Agenda Report

2725 Judge Fran Jamieson Way
Viera, FL 32940

Public Hearing

H.5. 12/2/2021

Subject:
The Heather Calligan Trust (Chad Genoni) requests a change of zoning classification from RU-1-11 with an existing BDP to RU-1-7, with an amendment to the existing BDP. (21Z00030) (Tax Account 2112413) (District 1)

Fiscal Impact:
None

Dept/Office:
Planning and Development

Requested Action:
It is requested that the Board of County Commissioners conduct a public hearing to consider a change of zoning classification from RU-1-11 (Single-Family Residential) to RU-1-7 (Single-Family Residential), with an amendment to the existing BDP (Binding Development Plan).

Summary Explanation and Background:
The applicant is requesting to change the current zoning classification of RU-1-11 with two existing BDPs to RU -1-7. The applicant has included an amendment to the existing BDPs with the application. According to the applicant, the proposed BDP updates and carries forward the conditions within the two existing BDPs currently affecting the subject property. The proposed BDP contains numerous limitations (e.g., caps development 198 units, 6,000 sq. ft. as the average minimum lot size, 1,800 sq. ft. minimum unit size, and several buffer requirements). Please refer to the attached Addendum to Staff Comments for analysis of the proposed BDP.

The property to the north of State Road - 46 is zoned TR-1 (Single-family Mobile home). The property lying east of this site is zoned RVP (Recreational Vehicle Park), RU-1-11 (Single-family residential), and GU (General Use). To the South are multiple parcels zoned EU-2 (Estate Use residential), SR (Suburban Residential), AU (Agricultural Residential), and SEU (Suburban Estate Use Residential).

The Board may wish to consider whether the requested rezoning action is consistent and compatible with the surrounding area and does these conditions in the proposed BDP mitigate the potential impacts.

On November 15, 2021, the Planning & Zoning Board heard the request and unanimously recommended approval. During the hearing, the Applicant provided a revised BDP. Staff analysis of this document is provided in the Addendum.

Clerk to the Board Instructions:
Once resolution is received, please execute and return to Planning and Development.

