Environmental Resource Permit Application

State Road 414 from Hope Road to Maitland Ave. (C.R. 427)
Orange County, Florida

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TABLE OF CONTENTS

SECTION PAGE

INTRODUCTION 1
PROJECT PURPOSE AND SCOPE 1
METHODOLOGY 1
SOILS 2
VEGETATIVE COMMUNITIES 2
FEDERAL AND STATE PROTECTED WILDLIFE SPECIES 3
Bald Eagle 4
Federally Listed Species 5
Wood Stork 5
Sand Skink 5
American Alligator 5
Eastern Indigo Snake 6
State Listed Species 6
Florida Mouse 6
Gopher Tortoise (and Commensal Species) 6
Gopher Frog 7
Florida Pine Snake 7
Little Blue Heron 7
Snowy Egret 8
Tri-Colored Heron 8
White Ibis 8
ELIMINATION AND REDUCTION OF IMPACTS 9
WATER QUALITY 9
PUBLIC INTEREST 10
SECONDARY IMPACTS 10
CUMULATIVE IMPACTS 11
MITIGATION 11
REFERENCES 12

TABLES

Table 1: Land Use Types and Percent Cover Within the Limits of the Project 3
Table 2: Protected Wildlife Species with Potential for Occurrence Within the Limits of the Project 4
Table 3: UMAM Evaluation Summary 11

FIGURES

Figure 1: Location Map
Figure 2: Aerial Location Map
Figure 3: United States Geological Service (USGS) Topographic Quadrangle Map
Figure 4: National Wetlands Inventory (NWI) Map
Figure 5: Natural Resources Conservation Service (NRCS) Soil Survey Map
Figure 6: Florida Land Use, Cover and Forms Classification System (FLUCFCS) Map
Figure 7: Proposed Pond Designs

APPENDICES

Appendix A: Proposed Pond Alternatives
Appendix B: US Army Corps of Engineers (USACOE) Correspondence
Appendix C: Uniform Mitigation Assessment Method (UMAM) Parts I and II

INTRODUCTION

Florida Department of Transportation (FDOT) District 5 proposes to improve the existing State Road (SR) 414, from Hope Road to Maitland Avenue (County Road 427), (Figure 1 – Location Map). The SR 414 improvement project includes new travel lanes that will be accommodated within the existing right-of-way (ROW) by converting the median, and construction/modification of a joint use stormwater management system. The project corridor contains both wetlands and other surface waters, and will involve work in, on, or over wetland and/or other surface water communities.

An Environmental Resource Permit (ERP) is being sought from the St. Johns River Water Management District (SJRWMD) for construction of the planned improvements. The project limits were reviewed by biologists with 3E Consultants, Inc. (3E) to evaluate the existing ecological conditions within the project limits. The review included the use of current and historical aerial photography (Figure 2 – Aerial Location Map), U.S. Geological Survey Topographic Maps (Exhibit 3 – USGS Topographic Quadrangle Map), National Wetlands Inventory (NWI) Maps (Figure 4 – NWI Map), and National Resources Conservation Service (NRCS) Soil Survey Maps (Exhibit 5 – NRCS Soil Survey Map). Wetlands and other surface waters observed were classified using the FDOT's *Florida Land Use, Cover and Forms Classification System* (FLUCFCS) (Exhibit 6 – FLUCFCS Map). In addition, database queries were conducted in evaluating the occurrence, or potential for occurrence, of wildlife species listed as Threatened (T) and/or Endangered (E), by the US Fish and Wildlife and Service (FWS), and/or the Florida Fish and Wildlife Conservation Commission (FWC), and wildlife species listed as Species of Special Concern (SSC) by the FWC. This report provides documentation of the current ecological conditions, soil and hydrologic information, and the occurrence, or potential for occurrence, of T, E, or SSC wildlife, and their habitat.

PROJECT PURPOSE AND SCOPE

The proposed project includes improvements to the existing SR 414. Activities consist of widening of the existing four (4)-lane divided highway to a six (6)-lane divided highway and improve traffic operations, and an associated stormwater management system. The proposed project includes design plans between the FDOT District 5 and Maitland Concourse North (proposed development to the north) for a joint-use stormwater management system. The proposed joint use stormwater management pond will involve work in, on or over jurisidictional wetlands (please reference site construction plans for details).

METHODOLOGY

The jurisdictional extent of on-site wetlands and other surface water systems were identified and limits established in general accordance with the *1987 Corps of Engineers Wetlands Delineation Manual* (Technical Report Y-87-1), the *November 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic Gulf Coastal Plan Region* and the State of Florida's *Delineation of the Landward Extent of Wetlands and Surface Waters* (Chapter 62-340, Florida Administrative Code). Ground-truth activities for wetland and other surface waters were conducted along the project corridor on March 3 and March 7, 2014. Subsequently to 3E site activities, Breedlove Dennis & Associates (BDA) submitted a formal wetland determination application to SJRWMD for the land area that included the wetlands within the SR 414 project, and was issued on December 12, 2015 under Permit Number 142388-1. 3E's assessment of wetland extent has relied on the formal wetland determination, as prepared by BDA.

SOILS

The soil survey geological (SSURGO) database, created by the NRCS for Orange County, Florida, identifies the following soil types as occurring within the project limits: 3-Basinger Fine Sand Depressional, very poorly drained; 28-Florahome fine sand, 0 to 5% slopes, moderately well drained; 29-Florahome-Urban Land Complex, 0 to 5% slopes, moderately well drained; 46-Tavares Fine Sand, 0 to 5%, moderately well drained; 47-Tavares-Millhopper Fine Sands, 0 to 5% slopes, moderately well drained; 48-Tavares-Urban Land Complex, 0 to 5% slopes, moderately well drained; and 50-Urban Land. Basinger Fine Sand Depressional is the only on-site hydric soil identified within the project limits. Soils identified within the limits of the project are depicted on Figure 5 – NRCS Soil Survey Map.

VEGETATIVE COMMUNITIES

Land use types located within limits of the project were categorized during site reconnaissance activities and were classified using the FLUCFCS (Figure 6 – FLUCFCS Map). On-site land use types are best characterized as follows:

Uplands

FLUCFCS 2210 - Citrus Grove – This land use type best classifies the habitat found immediately north of the existing westbound travel lanes of SR 414. The dominant features includes rows of citrus, with a bahiagrass (*Paspalum notatum*) groundcover. Other vegetation present on-site includes lantana (*Lantana* sp.), ragweed (*Ambrosia* sp.), dog fennel (*Eupitorium capillifolium*), rattle box (*Crotalaria* sp.), hairy indigo (*Indigofera hirsuta*), and Mexican clover (Ric*hardia brasiliensis*).

FLUCFCS 8140 – Roads and Highways – This land use best describes the existing travel lanes and grassed median of the SR 414.

Wetlands/Other Surface Waters

FLUCFCS 5340 – Reservoirs less than 10 acres – This land use type best describes the existing stormwater management systems located within the project corridor.

FLUCFCS 6180 – Willow and Elderberry – This land use type best describes the wetland component located just north and east of the joint use pond. This land use is located along the fringe of the southern shoreline of Lake Charity. Dominant vegetation includes Virginia willow (*Itea virginica*), primrose willow (*Ludwigia* sp.), swamp dogwood (*Corus foemina*), swamp doghobble (*Leucothoe racemosa*), titi (*Cyrilla racemiflora*), common buttonbush (*Cephalanthus occidentalis*); groundcover includes maidencane (*Panicum hemitomon*), Virginia chain fern (*Woodwardia virginica*), arrowhead (*Sagittaria* sp.), lizard's tail (*Saururus cenuus*), false nettle (*Boehmeria* sp.), beaksedge (*Rhynchospora* sp.), bladderwort (*Utricularia* sp.), royal fern (*Osmunda regalis*), cogongrass (*Imperata cylindrica*), and cordgrass (*Spartina* sp.).

It is anticipated that 0.50 acres of direct wetland impacts and 0.21 acres of indirect (25-feet waterward) will result to this system (please see site construction plans for details).

Table 1: Land Use Types and Percent Cover Within the Limits of the Project

FLUCFCS Code	FLUCFCS Description	Acreage	Percent Cover
2210	Citrus Grove	7.77	21.0
8140	Roads and Highways	24.93	67.6
5340	Reservoirs less than 10 acres	3.73	10.0
6180	Willow and Elderberry	0.50	1.4
	Total	36.93	100%

FEDERAL AND STATE PROTECTED WILDLIFE SPECIES

Literature reviews and database queries were conducted to identify federally and/or state listed wildlife species found within Orange County, Florida and potential occurrence of such species within the limits of SR 414 improvement project. Listed species are those wildlife species categorized by FWS and/or FWC as T, E or SSC, thereby receiving a level of protection due to their listed status. The SR 414 corridor was then evaluated for the likely presence of those listed species identified during the database query process.

The potential occurrence of listed species identified within the SR 414 project site is based on the present vegetative communities, and surrounding land uses. The probability of each species occurrence within the project site was ranked based on the following requirements: 1) No, 2) Low, 3) Moderate, and 4) High available habitat. The ranking of “no” indicates no suitable habitat present. Ranking of “low” indicates that marginally suitable habitat may exist within the property, but not observed during field observations. The ranking of “moderate” indicates that suitable habitat exists within the property; however, the species was not observed during field observations. The ranking of “high” indicates that suitable habitat may exist within the property and the species of interest was observed during field observations.

Literature review and field observation, conducted on March 3, March 7, 2014, October 27, 2014, November 9, 2014 and April 15, 2015 – May 15, 2015, suggest that appropriate habitat may be present, or listed species were observed, for the following species: wood stork, sand skink, Eastern indigo snake, American alligator, gopher tortoise, gopher frog, burrowing owl, Florida pine snake, sandhill crane, Southeastern American kestrel, little blue heron, limpkin, snowy egret, tri-colored heron and white ibis. Table 2 provides a summary of those state and/or federally listed species known to occur in Orange County, Florida, and their potential for occurrence within the limits of the SR 414 project site.

