8OR11764) was identified within the APE, the FMSF form was updated, and the resource was re-evaluated (**Figure 5.2**). This includes one ca. 1960 Ranch style building (8OR11764) located at 14621 Avalon Road. Overall, the historic resource has been altered, lacks sufficient architectural features, and is not a significant embodiment of a type, period, or method of construction. In addition, background research did not reveal any historic associations with significant persons and/or events. Thus, the resource does not appear eligible for listing in the NRHP, either individually or as a part of a historic district. In addition, one previously recorded historic resource, 14506 Avalon Road (8OR11765), was confirmed as demolished during the field survey.

A description and photograph of the previously recorded resource follow, and a copy of the updated FMSF form is included in **Appendix B**. In addition, a letter was prepared for the demolished building and is contained in **Appendix C**. A reasonable and good faith effort was made per the regulations laid out in *36 CFR § 800.4(b)(1)* (ACHP n.d.) to survey all areas of the APE.



Photo 5.6. 14621 Avalon Road (8OR11764), looking east.

8OR11764: The Ranch style building at 14621 Avalon Road was constructed ca. 1960 (**Photo 5.6**). The one-story, irregular plan building rests on a concrete slab foundation and has a concrete block structural system clad in stucco with aluminum siding in the gable ends. The side gable roof with shed roof extension and gable roof extension are covered with composition shingles. A brick chimney is located within the slope of the side gable roof on the west elevation. The main entryway is on the west elevation through a single door with paneling and an inset light with diamond shaped muntins. The entrance is within a partial width open porch beneath a shed roof extension that is supported by squared wooden posts with brackets and a railing. A partial width open porch beneath a shed roof with wooden



Figure 5.2. Location of historic resources within the historical/architectural APE.

supports, masonry knee wall, and screening is located on the east elevation. Visible windows include a mixture of individual and paired one-over-one metal single-hung sash units; individual metal picture windows comprised of a central fixed pane flanked with slider units; individual and paired single pane metal fixed units; and a metal frame garden window. Distinguishing architectural features include overhanging eaves with boxed rafter tails, stucco siding scored with a brick pattern, faux shutters, and concrete windowsills. Alterations include replacement roofing, siding, and windows. Additions include a shed roof porch and gable roof extension, both located on the east elevation. A non-historic shed is located to the northwest of the building, and a non-historic detached garage is located to the southwest. The resource was first recorded during the *Cultural Resource Assessment Survey Sutton Lakes Site, Orange County, Florida* conducted by S&ME, Inc. in 2021 and has not been evaluated by the SHPO (Carpini et al. 2021). Overall, the building has been altered, lacks sufficient architectural features, and is not a significant embodiment of a type, period, or method of construction. In addition, background research did not reveal any historic associations with significant persons and/or events. As a result, 8OR11764 does not appear eligible for listing in the NRHP, either individually or as part of a historic district.

5.3 Conclusions

The Orange County Public Works Department, Orange County Government, is proposing improvements to Avalon Road (C.R. 545) from U.S. 192 to Hartzog Road, in Winter Garden within Orange County, Florida. The project distance is approximately 1.6-miles. In 2024, an RCA was prepared to identify the preferred improvements needed to address the current and future transportation needs along the Avalon Road (C.R. 545) corridor. The current work effort is to convert the 2024 RCA to a PEIR for use as part of the SFWMD permitting in order to avoid modifications and delays to the current project that is in design. The RCA Preferred alternative is being carried forward which includes widening the existing two-lane roadway to four 12-ft travel lanes with curb and gutter, a 22-ft raised median, a six-ft-wide sidewalk on the east side of the roadway, and a 10-ft-wide multi-use path on the west side to accommodate pedestrians and bicyclists. In addition, three SMF and one FPC site, hereinafter referred to as pond sites, are included as part of this project.

Based on the results of the background research and field investigations, including the excavation of 67 shovel tests, no archaeological sites were identified within the APE. As a result of the historical/architectural field survey, one previously recorded historic resource (8OR11764) was identified within the APE, the FMSF form was updated, and the resource was re-evaluated. Overall, the historic resource has been altered, lacks sufficient architectural features, and is not a significant embodiment of a type, period, or method of construction. In addition, background research did not reveal any historic associations with significant persons and/or events. Thus, the resource does not appear eligible for listing in the NRHP, either individually or as a part of a historic district. In addition, one previously recorded historic resource (8OR11765) was confirmed as demolished during the field survey. Thus, no archaeological sites or historic resources that are listed, determined eligible, or that appear potentially eligible for listing in the NRHP are located within the APE. Therefore, it is the professional opinion of ACI that the proposed undertaking will result in No Historic Properties Affected. No further cultural resource work is recommended.

5.4 Inadvertent/ Unexpected Discoveries

Occasionally, archaeological deposits, subsurface features or unmarked human remains are encountered during development, even though the project area may have previously received a thorough and professionally adequate cultural resources assessment. Such events are rare, but they do

occur. In the event pre-Contact or historic period artifacts, such as pottery or ceramics, projectile points, shell or bone tools, dugout canoes, metal implements, historic building materials, or any other physical remains that could be associated with Native American, early European, or American settlement are encountered or observed during development activities at any time within the project site, the permitted project shall cease all activities involving subsurface disturbance in the immediate vicinity of the discovery and a professional archaeologist will be contacted to evaluate the importance of the discovery. The area will be examined by the archaeologist, who, in consultation with the staff of the Florida SHPO, will determine if the discovery is significant or potentially significant.

In the event the discovery is found to be not significant, the work may immediately resume. If, on the other hand, the discovery is found to be significant or potentially significant, then development activities in the immediate vicinity of the discovery will continue to be suspended until a mitigation plan, acceptable to the SHPO, is developed and implemented. Development activities may then resume within the discovery area, but only when conducted in accordance with the guidelines and conditions of the approved mitigation plan. If human remains are encountered during development, the procedures outlined in Chapter 872.05 *FS* must be followed, all activities in the vicinity of the discovery must cease and the local Medical Examiner and State Archaeologist should be notified.

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APPENDIX A:
Concept Plans

DRAFT



BEGIN PROJECT
AVALON STA
30+05.27

CURVE DATA-1
 PI STA. = 34+55.89
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 L = 544.67
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 PT STA. = 37+14.28
 e = RC
 DESIGN SPEED = 40MPH



