Indigo
Rezone & Revised Preliminary Site Plan

Manatee County
Environmental Considerations

March 2018
Revised June 2018

Prepared for:
NeAL COMMUNITIES
5800 Lakewood Ranch Blvd North
Sarasota, Florida 34240

Prepared by:
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Palmetto, FL 34221
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INTRODUCTION
The following report addresses Sections 705 and 706 of the Manatee County Land Development Code (LDC) pertaining to wildlife, wetlands, and upland habitats for a rezone and a revised Preliminary Site Plan (PSP). The application includes a request for a rezone and PSP approval of 40.32 acres of land to be added to the currently approved Indigo development. Revisions to existing phases 6 & 7 are being proposed in order to incorporate the additional acreage into the master plan of the development. The overall project is proposed to contain a maximum of 710 residential lots on ±241 acres. The project is located east of south side of State Road 64 between White Eagle Boulevard and Mill Creek in Section 4, Township 35 South, Range 19 East and Section 33, Township 34 South, Range 19 East in Manatee County. See attached Location Map.

METHODOLOGY
The following methods were employed to assess the referenced parcel:

- Field inspection of the site for evidence of wetlands, protected species, or other sensitive environmental features.
- Recent and historical aerial photograph interpretation of the subject property.
- Review of the National Wetlands Inventory (NWI) maps.
- Review of the NRCS Web Soil Survey for Manatee County, Florida and documentation of the soil characteristics on site.
- Research of Manatee County, and various State and Federal databases regarding protected wildlife species.

SUMMARY
The subject property is currently comprised of woodland pasture, single family homes, pastureland, mixed forested wetland, hardwood conifer mixed forest and freshwater marshes. There are several excavated agricultural ditches and ponds located within the property. The proposed PSP, includes a total of ±1.64 acres of wetland impacts. The previously approved PSP authorized a total of 0.49 acres of wetland impacts within Phases 6 & 7.

Wetland Impact Tables

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E Co Consultants, Inc.
Phase 8

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The applicant has submitted a Petition for the Formal Determination of Wetlands and Other Surface Waters (Petition No. 757506) for the proposed Indigo Phase 8. The wetland limits for Phases 6 & 7 were previously approved by SWFWMD on June 7, 2016 through a Petition for the Formal Determination of Wetlands and Other Surface Waters (Petition No. 722382/42042466.000).

The following sections provide information on environmental considerations associated with the proposed rezone portion of the project (Phase 8). The discussion includes on-site habitat descriptions, adjacent land uses, wildlife issues, and historical resources for the subject parcel. The previously submitted environmental information for Phase 6 & 7 is attached for reference.

**EXISTING CONDITIONS**  
*(For Phase 8 only - Phase 6&7 previously submitted information is attached)*

The existing conditions of the project and within 500 feet of the project area including upland and wetland plant communities were mapped in accordance with Florida Land Use Cover Forms and Classification System (FLUCCS, Florida Department of Transportation 1999). An aerial photograph and FLUCCS land use map of the site pre-development is provided is attached. Topographic features within the project area are provided in the attached USGS Topographic Map.

**Upland Descriptions**

**Unimproved Pastures (FLUCCS 212)**

The majority of the non forested portion of the property is characterized as unimproved pastures. The pastures are dominated with various grasses, sedges and herbaceous plants, including bahiagrass (*Paspalum notatum*), dog fennel (*Eupatorium capillifolium*), ragweed (*Ambrosia artemisifolia*), nutsedge (*Cyperus sp*), carpetweed (*Lippia nodiflora*), and tickseed (*Coreopsis sp.*). Scattered live oak (*Quercus virginiana*) and cabbage palms (*Sabal palmetto*) are also present within these areas. This habitat type was commonly used by grazing cattle.

**Mixed Hardwoods (FLUCCS 438)**

The tree canopy is dominated by live oak (*Quercus virginiana*) and laurel oak (*Quercus laurifolia*) but also includes other hardwoods such as red maple (*Acer rubrum*). Other species present include cabbage
palm (*Sabal palmetto*), slash pine (*Pinus elliottii*), wild coffee (*Psychotria nervosa*) and saw palmetto (*Seranoa repens*).

**Low Density Residential (FLUCCS 110)**
Five of the parcels that make up Phase 8 have been developed as low density residential. These homes where constructed sometime prior to 1973 and are typical of rural type residential properties and include accessory structures, driveways, turf lawns and ornamental landscape.

**Wetland and Other Surface Water Descriptions**
The site contains 3.92 acres of jurisdictional wetlands. The landward extent of the jurisdictional wetlands have been flagged by scientist from E Co Consultants, Inc. in accordance with Chapter 62-340 of the Florida Administrative Code. Wetland lines have been surveyed but have yet to be verified and approved by the SWFWMD. The applicant has submitted a Petition for the Formal Determination of Wetlands and Other Surface Waters (Petition No. 757506). A copy of the approved petition for the Formal Determination of Wetlands and Other Surface Waters will be provided to Manatee County upon receipt.

Wetlands and surface waters found within the parcel boundary are summarized below.

**Streams and Waterways (FLUCCS 510)**
There is approximately 1.32 acres of streams and waterways, which are located throughout the property. The streams and waterways are all agricultural ditches excavated from uplands. The ditches have vegetative components including scattered manyflower marsh pennywort (*Hydrocotyle umbellata*), spadeleaf (*Centella asiatica*), red ludwigia (*Ludwigia repens*) with occasional primrose willow (*Ludwigia peruviana*) and West Indian marsh grass (*Hymenachne amplexicaulis*).

**Reservoirs <10 acres (FLUCCS 524)**
Three upland excavated agricultural ponds, approximately 1.61 acres in total size, are located within the project limits. These upland cut cattle ponds are isolated and were constructed as a result of historical agricultural practices. This surface water ponds contain herbaceous species including primrose willow (*Ludwigia peruviana*), carpet grass (*Axonopus furcatus*), (Spanish needles (*Bidens alba*), sweetbroom (*Scoparia dulcis*), cesarweeds and dog fennel.