Table 2: Protected Wildlife Species with Potential for Occurrence Within the Limits of the Project

Scientific Name	Common Name	FWS Status	FWC Status	Occurrence Potential
Fish				
Cyprinodon variegates hubbsi	Lake Eustis pupfish	--	SSC	Low
Amphibians				
Rana capito	gopher frog	--	SSC	Moderate
Reptiles				
Drymarchon corais couperi	eastern indigo snake	T	T	Moderate
Neoseps reynoldsi	sand skink	T	T	Low
Gopherus polyphemus	gopher tortoise	--	T	Moderate
Pituophis melanoleucus mugitus	Florida pine snake	--	SSC	Moderate
Stilosoma extenuatum	Short-tail snake	--	T	Low
Alligator mississippiensis	American alligator	T S/A	T S/A	Moderate
Birds				
Aphelocoma coeruluscens	Florida scrub-jay	T	T	Low
Aramus guarauna	limpkin	--	SSC	Low
Speotyto cunicularia floridana	Florida burrowing owl	--	SSC	Moderate
Egretta caerulea	little blue heron	--	SSC	Moderate
Egretta thula	snowy egret	--	SSC	Moderate
Egretta tricolor	tricolored heron	--	SSC	Moderate
Eudocimus albus	white ibis	--	SSC	Moderate
Falco peregrinus	peregrine flacon	--	E	
Falco sparverius paulus	southeastern American kestrel	--	T	Low
Grus canadensis pratensis	Florida sandhill crane	--	T	Low
Ixobrychus exilis	least bittern	--	N	Moderate
Mycteria americana	wood stork	E	E	Moderate
Polyborus plancus audubinii	Audubon's crested caracara	T	T	Low
Sterna antillarum	least tern	--	T	Low
Picoides borealis	red-cockaded woodpecker	E	--	Low
Sterna antillarum	least tern	--	T	Low
Mammals				
Podomys floridanus	Florida mouse	--	SSC	Low
Sciurus niger shermani	Sherman's fox squirrel	--	SSC	Low
Ursus americanus floridaus	Florida black bear	--	T	Low

Occurrence Potential = Observed, High, Moderate and Low. Code Key: E = Endangered, T = Threatened, P = Proposed, SSC= Species of Special Concern
S/A = Similar in Appearance
Data Source: URL: *Florida's endangered species, and threatened species* dated September 2015, updated September 2016: http://myfwc.com/media/1515251/threatened_endangered_species.pdf and Florida Natural Areas Inventory (FNAI) accessed September 2015, updated September 2016.

Bald Eagle

Although the bald eagle (*Haliaeetus leucocephalus*) has been delisted the species remains protected through the Migratory Bird Treaty Act, and the Bald and Golden Eagle Protection Act. The FWC Bald Eagle Nest locator was queried for known bald eagle nest sites within a one (1) mile radius of the project corridor. Nest No. OR031 was

identified within 0.50 mile of the project corridor, along the northeast side of Lake Charity, and was noted as an active nest site in 2014.

It is not anticipated that the SR 414 improvements will result in encroachment within the primary (330-foot radius from the nest tree) or secondary (660-foot radius from the nest tree) protection zones of bald eagle nest OR031. It is anticipated that the proposed project will not adversely affect the bald eagle.

Federally Listed Species

Wood Stork

The wood stork (*Mycteria americana*) is federally listed as endangered. This species is typically found in freshwater marshes, swamps, lagoons, ponds, flooded fields, depressions in marshes, and brackish wetlands. The critical foraging areas for this species include areas of very shallow water, generally six (6) to ten (10) inches in depth, where there is an abundance of small fishes and other aquatic life. These small fish may include mosquitofish, sailfin mollies, flagfish, and several species of sunfish. Wood storks may also prey on frogs, salamanders, snakes, crayfish, insects, and baby alligators (Scott 2004). Wood storks are known to nest in cypress trees, mangroves or dead hardwoods over water or on islands along streams or adjacent to shallow lakes. They are commonly associated with large rookery communities.

The proposed project is located within a 15-mile radius (core foraging area) of a nesting colony of wood storks; however, only 0.5 acres of wetland impacts are associated with the SR 414 improvement project. In addition, the areas of wetland involvement are mostly vegetated by nuisance species. It is anticipated that wetland impacts will not likelyto adversely affect (NLAA) the wood stork and its habitat.

No wood storks were observed on-site during field investigations.

Sand Skink

The sand skink (*Neoseps reynoldsi*) is listed as threatened by FWS. The sand skink is a unique lizard adapted to an underground existence. This species occurs only on Florida's central ridges requiring high elevations and appropriate soil types. The sand skink inhabits loose sands of sand pine-rosemary scrub, less often longleaf pine-turkey oak (sandhill) or turkey oak "barrens" adjacent to scrub, especially high pine-scrub ecotones (Telford, 1998). Sometimes this lizard occurs in areas with dense undergrowth and extensive canopy closure (Mushinsky, 1998). It is fossorial (usually within 8 cm of surface) but sometimes can be found under logs, leaf litter, and other surface debris (Bartlett and Bartlett, 1999). Well-drained sands in open glades free of rooted plants are optimal, whereas dry, porous sands are unfavorable; moisture under leaf litter is important in regulation of body temperature and for successful egg incubation. The sand skink eats mainly beetle larvae and termites, also adult beetles, spiders, caterpillars, and larval antlions (Telford 1959; USFWS 1987, 1998; Sutton 1996).

A Biological Assessment was prepared and submitted to FWS regarding sand skinks. FWS concluded that the site does not warrant further investigation. The proposed project is not anticipated to adversely affect the sand skink.

American Alligator

The American alligator (*Alligator mississippiensis*) is listed as threatened due to similarity in appearance to the American crocodile (*Crocodylus acutus*) by FWS. The American alligator inhabits fresh and brackish marshes,

ponds, lakes, rivers, swamps, bayous and large spring runs and are known to inhabit salt marsh and estuarine habitats in some parts of the state (Scott 2004). Alligators play a vital role in creating and maintaining microhabitats (gator holes), which can benefit a host of species for refuge to water source habitats. Nests consist of a mound of compacted earth and vegetation usually four (4) to seven (7) feet in diameter (Scott 2004). Nesting season occurs in the spring. The alligator has a wide variety of food sources which include fish, ducks, wading birds, raccoons, and turtles.

The American alligator was not observed during field observations and it is not anticipated that the project will adversely affect this species.

Eastern Indigo Snake

The Eastern indigo snake (*Drymarchon corais couperi*) is listed as threatened by the FWS. The species uses a wide range of habitats including pine flatwoods, scrubby flatwoods, high pine, dry prairie, tropical hardwood hammocks, edges of freshwater marshes, agricultural fields, coastal dunes and human-altered habitats (USFWS 1999). Eastern indigo snakes have large home ranges, generally requiring 124 to 248+ acres of undisturbed habitat during the warmer months and 25 acres in winter months (Hallam et al. 1998). This species is known to use gopher tortoise burrows as a refuge from the elements, including cold temperatures and fire, but are also known to take refuge in stump holes. In northern Florida, it winters mostly in gopher tortoise burrows (Hipes et al. 2000). The Eastern indigo snake consumes rats, rabbits, snakes, amphibians, eggs, birds, turtles and baby alligators. Breeding ranges from November to April, with egg laying occurring in May and June (Hipes et al. 2000a).

It is not anticipated that the project will adversely affect the Eastern indigo snake. During construction, the Standard Protection Measures for the Eastern Indigo Snake will be incorporated.

State Listed Species

Florida Mouse

The Florida mouse (*Podomys floridanus*) is listed as a species of special concern by FWC. This species is found only in Florida and is a relatively large mouse, seven (7) to eight (8) inches in length from nose to tip of tail (Hipes et al. 2000). The species is distinguished from other mice by its skunk-like odor and the presence of five (5) pads (plantar tubercles) on the hind feet compared to six (6) or seven (7) in *Peromyscus* spp. (Hipes et al. 2000). The Florida mouse is found in sandy upland habitats, such as scrub or sandhills and is generally associated with gopher tortoise burrows. The species will construct a small tunnel just off the main chamber of the gopher tortoise burrow. Acorns are a favorite food of the Florida mouse, but seeds, berries, mushrooms, and insects are also eaten (NatureServe 2008).

The Florida mouse was not observed during field investigations. The proposed project is not anticipated to adversely affect the Florida mouse.

Gopher Tortoise

The gopher tortoise (*Gopherus polyphemusis*) listed by the State of Florida as threatened, and therefore receives a certain level of protection. The gopher tortoise inhabits subterranean burrows in dry upland habitats. Vegetation communities most often inhabited by gopher tortoises include longleaf pine sandhills, xeric oak

hammocks, scrub, pine flatwoods, dry prairies and coastal dunes. Gopher tortoises can also live in anthropogenic-influenced environments, such as pastures, ruderal fields, and grassy roadsides. To be suitable for gopher tortoises, the habitat must have well-drained sandy soils for digging burrows, herbaceous plants, and open sunny areas for nesting, and basking. Periodic natural fires play an important role in maintaining tortoise habitat by opening up the canopy, and promoting growth of herbaceous plants used for forage. If natural fires are suppressed, the habitat becomes unsuitable for gopher tortoises (Cox 1987).

Gopher tortoise burrows are an important habitat to many native species. It is estimated that 39 invertebrate and 42 vertebrate species use the gopher tortoise burrow to some degree (Cox 1987). Of those species, protected species that are frequent inhabitants of the gopher tortoise burrow include the Florida mouse, Florida pine snake, eastern indigo snake, burrowing owl, and the gopher frog. This commensal relationship warranted field investigation for such species within the project corridor.

Gopher tortoise burrows were not observed within the project limits. The proposed project is not anticipated to adversely affect the gopher tortoise.

Gopher Frog

The gopher frog (*Rana capito*) is listed as a species of special concern by the FWC. The gopher frog generally inhabits xeric upland habitats, particularly longleaf pine-turkey oak sandhill associations, xeric to mesic longleaf pine flatwoods, sand pine scrub, and xeric oak hammocks. Preferred breeding habitats include seasonally flooded, grassy ponds, and cypress heads that lack fish populations (Moler 1992). Gopher frogs are known only from sites that support gopher tortoises as they will inhabit gopher tortoise burrows. Occasionally, the gopher frog will inhabit burrows of rodents and crayfish, as well as stump holes and other crevices. Breeding occurs typically after heavy rains (Moler 1992).

No gopher frogs were observed during field investigations. The proposed project is not anticipated to adversely affect the gopher frog.