WAWA
CONVENIENCE STORE

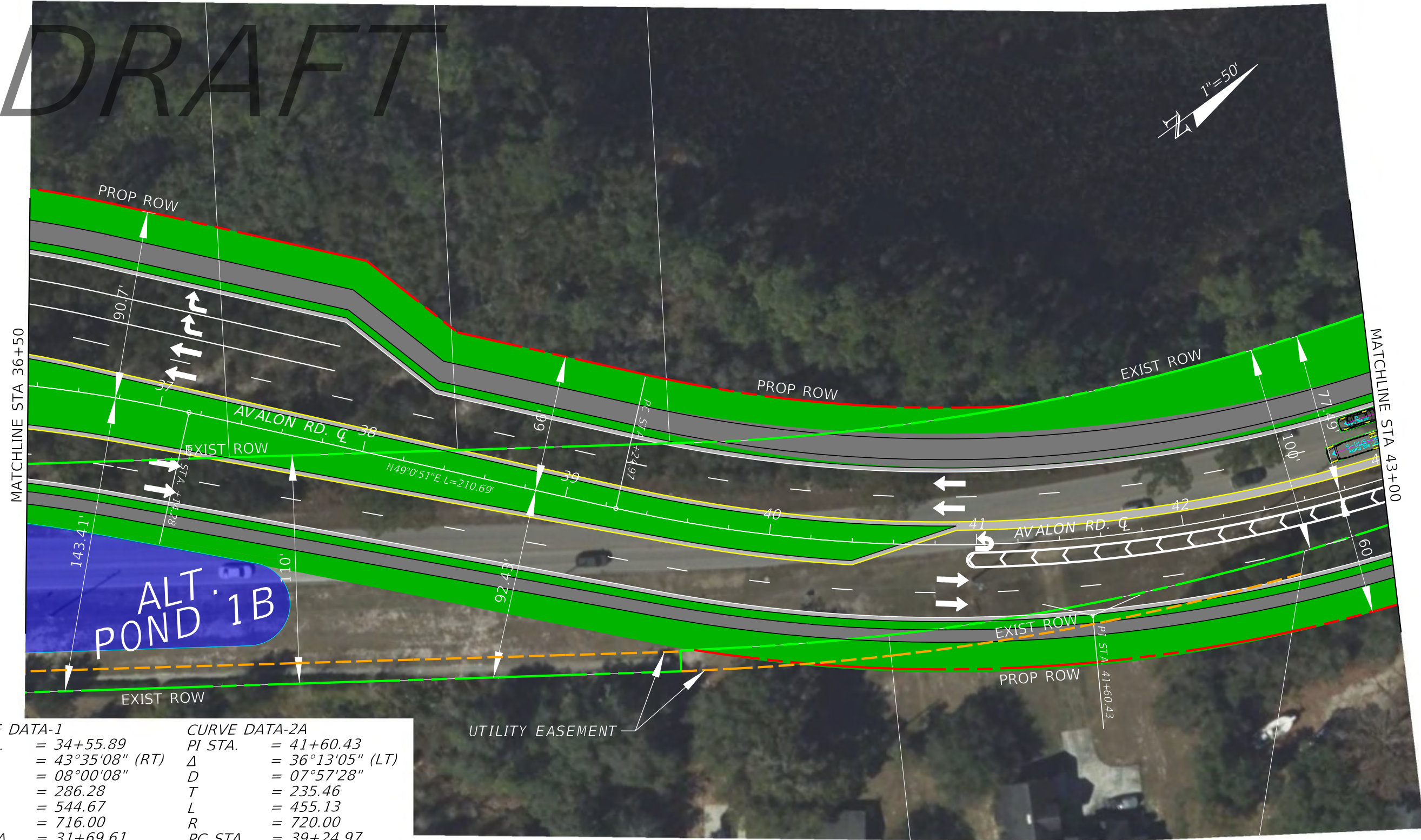
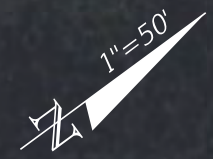
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REVISIONS		DATE	DESCRIPTION	ORANGE COUNTY PUBLIC WORKS	ROAD NO.	COUNTY	FINANCIAL PROJECT ID	SHEET NO.
DATE	DESCRIPTION							
		1/22/2024						2

AVALON ROAD (CR 545)
PROPOSED PREFERRED
ALIGNMENT

DRAFT



CURVE DATA-1		CURVE DATA-2A	
PI STA.	= 34+55.89	PI STA.	= 41+60.43
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D	= 08°00'08"	D	= 07°57'28"
T	= 286.28	T	= 235.46
L	= 544.67	L	= 455.13
R	= 716.00	R	= 720.00
PC STA.	= 31+69.61	PC STA.	= 39+24.97
PT STA.	= 37+14.28	PT STA.	= 43+80.10
e	= RC	e	= RC
DESIGN SPEED	= 40MPH	DESIGN SPEED	= 40MPH

UTILITY EASEMENT

*ALL TANGENT LENGTHS ARE FROM PT TO PC.

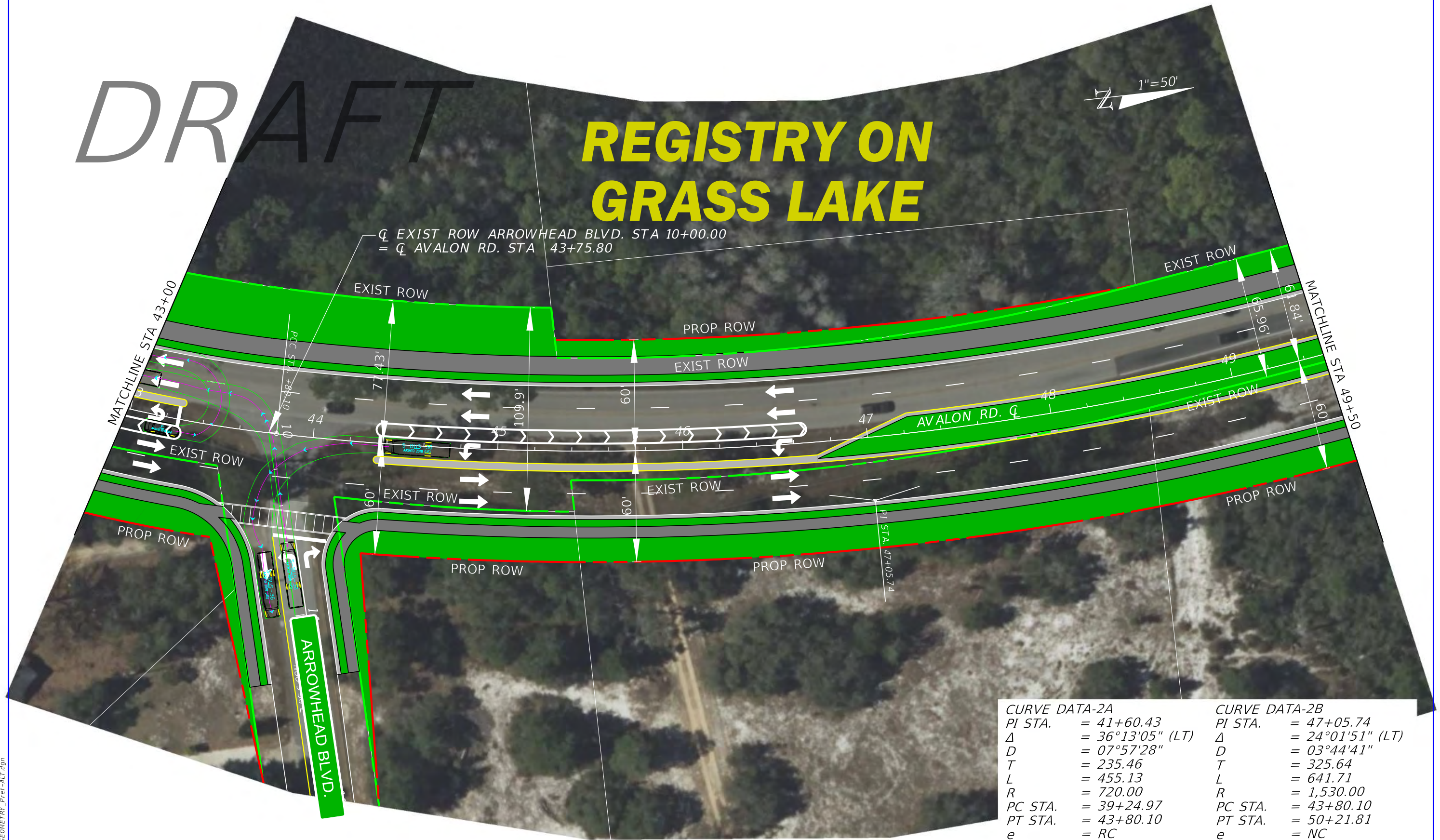
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REVISIONS				1/22/2024	ORANGE COUNTY PUBLIC WORKS			AVALON ROAD (CR 545) PROPOSED PREFERRED ALIGNMENT	SHEET NO. 3
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		

DRAFT

REGISTRY ON GRASS LAKE

1"=50'



CURVE DATA-2A		CURVE DATA-2B	
PI STA.	= 41+60.43	PI STA.	= 47+05.74
Δ	= 36°13'05" (LT)	Δ	= 24°01'51" (LT)
D	= 07°57'28"	D	= 03°44'41"
T	= 235.46	T	= 325.64
L	= 455.13	L	= 641.71
R	= 720.00	R	= 1,530.00
PC STA.	= 39+24.97	PC STA.	= 43+80.10
PT STA.	= 43+80.10	PT STA.	= 50+21.81
e	= RC	e	= NC
DESIGN SPEED = 40MPH		DESIGN SPEED = 40MPH	

