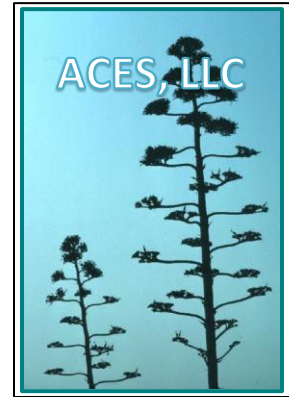


Andrew Conklin Environmental Services, LLC

Integrating Successful Development and Environmental Integrity

P.O. Box 500407, Malabar, Florida, 32950

Phone:(321)848-1143 Fax:(321)676-4651 acesllc7@gmail.com



September 27, 2019

Mr. Robert Dubinski
420 E. 57th St., #207
Loveland, Colorado 80538

Re: Parcel No. 23-36-26-00-2, Judson Road, Merritt Island, Florida
ACES File No. 1971

Dear Mr. Dubinski,

Andrew Conklin Environmental Services, LLC (ACES) has completed a review of environmental issues associated with the above-referenced ±19.68-acre property. 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 September 12, 2019, 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), the U.S. Army Corps of Engineers (ACOE), and the Brevard County Natural Resources Management Office (NRMO), all of 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 three 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.

Riviera Sand, 0 to 2 Percent Slopes – NRCS Code No. 19: This soil type is a poorly drained sandy soil formed from sandy and loamy marine deposits. It is typically found in depressional sloughs on flats of hydric or mesic lowlands. The water table is typically within 12 inches of the surface, rising to or above the surface in wet periods or heavy rains. The *Hydric Soils of Florida Handbook* list this as a hydric soil in all areas in which it is mapped.

This hydric soil type is mapped in a meandering polygon that extends along part of the eastern site boundary. Except for the elevated spoil berm that runs along the west bank of the north/south ditch (see Figure 4), all soils within this polygon are hydric, either due to perennial inundation (within the ditch system itself) or near-constant saturation.

Riviera and Winder Soils – NRCS Code No. 20: This is a nearly level, poorly drained sandy soil formed from sandy and loamy marine deposits. It is typically found in flats of hydric or mesic lowlands. The water table is normally within 12 inches of the surface. The *Hydric Soils of Florida Handbook* list this as a hydric soil in 95 percent of the areas in which it is mapped.

This wetland soil type is mapped as an amorphous polygon that dominates the eastern half of the site. Most of the soils observed within the mapped polygon are consistent with the mapped soil type, being composed of muck, mucky-textured sand, or sand imbedded with heavy concentrations of large mucky organic bodies. Some exceptions to this exist in two isolated low natural rises, and on spoil berms that run along the east and south ditches; in these areas, the hydric soil indicators drop out. The actual current extent of hydric soils on the site generally corresponds with the location of on-site wetlands, as shown on Figure 4.

Riviera and Winder Soils, Depressional – NRCS Code No. 21: This is a nearly level, very poorly drained sandy and loamy soil found on stream terraces, floodplains, or in depressions. The water table is typically at or above the surface. The *Hydric Soils of Florida Handbook* list this as a hydric soil in all areas in which it is mapped.

This soil is mapped within the western half of the site. Except for elevated soils that run in a thin strip directly along the western site boundary, all soils within this mapped polygon are hydric, being composed of perennially inundated or saturated muck.

Thus, our observations of soils on the site correspond mostly with the NRCS map, with most soils qualifying as hydric.

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 communities that are present on the property. These are:

Herbaceous – FLUCFCS Code No. 310: This non-forested upland community is found in a narrow elevated strip along the extreme western boundary of the site, within the grassy swath that separates Judson Road from the large drainage ditch. Vegetation consists of maintained upland grasses and herbaceous species growing over non-hydric sandy soil, with no wetland hydrologic indicators noted. Approximately 0.39 acres of this community exists on the site.