Florida Pine Snake

The Florida pine snake *(Pituophis melanoleucus mugitus)* is listed as a species of special concern by the FWC. Florida pine snakes are large stocky snakes with an indistinct pattern of reddish or dark tan blotches on a tan, brownish gray, or rusty brown base color. The snakes require dry sandy soils for burrowing, and are found most often in open pine-turkey oak woodlands, abandoned fields, scrub, sandhills, and longleaf pine forests. Florida pine snakes spend most of their time underground in pocket gopher or gopher tortoise burrows. Feeding primarily on pocket gophers, which it pursues by forcing its way into their underground burrows, the snake also eats other small mammals, lizards, and reptile eggs.

No Florida pine snakes were observed during field investigations. The proposed project is not anticipated to adversely affect the Florida pine snake.

Little Blue Heron

The little blue heron (*Egretta caerulea*) is listed as a species of species of special concern by FWC. The little blue heron is typically found in marshes, ponds, lakes, meadows, mudflats, lagoons, streams, mangrove lagoons, and other bodies of shallow waters. The little blue heron's diet consists of various types of fishes, amphibians and

invertebrates. Nesting generally occurs in both coastal and freshwater environments in swamps and/or mangrove forests. They are also known to share nesting sites with other wading birds to form rookery colonies (Rodgers 1996).

The shallow waters at the fringes of the freshwater marsh and forested wetlands within and adjacent to the project site provide potential foraging and nesting habitat for the little blue heron.

The little blue heron was not observed during field investigations. The proposed project is not anticipated to adversely affect the little blue heron.

Snowy Egret

The snowy egret (*Egretta thula*) is listed as a species of species of special concern by FWC. The snowy egret is typically found in marshes, lakes, ponds, lagoons, mangroves, and shallow coastal habitats. The snowy egret diet consists of various types of fishes, amphibians, and invertebrates. Nesting can occur in a variety of wetland trees, including but not limited to willow, wax myrtle, and buttonbush. Breeding in freshwater rookeries occurs during periods of high water (Rodgers 1996).

The shallow waters at the fringes of the freshwater marsh and forested wetlands within and adjacent to the project site provide potential foraging and nesting habitat for the snowy egret.

The snowy egret was not observed during field investigations. The proposed project is not anticipated to adversely affect the snowy egret.

Tri-Colored Heron

The tri-colored heron (*Egretta tricolor*) is listed as a species of species of special concern by FWC. This species is typically found in habitats similar to the little blue heron and snowy egret, which include marshes, ponds, sloughs and freshwater areas. Tri-colored herons typically feed on small fishes, amphibians, crustaceans, snails, worms and aquatic insects. Nesting can occur in a variety of wetland trees including willow, wax myrtle, marsh elder, pond apple, and buttonbush. Breeding in freshwater rookeries occurs during periods of high water in freshwater wetlands.

The shallow waters at the fringes of the freshwater marsh and forested wetlands within and adjacent to the project site provide potential foraging and nesting habitat for the tri-colored heron.

The tri-colored heron was not observed during field investigations. The proposed project is not anticipated to adversely affect the tri-colored heron.

White Ibis

The white ibis (*Eudocimus albus*) is listed as a species of species of special concern by FWC. This species is commonly found in salt water and freshwater habitats, including mangroves, lagoons, marsh prairies, and coastal swamps. Nesting colonies are located in cypress, willow, buttonbush, and red maples, and on wetland tree islands in the center of ponds and lakes (Rodgers 1996).

The shallow waters at the fringes of the freshwater marsh and forested wetlands within and adjacent to the project site provide potential foraging and nesting habitat for the white ibis.

The white ibis was not observed during field investigations. The proposed project is not anticipated to adversely affect the white ibis.

ELIMINATION OR REDUCTION OF IMPACTS

When wetland or other surface waters are proposed for impacts, subsection 10.2.1 of the Applicants Handbook, Volume I (A.H.), suggests that design modifications be explored by the applicant to reduce or eliminate adverse impacts. Subsection 10.2.1 of the A.H. goes on to state, "The following factors are considered in determining whether an application will be approved by the Agency: the degree of impact to wetland and other surface water functions caused by a proposed activity; whether the impact to these functions can be mitigated; and the practicability of design modifications for the site that could eliminate or reduce impacts to these functions; including alignment alternatives for a proposed linear system."

The proposed widening of SR 414 from Hope Road to Maitland Avenue (CR 427) is intended to improve the level of service and enhance safety for the traveling public. In meeting the FDOT and the American Association of State Highway and Transportation Standards (AASHTO) roadway design criteria, provided little opportunity to modify site plans, and have reduced or eliminated wetland impacts to the best extent possible.

During the design phase modifications to reduce and/or eliminate adverse impacts were reviewed. A linear stormwater management system would require the acquisition of additional right-of-way (the current design does not require the acquisition of new right-of-way), as well as additional earthwork activity to meet hydrologic gradient. A single joint-use (FDOT and Maitland Concourse North) stormwater pond was proposed to serve the SR 414 improvements. This initial stormwater pond resulted in 3.30 acres of direct impacts to the on-site wetland system; a second design to the stormwater pond proposed a retaining wall along the northwest side of the system, and reduced the direct wetland impacts to 2.56 acres (Please see Appendix A). Further design plans between the FDOT District 5 and Maitland Concourse North reduced direct wetland impacts to 0.50 acres of direct wetland impacts by using three (3) stormwater ponds (Figure 7).

The current layout and configuration for SR 414 improvements provides for a single and complete project that meets engineering design and safety standards while reducing wetland impacts to the fullest extent practical.

WATER QUALITY

The proposed project is located within the Lake Jesup Drainage Basin. Stormwater management has been considered for the addition of new impervious surface and is designed to meet state water quality standards. It is anticipated that the development of SR 414 improvements will not adversely affect the quality of waters regulated under Chapter 62, Florida Administrative Code. In addition, the appropriate pollution abatement, stormwater attenuation, and flood control will be provided pursuant to the criteria of the SJRWMD. There will be no impacts to the water quality of the adjacent wetlands and surface waters in the post development condition.

PUBLIC INTEREST

Public Health, Safety or Welfare

The SR 414 project site was designed and will be constructed using best management practices (BMP's) under federal and state guidelines. Using such criteria, it is anticipated that the project will not cause any adverse effects to human health, safety, welfare or property of others.

Conservation of Fish and Wildlife

Mitigation for wetland impacts gives reasonable assurance that construction of the proposed project will compensate for impacts to the value of wetlands, ensuring there will be no overall adverse impacts to the abundance of fish, wildlife, listed species, and their habitat. Appropriate measures have been taken to minimize impacts to listed wildlife species as previously discussed in this application.

Fishing, Recreational, Marine Productivity

The proposed project is not anticipated to adversely affect the fishing, recreational, and/or marine productivity in the vicinity of the project. The proposed project is completely inland of any marine estuarine or tidally influenced areas. Floodplain compensating storage has been designed and provided to meet all applicable state permitting criteria. There will be no significant adverse changes in flows and volumes of water leaving the project site as required by the SJRWMD permitting criteria. Additionally, appropriate BMPs will be implemented to protect downstream resources.

Temporary or Permanent Nature

Proposed impacts to wetlands are permanent. Please see the construction plans of this application for details.

Historical and Archaeological Resources

The proposed project is not anticipated to adversely affect any known historical or archaeological resources within the project and project vicinity. In the event that any historical and/or archaeological resources are discovered during construction, construction activities will cease immediately and the Florida Department of State, Division of Historical Resources (DHR) will be notified.

SECONDARY IMPACTS

It is anticipated that project improvements will have limited secondary impacts to wetlands and/or other surface waters (please reference construction plans). It is anticipated that the proposed project will not have an unacceptable secondary impact to the foraging, nesting, or resting habitat for aquatic or wetland dependent species. Coordination with the FWS and FWC has been conducted to ensure any potential listed species involvement is avoided and/or mitigated in accordance with their guidelines and procedures.

It is not anticipated that the proposed project will have a secondary impact to historical and archaeological resources as there are no closely linked or related projects that will affect these resources.

There are no closely linked, additional phases of expansion or activities that are predicated on the proposed project. The proposed project is a single and unique project that does not require additional phases or impacts to wetlands or other surface waters. Activities such as utility construction (water, sewer, electric, etc.) will be coordinated with the appropriate agencies for authorization; however, site plans have been developed to

incorporate these components and should not require additional authorization from the SJRWMD for impacts to wetlands and/or surface waters.

CUMULATIVE IMPACTS

It is anticipated that the proposed project will not result in adverse cumulative impacts to water quality or functions of wetlands within the Lake Jesup drainage basin. Mitigation for adverse wetland impacts will be provided to compensative for direct and indirect (secondary) losses.

MITIGATION

A total of 0.50 acres of jurisdictional wetland impacts will result from the development of this project. The on-site wetland system is subject to impact consists of a forested fringe associated with Lake Charity. This wetland fringe is currently of average functional value. The impact area is subject to vegetative edge effects, and hydrologic alterations from adjacent upland activities. Senate Bill 1986 was passed by the legislation to more effectively offset impacts because of transportation projects. FDOT proposes to use Senate Bill 1986, pursuant to Section 373.4137, Florida Statutes, to offset direct and secondary impacts associated with the SR 414 project.

In accordance with Section 10 of the Rivers and Harbors Act of 1899, the proposed project will not require a Department of the Army Corps of Engineers permit (ACOE), as impacts are not located within navigable waters of the United States (Appendix B – USACOE Correspondence).

The mitigation required to offset proposed direct and secondary impacts to the on-site wetland was determined using the Unified Mitigation Assessment Method (UMAM) (Appendix C - UMAM Sheets). A summary of the functional evaluation is provided below.