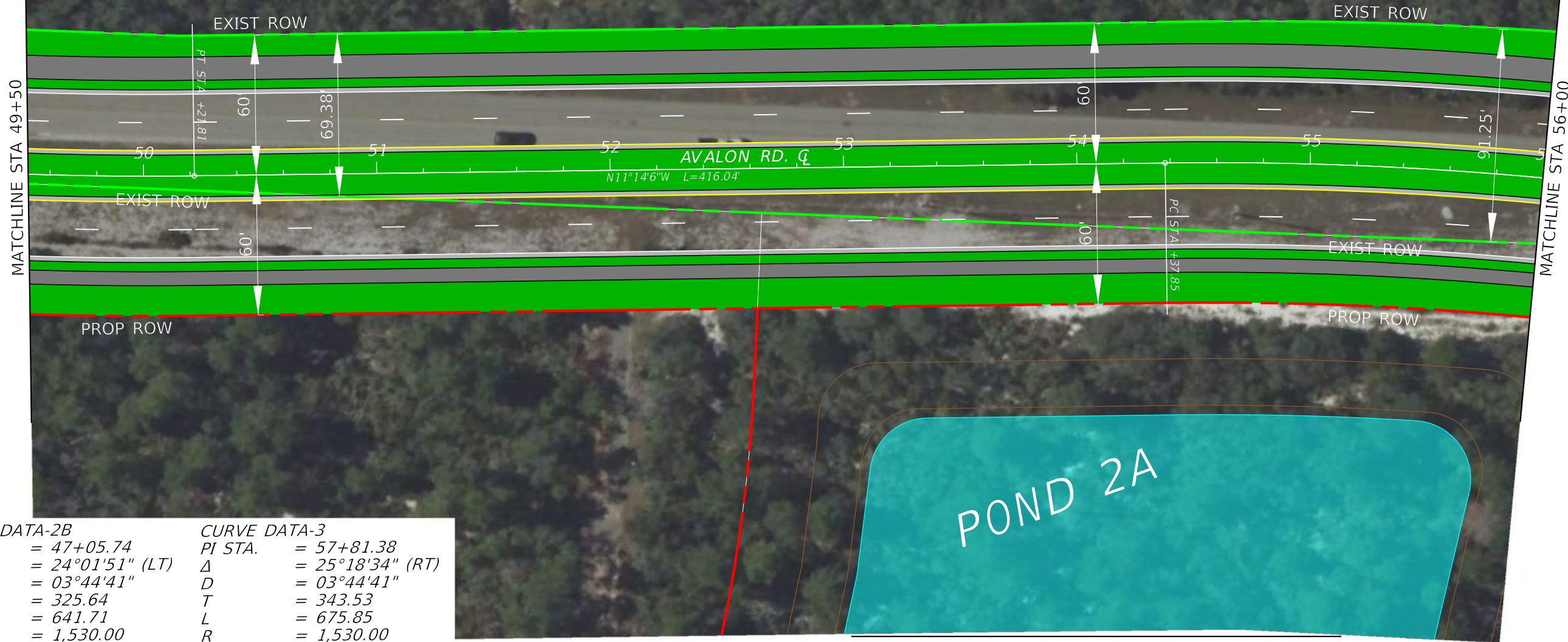
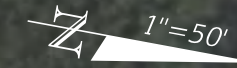
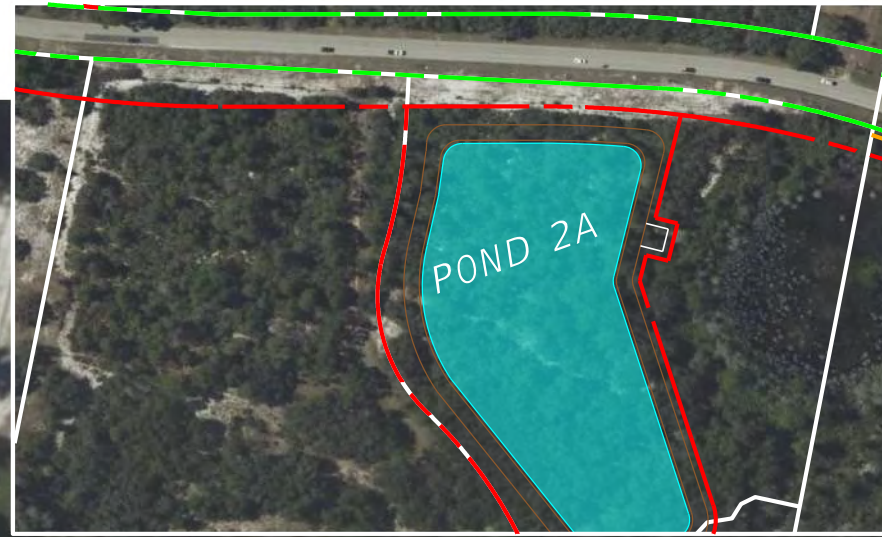
*ALL TANGENT LENGTHS ARE FROM PT TO PC.

1/22/2024 9:05:09 AM salanis
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REVISIONS				DATE	ORANGE COUNTY PUBLIC WORKS			SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
				1/22/2024				4

**AVALON ROAD (CR 545)
 PROPOSED PREFERRED
 ALIGNMENT**

DRAFT



CURVE DATA-2B		CURVE DATA-3	
PI STA.	= 47+05.74	PI STA.	= 57+81.38
Δ	= 24°01'51" (LT)	Δ	= 25°18'34" (RT)
D	= 03°44'41"	D	= 03°44'41"
T	= 325.64	T	= 343.53
L	= 641.71	L	= 675.85
R	= 1,530.00	R	= 1,530.00
PC STA.	= 43+80.10	PC STA.	= 54+37.85
PT STA.	= 50+21.81	PT STA.	= 61+13.70
e	= NC	e	= NC
DESIGN SPEED	= 40MPH	DESIGN SPEED	= 40MPH

MATCHLINE TO SHEET 5A

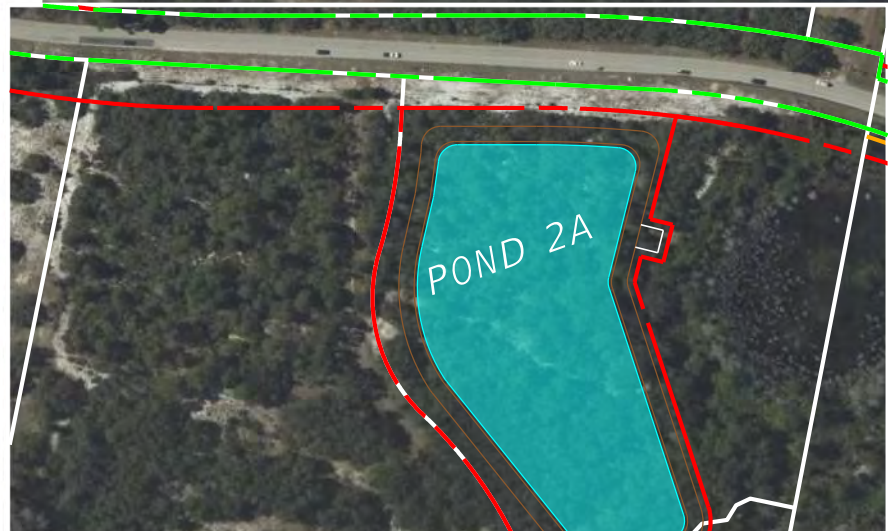
*ALL TANGENT LENGTHS ARE FROM PT TO PC.

1/22/2024 9:05:13 AM salanis c:\pwworking\jmt\40380920\GEOMETRY_Pref-ALT.dgn

REVISIONS				DATE	ORANGE COUNTY PUBLIC WORKS			SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
				1/22/2024				5
<p style="text-align: center;">AVALON ROAD (CR 545) PROPOSED PREFERRED ALIGNMENT</p>								

MATCHLINE TO SHEET 5

DRAFT



1/22/2024 9:05:20 AM salanis c:\pwworking\jmt\00380920\GEOMETRY_Pref-ALT.dgn

*ALL TANGENT LENGTHS ARE FROM PT TO PC.