BOARD OF COUNTY COMMISSIONERS

Rita Pritchett, District 1 Commissioner
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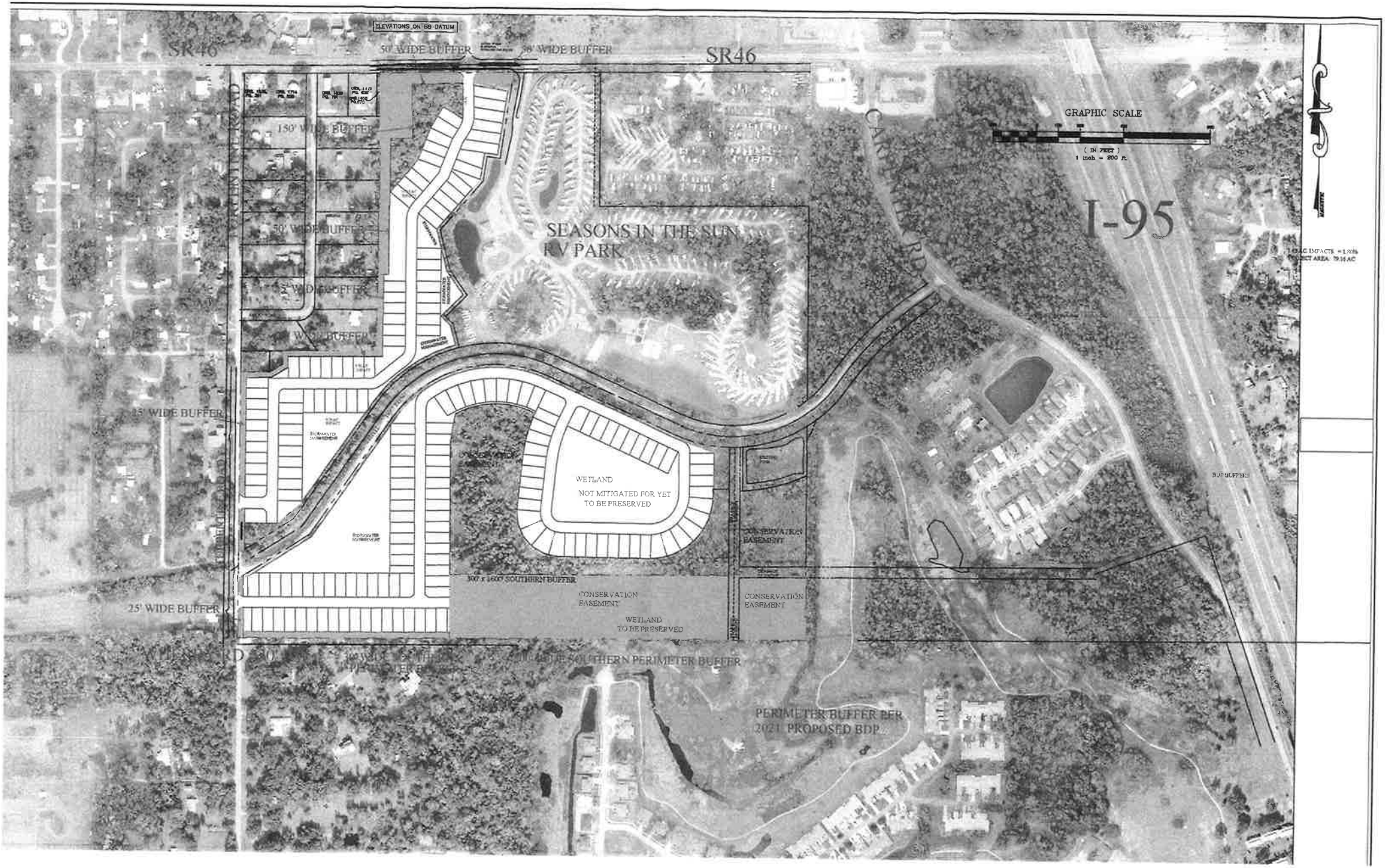
Planning and Development
Commission Meeting December 2, 2021
Tax Account 2112413 - 21Z00030

Commissioner Pritchett met with Ms. Kim Rezanka, Mr. Chad Genoni and Mr. Rick Kerns in her office regarding the above item on November 29, 2021. The Commissioner listened to their concerns regarding the zoning item.

H.5


ELEVATIONS ON NGVD DATUM
SR46
50' WIDE BUFFER
SR46
GRAPHIC SCALE
(IN FEET)
1 inch = 200 ft.
I-95
SEASONS IN THE SUN RV PARK
CARTIER RD
150' WIDE BUFFER
50' WIDE BUFFER
50' WIDE BUFFER
25' WIDE BUFFER
WETLAND
NOT MITIGATED FOR YET
TO BE PRESERVED
CONSERVATION EASEMENT
307' x 1600' SOUTHERN BUFFER
CONSERVATION EASEMENT
CONSERVATION EASEMENT
WETLAND
TO BE PRESERVED
25' WIDE BUFFER
SOUTHERN PERIMETER BUFFER
PERIMETER BUFFER PER
2021 PROPOSED BDP

ADMINISTRATIVE POLICIES OF THE FUTURE LAND USE ELEMENT

Administrative Policies in the Future Land Use Element establish the expertise of staff with regard to zoning land use issues and set forth criteria when considering a rezoning action or request for Conditional Use Permit, as follows:

Administrative Policy 1

The Brevard County zoning official, planners and the director of the Planning and Development staff, however designated, are recognized as expert witnesses for the purposes of Comprehensive Plan amendments as well as zoning, conditional use, special exception, and variance applications.