**FLUCCS Code: 630 Wetland Forested Mixed**
Vegetation: Wetland forested mixed wetlands are limited to the eastern portion of Wetland 4 within Phase 8. This wetland system is a historic stream system that meanders through a forested floodplain area. The bulk of the wetland in this location is sandy bottom ditch like stream system with limited vegetation. This area is classified as a forested system due to the canopy of the surrounding upland habitat area. The canopies of these systems are comprised of mostly laurel and live oak (*Quercus spp*), with a limited of red maple (*Acer rubrum*). A forested canopy portion of this wetlands exists south of the creek system and contains water oak (*Acer rubrum*) and sweet gum (*Liquidambar styraciflua*). Very little shrub or groundcover is located in this portion of the wetland due to the dense canopy coverage.
Impacts: The forested wetland area within Phase 8 have been impacted to varying degrees by ditching. No impacts are proposed to the forested wetland system within Phase 8.

Hydrology: These wetlands also have varying degrees of impact to their historical hydroperiod that have resulted from historical agricultural and ditching activities.

Wildlife: The forested wetland systems within Phase 8 most likely provide cover for medium and small mammals and may support a small population of reptiles, amphibians, and fish during the wet season.

**FLUCCS Code: 641 Freshwater Marsh**

Vegetation: Phase 8 contains threes wetland areas identified as freshwater marshes; Wetlands 1-3 and the western portion of Wetland 4. This freshwater marshes are low to moderate in quality and impacted from historical agricultural excavations and cattle activities. These wetland areas is mostly vegetated with primrose willow (Ludwigia peruviana), softrush (Juncus effusus), paragrass (Urochloa mutica), and limited coverage of dotted smartweed, dollarweed (Centella asiatica), maidencane (Panicum hemitomon), pickerelweed (Pontederia cordata), and few arrowhead (Sagittaria lancifolia), and cordgrass (Spartina bakeri).

Impacts: The freshwater marshes onsite have been significantly impacted by the surrounding agricultural activity, including cattle grazing, farming, ditching.

Hydrology: These wetlands exhibit a semi-permanent and seasonal hydroperiods.

Wildlife: The freshwater marshes support limited wildlife function that may include wading bird foraging and a small population of common amphibians, reptiles and fish during the wet season.

**Off-site Wetland and Upland Habitats**

**North**
To the north is a residential development identified as Serenity Creek which is nearing construction completion (FLUCCS 129). The development consists of residential lots and associated roadways and stormwater ponds.

**East**
Land uses to the east of the proposed project include wetland forested mix (FLUCCS 630), Mixed hardwoods (FLUCCS 814) and medium density residential (FLUCCS 120).

**South**
The abutting property to the south is comprised of other phases of the Indigo development in various stages of construction and Mixed hardwoods (FLUCCS 438), and wetland forested mixed (FLUCCS 630).
West
Roadway (FLUCCS 814) and associated stormwater treatment ponds (FLUCCS 534) are the primary land use of the property located to the west of the proposed project.

SOILS
According to the current Natural Resources Conservation Service (NRCS) web soil survey http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx for Manatee County, there are four (4) soil types found within the project boundary. Please see the attached NRCS Soils Map. Soils found on site are listed below:

- 20 - EauGallie fine sand, 0 to 2 percent slopes
- 24 – Felda-Wabasso association, frequently flooded
- 38 - Palmetto sand
- 47 – Tomoka much

LISTED SPECIES
A preliminary wildlife and habitat assessments were conducted on this property in September 2017, December 2017 and January 2018. The preliminary assessment was conducted by Senior Scientists with E Co Consultants, Inc. in.

E Co Consultants, Inc.environmental scientists reviewed online listed species databases to identify species known to exist within the project's geographic area, including the Florida Native Areas Inventory (FNAI) Biodiversity Matrix and the Florida Fish and Wildlife Conservation Commission (FWC) Eagle Nest Locator.

FNAI Biodiversity Matrix
In addition to the previous listed species evaluations conducted on the site, the FNAI Biodiversity Matrix was consulted to determine documented, likely, and/or potentially occurring rare plants, animals, and natural communities in the vicinity of the project area. The most “likely” species to occur in the vicinity of the project as listed by FNAI (Matrix Units 26285 and 2557) is the Wood Stork (Mycteria americana).

The table below lists both the species that are likely and or have a potential to utilize the project area, results of the preliminary surveys, and results from the updated survey.

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Federal/State Status</th>
<th>Likelihood of Occurrence</th>
<th>Results of Updated Survey</th>
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<tbody>
<tr>
<td>Bald Eagle</td>
<td>Haliaeetus leucocephalus</td>
<td>Migratory Bird/X</td>
<td>Not Observed.</td>
<td>No nests identified within 660' of the project.</td>
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<tr>
<td>Wood Stork</td>
<td>Mycteria americana</td>
<td>E/T</td>
<td>Likely (FNAI)</td>
<td>Not observed. Possible occasional foraging.</td>
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<tr>
<td>Gopher Tortoise</td>
<td>Gopherus polyphemus</td>
<td>X/T</td>
<td>Potential</td>
<td>No burrows or potential habitat identified.</td>
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</tbody>
</table>

E Co Consultants, Inc.
Bald Eagle (Haliaeetus leucocephalus)
A search of the Florida Fish and Wildlife Conservation Commission (FWC) bald eagle database was completed to determine whether any known bald eagle nests occur within the vicinity of the subject parcel. The database revealed that no known bald eagle nest is located within 660 feet of the parcel, the closest eagle nest MN032 is located approximately 2.5 miles west of the property in Manatee County. During the numerous site visits no bald eagle nests were observed within or adjacent to the project boundary. Should a bald eagle nest be located within 660 feet of the project area, the appropriate U.S. Fish & Wildlife Service (USFWS) consultation will occur, and permits acquired, if necessary.

