VERANDA BAY DEVELOPMENT
FINDINGS REPORT

Large-Scale
Future Land Use Amendment

Prepared by

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1. APPLICATION INFORMATION

1.1 Jurisdiction

City of Flagler Beach
Veranda Bay Development

1.2 Applicant

Michael D. Chiumento, Esq
45 City Pl, Suite 301
Palm Coast, FL 32164
on behalf of Veranda Bay, LLC; Palm Coast Intracoastal, LLC; and Highway 100 Commercial, LLC

1.3 Intent

The intent of the development is to develop the property into Low Density Residential, General Commercial, and a Marina Village. The residential uses include multiple types of housing opportunities including single-family and multi-family units with an anticipated 2035 build out.

The applicant proposes to amend the Future Land Use (FLUM) map for approximately 899.09 +/- acres of Flagler County land use designations of Agriculture, Conservation, and Mixed-Use High Intensity to the City of Flagler Beach FLUM designations of Low Density Residential (LDR), and General Commercial (GC).

The FLUM amendment includes a planning analysis which considers the character of undeveloped lands, the availability of, and the impacts to the City's facilities and services; an analysis of the soils, topography, natural resources, and historic resources on site, and analysis of the minimum amount of land needed to achieve goals and requirements.

2. PROJECT DESCRIPTION

2.1 Summary and Background

A mixed-use residential development is currently under development on +/- 160.99 acres. The remainder of the property is vacant and undeveloped.

In 2005 a Master Development Agreement (MDA) was approved for a Planned Development (PUD) in Flagler County for a mixed-use development of approximately 1,999 acres known as Hammock Beach River Club PUD.

The 2005 MDA approved 453 residential units (including 150 of the 453 as multi-family residential units); 230,694 SQ FT of commercial/retail/office; accessory and recreational uses, ancillary amenities and facilities; an 18-hole golf course; dedicated utility site; a dedicated public boat ramp site; and a dedicated fire

station site. As part of the FLUM and MDA agreement, approximately 1,100 acres were transferred to Flagler County as environmental/conservation lands.

The current development proposal being considered on the 899.09+/- acres is as follows:

Project	899.09 +/- Acres
Residential Units	2735 units (3.2 units/ac)
Commercial Density	230,694 sq ft
Open Space (40%)	>300 ac.

3. PARCEL DATA

3.1 Size of Property

The site is approximately 899.09 +/- acres

3.2 General Location

The City of Flagler Beach is located in southern Flagler County and covers approximately 3.8 square miles (2,420 acres) in area.

The subject property is in unincorporated Flagler County, located east and west of John Anderson Highway and south State Road 100.

The site is bordered to the north by State Road 100 (a major arterial road); to the east by the boundaries of the City of Flagler Beach; to the south by the boundaries of unincorporated Flagler County; and to the west by the boundaries of unincorporated Flagler County.

3.3 Access and Frontage

The development is divided into the West Side and East Side separated by County Road (CR) 201 (John Anderson Highway).

Access will be provided on John Anderson Highway and via SR 100 (Moody Blvd) at Colbert Lane as a new fourth leg approach of a signalized intersection.

Access to Veranda Bay East is from John Anderson Highway. Access to Veranda Bay West will be from State Road 100 and from John Anderson.

4. LAND USE INFORMATION

4.1 Aerial Photograph

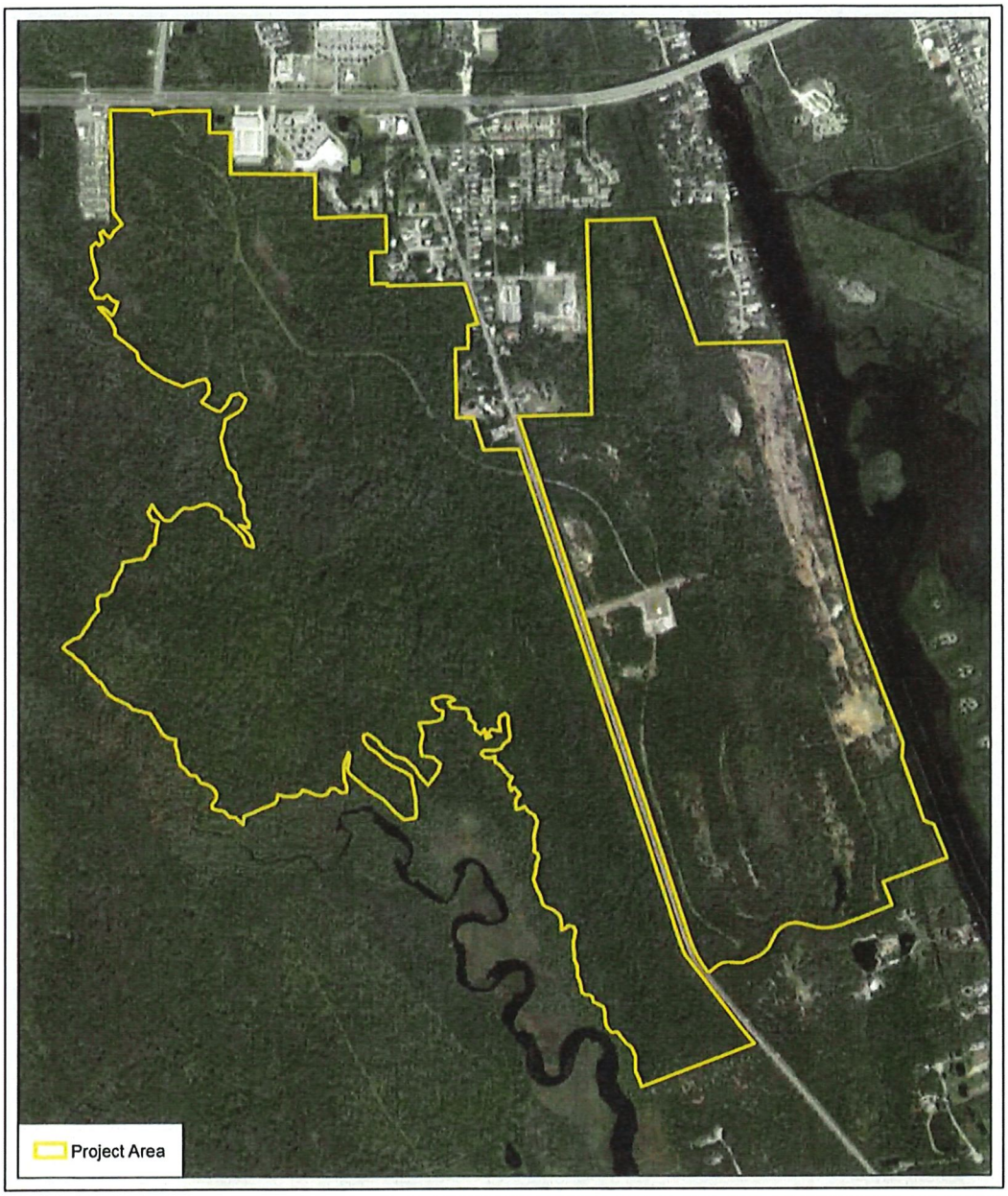

Image Source: ESRI 2022
Date: 5-23-24

0 400 800 Feet

Aerial Map
Veranda Bay
Flagler County, Florida

ATLANTIC ECOLOGICAL SERVICES
WWW.ATLANTICECO.COM
904-347-9133 | jody@atlanticeco.com
201 Basque Rd | St. Augustine, FL 32080

4.2 Built Features

Approximately 160.99 +/- acres are currently under development with roads, water, sewer, reuse (purple pipe) and model home sites. Approximately 738.1 +/- acres of the property is undeveloped.

4.3 Current Zoning Designation

According to Flagler County's Zoning, the current zoning designation of the subject property is Planned Unit Development (PUD).

The purpose and intent of the PUD is to provide an opportunity for innovative urban design techniques, improved use of land, protection of valuable natural features in the community, desirable land use mis, open space, and more economical public services.

The purpose and intent of the planned unit development is to encourage the unified development of large tracts of land using creative and flexible concepts in site planning than would otherwise be possible through the strict application of minimum and maximum requirements of conventional land use districts established.

Proposed PUD's must be in harmony with the county's comprehensive plan. The design and construction shall follow a carefully devised plan of development which must be prepared in accordance with requirements, procedures, and approvals.

4.4 Proposed Master Planned Development (MPD)

The City of Flagler Beach Master Planned Development (MPD) district is established and intended to encourage innovative land planning and site design concepts that support a high quality of life and achieve a high quality of development, environmental sensitivity, energy efficiency, and other City goals and objectives by:

1. Reducing or diminishing the inflexibility or uniform design that sometimes results from strict application of zoning and development standards designed primarily for individual lots;
2. Allowing greater freedom in selecting the means of providing access, open space, and design amenities;
3. Allowing greater freedom in providing a well-integrated mix of residential and nonresidential land uses in the same development, including a mix of housing types, lot sizes, and densities;
4. Providing for efficient use of land resulting in smaller networks of utilities and streets and thereby lowering development and housing costs; or
5. Promoting quality design and environmentally sensitive development that respects surrounding established land use characteristics and respects and takes advantage of a site's natural and man-made features.

5. BASIC DATA

5.1 City of Flagler Beach Population

According to the 2024 American Community Survey (ACS) of the U.S. Census, the City of Flagler Beach has a population of approximately 5,667, a 9.8% increase from the 2020 Census. *Source: ACS, May 2024*

The effects on population provided in the following section.

5.2 Proposed Population Veranda Bay

The analysis takes into consideration the current population of the City of Flagler Beach plus the number of proposed units in the Master Planned Development of 2,735 single and multi-family residential units on 899.09 acres.

Proposed MDA Population City of Flagler Beach = 2.08 persons/DU's *2735 DU's = 5,688 persons

Source:
https://www.census.gov/quickfacts/fact/table/flaglerbeachcityflorida,flaglercountyflorida/PST045223

5.3 Total Projected Population

Existing City of Flagler Beach + Proposed MPD Population = 11,355 persons

5.4 Proposed Non-Residential (Commercial) Square Footage

The analysis takes into consideration the proposed non-residential development of 230,694 SQ FT.

5.5 Open Space, Buffers and Recreation

In addition to the 1,100 acres of conservation lands transferred to Flagler County, the development proposes 90.42 acres of conservation; 45.06 acres of landscape/wetland buffers; 64.47 acres of open space; and 6.72 acres of recreation; total of 206.67 acres; plus 153 acres of dedicated waterfront.