Administrative Policy 2

Upon Board request, members of the Brevard County Planning and Development staff shall be required to present written analysis and a recommendation, which shall constitute an expert opinion, on all applications for development approval that come before the Board of County Commissioners for quasi-judicial review and action. The Board may table an item if additional time is required to obtain the analysis requested or to hire an expert witness if the Board deems such action appropriate. Staff input may include the following:

Criteria:

A. Staff shall analyze an application for consistency or compliance with comprehensive plan policies, zoning approval criteria and other applicable written standards.

B. Staff shall conduct site visits of property which are the subject of analysis and recommendation. As part of the site visit, the staff shall take a videotape or photographs where helpful to the analysis and conduct an inventory of surrounding existing uses. Aerial photographs shall also be used where they would aid in an understanding of the issues of the case.

C. In cases where staff analysis is required, both the applicant and the staff shall present proposed findings of fact for consideration by the Board.

D. For re-zoning applications where a specific use has not been proposed, the worst case adverse impacts of potential uses available under the applicable land use classification shall be evaluated by the staff.

Administrative Policy 3

Compatibility with existing or proposed land uses shall be a factor in determining where a rezoning or any application involving a specific proposed use is being considered. Compatibility shall be evaluated by considering the following factors, at a minimum:

Criteria:

A. Whether the proposed use(s) would have hours of operation, lighting, odor, noise levels, traffic, or site activity that would significantly diminish the enjoyment of, safety or quality of life in existing neighborhoods within the area which could foreseeably be affected by the proposed use.

B. Whether the proposed use(s) would cause a material reduction (five percent or more) in the value of existing abutting lands or approved development.

C. Whether the proposed use(s) is/are consistent with an emerging or existing pattern of surrounding development as determined through analysis of:

1. historical land use patterns;

2. actual development over the immediately preceding three years; and

3. development approved within the past three years but not yet constructed.

D. Whether the proposed use(s) would result in a material violation of relevant policies in any elements of the Comprehensive Plan.

Administrative Policy 4

Character of a neighborhood or area shall be a factor for consideration whenever a rezoning or any application involving a specific proposed use is reviewed. The character of the area must not be materially or adversely affected by the proposed rezoning or land use application. In evaluating the character of an area, the following factors shall be considered:

Criteria:

A. The proposed use must not materially and adversely impact an established residential neighborhood by introducing types of intensity of traffic (including but not limited to volume, time of day of traffic activity, type of vehicles, et cetera), parking, trip generation, commercial activity or industrial activity that is not already present within the identified boundaries of the neighborhood.

B. In determining whether an established residential neighborhood exists, the following factors must be present:

1. The area must have clearly established boundaries, such as roads, open spaces, rivers, lakes, lagoons, or similar features.

2. Sporadic or occasional neighborhood commercial uses shall not preclude the existence of an existing residential neighborhood, particularly if the commercial use is non-conforming or pre-dates the surrounding residential use.

3. An area shall be presumed not to be primarily residential but shall be deemed transitional where multiple commercial, industrial or other non-residential uses have been applied for and approved during the previous five (5) years.

Administrative Policy 5

In addition to the factors specified in Administrative Policies 2, 3, and 4, in reviewing a rezoning, conditional use permit or other application for development approval, the impact of the proposed use or uses on transportation facilities either serving the site or impacted by the use(s) shall be considered. In evaluating whether substantial and adverse transportation impacts are likely to result if an application is approved, the staff shall consider the following criteria:

Criteria:

A. Whether adopted levels of services will be compromised;

B. Whether the physical quality of the existing road system that will serve the proposed use(s) is sufficient to support the use(s) without significant deterioration;

C. Whether the surrounding existing road system is of sufficient width and construction quality to serve the proposed use(s) without the need for substantial public improvements;

D. Whether the surrounding existing road system is of such width and construction quality that the proposed use(s) would realistically pose a potential for material danger to public safety in the surrounding area;

E. Whether the proposed use(s) would be likely to result in such a material and adverse change in traffic capacity of a road or roads in the surrounding area such that either design capacities would be significantly exceeded or a de facto change in functional classification would result;

F. Whether the proposed use(s) would cause such material and adverse changes in the types of traffic that would be generated on the surrounding road system, that physical deterioration of the surrounding road system would be likely;

G. Whether projected traffic impacts of the proposed use(s) would materially and adversely impact the safety or welfare of residents in existing residential neighborhoods.