Wood Stork (Mycteria americana) and Wading Birds
The wood stork is listed as “Endangered” by the USFWS. According to USFWS data, the project does fall within the Core Foraging Areas (CFA) for the Ayers Point (Atlas No.615113). Ayers Point is located approximately 6.81 miles west-northwest from the project boundary within the mouth of the Braden River. There are no wetlands proposed for impact; furthermore, there is no evidence of breeding and only possible occasional foraging occurring within the project area.

Gopher Tortoise (Gopherus polyphemus)
E Co Senior Scientists did not observe any gopher tortoise burrows or suitable habitat on site. Ninety (90) days prior to construction and land clearing within the respective roadway corridor project area, E Co recommends a 100 percent survey of suitable habitat to be conducted and the location of any potentially occupied gopher tortoise burrows will be identified. Should any gopher tortoise burrows be in or within 25' of the limits of clearing, a relocation permit from FWC will be obtained to remove all gopher tortoises within the project area. Manatee County will be copied on any permits necessary for this project.

Eastern Indigo Snake (Drymarchon corais couperi)
The eastern indigo snake is listed as “Threatened” by both the FWS and FWC. The snake occurs in a range of habitats, including pine flatwoods, scrubby flatwoods, dry prairie, edges of freshwater marshes, agricultural fields, and human-altered habitats. According to FNAI data, potential habitat for the eastern indigo snake may be present within the project area. During the field reviews and
wetland evaluations, no eastern indigo snakes were observed within or adjacent to the project area. Due to the presence of gopher tortoise burrows located within the parcel, there is a potential for the eastern indigo snake to utilize this site. The project will likely implement the U.S. Fish and Wildlife Service's (USFWS) 'Standard Protection Measures for the Eastern Indigo Snake' (revised August 12, 2013) in order to prevent any adverse impacts to this species.

**Sherman's fox squirrel (Sciurus niger shermani)**
Sherman's fox squirrel, a 'Species of Special Concern', were also not observed during wildlife surveys conducted on the property. E Co environmental scientist have not identified this species inhabiting and/or utilizing the site during the listed species survey work. The distribution of this species can be found throughout Florida in open woods, pine habitats, and adjacent to certain wetland habitat types. This species was not observed in the subject project area. If Sherman fox squirrels are identified within the proposed development project area, the applicant will notify FWC and prior to the initiation of construction activities. Final Species Conservation Measures and Permitting Guidelines for the Sherman's fox squirrels can be found on the FWC website at [http://myfwc.com/media/4105895/Final-Shermans-Fox-squirrel-Species-Guidelines-2016.pdf](http://myfwc.com/media/4105895/Final-Shermans-Fox-squirrel-Species-Guidelines-2016.pdf).

**Sand Hill Crane (Antigone canadensis paratensis)**
There were no Sandhill crane, a 'Threatened' species, nesting areas observed during wildlife surveys conducted on the property. All freshwater marshes within the site were specifically evaluated for the presence of Sandhill cranes and the area were a previous abandoned nest was identified was specifically investigated. The distribution of this species can be found throughout Florida in open pasture, ditches, and certain wetland type habitats. E Co recommends surveys to be conducted for nesting sandhill cranes to be conducted prior to construction activities, with nesting typically occurring during the December through August breeding season. If there is evidence of nesting by sandhill cranes during this period, FWC recommendations as specified in the Sandhill Crane Species Conservation Measures and Permitting Guidelines ([http://www.myfwc.com/media/4105886/Final-Florida-Sandhill-Crane-Species-Guidelines-2016.pdf](http://www.myfwc.com/media/4105886/Final-Florida-Sandhill-Crane-Species-Guidelines-2016.pdf)) and in the Florida Wildlife Conservation Guide ([http://myfwc.com/conservation/value/fwcg/](http://myfwc.com/conservation/value/fwcg/)) will be followed.

**HAZARDOUS MATERIALS**
Historic uses of this site do not indicate the presence of any activities that utilized hazardous materials

**SPECIAL APPROVAL**
The historic channel of Mill Creek runs through this property and is classified as a perennial stream on the USGS Quad Map. Although this creek system has been rerouted around the project, according to Comprehensive Plan Policy 3.2.2.1 and Table 3-4 of the Manatee County Land Development Code the project requires Special Approval. Development of the proposed project is not anticipated to adversely affect either the downstream water quantity or quality.

**Water Quality**
The project is anticipated to result in an improvement of water quality discharge from the site. In its current condition, stormwater discharges directly into the ditch/creek with little to no treatment. Fecal coliform is likely introduced to the system from the current cattle grazing occurring on the site. As proposed, cattle grazing will be discontinued and the project's stormwater discharge will be routed through a stormwater management system designed to meet the requirement of both Manatee County and the Southwest Florida Water Management District.

**Water Quantity**

The proposed project is not expected to affect the current downstream flow of the existing ditch as the project will be required to meet both Manatee County and the Southwest Florida Water Management District requirements for pre- and post-development off-site discharge. It is anticipated that the stormwater treatment and drainage of the project will be designed in a manner to maintain the current water levels in this ditch system.

The applicant recommends that Special Approval for a project adjacent to a perennial stream be granted with the rezone of Phase 8 to Planned Development Residential.