Temperate Hardwoods – FLUCFCS Code No. 425: This forested natural upland community is found in two areas near the southeastern site corner. The southern area is estimated at 0.20 acres, and the northern area is estimated at 0.18 acres. Both areas contain a canopy of live oak, cabbage palm, Brazilian pepper, and scattered slash pine over a midstory of saw palmetto. The southern area has a ground cover of St. Augustine grass. Underlying soils consist of non-hydric sand imbedded with small sandy organic bodies. Some mild base-buttressing of hardwoods is evident along the outer regions of these areas, but otherwise, no wetland hydrologic indicators were noted.

Streams and Waterways – FLUCFCS Code No. 510: This category is assigned to the man-made ditches that exist along the east and west boundaries of the site. The ditches are inundated year-round. Because the ditches were excavated within wetlands, and are flanked by wetlands on at least one side, they are regulated as part of the wetland system in which they exist. An estimated total area of 1.80 acres of ditches exist on the site.

Lakes Less Than 10 Acres – FLUCFCS Code No. 524: This category refers to an isolated area of deeper water that is imbedded within the herbaceous marshes in the east central portion of the site, occupying approximately 0.37 acres. Some emergent wetland species, such as sawgrass and buttonbush, are scattered around the perimeter. This feature is almost always inundated, and so is expected to be underlain by deposits of muck soil.

Wetland Hardwood Forests – FLUCFCS Code No. 610: This forested wetland community dominates the southwest corner of the site, and also exists in a narrow strip along the southwest flank of the eastern spoil berm, in a wedge-shaped area northeast of the Freshwater Marsh community (see below), and in a small area imbedded within the Exotic Wetland Hardwoods community (see below). The total area occupied by this community on the property is estimated at 3.71 acres. The main portion of this community contains a mixed canopy of live oak, laurel oak, cabbage palm, and scattered slash pine, and the three smaller areas are mainly occupied by cabbage palm and Brazilian pepper. Midstory vegetation contains wax myrtle and white mangrove, and the ground cover includes swamp fern, water hyssop, leatherfern, and climbing hempweed. Underlying soils are hydric, being composed of saturated soils imbedded with large mucky organic bodies.

Mangrove Swamp – FLUCFCS Code No. 612: This wetland community dominates the western half of the site, covering approximately 5.54 acres. It contains a dense mixture of black mangrove, white mangrove, Brazilian pepper, and scattered cabbage palm over leatherfern and black needlerush. Soils are hydric, being composed of muck, and hydrologic indicators show that this community is inundated or saturated year-round.

Exotic Wetland Hardwoods – FLUCFCS Code No. 619: This forested wetland community exists within the northeastern portion of the site, occupying \pm 3.04 acres. It contains an

extremely dense cover of Brazilian pepper, with some cabbage palm and leatherfern over mucky soils and constantly inundated/saturated conditions.

Freshwater Marsh – FLUCFCS Code No. 641: This non-forested wetland community occupies approximately 2.93 acres of the central portion of the site. It is dominated by wetland shrubs and herbaceous species, including sawgrass, black needlerush, buttonbush, and leatherfern, with widely scattered cabbage palm, white mangrove, and Brazilian pepper. Underlying soils are composed of muck, and this community is inundated or saturated year-round.

Wet Prairie – FLUCFCS Code No. 643: This non-forested wetland community exists along the eastern property boundary in lobes that are bisected by the eastern ditches. It is dominated by a dense cover of torpedo grass (a wetland grass), and studded with clusters of Brazilian pepper, wax myrtle, and cabbage palm. Although soils were not observed on the survey date, they are expected to be hydric, consisting of mucky textured sand and/or sand imbedded with large mucky organic bodies. This community is likely saturated to the surface for most of the year. The total area of this community on the property is estimated at 0.89 acres.