6. CONSISTENCY AND COMPATIBILITY ANALYSIS

6.1 Land Use Compatibility

Surrounding Future Land Use Designations:

North: Mixed Use (City of Palm Coast designation); Medium Density, Commercial, Other Public Facilities, Mixed Use, Low Density (City of Flagler Beach designations); Agriculture, Conservation (Flagler County designations).

South: Agriculture, and Conservation (Flagler County designations).

East: Salt Water Marsh (City of Flagler Beach designation).

West: Agriculture, Conservation, and Mixed-Use High Intensity (Flagler County designations).

The proposed amendment is consistent with the surrounding land use designations.

6.2 Surrounding Zoning Designations:

North: Commercial, Multifamily Residential, and Public/Semipublic (City of Palm Coast designations); Highway Commercial, Medium Density Residential, Single Family Residential, Light Industrial, and General Commercial (City of Flagler Beach designations); and Agricultural and Rural Residential (Flagler County designations).

South: Planned Unit Development (Flagler County designation).

East: Conservation, and Preservation (City of Flagler Beach designations).

West: Planned Unit Development, General Commercial & Shopping Center, and Agricultural (Flagler County designations

The proposed MPD zoning amendment is consistent with the surrounding zoning designations.

7. PUBLIC FACILITIES / IMPACT ANALYSIS

In January 2007, the City of Flagler Beach, Flagler County, the City of Palm Coast, and a private developer entered into a stipulated settlement agreement that delineated the water and wastewater services areas for each utility provider.

The City has taken action to expand the capacity of its potable water, wastewater, and reuse water utility services and represents that adequate public facilities and services exist and/or to exist to serve the subject property at its full build out 2035.

7.1 Potable Water Data and Analysis

The City of Flagler Beach is the only potable water supplier within its municipal limit. The city is financially responsible for the maintenance and improvements to the potable water system within its service area.

The potable water demand is calculated by summing the estimates from residential and non-residential calculations.

7.1.2 Residential Potable Water Demand

City of Flagler Beach Existing Residential Potable Water Demand

The residential potable water demand is estimated by multiplying the existing population served by 125 gallons per capita per day (GPCD).

Existing potable water demand = population served * 125 GPCD

City of FB Population = 3,576 units * 2.08 persons per unit = 7,438

Existing Potable Water Demand = 7,438 persons * 125 GPCD

Existing Potable Water Demand = 929,750 GPD

Veranda Bay Proposed Residential Potable Water Demand

The residential proposed water demand is estimated by multiplying the proposed population by 125 gallons per capita per day (GPCD).

Proposed potable water demand = population served * 125 GPCD

Population = 2,735 units * 2.08 persons per unit = 5,688

Proposed potable water demand = 5,688 persons * 125 GPCD

Proposed potable water demand = 711,000 GPD

Total Existing + Proposed Projected Potable Water Demand

Total projected potable water demand = total population served * 125GPCD

Total Projected Potable Water Demand = 13,126 persons * 125 GPCD

Total Projected Potable Water Demand = 1,640,750 GPD

7.1.3 Non-Residential Potable Water Demand

City of Flagler Beach Existing Non-Potable Water Demand

The non-residential potable water demand is calculated at a rate of 2,000 gallons per acre per day. The City currently has 13.41% of its land use zoned non-residential, or 324 acres with an average General Commercial impervious surface of 75% or 243 acres.

The non-residential wastewater demand is calculated as follows:

Existing non-residential potable water demand = number of acres * 2000 GPD

Existing wastewater demand = 243 acres * 2000 GPD

Existing non-residential demand = 486,000 GPD

Veranda Bay Proposed Non-Residential Water Demand

The proposed non-residential potable water demand for Veranda Bay is estimated by multiplying the non-residential square footage by .10 gallons per day (GPD).

Proposed non-residential water demand = 230,694 SQFT * .10 GPD/SQFT

Proposed non-residential water demand = 23,070 GPD

7.1.4 Findings Residential and Non-Residential Potable Water

The proposed FLUM and Zoning amendment will have a maximum potential demand for potable water of 734,070 GPD. As part of the site plan/plat review process, the property owner and/or developer will need to coordinate with the City of Flagler Beach Utility Department to determine the appropriate engineering requirements (size of water line, pump stations, etc.) for potable water service.

7.2 Wastewater Data and Analysis

The City currently owns and operates one wastewater treatment plant (WWTP), located three miles east of the WTP, which has a maximum capacity of 1.0 mgd. The WWTP provides advanced secondary treatment and disposes of the effluent into the Intracoastal Waterway.

The City's Consumptive Use Permit (CUP) contains a permit condition (#40) that requires the City to conduct a Reuse Feasibility Study by October 2026 to address reuse or recharge wastewater discharge.

The wastewater demand is calculated by summing the estimates from residential and non- residential calculations.

7.2.1 Residential Wastewater Demand

City of Flagler Beach Existing Residential Wastewater Demand

The residential wastewater demand for each residential unit is calculated at 119/gal/person * 2.08 persons = 248 GPD/unit:

Existing wastewater demand = *units served *248 GPD/unit

Existing wastewater demand = 3576 * 248 GPD/unit

Existing wastewater demand = 886,848 GPD

Veranda Bay Proposed Residential Wastewater Demand

The proposed residential wastewater demand is calculated as follows:

Proposed wastewater demand = Total number units *248 GPD/unit

Population = 2,735 units * 248 GPD/unit = 5,688

Proposed wastewater demand = 678,280 GPD

7.2.2 Non-Residential Wastewater Demand

City of Flagler Beach Existing Non-Residential Wastewater Demand

The City of Flagler Beach currently has 13.41% of its land use zoned non-residential, or 324 acres. The average impervious surface in GC is 75% or 243 acres.

The non-residential wastewater demand is calculated as follows:

Existing non-residential wastewater demand = number of acres * 2000 GPD
Existing non-residential wastewater demand = 243 acres * 2000 GPD
Existing non-residential wastewater demand = 486,000 GPD

Veranda Bay Proposed Non-Residential Wastewater Demand

Proposed non-residential wastewater demand = SQ FT * .10 GPD/SQFT
Proposed non-residential wastewater demand = 230,694 SQFT * .10 GPD
Proposed non-residential wastewater demand = 23,070 GPD

7.2.3 Findings Residential and Non-Residential Wastewater

The proposed FLUM and Zoning amendment will have a maximum potential net increase in demand for sanitary sewer treatment of 701,350 GPD. As part of the site plan/plat review process, the property owner and/or developer will need to coordinate with the City of Flagler Beach Utility Department to determine the appropriate engineering requirements (size of sewer line, lift stations, etc.) for wastewater service.

7.3 Solid Waste Data and Analysis

Solid waste is operated by the City of Flagler Beach. The City is required to review its Interlocal Agreements on Solid Waste Disposal with Flagler County and Solid Waste Services with the Town of Beverly Beach to ensure that it includes specific and adequate resources and capacity.

7.3.1 Solid Waste Demand

The level of service standards to be met by the City for solid waste shall be the equivalent of 3.7 pounds per capita per day.

7.3.2 Solid Waste Demand Residential

Each individual discards 3.7 lbs. of solid waste per day. The daily demand per unit for solid waste is calculated as 3.7lbs/person * 2.08 persons = 7.70 lbs./per day/per unit.

City of Flagler Beach Existing Solid Waste Demand

Existing solid waste demand = units served * 7.7 lbs./per day/unit
Existing solid waste demand = 3576 * 7.7 lbs./per day/unit
Existing solid waste demand = 27,535 LBS/Per Day

Veranda Bay Proposed Residential Solid Waste Demand

Proposed solid waste demand = units served * 7.7 lbs./per day/unit
Proposed solid waste demand = 2,735 * 7.7 lbs. per day/unit
Proposed solid waste demand = 21,060 LBS/Per Day

7.3.3 Solid Waste Demand Non-Residential

Veranda Bay Proposed Non-Residential Solid Waste Demand
Proposed solid waste demand = SQ FT * 0.01 LBS/per day
Proposed solid waste demand = 230,694 SQFT * 0.01 LBS/per day
Proposed solid waste demand = 2,307 LBS/Per Day

7.4 Stormwater Management

The project site drains to a portion of the Intracoastal Waterway (ICW) that is listed as impaired by Florida Department of Environmental Protection (FDEP). Therefore, the stormwater management facilities will be designed such that the amount of Total Nitrogen and Total Phosphorus discharged from the development sites in the post-development condition will be less than that in the pre-development condition. The design storms to be analyzed include the Mean-year/24-hour, 25-year/25-hour, and the 100-year/24-hour storms.

The stormwater management facilities will be designed such that the peak rate of discharge in the post-development condition will be less than the pre-development condition and will discharge to the same location.

The design will incorporate Best Management Practices (BMP's) to ensure no adverse hydrologic impacts to surrounding wetlands or communities. BMP's will also be utilized to ensure no discharge of sediment will occur. Portions of the subject site exist within the FEMA 100-year floodplain, thus any proposed filling of the 100-year floodplain shall be offset in the form of compensatory storage.

7.4.1 Stormwater Findings

In addition to incorporating BMP's, stormwater treatment facilities are reviewed for consistency with LOS during technical site plan review as LOS standards for stormwater quantity and quality adhere to requirements established by the St. Johns River Water Management District (SJRWMD), and other applicable regulatory requirements.

7.5 Transportation Impacts

A Traffic Impact Analysis (TIA) was conducted by Holly Walker, PE to assess the impact of the proposed development in accordance with the River to Sea TPO Transportation Impact Analysis Guidelines, City of Flagler Beach, Flagler County, and Florida Department of Transportation (FDOT) requirements. The 899 +/- acre site proposes a mixed-use development with an anticipated full build out in 2035.

7.5.1 Roadway Segments and Intersections Within the Study Area

Segments:

- SR 100 (Moody Blvd) from SR A1A to CR 201 (John Anderson Highway)
- SR 100 (Moody Blvd) from SR A1A to CR 201 (John Anderson Highway) to Colbert Lane.
- Roberts Rd. from SR 100 (Moody Blvd) to Colbert Lane.
- CR 201 (John Anderson Highway) from Walter Boardman Lane to SR 100 (Moody Blvd.)