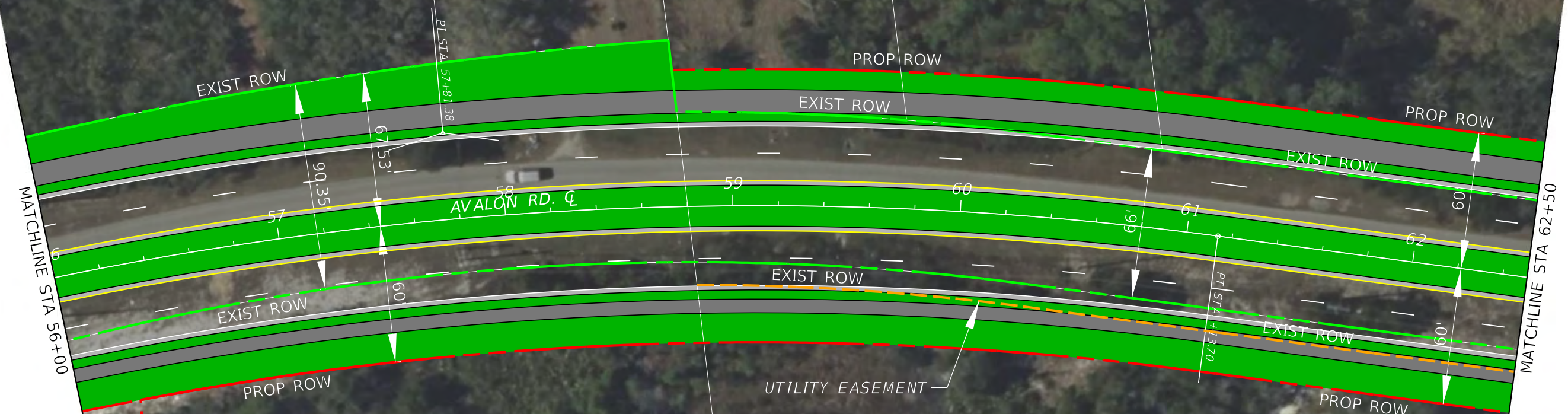
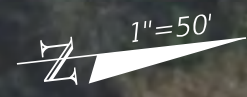
REVISIONS		DATE	DESCRIPTION	ROAD NO.	COUNTY	FINANCIAL PROJECT ID	SHEET NO.
DATE	DESCRIPTION						
		1/22/2024					5A

**ORANGE COUNTY
PUBLIC WORKS**

**AVALON ROAD (CR 545)
PROPOSED PREFERRED
ALIGNMENT**

DRAFT REGISTRY ON GRASS LAKE

PRS PROPERTIES



SUTTON GRANDE

CURVE DATA-3

PI STA.	= 57+81.38
Δ	= 25°18'34" (RT)
D	= 03°44'41"
T	= 343.53
L	= 675.85
R	= 1,530.00
PC STA.	= 54+37.85
PT STA.	= 61+13.70
e	= NC
DESIGN SPEED	= 40MPH

*ALL TANGENT LENGTHS ARE FROM PT TO PC.

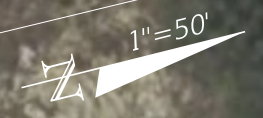
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REVISIONS				DATE	ORANGE COUNTY PUBLIC WORKS			SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
				1/22/2024				6

**AVALON ROAD (CR 545)
PROPOSED PREFERRED
ALIGNMENT**

DRAFT

PRS PROPERTIES



SUTTON GRANDE

1/22/2024 9:05:28 AM salamis c:\pwworking\jmt\40380920\GEOMETRY_Pref-ALT.dgn

*ALL TANGENT LENGTHS ARE FROM PT TO PC.

REVISIONS		DATE	DESCRIPTION	ORANGE COUNTY PUBLIC WORKS	ROAD NO.	COUNTY	FINANCIAL PROJECT ID	SHEET NO.
DATE	DESCRIPTION							
		1/22/2024						7

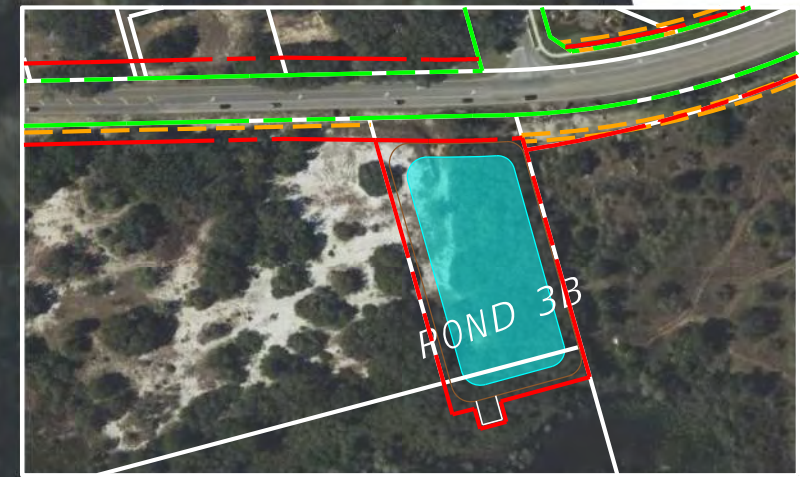
**AVALON ROAD (CR 545)
PROPOSED PREFERRED
ALIGNMENT**

DRAFT

MATCHLINE TO SHEET 8

POND 3B

1"=50'



1/22/2024 9:05:39 AM salamis c:\pwworking\jmt\40380920\GEOMETRY_Pref-ALT.dgn

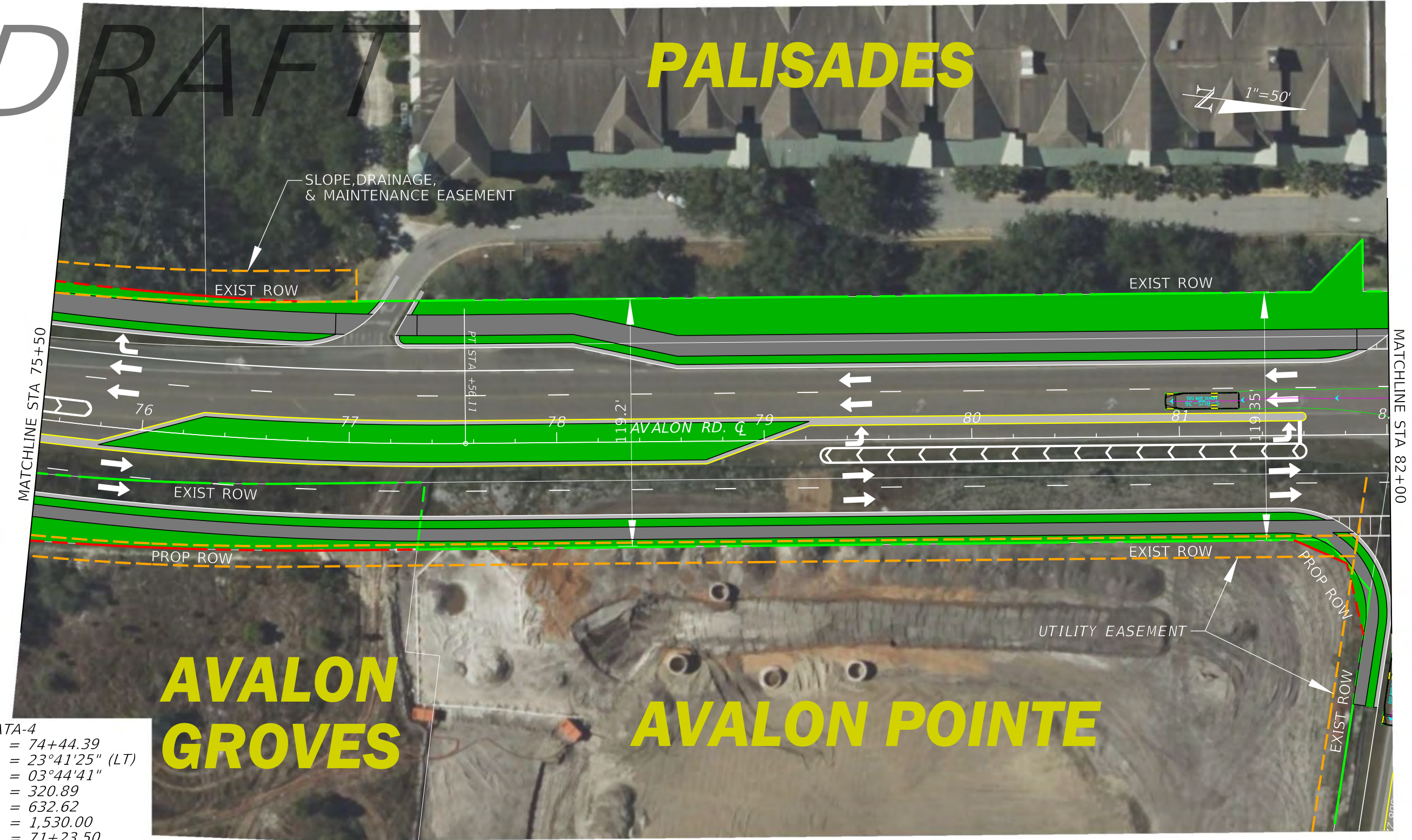
REVISIONS		ORANGE COUNTY PUBLIC WORKS		SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	
		1/22/2024		8A

*ALL TANGENT LENGTHS ARE FROM PT TO PC.