**PROPOSED CONDITIONS**

**PHASES 6 & 7**

**Wetlands**

**Impacts**

The previously approved Preliminary Site Plan authorized approximately 0.49 acres of wetland impacts within phases 6 & 7, however on the Construction Plans approved by Manatee County and SWFWMD the wetland impacts were reduced to 0.43 acres with the elimination of impacts to Wetland D. The revised layout included in the currently proposed PSP includes the impacts to the Wetland D, an additional 0.06 acres of impacts to Wetland G which are necessary to access upland areas within Phase 8 and avoiding construction activities within the regulatory floodway of Mill Creek, and an additional 0.10 acres of impacts to Wetland F. The proposed wetland impacts for Phases 6 & 7 total 0.63 and are essentially consistent with the original approval of PDR-15-15(Z)(P).

**Wetland Buffers**

Wetland buffers of 30' have been provided adjacent to all wetlands proposed to remain as required by the Comprehensive Plan and Land Development Code except for a small impact (0.02 acres) to the buffer of Wetland F necessary for fill slope associated with lot development and a possible 0.02 acres buffer impact along Wetland G for construction of a lift station. The project has been designed in a manner to cluster all construction activities outside of the regulatory floodway of Mill Creek.

**Buffer Restoration**

In accordance with LDC Section 706.7.D all nuisance exotic vegetation will be removed from the post-development wetland buffers. Post-Development buffers, including wetland buffer...
compensation areas that are void of vegetation will be replanted with desirable native vegetation. Native species utilized for restoration will be determined at the time of Final Site Plan and will be chosen in an effort to mimic the existing vegetation present and subject to nursery availability.

Upland Preservation

Upland preservation areas identified on the previously approved PSP have been revised slightly to accommodate the new project layout. Please refer to the Native Plant Community/Open Space Exhibit, in the PSP.

PHASE 8

Wetlands

Impacts

The currently proposed PSP includes approximately 1.11 acres of wetland impacts within Phase 8. These wetland impacts are the result of clustering the development out of the regulatory floodway of Mill Creek. Approximately ±4 acres of otherwise developable upland area located in the floodway is proposed to be left undisturbed. Wetland impacts are proposed to herbaceous portion of Wetland 3, Wetland 4, and Wetland 5.

Wetland 1 – 0.10 acre impact

Wetland 1 is the fringe of a larger offsite wetland. This portion of the wetland is dominated by pasture grasses. The portion of the onsite wetland proposed for impact has been ditched and historically utilized for cattle grazing. The impacts to Wetland 1 are for minor fill to accommodate an adjacent single family residential lot. The impact is necessary because the lot layout cannot be revised to avoid the wetland and keep construction activities outside of the regulatory floodway of Mill Creek. The proposed impact to Wetland 1 appear to meet the criteria of LDC Section 706.5.B as it is necessary to reasonably develop the property consistent with the Future Land Use Classification while avoiding development activities within the regulatory floodway of Mill Creek.

Wetland 3 – 0.28 acre impact

Wetland 3 is the offsite portion of Wetland B authorized for impacts with the approval of Phases 6 & 7 and is necessary in order to provide access to upland portions of Phase 8 without proposed construction activities within the regulatory floodway of Mill Creek. Wetland 3 is low quality and has been historically degraded due to adjacent agricultural activities and ditching. The vegetation within this wetland is limited to wet pasture grasses, pioneering groundcover typical of disturbed areas and nuisance exotic species. The impacts to Wetland 3 appear to meet the criteria of LDC Section 706.5.B as it is necessary reasonably develop the property consistent with the Future Land Use Classification while avoiding development activities within the regulatory floodway of Mill Creek.

Wetland 4 – 0.27 acre impact
The proposed impacts to Wetland 4 also appear to meet the criteria of LDC Section 706.5.B. The impacts are the result of clustering the development to avoid construction activities outside of the regulatory floodway of Mill Creek and reasonably developing the property consistent with the Future Land Use Classification. The impacts to Wetland 4 were minimized consistent with Comprehensive Plan Policy 3.3.1.2 by avoiding the higher quality forested areas of Wetland 4 and directing development activities to the historically disturbed herbaceous portion of the the wetland.

**Wetland 5 – 0.52 acre impact**

The proposed 0.46 acres impacts to Wetland 5 are also the result of clustering the development to avoid construction activities outside of the regulatory floodway of Mill Creek and reasonably developing the property consistent with the Future Land Use Classification and appear to meet the criteria of LDC Section 706.5.B. Additionally, this wetland meets the LDC definition of “Non-Viable” and impacts are authorized per LDC Section 706.5.A. Please see the attached UMAM score sheet that demonstrates UMAM score requirement of the definition. Wetland 5 is a remnant wetland that was historically impacted offsite and is of low to moderate quality.

**Wetland Mitigation**

Wetland mitigation for the additional 0.95 acres of proposed wetland impacts within Phase 8 will be determined at the time of Final Site Plan. Mitigation will likely consist of enhancement to existing wetland systems within the overall Indigo development. Other options include onsite wetland creation located within the regulatory floodplain of Mill Creek of Phase 8 or purchase of credits from an approved Mitigation Bank within the service area.

**Wetland Buffers**

Wetland buffers of 30' have been provided adjacent to all wetlands proposed to remain as required by the Comprehensive Plan and Land Development Code except for a the locations were wetland impacts are proposed. Wetland buffers in these locations will be limited in width as directed by the SWFWMD and per Comprehensive Plan Policy 3.3.1.6. Fill slopes located between proposed lots boundaries and wetland impacts will be planted with native vegetation as outlined in the Buffer Restoration Plan approved with the Final Site Plan.

**Buffer Restoration**

In accordance with LDC Section 706.7.D all nuisance exotic vegetation will be removed from the post-development wetland buffers. Post-Development buffers, including wetland buffer compensation areas that are void of vegetation will be replanted with desirable native vegetation. Native species utilized for restoration will be determined at the time of Final Site Plan and will be chosen in an effort to mimic the existing vegetation present and subject to nursery availability.

