RANGE ROAD
BREVARD COUNTY, FLORIDA

ENVIRONMENTAL SUPPORT DOCUMENT

Prepared For:

St. Johns River Water Management District
Palm Bay Office
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May 2022

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ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

ENVIRONMENTAL SUPPORT DOCUMENT

RANGE ROAD SUBDIVISION
BREVARD COUNTY, FLORIDA

1.0 INTRODUCTION

The ±57.23-acre Range Road property is located immediately east of N Range Road, west of E Stetson Circle, and north of Kathi Kim Street in Cocoa, Florida. More specifically the project site is located in Section 19 & 30, Township 24 South, and Range 36 East in Brevard County, Florida (Figure 1).

The subject property consists of mostly forested habitat. There is a dirt roadway through the center of the property. Two large wetland systems are present within the property boundary as well as a man-made ditch and three additional small wetlands.

The purpose of this application is to obtain a permit for wetland impacts associated with a residential development and stormwater management system consisting of three stormwater ponds.

This application is based on the attached site plan (Appendix C). The total project area is 57.23 acres, with wetlands totaling 27.5694 acres and a surface water totaling 0.76 acres. Five wetlands are present onsite and are located throughout the property with the largest systems on the eastern half of the property. There is an onsite ditch that runs through the middle of the project site.

Proposed wetland impacts total 0.7646 acres and consists of four impact areas. Three of the impact areas are to isolated wetlands less than 0.5 acres. Approximately 0.48 acres of surface waters will also be impacted however the water flow will remain through underground piping. As compensation for the remaining impact, the applicant proposes to purchase mitigation bank credits. Figure 6 depicts the proposed wetland impacts.

This project site is within the Southern St. Johns River hydrologic basin.

The project site was reviewed to determine the geological features of the landscape (e.g., soils and topography), to identify the remaining vegetative communities that occur within the project boundary, and to determine the occurrence of threatened and endangered flora and fauna within the parcel. The findings and conclusions of these studies are presented within this document.

2.0 SITE CHARACTERISTICS

2.1 TOPOGRAPHY

According to the U.S.G.S. 7.5 Minute Topographic Map, the project site elevations between 15 and 20 feet above sea level (Figure 2). Elevations are fairly uniform with elevations decreasing towards the onsite wetlands and drainage ditch.

2.2 SOILS

Soil composition information for the subject site was obtained from the *Soils Survey of Brevard County, Florida,* United States Department of Agriculture; Soil Conservation Service (Figure 3). Seven (07) soil types lie within the subject site of which, four (04) soil type (Basinger sand, St. Johns sand, Terra Ceia muck, Tomoka muck) are considered hydric.

2.3 VEGETATIVE COMMUNITY ANALYSIS

Pedestrian surveys of the project site were conducted in order to qualitatively document the existing vegetation and to assess the present land use patterns according to th*e Florida Land Use, Cover and Forms Classification System, Department of Transportation* (FLUCFCS; DOT 1999). Six (06) land-use types were determined for the project site. A brief description of each FLUCFCS community is provided below (Figure 4).

420 – Upland Hardwood Forests

Located in the western portion of the project site this is the only upland habitat located on site. This habitat has a dense canopy cover, species observed consist of slash pine (*Pinus elliottii*), laurel oak (*Quercus laurifolia*), live oak (*Quercus laurifolia*), cabbage palms (*Sabal palmetto*), loblolly bay (*Gordonia lasianthus*), and camphor tree (*Cinnamomum camphora*). The shrub layer species include Brazilian pepper *(Schinus terebinthifolia*), American beauty berry (Callicarpa americana), and American elm (*Ulmus americana*). Groundcover species observed were greenbriar (*Smilax rotundifolia*), blackberry (*Rubus fruticosa*), bracken fern (*Pteridium aquilinum*), saw palmetto (*Serenoa repens*), broomsedge (*Andropogon virginicus*), and some cogon grass (*Imperata cylindrica*).

513 – Ditch

Found through the center of the property is a man-made ditch that runs offsite in both directions. Vegetation observed within the ditch and along the edge consists of Brazilian pepper, wax myrtle (*Myerica cerifera*), primrose willow (*Ludwigia peruviana),* soft rush (*Juncus effuses*), and arrowhead *(Sagittaria lancifolia*).

617 – Mixed Wetland Hardwoods

Found in two places in the southern portion of the property this habitat type is heavily forested. Vegetation observed includes Brazilian pepper, beak rush (*Rhynchospora crinipes*), soft rush, wax myrtle, water hyssop (*Bacopa monnieri*), gall berry (*Ilex glabra*), red maple (*Acer rubrum*), swamp fern (*Blechnum serrulatum*), royal fern (*Osmunda regalis*), American elm, poison ivy (*Toxicodendron radicans*), cabbage palm, laurel oak, and cinnamon fern (*Osmunda cinnamomea*).

619 – Exotic Wetland Hardwoods

Adjacent to the onsite ditch this habitat is densely vegetated with Brazilian pepper. Other species observed include swamp fern, cinnamon fern, cabbage palm, and sugar berry.

641 – Freshwater Marshes

The largest wetland habitat type found onsite, is located in the northeastern portion of the property. This habitat is densely vegetated, species observed include giant leather fern (*Acrostichum danaeifolium*), cattails (*Typha spp*.), sawgrass (*Cladium jamaicense*), marsh pennywort (*Hydrocotyle umbellate*), primrose willow, Carolina willow (*Salix carolinianna*), Brazilian pepper, cabbage palm, sugar berry (*Celtis laevigata*), poison ivy, live oak, water oak (*Quercus nigra*), and wax myrtle.

643 – Wet Prairie

Located in the northwest portion of the property is an isolated wetland defined by a low-lying area within the uplands. Vegetation found within this habitat consists of soft rush, blackberry, gall berry, little blue maiden cane (*Amphicarpum muehlenbergianum*), St. john wort (*Hypericum perforatum*), marsh pennywort, and primrose willow.

3.0 THREATENED AND ENDANGERED SPECIES

3.1 METHODOLOGY

Pedestrian and vehicular transects were conducted throughout 100% of the site to assess the occurrence, or potential for occurrence, of flora and fauna listed as threatened, endangered, or as species of special concern by the Florida Fish and Wildlife Conservation Commission (FWC) and the U. S. Fish and Wildlife Services (USFWS). Various resources were employed to assist with the survey. These resources included ArcGIS aerial maps; Florida Natural Areas Inventory and Official Lists of Endangered and Potentially Endangered Fauna and Flora in Florida (FWC).

3.2 Fauna

Approximately 35 species (and sub-species) of birds found in Florida are protected by the FWC and/or the USFWS. For Brevard County, the USFWS federally lists five (5) bird species. No listed birds were observed at this site (Table 1).

Red-cockaded woodpeckers (*Picoides borealis*) are listed as endangered (USFWS) and endangered (FWC). No red-cockaded woodpeckers were observed, and the upland habitat type is not suitable.

There was no open pine flatwood habitat with old-growth pines that characterize RCW nesting and foraging habitat.

Listed wading birds such as limpkin (*Aramus guarauna*), little blue heron (*Egretta caerulea*), tricolored heron (*Egretta tricolor*), white ibis (*Eudocimus albus*) and wood stork (*Mycteria americana*) were not observed. The onsite ditch and wetlands do provide wading bird habitat. Wading birds likely use the interior of the marsh habitat due to the dense vegetation throughout the remainder of the site.

Brevard County contains the Florida scrub-jay (*Aphelocoma coerulescens*) which is listed as threatened by the USFWS.

A 1993 statewide census documented about 4,000 breeding pairs of Florida scrub-jays remaining in Florida, including 374 pairs in mainland Brevard County. In addition, an estimated 850 breeding pairs of scrub-jays are on the Federal lands of Kennedy Space Center, Merritt Island National Wildlife Refuge, and Cape Canaveral Air Force Station. Brevard County's 1993 Florida scrub-jay population was the highest of any county in the state.

The onsite habitat is not suitable for the presence of the Florida scrub jay as there is no scrub habitat available. As previously discussed, the upland habitats are densely vegetated with pine and oak dominated canopy cover and a dense understory of Brazilian pepper.

The survey methodology per the prescribed guidelines established by the USFWS which were adapted from the "Ecology and development-related habitat requirements of the Florida scrub-jay, Florida Game and Freshwater Fish Commission, Nongame Wildlife Program Technical Report No. 8" were reviewed prior to the site visits. No Florida scrub jays were observed, or vocalizations heard.

Bald eagles (*Haliaeetus leucocephalus*) or their nests were observed on the site. Bald eagles are protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. The USFWS has established a 660-foot protection zone around a bald eagle nest.