Table 3: UMAM Evaluation Summary

Assessment Area	UMAM Delta	Impact Area (Ac.)	Relative Functional Gain/Loss
Wetland 1 (Direct Impacts)	-0.53	0.50	-0.27
Wetland 2 (Secondary Impacts)	-0.10	0.21	-0.021
Total Functional Loss			**-0.29**

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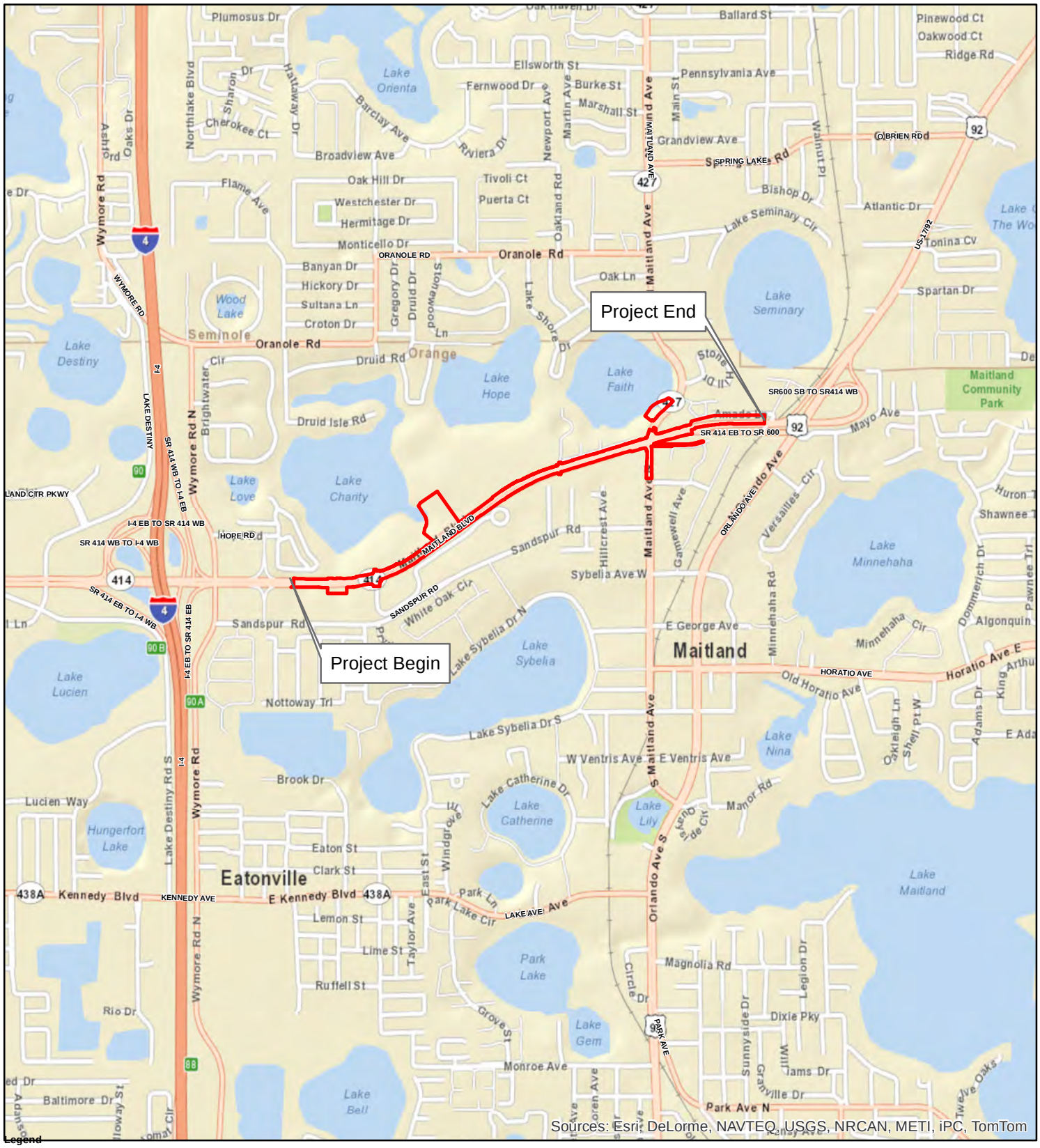
University of Florida, Florida Museum of Natural History. http://www.flmnh.ufl.edu/herpetology/fl-guide/Pituophismmugitus.htm

FIGURE 1
LOCATION MAP



Legend

Project Limits

World Street Map

Source: ESRI Project Limits - Kelly Collins & Gentry, Inc.	**LOCATION MAP** **State Road 414** **Hope Road to Maitland Avenue (County Road 427)** **Orange County, Florida**	0.35 Miles	FDOT
FPID 424217-1			FIGURE 1

FIGURE 2

AERIAL LOCATION MAP

Legend

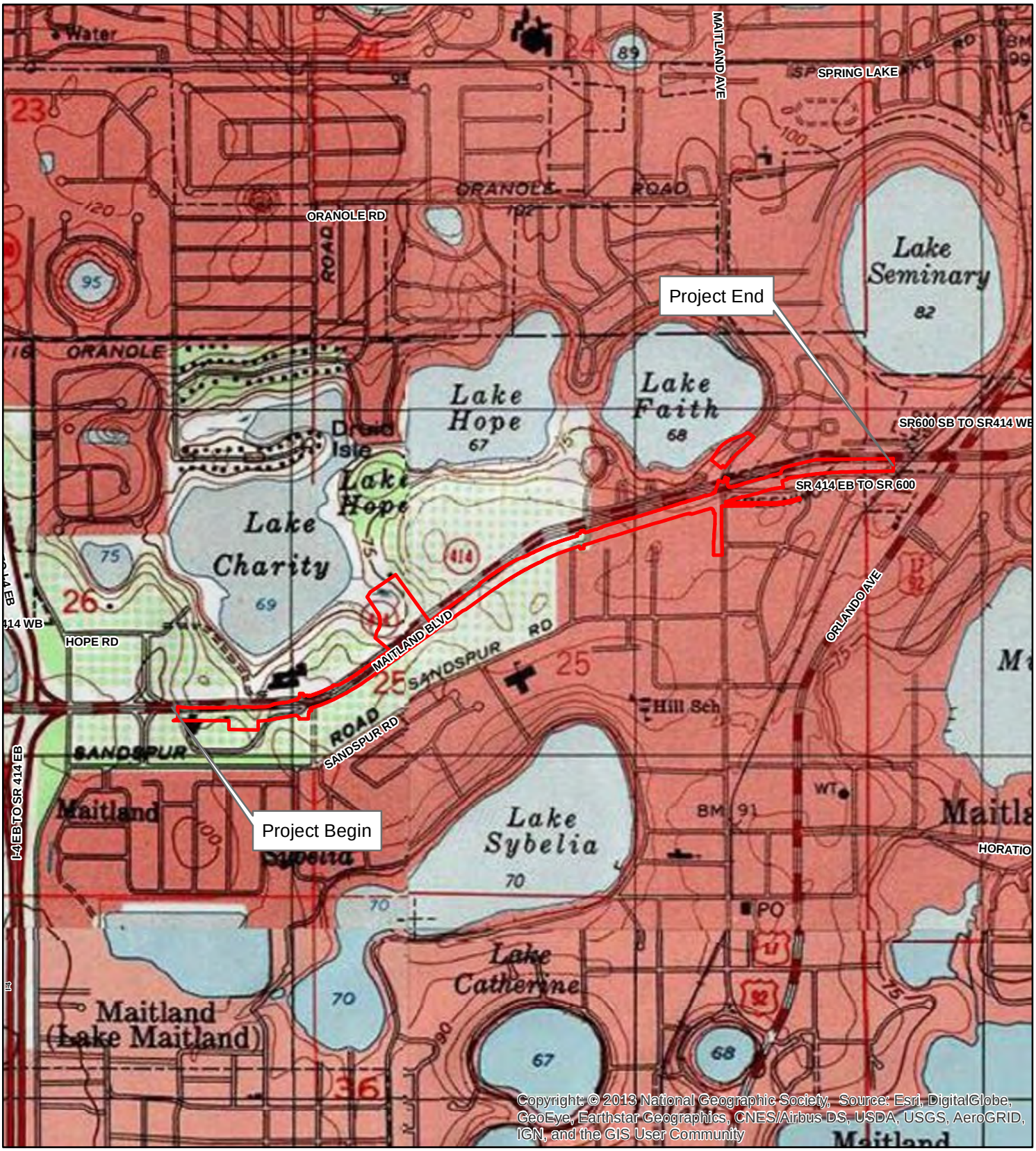
Project Limits

0.45 Miles

Source: ESRI Project Limits - Kelly Collins & Gentry, Inc.	**AERIAL LOCATION MAP** **State Road 414** **Hope Road to Maitland Avenue (County Road 427)** **Orange County, Florida**	N	FDOT
FPID 424217-1			FIGURE 2