**Upland Preservation**

The PSP has been designed so that native habitat preservation areas are provided consistent with LDC Section 402.6.T.3.b. Addition native habitat preservation areas have been identified within Phase 8. Please refer to the Native Plant Community/ Open Space Exhibit, in the proposed PSP.
Per LDC Section 402.6.T.3.b 35% of the required Open Space (25%) should be in the form of preserved native habitat. Based on the calculations below, the proposed overall PSP is consistent with this LDC recommendation.

Project Acreage – 240.96 acres
Required Open Space 25% - 60.24 acres
Recommended Native Habitat Preservation 35% of required Open Space – 21.08 acres
Native Habitat Preservation Proposed – 23.90 acres
Legend

Approximate Project Boundary
Approximate Project Boundary (± 143.35 ac)

Soil Descriptions:
- Canova, Anclote, and Okeelanta soils
- EauGallie fine sand, 0 to 2 percent slopes
- Felda-Wabasso association, frequently flooded
- Floridana-Immokalee-Okeelanta association
- Tomoka muck

Soils Code
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Total Project Acreage: 103.03

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Total Project Acreage: 40.32

Client: Neal Communities
Project: Indigo Phases 6, 7, and 8
Location: Manatee County, Florida
Title: NRCS Soils Map
TRS: Twp: 35S Rng: 19E Sec: 04.05
Scale: 1” = 350’
Date: 3/19/2018
Drawn By: KS
Source: Manatee County Imagery (2017), NRCS
Legend

- Approximate Project Boundary (± 143.35 ac)
- Approximate FLUCCS Habitat Lines

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<th>± Acreage</th>
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<td>524</td>
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<td>630</td>
<td>Wetland Forested Mixed</td>
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<td>212</td>
<td>Unimproved Pastures</td>
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<td>Mixed Hardwoods</td>
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Client: Neal Communities
Project: Indigo Phases 6, 7, and 8
Location: Manatee County, Florida
Title: FLUCCS Habitat Map

TRS: Twp: 35S Rng: 19E Sec: 04.05
Scale: 1" = 350'
Date: 3/21/2018
Drawn By: KS
Source: Manatee County Imagery (2017)
Indigo Phase 8
Rezone & Revised Preliminary Site Plan

Manatee County
Wetland Impact Study

September 2018

Prepared for:
Neal Communities
5800 Lakewood Ranch Blvd North
Sarasota, Florida 34240

Prepared by:
E Co Consultants, Inc.
1523 8th Avenue West
Suite B
Palmetto, FL 34221
941.722.0901 fax 941.722.4931
The application includes a request for a rezone and PSP approval of 40.32 acres of land to be added to the currently approved Indigo development. Revisions to existing phases 6 & 7 are being proposed in order to incorporate the additional acreage into the master plan of the development. The overall project is proposed to contain a maximum of 710 residential lots on ±241 acres. The project is located east of south side of State Road 64 between White Eagle Boulevard and Mill Creek in Section 4, Township 35 South, Range 19 East and Section 33, Township 34 South, Range 19 East in Manatee County. The current application includes the following wetland impacts associated with the addition of Phase 8:

<table>
<thead>
<tr>
<th>Wetland ID</th>
<th>Previously Approved Impacts (Acres)</th>
<th>Proposed Impacts (Acres)</th>
<th>UMAM (Delta)</th>
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<tr>
<td>Phases 6 &amp; 7</td>
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<td>D</td>
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</tr>
<tr>
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</table>

Onsite wetlands shall be evaluated based on size and wetland function and scored in accordance with UMAM including UMAM score sheets for each wetland within the project boundaries. UMAM scores were provided for wetland #5. Please provide UMAM score sheets for each impacted wetland.

Please see the attached UMAM Score sheet for impacts associated with Wetland 1, 3, 4, and 5, as requested.

Statement describing the necessity of the proposed impact:
The proposed impacts are necessary to reasonably develop the property in accordance with the future land use category of UF-3 while avoiding development activities within the regulatory floodway of Mill Creek.

Examples of designs considered that would not require the impact or that demonstrate how the impacts have been minimized:
Designs considered that would not require the wetland impacts would likely restrict access to other upland portions of the site. Designs that would have restricted wetland impacts and development within the regulatory floodway of Mill Creek would have significantly lowered the lot yield such that the property is not economically viable to develop. The design was necessitated by restrictions of development within the regulatory floodway of Mill Creek and the subsequent clustering of proposed lots.
Statement of how any proposed impacts satisfy the requirements of Section 706.5, including:

A statement of how the impacted wetland meets the definition of Non-Viable Wetland set forth in this Code, pursuant to Section 706.5.A;
Impacts to Wetland 3 are consistent with LDC Section 706.5.A as it meets the definition of a Non-Viable Wetland. Wetland 3 is approximately 0.22 acres in size, wholly contained within the project limits, and has a pre-development UMAM score of 0.4. Please see the attached UMAM score sheet for Wetland.

A statement of how avoiding the impact would prevent a reasonable development of the land, including consideration of whether the wetland to be impacted is within the boundaries of a Development of Regional Impact (DRI) and a consideration of the uses permitted within the boundaries of the DRI as a whole, pursuant to Section 706.5.B; or
The proposed impacts to Wetlands 1 (0.01 acres) and 5 (0.52) appear to meet the criteria of LDC Section 706.5.B. The impacts are the result of clustering the development to avoid construction activities outside of the regulatory floodway of Mill Creek and reasonably developing the property consistent with the Future Land Use Classification. The impacts to Wetlands 1 and 5 were minimized consistent with Comprehensive Plan Policy 3.3.1.2 by avoiding the higher quality forested areas of Wetland 4 and directing development activities to the historically disturbed herbaceous portion of the the wetland. Wetland 5 historically extended offsite and was impacted sometime prior to the adjacent development. Wetland 1 extends off-site and the proposed impact location is very poor quality and is dominated by pasture grasses and Brazilian pepper. Please see the attached UMAM score sheets for Wetlands 1 and 5.