ECS searched the Audubon's Eagle Watch website to determine if any documented bald eagle nests are within 660 feet of the site. There are no FWC verified nest located on or adjacent to the project site. For current nesting data, ECS also checked with Audubon Eagle Watch which collects bald eagle nesting data for the FWC, no nests were documented on site or nearby.

No other listed raptors such as Southeastern American kestrels (*Falco sparverius paulus*) or Arctic peregrine falcons (*Falco peregrinus tundrius*) were observed on or around the site. There is no foraging habitat for kestrels. No birds were observed on or offsite at the time of the survey.

Florida sandhill cranes (*Grus canadensis pratensis*), a Threatened Species, were not observed within the project boundaries.

About thirty (30) species of Florida's amphibians and reptiles are protected. For Brevard County, the USFWS federally lists eight (8) reptile species. Five ae species of sea turtles which are not of concern for this property. No listed reptile or amphibian species were observed within the project boundaries.

Surveys were conducted throughout the property for gopher tortoises (Gopherus polyphemus), a species listed by the FWC as a Threatened species. No gopher tortoises or their burrows were observed. The property is densely forested with a dense shrub layer. The onsite habitats are considered poor for the gopher tortoise.

Several commensal species associated with gopher tortoise burrows, including the gopher frog (*Lithobates capito*) and eastern indigo snake (*Drymarchon corais couperi*) also receive protection, but were not observed.

Thirty-three (33) mammals are currently protected in Florida. For Brevard County, the USFWS federally lists two (2) mammal species.

ECS searched for the presence of Southern fox squirrels (*Sciurus niger niger*) and the Florida mouse (*Podomys floridanus*) and their possible den or nest sites. The absence of gopher tortoise burrows decreases the likelihood for the Florida mouse.

No mammal species were observed.

3.3 Flora

There were no protected plant species found on the project site (Table 2).

Currently, there are no technical reports available by the state or federal agencies mentioned in this letter report for the survey of the nearly 400 protected plant species. None of the agencies require relocation or mitigation for protected plant species.

The Department of Agriculture and Consumer Services (DACS) designates and regulates plants listed as "endangered", "commercially exploited" and "threatened".

There is no statutory prohibition against a landowner from harvesting an endangered or threatened plant from his property. However, it is unlawful for an individual to harvest an endangered or threatened species from the private land of another or any public land without first obtaining written permission of that landowner and a permit from DACS. Additionally, harvesting three or more commercially exploited plants from the private land of another or any public land will also require a DACS permit.

3.4 REGULATORY REVIEW

U. S. Fish and Wildlife Service

The U.S. Fish and Wildlife Service (USFWS) is the federal agency responsible for protecting the nation's fish and wildlife resources through implementation of the Endangered Species Act of 1973, as amended ("ESA"), 16 U.S.G. 1531-1543. The USFWS has responsibility for terrestrial and freshwater species. In Florida, 104 species are federally listed as threatened and endangered.

Florida Fish and Wildlife Conservation Commission

Article IV, Section 9 of the Florida Constitution authorizes the Florida Fish and Wildlife Conservation Commission (FWC) to "exercise the regulatory and executive powers in the state with regard to the wild animal life and freshwater aquatic life..." The FWC regulates the taking of individuals listed as endangered, threatened, or of special concern and their nests. The FWC also provides technical assistance to other agencies that have regulatory authority over activities, which may affect fish and wildlife and their habitat. The regulatory role of the FWC is currently restricted to protecting animals, not their habitats. However, current FWC policies allow for habitat protection as compensation for the "taking" of individuals of the species. The FWC Office of Environmental Services (OES) provides technical assistance to other agencies that regulate development activities. These agencies include the Department of Community Affairs, the Department of Environmental Protection, the U.S. Army Corps of Engineers, water management districts, regional planning councils and local governments. Currently, the FWC lists 106 species of animals.

Florida Department of Agriculture and Consumer Services

In Section 581.185, F. S., the Florida Legislature delegated to the Department of Agriculture and Consumer Services (FDA) authority to designate and regulate plants listed as "endangered," "commercially exploited" and "threatened." There is no statutory prohibition against a landowner from harvesting an endangered or threatened plant from its own property. It is unlawful for an individual to harvest

from the private land of another or any public land without first obtaining written permission of the landowner and a permit from FDA. Harvesting three or more commercially exploited plants will also require an FDA permit.

4.0 WETLAND ANALYSIS

A total of five wetlands are present onsite as well as a single surface water. The onsite wetlands consist of three different types of wetland freshwater marsh, mixed wetland hardwoods, and exotic wetland hardwoods. There is a large ditch system present through the center of the project site. The onsite wetlands all contained standing water in the center of the wetlands. The hydroperiod of the isolated fluctuates with rainfall and frequently are dry during the winter months. The larger wetland (Wetland 2 and Wetland 3) contains standing water year-round. There are varying amounts of nuisance and exotic species present.

Wetland No. 1 (0.3177 acres), located in the northwestern portion of the property, is of moderate quality and typical of the wetlands found in inner Brevard County. It contained little standing water, with herbaceous hydric soil dependent vegetation. Hydric soils were observed. This wetland is isolated.

Wetland No. 2 (19.323 acres), located along the eastern boundary of the project site, consists of a large portion of a larger wetland that extends offsite to the north and east. This wetland is of moderate quality. Native wetland vegetation was present throughout. Standing water was present.

Wetland No. 3 (7.495 acres), located on the northeastern boundary of the project site, is of moderate quality and typical of the wetlands found in inner Brevard County. It contained standing water, with dense canopy cover of wetland hardwoods. Hydric soils were observed.

Wetland No. 4 (0.2486 acres), located in the southeastern portion of the property, is of low quality and typical of the wetlands found in inner Brevard County. It contained little standing water, with minimal wetland vegetation, this area is a low-lying area where water will pool. Hydric soils were observed. This wetland is isolated.

Wetland No. 5 (0.1851 acres), located in the center portion of the property, is of low quality and typical of the wetlands found in inner Brevard County. It contained little standing water, and densely vegetated with Brazilian pepper. Hydric soils were observed. This wetland is isolated.

Surface water (0.76 acres) is a man-made drainage ditch that runs east / west through the center of the property, between Wetland 2 and Wetland 3. An access trail is present on the south side of the ditch.

All of the wetlands appear to be naturally occurring wetlands, typical of this area.

4.1 IMPACT AVOIDANCE AND MINIMIZATION ANALYSIS

Avoidance and minimization (reduction of wetland impacts) to the onsite wetlands has been achieved by the design of site plan. The largest wetlands (Wetland No. 2 and Wetland No. 3) comprise the entire east half of the property. As a result, the applicant has shifted the proposed development to the west half of the property. Proposed wetland impacts have been limited to the isolated wetlands onsite and a small sliver of Wetland 2. Additionally, the isolated wetlands are the poorest quality wetland habitats located on site. The applicant has avoided the higher quality wetland habitats.

Due to the location of the onsite wetlands, impacts are unavoidable. Proposed wetland impacts to Wetland No. 1 (interior isolated wetland) are necessary for lot development and stormwater pond construction. Due to the limited amount of uplands onsite this impact is unavoidable.

A small impact area is proposed to the southern perimeter of Wetland No. 2. The applicant considered alternative designs to shift interior roads to avoid wetland impacts, however there is no opportunity since there is limited upland habitat on site, and road safety standards and setbacks requirements must be met per City requirements. The proposed cul-de-sac was minimized to avoid additional impacts. The impact is due to providing safe side slopes for the interior "Street A" and will only impact 437 s.f.

The impacts to Wetland No. 4 are necessary for five residential lots as well as stormwater. Since the entry to the project site is limited, these impacts are necessary for lot development.

The impacts to Wetland No. 5 are necessary for four residential lots as well as roadway offsets. Since the entry to the project site is limited, these impacts are necessary for lot development.

Development of the subdivision is proposed in the upland portion of the property. Interior roads and stormwater ponds (a total of three) have all been designed to avoid the highest quality onsite wetland habitats. Approximately 26.8048 acres of onsite wetlands will be preserved. There are four wetland impacts proposed.

The remaining onsite wetland habitat and corresponding upland buffers will continue to provide habitat for wildlife species.

The proposed impact to wildlife and fish is considered minimal. The applicant does propose mitigation that provides regional ecological value.

4.1.1 Wetland Impacts

The wetland impacts associated with the proposed development are shown in Figure 6. Approximately 0.7646 acres of impacts are proposed.