FIGURE 3

USGS TOPOGRAPHIC QUADRANGLE MAP



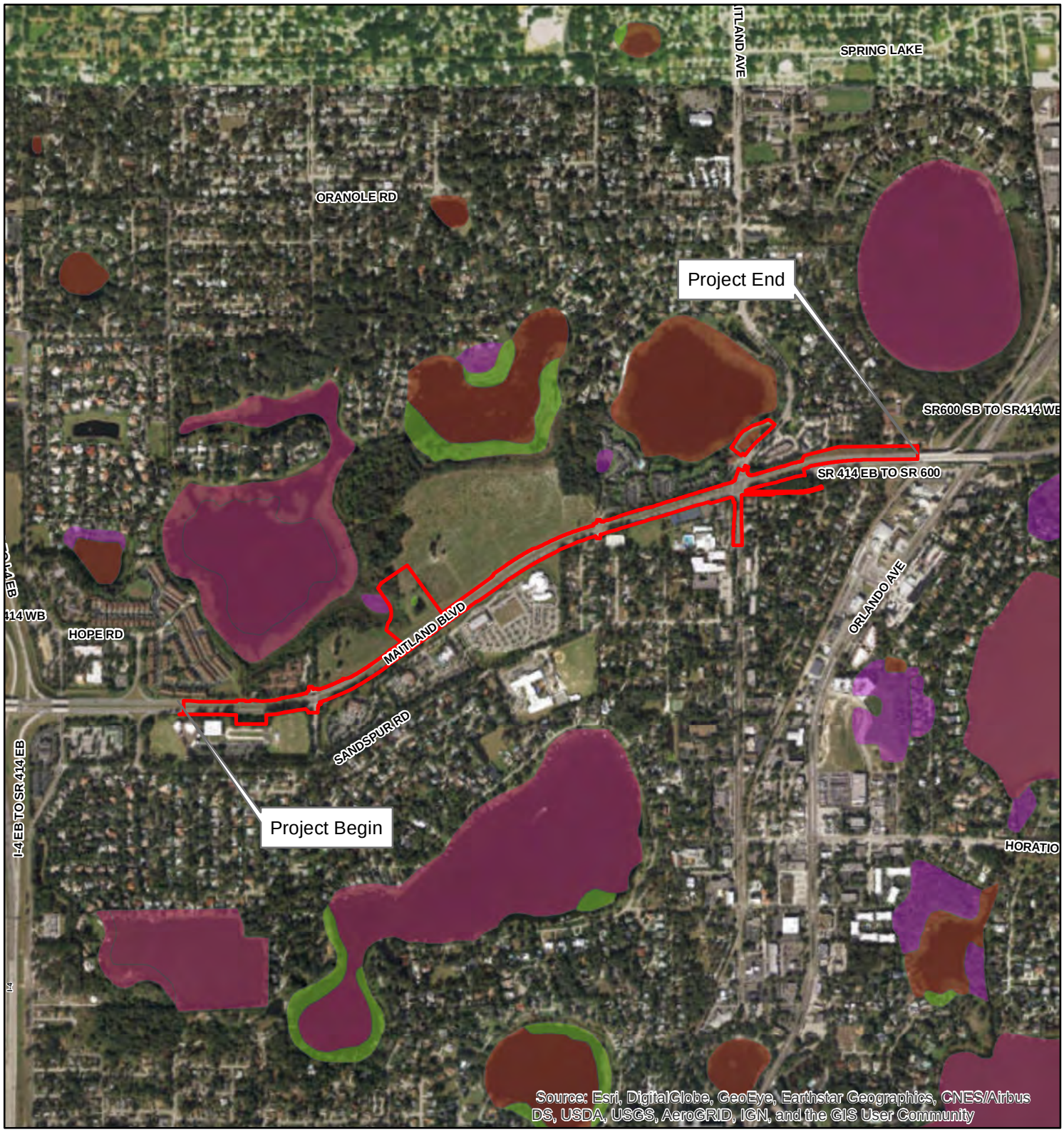
Legend

Project Limits

Source: ESRI Project Limits - Kelly Collins & Gentry, Inc.	**USGS TOPOGRAPHIC QUADRANGLE MAP**	0.2 Miles	FDOT
FPID 424217-1	**State Road 414** **Hope Road to Maitland Avenue (County Road 427)** **Orange County, Florida**		FIGURE 3

FIGURE 4

NWI MAP



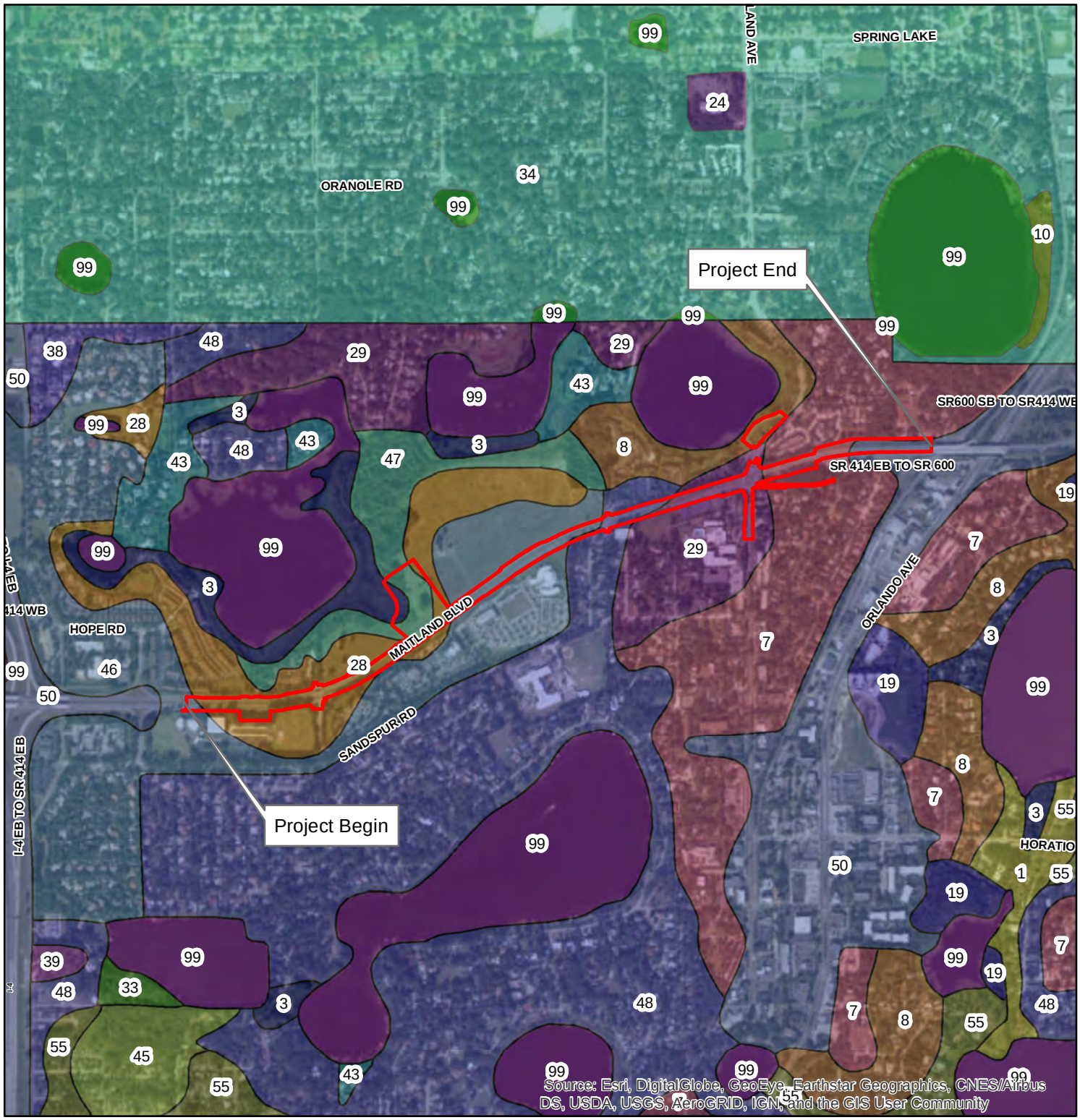
Legend

- Project Limits
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake

Source: ESRI Project Limits - Kelly Collins & Gentry, Inc.	**NWI MAP**	0.2 Miles	FDOT
FPID 424217-1	**State Road 414** **Hope Road to Maitland Avenue (County Road 427)** **Orange County, Florida**		FIGURE 4

FIGURE 5

NRCS SOIL SURVEY MAP



Legend

- Project Limits
- 1,.ARENTS, NEARLY LEVEL
- 19,.HONTOON MUCK
- 28,.FLORAHOME FINE SAND, 0 TO 5 PERCENT SLOPES
- 29,.FLORAHOME-URBAN LAND COMPLEX, 0 TO 5 PERCENT SLOPES
- 3,.BASINGER FINE SAND, DEPRESSIONAL
- 33,.PITS
- 38,.ST. LUCIE FINE SAND, 0 TO 5 PERCENT SLOPES
- 39,.ST. LUCIE-URBAN LAND COMPLEX, 0 TO 5 PERCENT SLOPES
- 43,.SEFFNER FINE SAND
- 45,.SMYRNA-URBAN LAND COMPLEX
- 46,.TAVARES FINE SAND, 0 TO 5 PERCENT SLOPES
- 47,.TAVARES-MILLHOPPER FINE SANDS, 0 TO 5 PERCENT SLOPES
- 48,.TAVARES-URBAN LAND COMPLEX, 0 TO 5 PERCENT SLOPES
- 50,.URBAN LAND
- 55,.ZOLFO-URBAN LAND COMPLEX
- 7,.CANDLER-URBAN LAND COMPLEX, 0 TO 5 PERCENT SLOPES
- 8,.CANDLER-URBAN LAND COMPLEX, 5 TO 12 PERCENT SLOPES
- 99,.WATER
- 10,.Basinger, Samsula, and Hontoon soils, depressional
- 24,.Paola-St. Lucie sands, 0 to 5 percent slopes
- 34,.Urban land
- 99,.Water

Source:
ESRI
Project Limits - Kelly Collins & Gentry, Inc.

FPID 424217-1

NRCS SOIL SURVEY MAP

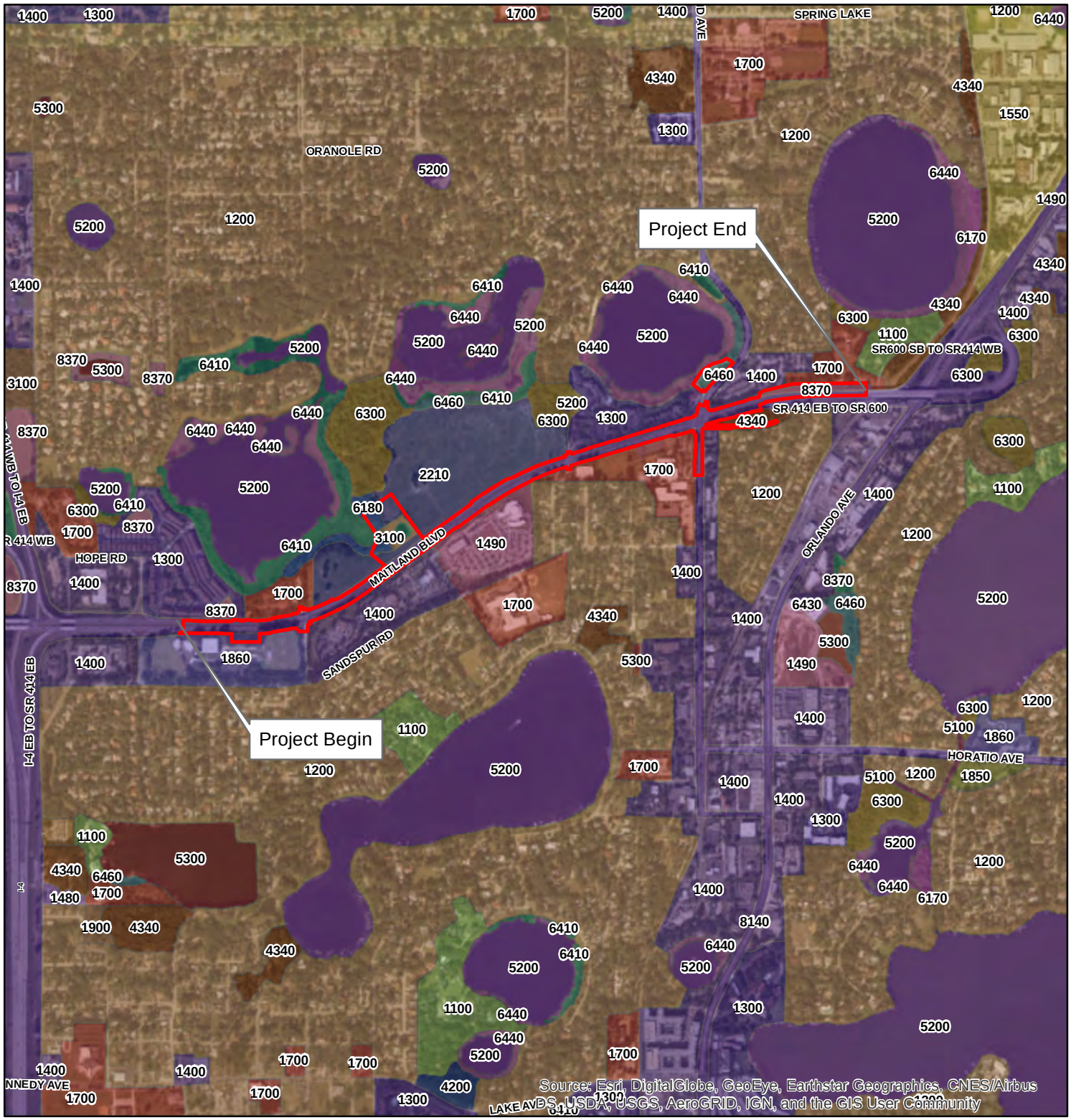
State Road 414
Hope Road to Maitland Avenue (County Road 427)
Orange County, Florida

