Andrew Conklin Environmental Services, LLC
Integrating Successful Development and Environmental Integrity

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December 17, 2020

Mr. Bryan Moran
6540 N. U.S. Highway 1
Cocoa, Florida 32927

Re: 780 Alcazar Ave., Parcel No. 23-35-24-BE-1-40.10
ACES File No. 20151

Dear Mr. Moran,

Andrew Conklin Environmental Services, LLC (ACES) has completed a review of environmental issues associated with the above-referenced property, including the entrance easement, a total area of approximately 2.35 acres. Figure 1 depicts the location of the subject site and Figure 2 is a recent aerial photograph of the lot depicting current conditions thereon. On December 14, 2020, ACES inspected the site for the presence of wetlands, surface waters, protected species, and indications of protected species habitat. To assess the presence and extent of wetlands, we implemented the jurisdictional wetland identification methodologies of the Florida Department of Environmental Protection (DEP) and the U.S. Army Corps of Engineers (ACOE), which incorporate an analysis of on-site vegetation, soils, and hydrology to determine the presence or absence of jurisdictional wetlands. Where jurisdictional wetlands were found to exist, ACES identified their boundaries on a recent aerial photograph of the site. The likelihood of protected species habitation was determined by identifying the various vegetative communities and habitat types currently present on the site and referencing these against standards and indicators used by the Florida Fish and Wildlife Conservation Commission (FWC) and the U.S. Fish and Wildlife Service (USFWS). Following is a presentation of our findings.

Soil Types

The USDA Natural Resource Conservation Service (NRCS) identifies two soil types on the site (see Figure 3). Soil maps are used by the environmental regulatory agencies as a general guideline to determine the likelihood of wetland and upland conditions on reviewed properties; soils more commonly associated with wetland conditions potentially indicate areas of lower elevation and greater surface hydrology, whereas soil types that are more commonly associated with uplands are expected to exhibit fewer or no wetland characteristics. Potentially hydric (i.e., wetland) soil types are listed in the *Hydric Soils of Florida Handbook* (Victor W. Carlisle, et al., 2007).

It should be noted that the original USDA soil survey of Brevard County was completed in 1974, and still remains the basis of the existing NRCS soils data; no new comprehensive field data has been generated for Brevard County since 1974. Due to this data gap, it is not uncommon for historical land uses, adjacent development, and drainage alterations to affect surface soils to the point where they might no longer reflect the conditions that were mapped in 1974.

ACES sampled soil types on the subject property by excavating cylindrical soil plugs from the surface, and assessing the soil profiles and characteristics of each plug. Following are brief descriptions of the soil types that are mapped on the subject site, compared to our observations of current soil conditions.

Immokalee Sand, 0 to 2 Percent Slopes – NRCS Code No. 28: This is a nearly level, poorly drained sandy soil in broad areas in the flatwoods, on low ridges between sloughs, and in low, narrow areas between sand ridges and lakes/ponds. In most years, the water table is within a depth of 10 inches for 1 to 2 months. It is between 10 and 40 inches more than half the time, and during short, dry periods it is below 40 inches. It is not listed as a hydric soil by the *Hydric Soils of Florida Handbook*.

This non-hydric soil type is mapped within the southeast portion of the site. Soils in this area are composed of non-hydric fine sand imbedded with small sandy organic bodies, which is consistent with the mapped soil type.

Paola Fine Sand, 0 to 8 Percent Slopes – NRCS Code No. 43: This is an excessively drained fine sand found in sandy soils on ridges and dunes of xeric uplands. The water table is typically more than 80 inches below the surface. This upland soil type is not listed in the *Hydric Soils of Florida Handbook.*

This soil type is mapped within the remainder of the surveyed area. Soils in this part of the property are consistent with the mapped soil type, being composed of non-hydric clean fine sand.

Thus, our observations of soils on the site correspond well with the NRCS map, with all on-site soils being composed of non-hydric sand.

Community Types

Using the Florida Land Use, Cover and Forms Classification System (FLUCFCS) as a guideline, ACES categorized the natural communities and land uses on the subject parcel according to FLUCFCS designations and code numbers. Figure 4 depicts the FLUCFCS categories that are present on the property. These are:

Herbaceous – FLUCFCS Code No. 310: This non-forested upland community is present in a small open area near the west and of the site, as well as a small lobe that extends onto the site near the southeast property corner. The total area occupied by this community is estimated at 0.18 acre. It consists of upland and mesic herbaceous species, including silk grass, broomsedge, gopher apple, Spanish needles, St. Augustine grass, scrub lupine, carpet grass, dog fennel, and St. Andrews wort. All soils are non-hydric, and no wetland hydrologic indicators were observed.