Intersections:

- SR 100 (Moody Blvd) at Colbert Lane/Project Access 03
- SR 100 (Moody Blvd) at Roberts Rd/CR 201 (John Anderson Highway)
- SR 100 (Moody Blvd) at Wadsworth Park/Connecticut Avenue
- SR 100 (Moody Blvd) at SR A1A
- CR 201 (John Anderson Highway) at Project Access 01
- CR 201 (John Anderson Highway) at Project Access 02

7.5.2 Pertinent Developments Included in Transportation Study

At the time of the study developed with City of Palm Coast and agreed upon by City of Flagler Beach, the following pertinent developments were included in the transportation model:

- Coquina Shores Phase I Single Family Residential Subdivision: 233 units
- Ocean Village Apartments: 416 units
- Colbert Landings Single Family Residential Subdivision: 482 units
- Lighthouse Harbor Luxury Apartments: 240 units
- Lighthouse Harbor Mixed-Use Development:
    - Commercial: 160,000 SQ FT
    - Marina: 80 wet/ 200 dry
    - Single Family / Townhomes / Apartments: 663 units
- Barnes Office Building: 11,200 SQ FT
- The Reserves East Single-Family Residential Subdivision: 217 units
- Roberts Road Multi-Family Apartments (aka Flagler Beach apartments): 240 units
- Beach Village Park Multi-Family Apartments (aka Beach Park Village subdivision): 110 units

7.5.3 Findings Transportation Modifications/Improvements Required

The analysis balanced traffic throughput, prioritization, use and distribution and ensured a comprehensive approach to augment the transportation network. Additionally, this approach meets regulatory standards and advances a responsive transportation strategy.

To minimize the impact to the existing approaches and keep within acceptable LOS, recommendations for implementations are noted below and reflected as part of the Master Development Agreement.

- SR 100 (Moody Blvd) at Colbert Lane Access 03
    - North and Southbound approach of the traffic signal under split control.
    - Add 405 eastbound right turn lane under yield condition.
    - Northbound approach (development side)
        - Separate lanes for left turns through movement, and right turns
        - Dual left turn lanes, with a minimum of 1,000 feet storage in each lane.
        - Channelized right turn lane under yield condition
        - Two inbound lanes
    - Southbound Approach (Colbert Lane)
        - Update the approach and signal head to reflect shared thru/left turn.

- SR 100 (Moody Blvd) between Colbert Lane and Roberts Road /CR 201 John Anderson Highway
    - Improvements to existing median openings and/or turn lanes determined during the ICE process at discretion of FDOT.
    - The purpose is to facilitate operations and safety for approved traffic control at intersection of SR 100 (Moody Blvd) at Colbert Lane and at the responsibility of the developer.
- CR 201 (John Anderson Highway) at Project Access 01
    - Eastbound install separate left, thru, and right turn lanes.
    - Westbound approach under gated conditions, creating inherent delay and queuing conditions. A two-lane exit may be sufficient with shared left thru lane and separate right turn lane.
    - Add 340' northbound right and left turn lanes
    - Add 340' southbound right and left turn lanes
- CR 201 (John Anderson Highway) at Project Access 02
    - Westbound approach queues are to be maintained within property
    - Westbound install separate left and right turn lanes
    - Add 340' northbound right turn lane
    - Add 340' southbound left turn lane
- Internal roadway connecting CR 201(John Anderson Highway) to Colbert Lane to redirect traffic from intersection of SR 100 (Moody Blvd) at CR 201 (John Anderson Highway) minimizing and facilitating traffic flow.

7.6 Schools Impact

No data was collected nor analysis completed to determine the demand for school facilities.

7.7 Public Safety

Through mutual aid, fire and police are currently provided to this unincorporated area.

7.8 Economic Impact Data and Analysis

No data was collected nor analysis completed to project the economic impact of the Veranda Bay Development.

7.8.1 Employment Trends

No data was collected nor analysis completed to project the economic impact of the Veranda Bay Development.

7.8.2 Ad Valorem Tax Revenue

No data was collected nor analysis completed to project the economic impact of the ad valorem tax revenue from the Veranda Bay Development

7.8.3 Sales Tax Revenue

No data was collected nor analysis completed to project the economic impact of from sales tax revenue from the Veranda Bay Development.

8. Undeveloped Lands and Cultural, Historical, and Natural Resources

Atlantic Ecological Services conducted a site survey of the Veranda Bay property. The subject property consists of open land areas currently under construction for a residential neighborhood, and undeveloped upland and wetland habitats. The property contains approximately 768.39 acres of uplands, 133.24 acres of wetlands, and 1.31 acres of upland cut surface waters. No protected flora or fauna species are expected to inhabit the subject property. The results of the site assessment are described in this section of the Finding Report.

8.1 Soils Map

Soil information is part of a geotechnical investigation that helps determine how the soil will react to proposed changes, anticipate conditions and provide preliminary foundation recommendations. The wetlands are detailed on the *Soil Map Veranda Bay Flagler County, Florida* and reflect the boundaries that were delineated in the field pursuant to state and federal guidelines (Chapter 62-340 F.A.C. and the 1987 Corps of Engineers Wetlands Delineation Manual).

8.1.2 Topography Map

The topographic map uses contour lines to illustrate the elevation changes on the property's surface. Contour lines join points of equal elevation throughout the map. The topographic map shows water features, geographic place names, and cultural features.

8.1.3 Habitat Uplands

Open Lands Under Construction- Approximately 160.99 acres of the subject property consists of land currently under construction for a residential development.

Herbaceous - Approximately 10.88 acres of the site exists as herbaceous non-forested uplands. These areas were cleared during the original construction start of the project in 2007. Clearing and grading occurred, but no infrastructure was constructed. The area consists primarily of bahia grass (*Paspalum notatum*) and a mix of ruderal weeds.

Sand Pine - Approximately 5.48 acres of the subject property consists of sand pine habitat which was historically scrub. The canopy consists of 100% coverage of sand pine (Pinus clausa).

Hardwood Conifer Mixed - Approximately 300.24 acres of the uplands found on the site are considered mixed pine oak hammock habitat. Canopy species consisted of mature trees and include live oak (*Quercus virginiana*) and sand live oak (*Quercus geminata*), slash pine (*Pinus elliottii*), sand pine, southern magnolia (*Magnolia grandif*olia), pignut hickory (*Carya glabra*), laurel oak (*Quercus laurifolia*), and sweetgum (*Liquidambar styraciflua).* Subcanopy species included red cedar (*Juniperus virginiana*) and hackberry (*Ce/tis occidentalis*). The understory is dominated by a thick cover of saw palmetto (*Serenoa repens*). Other species found, but at a much lesser extent, include red bay (*Persea borbonia*), wax myrtle (*Myrica cerifera*), yaupon holly (*lex vomitoria*), wax myrtle (*Myrica cerifera*), greenbriar (*Smilax spp.*), and bracken fem (*Pteridium aquilinum*).

Pine Plantation - Multiple upland areas on the subject property totaling 292.74 acres are considered active pine plantation and include only slash pine (Pinus elliottii). The understory is dominated primarily by saw palmetto, but also contains wax, fetterbush (Lyonia ferrigunea), gallberry (flex glabra), and pine needle litter.

Disturbed Land - Approximately 3.01 acres of the subject property consists of disturbed uplands associated with prior earthwork on the site in preparation for the former development. This area differs from the herbaceous areas previously described in the in that this area includes heavy grading and road frontage land work. The elevations in this area are not natural and in such have re-vegetated in a non-native form. Large areas of open sand are found in this habitat. The vegetation consists of dogfennel (*Eupatorium capillifolium*), saltbush (*Baccharis halimifolia*), slash pine, bahia grass, St. Augustine grass (*Stenotaphrum secundatu*m), and other weeds.

8.1.4 Wetlands

Mangrove - Approximately 8.63 acres of the subject property consists of estuarine mangrove habitat with mosquito ditching open water. This area consists primarily of black mangroves *(Avicenia germinans)* and red mangroves *(Rhizophora mangle).*

Mixed Wetland Hardwoods - Approximately 79.39 acres of the site consists of a mixed hardwood wetland slough. The dominant canopy species includes laurel oak, hackberry, live oak, American elm *(Ulmus americana),* red maple *(Acer rubrum),* and cabbage palm *(Sabal palmetto).* The understory is dominated by saw palmetto, shiny lyonia *(Lyonia lucida),* dahoon holly *(flex cassine*), wax myrtle, buttonbush (*Cephalanthes occidentalis),* sawgrass (*Cladium jamaicense),* swamp fem *(Blechnum serrulatum),* royal fem *(Osmunda regalis),* Virginia chain fem *(Woodwardia virginica),* and cinnamon fem *(Osmunda cinnamomea).*

Wetland Mixed Forest -Approximately 2.96 acres of the site consists of wetland mixed forest. These habitats are located along the eastern boundary of the site along the Intracoastal Waterway (ICW). Vegetation includes slash pine, live oak, laurel oak, yaupon holly, cedar, wax myrtle, salt bush, and saw grass.

Wetland Scrub - Approximately 34.95 acres of the site consists of wetland scrub habitat. The dominant species is Carolina willow *(Salix caroliniana),* saltbush, slash pine, laurel oak, cabbage palm, sand cordgrass *(Spartina bakeri),* royal fern, swamp fern, and leather fern *(Acrostichum danaeifolium*).

Saltwater Marsh - Approximately 7.31 acres of the site consists of tidal saltmarsh habitat. The dominant species includes needle rush *(Juncus roemerianus),* black mangrove, sand cordgrass, marsh elder *(Iva frutescens),* sawgrass, saltwort *(Batis maritima),* and glasswort *(Salicornia* spp.).

8.1.5 Surface Waters

Ditches - Multiple man-made surface water ditches (totaling approximately 0.35 acres) are located on the site. Each surface water was originally cut through upland habitats.

Surface Water Pond - Approximately 0.96 acres of upland cut surface water pond is located on the subject property.