**AVALON ROAD (CR 545)
PROPOSED PREFERRED
ALIGNMENT**

DRAFT

PALISADES



CURVE DATA-4
 PI STA. = 74+44.39
 Δ = 23°41'25" (LT)
 D = 03°44'41"
 T = 320.89
 L = 632.62
 R = 1,530.00
 PC STA. = 71+23.50
 PT STA. = 77+56.11
 e = NC
 DESIGN SPEED = 40MPH

AVALON GROVES

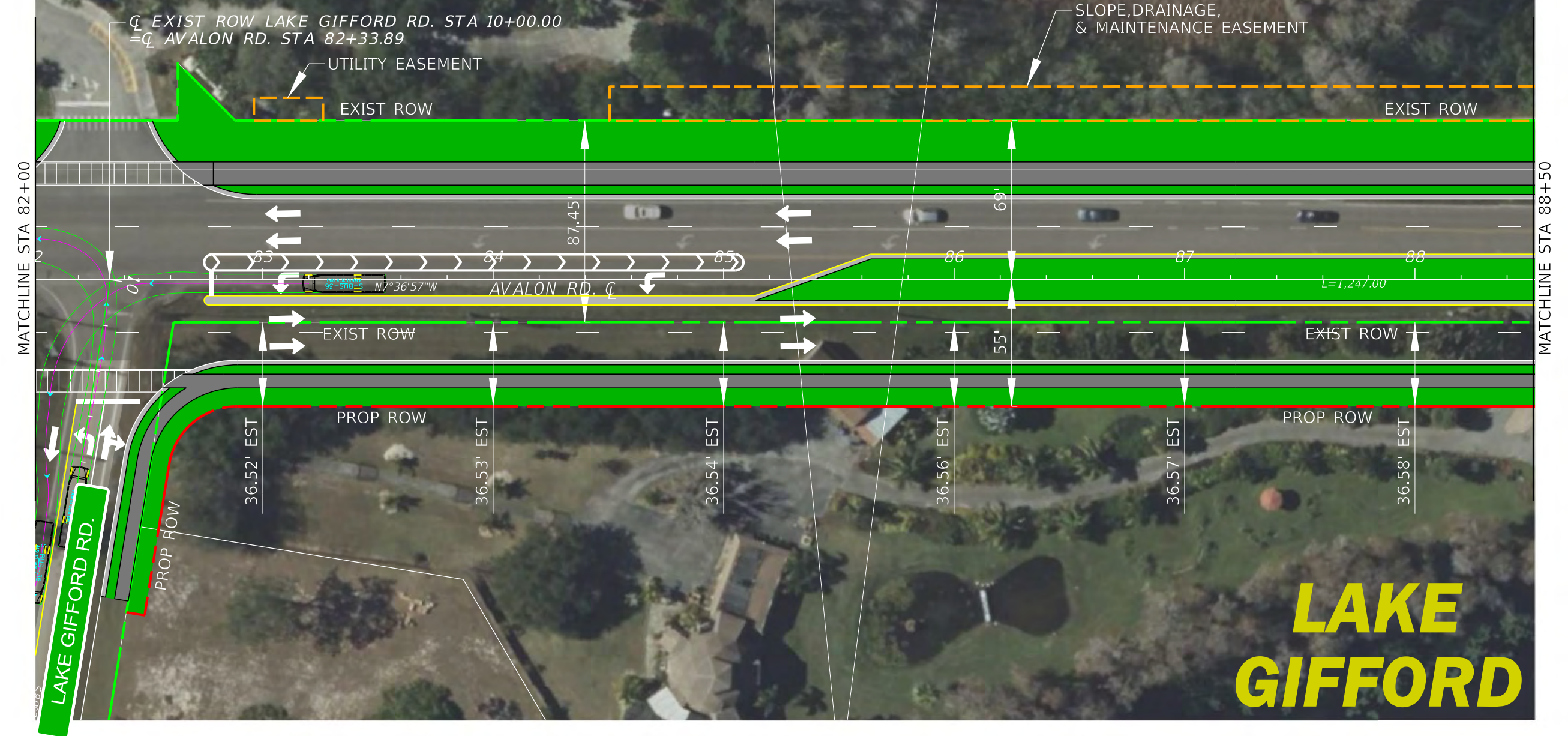
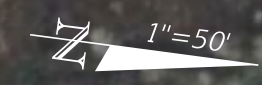
AVALON POINTE

*ALL TANGENT LENGTHS ARE FROM PT TO PC.

1/22/2024 9:05:43 AM salanis c:\pwworking\jmn\40380920\GEOMETRY_Pref-ALT.dgn

REVISIONS		DATE	DESCRIPTION	ORANGE COUNTY PUBLIC WORKS	ROAD NO.		COUNTY	FINANCIAL PROJECT ID	AVALON ROAD (CR 545) PROPOSED PREFERRED ALIGNMENT		SHEET NO.
DATE	DESCRIPTION										
		1/22/2024								9	

DRAFT PALISADES

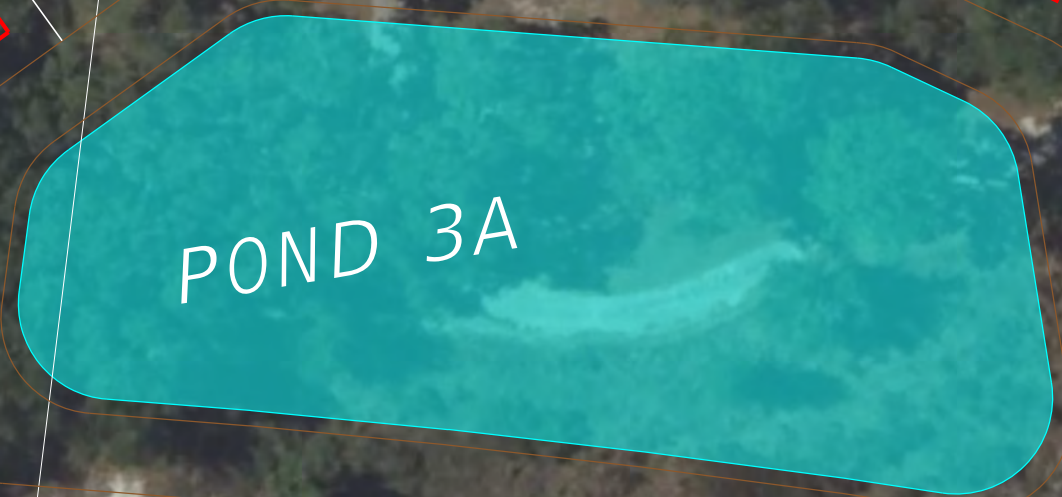
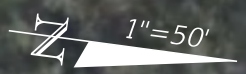


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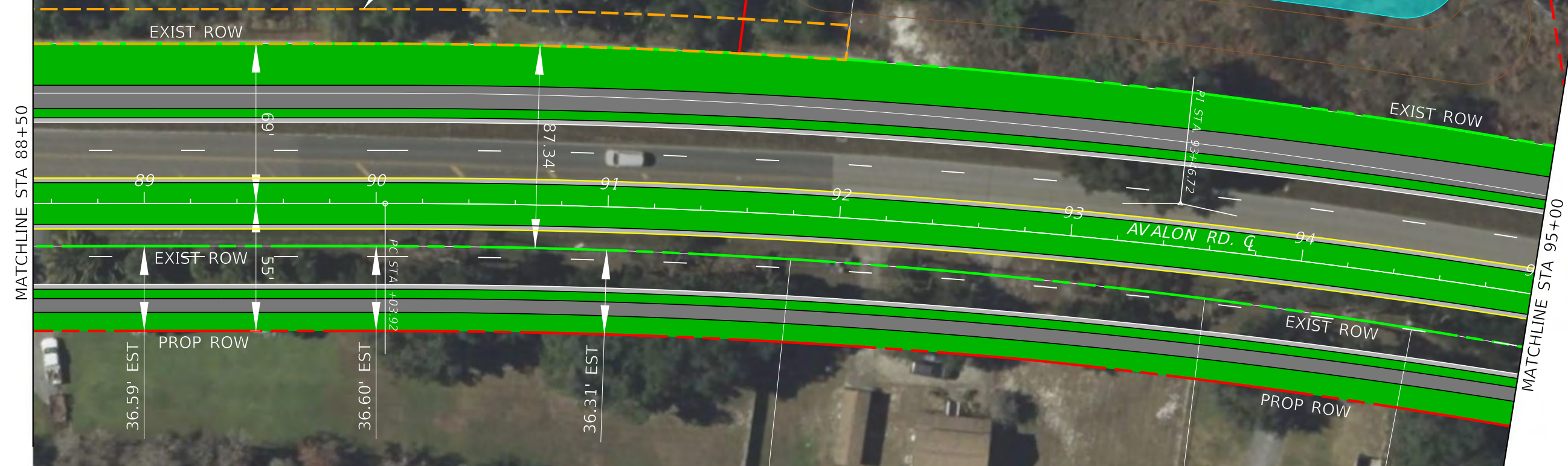
REVISIONS		DATE	DESCRIPTION	ORANGE COUNTY PUBLIC WORKS	ROAD NO.	COUNTY	FINANCIAL PROJECT ID	AVALON ROAD (CR 545) PROPOSED PREFERRED ALIGNMENT	SHEET NO.
DATE	DESCRIPTION								
		1/22/2024						10	

*ALL TANGENT LENGTHS ARE FROM PT TO PC.