Wetland Impact Area 1 – 0.3177 acres (13,839 sf.)
Wetland Impact Area 2 – 0.0132 acres (437 sf.)
Wetland Impact Area 3 – 0.2486 acres (10,825 sf.)
Wetland Impact Area 4 – 0.1851 acres (8,063 sf.)
Surface Water Impact - 0.4800 acres (32,954 sf.)

Wetland Impact Area 1 is to the entirety of Wetland No. 1. This impact is necessary for construction of a dry retention as well as three lots and a roadway. The impact area has poor hydrology. Vegetation species consisting of soft rush, blackberry, little blue maiden cane, St. john's wort, and primrose willow.

Wetland Impact Area 2 is located on the south side of Wetland No. 2. This impact is necessary for grading (side slopes) construction associated with a cull de sac (Street A). The impact area has moderate hydrology. Vegetation species consisting of Brazilian pepper, cabbage palm, sugar berry, Carolina willow, and marsh pennywort.

Wetland Impact Area 3 is the entirety of Wetland No. 4. This impact is necessary for construction of a stormwater pond and five lots. Vegetation species consisting of cabbage palm, laurel oak, American elm, cinnamon fern, and royal fern.

Wetland Impact Area 4 is to the entirety of Wetland No. 5. This impact is necessary for construction of a stormwater pond as well as three lots. This wetland contains a dense Brazilian pepper, cinnamon fern, and cabbage palm.

The surface water impact is necessary to pipe the water underground. This impact is for the construction of Street A. The water flow will be maintained so there will be no offsite impacts to upstream habitats.

Mitigation is proposed for the 0.0132 acres of wetland impacts (Wetland Impact Area 2). These impacts will be compensated for by credits from a mitigation bank. The remaining impacts (Wetland Impact Area 1,3, & 4) are to isolated wetlands under 0.5 acres, so no mitigation is proposed. Mitigation is not proposed for the surface water impact as it is man-made and the purpose of the ditch, water conveyance, will be maintained via underground piping.

4.2 SECONDARY AND CUMULATIVE IMPACTS

The criteria within Sections 4.2.7 and 4.2.8 of the SFWMD Applicants Handbook could be reviewed to provide reasonable assurances that any proposed wetland impacts would not result in adverse secondary or cumulative impacts to the water resources associated with this project.

Secondary impacts were assessed for Wetland Impact Area 2. Secondary impacts were not assessed for Wetland Impact Area 1, 3, & 4 since the entirety of these wetlands are proposed for impacts. Secondary impacts were not assessed for the surface water. Therefore, secondary impacts were assessed for 0.0132 acres of wetland impacts. The distance of the impact areas and a depth of 100 feet was used to determine the limits of secondary impacts and is discussed under Section 5.3.

Secondary impact items are addressed below according to their corresponding 12.2.7, A.H., subsection.

(a). The applicant proposed to preserve an upland buffer around the remaining onsite wetland perimeters to preclude secondary impacts as allowed by Section 12.2.7 (a), A.H.

(b). No on-site uplands could be considered to provide significant habitat for listed species.

(c). No historical and archaeological resources are known or likely to occur on the site; and

(d). This permit application and subsequent Environmental Resource Permit addresses all impacts within the project.

No listed species were identified within or adjacent to the project area. Impacts to the upland-nesting habitat of listed species that are aquatic, or wetland dependent are not expected to occur.

The proposed mitigation offsets the project's adverse impacts, and it is in the same drainage basin; therefore, the project complies with 12.2.8, ERP A.H.

5.0 UNIFORM MITIGATION ASSESSMENT METHOD

Per subsection 373.414(18), F.S., a uniform mitigation assessment method (UMAM) was employed to determine the amount of mitigation needed to offset adverse impacts to wetlands and other surface waters and\or to award and deduct mitigation bank credits.

The standardized procedures for assessing the functions provided by wetlands and other surface waters, the amount that those functions are reduced by a proposed impact and the amount of mitigation necessary to offset wetland and surface water loss, were adhered to as outlined in Chapter 62-345.

A qualitative description, per Section 62-345.00.400, F.A.C. (referred to as Part I) and quantification of assessment areas, per Sections 62-345.500 and .600, F.A.C. (referred to as Part II) was conducted for the onsite wetland. Reasonable scientific judgment was used when applying this method.

5.1 Part I – Qualitative Description of Impact Area

The information provided on the data sheets (Appendix B) has been previously discussed in this document. Please refer to the vegetative descriptions under Section 2.3 "Vegetative Community Analysis" and Section 3.3 "Listed Species Survey Results" for detailed information as summarized on the data sheet.

5.2 Part II – Quantification of Impact Assessment Area

One (01) assessment area was analyzed to determine the degree to which the assessment area provides the functions identified in Part I and the amount of function lost or gained by the project for the impacted jurisdictional onsite wetlands. The areas chosen represent wetland vegetation, soils and hydrology of the onsite wetland and upland buffer and include existing sub-canopy and groundcover vegetative species. The assessment area represents current conditions of the existing onsite wetland and upland buffer. Three categories of indicators of wetland function were scored to the extent that they affect the ecological value of the assessment areas. These indicators include: 1) location and landscape support, 2) water environment and 3) community structure.

Wetland Assessment Area 2 is the 0.0132 acres of impact to the perimeter of the on-site wetland (Wetland No. 2). The current condition of the impact area was assessed and a delta of 0.7 was determined. Multiplying the delta (0.7) with the impact acreage (0.0132) yielded a functional loss (FL) of 0.009. Please see the data sheet for the individual information determined for the three indicators of wetland function (Appendix B).

The functional loss for the proposed wetland impacts is 0.009.

5.3 Secondary Impacts

Secondary impacts were assessed for Wetland No. 2. Since the entirety of Wetland No. 1, 4, & 5 will be impacted and is isolated, no secondary impacts were assessed.

More specifically, secondary impacts were assessed along the boundary of the direct wetland impact area. A depth of 100 feet was assessed for secondary impacts or 0.332 acres.

The current condition of the secondary impact area (Wetland No.2) was assessed and a score of 0.7 was determined. A score of 0.63 was determined for the without condition. The difference is a delta of 0.07. Multiplying the delta (0.07) with the impact secondary acreage (0.332) yielded a functional loss (FL) of 0.02. Please see the data sheet for the individual information determined for the three indicators of wetland function (Appendix B).

The combined functional loss for the direct and secondary impacts is 0.029.

6.0 PROPOSED MITIGATION

The loss of wetland function due to the proposed impacts can be sufficiently mitigated with the purchase of mitigation credits. The proposed mitigation plan will more than compensate for the loss of the aforementioned wetland areas. The onsite wetlands are not proposed as mitigation.

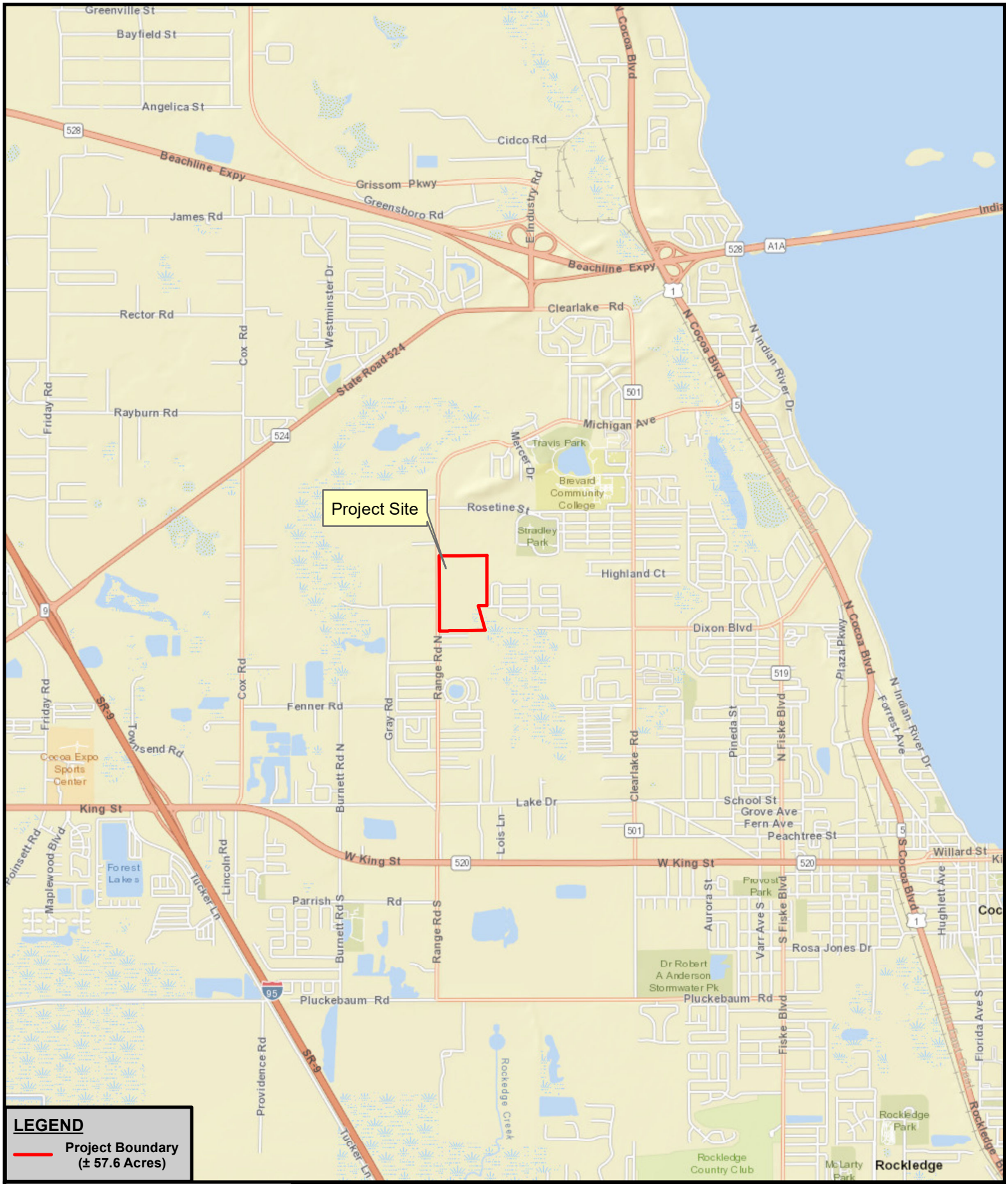
Approximately 0.03 freshwater forested mitigation bank credits will be purchased from the Farmton Mitigation Bank.