0.2
Miles

FIGURE 5

FIGURE 6

FLUCFCS MAP



Legend

- Project Limits
- 1100: Residential, low density - less than 2 dwelling units/acre
- 1200: Residential, medium density - 2-5 dwelling units/acre
- 1300: Residential, high density - 6 or more dwelling units/acre
- 1400: Commercial and services
- 1480: Cemeteries
- 1490: Commercial & services under construction
- 1550: Other light industrial
- 1700: Institutional
- 1850: Parks and zoos
- 1860: Community recreational facilities
- 2210: Citrus groves
- 3100: Herbaceous upland nonforested
- 4200: Upland hardwood forests
- 4340: Upland mixed coniferous/hardwood
- 5100: Streams and waterways
- 5200: Lakes
- 5300: Reservoirs - pits, retention ponds, dams
- 6170: Mixed wetland hardwoods
- 6180: Willow and elerberry wetland
- 6300: Wetland forested mixed
- 6410: Freshwater marshes
- 6430: Wet prairies
- 6440: Emergent aquatic vegetation
- 6460: Mixed scrub-shrub wetland
- 8140: Roads and highways (divided 4-lanes with medians)
- 8310: Electrical power facilities
- 8370: Surface water collection basins

Source:
ESRI
Project Limits - Kelly Collins & Gentry, Inc.

FPID 424217-1

FLUCFCS MAP

State Road 414
Hope Road to Maitland Avenue (County Road 427)
Orange County, Florida

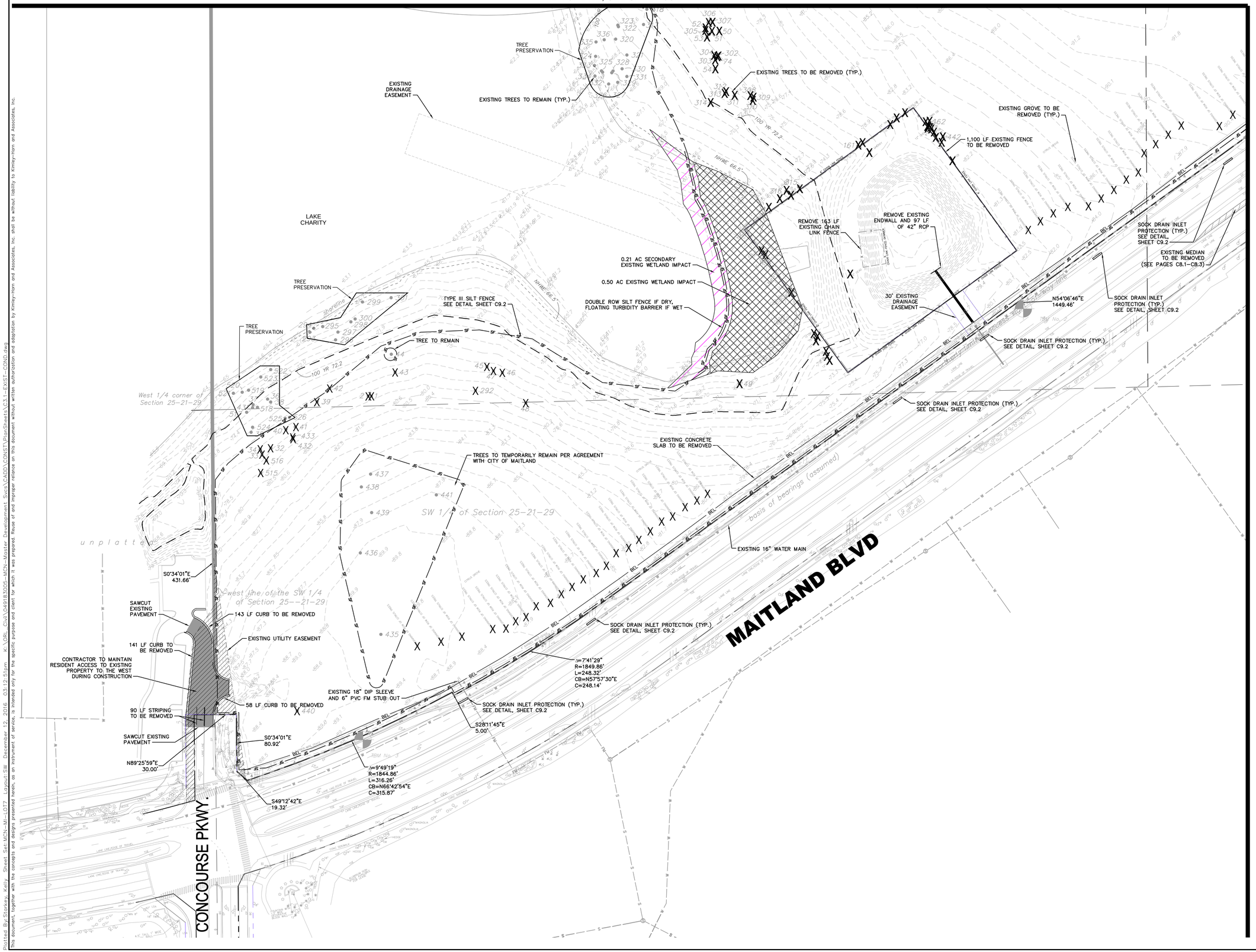
0.25
Miles

FIGURE 6

FIGURE 7

PROPOSED POND DESIGN

MATCHLINE, SEE SHEET C3.2



NORTH

GRAPHIC SCALE IN FEET
0 30 60 120

LEGEND:

- SF — SILT FENCE
- 211 — EXSITING TREE
- X 211 — EXISTING TREE TO BE REMOVED
- EXISTING WETLAND IMPACT
- EXISTING PAVEMENT TO BE REMOVED

No.	REVISIONS	DATE	BY

LICENSED PROFESSIONAL

KHA PROJECT 049183005
DATE 11/22/2016
SCALE AS SHOWN
DESIGNED BY JAM
DRAWN BY KAS
CHECKED BY JAM
DATE:

EXISTING CONDITIONS & WETLAND IMACT PLAN

FIGURE 7

CITY OF MAITLAND FLORIDA

SHEET NUMBER

Plotted By: Starkey, Kelly Sheet Set: MCN-MI-LOT7 Layout: SW December 12, 2016 03:12:51pm K:\ORL_Civil\049183005-MCN-Master Development Svcs\CADD\CONST\PlanSheets\C3.1-EXIST-COND.dwg
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APPENDIX A

PROPOSED POND ALTERNATIVES

LAKE CHARITY

MINIMUM WIDTH OF 59.0' FROM N.H.W.E.

Point of Beginning Parcel 3

west line of NW 1/4 of Section 25-

EXISTING WETLANDS (TYP.)

PROPOSED WALL

PROPOSED POND

100 year flood line

N.H.W.E.

LESS OUT O.R.B. 2709, Page 343

Point of Beginning Parcel 2

TRACT ONE 11.34 Ac. (total) 8.75 Ac. (Above the N.H.W.E.)

west line of SW 1/4 of Section 25-21-29

basis of bearings

MAITLAND BLVD

LIMITS OF WETLAND IMPACT

NORTH

GRAPHIC SCALE IN FEET 0 20 40 80

LEGEND

LIMITS OF WETLAND IMPACT

PROPOSED IMPACTS

WETLAND IMPACT = 111,387.90 SF = 2.56 AC

No.	REVISIONS	DATE	BY

Kimley-Horn and Associates, Inc.
© 2014 KIMLEY-HORN AND ASSOCIATES, INC.
3660 MAGUIRE BOULEVARD, SUITE 200, ORLANDO, FL 32803
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM CA 00000696

LICENSED PROFESSIONAL

DATE:

KHA PROJECT 149183000 2
DATE 11/04/2014
SCALE AS SHOWN
DESIGNED BY BSA
DRAWN BY BSA
CHECKED BY JAM

WETLAND IMPACT EXHIBIT (WITH WALLS)