Spoil Areas – FLUCFCS Code No. 743: This man-made upland feature is present in the form of elevated spoil berms that border the eastern ditch and most of the southern property boundary. The eastern berm covers approximately 0.51 acres, and the southern berms occupy a total of about 0.12 acres. The berms average between 15 and 20 feet wide. They contain a mixed canopy of cabbage palm, Brazilian pepper, red cedar, and slash pine over a midstory of wax myrtle and saltbush, and a ground cover of Johnson grass, wild coffee, poison ivy, southern fox grape, St. Augustine grass, Spanish needles, and wiregrass. Underlying soils are composed of a mixture of loamy fine sand and marl (non-hydric soils), and wetland hydrologic indicators were not observed.

Thus, the subject site contains a total of approximately 1.40 acres of uplands and 18.28 acres of wetlands. Much of the uplands exist in narrow linear formations that will not fully accommodate single-family residential development. Following is a discussion of the likely course of action that will need to be taken if the site is sought for development.

Wetland Considerations

All topographical alteration or construction within wetlands is prohibited without the appropriate permits from DEP, ACOE, and NRMO. Any time an applicant proposes to conduct work within wetlands, it must first be demonstrated that there is no way to accomplish the development goals without impacting wetlands. Because none of the upland areas are sufficient to accommodate a single-family home, and since the most likely access point is from Judson Road, the wetland regulatory agencies will recognize the unavoidable need to impose wetland impacts for the purpose of constructing a single-family home or homes on this site.

Figure 5 depicts a possible site layout showing how three potential residences could be situated on the site, while attempting to minimize wetland impacts by connecting to as many of the available upland areas as is practicable. This configuration is thought to be a reasonable expectation of what can be permitted for this property; however, the wetland regulatory agencies have the final say as to what they think is reasonable and permissible. Following is a summation of the applicable wetland

regulations imposed by the regulatory agencies, using the scenario depicted in Figure 5 as a basis for our discussion.

DEP: DEP requires single-family residential applicants to show that they have taken all reasonable measures to avoid or minimize impacts to wetlands on their site plans. For single-family residential lots that were platted prior to July 1, 1994, DEP will permit up to 4,000 square feet of unavoidable wetland impacts without mitigation, but only if the affected wetlands are isolated (not hydrologically connected to other wetlands or surface waters) and less than 0.5 acres in size. Since the wetlands on this site are part of a larger wetland area that extends off-site and is greater than 0.5 acres, any wetland impacts on this site will need to be mitigated for. Wetland mitigation typically consists of sufficient preservation and improvement of on-site and/or off-site wetlands so that the net environmental benefit of the mitigation offsets the environmental loss of the impacts. DEP prefers that mitigation be done by purchasing credit at a DEP-permitted wetland mitigation bank, since such mitigation is more secure and able to be sustained in perpetuity; however, DEP is open to reviewing mitigation plans that utilize on-site wetland improvement/preservation.

For this site, the most efficient means of providing wetland mitigation is to purchase credits at a mitigation bank. Currently, the subject site falls into the service area of only one mitigation bank, Neo Verde Mitigation Bank (NVMB). NVMB has just been permitted to sell both state and federal wetland mitigation credits. NVMB charges \$220,000 per unit of Functional Gain, as determined using the Uniform Mitigation Assessment Method (UMAM). UMAM is a method of assessing and calculating environmental losses (Functional Loss, or FL) and environmental gains (Functional Gain, or FG). Wetlands proposed for impact are assigned a specific FL via a set of standardized evaluations and calculations; whatever the total FL is for a particular project, the proposed mitigation (assessed in units of FG) must be of equal or greater value.

The wetlands that are most likely to be impacted on the site are considered to be of low to moderate quality. Under the hypothetical scenario depicted in Figure 5, the average unit of FL per acre of wetland impact is expected to be about 0.55. Therefore, the cost to mitigate using credits from NVMB is currently estimated at \$32,670 for Parcel "A" (0.27 acres of impact x 0.55 x \$220,000 = \$32,670), \$25,410 for Parcel "B" (0.21 acres of impact x 0.55 x \$220,000 = \$25,410), and \$30,250 for Parcel "C" (0.25 total acres of impact x 0.55 x \$220,000 = \$30,250).