DRAFT



SLOPE, DRAINAGE,
& MAINTENANCE EASEMENT



CURVE DATA-5
 PI STA. = 93+46.72
 Δ = 12°25'19" (RT)
 D = 01°49'08"
 T = 342.81
 L = 682.93
 R = 3,150.00
 PC STA. = 90+03.92
 PT STA. = 96+86.84
 e = NC
 DESIGN SPEED = 45MPH

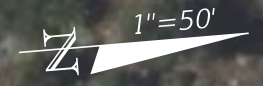
LAKE GIFFORD

*ALL TANGENT LENGTHS ARE FROM PT TO PC.

1/22/2024 9:05:50 AM salanis c:\pwworking\jmt\40380920\GEOMETRY_Pref-ALT.dgn

REVISIONS				DATE	ORANGE COUNTY PUBLIC WORKS			SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
				1/22/2024				AVALON ROAD (CR 545) PROPOSED PREFERRED ALIGNMENT

DRAFT



MATCHLINE STA 101+50

MATCHLINE STA 108+00

KARR PD VILLAGE

*ALL TANGENT LENGTHS ARE FROM PT TO PC.

1/22/2024 9:06:04 AM salamis c:\pwworking\jmt\40380920\GEOMETRY_Pref-ALT.dgn

REVISIONS		DATE	DESCRIPTION	ROAD NO.	COUNTY	FINANCIAL PROJECT ID	SHEET NO.
DATE	DESCRIPTION						
		1/22/2024					13

**ORANGE COUNTY
PUBLIC WORKS**

**AVALON ROAD (CR 545)
PROPOSED PREFERRED
ALIGNMENT**

APPENDIX B:

FMSF Form



HISTORICAL STRUCTURE FORM
FLORIDA MASTER SITE FILE
Version 5.0 3/19

Site#8 OR11764
Field Date 3-20-2026
Form Date 3-27-2026
Recorder #

Original
Update

Shaded Fields represent the minimum acceptable level of documentation.
Consult the Guide to Historical Structure Forms for detailed instructions.

Site Name(s) (address if none) 14621 Avalon Road
Survey Project Name CRAS Avalon Road from US 192 to Hartzog Road
National Register Category (please check one) building
Ownership: private-profit private-nonprofit private-individual private-nonspecific city county state federal Native American foreign unknown

LOCATION & MAPPING

Address: 14621 Avalon Road
Cross Streets (nearest / between)
USGS 7.5 Map Name LAKE LOUISA SW USGS Date 1959 Plat or Other Map
City / Town (within 3 miles) Winter Garden In City Limits? no County Orange
Township 24S Range 27E Section 31 1/4 section: NW SW SE NE Irregular-name:
Tax Parcel # 31-24-27-0000-00-009 Landgrant
Subdivision Name Block Lot
UTM Coordinates: Zone 16 17 Easting 436818 Northing 3136251
Other Coordinates: X: Y: Coordinate System & Datum
Name of Public Tract (e.g., park)

HISTORY

Construction Year: 1960 approximately year listed or earlier year listed or later
Original Use Residence, private From (year): 1960 To (year): CURR
Current Use From (year): To (year):
Other Use From (year): To (year):
Moves: yes no unknown Date: Original address
Alterations: yes no unknown Date: Nature Roofing, siding, windows
Additions: yes no unknown Date: Nature Gable extension & E ELEV porch
Architect (last name first): Builder (last name first):
Ownership History (especially original owner, dates, profession, etc.)
Westgate Resorts (1997); W. Wescott (1984); F. Eichhorn (1976); TW&Y Investment Co. (1975);
R.F. & E. Truesdell/Audrey Ball/G. & R. Myers

Is the Resource Affected by a Local Preservation Ordinance? yes no unknown Describe

DESCRIPTION

Style Ranch Exterior Plan Irregular Number of Stories 1
Exterior Fabric(s) 1. Stucco 2. Aluminum 3.
Roof Type(s) 1. Gable 2. Shed 3.
Roof Material(s) 1. Composition shingles 2. 3.
Roof secondary strucs. (dormers etc.) 1. Shed extension 2. Gable extension

Windows (types, materials, etc.)
SHS, metal, single, paired, 1/1; Picture, metal, single, central fixed pane flanked w/ sliders;
Fixed, metal, single, paired, one light; Garden window

Distinguishing Architectural Features (exterior or interior ornaments)
Overhanging eaves w/ boxed rafter tails, scored stucco (brick pattern), faux shutters, concrete window sills

Ancillary Features / Outbuildings (record outbuildings, major landscape features; use continuation sheet if needed.)
Non-historic shed and detached garage

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

DESCRIPTION (continued)

Chimney: No. 1 Chimney Material(s): 1. Brick 2. _____ 3. _____
Structural System(s): 1. Concrete block 2. _____ 3. _____
Foundation Type(s): 1. Slab 2. _____
Foundation Material(s): 1. Concrete, Generic 2. _____

Main Entrance (stylistic details)

W ELEV: single door w/ paneling and inset light with diamond shaped muntins, beneath a shed roof extension

Porch Descriptions (types, locations, roof types, etc.)

W/ENTRANCE: open, partial width, beneath a shed roof extension w/ squared wooden supports & brackets; E ELEV: open, partial width, beneath a shed roof w/ screening & masonry knee wall

Condition (overall resource condition): excellent good fair deteriorated ruinous

Narrative Description of Resource

A one-story Ranch style building w/ a shed roof porch addition and a gable roof extension addition, both on the E ELEV.

Archaeological Remains _____ Check if Archaeological Form Completed

RESEARCH METHODS (select all that apply)

- FMSF record search (sites/surveys) library research building permits Sanborn maps
FL State Archives/photo collection city directory occupant/owner interview plat maps
property appraiser / tax records newspaper files neighbor interview Public Lands Survey (DEP)
cultural resource survey (CRAS) historic photos interior inspection HABS/HAER record search
other methods (describe) USDA historic aerial photographs (PALMM)

Bibliographic References (give FMSF manuscript # if relevant, use continuation sheet if needed)

Publication of Archival Library and Museum Materials (PALMM), accessible online at: http://palmm.fcla.edu/

OPINION OF RESOURCE SIGNIFICANCE

Appears to meet the criteria for National Register listing individually? yes no insufficient information
Appears to meet the criteria for National Register listing as part of a district? yes no insufficient information

Explanation of Evaluation (required, whether significant or not; use separate sheet if needed)

The building is not a significant embodiment of a type, period, or method of construction; and has no known significant historic associations.

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 Archaeological Consultants Inc
Document description Files, photos, research, documents File or accession #'s P26029
2) Document type _____ Maintaining organization _____
Document description _____ File or accession #'s _____

RECORDER INFORMATION

Recorder Name Savannah Y. Finch Affiliation Archaeological Consultants Inc
Recorder Contact Information 8110 Blaikie Court, Ste. A / Sarasota, FL/ 34240 /aciflorida@comcast.net
(address / phone / fax / e-mail)

Required Attachments

- 1 USGS 7.5' MAP WITH STRUCTURE LOCATION CLEARLY INDICATED
2 LARGE SCALE STREET, PLAT OR PARCEL MAP (available from most property appraiser web sites)
3 PHOTO OF MAIN FACADE, DIGITAL IMAGE FILE

When submitting an image, it must be included in digital AND hard copy format (plain paper grayscale acceptable). Digital image must be at least 1600 x 1200 pixels, 24-bit color, jpeg or tiff.