7.0 SUMMARY

As previously discussed, approximately 1.24 acres of wetland impacts are proposed. Mitigation is proposed for 0.0132 acres of proposed wetland impacts, and 0.332 acres of proposed secondary impacts. A total functional loss of 0.029 was determined for the direct impacts and secondary impacts to onsite wetlands.

Mitigation will be provided through the purchase of 0.03 credits from Farmton Mitigation Bank. Once District staff has approved the credit amount, a reservation letter will be obtained from the mitigation bank and provide to District staff.

FIGURES



LEGEND

Project Boundary (± 57.6 Acres)

www.ecologicalcs.com

Ecological Consulting Solutions, Inc.

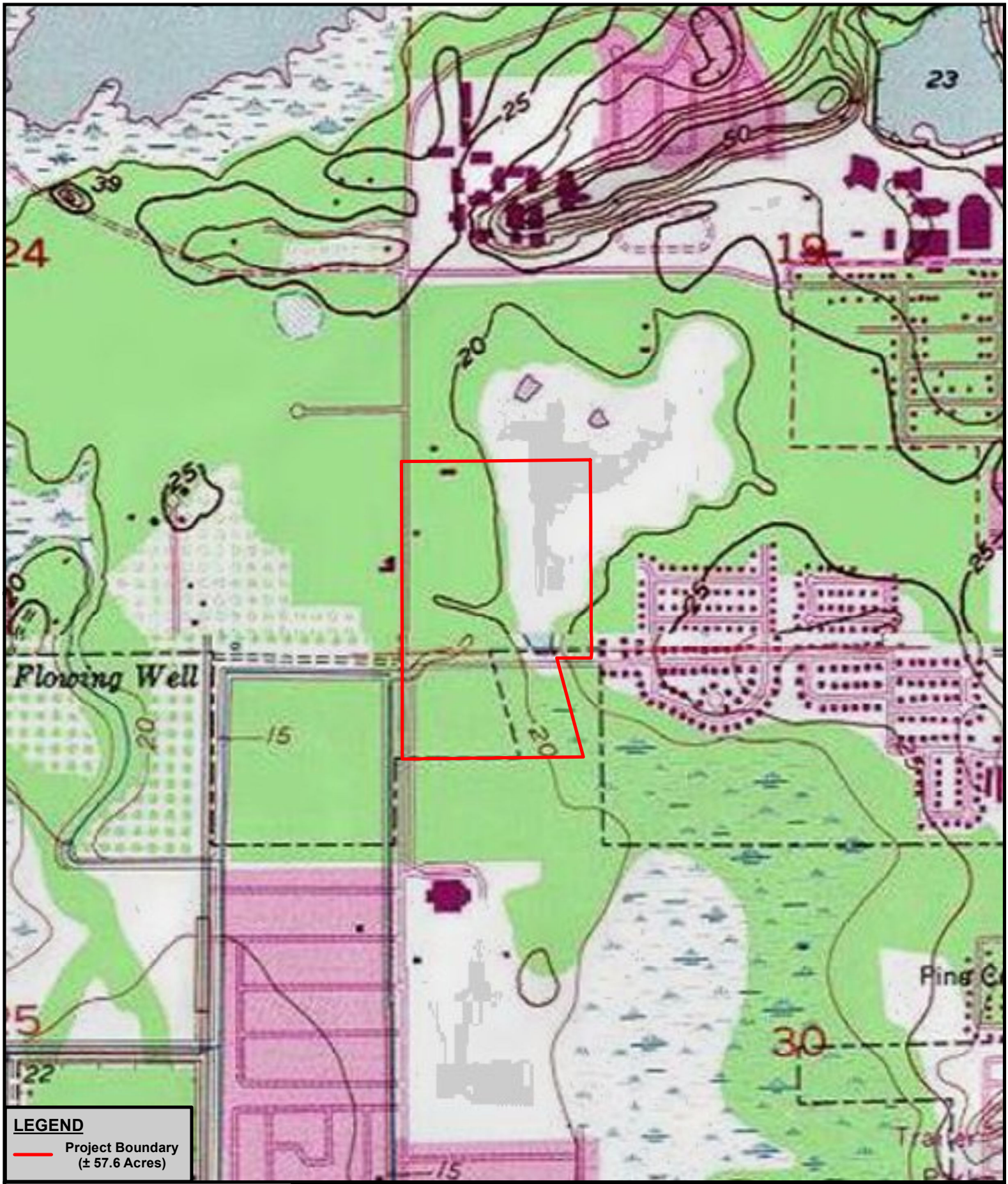
RANGE ROAD
BREVARD COUNTY, FLORIDA
LOCATION MAP

PROJECT #: 875.01.20 **DATE: 03/23/21** **FIGURE #: 1**

0 1,000 2,000 4,000 6,000 8,000 Feet

N

235 N. Hunt Club Blvd. Suite 202
Longwood, Florida 32779
Office: (407) 869-9434 Fax: (407) 869-9436
CKrack@ecsfl.cc



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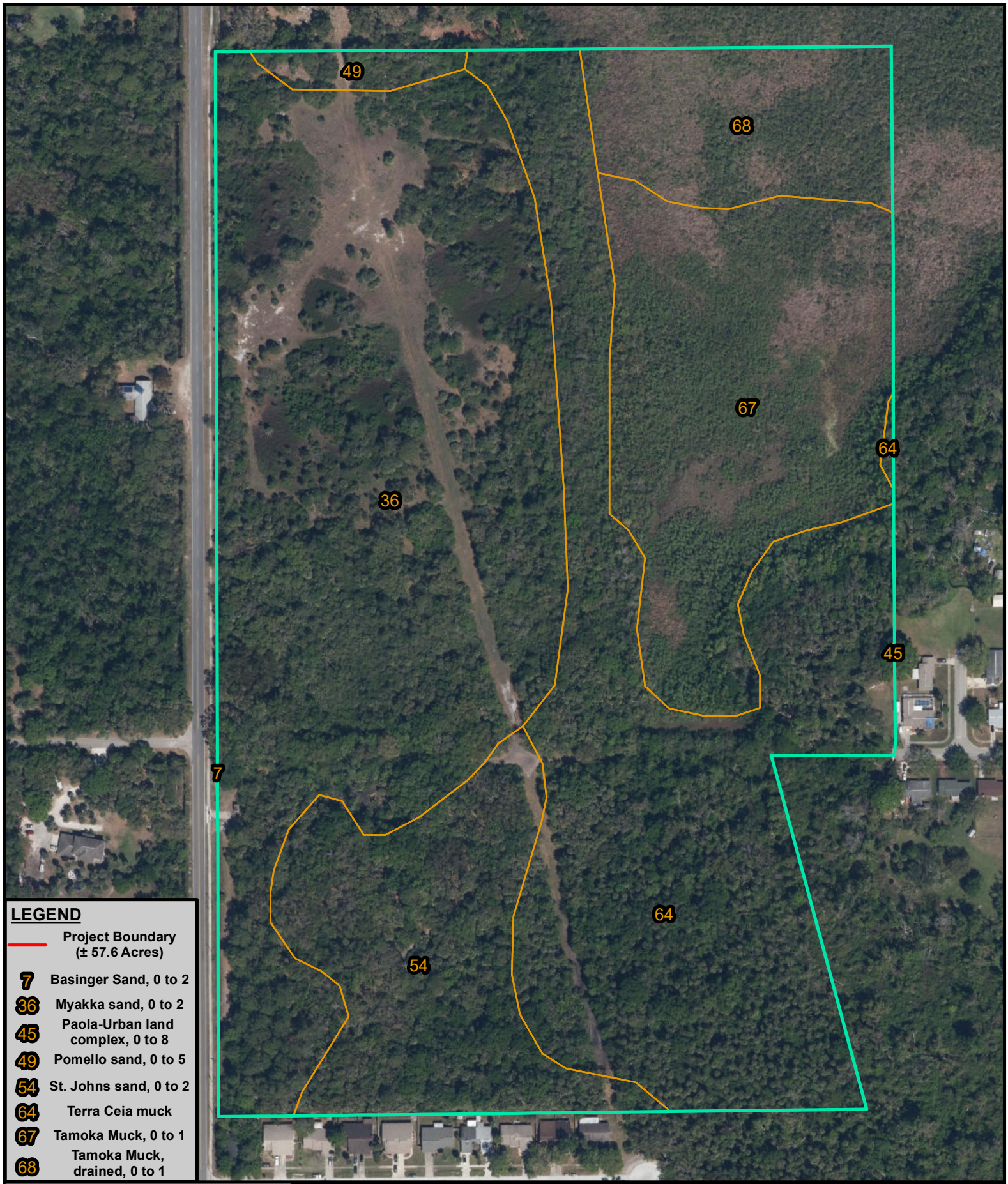