8.1.6 Wildlife Observations

Wildlife observations, both direct and indirect, were made throughout the course of the site investigation. A list of species observed is provided in the following table:

Taxon	Common Name	Scientific Name	Protected
Birds			
	American Crow	*Corvus brachyrhynchos*	No
	Northern cardinal	*Cardina/is cardinalis*	No
	Black vulture	*Coragyps atratus*	No
	Red shouldered hawk	*Buteo lineatus*	No
	Blue Jay	*Cyanocitta cristata*	No
Mammals			
	Florida Black Bear	*Ursus Americanus floridanus*	No
	Gray Squirrel	*Sciurus carolinensis*	No
	White Tailed Deer	*Odocoileus virginianus*	No
Reptiles			
	Gopher Tortoise	*Gopherus polyphemus*	Yes
	Diamondback rattlesnake	*Crotalus adamanteus*	No
	Cottonmouth	*Agkistrodon piscivorus*	No
	Southern black racer	*Coluber constrictor*	No

8.1.7 Protected Species

A preliminary gopher tortoise survey was conducted on May 28-30, 2024, in accordance with the techniques outlined in the publication, Ecology and Habitat Protection Needs of Gopher Tortoise (*Gopherus polyphemus*) Populations Found on Lands Slated for Development in Florida. A total of twenty-nine (29) potentially occupied gopher tortoise burrows were identified. Surveys are valid for a period of 90 days. Prior to clearing and construction an FWC conservation permit will be required and all gopher tortoise burrows must be excavated and tortoises relocated to an offsite recipient site.

8.1.8 Findings Gopher Tortoise

All tortoise burrows identified on the site will be permitted and excavation of the burrows will occur. If commensal species are identified during the excavation of the burrows, then each will be relocated to an appropriate relocation site.

8.1.9 List of Species Observed

The eastern indigo snake (*Drymarchon corais couperi*) has a moderate likelihood to occur on the subject property due to the presence of gopher tortoise burrows and a mix of upland and wetland hammock. The indigo snake is a gopher tortoise commensal species due to its association with and utilization of gopher tortoise burrows for their life requisites.

Mixed wetland hardwood habitats within the property provide suitable foraging habitat for the wood stork, however the nearest wood stork rookery is located 18 miles southwest of the subject property.

Long-legged waders have a moderate likelihood to utilize wetlands. The subject property is not located within core foraging habitat.

A Florida black bear was observed within the subject property. The project area lies within the Central Bear Management Unit. The Florida black bear is no longer a protected species by FWC but is a managed species. FWC will be a commenting agency during the ERP permitting process.

The FWC's Eagle Nest Locator website was queried for data regarding documented southern bald eagle (*Haliaeetus I. leucocephalus*) nests in the project vicinity. The southern bald eagle is protected under the Bald and Golden Eagle Protection Act. Development guidelines are required for any proposed projects with 330 feet for urban areas and 660 feet for non-urban areas. The nearest known nest is located 1.4 miles south of the property. Therefore, this project is not likely to adversely affect the southern bald eagle.

8.1.10 Findings of Species Observed

Indigo Snake

Best Management Practices during construction for the eastern indigo snake will be incorporated. Eastern indigo snake signage will be installed at the construction office for instruction on procedures if an indigo snake enters the construction area. With the above measures being incorporated, development of the subject property is not anticipated to adversely affect the eastern indigo snake.

Wood Stork

All suitable habitat within a 13-mile radius of a known rookery is considered core foraging habitat. Since the subject property is not located within core foraging habitat, no impact to this species is anticipated.

Long Legged Waders

No wading bird rookeries are known or were identified on or near the subject property, and the project is not likely to adversely affect any wading bird populations.

Florida Black Bear

FWC will likely provide comment that Florida black bear specific BMP's, construction and design specifications be utilized for project.

Southern Bald Eagle

Development guidelines are required for any proposed projects with 330 feet for urban areas and 660 feet for non-urban areas. The nearest known nest is located 1.4 miles south of the property. Therefore, this project is not likely to adversely affect the southern bald eagle.

9. CONSISTENCY WITH CITY OF FLAGLER BEACH COMPREHENSIVE PLAN

Policy A.2.4.1
Future Land Use Map amendments shall include the following analyses:

a. An analysis of the availability of facilities and services.
b. An analysis of the sustainability of the plan amendment for its proposed use considering the character of undeveloped land, soils, topography, natural resources, and historic resources on site.
c. An analysis of the minimum amount of land needed to achieve the goals and requirements of Objective A.2.4

9.1 Public Facilities

Policy H.6.7.1
The City shall review all proposed transportation plans and improvements to determine the impacts such projects or proposals will have on the City's transportation network.

Policy H.6.7.2

The City shall review all proposed development and require developers of new subdivisions or commercial development to submit information concerning the traffic impact of the project. The impact upon the adopted LOS standard and consistency with the Comprehensive Plan and shall follow the provisions of the concurrency management system in ensuring that the LOS is maintained for all roadways.

Policy D.1.2.3

Consistent with public health and safety, sanitary sewer, solid waste, drainage, adequate water supplies, and potable water facilities shall be in place and available to serve new development no later than the issuance by the local government of a certificate of occupancy or its functional equivalent. Prior to approval of a building permit or its functional equivalent, the local government

shall consult with the applicable water supplier to determine whether adequate water supplies to serve the new development will be available no later than the anticipated date of issuance by the local government of a certificate of occupancy or its functional equivalent.

9.1.2 Findings Public Facilities

A comprehensive analysis was completed to examine the demand and impact to the City's public facilities and services.

Studies were provided by licensed and/or professionals who surveyed the site and/or modeled the impacts to maintain the LOS.

The proposed development is consistent with the Public Facilities Element and the Comprehensive Plan.

9.2 Future Land Use Element

Policy A.1.2.2

Application filing procedures shall require topographic, soil condition, flood hazard zone, and wetland zone surveys filed in support of a land use amendment, zoning change, or land subdivision.

Policy A.1.1.3

The Land Development Code shall address the location and extent of land uses in accordance with the categories, densities, and intensities of land uses contained in this Element and depicted on the Future Land Use Map.

Policy A.1.4.3

The City shall encourage the use of innovative LDRs, which may include provisions for master planned developments, mixed land use development techniques and the clustering of commercial uses in appropriate nodes.

Goal A.2

The City shall preserve, protect and enhance the natural environment, natural and historical resources, and the City's unique sense of place.

Objective A.1.4

The City shall seek to improve its ad valorem tax base by encouraging development.

Policy A.1.4.1

The City shall investigate opportunities for annexation of commercial and value-added properties.

9.2.1 Findings Future Land Use Element

A comprehensive analysis was completed to examine how the proposed development supports the goals and objectives of the Land Use Element and is found to be consistent with the Future Land Use Element of the City's Comprehensive Plan.

9.3 Housing Element

Policy C.1.1.3

To reduce the high cost of land for development of affordable housing, the City shall consider the use of innovative land development techniques such as zero-lot-line, Master Planned Development, use of smaller sized lots and density bonuses for development of affordable housing units.

9.3.1 Findings Housing Element

A comprehensive analysis was completed to examine how the proposed development supports the policies of Housing Element and is found to be consistent with the Housing Element of the City's Comprehensive Plan.

9.4 Public Facilities Element

Policy D.1.5.3

The City shall permit development only where the capacity of public facilities meets concurrency requirements as established by Section 163.3180, F.S. and that the developer shall be required to guarantee that adopted LOS be maintained.

9.4.1 Findings Public Facilities Element

A comprehensive analysis was completed to examine the demand and impact to the City's public facilities and services.

Studies were provided by licensed and/or professionals who surveyed the site and/or modeled the impacts to maintain the LOS.

The proposed development is consistent with the Public Facilities Element and the Comprehensive Plan.

Staff Recommendation

Based on the data, analysis and findings, staff recommends that the Planning and Architectural Review Board (PARB) find the Large-Scale Future Land Use Amendment (FLUM) consistent with the Comprehensive Plan and recommend to the City Commission to approve the FLUM amendment from unincorporated land use designations of Agriculture, Conservation, and Mixed Use: High Intensity to the City of Flagler Beach land use designations of Low Density Residential and General Commercial.

Exhibits

1. Aerial Map
2. Soils Map
3. Topographic Map
4. Gopher Tortoise Burrow Location Map
5. Habitat Map
6. Existing Zoning Unincorporated Flagler County
7. Existing Zoning City of Flagler Beach
8. Existing FLUM City of Flagler Beach
9. Existing FLUM Unincorporated Flagler Beach
10. Excerpts from Submittal Exhibit I Parker Mynchenberg & Associates Demand for Public Infrastructure 230,694 SQ FT Commercial and 2,735 Residential Units