PHOTOGRAPHS

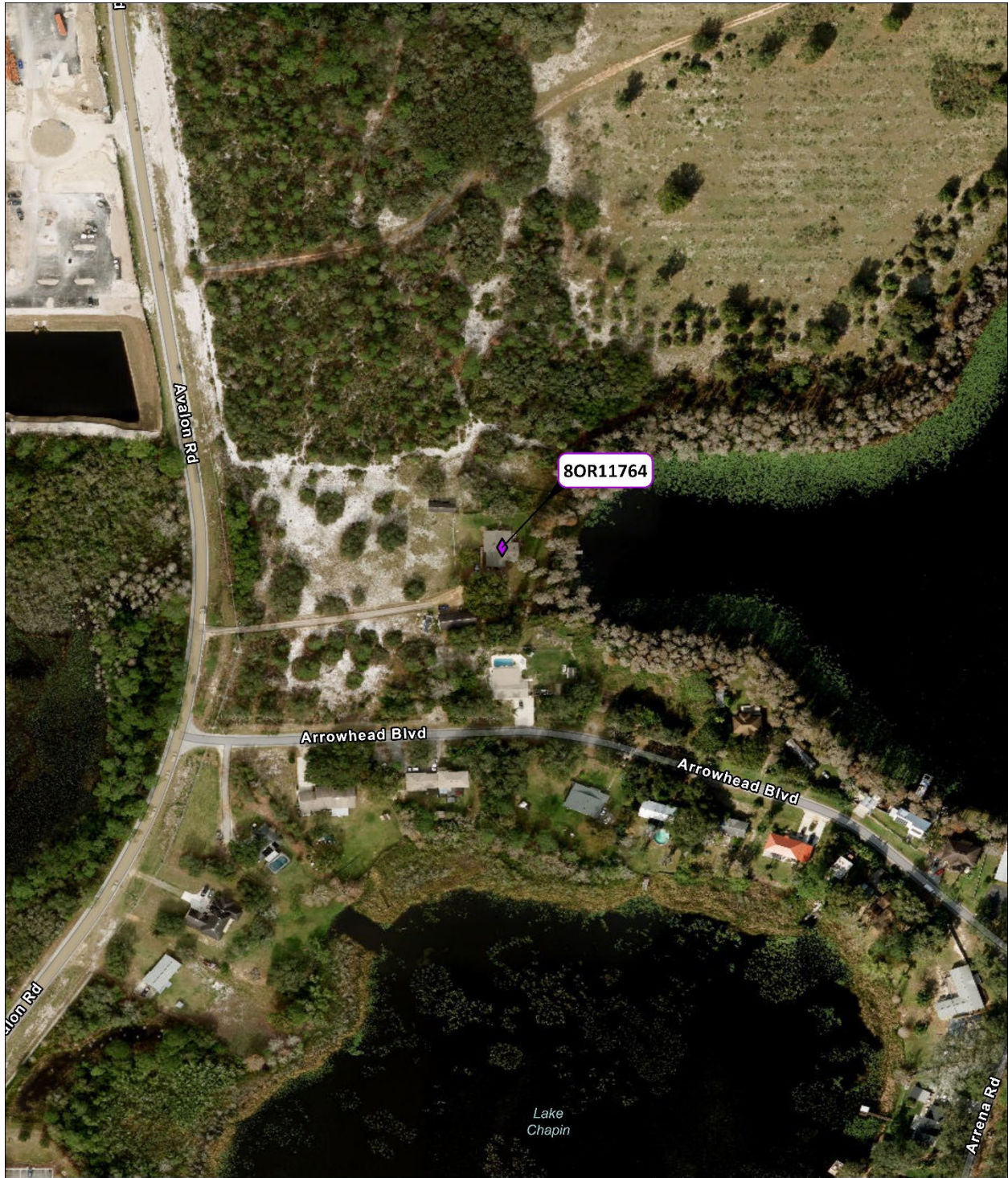










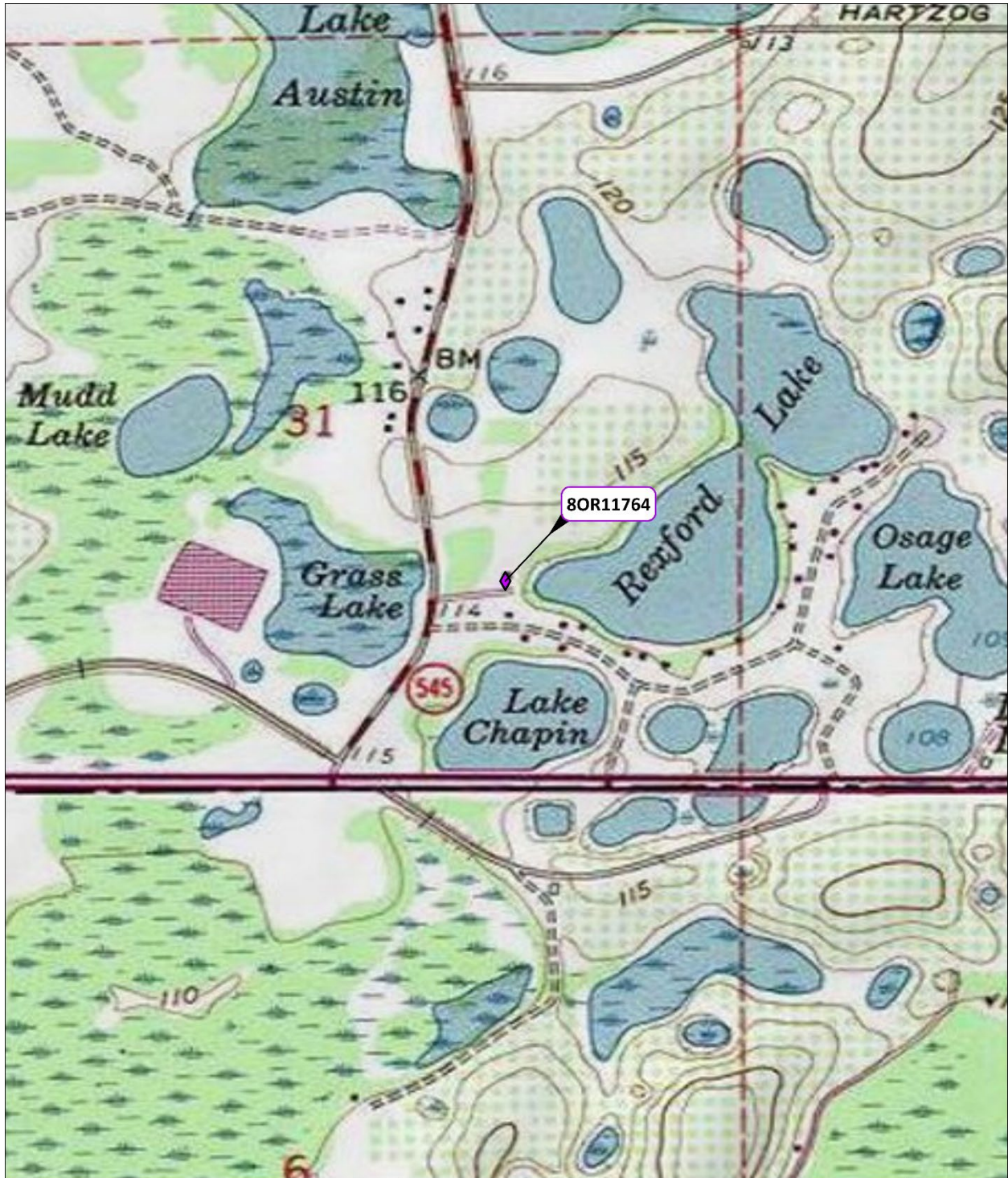
AERIAL MAP



<p>Legend</p> <p> Updated Historic Resource</p>	<p>Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community, State of Florida, Microsoft, Vantor 2023</p>	<p>0 200 300</p> <p>Feet</p> <p>0 50 100</p> <p>Meters</p>	<p>N</p>  <p>Scale: 1:2,500</p>
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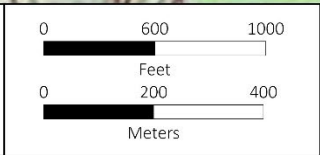
USGS Lake Louisa SW
Township 24 South, Range 27 East, Section 31



Legend

 Updated Historic Resource

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community, Copyright:© 2013 National Geographic Society, i-cubed 2023



APPENDIX C:
Demolished Building Letter



Florida's First Choice in Cultural Resource Management

March 27, 2026

Mr. Vincent Birdsong
Supervisor, Florida Master Site File
Division of Historical Resources
500 South Bronough Street
Tallahassee, FL 32399-0250

RE: Historic Resource Status

Dear Mr. Birdsong:

This letter is to inform you that the following historic resource was found no longer extant during background research and a recent field survey conducted in March 2026 (**Table 1**). A photograph of the former location of the resource has been included below (**Photo 1**).