RANGE ROAD
BREVARD COUNTY, FLORIDA
TOPO MAP

PROJECT #: 875.01.20 DATE: 03/23/21 FIGURE #:2

0 1,000 2,000 Feet

N

235 N. Hunt Club Blvd. Suite 202
Longwood, Florida 32779
Office: (407) 869-9434 Fax: (407) 869-9436
CKrack@ecsfl.cc



LEGEND

- Project Boundary (± 57.6 Acres)
- 7 Basinger Sand, 0 to 2
- 36 Myakka sand, 0 to 2
- 45 Paola-Urban land complex, 0 to 8
- 49 Pomello sand, 0 to 5
- 54 St. Johns sand, 0 to 2
- 64 Terra Ceia muck
- 67 Tamoka Muck, 0 to 1
- 68 Tamoka Muck, drained, 0 to 1

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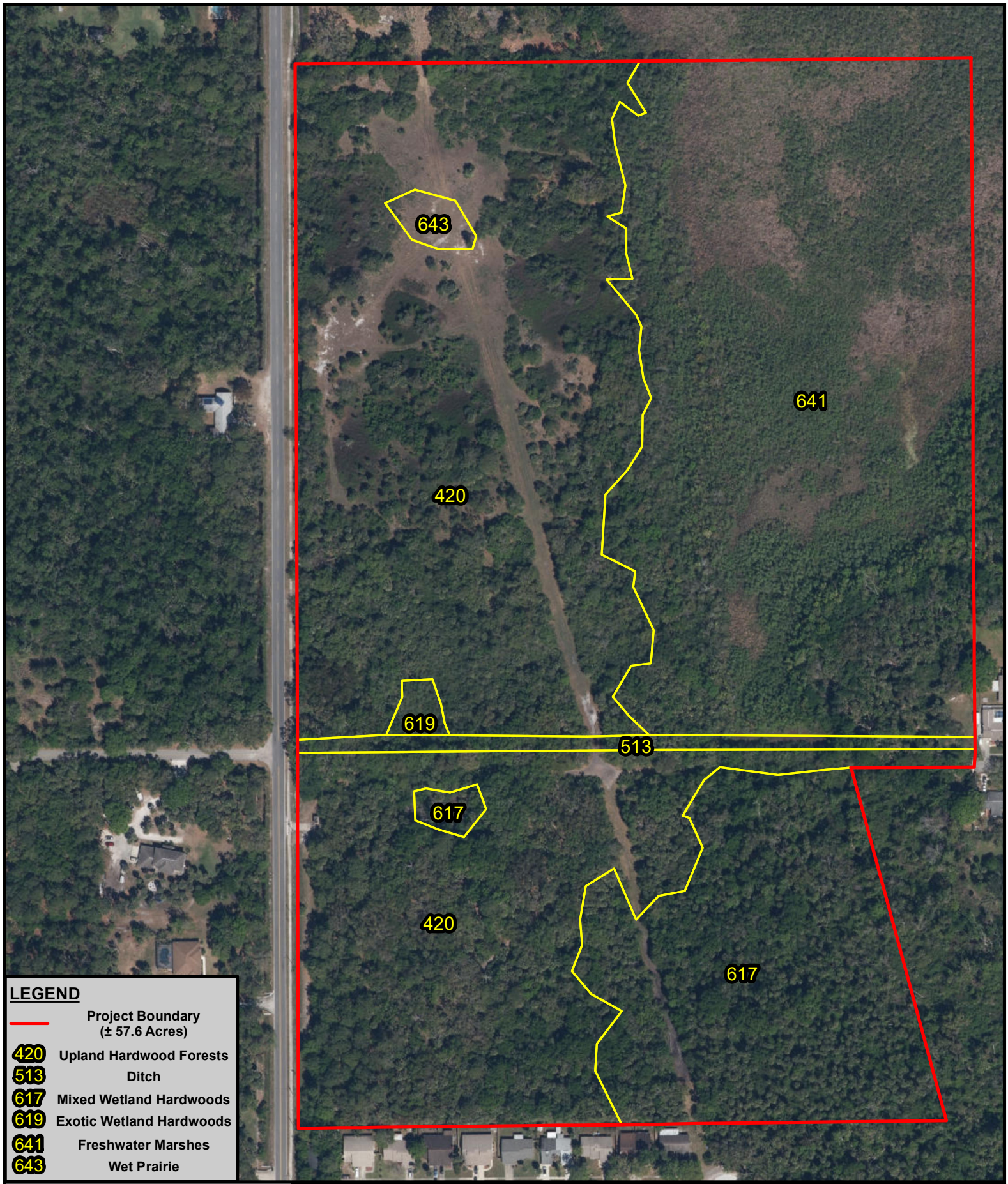
RANGE ROAD
BREVARD COUNTY, FLORIDA
NRCS SOILS MAP

PROJECT #: 875.01.20 **DATE: 03/23/21** **FIGURE #:3**

0 100 200 400 600 Feet

N

235 N. Hunt Club Blvd. Suite 202
Longwood, Florida 32779
Office: (407) 869-9434 Fax: (407) 869-9436
CKrack@ecsfl.cc



LEGEND

	Project Boundary (± 57.6 Acres)
420	Upland Hardwood Forests
513	Ditch
617	Mixed Wetland Hardwoods
619	Exotic Wetland Hardwoods
641	Freshwater Marshes
643	Wet Prairie

www.ecologicalcs.com
Ecological Consulting Solutions, Inc.