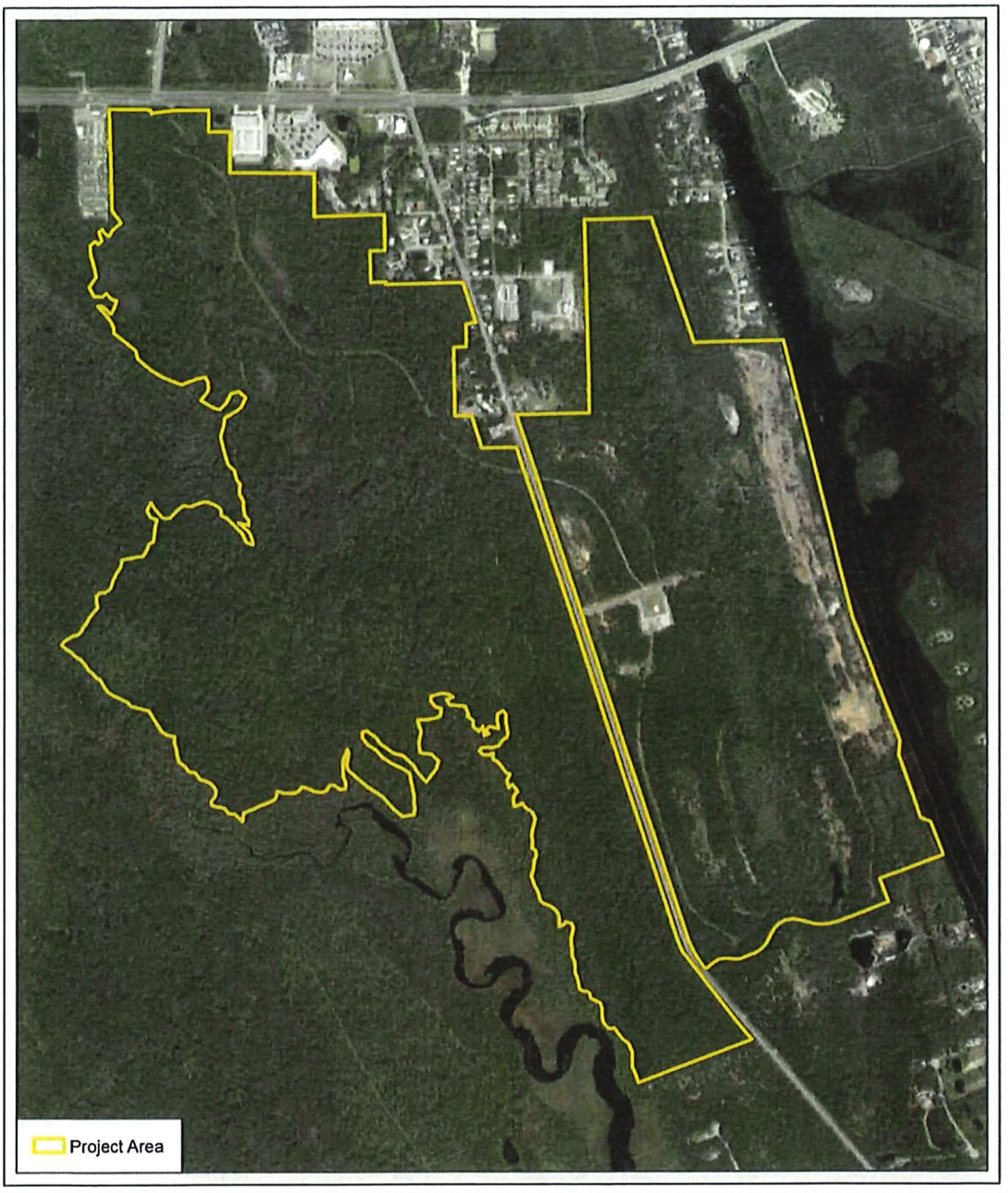

Image Source: ESRI 2022
Date: 5-23-24

0 400 800
Feet

Aerial Map
Veranda Bay
Flagler County, Florida

ATLANTIC ECOLOGICAL SERVICES
WWW.ATLANTICECO.COM
904-347-9133 | jody@atlanticeco.com
201 Basque Rd | St. Augustine, FL 32080

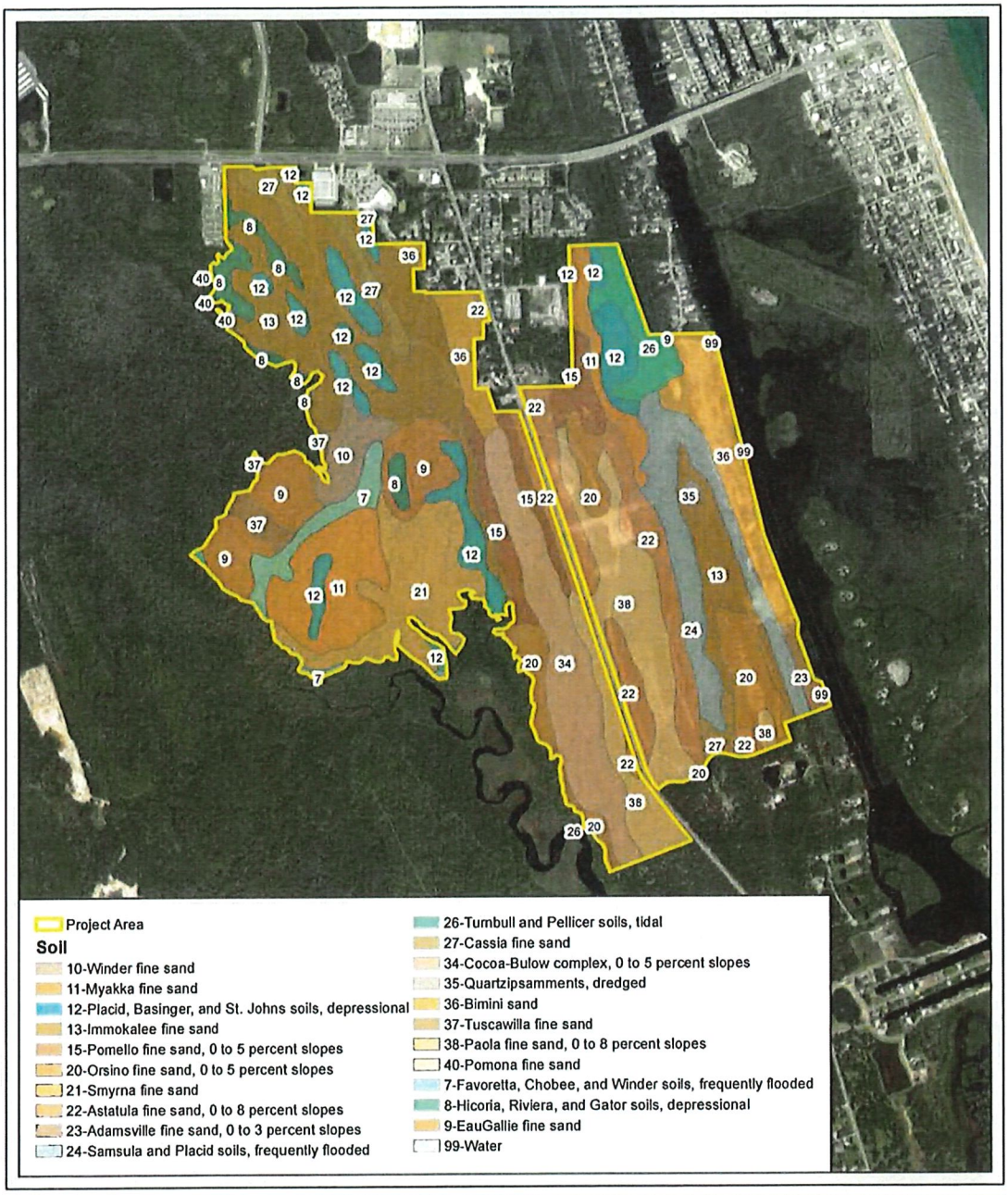

Image Source: ESRI 2022
Date: 5-23-24

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Soil Map
Veranda Bay
Flagler County, Florida

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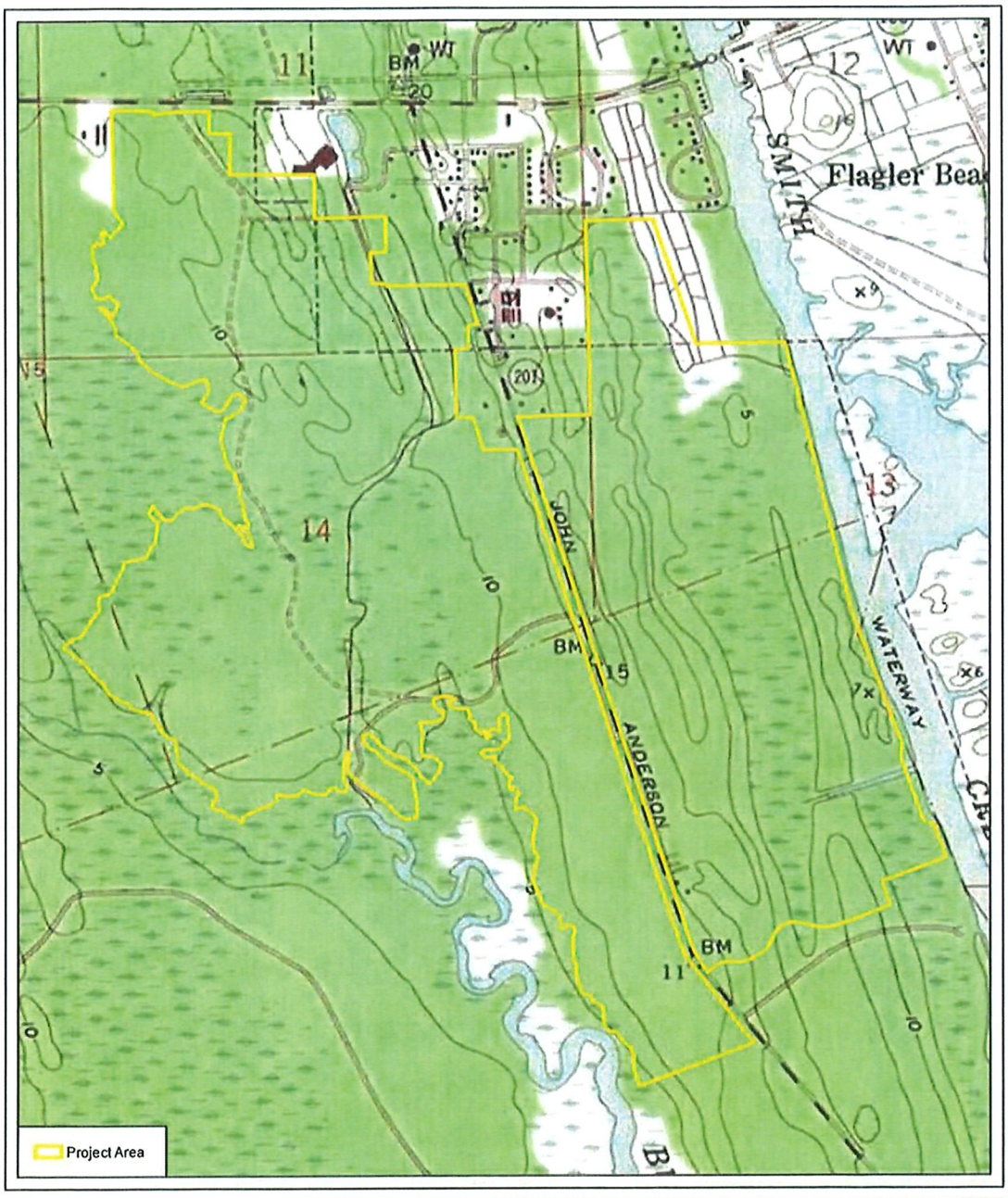

Image Source: ESRI 2022
Date: 5-23-24

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Topographic Map
Veranda Bay
Flagler County, Florida