Table 1. Previously recorded historic resource that has been demolished.

FMSF No.	Address/Site Name	Year Built	Style
8OR11765	14506 Avalon Road	ca. 1960	Ranch



Photo 1. Looking northwest at the former location of the demolished resource (8OR11765).

Sincerely,

Savannah Y. Finch
Architectural Historian

APPENDIX D:

Survey Log

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, Avalon Rd from U.S. 192 to Hartzog Rd, Orange Co.

Report Title (exactly as on title page)

Cultural Resource Assessment Survey, Avalon Road from U.S. 92 to Hartzog Road, Orange County, Florida

Report Authors (as on title page)

1. ACI 3. _____
2. _____ 4. _____

Publication Year 2026

Number of Pages in Report (do not include site forms) 73

Publication Information (Give series, number in series, publisher and city. For article or chapter, cite page numbers. Use the style of *American Antiquity*.)

P26026, ACI, Sarasota

Supervisors of Fieldwork (even if same as author) Names Hutchinson, Lee

Affiliation of Fieldworkers: Organization Archaeological Consultants Inc City Sarasota

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

1. Ponds 3. _____ 5. _____ 7. _____
2. Avalon 4. _____ 6. _____ 8. _____

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

Name _____ Organization Florida Dept of Transportation - District 5

Address/Phone/E-mail 719 South Woodland Boulevard, DeLand, FL 32720

Recorder of Log Sheet Crystal Perrelli Date Log Sheet Completed 3-25-2026

Is this survey or project a continuation of a previous project? No Yes: Previous survey #s (FMSF only) _____

Project Area Mapping

Counties (select every county in which field survey was done; attach additional sheet if necessary)

1. Orange 3. _____ 5. _____
2. _____ 4. _____ 6. _____

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

1. Name LAKE LOUISA SW Year 1959 4. Name _____ Year _____
2. Name LAKE LOUISA SW Year 1977 5. Name _____ Year _____
3. Name _____ Year _____ 6. Name _____ Year _____

Field Dates and Project Area Description

Fieldwork Dates: Start 3-17-2026 End 3-20-2026 Total Area Surveyed (fill in one) _____ hectares 33.33 acres

Number of Distinct Tracts or Areas Surveyed 5

If Corridor (fill in one for each) Width: _____ meters 120 feet Length: _____ kilometers 1.60 miles

Research and Field Methods

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

Scope/Intensity/Procedures

background research, shovel testing (N=67) at 25,50- and 100-m intervals and bounding at 12.5- and 25-m intervals, 50-cm diameter by 100-cm deep, 0.64 cm screening, photos taken, tests backfilled, report drafted

Preliminary Methods (select as many as apply to the project as a whole)

[]Florida Archives (Gray Building) []library research- local public [X]local property or tax records [X]other historic maps []LIDAR []Florida Photo Archives (Gray Building) [X]library-special collection [X]newspaper files [X]soils maps or data []other remote sensing [X]Site File property search [X]Public Lands Survey (maps at DEP) [X]literature search [X]windshield survey [X]Site File survey search [X]local informant(s) [X]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. [X]building permits [X]demolition permits []neighbor interview [X]subdivision maps [X]commercial permits []windshield survey []occupant interview [X]tax records []interior documentation [X]local property records [X]occupation permits []unknown []other (describe): _____

Survey Results

Resource Significance Evaluated? [X]Yes []No

Count of Previously Recorded Resources 1 Count of Newly Recorded Resources 0

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

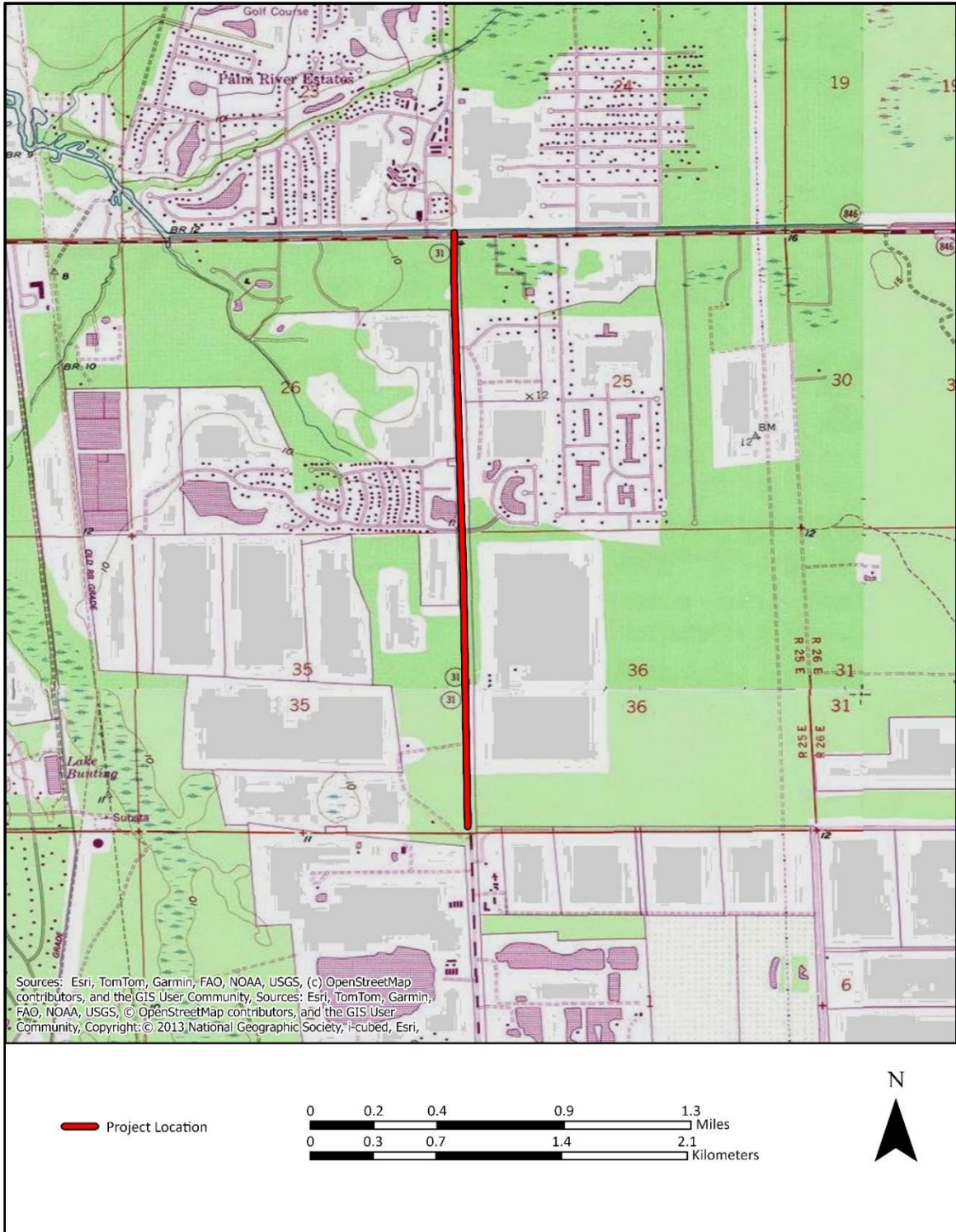
OR11764

List Newly Recorded Site ID#s (attach additional pages if necessary)

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: _____



Avalon Road from U.S. 192 to Hartzog Road
 Township 24 S, Range 27 E, Sections 30-31
 USGS Lake Louisa SW 2013
 Orange County, Florida

Cultural Resource Assessment Survey
 Avalon Road from U.S. 192 to Hartzog
 Road
 Orange County, Florida
 Orange County CIP No. 5154