MAITLAND CONCOURSE NORTH

CITY OF MAITLAND FLORIDA

SHEET NUMBER

Plotted By:Kelly, Brian Date Saved:Layout:WETLAND IMPACT November 04, 2014 06:17:49pm K:\OR_Civil\149183000-Maitland\Concourse\CADD\Exhibits\Land Use Plan Exhibit-WITH WALLS-2015-11-04.dwg
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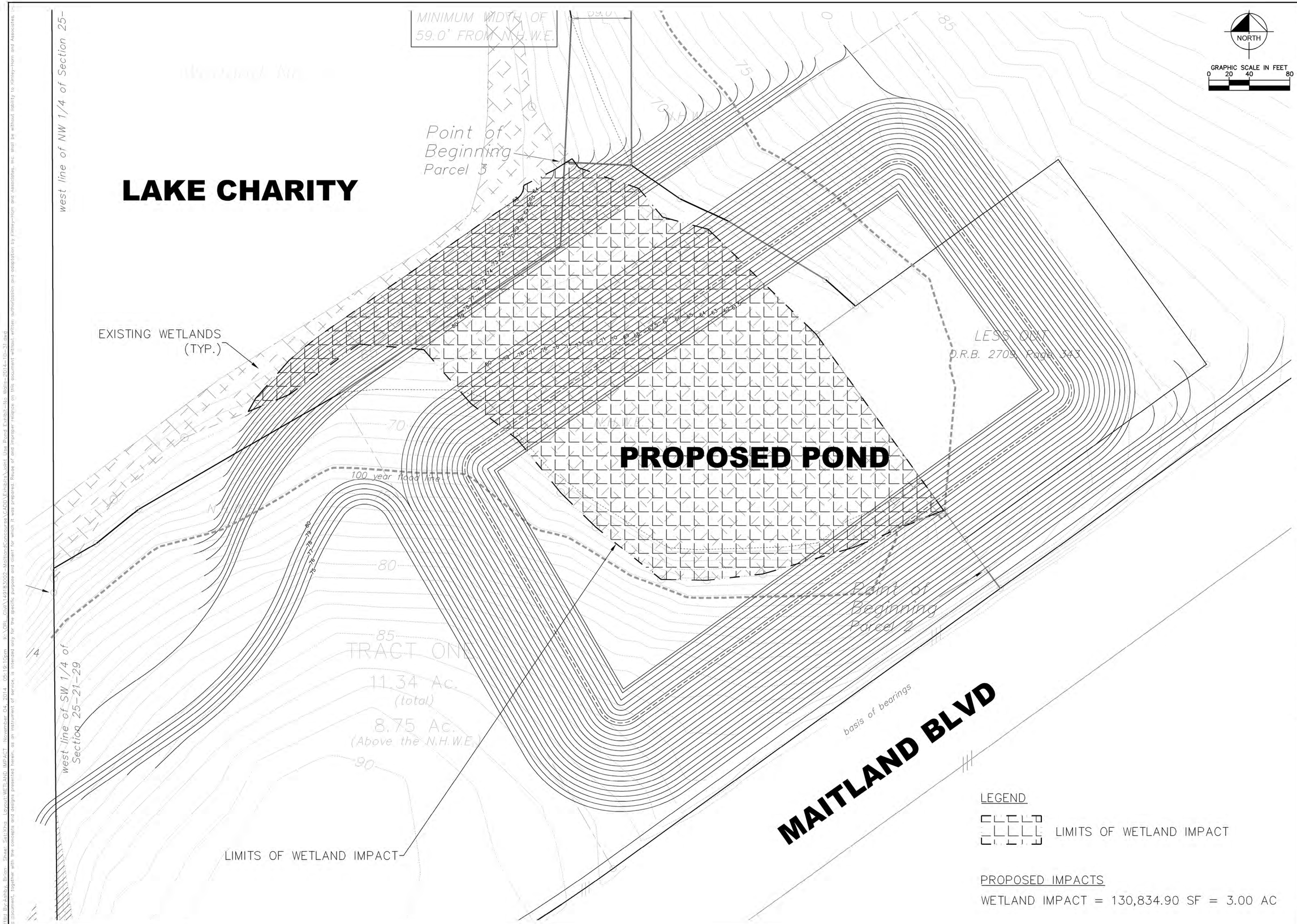

No.	REVISIONS	DATE	BY

Kimley-Horn and Associates, Inc.

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3660 MAGUIRE BOULEVARD, SUITE 200, ORLANDO, FL 32803
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM CA 00000696

LICENSED PROFESSIONAL

DATE:

KHA PROJECT 149183000 2
DATE 11/04/2014
SCALE AS SHOWN
DESIGNED BY BSA
DRAWN BY BSA
CHECKED BY JAM

WETLAND IMPACT EXHIBIT (NO WALLS)

MAITLAND CONCOURSE NORTH

CITY OF MAITLAND FLORIDA

SHEET NUMBER

Plot By:Ashley Brine Plot Scale:1:1 Layout:WETLAND IMPACT November 04, 2014 - 09:19:10am K:\CIVIL Civil\149183000-Maitland Concourse\CADD\Entitlement Use Plans\Exhibit-No Walls-2014-10-31.dwg
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APPENDIX B
USACOE CORRESPONDENCE

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
400 HIGH POINT DRIVE, SUITE 600
COCOA, FLORIDA 32926

July 28, 2015

REPLY TO ATTENTION OF
Regulatory Division
North Permits Branch
Cocoa Permits Section
SAJ-2015-00540(NPR-AWP)

Florida Department of Transportation, District 5
Attn: Casey Lyon
719 South Woodland Blvd.
Deland, Florida 32720

Dear Ms. Lyon:

Reference is made to the application received on June 12, 2015, for a Department of the Army permit to widen State Road 414 from Hope Road to County Road 427, FPN 424217-1-32-01. The site is located near Latitude 28.634 North, Longitude 81.373 West, Maitland, Orange County, Florida. The application has been assigned the file number SAJ-2015-00540(NPR-AWP).

The project as proposed will not require a Department of the Army permit in accordance with Section 10 of the Rivers and Harbors Act of 1899 as it is not located within the navigable waters of the United States. Furthermore, a permit will not be required in accordance with Section 404 of the Clean Water Act as it will not involve the discharge of dredged or fill material into waters of the United States. Provided the work is done in accordance with the enclosed drawings, Department of the Army authorization will not be required.

This letter contains an approved jurisdictional determination for your subject site. If you object to this determination, you may request an administrative appeal under Corps' regulations at 33 CFR Part 331. Enclosed you will find a Notification of Appeal Process fact sheet and Request for Appeal (RFA) form. If you request to appeal this determination/decision, you must submit a completed RFA form to the South Atlantic Division Office at the following address:

Mr. Jason Steele
South Atlantic Division
U.S. Army Corps of Engineers
CESAD-CM-CO-R, Room 9M15
60 Forsyth St., SW.
Atlanta, Georgia 30303-8801.

Mr. Steele can be reached by telephone number at 404-562-5137, or by facsimile at 404-562-5138.

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR Part 331.5, and that it has been received by the Division office within 60 days of the date of the RFA. Should you decide to submit an RFA form, it must be received at the above address by September 22, 2015. It is not necessary to submit an RFA form to the Division office, if you do not object to the determination/decision in this letter.

This determination has been conducted to identify the limits of the Corps Clean Water Act jurisdiction for the particular site identified in this request. This determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985, as amended. If you or your tenant are U.S. Department of Agriculture (USDA) program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service prior to starting work. Please be advised this determination reflects current policy and regulations and is valid for a period of no longer than 5 years from the date of this letter unless new information warrants a revision of the determination before the expiration date. If after the 5-year period, the Corps has not specifically revalidated this determination, it will automatically expire. Any reliance upon this determination beyond the expiration date may lead to possible violation of current Federal laws and/or regulation.

Additionally, your project site may contain species protected by the Endangered Species Act (ESA) of 1972, as amended. You should contact your local U.S. Fish and Wildlife Service (FWS) office to determine if federally listed species or their habitat are present on your project site. If it is determined that federally listed species may be affected by the proposed project, authorization for "incidental take" may be required. FWS offices can be contacted by the following telephone numbers: Jacksonville at 904-232-2580, Panama City at 850-769-0552, St. Petersburg at 727-570-5398, or Vero Beach at 772-562-3909.

This letter does not obviate the requirement to obtain any other Federal, State, or local permits that may be necessary for your project. Should you have any questions, please contact Andrew Phillips at the letterhead address or by telephone at 321-504-3771 extension 14.

Thank you for your cooperation with our permit program. The Corps Jacksonville District Regulatory Division is committed to improving service to our customers. We strive to perform our duty in a friendly and timely manner while working to preserve our

environment. We invite you to take a few minutes to visit http://per2.nwp.usace.army.mil/survey.html and complete our automated Customer Service Survey. Your input is appreciated – favorable or otherwise. Please be aware this web address is case sensitive and should be entered as it appears above.

Sincerely,

Irene F. Sadowski
Chief, Cocoa Permits Section

Enclosures

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: FDOT, District 5	File Number: **SAJ-2015-00540**	Date: July 24, 2015
Attached is:		See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL	C
X	APPROVED JURISDICTIONAL DETERMINATION	D
	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://www.usace.army.mil/CECW/Pages/reg_materials.aspx or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- *ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.*

- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- *ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.*

- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- *ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.*

- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact: **Project Manager as noted in letter**	If you only have questions regarding the appeal process you may also contact: **Tori White** **904-232-1177**

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

_____ Signature of appellant or agent.	Date:	Telephone number:

APPENDIX C

UMAM PARTS I AND II

UNIFORM WETLAND MITIGATION ASSESSMENT WORKSHEET - PART I - IMPACT
Form 62-345.900(2), F.A.C. (See Sections 62-345.400 F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
State Rod 414 Improvements		**Onsite Wetland**

FLUCCs code	Further classification (optional)	Impact Type	Assessment Area Size
6180	**6180**	**Direct Impact**	**0.50** Acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
St. Johns River (Canaveral Marshes to Wekiva)	**III**	**Lake Jesup Nested Basin**

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

The assessment area is contiguous with Lake Charity to the north. Citrus grove, roadway and multi-family development are present south, east and west of the wetland community.

Assessment area description

This community type occurs around lakes and is characteristically vegetated with hydrophytic trees and shrubs that can withstand an extended hydroperiod. These swamps and be highly variable in size, shape and species composition. Dominant species includes: Virginia willow (Itea virginica), primrose willow (*Ludwigia* sp.), swamp dogwood (Corus foemina), swamp doghobble (Leucothoe racemosa), fetterbush (Lyonia lucida), wax myrtle (Myrica cerifera), titi (Cyrilla racemiflora), common buttonbush (Cephalanthus occidentalis); groundcover included maidencane (Panicum hemitomon), Virginia chain fern (Woodwardia virginica), arrowhead (Sagittaria sp.), lizard's tail (Saururus cenuus), false nettle (Boehmeria sp.), beaksedge (Rhynchospora sp.), bladderwort (Utricularia sp.), royal fern (Osmunda regalis), cogon grass (*Imperata cylindrica*), and cordgrass (*Spartina* sp.).