A statement of how the impact is a result of an overriding public benefit. The applicant shall submit documentation to support the conclusion that the overriding public benefit would provide a direct public benefit in excess of the detriments suffered by the public resulting from the loss of the wetland functions and values, pursuant to Section 706.5.C
The proposed impacts to Wetland 4 (0.27 acres) do not meet the criteria of LDC Sections 706.5.A or B and therefore can only be approved if consistent with LDC Section 706.5.C. The applicant has prepared an Ecosystems Management Plan consistent with LDC Section 706.5.C.2 (see attached). Please see the attached UMAM score sheets for Wetland 4.

Proximity of the land to adjacent urban land uses;
This site is an extension of the previously approved and partially constructed Indigo. The project is bordered on the north by Serenity Creek Subdivision and on the west by the newly constructed White Eagle Boulevard. The proposed development is consistent with the trend of recent approved subdivisions in this area.
Degree of disturbance or invasion by exotic plant species within the wetland.

<table>
<thead>
<tr>
<th>Wetland</th>
<th>Total Percent Cover</th>
<th>Nuisance exotic percent cover</th>
<th>Upland vegetation percent cover</th>
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<tr>
<td>1</td>
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<td>45</td>
<td>15</td>
</tr>
<tr>
<td>3</td>
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<td>4</td>
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</tr>
<tr>
<td>5</td>
<td>100</td>
<td>25</td>
<td>5</td>
</tr>
</tbody>
</table>

The applicant should contact the Environmental Review Section in order to coordinate a site visit to evaluate the proposed wetland impact area.

A site visit will be scheduled with the Environmental Review Section to evaluate the proposed wetland impact area.
Wetland F - Phase 6 & 7
Previous Impacts: ± 0.18 ac
Proposed Impacts: ± 0.25 ac

Wetland B - Phase 6 & 7
Previous Impacts: ± 0.19 ac
Proposed Impacts: ± 0.16 ac

Wetland G - Phase 6 & 7
Previous Impacts: ± 0.06 ac
Proposed Impacts: ± 0.11 ac

W4 - Phase 8
Proposed Impacts: ± 0.27 ac

W5 - Phase 8
Proposed Impacts: ± 0.52 ac

W1 - Phase 8
Proposed Impacts: ± 0.01 ac

Wetland D - Phase 6 & 7
Proposed Impacts: ± 0.025 ac

W3 - Phase 8
Proposed Impacts: ± 0.22 ac

Legend
- Approximate Currently Proposed Wetland Impacts
- Approximate Previously Permitted Wetland Impacts
- Approximate Wetland Boundary
- Approximate Phase Line Boundary
- Approximate Project Boundary

Client: Neal Communities
Project: Indigo Phases 6, 7, and 8
Location: Manatee County, Florida
Title: Wetland Impact Map

TRS: Twp: 35S Rng: 19E Sec: 04.05
Scale: 1" = 300'
Date: 8/30/2018
Drawn By: KS
Source: Manatee County Imagery (2017)
Proposed Wetland #4 Impact Area

Wetland 4 Photo Illustration

Client: Neal Communities
Project: Indigo Phase 8
Location: Manatee County, Florida
Title: Photo Illustration

TRS: Sec: 04,05 Twp: 35S Rng: 19E
Scale: Not to Scale
Date: 10/3/2018
Drawn By: KS
INTRODUCTION
This Ecosystems Management Plan is provided to document the environmental benefits associated with the applicant's request for a rezone and PSP approval of 40.32 acres of land to be added to the currently approved Indigo development. The overall project is proposed to contain a maximum of 710 residential lots on ±241 acres. The project is located south of State Road 64 between White Eagle Boulevard and Mill Creek in Section 4, Township 35 South, Range 19 East and Section 33, Township 34 South, Range 19 East in Manatee County. The purpose of this Ecosystems Management Plan is to document the activities to be conducted on the site to enhance the existing Mill Creek habitat corridor. The Ecosystems Management Plan includes impacts to remnant portions of wetland which exhibit very low wetland function in order to restrict any development within the Mill Creek floodway and conduct environmental enhancements which far exceed the minimum wetland mitigation requirements. The environmental enhancements will result in the restoration of native habitats of 75% of the width of the corridor in this location. Long term management will be conducted by the future HOA/CDD or Stewardship District.

EXISTING CONDITIONS
The site has been utilized for agricultural activities. Historic aerial photography analysis determined that several significant events have taken place within and adjacent to this property that resulted in adverse impacts to the existing wetlands within the project limits. The evidence identified in the 1973 aerial photography appears to be the most detrimental to the wetlands located within the project area. In this aerial photograph evidence of recent excavation of ditches which appear to have been constructed in an effort to channelize Mill Creek in this location. Prior to excavation, Mill Creek was a slough type system. Channelization resulted in the significant alteration of the hydroporiods of most of the wetlands on this project site. Additionally, evidence of the recent excavation of the “L” shaped surface water is present in the 1978 aerial photograph along with the excavation of ditch system located east of the project area. Excavation of the ditch system located east of the project area resulted in diverting the majority of the historic flow to the east, bypassing the former slough system located on the project site. Excavation of this surface water also had an impact on the hydrology of the wetland systems located within the project area. These activities proved to be the most detrimental to the wetlands located on the project site as wetland systems appear to reduce in size, based on aerial photography delineation, in the subsequent years in which aerial photography is available. Although the areas currently identified as upland have been cleared of native vegetation since prior to the 1973 aerial photograph, it appears that areas were being managed in a way to reduce the limits of wetlands and make the areas more suitable for agricultural activities such as cattle grazing.

Currently the project area has a Formal Determination of the Landward Extent of Wetlands and Surface Waters (ERP No. 42043360.000) approved by the SWFWMD. The approved wetland and surface water limits are included in the maps associated with the Environmental Narrative and the Preliminary Site Plan/Rezone application. The upland areas within the project are primarily comprised of improved pastures however, there are areas of forested uplands. These forested upland areas contain a mixture of Live Oak and Laurel Oak canopy with limited understory. Although these areas may have historically been wetlands, evidence of soil subsidence and the compromised health of the tree species that are typically located in wetter areas are indicative of the change in hydrology that resulted in this area being identified as upland by both the SWFWMD and the Army Corps of Engineers. The bulk of the land use within the floodway located in the project area is improved pasture.

PROPOSED WETLAND IMPACTS
The applicant is proposing approximately 1.02 acres of wetland impacts within the proposed Indigo Phase 8. Of those 1.02 acres, 0.22 acres is to an isolated, low quality wetland that meets the LDC definition of Non-Viable, 0.80 acres do not appear to meet LDC Section 706.5.A or B however, in order
to provide relief from developing in the floodway and to protect human life and health and minimize the potential for property damage and personal injury from flooding, an Ecosystems Management Plan under 706.5.C is being proposed that will result in a net environmental benefit as a result of the project. The proposed wetland impacts are discussed in more detail in the Wetland Impact Study submitted with this application.

<table>
<thead>
<tr>
<th>Indigo Phase 8</th>
<th>Impact Acreage</th>
<th>UMAM</th>
<th>LDC Justification</th>
</tr>
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<td>706.5.C Ecosystems Management Plan</td>
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<td>706.5.A Non-Viable</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>1.02</strong></td>
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</tr>
</tbody>
</table>

PROPOSED WETLAND MITIGATION PLAN (minimum requirements)
According to preliminary mitigation calculations the applicant proposes to preserve and enhance the remaining wetland areas (3 acres) located within Phase 8 and 0.5 acres of wetland creation to replace the wetland functions from the proposed wetland impacts. The final wetland mitigation requirements will be determined with the Environmental Resource Permit approved by the Southwest Florida Water Management District. The applicant must demonstrate that the proposed wetland impacts and wetland mitigation will result in no net loss of wetland functions in order to obtain an ERP approval. The UMAM worksheets for the proposed wetland impacts and wetland mitigation are included in the Wetland Impact Study.

NET ENVIRONMENTAL BENEFIT
Preservation of the existing Mill Creek Floodway located on the site was the primary goal for design of the proposed project as this represents the biggest threat to the health, safety and welfare of the existing residents of Manatee County. Maintaining the economic viability of developing the property while preserving the Mill Creek Floodway resulted in proposed lots being located in areas containing existing wetlands. Even though the floodway currently contains little native habitat, it still serves as preservation of a wildlife corridor along Mill Creek. As shown on the attached overall drainage basin/floodway map, this portion of Mill Creek serves as a critical linkage for wildlife movement to and from the Manatee River. Wildlife utilizing these areas are likely to consist of: birds of prey such as swallow tail kite, owls, red shouldered hawk; otter; bobcat; gray squirrels; songbirds; woodpeckers; opossum; raccoon; deer; green anole. Earlier developments north of SR 64 that abut Mill Creek have dedicated Conservation Easements over the wetland and wetland buffer areas associated with Mill Creek. This is the sole mechanism for ensuring corridor preservation. While preserving the floodway within this project area serves the purposes of maintaining the corridor, the area does not currently contain the native habitats necessary to maximize the ecosystem benefits of a corridor system. This Ecosystems Management Plan not only proposes the preservation of the floodway/corridor, but also includes the creation of native habitats that are not located
on the site in the current condition. Approximately 450' of the 500' width of the Mill Creek floodway in the location of the project is covered by the proposed Ecosystems Management Plan. This area represents the property that lies within the project boundary. The individual components of the proposed Ecosystems Management Plan are discussed in detail below:

**Preservation**

The applicant proposes to preserve the existing wetland areas that are not proposed for impact with this application. Approximately 3.00 acres of the 4.02 acres of wetlands located within the Phase 8 project area are proposed for preservation. The wetland areas identified for preservation include the forested areas that are contiguous with the Mill Creek floodway and extend offsite and isolated wetlands located within the floodway. Additionally, wetland areas, where enhancement is likely to be successful, were targeted for preservation. Desirable native upland habitat areas were also identified as targets for upland preservation. Native upland habitats located within the Mill Creek Floodway were targeted for preservation. These upland habitats are marginal in quality due to the past agricultural activities that have occurred in and around the site. Approximately 1.04 acres of native upland habitat is being preserved with this proposed Ecosystems Management Plan. The floodway of Mill Creek is being preserved with this project. Although floodways are not regulated for purposes of wildlife corridors, their regulation often results in corridor preservation of stream systems. The floodway in the location of, and adjacent to the proposed project, is approximately 500' in width.

**Enhancement**

As previously stated, the wetland mitigation for the proposed impacts will include enhancement of the remaining wetlands located within the project area. There are no local, State or federal regulations that require the enhancement/restoration of existing wetlands. As indicated in the Wetland Impacts Study submitted for this project, it is likely that some level of development could be achieved on this property while avoiding all wetland impacts. Although this would result in 100% preservation of existing wetlands, there is no requirements to improve the function of the preserved wetlands. The end result is preservation of low functioning wetlands and while this may not result in a net loss of wetland function it does nothing to increase wildlife utilization or control the proliferation of nuisance exotic plant species located within the wetland areas. Without the proposed wetland impacts, the wetlands would be preserved with their current function, with the exception of the likely increase in water quality that is typically seen in the conversion of agricultural properties to residential development with stormwater management. In addition to the enhancement of the preserved wetlands, the applicant proposes enhancing the preserved upland areas with desirable native plant species and other management activities, which may include but will not be limited to nuisance and exotic species removal, monitoring, and replanting.