Additional costs associated with wetland permitting through DEP include application fees, application preparation and submittal, stormwater engineering, and ongoing coordination with DEP during the permit review process, a total of about \$5,000 per parcel. The process necessary to apply for and obtain a DEP permit for this site is estimated to take between two to four months.

ACOE: The Army Corps will also require a federal permit for the project, since the affected wetlands are under federal jurisdiction. Mitigation credits purchased to satisfy DEP (mitigation bank purchase) will also address the Corps' requirements. The Corps may impose additional permitting components to satisfy its permit review process, such as response to public comments, etc., which is likely to add another \$1,500 per parcel to the permit preparation and processing fees. The expected permitting time frame is similar to DEP's, but may take longer due to the additional requirements of the federal review process.

NRMO: For single-family properties that are greater than 5.0 acres in size, NRMO will allow wetland impacts, provided they meet the same impact avoidance and minimization criteria used by the state and federal governments. If a DEP-approved mitigation plan has been permitted by the state, the county will not require additional mitigation beyond that required by DEP. However, the county will require each property owner to commit in writing to eradicating exotic species (i.e., Brazilian pepper) on their property.

For planning purposes, at this time we believe it is prudent for a site developer to budget about \$30,000 for wetland mitigation and \$6,500 for permitting costs and fees, per parcel. Additional expenses, such as land surveying, soil boring analysis, demucking, and fill import are not in our purview to estimate, but such costs are expected to be substantial.

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. Although several species of protected wading birds (sandhill crane, wood stork, white ibis, great blue heron, greenbacked heron, tricolored heron, snowy egret, etc.) are expected to use the Wet Prairie and/or Freshwater Marsh communities on the site for transitory foraging purposes, no rookeries for these species were observed on the site, and no impacts to these non-forested wetland communities are proposed. Finding no evidence of listed species occupation of the site, it is our determination that site development is unlikely to adversely affect any protected species of wildlife.

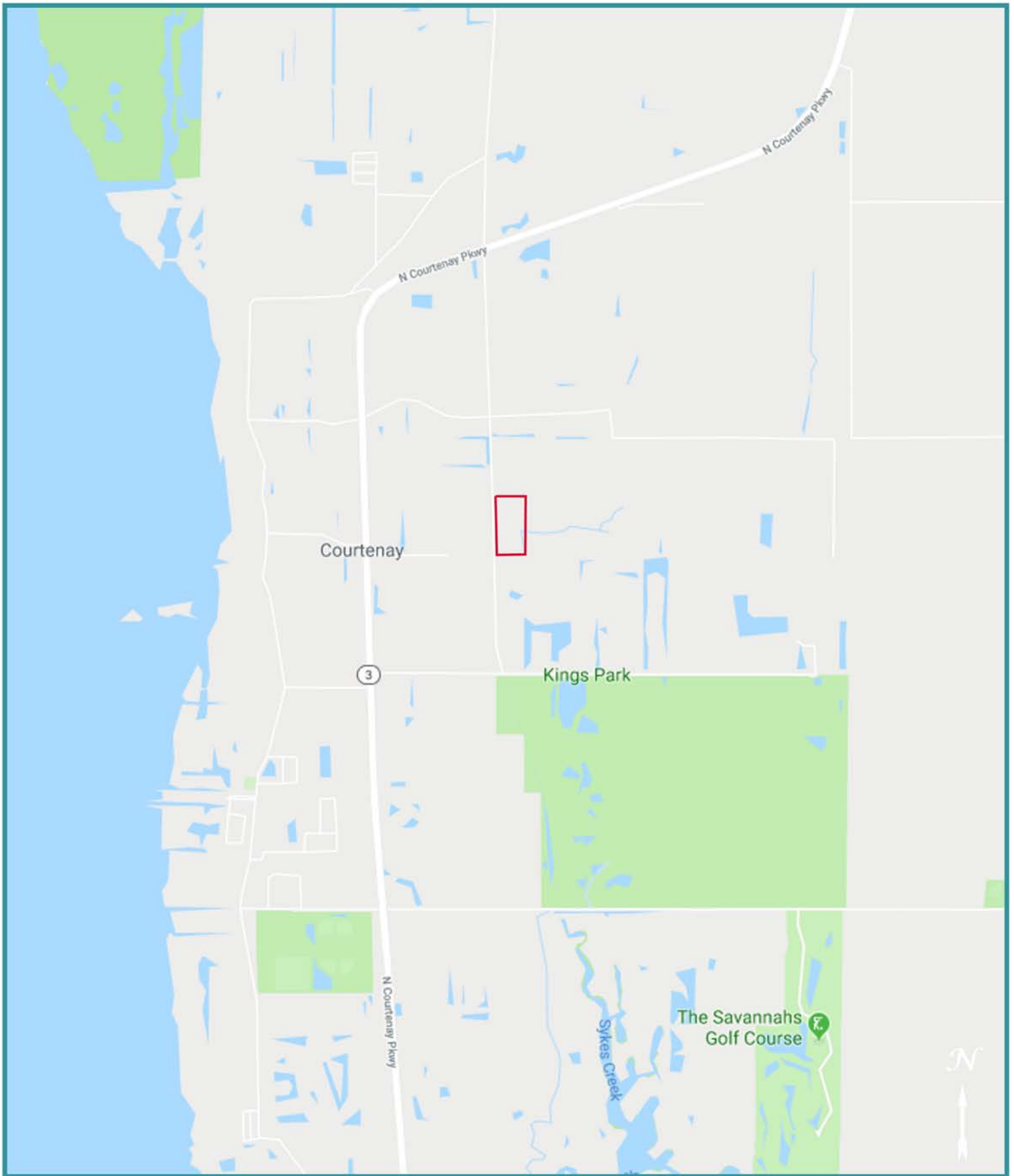
Summary and Conclusion

ACES has completed an environmental assessment of Parcel No. 23-36-26-00-2 on Judson Road in Merritt Island, Florida. It is our determination that the property consists primarily of wetlands. However, there are mechanisms by which justifiable wetland impacts can be permitted by DEP, ACOE, and NRMO. We believe it is possible to reconfigure the property into three developable parcels and design access and house pad locations to utilize available uplands and minimize wetland impacts. We expect that each parcel will incur approximately \$30,000 in wetland mitigation costs and \$6,500 in wetland permitting costs and fees. Special permits for potential impacts to listed species are not expected to be required for this site. ACES is able to provide all additional environmental services that may be required, including wetland delineation, wetland permitting, and wetland mitigation planning, and will gladly submit our proposal for these services upon request. In the meantime, 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



Figure 1 - Location Map
ACES File No. 1971 - Dubinski Site, Judson Road

 - Property Boundary

PO Box 500407, Malabar, FL 32950 Phone: (321) 848-1143 Email: acesllc7@gmail.com



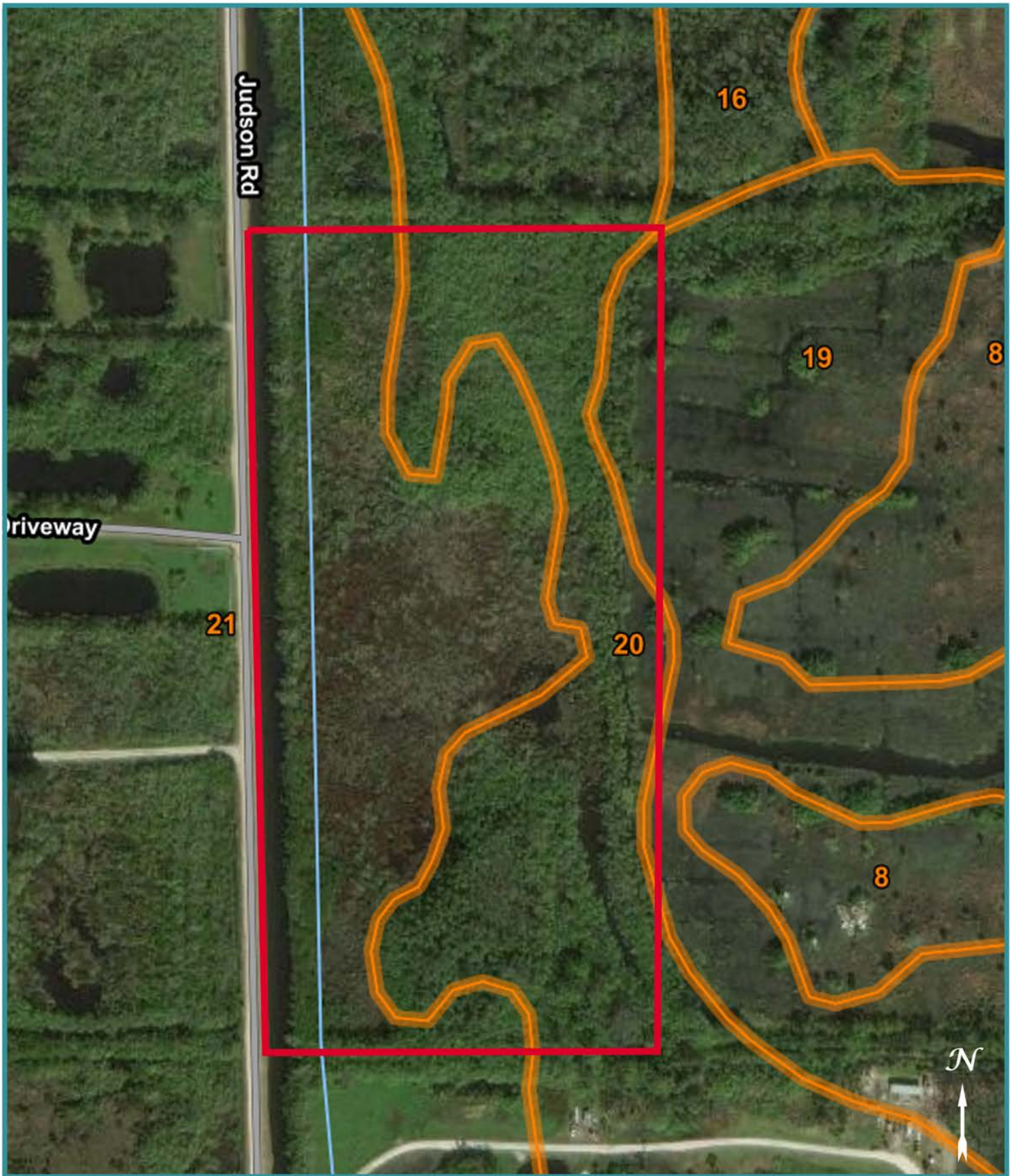
Source - Brevard County Property Appraiser



Figure 2 - Aerial Site Photograph
ACES File No. 1971 - Dubinski Site, Judson Road

 - Property Boundary

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Source - USDA Natural Resources Conservation Service (NRCS)



Figure 3 - NRCS Soils Map

ACES File No. 1971 - Dubinski Site, Judson Road

 - Property Boundary

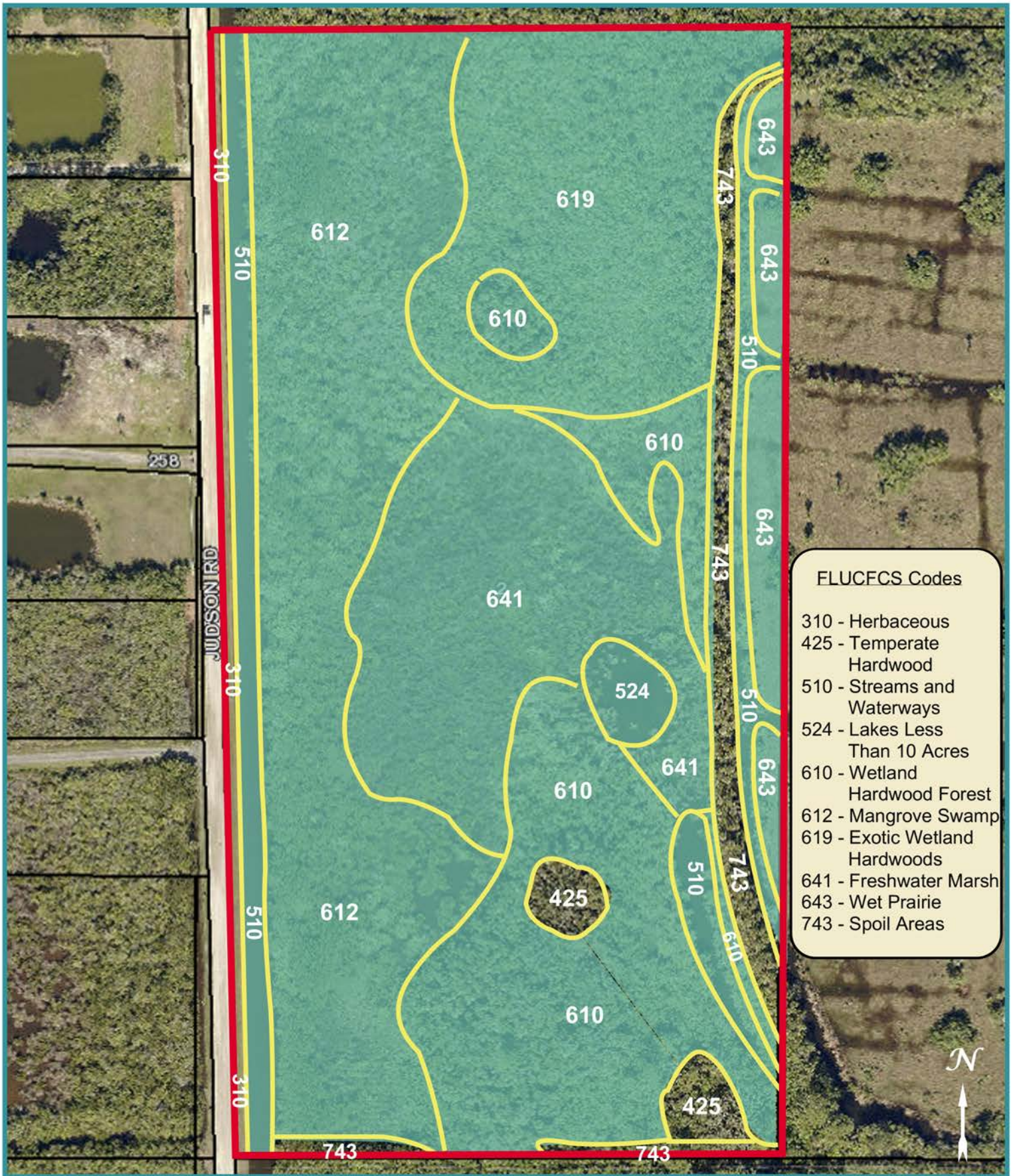
 - NRCS Soil Type Boundaries

19 - Riviera Sand, 0 to 2 Percent Slopes

20 - Riviera and Winder Soils

21 - Riviera and Winder Soils, Depressional

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Source - Brevard County Property Appraiser
 Codes referenced to the Florida Land Use Cover and Forms Classification System (FLUCFCS)

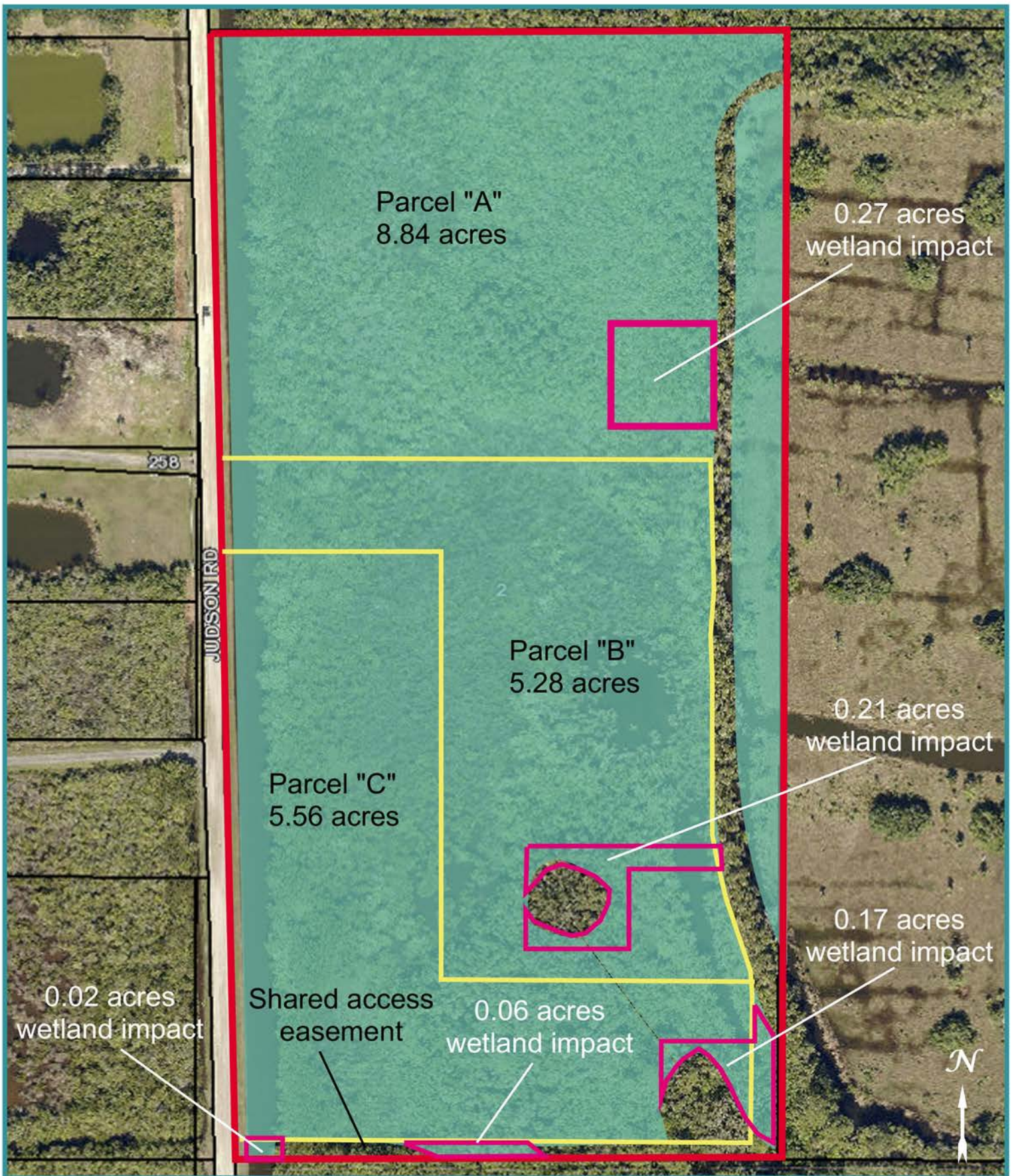


Figure 4 - Environmental Survey Map
ACES File No. 1971 - Dubinski Site, Judson Road

- Property Boundary - FLUCFCS Community Boundaries

- On-Site Wetlands, ±18.25 Acres Total

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Source - Brevard County Property Appraiser



Figure 5 - Potential Layout Map
ACES File No. 1971 - Dubinski Site, Judson Road

Property Boundary

Area of Wetland Impacts

On-Site Wetlands, ±18.25 Acres Total

Parcel Boundaries

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