Pine Flatwoods – FLUCFCS Code No. 411: This forested upland community is present along the entrance easement and the northeast corner of Parcel 40.10, covering approximately 0.43 acre. It contains a canopy of slash pine and Brazilian pepper over a midstory of winged sumac, hog plum, and scattered saw palmetto. The ground cover consists mainly of a thick blanket of southern fox grape that envelops most of the ground and midstory, with components of Spanish needles, Bahia grass, Boston fern, and crab's eye. Underlying soils are non-hydric, and no wetland hydrologic indicators are present.

Hardwood-Conifer Mixed – FLUCFCS Code No. 434: This forested upland community exists across the remaining +/-1.74 acres of the site. The canopy includes slash pine, sand live oak,

myrtle oak, and turkey oak, with winged sumac, saw palmetto, deerberry, and red bay occupying the midstory. The ground cover is composed of southern fox grape, pawpaw, gopher apple, and silk grass. Soils are non-hydric, and no wetland hydrologic indicators were observed.

Wetland Considerations

The entire site consists of uplands, with no wetlands present. As such, site development will not require the acquisition of wetland permits or mitigation.

Protected Species

On the date of our site assessment, ACES assessed the property for any indications of habitation by protected wildlife species. This included examining the property for direct visual and auditory evidence of protected species themselves, as well as assessing the site for the presence of secondary indicators, such as burrows, nests, nesting cavities, scat, tracks, trails, bird rookeries, etc. Following is a discussion of the potential of the site to support protected species.

Gopher Tortoises: The property contains suitable habitat for gopher tortoises, which are protected by FWC as a Threatened species. Suitably-drained upland soils (necessary for tortoise burrowing), open sunlit areas (suitable for tortoise nesting) and herbaceous species (suitable for tortoise forage) are present to some degree across the entire site. Gopher tortoise burrows are classified as "Abandoned" (collapsed, choked with debris, or otherwise uninhabitable) or "Potentially-Occupied" (any burrow that is not Abandoned). Three Potentially-Occupied tortoise burrows and one Abandoned burrow were observed during our site inspection (see Figure 4). Since the preliminary inspection does not include completing a formal comprehensive gopher tortoise survey of the entire property, it stands to reason that there are other tortoise burrows on the property. Based on the extent of our observations, our current expectation is that the on-site density of this species is moderate, with probably not more than five gopher tortoises on the site.

Any Potentially-Occupied tortoise burrows that exist within 25 feet of the limits of proposed site construction or land clearing are at risk of being disturbed or destroyed. Such burrows need to be permitted for excavation, with any resident extracted tortoises either relocated on-site or off-site. If tortoises must be removed from harm's way, a tortoise relocation permit will need to be obtained from FWC. Since the burrows we found are located either on the entrance easement or near the center of the site, we expect that at least these burrows will need to be permitted for excavation, and the resident tortoise(s) relocated either on-site or off-site. An on-site relocation permit will allow affected tortoises to be excavated from their burrows and relocated onto a pre-approved portion of suitable on-site tortoise habitat that is intended to remain in its natural condition. An off-site relocation permit authorizes affected tortoises to be excavated and moved from the site to an FWC-permitted tortoise recipient site elsewhere. The costs for off-site tortoise relocation include a $1,400/tortoise relocation fee (provided to the owner of the property that the tortoises are moved to, to fund long-term monitoring and habitat maintenance costs). This fee does not apply to tortoises that are relocated on-site.