Significant Nearby Features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
State Road 414, Interstate 4, Charity, Hope, and Faith lakes, citrus grove and multi-family developments.	**This assessment area is not considered unique in the local or regional landscape.**
Functions	Mitigation for previous permit/other historic use
Water storage and flood attenuation, water quality through nutrient absorption. Nesting and roosting opportunity for avian species.	**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)
This cover type provides roosting, foraging and nesting habitat for several wildlife species. Typical species include southern cricket frog, little grass frog, chicken turtle, striped mud turtle, ring neck snake, scarlet king snake, crayfish snake, cottonmouth, wood duck, hawks, wild turkey, great horned owl, barred owl, pileated woodpecker, songbirds, eastern gray squirrel, raccoon, river otter, bobcat, and white-tailed deer.	**white ibis (SSC), snowy egret (SSC), wood stork (FE), American alligator (T S/A)**

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):
M. Pearson	**03/03/14**

UNIFORM WETLAND MITIGATION ASSESSMENT WORKSHEET - PART II - IMPACT
Form 62-345.900(2), F.A.C. (See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name:	Application Number:	Assessment Area Name or Number:
State Rod 414 Improvements	**-**	**Onsite Wetland**
Impact or Mitigation:	Assessment Conducted by:	Assessment Date:
Impact	**M. Pearson**	**03/03/14**

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

Enter Notes below (do NOT score each subcategory individually)

.500(6)(a) Location and Landscape Support	
a. Quality and quantity **of habitat support** outside of AA.	Roads, agriculture and development - minimal support for wildlife species.
b. **Invasive plant species.**	Land use coverage converted from natural state - Citrus grove, earpod trees.
c. **Wildlife access** to and from AA (proximity and barriers).	Road, agriculture and development- no native habitat near.
d. **Downstream benefits** provided to fish and wildlife.	isolated to Lakes Charity, Faith and Hope-limited by barriers to other systems.
e. Adverse impacts to wildlife in AA from **land uses** outside of AA.	Marginal adverse impacts to wildlife.
f. **Hydrologic connectivity** (impediments and flow restrictions).	Benefits reduced form impeded isolation by landscape use changes.
g. **Dependency** of downstream habitats on quantity or quality of discharges.	N/A
h. Protection of wetland functions provided by uplands (**upland** AAs only).	Little protection provide little to no protection of wetland functions.

Current	With Impact
6	0

Additional Notes: The assessment area is bordered by major roadways that limit the utilization by wildlife. Residential development and agriculteral activities limit access for wildlife.

.500(6)(b) Water Environment (n/a for uplands)	
a. Appropriateness of **water levels and flows**.	9
b. Reliability of **water level indicators**.	Not fully consistent.
c. Appropriateness of **soil moisture**.	Minimal oxidation present.
d. **Flow rates**/points of discharge.	n/a
e. **Fire frequency**/severity.	n/a
f. **Type of vegetation**.	Some strata (mid. and groundcover) inappropriate
g. **Hydrologic stress** on vegetation.	Some stress evident.
h. **Use by animal**s with hydrologic requirements.	More generalized widlife use.
i. **Plant community composition** associated with water quality (i.e., plants tolerant of poor WQ).	some veg. tolerant of altered water qual. present.
j. **Water quality of standing water by observation** (I.e., discoloration, turbidity).	Moderate water quality degredation observed.
k. **Water quality data** for the type of community.	
l. **Water depth, wave energy, and currents**.	Generally sufficient for community type.

Current	With Impact
6	0

Additional Notes: Hydrology is suficient to support the small woody component, but water quality is affected by road runoff, and adjacent upland agricultural activities. Oil sheens, household debris present in the system.

.500(6)(c) Community Structure	
I. Appropriate/desirable species	Majority undesirable species in mid and ground stratum.
II. Invasive/exotic plant species	Significant portion of undesireable species present.
III. Regeneration/recruitment	Minimal.
IV. Age, size distribution.	Atypical.
V. Snags, dens, cavity, etc.	N/A
VI. Plants' condition.	Generally poor.
VII. Land management practices.	N/A
VIII. Topographic features (refugia, channels, hummocks).	Slightly less than optimal.
IX. Submerged vegetation (only score if present).	Moderate algal growth.
X. Upland assessment area	Little or no support for fish and wildlife of wetlands.

X Vegetation
____ Benthic
____ Both

Current	With Impact
4	0

Additional Notes:
The assessment area is subject to influence and seed source from adjacent agricultural lad uses as little to no natural habitat buffers the system.

Raw Score = Sum of above scores/30 (if uplands, divide by 20)

Current	With Impact
0.5333333	0

Impact Delta (ID)	
Current - w/Impact	0.533333333

Impact Acres =	0.50

Functional Loss (FL) [For Impact Assessment Areas]:	
FL = ID x Impact Acres =	0.267

NOTE: If impact is proposed to be mitigated at a mitigation bank that was assessed using UMAM, then the credits required for mitigation is equal to Functional Loss (FL). If impact mitigation is proposed at a mitigation bank that was not assessed using UMAM, then UMAM cannot be used to assess impacts; use the assessment method of the mitigaiton bank.

Additional Notes:

UNIFORM WETLAND MITIGATION ASSESSMENT WORKSHEET - PART I - IMPACT
Form 62-345.900(2), F.A.C. (See Sections 62-345.400 F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
State Rod 414 Improvements		**Onsite Wetland**

FLUCCs code	Further classification (optional)	Impact Type	Assessment Area Size
6180		**Secondary Impact**	**0.21** Acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
St. Johns River (Canaveral Marshes to Wekiva)	**III**	**Lake Jesup Nested Basin**

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

The assessment area is contiguous with Lake Charity to the north. Citrus grove, roadway and multi-family development are present south, east and west of the wetland community.

Assessment area description

This community type occurs around lakes and is characteristically vegetated with hydrophytic trees and shrubs that can withstand an extended hydroperiod. These swamps and be highly variable in size, shape and species composition. Dominant species includes: Virginia willow (Itea virginica), primrose willow (*Ludwigia* sp.), swamp dogwood (Corus foemina), swamp doghobble (Leucothoe racemosa), fetterbush (Lyonia lucida), wax myrtle (Myrica cerifera), titi (Cyrilla racemiflora), common buttonbush (Cephalanthus occidentalis); groundcover included maidencane (Panicum hemitomon), Virginia chain fern (Woodwardia virginica), arrowhead (Sagittaria sp.), lizard's tail (Saururus cenuus), false nettle (Boehmeria sp.), beaksedge (Rhynchospora sp.), bladderwort (Utricularia sp.), royal fern (Osmunda regalis), cogon grass (*Imperata cylindrica*), and cordgrass (*Spartina* sp.).

Significant Nearby Features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
State Road 414, Interstate 4, Charity, Hope, and Faith lakes, citrus grove and multi-family developments.	**This assessment area is not considered unique in the local or regional landscape.**

Functions	Mitigation for previous permit/other historic use
Water storage and flood attenuation, water quality through nutrient absorption. Nesting and roosting opportunity for avian species.	**N/A**

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)
This cover type provides roosting, foraging and nesting habitat for several wildlife species. Typical species include southern cricket frog, little grass frog, chicken turtle, striped mud turtle, ring neck snake, scarlet king snake, crayfish snake, cottonmouth, wood duck, hawks, wild turkey, great horned owl, barred owl, pileated woodpecker, songbirds, eastern gray squirrel, raccoon, river otter, bobcat, and white-tailed deer.	**white ibis (SSC), snowy egret (SSC), wood stork (FE), American alligator (T S/A)**

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

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
M. Pearson	**03/03/14**

UNIFORM WETLAND MITIGATION ASSESSMENT WORKSHEET - PART II - IMPACT
Form 62-345.900(2), F.A.C. (See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name:	Application Number:	Assessment Area Name or Number:
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Impact or Mitigation:	Assessment Conducted by:	Assessment Date:
Impact	**M. Pearson**	**03/03/14**

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
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Enter Notes below (do NOT score each subcategory individually)

.500(6)(a) Location and Landscape Support

a. Quality and quantity **of habitat support** outside of AA.	Roads, agriculture and development - minimal support for wildlife species.
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f. **Hydrologic connectivity** (impediments and flow restrictions).	Benefits reduced form impeded isolation by landscape use changes.
g. **Dependency** of downstream habitats on quantity or quality of discharges.	N/A
h. Protection of wetland functions provided by uplands (**upland** AAs only).	Little protection provide little to no protection of wetland functions.

Additional Notes: The assessment area is bordered by major roadways that limit the utilization by wildlife. Residential development and agriculteral activities limit access for wildlife.

Current	With Impact
6	4

.500(6)(b) Water Environment (n/a for uplands)

a. Appropriateness of **water levels and flows**.	Slightly higher than appropriate.
b. Reliability of **water level indicators**.	Not fully consistent.
c. Appropriateness of **soil moisture**.	Minimal oxidation present.
d. **Flow rates**/points of discharge.	n/a
e. **Fire frequency**/severity.	n/a
f. **Type of vegetation**.	Some strata (mid. and groundcover) inappropriate
g. **Hydrologic stress** on vegetation.	Some stress evident.
h. **Use by animal**s with hydrologic requirements.	More generalized widlife use.
i. **Plant community composition** associated with water quality (i.e., plants tolerant of poor WQ).	some veg. tolerant of altered water qual. present.
j. **Water quality of standing water by observation** (I.e., discoloration, turbidity).	Moderate water quality degredation observed.
k. **Water quality data** for the type of community.	
l. **Water depth, wave energy, and currents**.	Generally sufficient for community type.

Additional Notes: Hydrology is sufficient to support the small woody component, but water quality is affected by road runoff, and adjacent upland agricultural activities. Oil sheens, household debris present in the system.

Current	With Impact
6	6

.500(6)(c) Community Structure

X Vegetation

Benthic

Both

I. Appropriate/desirable species	Majority undesirable species in mid and ground stratum.
II. Invasive/exotic plant species	Significant portion of undesireable species present.
III. Regeneration/recruitment	Minimal.
IV. Age, size distribution.	Atypical.
V. Snags, dens, cavity, etc.	N/A
VI. Plants' condition.	Generally poor.
VII. Land management practices.	N/A
VIII. Topographic features (refugia, channels, hummocks).	Slightly less than optimal.
IX. Submerged vegetation (only score if present).	Moderate algal growth.
X. Upland assessment area	Little or no support for fish and wildlife of wetlands.

Additional Notes:

The assessment area is subject to influence and seed source from adjacent agricultural lad uses as little to no natural habitat buffers the system.

Current	With Impact
4	3

Raw Score = Sum of above scores/30 (if uplands, divide by 20)

Current	With Impact
0.5333333	0.433333333

Impact Acres =	0.21

Functional Loss (FL) [For Impact Assessment Areas]:	
FL = ID x Impact Acres =	0.021

Impact Delta (ID)	
Current - w/Impact	0.1

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Additional Notes: