ENVIRONMENTAL ASSESSMENT

+/- 34 Acre Parcel

Draper Lake

Prepared for:

DR Horton, Inc.
17745 Ashley Drive
Panama City, Fl 32413

Prepared By:

Wetland Sciences, Inc.
3308 Gulf Beach Highway
Pensacola, FL 32507

Date:

June 30, 2020

1.0 Introduction

The following report is intended to provide specific environmental data to comply with the environmental protection and conservation provisions of the Walton County Comprehensive Plan. This requires an Environmental Assessment addressing wetlands, soils, natural vegetative communities, threatened and endangered species, historical resources, hazardous materials/contamination.

The final section of this report provides a summary of our findings and opinions and recommended course of actions (if any).

2.0 Project Description

The Site is bound to the north by County Highway 30-A to the east and south by Draper Lake in Walton County, Florida (Figure 1). The Site is identified by the Walton County Property Appraiser with the following identification number: 01-3S-20-34000-008-0000.

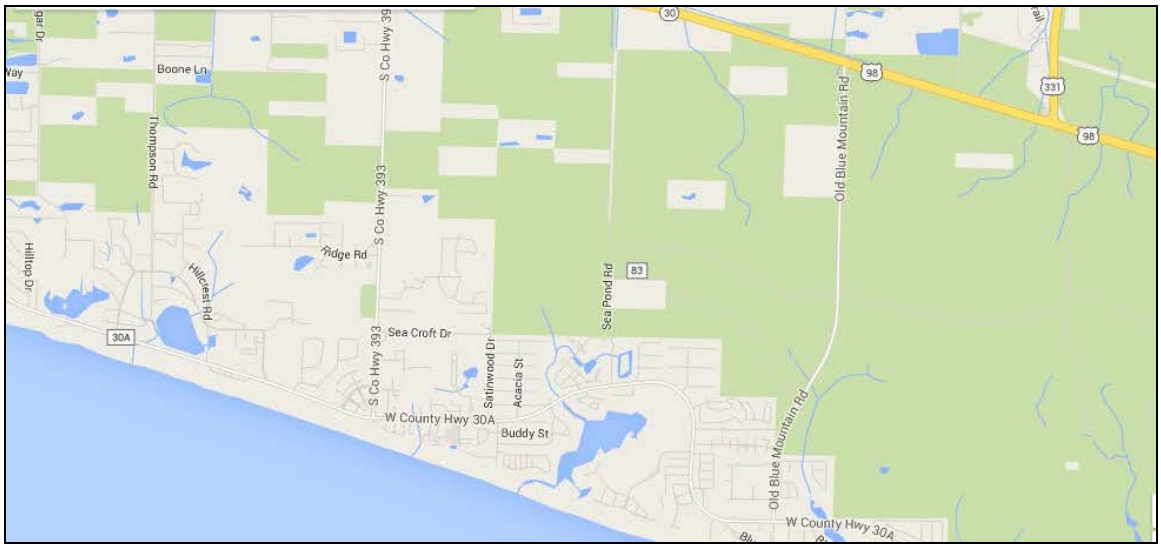

Figure 1. Site location map depicting subject Site.

3.0 Soils

Soils were delineated utilizing the United States Department of Agriculture, NRCS Soil Survey for Walton County, Florida. Soils within the subject property are depicted in Figure 2 & Table 1.

Figure 2. Soils map of subject property.

Map Unit Legend

Walton County, Florida (FL131)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
16	Kureb sand, 0 to 8 percent slopes	6.0	17.0%
21	Leon sand	1.7	4.8%
50	Mandarin sand	1.6	4.5%
62	Resota sand, 0 to 5 percent slopes	8.4	23.9%
64	Pamlico muck	17.5	49.7%
99	Water	0.0	0.0%
Totals for Area of Interest		**35.2**	**100.0%**

Soils within the subject property include Kureb sand, Leon sand, Mandarin sand, Resota, and Pamlico muck. Kureb sand, 0-8% slopes and Resota sands, 0 to 5% slopes are found in the undulating dune-like areas adjacent to the Gulf of Mexico. These soils are gently sloping to steep. Kureb sand is excessively drained and Resota is moderately well drained.

Leon sand consists of deep, poorly drained, moderately to moderately rapidly permeable soils. These soils formed in thick, sandy marine sediments in broad nearly level areas of the flatwoods.

The Mandarin series consists of deep, somewhat poorly drained, moderately permeable soils. Mandarin soils formed in thick, sandy marine sediments on broad nearly level, slightly elevated flatwoods.

Pamlico muck consists of deep, very poorly drained, moderately permeable soils. These soils formed from the decomposition of woody and herbaceous plants remains on broad nearly level plain of the adjacent Coastal Dune Lake.

4.0 Natural Vegetative Communities – Upland and Wetland

Individual ecological communities found within the subject property were identified using the inventory descriptions found the FNAI Guide to Natural Communities of Florida. These communities are depicted in a community sketch appended to this report as Exhibit A.

The subject property is dominated by upland scrub (11.82 acres). The upland scrub community is approximately located in the eastern half of the subject property. This community is in the higher elevations of the property in well drained soils. This community is dominated by scattered sand pine (*Pinus clausa*), Chapman's oak (*Quercus chapmanii*), Florida rosemary (*Ceratiola ericoides*), saw palmetto (*Serenoa repens*), and prickly pear cactus (*Opuntia* sp.).

In the lower elevation areas of the property immediately downslope of the upland scrub are upland mesic flatwoods (3.74 acres). The upland mesic flatwood community serves as an ecotone between the upland scrub and wet flatwood ecological communities. This community is dominated by slash pine (*Pinus elliottii*), saw palmetto (*S. repens*), fetterbush (*Lyonia lucida)*, and ink berry (*Ilex glabra*).

The property contains a continuous band of wet flatwoods (11.57 acres) located in between scrub and fringing marsh along the shores of Draper Lake. The wet flatwood community is fire suppressed and therefore the plant community structure is not entirely indicative of a natural system. This community is dominated by slash pine (*P. elliottii*), buckwheat tree (*Cliftonia monophylla*), red bay (*Persea palustris*), fetterbush (*L. lucida*), and large gallberry (*Ilex coiacea*).

Located along the shores of Draper Lake is a fringing freshwater emergent marsh (2.34 acres). This community is largely dominated by herbaceous plant species such as rushes (*Juncus* spp.), sedges (*Cyperus* spp.), manyflower marshpennywort (*Hydrocotyle umbellata*), and sawgrass (*Cladium jamaicense*).

The shrub bog community (1.07 acre) is in the northwest corner of the subject property and found on the border of Draper Lake in a flat, poorly drained area. This community consists of dense stands of broadleaved evergreen shrubs, vines, and short trees growing in mucky soil where water is usually less than a foot deep. As the name would suggest this community is dominated by a variety of hydrophytic shrubs including titi (*Cyrilla racemiflora*), black titi (*Cliftonia monophylla*), fetterbush (*Lyonia lucida*), large gallberry (*Ilex coriacea*), gallberry (*I. glabra*), wax myrtle (*Myrica cerifera*), and sweet pepperbush (*Clethra alnifolia*), often laced together with laurel greenbrier (*Smilax laurifolia*). *myrtifolia*). Herbs are absent due to the dense shrub stratum.

The remaining uplands (3.49 acres) located on the subject property could not be ecologically characterized given the prior land disturbance activities.

5.0 Wetlands

The purpose of performing the wetland assessment was to assess if wetlands or Waters of the United States (WOTUS) are present and, if so, to identify the boundaries. The wetland delineation was performed in accordance with the 1987 Corps of Engineers Wetlands Delineation Manual, the 2012 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic & Gulf Coast Supplement (2010) and the Florida Wetlands Delineation Manual. According to both methodologies wetlands generally have three essential characteristics: hydrophytic vegetation, hydric soils, and wetland hydrology.

Desktop Review

Prior to performing the delineation, several map and aerial photograph resources were reviewed to assist with identifying potential WOTUS and wetland areas at the site. Each source of data is described in detail below.

Natural Resource Conservation Service Soil Survey

WSI reviewed the Natural Resources Conservation Service (NRCS) on-line Web Soil Survey (WSS) to identify the hydric rating of each soil type identified within the subject property (Exhibit B). Pamlico muck is the only hydric soil within the property with a rating of 97%. Leon sand has a hydric rating of 9% with the remaining soils having a rating of 0%. This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation. The NTCHS definition identifies general soil properties that are associated with wetness. To determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993). If soils are wet enough for a long enough period to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

Aerial Photograph

WSI reviewed aerial photographs to identify suspected wetland areas on the site and to determine changes in wetland areas over time. Reviews of aerial photographs suggests a fringing tidal marsh and forested wetland immediately landward of the tidal marsh.

National Wetland Inventory Map

The US Fish and Wildlife Service (FWS) is the principal US Federal agency tasked with providing information to the public on the status and trends of our Nation's wetlands. The US FWS National Wetlands Inventory (NWI) is a publicly available resource that provides detailed information on the abundance, characteristics, and distribution of US wetlands. Prior to our field inspection of the property, Wetland Sciences, Inc. researched the U.S. Fish and Wildlife Service's National Wetland Inventory Data (Figure 3). The NWI map clearly delineates several wetland features proximal to the lake edge.

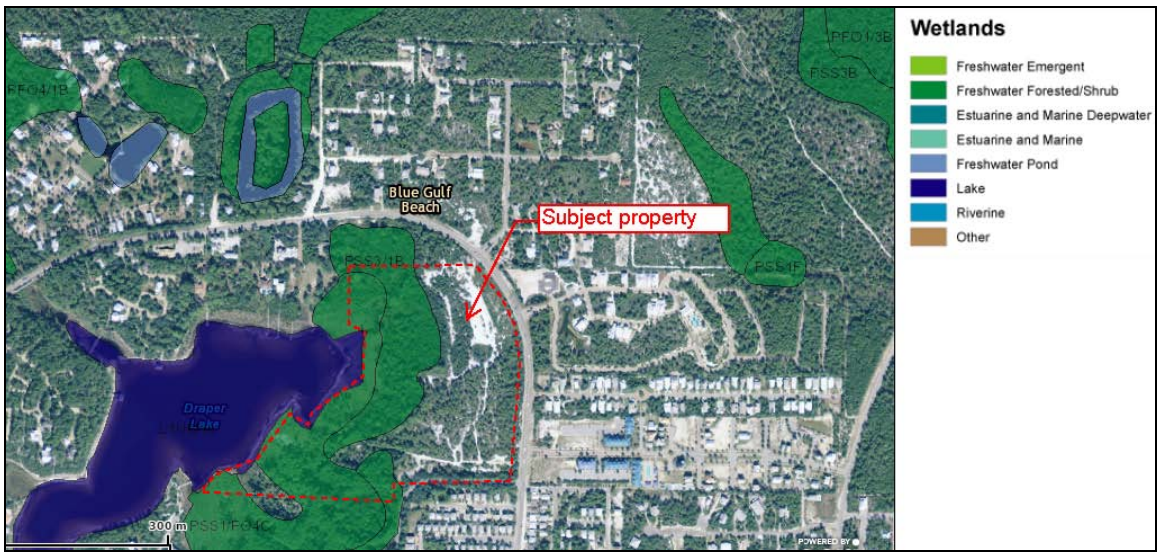

Figure 3. National Wetlands Inventory Map. General outline of the subject property is depicted by the red poly line.

Field Review

The desktop review was followed by a pedestrian survey. I personally inspected the property on November 14, 2019. I used technical criteria, field indicators, historic aerial photographs, and other sources of information to assess the site. The evaluation methods followed the routine on-site determination method referenced in the 1987 USACE Manual and 2010 Atlantic and Gulf Coast Regional Supplement.

Wetlands generally have three essential characteristics: hydrophytic vegetation, hydric soils, and wetland hydrology. The techniques for evaluating the plant community, soils, and hydrology are described in the following sections.

Hydric Soils Assessment

Several soil test holes were evaluated in an attempt to identify field indications of hydric soils. WSI utilized the hydric soil definition provided by the National Technical Committee for Hydric Soils and criteria to determine whether soils within the site are considered hydric. It was determined during the desktop review a portion of the subject property was comprised of soils

with a hydric rating of 95% & 100%. A specific area is not necessarily considered to have hydric soils because it is dominated by soils on a hydric soils list. Hydric soils must be identified by verifying the presence of one of more of the hydric soil indicators. During our field inspection of the property, WSI noted several hydric soil characteristics including dark surface, mucky texture, and sandy redox.

Wetland Hydrology Assessment

Visual indicators of wetland hydrology were evaluated. Examples of primary wetland hydrology indicators include, but are not limited to, surface water, high water table, soil saturation, water marks, sediment deposits, drift deposits, iron deposits, inundation visible on aerial imagery, sparsely vegetated concave surface, and water-stained leaves. If at least one primary or two secondary indicators are observed, the data point location was considered to have wetland hydrology. Several wetland hydrologic indicators were noted including surface water, saturation, plant morphological adaptations, aquatic fauna, water stained leaves, and moss trimmed lines.

Plant community structure

The subject property is comprised of four distinct ecological communities, wet pine flatwoods, tidal marsh, shrub bog, upland mesic flatwoods, and upland scrub. These communities were previously described.

Field Identification of Wetlands

Hydric soil indicators along with an assessment of the plant community structure was used to formulate the delineated wetland boundary line. Corps routine data forms are appended as Exhibit C.

The delineated wetland boundary line was established in the field by progressively locating points along 15-25 intervals along the wetland/upland boundary line or at directional changes along the boundary. These points are identified in the field with pink flagging tape labeled “Wetland Delineation” and assigned an alpha numeric designator. These points were located via GPS and the data is depicted on the attached wetland sketch (Exhibit D). The sketch is not a survey and should be considered approximate unless verified by a survey or other appropriate means.

The wetlands identified on the attached sketch are under the regulatory purview of the Northwest Florida Water Management District (District), Florida Department of Environmental Protection (DEP), Department of the Army Corps of Engineers, and Walton County. Additionally, Walton County, District, and DEP will regulate those lands 25-ft. landward of the delineated wetland boundary line.

Any development activities requiring the excavation or placement of fill within the wetlands and/or within 25-ft. of the delineated wetlands will require permits from the agencies referenced above. As you may or may not know the agencies which regulate wetlands evaluate permits based on avoidance and minimization, practical alternatives, and mitigation. This is a rather complicated process and better explained during a person to person meeting or via a telephone conference.

The boundary of jurisdictional wetland as depicted in the exhibits of this report are not final or "binding" until such time as they are confirmed by the USACE and the WMD through field inspection. As such, the depicted wetland boundary may be subject to minor changes upon such inspection/approval.

6.0 Threatened and Endangered Species

This portion of the assessment focused on the presence of any rare, threatened, or endangered species and/or their critical habitats within the study area. Listed species include those with federal endangered or threatened status, federal candidate species, and state endangered, threatened, and species of special concern status. Listed species data was obtained from U.S. Fish and Wildlife Service IPaC Report (Appendix E), Florida Fish and Wildlife Conservation Commission Florida's Endangered and Threatened Species (Florida Fish and Wildlife Conservation Commission , 2012), and Florida Department of Agriculture and Consumer Services (DOACS) via Fla. Admin. Code 5B-40. No critical habitats were identified within the study area. The U.S. Fish and Wildlife Service IPaC system (Service, 2020) report lists 6 federally protected species that may occur in the subject property. WSI also consulted species lists contained in Florida's Endangered and Threatened Species (Florida Fish and Wildlife Conservation Commission , 2012), Florida's Imperiled Species Management Plan (Commission, Florida Fish and Wildlife Conservation, 2016), Florida Regulated Plant Index (Fla. Admin. Code 5B-40), and Notes on Florida's Endangered and Threatened Plants (Jr. & Anderson, 2010) and complied the following list of listed species that may occur in the study area (Table 3).

Category	Species Common Name	Scientific Name	Federal Status	State Status
Mammals	West Indian Manatee	*Trichechus manatus*	FT/CH	FT
Birds	Wood Stork	*Mycteria americana*	FT	FT
Reptile	Eastern Indigo Snake	*Drymarchon corais couperi*	FT	FT
	Gopher Tortoise	*Gopherus polyphemus*	C	ST
	Reticulated Flatwoods Salamander	*Ambystoma bishopi*	FE/CH	FE
Fish	Atlantic Sturgeon (Gulf Subspecies)	*Acipencer oxyrinchus*	FT/CH	FT1

Table 3. Listed species that may occur in the study area. Table 1. Listed species that may occur within the project site. Code key; FT= Federal Threatened, ST=State Threatened, FE = Federal Endangered, SE = State Endangered, CH=Critical Habitat Designated, SSC = Species of Special Concern, NL = Not listed, C = Candidate.

The following is a summary of the listed species that may occur within the study area.

Mammals

West Indian Manatee (*Trichechus manatus)*. The West Indian Manatee was listed as endangered throughout is range in Florida in 1967 (32 FR 4061) and further protections provided in the Marine Mammal Protection Act (16 U.S.C. 1461 *et. seq*) and Endangered Species Act of 1973 (16 U.S.C. ch. 35 § 1531 *et seq*).

Manatees are found in marine, estuarine, and freshwater environments. The West Indian manatee (*Trichechus manatus)* includes two distinct subspecies, the Florida manatee (*Trichechus manatus latirostris*) and the Antillean manatee (*Trichechus manatus manatus*). Along the Gulf of Mexico, the population of the Florida manatee is divided into two regional groups: Northwest and Southwest (FWS 2001). The Northwest group would include individuals located north of Tampa Bay west along the Gulf coastal waters to the Alabama state line.

Manatees have large, seal-shaped bodies with paired flippers and a round, paddle-shaped tail. They are typically grey in color (color can range from black to light brown) and occasionally spotted with barnacles or colored by patches of green or red algae. The muzzle is heavily whiskered and coarse, single hairs are sparsely distributed throughout the body. Adult manatees, on average, are about nine feet long (3 meters) and weigh about 1,000 pounds (200 kilograms). At birth, calves are between three and four feet long (1 meter) and weigh between 40 and 60 pounds (FWS 2001).

Project will not impact habitats occupied by the Manatee.

Birds

Wood Stork (*Mycteria americana*). USFWS listed the United States breeding populations of wood stork as endangered on February 28, 1984 pursuant to the Endangered Species Act of 1973, as amended [F.R. 49(4):7332-73335]. Wood stork is primarily associated with freshwater and estuarine habitats that are used for nesting, roosting, and foraging (U.S. Fish and Widlife Service , 1986). Wood storks typically nest colonially in medium to tall trees that occur in stands located either in swamps or on islands surrounded by relatively broad expanses of open water (Ogden, 1990). Successful breeding sites are those that remain permanently inundated in waters between 3 and 5 feet deep and free from human and predatory influences (Ogden, 1990)

Shallow palustrine or tidally influenced wetlands where small fish are concentrated from falling water levels generally represent the ideal feeding habitat which includes freshwater marshes, depressions in cypress heads, swamp sloughs, managed impoundments, stock ponds, shallow-seasonally flooded roadside or agricultural ditches, and narrow tidal creeks or shallow tidal pools (Ogden, 1990).

FWS has not designated critical habitat for the wood stork but has designated nesting colonies and core foraging areas (See Exhibit F for Wood Stork Nesting Colonies and Core Foraging Areas Active within 2010-2019 in Florida). In North Florida, the core foraging area includes any suitable foraging habitat within a 13-mile radius of a colony (U.S. Department of the Army Corps of Engineers , 2008). The study area is far removed from any nesting colonies and/or core forage areas and therefore this species is not expected to occur in the study area even though it was identified in USFWS IPaC report.

Reptiles

Eastern Indigo Snake (*Drymarchon corais couperi*) was listed as federally threated by the U.S. Fish and Wildlife Service in 1979. This species generally requires exceptionally large tracts of land to survive and occupy a range of habitats, from flatwoods, hammocks, stream bottoms, riparian zones, and high ground with deep, well-drained to excessively drained, sandy soils. Habitat

preferences vary seasonally (Hallam, 1998). Pine sandhill winter dens are used from December to April. Summer territories are selected from May to July. From August through November, indigo snakes are frequently located in shady creek bottoms. These seasonal changes in habitat encourage the maintenance of travel corridors that link these different habitat types. They are considered commensals of the gopher tortoise, wintering over in their burrows in the uplands, but foraging in more mesic to hydric habitats. The Eastern indigo snake is found throughout Florida but is rare in most areas. There is a low potential for the indigo snake to occupy habitat within the study area due to the parcel's historical land use and disturbances.

Gopher tortoise *(Gopherus polyphemus)* is the only tortoise indigenous to the southeastern United States (USFWS 1990). Gopher tortoise have been regulated in Florida since 1972 and has been fully protected since 1988 as a species of special concern. Its status was elevated to threatened on November 8, 2007. Both the tortoise and its burrow are protected under state law.

Gopher tortoise is a large dark-brown to grayish-black terrestrial tortoise. The shell is approximately 15-37 centimeters or 5.9-14.6 inches long. The gopher tortoise has elephantine hind feet, shovel-like forefeet, and a gular projection beneath the head of the yellowish, hinge-less plastron or under shell. For refuge, gopher tortoises dig burrows which average 5 to 10 feet in depth and may be 10 to 20 feet or more in length. Several other species may share gopher tortoise burrows, including the eastern indigo snake, the eastern diamondback rattlesnake, the black pine snake, and the gopher frog, as well as several small mammals.

Gophers favor dry sandy ridges with open stands of longleaf pine, turkey oak and other scrub oaks. Gophers feed on grasses and other low growing vegetation. Fire suppression is problematic to gopher habitat preventing sunlight from reaching the forest floor, and thus decreasing ground cover which the turtles depend on. It is commonly associated with a pine overstory and an open understory with a grass and forb (non-woody) groundcover and sunny areas for nesting. Gopher tortoises can also sometimes be found in more marginal habitat such as roadsides, ditch banks, utility and pipeline rights-of-way, pastures, and even marginal wetland habitat, especially if their preferred habitat has been lost.

No burrows were identified within the subject property.

Reticulated Flatwoods Salamander

The reticulated flatwoods salamander *(Ambystoma bishop)* is a long and slender salamander that can reach a body length of 5.2 inches (13 centimeters). It has a silvery-gray or black body with white spots that are more distinct than on the frosted flatwoods salamander. The reticulated flatwoods salamander inhabits slash and longleaf pine flatwoods that have a wiregrass floor and scattered wetlands.

The subject property is far removed from any federally designated critical habitat. Topography and vegetation characteristics of the on-site wetlands are not typical of the breeding ponds that support reticulated flatwoods salamanders and therefore the project should have no effect on this species.

Fish

Atlantic Sturgeon (*Acipenser oxyrinchus desotoi*) – Threatened

The USFWS and NMFS listed the Gulf Sturgeon (*Acipenser oxyrhinchus desotoi*) a subspecies of the Atlantic sturgeon (*A. oxyrhinchus*), as threatened species listed under the Endangered Species Act of 1973, as amended. On March 19, 2003, USFWS and NMFS designated habitat essential to the conservation of the Gulf Sturgeon (68 FR 13369). This "critical" habitat includes 14 geographical areas among the Gulf of Mexico Rivers and tributaries (Figure 4). The subject property is proximal to Critical Habitat Unit 11 – Florida Nearshore Gulf of Mexico Critical Habitat Unit (Figure 2).

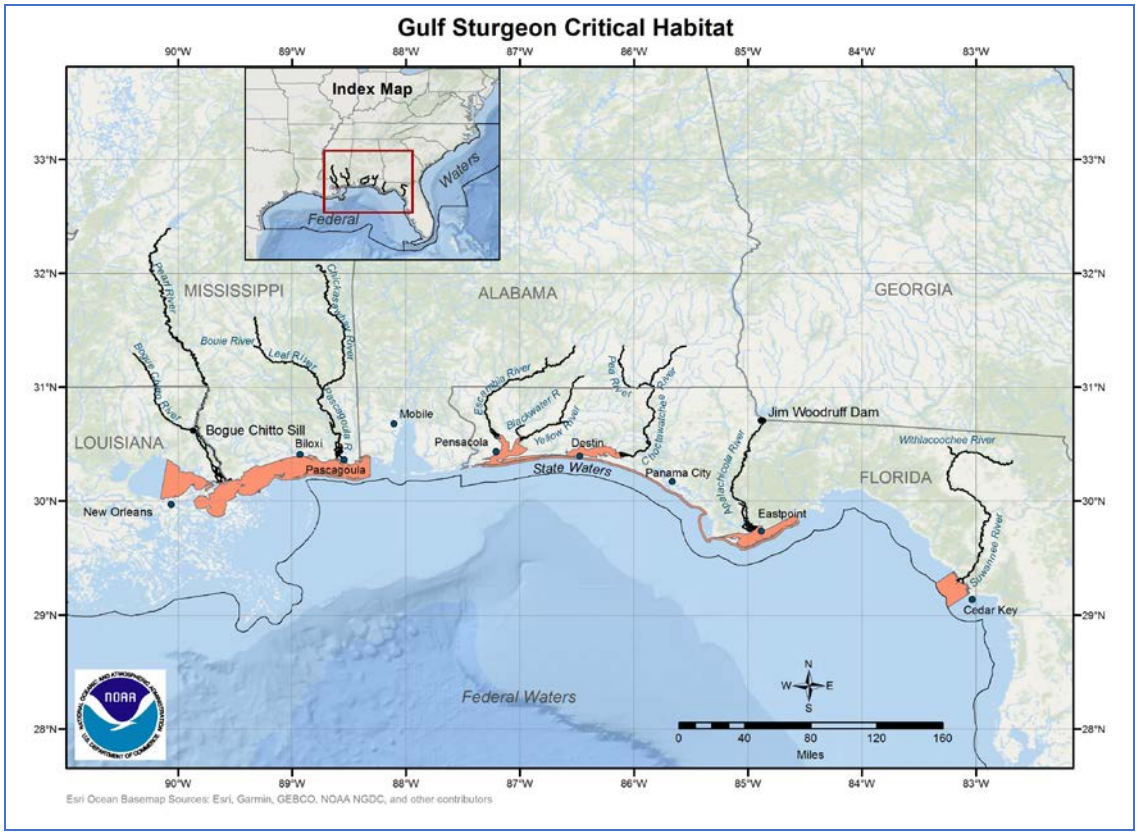

Figure 4. Gulf Sturgeon critical habitat map.

As with other sturgeon species, the damming of rivers has been the most significant threat to the Gulf sturgeon. Other threats to the species include over exploitation, incidental catch, dredging activities, the removal of snags and dredged material placement associated with channel improvements and maintenance.

The gulf sturgeon is anadromous, which means the species breeds in freshwater environments, but spends the remainder of the year in marine and estuarine environments. Spawning occurs in the deeper portions of rivers during the warmer months of the year. The remaining months (November through March), the Gulf sturgeon migrates to estuarine or Gulf of Mexico waters to feed. In early to late spring, the fish migrate to the riverine systems to spawn (USFWS 1995).

The project will not impact sturgeon habitat.

7.0 Archeological/Cultural Resources

A Phase I Cultural Resource Survey was completed by Caleb Curren, archeologist in August 2012 (Exhibit G). The survey included: (1) a visual pedestrian reconnaissance of land surfaces within the project boundaries; (2) a background research for previously recorded sites and cultural resource studies within the survey area; and (3) subsurface shovel testing for buried cultural deposits. Soils removed from tests were screened though one-quarter inch mesh wire. All shovel tests were backfilled. Shovel tests and location maps were produced along with color photographs depicting the vegetation, terrain, and work performed. All records of this cultural resource survey are archived in the Pensacola office of Caleb Curren, Archeologist.

Due to the lack of significant cultural remains within the study area, the Phase I Archeological survey report recommended that no further archeological investigations be conducted on the property. These findings were confirmed by Florida Division of Historical Resources.

8.0 Hazardous Materials and Contamination

Wetland Sciences, Inc. completed a comprehensive review of regulatory search information prepared by Environmental Data Resources, Inc. (EDR). Search radii equaled or exceed the criteria specified in American Society for Testing and Materials (ASTM) Designation E 1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*. A regulatory records search of this nature is based on information published by state and federal regulatory agencies and is used to evaluate if the subject property or nearby properties are listed as having a past or present record of actual or potential environmental impact. (Please note that regulatory listings include only those facilities that are known to the regulatory agencies at the time of publication.

The Site was not identified as listed in any of the databases searched by EDR. Eleven offsite properties (within 1-mile radius) were listed in the EDR databases and no sites were listed in the orphan summary. This initial review revealed no recognized environmental conditions in connection with the property and no evidence of RECs located within a one-mile radius of the Site.

9.0 Conclusions

Six man-hours were expended during site reconnaissance and examination proceedings. As mentioned earlier the site contains a variety of ecological communities.

No state or federally listed plant or animal species were confirmed as residing within the survey boundaries.

The property contains one previously recorded cultural resource site. A Phase I Cultural Resource Survey was completed and found no historical structures or sites within the subject property. No further action was recommended by the professional archeologist.

For your information, the following county ordinances will apply in the development of the subject parcel. They are:

The wetland area depicted on Exhibit D is considered a primary wetland protection zone per Walton County Land Development Code (LDC) Section 4.01.02. All lands within 25 feet landward of the upland edge of the primary wetland zone are considered the secondary wetland protection zone. Section 4.01.03 of Walton County LDC restricts various development activities within the primary and secondary wetland protection zones.

Walton County Land Development Code Section 4.06.02 states, "*For development on parcels of two acres or more in areas characterized by sand pine scrub, longleaf pine sandhill, or xeric oak scrub communities, 50 percent of the natural scrub vegetation on the site shall be retained. Where the natural community on one parcel is contiguous with native plant natural community on one or more adjacent parcels, the developable portion shall be located to minimize disruption of this contiguity to the maximum extent possible. This requirement shall be applied on a site-by-site basis and shall apply to public as well as private development. Within coastal dune lake drainage basins, the above-mentioned percentage of native vegetation shall be preserved, and in addition, the removal of native vegetation and its replacement by lawns and landscaping shall be kept to the minimum which is reasonably necessary to develop the property*"

In addition, there is a coastal dune lake located approximately 250 feet east of the subject property. Walton County Land Development Code Section 4.02.03 Coastal Dune Lake Protection Zones *Location of Coastal Dune Lake Protection Zones states*, "All lands within an area beginning at the mean or ordinary high water line of the coastal dune lakes and their tributaries and extending 300 feet landward. Walton County LDC Section 4.02.06.B Restrictions on Development *Within the Coastal Dune Lake Protection Zone.* Development shall be allowed within this zone, subject to the following restrictions: *Septic tanks:* Septic tank drain fields must be located at least 100 feet from the ordinary or mean high water line, whichever applies. *Stormwater management:* New lots shall be graded to ensure untreated stormwater runoff from lawn fertilizers, pesticides, or patios, driveways, etc. do not enter the lake. If regional stormwater facilities will not provide this standard, the lot shall utilize a vegetated swale and berm system, underground seepage system or other stormwater treatment method between the developed area and the lake to hold and treat runoff, consistent with the level of service standard for drainage facilities adopted in this plan. *Erosion control:* Specific erosion control measures shall be utilized during construction activity, such as staked and staggered hay bales, siltation barriers, floating silt and filter berms. Further, erosion and sedimentation controls shall be left in place until the disturbed areas are stabilized with permanent vegetation that will prevent the transport of sediment off site. In addition to erosion control during construction, stabilization of the shoreline shall be provided by limiting clearing of natural vegetation within 100 feet of the mean or ordinary high water line of the shoreline to 25 percent of the site. *Hazardous wastes:* No land use shall be allowed within the zone which stores, handles or generates hazardous wastes. *Seawalls:* Seawalls, bulkheads, revetments and rip-rap are not permitted. *Endangered Species:* Native vegetative communities, including habitat for listed species, in this zone shall be protected in accordance with Policy C-3.2.7. of the Comprehensive Plan. *Pollution:* No new point or non-point sources of pollution shall be discharged into the lakes, such as treated wastewater effluent or untreated stormwater runoff. *Open Space:* All new development and redevelopment shall preserve at least 75 percent of the portion of the parcel within the 300-foot protection zone in

open space. Vegetative clearing within this preserved area shall be limited to that which is necessary to accommodate the 25 percent development that is permitted, plus a ten foot cleared buffer immediately adjacent to buildings. No construction or disturbance will be allowed in the natural outlet from a coastal dune lake. A buffer area of not less than 50 feet of vegetated area will be left undisturbed along either side of the natural outlet from the lake.

The above referenced Walton County Land Development Code provisions are those that directly pertain to the environmental conditions described in this report. There may be other code provisions that may affect the development of the subject property. I would recommend that any potential development plans be submitted to Walton County as part of a predevelopment application review to determine any potential regulatory issues not identified in this report.

Be advised, the information presented within this report represents the professional opinion of the scientist that performed the work and is intended to furnish the client with an approximation of the status of natural resources on the site under consideration.

Questions regarding the contents or conclusions of this report can be directed to Keith Johnson of Wetland Sciences, Inc at either the address or telephone number listed on the title page.

10.0 List of Preparers

We declare that, to the best of our professional knowledge and belief, we have the specific qualifications based on education, training, and experience to complete an assessment of the subject property.

Keith D. Johnson – Environmental Scientist
Wetland Sciences, Inc.
B.S. Environmental Science
Years of Experience: 24

11.0 REFERENCES

Allen, M. 1988. Wildlife Survey Methodology Guidelines - for Section 18.D of the Application for Development Approval. FG&FWFC, Tallahassee, FL.

Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Technical Report Y–87–1. U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.

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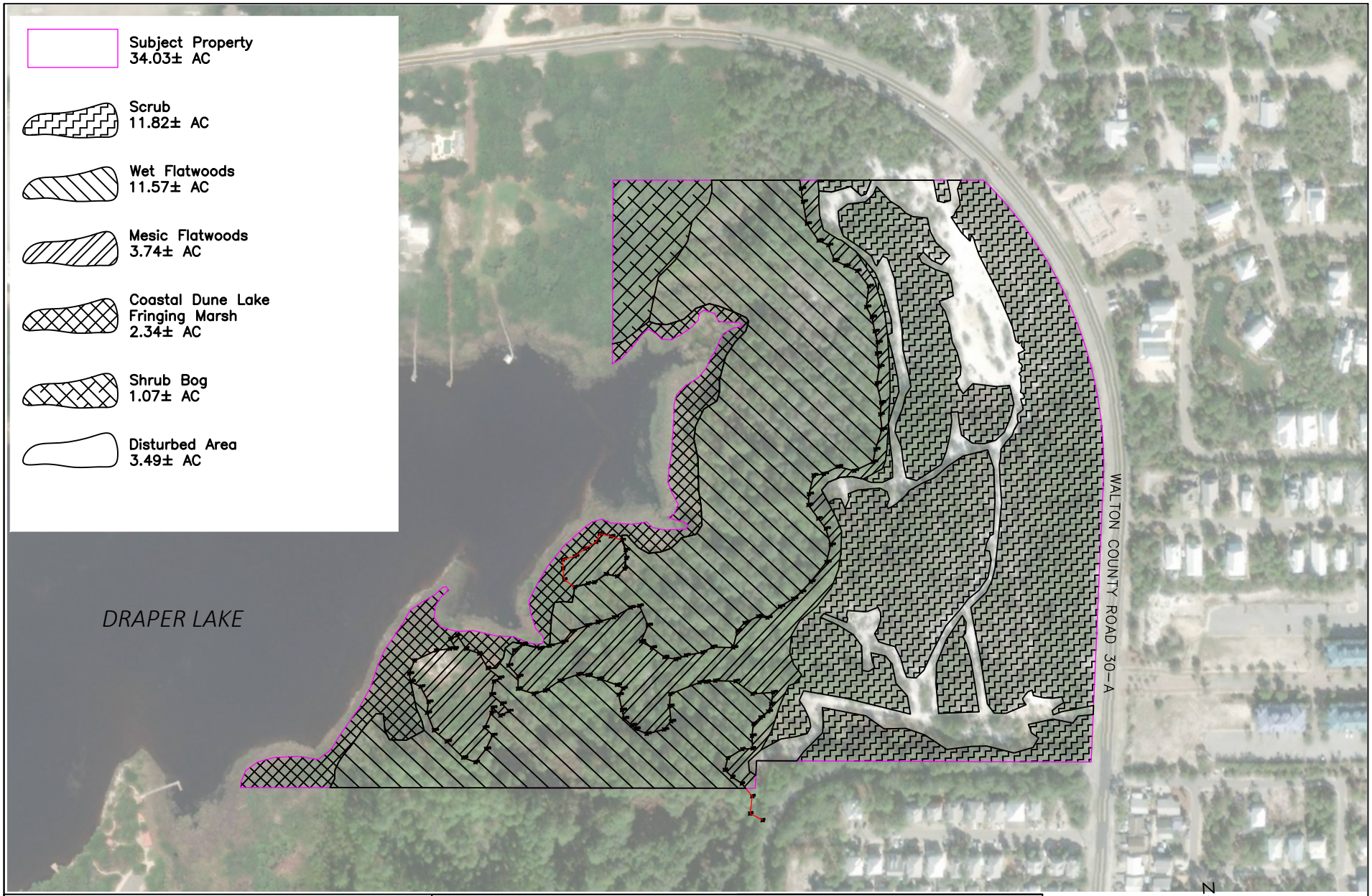
United States Department of Agriculture, Soil Conservation Service. 1985a. 26 Ecological Communities of Florida.

United States Department of Agriculture, Soil Conservation Service. 1993. National soil survey handbook, title 430–VI. (Available in the State Office of the Natural Resources Conservation Service at Gainesville, Florida.)

EXHIBIT A

Ecological Community Sketch



WETLAND SCIENCES INCORPORATED

ECOLOGICAL COMMUNITY SKETCH
DRAPER LAKE PROPERTY

PROJECT #2012-080	DATE: June 29, 2020
DRAWN BY: KDJ	SCALE: 1"= 300'

N

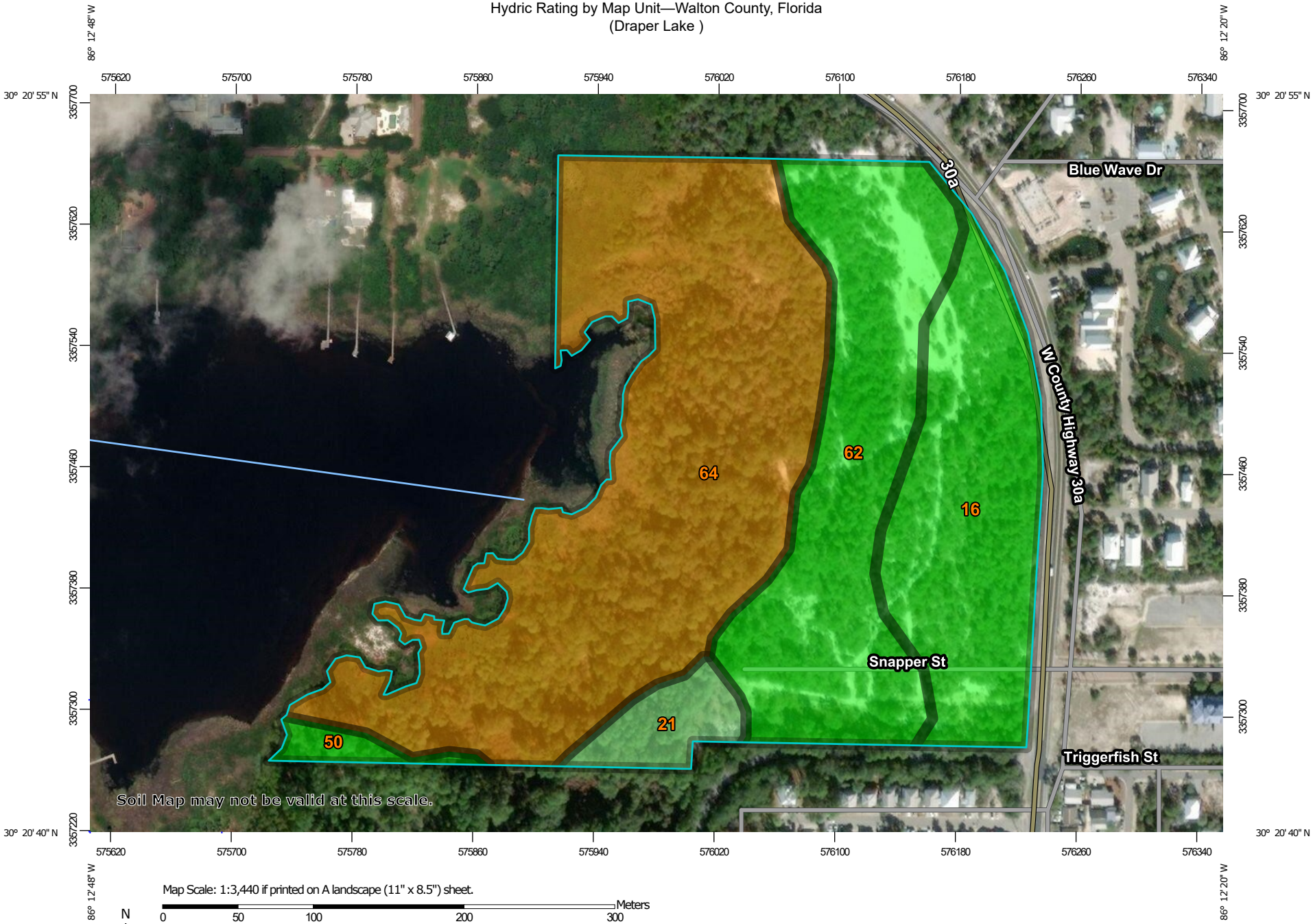
300 0 150 300

SCALE: 1"= 300 Feet

EXHIBIT B

Hydric Soils Map

Hydric Rating by Map Unit—Walton County, Florida
(Draper Lake)



Map Scale: 1:3,440 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

Hydric (100%)

Hydric (66 to 99%)

Hydric (33 to 65%)

Hydric (1 to 32%)

Not Hydric (0%)

Not rated or not available

Soil Rating Lines

Hydric (100%)

Hydric (66 to 99%)

Hydric (33 to 65%)

Hydric (1 to 32%)

Not Hydric (0%)

Not rated or not available

Soil Rating Points

Hydric (100%)

Hydric (66 to 99%)

Hydric (33 to 65%)

Hydric (1 to 32%)

Not Hydric (0%)

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Walton County, Florida
Survey Area Data: Version 19, Sep 17, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 31, 2009—Dec 10, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
16	Kureb sand, 0 to 8 percent slopes	0	6.6	20.2%
21	Leon sand, 0 to 2 percent slopes	9	1.2	3.8%
50	Mandarin sand, 0 to 2 percent slopes	0	0.5	1.6%
62	Resota sand, 0 to 5 percent slopes	0	8.3	25.4%
64	Pamlico muck	97	16.0	49.1%
Totals for Area of Interest			**32.6**	**100.0%**

Description

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Rating Options

Aggregation Method: Percent Present

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

EXHIBIT C

Corps Wetland Data Forms

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: DR Horton, Inc. 34 Acre Draper Lake City/County: Walton Sampling Date: November 2019

Applicant/Owner: DR Horton, Inc. State: FL Sampling Point: Wet Flatwoods

Investigator(s): Keith Johnson Section, Township, Range: Section 01, TWP 3 South, Range 20 West

Landform (hillslope, terrace, etc.): flatwoods Local relief (concave, convex, none): _____ Slope (%): <2

Subregion (LRR or MLRA): LRR P Lat: 30.3453090° Long: -86.2093689° Datum: WGS84

Soil Map Unit Name: Palmico Muck NWI classification: PFO4

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** **Yes** X **No** _____
Hydric Soil Present?	Yes X	No _____	
Wetland Hydrology Present?	Yes X	No _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☑ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☑ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☑ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☑ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☑ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☑ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes _____	No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes X	No _____	Depth (inches): 2

Wetland Hydrology Present? **Yes** X **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Wet Flatwoods

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus elliottii	25	Yes	FACW
2. Magnolia virginiana	10	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
	35 = Total Cover		
50% of total cover: 17.5	20% of total cover: 7		

Sapling/Shrub Stratum (Plot size: 30' radius)			
1. Cliftonia monophylla	55	Yes	OBL
2. Magnolia virginiana	5	No	FACW
3. Persea palustris	5	No	FACW
4. Ilex coriacea	4	No	FACW
5.			
6.			
7.			
8.			
	69 = Total Cover		
50% of total cover: 34.5	20% of total cover: 13.8		

Herb Stratum (Plot size: 30' radius)			
1. Woodwardia areolata	2	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	2 = Total Cover		
50% of total cover: 1	20% of total cover: 0.4		

Woody Vine Stratum (Plot size: 30'-radius)			
1. Smilax laurifolia	8	Yes	OBL
2.			
3.			
4.			
5.			
	8 = Total Cover		
50% of total cover: 4	20% of total cover: 1.6		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	63	x 1 =	63
FACW species	59	x 2 =	118
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	122 (A)		181 (B)

Prevalence Index = B/A = 1.48

Hydrophytic Vegetation Indicators:

- [x] 1 - Rapid Test for Hydrophytic Vegetation
- [x] 2 - Dominance Test is >50%
- [x] 3 - Prevalence Index is ≤3.0[1]
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** x **No** _____

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: Wet Flatwoods

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 2/1						muck	muck; highly organic; dark surface

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☑ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☑ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: DR Horton, Inc. 34 Acre Draper Lake City/County: Walton Sampling Date: November 2019

Applicant/Owner: DR Horton, Inc. State: FL Sampling Point: Upland Scrub

Investigator(s): Keith Johnson Section, Township, Range: Section 01, TWP 3 South, Range 20 West

Landform (hillslope, terrace, etc.): flatwoods Local relief (concave, convex, none): _____ Slope (%): <2

Subregion (LRR or MLRA): LRR P Lat: 30.3451747 Long: -86.2090355° Datum: WGS84

Soil Map Unit Name: Leon NWI classification: Uplands

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** **Yes** _____ **No** X
Hydric Soil Present?	Yes X	No _____	
Wetland Hydrology Present?	Yes X	No _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes _____	No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Scrub

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus clausa	35	Yes	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	35 = Total Cover		

50% of total cover: 17.5 20% of total cover: 7

Sapling/Shrub Stratum (Plot size: 30' radius)			
1. Pinus clausa	15	Yes	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	15 = Total Cover		

50% of total cover: 7.5 20% of total cover: 3

Herb Stratum (Plot size: 30' radius)			
1. Conradina canescens	35	Yes	UPL
2. Chrysoma pauciflosculosa	25	Yes	FAC
3. Serenoa repens	2	NO	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	62 = Total Cover		

50% of total cover: 41 20% of total cover: 12.4

Woody Vine Stratum (Plot size: 30'-radius)			
1. Smilax bona-nox	1	Yes	FACU
2.			
3.			
4.			
5.			
	1 = Total Cover		

50% of total cover: 0.5 20% of total cover: 0.10

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.20 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	0	x 1 =
FACW species	0	x 2 =
FAC species	25	x 3 = 75
FACU species	3	x 4 = 12
UPL species		x 5 =
Column Totals:	28 (A)	87 (B)

Prevalence Index = B/A = 3.10

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ____ **No** X

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: scrub

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 4/1						sand	
5-10	10YR 5/1						sand	
10-24	5YR 2/2						sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: DR Horton, Inc. 34 Acre Draper Lake City/County: Walton Sampling Date: November 2019

Applicant/Owner: DR Horton, Inc. State: FL Sampling Point: Mesic Flatwoods

Investigator(s): Keith Johnson Section, Township, Range: Section 01, TWP 3 South, Range 20 West

Landform (hillslope, terrace, etc.): flatwoods Local relief (concave, convex, none): _____ Slope (%): <2

Subregion (LRR or MLRA): LRR P Lat: 30.3462721 Long: -86.2102104° Datum: WGS84

Soil Map Unit Name: Pamlico NWI classification: Uplands

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** **Yes** _____ **No** X
Hydric Soil Present?	Yes X	No _____	
Wetland Hydrology Present?	Yes X	No _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes _____	No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Mesic

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus elliottii	40	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	40 = Total Cover		
50% of total cover: 20	20% of total cover: 8		

Sapling/Shrub Stratum (Plot size: 30' radius)			
1. Serenoa repen	80	Yes	FACU
2. Myrica cerifera	5	No	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	85 = Total Cover		
50% of total cover: 42.5	20% of total cover: 17		

Herb Stratum (Plot size: 30' radius)			
1. No herbs. Density of shrub stratum precludes herb growth			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Woody Vine Stratum (Plot size: 30'-radius)			
1. Vitis rotundifolia	2	Yes	FAC
2.			
3.			
4.			
5.			
	1 = Total Cover		
50% of total cover: 0.5	20% of total cover: 0.10		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	0	x 1 =
FACW species	40	x 2 = 80
FAC species	7	x 3 = 21
FACU species	80	x 4 = 320
UPL species		x 5 =
Column Totals:	127 (A)	421 (B)

Prevalence Index = B/A = 3.3

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ____ **No** X

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: mesic

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/1						sand	
4-18	10YR 3/2						sand	
18-24	5YR 2/2						sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

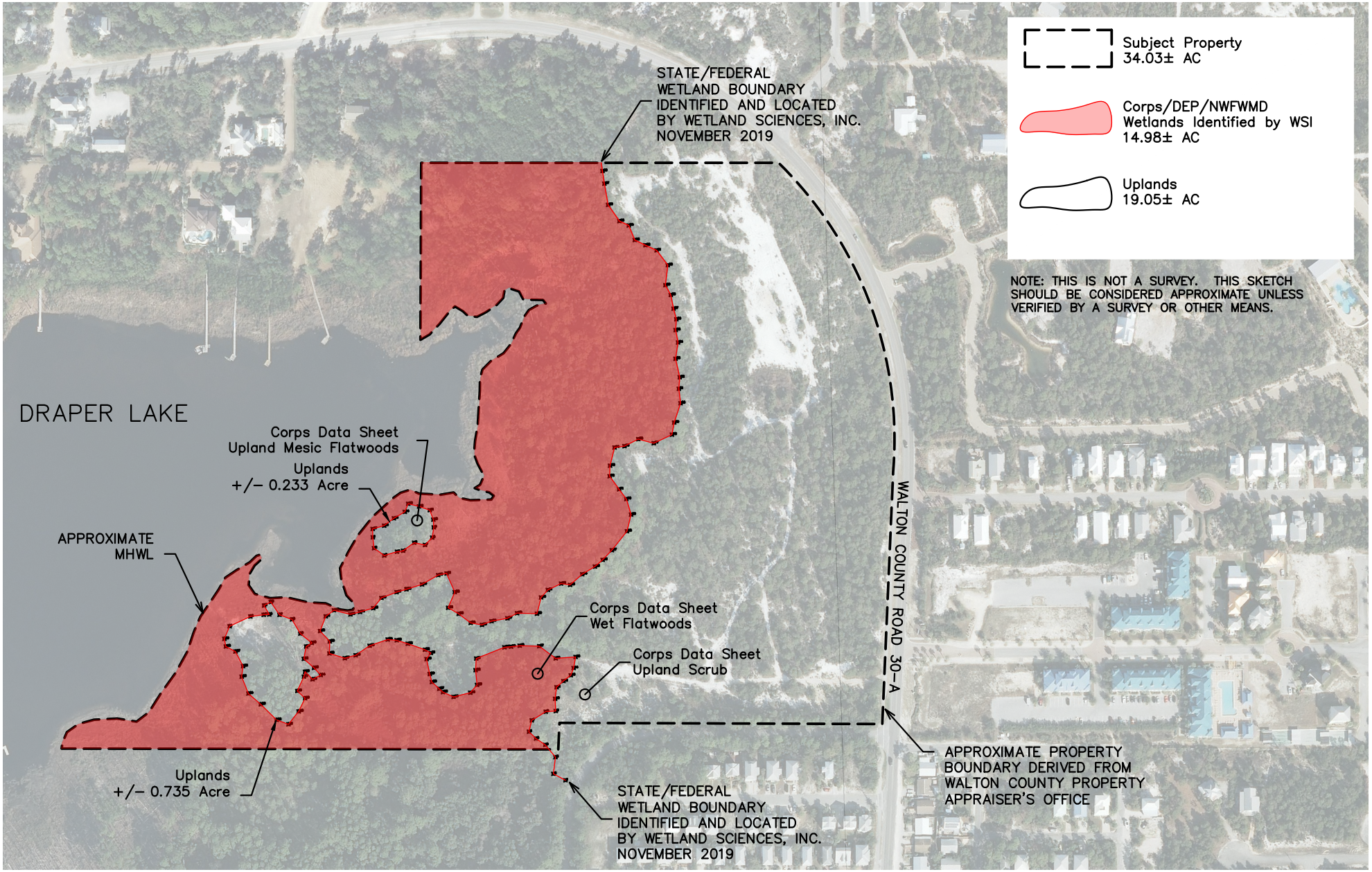
Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

EXHIBIT D

Wetland Sketch



WETLAND SCIENCES INCORPORATED

ENVIRONMENTAL CONSULTANTS
3308 GULF BEACH HIGHWAY
PENSACOLA, FLORIDA 32507
TEL: 850.453.4700
KEITH@WETLANDSCIENCES.COM

PROJECT NAME: DR Horton Draper Lake	
Wetland Sketch	
PROJECT NO.: 2012-080	
DRAWN BY: KDJ	DATE: 11/15/19
SHEET: 1	

N

40 0 20 40

SCALE: 1"= 40 Feet

EXHIBIT E

USFWS IPaC Report

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Panama City Ecological Services Field Office
1601 Balboa Avenue
Panama City, FL 32405-3792
Phone: (850) 769-0552 Fax: (850) 763-2177
http://www.fws.gov/panamacity/specieslist.html
http://www.fws.gov/panamacity/pcdata.html

In Reply Refer To: June 30, 2020
Consultation Code: 04EF3000-2020-SLI-0429
Event Code: 04EF3000-2020-E-00750
Project Name: Draper Lake Residential Development

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office. All correspondence should be submitted to panamacityregs@fws.gov.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Panama City Ecological Services Field Office
1601 Balboa Avenue
Panama City, FL 32405-3792
(850) 769-0552

Project Summary

Consultation Code: 04EF3000-2020-SLI-0429

Event Code: 04EF3000-2020-E-00750

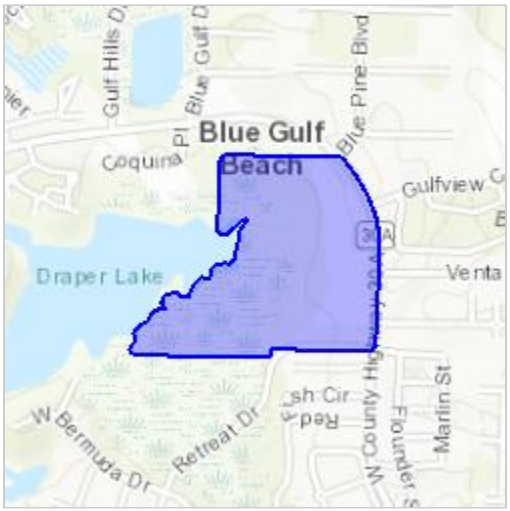
Project Name: Draper Lake Residential Development

Project Type: LAND - CLEARING

Project Description: Single Family Residential Subdivision

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/30.3466710034488N86.2082844842542W



Counties: Walton, FL

Endangered Species Act Species

There is a total of 6 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
West Indian Manatee *Trichechus manatus* There is **final** critical habitat for this species. Your location is outside the critical habitat. ***This species is also protected by the Marine Mammal Protection Act, and may have additional consultation requirements.*** Species profile: https://ecos.fws.gov/ecp/species/4469	Threatened

Birds

NAME	STATUS
Wood Stork *Mycteria americana* Population: AL, FL, GA, MS, NC, SC No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8477	Threatened

Reptiles

NAME	STATUS
Eastern Indigo Snake *Drymarchon corais couperi* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/646	Threatened
Gopher Tortoise *Gopherus polyphemus* Population: eastern No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6994	Candidate

Amphibians

NAME	STATUS
Reticulated Flatwoods Salamander *Ambystoma bishopi* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8939	Endangered

Fishes

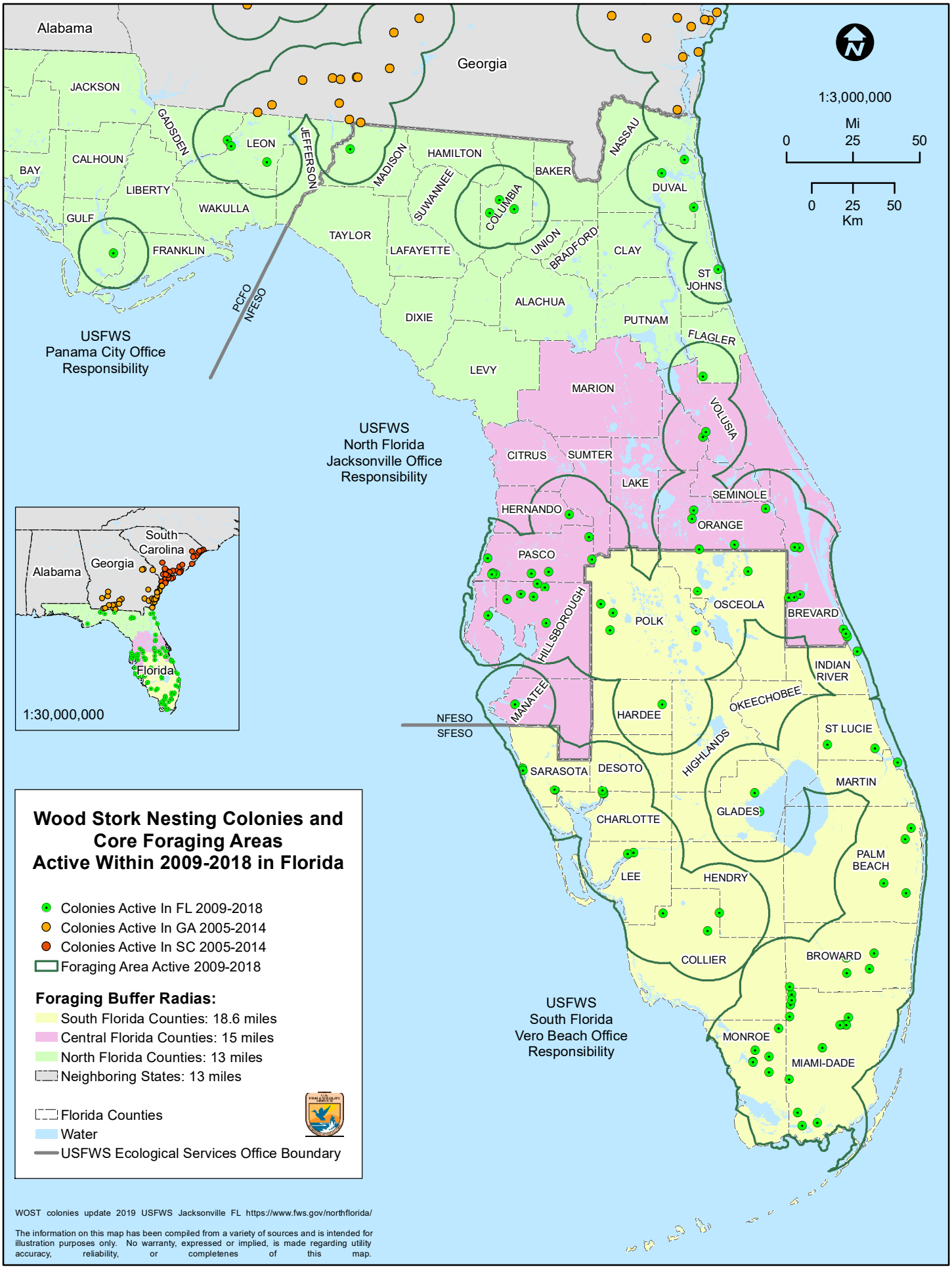
NAME	STATUS
Atlantic Sturgeon (gulf Subspecies) *Acipenser oxyrinchus (=oxyrhynchus) desotoi* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/651	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

EXHIBIT F

Wood Stork Nesting Sites and Colonies Map



WOST colonies update 2019 USFWS Jacksonville FL https://www.fws.gov/northflorida/

The information on this map has been compiled from a variety of sources and is intended for illustration purposes only. No warranty, expressed or implied, is made regarding utility accuracy, reliability, or completenes of this map.

EXHIBIT G

Phase I Archeological Report

A Phase I Cultural Resource Survey of a Draper Lake Property Blue Mountain, Walton County , Florida

by: Caleb Curren, Archeologist

P.O. Box 30576
Pensacola, FL 32503
850-982-5251
acheologyink@yahoo.com

via **Wetland Sciences Inc.**

for: **Finial Group**

August 2012

Table of Contents

Introduction …….. 1

Environmental Data ……. 4

Previous Research & Records Review ……... 5

Prehistoric Summary …….. 6

Historic Summary ……. 10

Research Design Objectives ……. 11

Field & Lab Methods …… 11

Summary, Conclusions, & Recommendations ……... 12

References and Related Works …… 14

List of Figures

Fig. 1: View toward Draper Lake …….. 1

Fig. 2: Topo Map of General Site Location 7.5 min. Grayton Beach .. 2

Fig. 3: Project Location U.S.G.S. Topographic Map 7.5 min. Grayton Beach ……. 3

Fig. 4: Site Location Map, previously recorded …… 3

Fig. 5: Vegetation ……... 4

Fig 6: C.B. Moore and a sternwheel steamboat similar to his "Gopher" (public domain) …….. 5

Fig. 7: Shovel Testing ……. 11

Fig. 8: Shovel Testing ……. 12

Fig. 9: Shovel Test Map …….. 13

Introduction

In August of 2012, Caleb Curren, Archeologist, contracted with Finial Group via Wetlands Sciences to perform a Phase I Cultural Resource Survey of a property in southern Walton County, Florida. The elevation of the property is sea level to approximately 30 ft.. The vegetation on the property was varied, ranging from pine thickets with understories of palmetto and grasses to denser vegetation. The soils of the property were consistently comprised of white dune sand.

The property is located on the eastern side of a freshwater lake known as Draper Lake. The lake is one of at least twelve lakes located along this portion of the northwest coast of Florida. The lakes are unique and rare worldwide. Known as dune lakes, they fill with freshwater when their mouths are dammed by beach sand. When they reach their maximum freshwater capacity they blowout their sand dams and flow into the Gulf. The sand dam then reforms and the whole process begins again. The dune lakes contain a very diverse biota. The bottoms of the lake are comprised of beach and dune sands, silty sand, silt, and various formations of clay.

Fig. 1: View toward Draper Lake

One previously recorded prehistoric archeological site was recorded on the property (8WL836). No previously recorded historic structures are listed for the property. The study property has not been subjected to a systematic professional archeological or historical investigation. The study was prompted based on Section 106 of the *National Historic Preservation Act of 1966*, as amended in 1992 as well as Chapter 267 of the *Florida Statutes* as well as Walton County Ordinances. The research was conducted according to the standards set by the Florida Division of Historical Resources and Chapter 1A-46 of the Florida Administrative Code.

The survey area is located in Township 3 South, Range 20 West, Section 1 as depicted on the Grayton Beach, Fla. 7.5 minute USGS topographic map. The size of the study property is 30 acres with at least 15 of those acres being low and wet.

The survey included: (1) a visual pedestrian reconnaissance of land surfaces within the project boundaries; (2) a background research for previously recorded sites and cultural resource studies within the survey area; and (3) subsurface shovel testing for buried cultural deposits. Soils removed from tests were screened though one-quarter inch mesh wire. All shovel tests were backfilled. Shovel tests and location maps were produced along with color photographs depicting the vegetation, terrain, and work performed. All records of this cultural resource survey are archived in the Pensacola office of Caleb Curren, Archeologist.

Fig. 2: Topo Map of General Site

A document of findings was completed and is presented here. It is based on standards set forth by the Florida Division of Historical Resources. It includes a description of the project area and its environment, the field methods used in the research, the temporal and cultural context, as well as results and recommendations regarding the survey findings. The document is illustrated with maps, tables, and photographs that present the topography, field methods, and conditions of the survey area. The scope of work for the Cultural Resources Survey of this project is based on the regulations set forth by the State of Florida Division of Historical Resources.

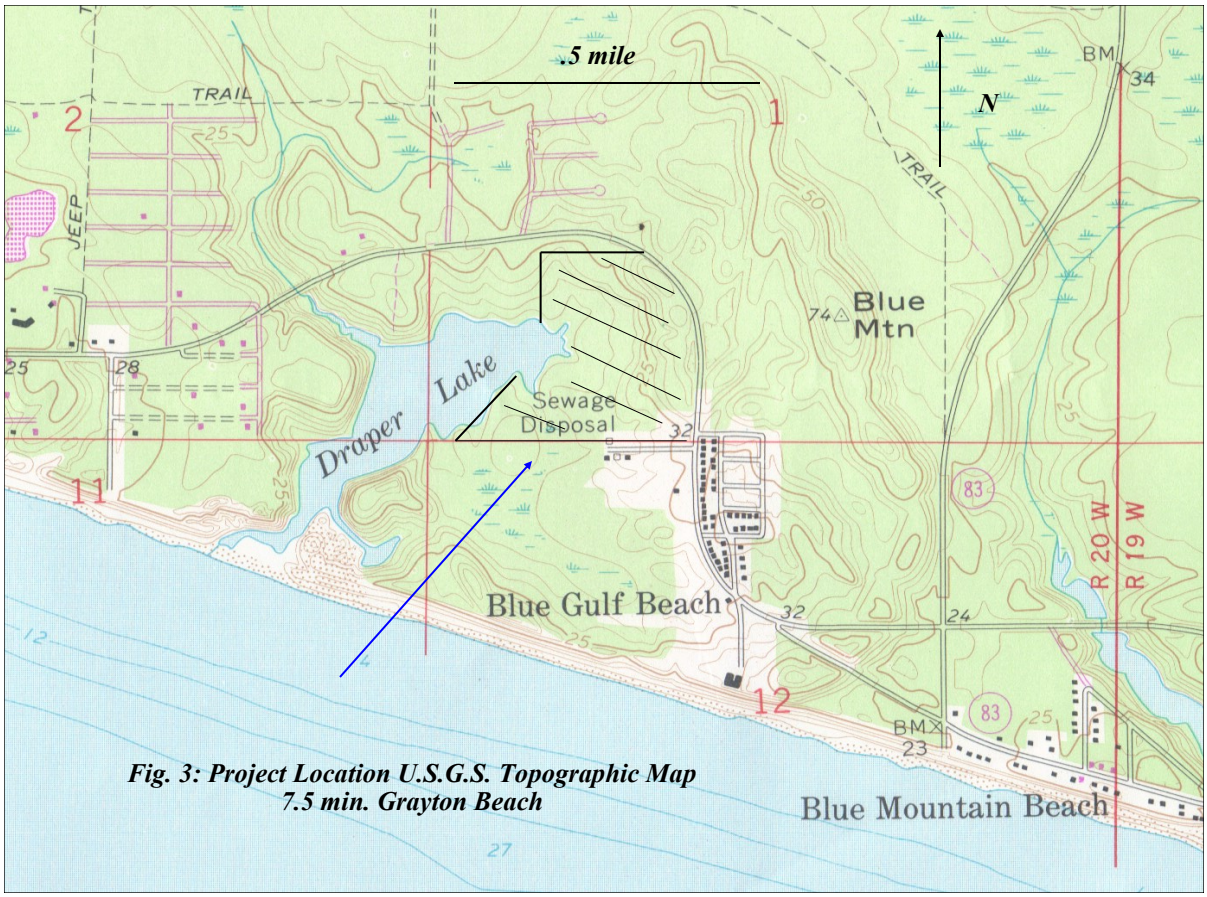


Fig. 3: Project Location U.S.G.S. Topographic Map
7.5 min. Grayton Beach

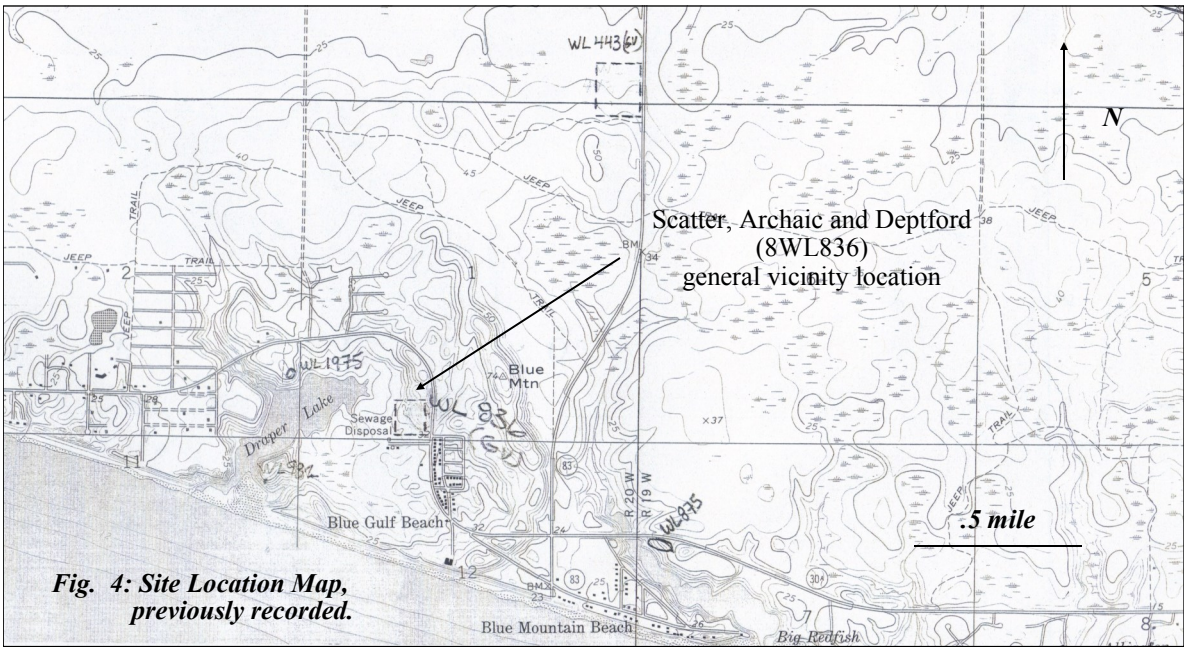


Fig. 4: Site Location Map,
previously recorded.

Environmental Description

The project area lies within the Coastal Lowlands division of the Coastal Plain physiographic province. The Coastal Plain province is a broad belt of primarily unconsolidated sand, gravel, silt, and clay. Falling sea levels during the Pleistocene Epoch eroded the Citronelle Highlands, or Western Highlands division of the Coastal Plain province, and formed the Coastal Lowlands. Sedimentary land forms, which are relatively flat and highly dissected by low velocity streams, make up the vast majority of the Coastal Lowlands. Today, the area of the project consists of a series of low ridges, generally less than 10 meters above mean sea level (amsl). The hydrology of the area is characterized by sluggish, dendritic, and marshy drainage systems (Sullivan *et al.* 1975).

The project area is situated in coastal xeric hardwood hammocks, pine flatwoods, and wetlands. Elevations range from sealevel to 15 feet amsl. Soils in the project area are predominantly well drained, except along drainage margins. The well drained soils in the area are classified as Lakeland / Eustis sands (Carlisle 1960). These light gray to grayish-brown sandy soils typically extend to a depth of well below one meter where they grade into reddish-yellow to yellowish-brown sands. Poorly drained Dorovan / Pamlico complex soils are located along drainages and low ground. The environment of the project area consists of live oaks, magnolias, saw palmetto, pines, and various grasses. A portion of the project area has been cleared of understory growth and the remainder consists of dense understory vegetative growth.

The climate of the Walton County region is characterized as warm, temperate, and humid. Warm weather temperatures average about 85 degrees Fahrenheit, while winters average about 62 degrees. A typical year has about 320 frost-free days and annual precipitation, which is evenly distributed throughout the year, normally exceeds 60 inches. These modern climatic conditions have existed for about 11,000years, but conditions were different during earlier prehistoric periods. The terminal Pleistocene climate (15,000 to 12,000 B.C.) was much cooler and drier and was followed by warmer and drier conditions that culminated in the Altithermal period (7,000 to 3,000 B.C.). A period of fluctuating, but generally cooler and wetter conditions followed the Altithermal and have led to the modern conditions described above (Muto and Gunn 1982).

Fig. 5: Vegetation

Previous Research & Records Review

The first published account of sites in the Northwest Florida area was that of William Bartram who traveled through north Florida on his way to Mobile in the 1770's.

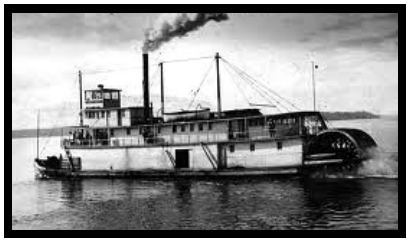
In the late 1880's, G.M. Sternberg reported on two shell mounds, one near Bear Point, Alabama, and the other at lnnerarity Point, Florida. His work also referred to the shell midden and platform mound on the eastern end of Santa Rosa Sound which is probably the Fort Walton Temple Mound (Thomas and Campbell, 1993).

Additional archeological surveys in northwest Florida began with a survey of shell midden sites. The survey was conducted by the Smithsonian Institution in the late nineteenth century. Numerous sites were found along the coast (Walker, 1885). At the turn of the century, C.B. Moore, renowned for his research in the Southeast, visited the northern Gulf Coast and excavated numerous sites as well (Moore, 1901).

The next substantive archeological research completed within the northwest Florida region was conducted by Columbia University and sponsored by the National Park Service. This extensive investigation utilized data gathered previously by Walker and Moore as well as surveys which discovered scores of sites. In the resulting synthesis, Willey (1949) developed a cultural sequence and ceramic typology from which many subsequent prehistoric archeological interpretations derive.

A number of archeological investigations have taken place in the area since Willey's work. Notably Sears (1954), Fairbanks (1959, 1964) and Lazarus (1958, 1961) published many works that helped to further refine the prehistoric cultural sequence.

Beginning in the 1960's numerous archeological investigations have been conducted in Northwest Florida (Simons, 1961, Smith, 1965; Lazarus, Lazarus and Sharon, 1967; Tesar, 1973a,b; Bense et. al., 1984; Joy, 1988; Bense, 1989; Curren, Little and Holstein, 1989; Phillips, 1989a,b; Little and Curren, 1990; Curren, 1992; Curren and Little, 1994; Smith, 1995; Curren, 1996).



Archeological surveys specific to the Draper Lake area include Anderson et al. (2000), Johnson et al. (1995), Mikell (1992), and Mallory et al. (2003). Several sites were recorded including 8WL3459 (historic farm structure), 8WL1975 (prehistoric campsite), 8WL1986 (prehistoric campsite), 8WL982 (prehistoric campsite), 8WL836 (low density prehistoric artifact scatter).

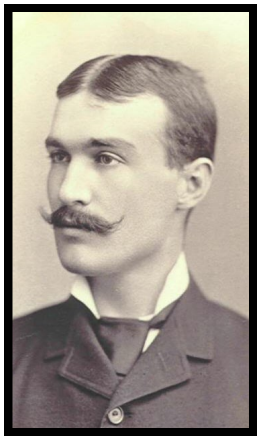


Fig 6: C.B. Moore and a stern wheel steamboat similar to his "Gopher" (public domain)

Prehistoric Summary

Paleoindian Stage

The first indisputable evidence of human occupation of the Southeast is during the Paleoindian Stage (*ca.* 10,000-8,000 B.C.). Paleoindians were nomadic hunters and gatherers and are often associated with the hunting of large game, including now extinct Pleistocene megafauna species. Artifacts diagnostic of the Paleoindian are limited to various fluted and unfluted lanceolate projectile points, including Clovis, Suwannee, Simpson, and other types that are usually associated with other lithic tools and debitage, and occasionally with Pleistocene faunal remains.

While coastal Florida sites have produced diagnostic Paleoindian points, they are not common. Sea levels were as much as 9 meters (m) lower during the Paleoindian than they are at present. Paleoindian sites, if they exist, may be submerged along the Gulf Coast or buried under sediments desposited along rivers and larger creeks. The Pensacola area has the potential for containing submerged Paleoindian sites.

Archaic Stage

The Archaic Stage has been divided into three periods, the Early (6,500 to 5,000 B.C.), Middle (5,000 to 3,000 B.C.), and Late (3,000 to 1,000 B.C.) periods (Milanich 1994) (figure 5). Each of the periods is typified by certain technological and cultural develop-ments. In much of northwest Florida, it is often difficult to distinguish between Archaic occu-pations because so many sites have been identified on the basis of only a few diagnostic artifacts and because so few stratified sites have been excavated and reported. This situation is especially true of Early and Middle Archaic sites, whereas the introduction of fiber-tempered pottery during the Late Archaic/Gulf Formational periods often makes these later sites readily identifiable (Thomas and Campbell 1993).

Charles Fairbanks (1964) has noted that in northwest Florida, Archaic sites are often found in the sandy uplands and sand knolls adjacent to either lakes or swamps; as Fairbanks observed, however, very few of these sites are deeply stratified. Milanich (1994) also notes that these early sites tend to concentrate around river-marsh and swamp habitats where fresh to brackish water mollusks, fish, reptiles, and other game and food resources were readily available.

Following a transitional period commonly referred to as the Late Paleoindian period, the Early Archaic period becomes recognizable archeologically as a change in point manufactur-ing technologies and morphology. Specifically, the Early Archaic is distinguished from the Paleoindian by the disappearance of classic Paleo-point types and the wide-spread occurrence of smaller projectile point types, drills, gravers, adzes, and grinding stones. Caching of stone

tools is also identified with the Early Archaic and unlike the Paleoindian periods, there is evidence of semi-nomadic settlement patterns that include seasonally occupied base camps and smaller resource extraction camps (Milanich 1994).

In terms of cultural materials, the Middle Archaic is distinguished from the Early Archaic by the appearance of a variety of new artifact types and craft media which includes grooved groundstone axes, stone pendants, early bannerstone forms, a well developed bone tool industry, atlatls, and new projectile point types (Griffin 1978). The quality and workmanship of many Middle Archaic artifacts suggests an increasing improvement in groundstone and bone tool in-dustries. Throughout the Southeast, the appearance of new tool types and large base camps has been presumed to represent the addition of new, and the refinement of existing Early Archaic economic and subsistence activities. In particular, an increased reliance on shellfish and the presence of large base camps located adjacent to lakes, swamps, and streams are hallmarks of the Middle Archaic in the Southeast.

As mentioned above, the Late Archaic/Gulf Formational periods are marked by the appearance of fiber-tempered pottery. The Late Archaic period throughout the Southeast is also marked by the appearance of a few very large sites such as Poverty Point in Louisiana, the establishment of extensive trade networks, increased sedentism as seen in an increase in the number of village sites, the wide-spread distribution of stemmed projectile points, and refinement of Middle Archaic technologies. The settlement patterns evident throughout the Archaic indicate a tendency toward sedentism and village life that seems to be well established by the Late Archaic-Woodland transition (Gulf Formational).

Woodland Stage

Weeden Island Period

The hallmark of the Woodland Stage on the northern Gulf Coast of Florida is the Weeden Island Period, which dates from as early as A.D. 400 to about A.D. 1,000. Weeden Island is best known for its exotic, non-utilitarian pottery and mortuary rituals which included the construction of burial mounds. Willey (1949) defined Weeden Island ceramic assemblages as including "carry-overs" of some earlier Santa Rosa and Swift Creek types as well as numerous new and distinctive types of sand tempered pottery. Based on ceramic assemblage characteristics, Willey (1949: 397-407) subdivided the Weeden Island Period into Weeden Island I (early) and Weeden Island II (late). In Willey's subdivision, earlier Weeden Island ceramic assemblages contain various percentages of complicated stamped pottery along with relatively higher percentages of incised and punctated wares than is found in later assemblages where check stamped wares replace complicated stamped types and plain ware dominates. Common northwest Florida and southern Alabama Weeden Island types include: late varieties of Swift Creek Complicated Stamped; Weeden Island Punctated, Incised, Zoned Red-Painted, and Plain; Carrabelle Punctated and Incised; Indian Pass Incised; Keith Incised; Tucker Ridge Pinched; West Florida Cord Marked; St. Petersburg Incised, and Wakulla Check Stamped.

Weeden Island was initially described as a coastal culture with few inland manifestations

(Willey 1949). More recent investigations, however, indicate that Weeden Island sites, including major villages and ceremonial centers, are located well inland from the Gulf Coast in the larger river valleys that extend into southern Georgia and Alabama as well as peninsular Florida (Sears 1956; Milanich 1974, 1994; Kohler 1978; Milanich and Fairbanks 1980; Milanich *et al*. 1984). Several researchers cite evidence of increasing centralization of authority and economic power during Weeden Island; this is especially true of evidence recovered from some of the larger ceremonial centers (Sears 1956; Milanich 1994). This interpretation closely follows that of Percy and Brose (1974), who postulate that changes in Weeden Island settlement patterns were a result of increases in population and an increasing reliance on horticulture that fostered a more centralized system of authority and economic control, but "did not give rise to ranked chiefdoms where authority and political office were inherited."

Weeden Island can be described as a dynamic culture that represents a widespread acceptance of a basic cultural and ideological framework which spread over the entire northern Gulf Coast of Florida (Thomas and Campbell 1993). The elaboration of Woodland traditions as seen in Weeden Island reflects a basic socio-political pattern which was associated with a hunting-gathering-horticultural adaptation to the Gulf Coast Plain region. These socio-political practices were reinforced by a set of religious beliefs involving various ceremonies and practices, which include archaeologically reconstructed burial mound mortuary treatment for at least some segment of the various populations associated with the Weeden Island phenomenon. Around about A.D. 700, for reasons that are currently not well understood, Weeden Island culture (or at least Weeden Island mortuary ritual and the production of exotic pottery) declines and Moundville and Etowah are two well-known, major "classic" Mississippian centers located in west-central Alabama and northwest Georgia, respectively.

Mississippian Stage

Pensacola Variant

Mississippian societies represent the most complex native developments in the Southeast. Socio -political organization is clearly associated with a chiefdom level of cultural evolution. Documents of early European explorers and archeological studies indicate that Mississippian chiefdoms maintained control over vast regions and resources.

The Mississippian Stage is represented in the project area by the closely related and sometimes inseparable Fort Walton and Pensacola traditions of northwest Florida and lower Alabama. The Pensacola variant, Bottle Creek phase, is dated to between A.D. 1200 and A.D. 1450 (Stowe 1985) and the Bear Point phase to between A,D. 1450 and 1700 (Fuller 1985). The Fort Walton Period in northwest Florida dates to between A.D. 1000 and A.D. 1600 (Mikell 1995; Milanich 1994). Shared elements of Mississippian material culture such as ceramic styles and manu-facturing technologies, copper and shell artifacts, and construction of flat-topped temple mounds are characteristic of several Gulf Coastal sites that are considered to be "...identical to those found at Etowah and Moundville" (Milanich and Fairbanks 1980: 1993). Moundville and Etowah are two well-known, major "classic" Mississippian centers located in west-central Alabama and north-west Georgia, respectively.

Although one hallmark of Mississippian culture is intensive reliance on efficient agriculture, there is little evidence for this form of subsistence in northwest Florida outside the Tallahassee Red Hills region and the Apalachicola Valley. Despite this "missing ingredient," the coastal and marginal interior area manifestations of Fort Walton and Pensacola are clearly linked to the Mississippianization of the Gulf Coast region. In fact, Willey (1949) associated Fort Walton with other Mississippian cultures and described it as a coastal adaptation or variant since the type site (8OK6: The Fort Walton Temple Mound), like several other large Fort Walton sites, is located on the coast. Willey also defined the Fort Walton ceramic series as including the following types: Lake Jackson Plain and Incised, Fort Walton Incised, Point Washington Incised, Marsh Island Incised, and the incised and plain varieties of the Pensacola series. Common Pensacola ceramics types include Mississippi Plain, Bell Plain, Pensacola Incised, Mound Place Incised, Kimmswick Fabric-Impressed, Salt Creek Cane Impressed, Moundville Incised, and Moundville Engraved (Fuller and Stowe 1982). As the list of Pensacola ceramic types indicates, Moundville derived ceramics are part of Pensacola (and some Fort Walton) ceramic assemblages. Pensacola ceramics tend to increase in frequency in later Fort Walton ceramic assemblages from sites located west of the Apalachicola Valley. This increase likely represents increasing social and economic influence from the Mobile Bay region (Mikell 1992, 1995).

Brose and Percy (1978) and Brose (1984) note that Fort Walton/Pensacola sites located west of the Apalachicola Valley are found primarily along the coast from St. Andrew Bay to Mobile Bay. These Fort Walton/Pensacola sites consist of a few ceremonial centers along with a number of small villages and camp sites. Many significant Pensacola sites have been documented in the Mobile and Pensacola drainages, including several on Perdido Bay (Little *et al*. 1988a, 1988b) and the Bottle Creek/Bear Point Phase Hickory Ridge cemetery (8Es1280) located immediately east of Magnolia Ridge (Phillips 1989a, 1989b). Since the mid-1980s, the Pensacola and Fort Walton variants have been regarded as distinct, but related cultural phenomena. A nearby site, Magnolia Ridge (8Es1052), clearly contains the remnants of a Pensacola village site.

Apparently, Pensacola culture remained viable until Spanish explorers introduced diseases that resulted in major declines in population which, in turn, undermined social and economic conditions to the point of decline and the eventual disappearance of this prehistoric culture. Pensacola and Fort Walton variant cultures developed into the tribal groups and chiefdoms known as the Apalache, Chato or Chacato, Chisca, Savacola, Tomeh, Mobile, and historically recorded Pensacola by the time of the Hernando de Soto and Tristan de Luna expeditions.

Historic Period

European Colonial Period

Following a failed attempt by Tristan de Luna to establish a colony in 1559, the European Colonial period began in the mid to late seventeenth-century with the Spanish occupations of St. Marks and Pensacola. During the second half of the seventeenth century the Spanish maintained their hold on the Northwest Florida region with missions and a fort at St. Marks.

The French had established a contemporaneous occupation of Mobile Bay by the early 1700s. In 1763, the British gained control of the Gulf Coast region, including Florida and Alabama. During this period the British established forts and settlements and Creek Indians immigrants moved into the coastal region. In 1781, the Spanish regained control of the northern Gulf coast once again. During the Second Spanish period lumber and associated industries became an important aspect of Gulf Coastal economies in Northwest Florida.

Early American Period

The Early American period in Northwest Florida essentially encompasses the nineteenth-century, following the Second Spanish period. In 1821, Spain ceded its holdings in the Southeast and Florida became an American Territory. The lumber and naval stores industries became major subsistence activities and economic factors in the American settlement of Northwest Florida. Ports along the coast became economic and cultural centers and shortly after the Civil War, railroads provided a boost to the thriving lumber and timber products industry. By the 1880s, the turpentine industry was a major industry in the area. Fishing had long been a mainstay of early American life in these coastal communities. Fishing boats ventured into the Gulf of Mexico as far as the Campeche Banks off the coast of Mexico. Salted fish was shipped across much of the eastern United States.

Early 20th Century American Period

The early 20th century brought a world war (WWI) in 1914 followed in the 1920's by a period of economic prosperity known as the "Roaring 20's." The economic base of the Northwest Florida populous was largely based on agrarian activities such as small farms, fishing communities, as well as production of timber and naval stores. Free range cattle also added to economic prosperity. Near the end of the first half of the twentieth century this isolated coastal area saw dramatic change with the coming of yet another world war (WWII). Military bases grew due to an influx of funding for the war. Eglin Air Force Base in Okaloosa County and the Naval Air Station in Pensacola saw expansion and jobs for local people. Outlying training fields also prospered.

Research Design Objectives

The purpose of the Phase I investigation was to identify, initially assess, and record all archeological sites and historic structures within the study area. Once the Florida Master Site File was examined for previously recorded sites, the current investigation began with a Phase I pedestrian survey of the study area designed to recover surface artifacts and identify historic structures. These activities were followed by excavation of shovel tests for the purpose of recovering subsurface cultural remains.

Field and Lab Methods

In order to document archeological resources within the project area, a systematic archeological survey was undertaken that focused on pedestrian surveys and shovel testing high probability areas. Following the pedestrian survey, shovel tests were plotted within the limits of the property. Shovel tests were dug based on higher well drained soils. Prior surveys demonstrated that sites were located in these areas and not on lower elevations containing lower, poorly drained soils.

Fig. 7: Shovel Testing

Shovel tests were 50 cm in diameter and were excavated to a depth of 1 meter below the ground surface (cmbs) unless otherwise stated. Soil matrix from each shovel test was screened through ¼" hardware mesh**.** Standard shovel test recording procedures were employed and the soil stratigraphy in each shovel test was illustrated or described using standard soils terminology. Following the completion of all documentation, all shovel tests were backfilled.

Shovel testing was utilized to determine the presence or absence of any archeological sites. In addition to subsurface testing, standard site recording procedures were utilized, including the development of a shovel test map and any relevant above ground features, as well as the completion of field log notes for the general survey and creation of a photographic record for the project. Local informants were approached but provided no pertinent information concerning the survey tract. The field records are curated at the Pensacola office of Caleb Curren, Archeologist. Based on the field data recovered, this document of findings presents the details of the survey.

Summary, Conclusions, and Recommendations

In August of 2012, Caleb Curren, Archeologist, contracted with Finial Group via Wetlands Sciences to perform a Phase I Cultural Resource Survey of a property in southern Walton County, Florida. The elevation of the property is sea level to approximately 30 ft.. The vegetation on the property was varied, ranging from pine thickets with understories of palmetto and grasses to denser vegetation. The soils of the property were consistently comprised of white dune sand. The land, historically, was used for timbering and cattle grazing according to county records.

The survey area is located in Township 3 South, Range 20 West, Section 1 as depicted on the Grayton Beach, Fla. 7.5 minute USGS topographic map. The size of the study property is 30 acres with at least 15 of those acres being low and wet.

The survey included: (1) a visual pedestrian reconnaissance of land surfaces within the project boundaries; (2) a background research for previously recorded sites and cultural resource studies within the survey area; and (3) subsurface shovel testing for buried cultural deposits. Soils removed from tests were screened though one-quarter inch mesh wire. All shovel tests were backfilled. Shovel tests and location maps were produced along with color photographs depicting the vegetation, terrain, and work performed. All records of this cultural resource survey are archived in the Pensacola office of Caleb Curren, Archeologist.

One previously recorded prehistoric site, the Blue Mountain Resort Site (8WL836), was listed on the Florida Master Site File. The site listed as a scatter of artifacts dating from the Archaic and Deptford periods. No evidence of this site was found during the current survey. The map location of the site was given as a general vicinity, therefore the site may be slightly south or east of the study property on higher ground.

In order to document any archeological resources within the project area, a systematic archeological survey was undertaken that focused on pedestrian surveys and shovel testing. Following the pedestrian survey, 12 shovel tests were plotted within the limits of the property. All of the shovel tests were negative. No features were encountered.

Fig. 8: Shovel Testing

Due to the lack of significant cultural remains within the study area, it is recommended that no further archeological investigations be conducted on the property. It is recommended, however, that if archeological deposits or unmarked human remains (Chapter 872.05) are encountered, all work shall stop immediately and the proper authorities be notified.

Shovel Tests Data		
ST #	**Pos / Neg**	**Stratigraphy by Natural Zones: (soil depth in centimeters.)**
1	-	0-100 culturally sterile white sand
2	-	0-100 culturally sterile white sand
3	-	0-20 brown sand; 20-100 white sand
4	-	0-100 culturally sterile white sand
5	-	0-100 culturally sterile white sand
6	-	0-100 culturally sterile white sand
7	-	0-20 brown sand; 20-100 white sand
8	-	0-10 brown wet sand; water @ 10
9	-	0-10 brown wet sand; water @ 10
10	-	0-10 brown wet sand; water @ 10
11	-	0-10 brown wet sand; water @ 10
12	-	0-10 brown wet sand; water @ 10

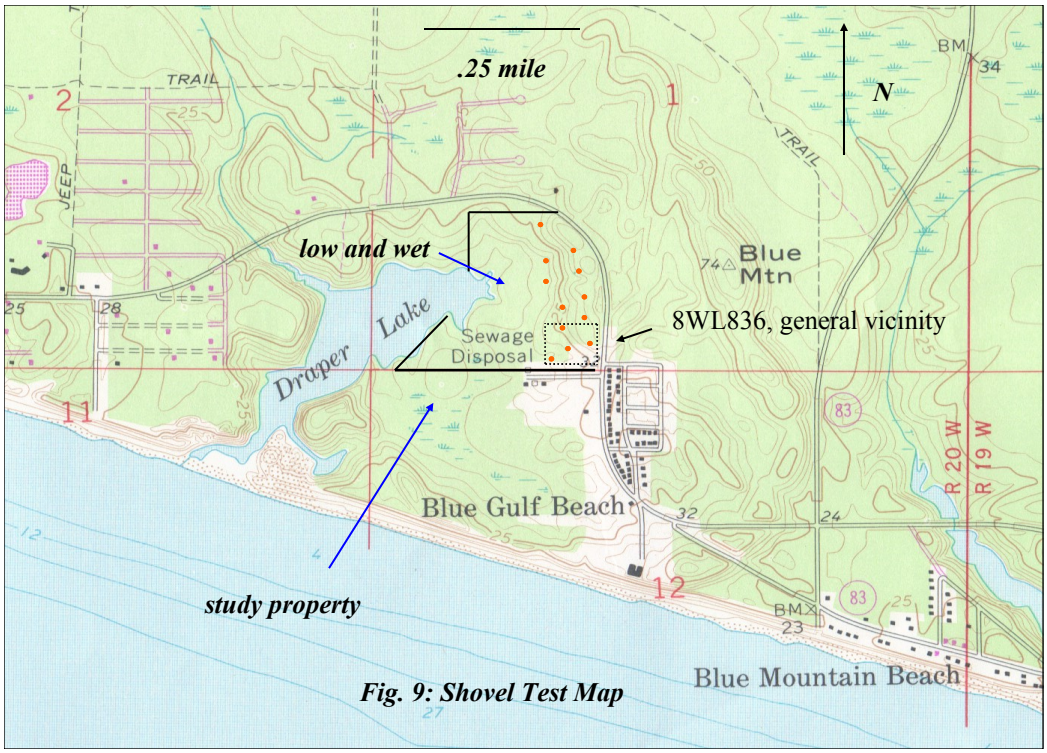


Fig. 9: Shovel Test Map

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EXHIBIT H

Site Photographs

Photograph #1. Culvert located just south of the southern property line.

Photograph #2. Upland scrub community.

Photograph #3. Pine flatwood community. Subcanopy is entirely dominated by black titi.

Photograph #4. Primitive housing located along Lake Front.

Photograph #5. Emergent tidal marsh located along the lake front.

Photograph #6. Upland mesic flatwood community.

Photograph #7. Eco tone between upland scrub and upland mesic flatwood.