The excavation of tortoise burrows requires a backhoe, a backhoe operator experienced in gopher tortoise burrow excavation, at least one FWC-permitted Gopher Tortoise Agent, and an assistant. In general, the costs associated with tortoise surveying, permitting, and mitigation for this site are as follows: (for purposes of discussion, we have made a few assumptions: 1.4 acres of clearing/construction, eight Potentially-Occupied burrows to excavate, and four tortoises captured and relocated):

On-Site Tortoise Relocation:

- Formal gopher tortoise survey of the property: $950.00
- Preparation and submittal of tortoise permit application to FWC: $450.00
- FWC permit fee for 10 or fewer affected tortoise burrows: $220.00
- Tortoise excavation: $350/burrow (assuming 8 burrows, $2,800)
- Silt fence installation: $1.75/linear foot of silt fence boundary around the area of site improvements, to exclude relocated tortoises from construction activity. For this site, approximately 1,400 linear feet of silt fence are expected, for a cost of around $4,200.00.
- Hay bales to span a 20-foot wide entrance gap in the silt fence boundary, at the north end of the access easement (bales are replaced at the end of each workday to prevent encroachment of relocated tortoises): $75.00

Total Estimated On-Site Relocation Costs (assuming 1,400 linear feet of silt fence and 8 burrows excavated): approx. $8,695.00

Off-Site Tortoise Relocation:

- Formal gopher tortoise survey of the property: $950.00
- Preparation and submittal of tortoise permit application to FWC: $450.00
- FWC permit fee for 10 or fewer affected tortoise burrows: $220.00
- Tortoise excavation: $350/burrow (assuming 8 burrows, $2,800)
- Fee of $1,400 per tortoise due to the property owner receiving the tortoises (covers long-term habitat maintenance and monitoring costs); for an estimated four tortoises, the total fee is expected to be $5,600.00.
- After Action Report (submitted to FWC after the relocation): $50.00

Total Estimated Off-Site Relocation Costs (assuming 8 burrows excavated and 4 tortoises relocated): approx. $10,070.00

As stated, to determine how many burrows will be affected, a formal tortoise survey of the property must be completed. The data obtained from this survey will determine where all the burrows are and how much the total tortoise permitting and relocation package will cost.

Bald Eagle (*Haliaeetus leucocephalus*): No recorded bald eagle nests exist within at least 1.5 miles of the subject site, and no eagle nests, nesting habitat, or eagle activity were observed on the site. Therefore, it is not expected that potential impacts to this species will need to be addressed prior to site development.

Florida Scrub-Jay (*Aphelocoma coerulescens*): Florida scrub-jays are listed as Threatened by USFWS and FWC. Scrub-jays prefer low-growing scrub habitat with at least 20% cover of scrub oak species, patches of open sandy areas, and few canopy trees (which are used by predatory hawks for cover). At least 12 acres of suitable scrub habitat is necessary to support a nesting pair of this species. Although scrub oaks and open sandy areas are present on this site, the habitat on and around the property is too heavily overgrown and contains too many tall pines to be considered optimal for scrub-jays. Furthermore, vicinity habitat that might have existed in the area in the past has been cleared and developed to the extent that currently, at least 50 percent

of the land within an 0.25-mile radius of the site is now occupied by homes, industrial land, and transportation corridors. No scrub-jays were seen or heard on the subject site or vicinity during our site inspection. It is our professional opinion that suitable/sufficient scrub-jay habitat is not present on or in the vicinity of the subject site, and that Florida scrub-jays are not at risk of being adversely affected by the proposed project.

Eastern Indigo Snake (*Drymarchon corais couperi*): Indigo snakes exist in a very wide variety of Florida native habitats, from flatwoods to marshes to xeric scrub, and range over a wide area, typically utilizing gopher tortoise burrows for shelter. No indigo snakes or their signs were observed during our site inspection. Barring direct sighting of this species, no special permits for potential impacts to it are expected to be required.

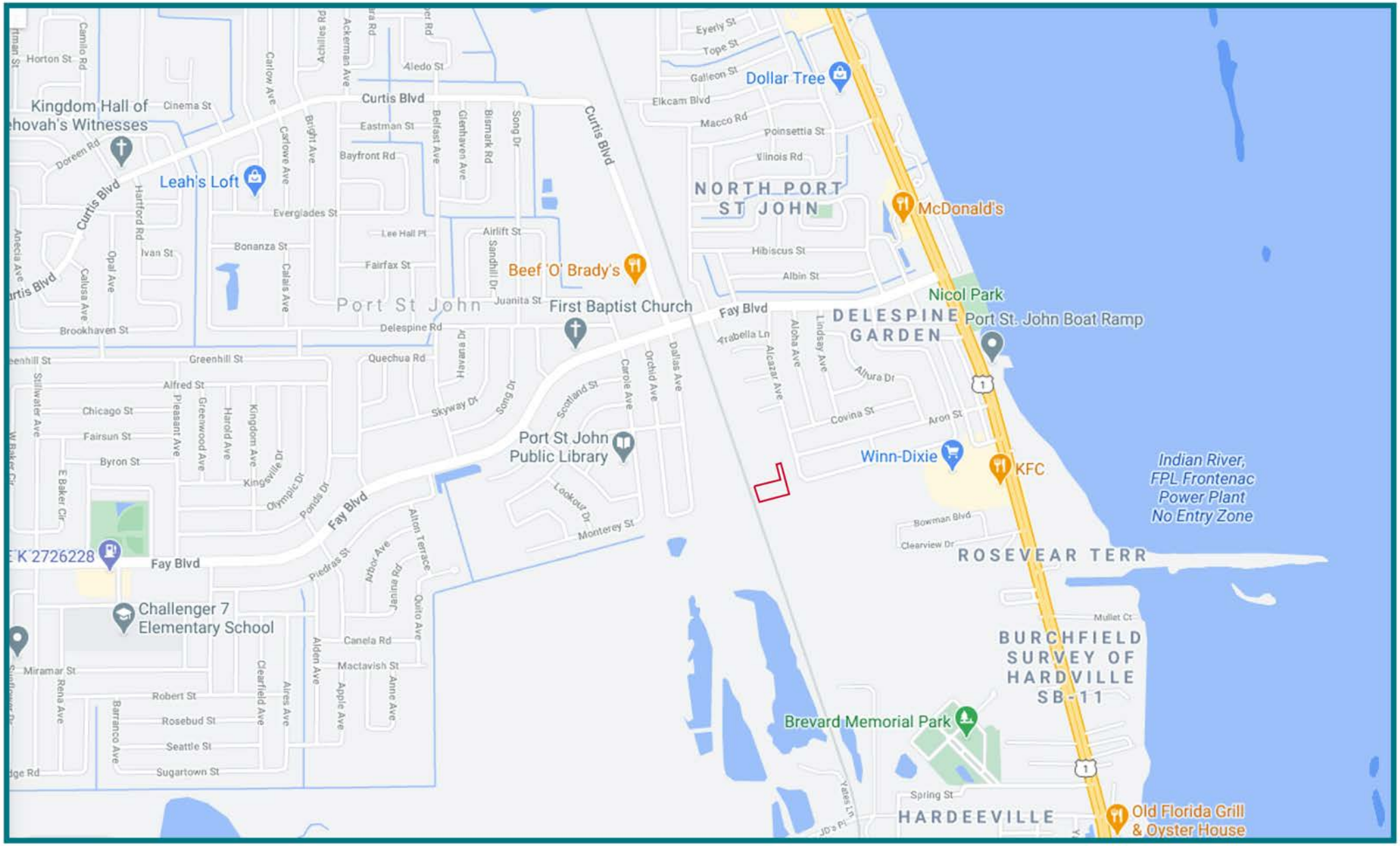
No other listed species or listed species habitats were identified on the site. It is thus our determination that gopher tortoises are the only listed species that might be impacted by site development.

Summary and Conclusion

ACES has completed an environmental assessment of 780 Alcazar Avenue and its associated access easement. It is our determination that no wetlands are present on the site. Evidence of protected gopher tortoises was found, and a formal gopher tortoise survey of the site will need to be conducted to determine how many tortoise burrows will be affected. If you have any questions or are in need of any further information, please do not hesitate to contact our office.

Sincerely,

Andrew Conklin – President, ACES, LLC



Source: Google Maps

Fig. 1 - Location Map

ACES File No. 20151 - 780 Alcazar Lane

- Subject Site

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Source: Brevard County Property Appraiser