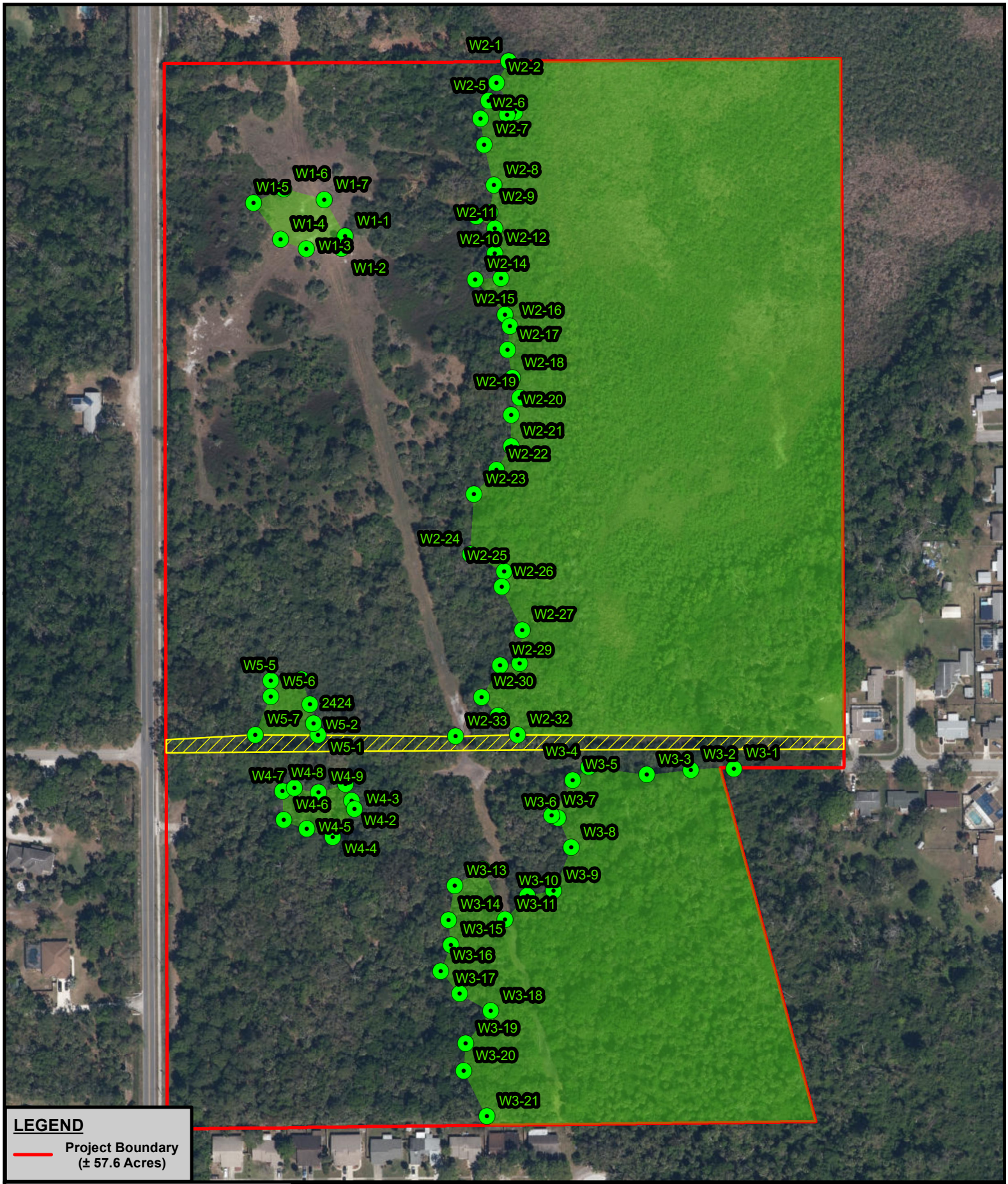
RANGE ROAD
BREVARD COUNTY, FLORIDA
FLUCFCS MAP

PROJECT #: 875.01.20 **DATE: 03/23/21** **FIGURE #:4**

0 100 200 400 600 Feet

N

235 N. Hunt Club Blvd. Suite 202
Longwood, Florida 32779
Office: (407) 869-9434 Fax: (407) 869-9436
CKrack@ecsfl.cc



LEGEND

Project Boundary (± 57.6 Acres)

www.ecologicalcs.com

Ecological Consulting Solutions, Inc.

RANGE ROAD
BREVARD COUNTY, FLORIDA
WETLAND MAP

PROJECT #: 875.01.20 **DATE: 03/23/21** **FIGURE #:5**

0 100 200 400 600 Feet

N

235 N. Hunt Club Blvd. Suite 202
Longwood, Florida 32779
Office: (407) 869-9434 Fax: (407) 869-9436
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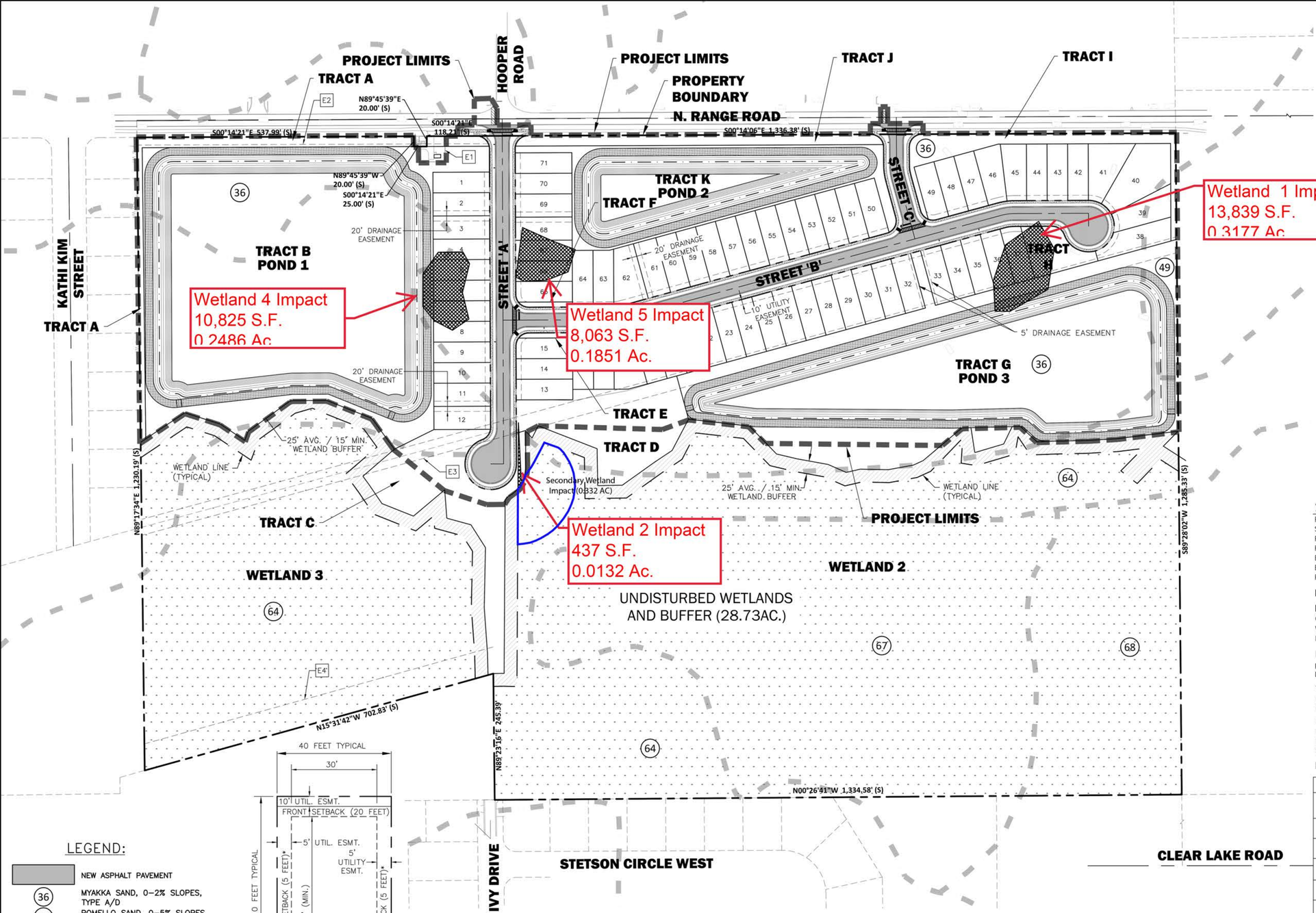

PLAN LEGEND

- PROPERTY BOUNDARY
- LOT/TRACT LINE
- EASEMENT LINE
- WETLAND LINE
- ROAD CENTERLINE
- PROJECT AREA LIMITS
- WETLAND AREA
- WETLAND BUFFER

GRAPHIC SCALE
100' 0 50' 100' 200'
1" = 100'

COMMON AREAS

COMMON AREAS (TRACTS A, B, C, D, E, F, G, H, I, J, AND K) WILL BE OWNED AND MAINTAINED BY THE HOMEOWNER'S ASSOCIATION. STREETS 'A', 'B' AND 'C' WILL BE DEDICATED TO THE CITY OF COCOA.

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STORMWATER SYSTEM NOTE

THE PROPOSED STORMWATER SYSTEM SHALL COMPLY WITH CITY OF COCOA & ST. JOHNS RIVER WATER MANAGEMENT DISTRICT REQUIREMENTS.