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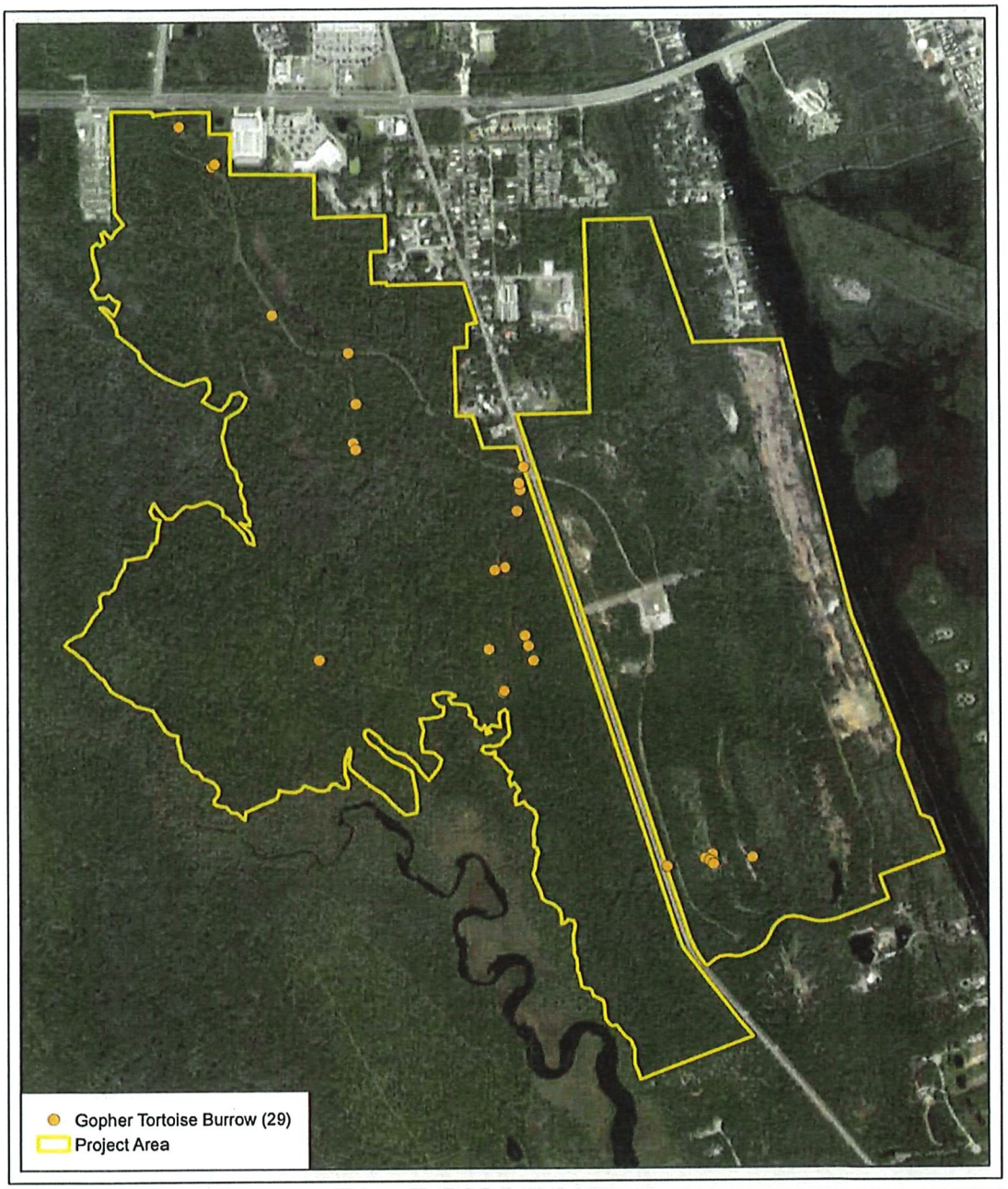

Image Source: ESRI 2022
Date: 5-31-24

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N

Gopher Tortoise Burrow Location Map
Veranda Bay
Flagler County, Florida

ATLANTIC ECOLOGICAL

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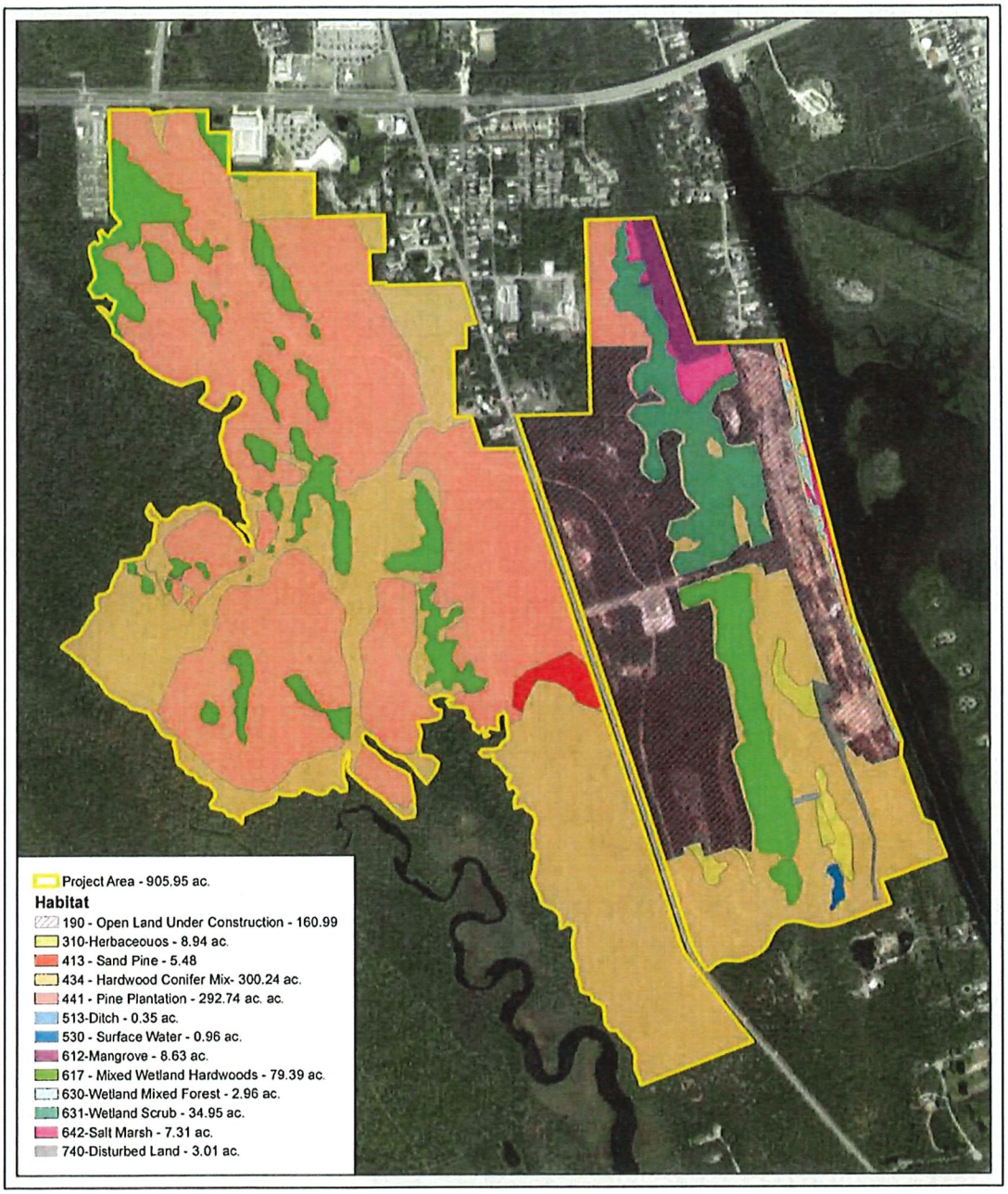

Image Source: ESRI 2022
Date: 5-23-24

0 600 1,200 Feet

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Habitat Map
Veranda Bay
Flagler County, Florida

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904-347-9133 | jody@atlanticeco.com
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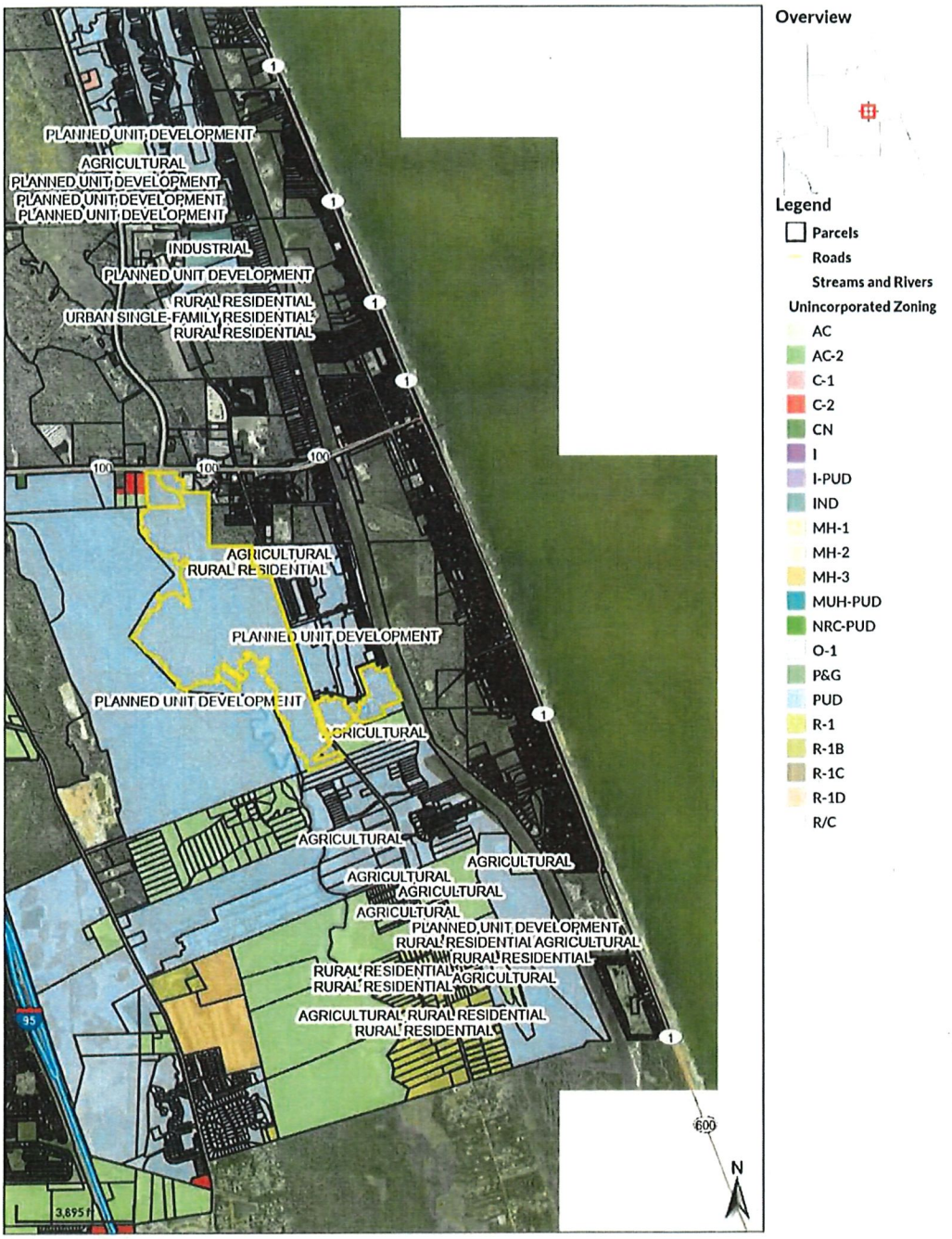
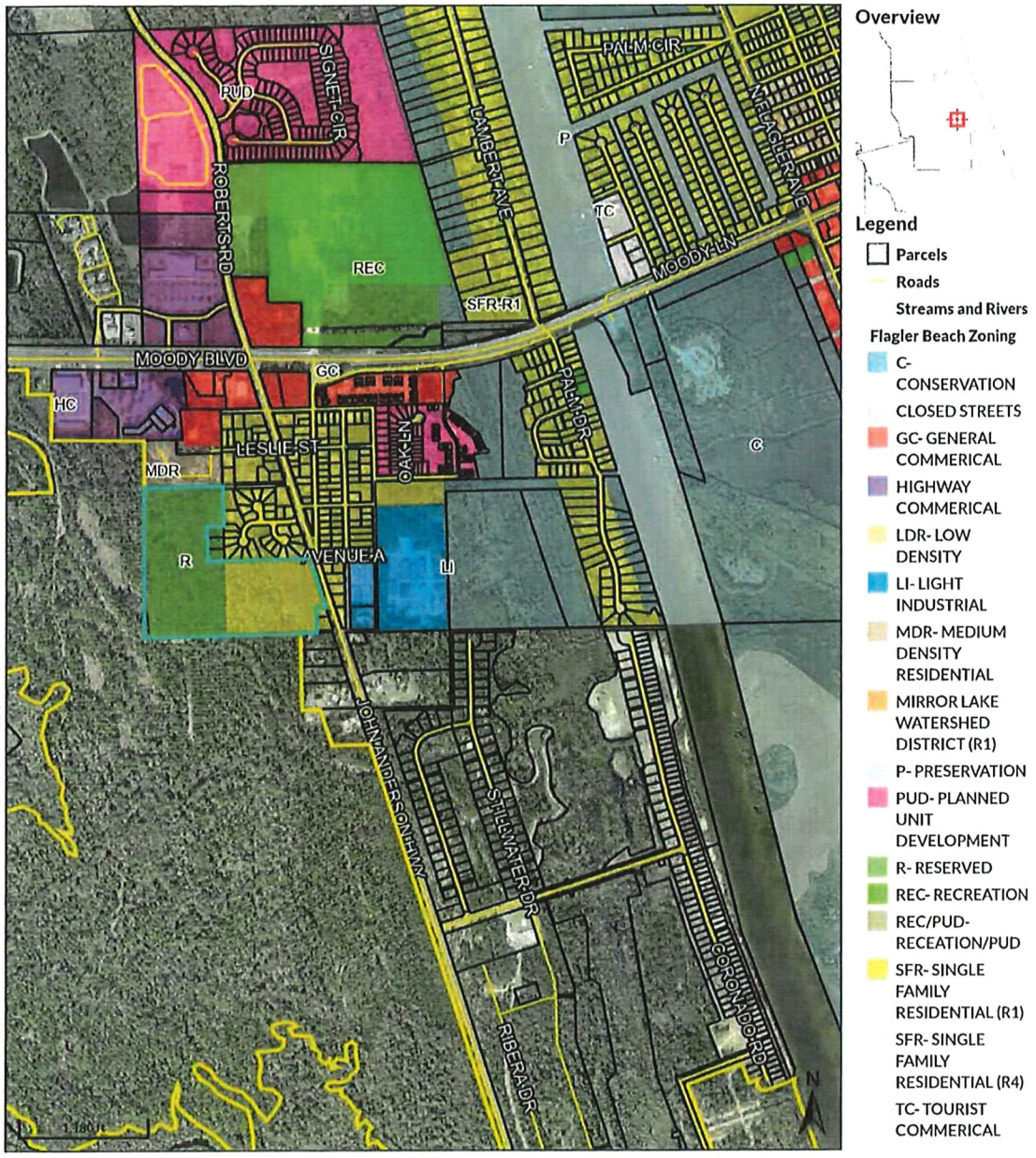
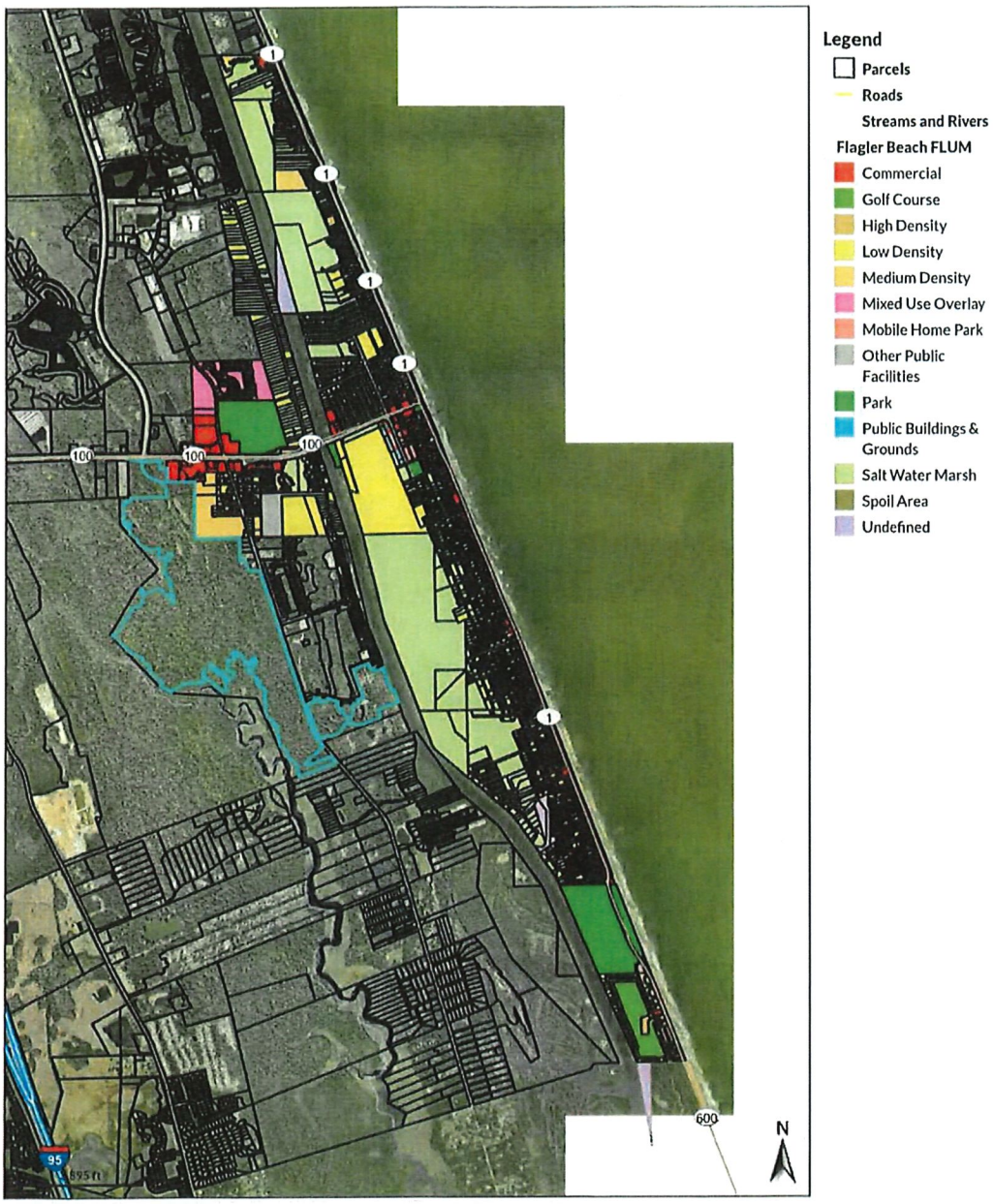


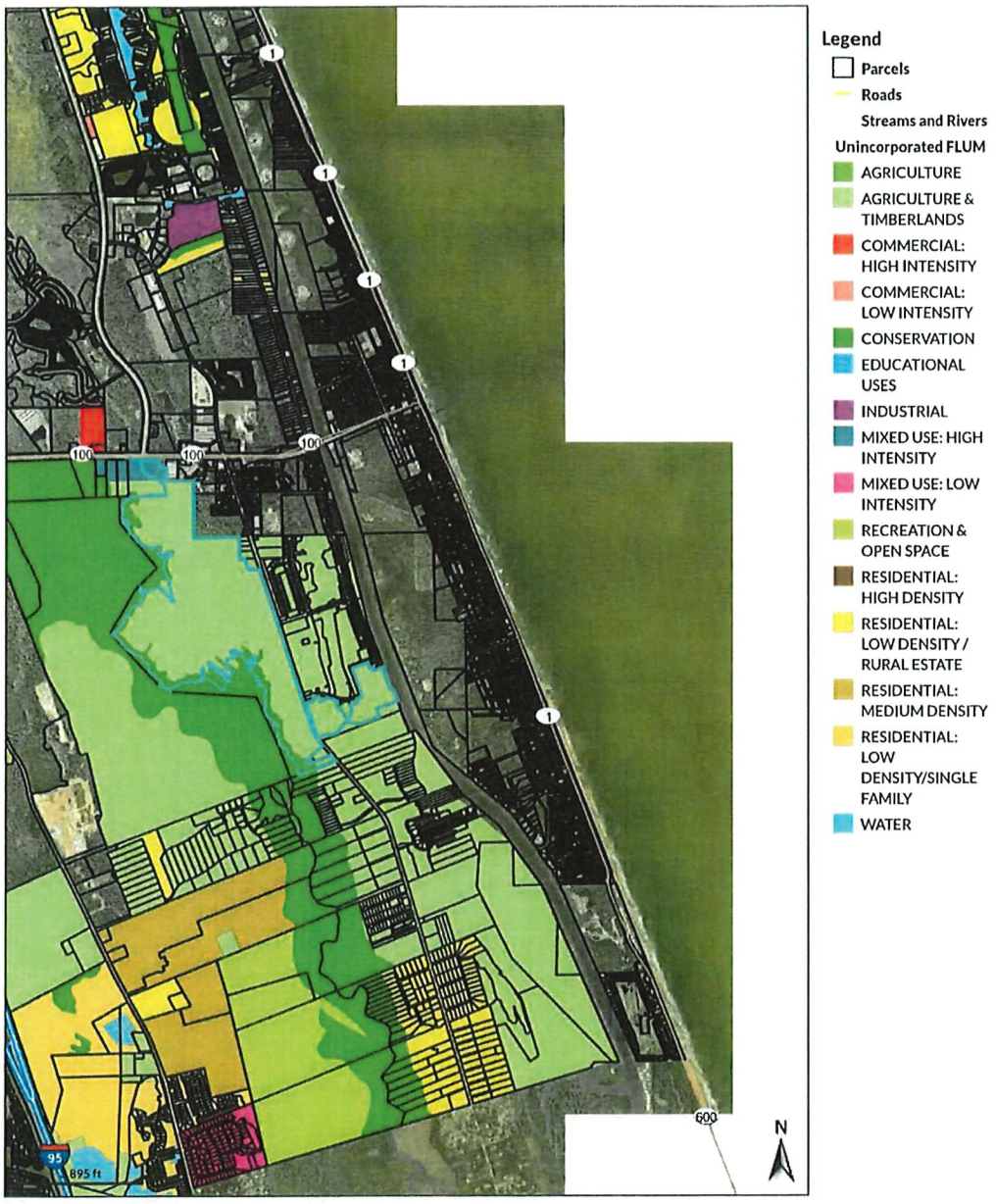
Existing Zoning Unincorporated Flagler County



Excerpt Existing Zoning City of Flagler Beach



Existing FLUM City of Flagler Beach



Existing FLUM Unincorporated Flagler County

PARKER MYNCHENBERG & ASSOCIATES, INC.

1729 Ridgewood Avenue
Holly Hill, FL 32117
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info@parkermynchenberg.com

January 30, 2024

VERANDA BAY
Water Demand

SUMMARY

The improvements associated with this project include the overall Water Demand Volumes for the Veranda Bay Conceptual Master Plan.

ANALYSIS

Design Type and Number of Service Connections, Calculation Units, Total Average Daily Flow, and Peak Hour Flow, in the Entire Area to be served by the Water Distribution System being constructed with this project are calculated below. The US Census estimate for people per residential unit is 2.08 and the Flagler Beach Comprehensive Plan includes a water LOS of 125 gallons per capita. The LOS flow for each residential unit is 125 gal/person * 2.08 people/unit = 260 gpd/unit.

WATER					
Phase	Type of Service Connection	Water Demand Calculation Units	Average Daily Water Demand Per Service Connection	Total Average Daily Flow (gpd)	Peak Hour Flow[a] (gph)
VERANDA BAY EAST					
A1	Low Density Single-Family Residential (SFR) Units	122 units	260 gpd/unit	31,720	3,965
	Clubhouse and Amenity Center	6,200 sq. ft.	0.10 gpd/sq.ft.	620	78
A2	Low Density Single-Family Residential (SFR) Units	89 units	260 gpd/unit	23,140	2,893
A3	Low Density Single-Family Residential (SFR) Units	124 units	260 gpd/unit	32,240	4,030
B	Low Density Single-Family Residential (SFR) Units	72 units	260 gpd/unit	18,720	2,340
C	Medium Density Single Family -Townhomes	96 units	260 gpd/unit	24,960	3,120
D	Low Density Single-Family Residential (SFR) Units	80 units	260 gpd/unit	20,800	2,600
E	Multi-Family Condos/Apts	152 units	260 gpd/unit	39,520	4,940
	Yacht Club/ Clubhouse/Mixed Use	10,000 sq. ft.	0.10 gpd/sq.ft.	1,000	125
VERANDA BAY WEST					
F	Low Density Single-Family Residential (SFR) Units	250 units	260 gpd/unit	65,000	8,125
G	Low Density Single-Family Residential (SFR) Units	220 units	260 gpd/unit	57,200	7,150
H	Medium Density Residential - Multi Family	980 units	260 gpd/unit	254,800	31,850
I	Town Center - Commercial/Retail/Office	220,694 sq. ft.	0.10 gpd/sq.ft.	22,069	2,759
J1	Office / Retail	10,000 sq. ft.	0.10 gpd/sq.ft.	1,000	125
J2	High Density Residential/Hotel Site	250 units	260 gpd/unit	65,000	8,125
K	Medium Density Multi-Family	300 units	260 gpd/unit	78,000	9,750
TOTAL WATER DEMAND				735,789	91,974

a. Explanation of Peaking Factor(s) or Method(s) Used to Estimate Peak Hour Flow:

Peaking Factor = 3.0 (typical)

Peak Hour Flow = Total Average Daily Flow x 3.0 x (1 day/24 hrs)

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January 30, 2024

VERANDA BAY
Sewer Demand

SUMMARY

The improvements associated with this project include the overall Sewer Demand Volumes for the Veranda Bay Conceptual Master Plan.

ANALYSIS

Design Type and Number of Service Connections, Calculation Units, Total Average Daily Flow, and Peak Hour Flow, in the Entire Area to be served by the Water Distribution System being constructed with this project are calculated below. The US Census estimate for people per residential unit is 2.08 and the Flagler Beach Comprehensive Plan includes a water LOS of 119 gallons per capita. The LOS flow for each residential unit is 119 gal/person * 2.08 people/unit = 248 gpd/unit.

SEWER					
Phase	Type of Service Connection	Sewer Demand Calculation Units	Average Daily Sewer Demand Per Service Connection	Total Average Daily Flow (gpd)	Peak Hour Flow[a] (gph)
VERANDA BAY EAST					
A1	Low Density Single-Family Residential (SFR) Units	122 units	248 gpd/unit	30,256	3,782
	Clubhouse and Amenity Center	6,200 sq. ft.	0.10 gpd/sq.ft.	620	78
A2	Low Density Single-Family Residential (SFR) Units	89 units	248 gpd/unit	22,072	2,759
A3	Low Density Single-Family Residential (SFR) Units	124 units	248 gpd/unit	30,752	3,844
B	Low Density Single-Family Residential (SFR) Units	72 units	248 gpd/unit	17,856	2,232
C	Medium Density Single Family -Townhomes	96 units	248 gpd/unit	23,808	2,976
D	Low Density Single-Family Residential (SFR) Units	80 units	248 gpd/unit	19,840	2,480
E	Multi-Family Condos/Apts	152 units	248 gpd/unit	37,696	4,712
	Yacht Club/ Clubhouse/Mixed Use	10,000 sq. ft.	0.10 gpd/sq.ft.	1,000	125
VERANDA BAY WEST					
F	Low Density Single-Family Residential (SFR) Units	250 units	248 gpd/unit	62,000	7,750
G	Low Density Single-Family Residential (SFR) Units	220 units	248 gpd/unit	54,560	6,820
H	Medium Density Residential - Multi Family	980 units	248 gpd/unit	243,040	30,380
I	Town Center - Commercial/Retail/Office	220,694 sq. ft.	0.10 gpd/sq.ft.	22,069	2,759
J1	Office / Retail	10,000 sq. ft.	0.10 gpd/sq.ft.	1,000	125
J2	High Density Residential/Hotel Site	250 units	248 gpd/unit	62,000	7,750
K	Medium Density Multi-Family	300 units	248 gpd/unit	74,400	9,300
	TOTAL SEWER DEMAND			702,969	87,871

a. Explanation of Peaking Factor(s) or Method(s) Used to Estimate Peak Hour Flow:

Peaking Factor = 3.0 (typical)

Peak Hour Flow = Total Average Daily Flow x 3.0 x (1 day/24 hrs)

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info@parkermynchenberg.com

January 30, 2024

VERANDA BAY
Solid Waste Demand

SUMMARY
The improvements associated with this project include the overall Solid Waste Demand Quantities for the Veranda Bay Conceptual Master Plan. Max units were assumed per the Conceptual Master Plan. Demand is based on the LOS established in the City of Flagler Beach Comprehensive Plan and the US Census Bureau estimate of 2.08 people/unit and each individual discards 3.7 lbs of solid waste a day, therefore the daily demand per unit is 2.08 people(s) * 3.7 lbs (Solid Waste) = 7.70 lbs/day-unit.

SOLID WASTE				
Phase	Type of Service Connection	Solid Waste Demand Calculation Unit	Average Daily Solid Waste Demand Per Person Connection	Total Daily Solid Waste (lbs)
VERANDA BAY EAST				
A1	Low Density Single-Family Residential (SFR) Units	122 units	7.70 lbs/day-unit	939
	Clubhouse and Amenity Center	6,200 sq. ft.	0.01 lbs/day/sf	62
A2	Low Density Single-Family Residential (SFR) Units	89 units	7.70 lbs/day-unit	685
A3	Low Density Single-Family Residential (SFR) Units	124 units	7.70 lbs/day-unit	955
B	Low Density Single-Family Residential (SFR) Units	72 units	7.70 lbs/day-unit	554
C	Medium Density Single Family -Townhomes	96 units	7.70 lbs/day-unit	739
D	Low Density Single-Family Residential (SFR) Units	80 units	7.70 lbs/day-unit	616
E	Multi-Family Condos/Apts	152 units	7.70 lbs/day-unit	1,170
	Yacht Club/ Clubhouse/Mixed Use	10,000 sq. ft.	0.01 lbs/day/sf	100
VERANDA BAY WEST				
F	Low Density Single-Family Residential (SFR) Units	250 units	7.70 lbs/day-unit	1,925
G	Low Density Single-Family Residential (SFR) Units	220 units	7.70 lbs/day-unit	1,694
H	Medium Density Residential - Multi Family	980 units	7.70 lbs/day-unit	7,546
I	Town Center - Commercial/Retail/Office	220,694 sq. ft.	0.01 lbs/day/sf	2,207
J1	Office / Retail	10,000 sq. ft.	0.01 lbs/day/sf	100
J2	High Density Residential/Hotel Site	250 units	7.70 lbs/day-unit	1,925
K	Medium Density Multi-Family	300 units	7.70 lbs/day-unit	2,310
TOTAL SOLID WASTE DEMAND				23,528