ACES, LLC

Fig. 2 - Aerial Site Photograph

ACES File No. 20151 - 780 Alcazar Lane

- Subject Site

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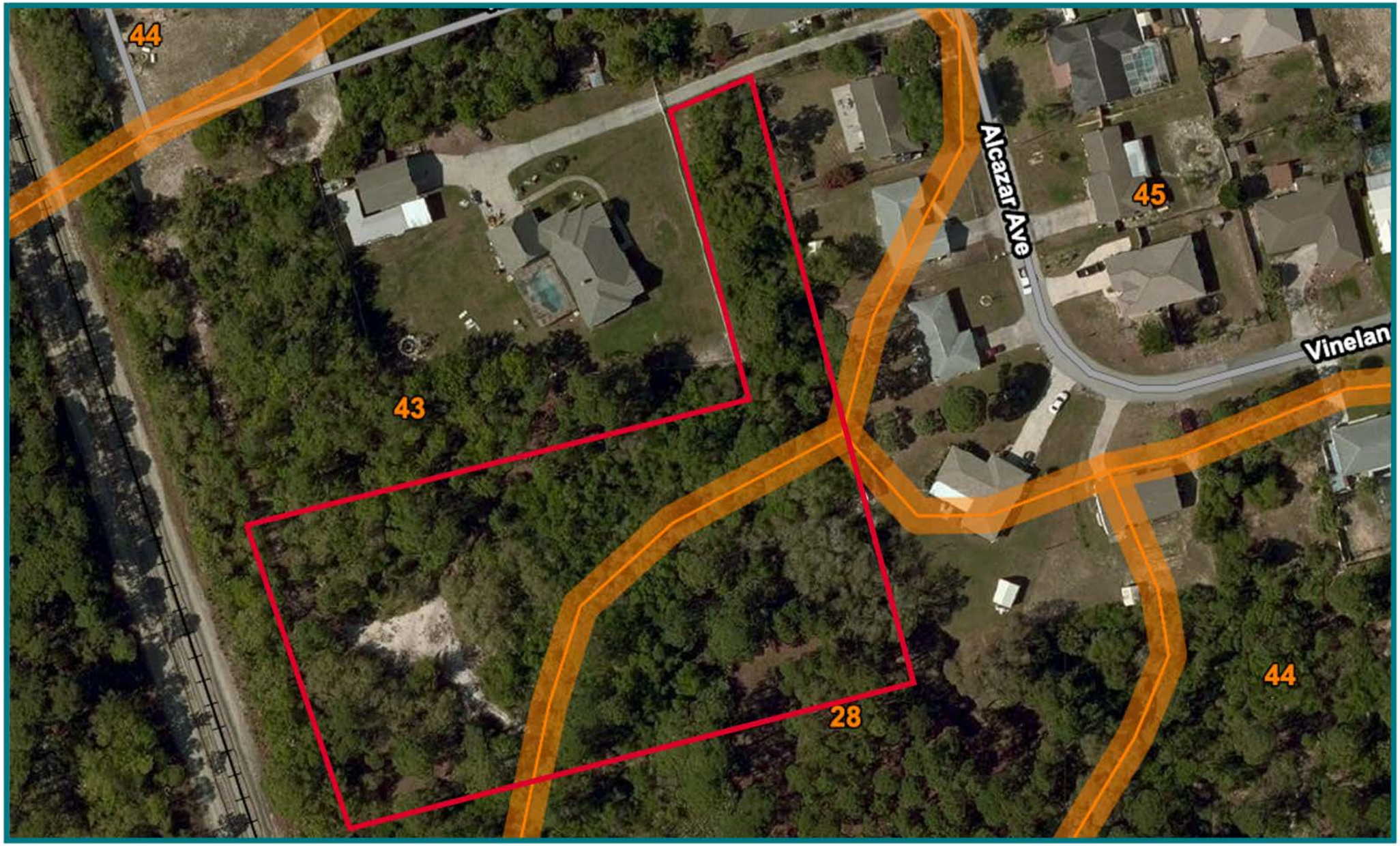

Source: USDA Natural Resources Conservation Service (NRCS)

ACES, LLC

Fig. 3 - NRCS Soils Map

ACES File No. 20151 - 780 Alcazar Lane

- Subject Site
- NRCS Soil Type Boundaries

28 - Immokalee Sand, 0 to 2 Percent Slopes
43 - Paola Fine Sand, 0 to 8 Percent Slopes

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Source: Brevard County Property Appraiser
Codes referenced to the Florida Land Use Cover and Forms Classification System (FLUCFCS); site assessment conducted by ACES, LLC on December 14, 2020

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Fig. 4 - Environmental Survey Map

ACES File No. 20151 - 780 Alcazar Lane

- Subject Site
- FLUCFCS Community Boundaries
- Potentially-Occupied Gopher Tortoise Burrow
- Abandoned Gopher Tortoise Burrow

310 - Herbaceous
411 - Pine Flatwoods
434 - Hardwood-Conifer Mixed

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