**Wetland Creation**

In addition to the wetland enhancement proposed for mitigation, it is likely that a minimum of 0.5 acres of wetland creation will be necessary to fully offset the wetland functions lost as a result of the proposed wetland impacts. The applicant is proposing to construct a 2.25 acre herbaceous wetland within the existing floodway of Mill Creek which is 4.5 times the acreage necessary for the minimum required wetland mitigation. The area proposed for creation currently consists of improved pasture but was historically part of the slough system that made up Mill Creek in this location. The created wetland system will be designed in a manner so that it does not adversely affect upstream and downstream flows and flooding associated with Mill Creek and is consistent with the stormwater
and drainage design for the project. The final design of the wetland creation area will be determined through the ERP and FSP permitting process. Typical wetland creation areas include excavation of soil ranging between 12” and 18” below the existing Seasonal High Water Elevation. The wetland creation area is likely to be predominately forested with herbaceous or open water components. A wetland buffer of 30’ minimum will be provided adjacent to the wetland creation area and a buffer restoration plan will be provided at the time of FSP submittal consistent with the LDC. Ditch blocks may be utilized to restore hydrology.

**Upland Habitat Restoration**
Areas located within the Mill Creek Floodway but not included in the proposed wetland creation area or upland preservation/restoration area will be restored to native upland habitats. These areas will have any nuisance exotic vegetation eradicated and planted with native vegetation appropriate for the targeted upland native habitat agreed upon during the ERP and FSP permitting process. It is anticipated that the targeted habitat will be either pine flatwoods or mesic hammock. The targeted final habitat will be determined based on existing conditions of the site and existing native upland habitats present adjacent to the Mill Creek system in the surrounding area. The areas of Upland Habitat Restoration is approximately 1.12 acres and will include the minimum 30’ wetland buffer associated with the proposed wetland creation area.

**Maintenance**
Initial removal of Brazilian pepper and other nuisance exotic vegetation from wetland enhancement areas and upland restoration areas will include both mechanical and manual methods. All cut stumps will be treated with a systemic herbicide to prevent regrowth. Future upland preserve management will be primarily accomplished utilizing manual methods, but may also include roller chopping, mulching, and mowing. These management methods may be necessary to restore habitat functions and reduce the potential for catastrophic wildfire. The need for management will be determined during the annual inspections.

Manual removal methods within freshwater wetland enhancement areas will be utilized to avoid disturbance to the remnant areas of native wetland plants and soils. Manual removal methods will include hand removal and herbicide treatments where appropriate and cut stumps will be treated with an approved herbicide to prevent regrowth.

All herbicide treatments will be supervised by a licensed pesticide applicator. All material cut or pulled from upland and wetland enhancement area will be piled in upland development areas for the site contractor to burn or dispose of properly offsite. All excavated material from the construction of the wetland creation area will be deposited in future upland development areas and utilized where feasible or disposed of in a landfill or other proper means.

Annual inspections of wetland/upland enhancement and preservation areas will be conducted to evaluate their current condition. If nuisance/exotic species are observed during the annual inspection exceeding 5% of the total vegetative cover, maintenance using the same manual methods described above will be prescribed to remove them. Enhancement and creation planting areas will ultimately reach a success criteria of 85% desirable species coverage whether through enhancement planting or natural recruitment from surrounding seed sources. Specific details of the maintenance will be determined through the ERP and FSP process.
Due to the proximity of the wetland and upland conservation areas to developed features, there is potential for garbage/debris to accumulate. Quarterly inspections to address this concern are proposed. Any garbage/debris observed during the inspections will be removed from the areas and disposed of at an approved facility.

To insure the long term management of the area, inspections and maintenance will continue in perpetuity and will be responsibility of the CDD/Homeowners Association.

**SUMMARY**

The application for Indigo Phase 8 proposes to impact approximately 1.02 acres of the 4.02 acres of wetlands within the project area. All of the wetlands within the project area are considered low quality and have been impacted by channelization of historic flow of Mill Creek. Of the 1.02 acres of wetland impacts, 0.80 acres do not meet the criteria to be considered non-viable or as preventing a reasonable use of the property. The following ecological improvements exceeding the minimum requirements of the LDC are proposed within Phase 8 as justification for the 0.80 acres of avoidable wetland impacts as part of an Ecosystems Management Plan consistent with LDC Section 706.5.C.2:

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<th>Habitat Type</th>
<th>Required (Acres)</th>
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<tr>
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<tr>
<td>Upland Preservation/Restoration</td>
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<tr>
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</table>

The proposed project results in a significant environmental benefit by restoring wetland and upland habitats within the project boundary, and wetland creation far exceeding the minimum wetland mitigation requirements. The Mill Creek drainage basin serves as a north-south habitat corridor. Enhancement of the corridor within the project limits will provide cover and habitat for a variety of species that may utilize portions of the site for burrowing, nesting or swimming. This proposed Ecosystem Management Plan provides a critical link within the Mill Creek drainage basin but also improves and creates habitats located within the corridor. The applicant proposes that all areas utilized for wetland mitigation and all components of the Ecosystems Management Plan be placed in a Conservation Easement dedicated to Manatee County. Preserving the habitat areas with the use of a Conservation Easement dedicated to manatee County ensures the general public will benefit from this Ecosystems Management Plan by improved stormwater management functions that wetlands offer, habitat preservation along a significant habitat corridor, preservation of the land ensuring that land that is subject to this plan will remain in conservation in perpetuity.

**Attachments:**

- Ecosystems Management Plan Map
- General Location Map
- Drainage Basin/Floodway Map

/Users/joelchristian/Dropbox (E Co)/E Co Files/Neal/Indigo/Indigo 8/Manatee County/Ecosystems Management Plan/Indigo8_Ecosystems Management Plan_10232018_kmkl-review.docx