SITE

PROPERTY LOCATION:	N. RANGE ROAD – COCOA, FLORIDA 32922
SECTION, TOWNSHIP, RANGE:	SECTIONS 19 & 30, TOWNSHIP 24 SOUTH, RANGE 36 EAST
PARCEL ID:	24-36-19-00-00-501, 24-26-30-00-252 & 24-36-30-00-258
FUTURE LAND USE DESIGNATION:	LOW DENSITY RESIDENTIAL
EXISTING ZONING:	PUD
EXISTING USE:	VACANT LAND
PROPOSED USE:	SINGLE FAMILY RESIDENTIAL SUBDIVISION

PROJECT AREA: 57.23± ACRES

NET DEVELOPABLE LAND:

GROSS ACREAGE:	57.23± ACRES
WETLAND/BUFFER AREA:	28.73± ACRES
NET DEVELOPABLE AREA:	28.50± ACRES

RESIDENTIAL LOT INFORMATION:

PROJECT STATEMENT: THE PROPOSED PROJECT CONSISTS OF 71 SINGLE FAMILY RESIDENTIAL LOTS LOCATED WITHIN RANGE ROAD SUBDIVISION.

TOTAL NUMBER OF LOTS:	71 LOTS
MINIMUM LOT SIZE – STANDARD LOTS:	4,000 S.F.
MINIMUM LOT WIDTH AT FRONT BUILDING LINE:	40'
FRONT SETBACK (BUILD TO LINE):	20'
REAR SETBACK:	20'
INTERIOR SIDE SETBACK:	5'
STREET SIDE SETBACK:	15'

PROPOSED NET RESIDENTIAL DENSITY: 2.49 D.U./ACRE

TRACTS SUMMARY

TRACT NO.	TRACT SIZE (ACRES)	PROPOSED USE	MAINTENANCE ENTITY
A	0.48	OPEN SPACE/LANDSCAPE BUFFER	HOMEOWNER'S ASSOCIATION
B	6.96	STORMWATER POND TRACT	HOMEOWNER'S ASSOCIATION
C	0.97	OPEN SPACE	HOMEOWNER'S ASSOCIATION
D	0.90	OPEN SPACE	HOMEOWNER'S ASSOCIATION
E	0.02	OPEN SPACE	HOMEOWNER'S ASSOCIATION
F	0.02	OPEN SPACE	HOMEOWNER'S ASSOCIATION
G	5.93	STORMWATER POND TRACT	HOMEOWNER'S ASSOCIATION
H	0.20	OPEN SPACE/RECREATION	HOMEOWNER'S ASSOCIATION
I	0.39	OPEN SPACE/LANDSCAPE BUFFER	HOMEOWNER'S ASSOCIATION
J	0.32	OPEN SPACE/LANDSCAPE BUFFER	HOMEOWNER'S ASSOCIATION
K	2.03	STORMWATER POND TRACT	HOMEOWNER'S ASSOCIATION
STREETS A, B, & C	2.55	ROADWAYS	CITY OF COCOA

LEGEND:

- NEW ASPHALT PAVEMENT
- (36) MYAKKA SAND, 0–2% SLOPES, TYPE A/D
- (49) POMELLO SAND, 0–5% SLOPES, TYPE A
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- (64) TERRA CEIA MUCK, FREQUENTLY FLOODED, TYPE A/D
- (67) TOMOKA MUCK, FREQUENTLY PONDED, 0–1% SLOPES, TYPE A/D
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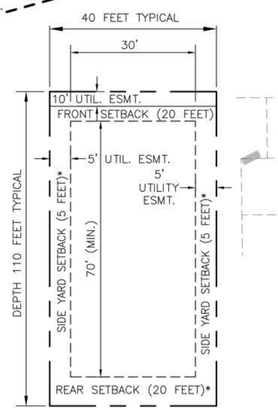

TYPICAL LOT DIMENSIONS

* DRAINAGE & UTILITY EASEMENTS SHALL SUPERCEDE SETBACKS, WHERE APPLICABLE

ADT TRAFFIC DATA PER ITE

AVERAGE DAILY TRAFFIC

SINGLE FAMILY LOTS = 71 x 9.52 ADT/DU = 676 ADT

PEAK HOUR TRAFFIC

SINGLE FAMILY LOTS = 71 x 0.99 PHT/LOT = 70 PHT

EASEMENT KEYNOTES

E1: SOUTHERN BELL TELEPHONE & TELEGRAPH EASEMENT, S 50', N 133', E 50', W 83'.

E2: 15' EASEMENT.

E3: 30' FLORIDA GAS EASEMENT, ORB 506, PG. 682.

E4: 50' EASEMENT WEST OF, ADJACENT TO AND WITHIN 50', WEST LINE DESCRIBED IN DEED BOOK 69, PG. 62.

NOTE:

SEE SHEETS C-16 AND C-17 FOR TYPICAL ROADWAY SECTION.

DATE	REVISIONS	BY	CHECKED

CONSTRUCTION PLANS
RANGE ROAD SUBDIVISION
CITY OF COCOA, FLORIDA

FEG FLORIDA ENGINEERING GROUP
Engineering the Future
5127 S. Orange Avenue, Suite 200
Orlando, FL 32809
Phone: 407-895-0324
Fax: 407-895-0325
www.feg-inc.us

OVERALL SITE PLAN

DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
CPN	CPN	GRC	GRC

PROJECT NO. 19-070
SCALE 1"=100'
DATE FEBRUARY XX, 2022
SHEET NO. C-11
SHEET 11 OF 33

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY: GREGORY R. CRAWFORD, P.E. ON THE DATE ADJACENT TO THE SEAL. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

FLORIDA ENGINEERING GROUP, INC. CERTIFICATE NO. 00006995
GREGORY R. CRAWFORD LICENSE No 51335 STATE OF FLORIDA PROFESSIONAL ENGINEER
GREGORY R. CRAWFORD, P.E.
LICENSE NO. 51335

19-070 OverallSitePlan.dwg

APPENDIX A

Appendix B

Table 1: PROJECT WETLAND (WL) AND OTHER SURFACE WATER (SW) SUMMARY

WL & SW ID	WL & SW TYPE (FLUCFCS)	WL & SW SIZE (acres)	WL& SW NOT IMPACTED	TEMPORARY WL & SW IMPACTS			PERMANENT WL & SW IMPACTS			MITIGATION ID
				WL & SW TYPE	IMPACT SIZE	IMPACT CODE	WL & SW TYPE (FLUCFCS)	IMPACT SIZE	IMPACT CODE	
Wetland 1	643	0.3177	0.00				643	0.3177	F	NA
Wetland 2	641	19.323	19.3098				641	0.0132	F	Credits
Wetland 3	617	7.495	7.495							
Wetland 4	619	0.2486	0.00				619	0.2486	F	NA
Wetland 5	617	0.1851	0.00				617	0.1851	F	NA
Ditch	513	0.76	0.28				513	0.48	O	N/A
PROJECT TOTALS:		28.3294	27.0848					1.2446		

Comments:
CODES (multiple entries per cell not allowed):
Wetland Type: from an established wetland classification system (see Section E, 111b.)
Impact Type: D=Dredge; F=Fill; H=change hydrology; S=shading; C=clearing; O=other

Reviewer:__ _____

Table 2: PROJECT ON-SITE MITIGATION SUMMARY

MITIGATION ID	CREATION		RESTORATION		ENHANCEMENT		WETLAND PRESERVE		UPLAND PRESERVE		OTHER	
	AREA	TARGET TYPE	AREA	TARGET TYPE	AREA	TARGET TYPE	AREA	TYPE	AREA	TYPE	AREA	TYPE
None Proposed												
PROJECT TOTALS												

CODES (multiple entries per cell not allowed):
Target Type or Type=target or existing habitat type from an established wetland classification system or land use classification for non-wetland mitigation

Reviewer:_____

Table 3: PROJECT OFF-SITE MITIGATION SUMMARY

MITIGATION ID	CREATION		RESTORATION		ENHANCEMENT		WETLAND PRESERVE		UPLAND PRESERVE		OTHER	
	AREA	TARGET TYPE	AREA	TARGET TYPE	AREA	TARGET TYPE	AREA	TYPE	AREA	TYPE	AREA	TYPE
Farmton Mitigation Bank											0.03	credits
PROJECT TOTALS											0.03	

CODES (multiple entries per cell not allowed):
Target Type or Type=target or existing habitat type from an established wetland classification system or land use classification for non-wetland mitigation

Reviewer:_____

APPENDIX B

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Range Road		Wetland 2

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
FLUCFCS 641		Impact	0.0132 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Southern St. Johns River	Class III	

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

The ±57.6-acre Ridgehaven Property is located immediately east of N Range Road, west of E Stetson Circle, and north of Kathi Kim Street in Cocoa, Florida. More specifically the project site is located in Section 19 & 30, Township 24 South, and Range 36 East in Brevard County, Florida (Figure 1). The subject property consists of mostly forested habitat. There is a dirt roadway through the center of the property. Two large wetland systems are present within the property boundary as well as a man-made ditch and three additional small wetlands.

Assessment area description

The assessment area consists of a small impact located on the south side of Wetland No. 2 (freshwater marsh). This impact is necessary for grading (side slopes) construction associated with a cull de sac (Street A). The impact area has moderate hydrology. Vegetation species consisting of Brazilian pepper, cabbage palm, sugar berry, Carolina willow, and marsh pennywort.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Indian River is located off site to the east.	This impact area (wetland habitat) not unique or rare in relation to the regional landscape.

Functions	Mitigation for previous permit/other historic use
Provides wildlife habitat for local species, water quality from runoff	none

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
amphibians, reptiles, songbirds, wadingbirds	none found in Brevard County

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

none

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
Chris krack	12-April-2022

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Range Road		Wetland 2
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Wetland Impact - 0.0132 acres	Chris Krack	12-April 22

Scoring Guidance	**Optimal (10)**	**Moderate(7)**	**Minimal (4)**	**Not Present (0)**
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

		w/o pres or current	with
.500(6)(a) Location and Landscape Support	Support for wildlife species outside of Assessment Area is moderate. Provides some benefits, adverse impacts from upland land uses outside of Assessment Area, natural connection to offsite wetlands, uplands provides some habitat for protection, uplands to be developed.	**7**	0
.500(6)(b)Water Environment (n/a for uplands)	Standing water is not present in the AA (wetland fringe), standing water is present in the wetland interior, uplands have some disturbance (trails, some historic clearing), alteration to points of discharge - man-made drainage ditch present on teh south side of this wetland, some evidence of flow rates, no evidence of fire, nuisance and exotic species in small numbers, no wading birds observed in Assessment Area, some native desirable wetland plant species. Light penetration is to sufficient for herbaceous and shrubby species.	**7**	0
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	Canopy cover lacking, some shrub cover, some desirable wetland species, some nuisance and exotic species. Adjacent uplands developed on SE side, ditch adjacent to south side, forested uplands present on west side, reduction of regeneration/recruitment, age, size and distribution, no snags present, topo features show this as a low lying area within the project site, no evident land management practices.	**7**	0

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	0.7	0

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas
FL = delta x acres = **0.7** X 0.0132=**0.009**

Delta = [with-current]
0.7

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Range Road		Wetland 2
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Wetland Impact - 0.332 acres	Chris Krack	12-April 22

Scoring Guidance	**Optimal (10)**	**Moderate(7)**	**Minimal (4)**	**Not Present (0)**
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	w/o pres or current	with	
.500(6)(a) Location and Landscape Support	**7**	6	Support for wildlife species outside of Assessment Area is moderate. Provides some benefits, adverse impacts from upland land uses outside of Assessment Area, natural connection to offsite wetlands, uplands provides some habitat for protection, uplands to be developed.
.500(6)(b)Water Environment (n/a for uplands)	**7**	7	Standing water is not present in the AA (wetland fringe), standing water is present in the wetland interior, uplands have some disturbance (trails, some historic clearing), alteration to points of discharge - man-made drainage ditch present on teh south side of this wetland, some evidence of flow rates, no evidence of fire, nuisance and exotic species in small numbers, no wading birds observed in Assessment Area, some native desirable wetland plant species. Light penetration is to sufficient for herbaceous and shrubby species. With: permitted master stormwater management system will ensure no negative impacts to the water quality.
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Score = sum of above scores/30 (if uplands, divide by 20)		
current or w/o pres	with	
0.7	0.63	

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

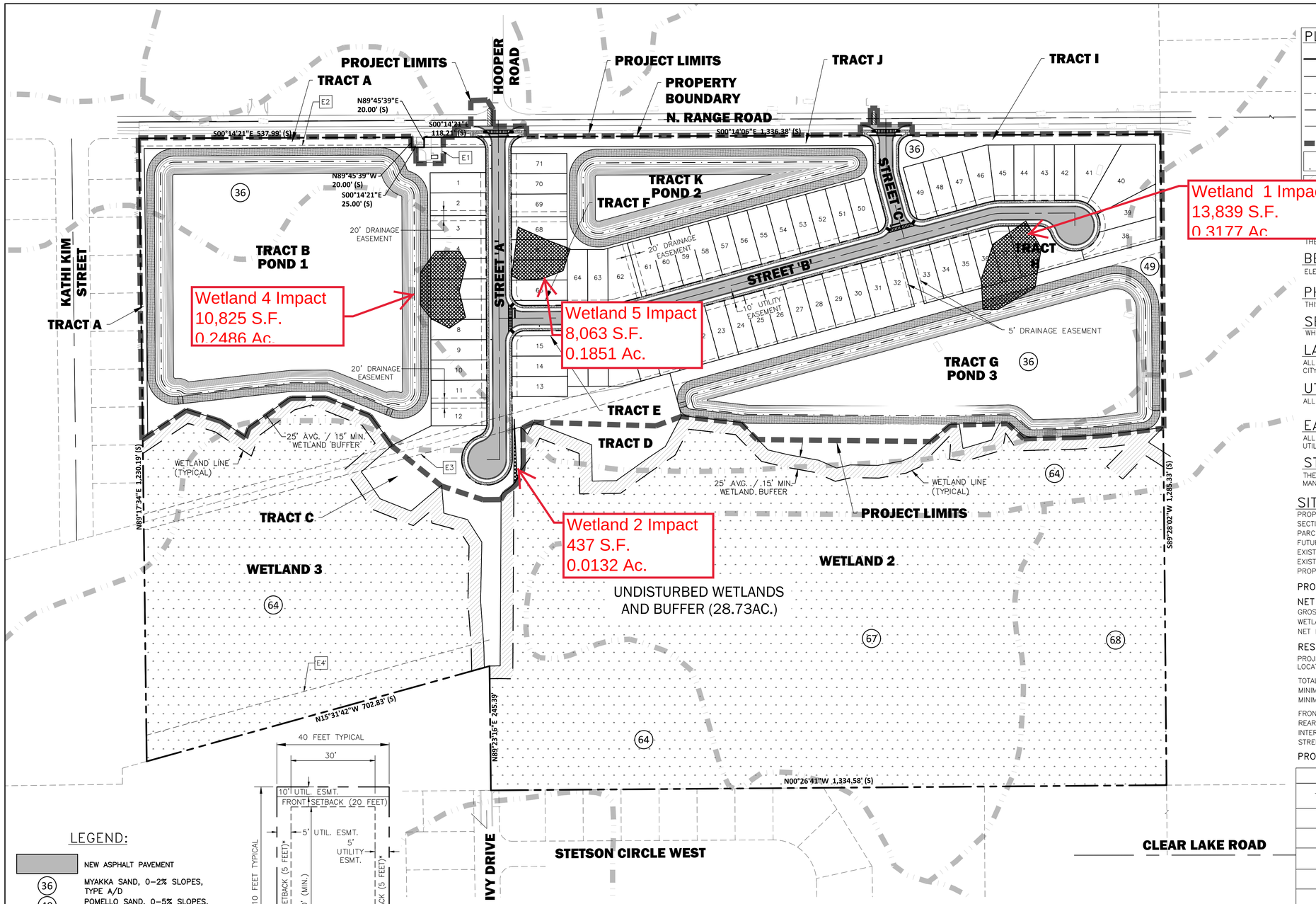
For impact assessment areas
FL = delta x acres = **0.07** X 0.332=**0.02**

Delta = [with-current]
0.07

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

APPENDIX C



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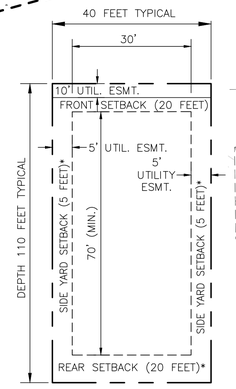

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DATE	REVISIONS	BY	CHECKED

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RANGE ROAD SUBDIVISION
CITY OF COCOA, FLORIDA

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5127 S. Orange Avenue, Suite 200
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Phone: 407-895-0324
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OVERALL SITE PLAN

DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
CPN	CPN	GRC	GRC

PROJECT NO. 19-070
SCALE 1"=100'
DATE FEBRUARY XX, 2022
SHEET NO. C-11
SHEET 11 OF 33

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FLORIDA ENGINEERING GROUP, INC.
CERTIFICATE NO. EB0006595

GREGORY R. CRAWFORD, P.E.
LICENSE NO. 51335

19-070 OverallSitePlan.dwg