Administrative Policy 6

The use(s) proposed under the rezoning, conditional use or other application for development approval must be consistent with, (a), all written land development policies set forth in these administrative policies; and (b), the future land use element, coastal management element, conservation element, potable water element, sanitary sewer element, solid waste management element, capital improvements element, recreation and open space element, surface water element, and transportation elements of the comprehensive plan.

Administrative Policy 7

Proposed use(s) shall not cause or substantially aggravate any, (a), substantial drainage problem on surrounding properties; or (b), significant, adverse and unmitigatable impact on significant natural wetlands, water bodies or habitat for listed species.

Administrative Policy 8

These policies, the staff analysis based upon these policies, and the applicant's written analysis, if any, shall be incorporated into the record of every quasi-judicial review application for development approval presented to the Board including rezoning, conditional use permits, and vested rights determinations.

Section 62-1151(c) of the Code of Ordinances of Brevard County directs, "The planning and zoning board shall recommend to the board of county commissioners the denial or approval of each application for amendment to the official zoning maps based upon a consideration of the following factors:

(1) The character of the land use of the property surrounding the property being considered.

(2) The change in conditions of the land use of the property being considered and the surrounding property since the establishment of the current applicable zoning classification, special use or conditional use.

(3) The impact of the proposed zoning classification or conditional use on available and projected traffic patterns, water and sewer systems, other public facilities and utilities and the established character of the surrounding property.

(4) The compatibility of the proposed zoning classification or conditional use with existing land use plans for the affected area.

(5) The appropriateness of the proposed zoning classification or conditional use based upon a consideration of the applicable provisions and conditions contained in this article and other applicable laws, ordinances and regulations relating to zoning and land use regulations and based upon a consideration of the public health, safety and welfare.

The minutes of the planning and zoning board shall specify the reasons for the recommendation of approval or denial of each application."

CONDITIONAL USE PERMITS (CUPs)
In addition to the specific requirements for each Conditional Use Permit (CUP), Section 62-1901 provides that the following approval procedure and general standards of review are to be applied to all CUP requests, as applicable.

(b) Approval procedure. An application for a specific conditional use within the applicable zoning classification shall be submitted and considered in the same manner and according to the same procedure as an amendment to the official zoning map as specified in Section 62-1151. The approval of a conditional use shall authorize an additional use for the affected parcel of real property in addition to those permitted in the applicable zoning classification. The initial burden is on the applicant to demonstrate that all applicable standards and criteria are met. Applications which do not satisfy this burden cannot be approved. If the applicant meets its initial burden, then the Board has the burden to show, by substantial and competent evidence, that the applicant has failed to meet such standards and the request is adverse to the public interest. As part of the approval of the conditional use permit, the Board may prescribe appropriate and reasonable conditions and safeguards to reduce the impact of the proposed use on adjacent and nearby properties or the neighborhood. A nearby property, for the purpose of this section, is defined as any property which, because of the character of the proposed use, lies within the area which may be substantially and adversely impacted by such use. In stating grounds in support of an application for a conditional use permit, it is necessary to show how the request fulfills both the general and specific standards for review. The applicant must show the effect the granting of the conditional use permit will have on adjacent and nearby properties, including, but not limited to traffic and pedestrian flow and safety, curb-cuts, off-street loading and parking, off-street pickup of passengers, odors, glare and noise, particulates, smoke, fumes, and other emissions, refuse and service areas, drainage, screening and buffering for protection of adjacent and nearby properties, and open space and economic impact on nearby properties. The applicant, at his discretion, may choose to present expert testimony where necessary to show the effect of granting the conditional use permit.

(c) General Standards of Review.

(1) The planning and zoning board and the board of county commissioners shall base the denial or approval of each application for a conditional use based upon

a consideration of the factors specified in Section 62-1151(c) plus a determination whether an application meets the intent of this section.

a. The proposed conditional use will not result in a substantial and adverse impact on adjacent and nearby properties due to: (1), the number of persons anticipated to be using, residing or working under the conditional use; (2), noise, odor, particulates, smoke, fumes and other emissions, or other nuisance activities generated by the conditional use; or (3), the increase of traffic within the vicinity caused by the proposed conditional use.

b. The proposed use will be compatible with the character of adjacent and nearby properties with regard to use, function, operation, hours of operation, type and amount of traffic generated, building size and setback, and parking availability.

c. The proposed use will not cause a substantial diminution in value of abutting residential property. A substantial diminution shall be irrebuttably presumed to have occurred if abutting property suffers a 15% reduction in value as a result of the proposed conditional use. A reduction of 10% of the value of abutting property shall create a rebuttable presumption that a substantial diminution has occurred. The Board of County Commissioners carries the burden to show, as evidenced by either testimony from or an appraisal conducted by an M A I certified appraiser, that a substantial diminution in value would occur. The applicant may rebut the findings with his own expert witnesses.

(2) The following specific standards shall be considered, when applicable, in making a determination that the general standards specified in subsection (1) of this section are satisfied:

a. Ingress and egress to the property and proposed structures thereon, with particular reference to automotive and pedestrian safety and convenience, traffic flow and control, and access in case of fire and catastrophe, shall be: (1), adequate to serve the proposed use without burdening adjacent and nearby uses, and (2), built to applicable county standards, if any. Burdening adjacent and nearby uses means increasing existing traffic on the closest collector or arterial road by more than 20%, or 10% if the new traffic is primarily comprised of heavy vehicles, except where the affected road is at Level of Service A or B. New traffic generated by the proposed use shall not cause the adopted level of service for transportation on applicable roadways, as determined by applicable Brevard County standards, to be exceeded. Where the design of a public road to be used by the proposed use is physically inadequate to handle the numbers, types or weights of vehicles expected to be generated by the proposed use without damage to the road, the conditional use permit cannot be approved without a commitment to improve the road to a standard adequate to handle the proposed traffic, or to maintain the road through a maintenance bond or other means as required by the Board of County Commissioners.

b. The noise, glare, odor, particulates, smoke, fumes or other emissions from the conditional use shall not substantially interfere with the use or enjoyment of the adjacent and nearby property.

c. Noise levels for a conditional use are governed by Section 62-2271.

d. The proposed conditional use shall not cause the adopted level of service for solid waste disposal applicable to the property or area covered by such level of service, to be exceeded.

e. The proposed conditional use shall not cause the adopted level of service for potable water or wastewater applicable to the property or the area covered by such level of service, to be exceeded by the proposed use.

f. The proposed conditional use must have existing or proposed screening or buffering, with reference to type, dimensions and character to eliminate or reduce substantial, adverse nuisance, sight, or noise impacts on adjacent and nearby properties containing less intensive uses.

g. Proposed signs and exterior lighting shall not cause unreasonable glare or hazard to traffic safety, or interference with the use or enjoyment of adjacent and nearby properties.

h. Hours of operation of the proposed use shall be consistent with the use and enjoyment of the properties in the surrounding residential community, if any. For commercial and industrial uses adjacent to or near residential uses, the hours of operation shall not adversely affect the use and enjoyment of the residential character of the area.

i. The height of the proposed use shall be compatible with the character of the area, and the maximum height of any habitable structure shall be not more than 35 feet higher than the highest residence within 1,000 feet of the property line.

j. Off-street parking and loading areas, where required, shall not be created or maintained in a manner which adversely impacts or impairs the use and enjoyment of adjacent and nearby properties. For existing structures, the applicant shall provide competent, substantial evidence to demonstrate that actual or anticipated parking shall not be greater than that which is approved as part of the site pan under applicable county standards.

FACTORS TO CONSIDER FOR A REZONING REQUEST
Section 62-1151(c) sets forth factors to consider in connection with a rezoning request, as follows:

"The planning and zoning board shall recommend to the board of county commissioners the denial or approval of each application for amendment to the official zoning maps based upon a consideration of the following factors:

(1) The character of the land use of the property surrounding the property being considered.

(2) The change in conditions of the land use of the property being considered and the surrounding property since the establishment of the current applicable zoning classification, special use or conditional use.

(3) The impact of the proposed zoning classification or conditional use on available and projected traffic patterns, water and sewer systems, other public facilities and utilities and the established character of the surrounding property.

(4) The compatibility of the proposed zoning classification or conditional use with existing land use plans for the affected area.

(5) The appropriateness of the proposed zoning classification or conditional use based upon a consideration of the applicable provisions and conditions contained in this article and other applicable laws, ordinances and regulations relating to zoning and land use regulations and based upon a consideration of the public health, safety and welfare."

These staff comments contain references to zoning classifications found in the Brevard County Zoning Regulations, Chapter 62, Article VI, Code of Ordinances of Brevard County. These references include brief summaries of some of the characteristics of that zoning classification. Reference to each zoning classification shall be deemed to incorporate the full text of the section or sections defining and regulating that classification into the Zoning file and Public Record for that item.

These staff comments contain references to sections of the Code of Ordinances of Brevard County. Reference to each code section shall be deemed to incorporate this section into the Zoning file and Public Record for that item.

These staff comments contain references to Policies of the Brevard County Comprehensive Plan. Reference to each Policy shall be deemed to incorporate the entire Policy into the Zoning file and Public Record for that item.

These staff comments refer to previous zoning actions which are part of the Public Records of Brevard County, Florida. These records will be referred to by reference to the file number. Reference to zoning files are intended to make the entire contents of the cited file a part of the Zoning file and Public Record for that item.

DEFINITIONS OF CONCURRENCY TERMS

Maximum Acceptable Volume (MAV): Maximum acceptable daily volume that a roadway can carry at the adopted Level of Service (LOS).

Current Volume: Building permit related trips added to the latest TPO (Transportation Planning Organization) traffic counts.

Volume with Development (VOL W/DEV): Equals Current Volume plus trip generation projected for the proposed development.

Volume/Maximum Acceptable Volume (VOL/MAV): Equals the ratio of current traffic volume to the maximum acceptable roadway volume.

Volume/Maximum Acceptable Volume with Development (VOL/MAV W/DEV): Ratio of volume with development to the Maximum Acceptable Volume.

Acceptable Level of Service (CURRENT LOS): The Level of Service at which a roadway is currently operating.

Level of Service with Development (LOS W/DEV): The Level of Service that a proposed development may generate on a roadway.

BOARD OF COUNTY COMMISSIONERS

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https://www.brevardfl.gov/PlanningDev

STAFF COMMENTS
21Z00030

The Heather Calligan Trust

RU-1-11 (Single-family Residential) with two existing Binding Development Plans (BDP) to RU-1-7 with an amendment to the existing BDPs

Tax Account Number: 2112413

Parcel I.D.: 21-34-13-00-506
Location: Address Not Assigned; South side of SR 46, 635 feet east of Turpentine Road (District 1)
Acreage: 79.16 acres

Planning and Zoning Board: 11/15/2021
Board of County Commissioners: 12/02/2021

Consistency with Land Use Regulations

- Current zoning can be considered under the Future Land Use Designation, Section 62-1255.
- The proposal can be considered under the Future Land Use Designation, Section 62-1255.
- The proposal would maintain acceptable Levels of Service (LOS) (XIII 1.6.C)

	CURRENT	PROPOSED
Zoning	RU-1-11 with 2 BDPs	RU-1-7 with amended BDP
Potential*	198-units	198-units
Can be Considered under the Future Land Use Map	YES** RES 1, RES 4 & NC	YES** RES 1, RES 4 & NC

* Zoning potential for concurrency analysis purposes only, subject to applicable land development regulations. ** Zoning consistent in the RES 1 and RES 4 FLU designations due to limitations noted in the BDPs (existing or proposed).

Background and Purpose of Request

The applicant's request is to change the current zoning classification of Single-family Residential (RU-1-11) with two (2) existing Binding Development Plans (BDPs) to Single-family Residential (RU-1-7) with an amended BDP in order to reduce the minimum lot size required (from 75' by 75' and 7,500 square foot area requirements to 50' by 100' and 5,000 square foot square foot area requirements). Other noted conditions within the existing BDP do not appear to be amended or requested for removal under the new BDP.

This site is located within the Mims Small Area Study which was completed in March, 2007. This parcel is located within the I-95 commercial corridor lying west of Highway I-95. The Study's Buildout

Scenario section recommends leaving most settled areas, such as East Mims and around SR 46 as they are currently quantified with no FLU density reductions.

Although the applicant has indicated retaining the current 198-unit development limitation of the current BDP, there is a potential development allowance of up to 301-units under the various FLU designations as follows:

- 8-lots within the Residential 1 FLU (estimated 8.0 acres) – consistent with one unit per acre development;
- 38-lots in the Neighborhood Commercial FLU (estimated 6.4 acres) if sewer and water are provided – consistent with six units per acre development;
- 255-lots in the Residential 4 FLU area (estimated 63.9 acres) – consistent with four units per acre development, for a total of 301 units.

The first BDP, recorded in ORB 5472, Pages 3172-3183 approved as part of Zoning action **Z-11076** on May 25, 2005 provides the following conditions:

- Condition #2 - a development limitation of 2.5 dwelling units per acre or 198 units;
- Condition #3 - a berm, fence and buffering from the adjacent development to the west of the property;
- Condition #4 - conservation area easement, additional buffering, and minimum lot size of 1.0 acre lots along the western/southern portion of the site with minimum unit living area size of 2,200 square feet;
- Condition #5 - additional buffering;
- Condition #10 – provides a minimum living area of 1,800 square feet for all other areas not required to be 1.0 acre in size (refer to condition #4 above – this condition applies to all other areas);
- Condition #11 - provides a minimum lot size of 5,500 square feet with the average lot area of 6,000 square feet or higher.

The second BDP recorded in ORB 5620, Pages 5603-5609 on March 23, 2006, was approved as part of Zoning action **Z-11158** and limited development to 3-units upon a portion of the property that was rezoned from GU to RU-1-11. Only a fraction of the 1.45-acre portion that was changed from GU to RU-1-11 is included into this request; that area contains 0.033-acres.

The Board may wish to consider whether any of the existing conditions in the aforementioned BDP should remain to mitigate potential impacts.

Land Use

The subject property is currently designated as Residential 1, Residential 4 and Neighborhood Commercial FLU. The RU-1-11 zoning classification is consistent with the Residential 4 and Neighborhood Commercial FLU while the RU-1-7 zoning classification is only consistent with the Neighborhood Commercial FLU designation. The RU-1-11 zoning with BDP limits the project to be consistent with the Residential 1 FLU and the RU-1-7 zoning with BDP limits the proposed project to be consistent with the Residential 1 and Residential 4 FLU designations.

Applicable Land Use Policies

The Board should evaluate the compatibility of this application within the context of Administrative Policies 3 - 5 of the Future Land Use Element.

Policy 1.7 – The Residential 4 Future land use designation affords an additional step down in density from more highly urbanized areas. This land use designation permits a maximum density of up to four (4) units per acre, except as otherwise may be provided for within the Future Land Use Element.

Policy 1.9 –The Residential 1 Future land use designation. The Residential 1 land use designation permits low density residential development with a maximum density of up to one (1) dwelling unit per acre, except as otherwise may be provided for within the Future Land Use Element.

Residential Development in Neighborhood Commercial and Community Commercial Land Use Designations

Policy 2.13

Residential development or the integration of residential development with commercial development shall be permitted in the Neighborhood Commercial and Community Commercial land use designations, provided that the scale and intensity of the residential/mixed use development is compatible with abutting residential development and areas designated for residential use on the Future Land Use Map. Residential development is permissible in these commercial land use designations at density of up to one category higher than the closest residentially designated area on the Future Land Use Map (FLUM) which is on the same side of the street. Increases in density beyond this allowance may be considered through a public hearing. In the CHHA, however, residential development is strictly limited to the density of the closest residentially designated area on the FLUM that is on the same side of the street. Such residential development, as described above, shall be allowed to utilize the following characteristics:

a) Residential uses within Neighborhood Commercial and Community Commercial designations shall be encouraged to utilize neotraditional neighborhood development techniques, such as narrower road rights-of-way, mid-block pedestrian pass-throughs, alleys, smaller lot sizes, on-street parking, reduced lot line setbacks and public transit facilities.

Analysis of Administrative Policy #3 - Compatibility between this site and the existing or proposed land uses in the area.

The subject 79.16-acre property lies within three Future Land Use (FLU) designations: Residential 1, Residential 4 and Neighborhood Commercial (NC).

As the applicant continues to limit the number of units to that of the prior BDP (198-units), the existing FLU will not generate additional lots. The request will be consistent and compatible with the FLU designations only by the adoption of a BDP which limits the development potential of this site. As this site lies along the south side of SR Hwy 46, the FLU to the east, closer to the Highway I-95 intersection, changes from NC to Community Commercial (CC). To the south, this property boarders additional Residential 4 FLU. To the west, the FLU transitions to lower Residential 2 and Residential 1 FLU designations.

Analysis of Administrative Policy #4 - Character of a neighborhood or area. The developed character of the surrounding area is a mixture of recreational vehicles, mobile home and single-family built structures upon various residential zoning classifications. To the north is Highway SR-46. To its north is a developed mobile home subdivision. This area under the Single-family Mobile Home (TR-1) zoning classification requires 7,500 square foot lots with a minimum living area of 600 square feet. To the east is an existing Seasons in the Sun RV Resort park and a KOA RV/Campground site. This area is under the Recreational Vehicle Park (RVP) zoning classification requires 2,000 square foot minimum sized lots and temporary use of RV's, park trailers and cabins. To the west is a developed mobile home subdivision under the Rural Residential Mobile Home (RRMH-1) zoning classification which requires minimum sized one-acre lots and Turpentine Road right-of-way. To the south are one acre lots zoned Suburban Residential (SR), Suburban Estate Use (SEU) and Agricultural Residential (AU).

Surrounding Area

The property to the North of Highway SR-46 is zoned Single-family Mobile home (TR-1). The property lying East of this site is zoned Recreational Vehicle Park (RVP), Single-family residential RU-1-11 and General Use (GU). To the South is are multiple parcels zoned Estate Use residential (EU-2), Suburban Residential (SR), Agricultural Residential (AU) and Suburban Estate Use (SEU). To this parcel's west are the Government Managed Lands (GML), Rural Residential Mobile home (RRMH-1) and General Use (GU) zoning classifications.

TR-1 is a single family residential mobile home zoning classification which permits mobile homes or residences of standard construction on lots of 7,500 square feet (minimum) with lot width of 65 feet and lot depth of 100 feet.

RVP recreational vehicle park zoning classification encompasses lands devoted for recreation vehicle, tent, park trailer and cabin uses together with such ancillary structures as allowed to promote a recreational type atmosphere for both park owners and/or their guests. Minimum park size shall be five acres. Recreational vehicle sites shall have a minimum area of 2,000 square feet, and shall have a minimum width of 30 feet and minimum depth of 60 feet. As defined, spaces or lots may be used by a recreational vehicle or equivalent facilities constructed in or on automotive vehicles, or tents, or other short-term housing devices. Cabins or park trailers used for short-term rentals may comprise no more than 20 percent of the permitted space or lots, and shall not exceed a maximum of 1,000 square feet each in size.

RU-1-11 classification permits single family residences on minimum 7,500 square foot lots, with a minimum width and depth of 75 feet. The minimum house size is 1,100 square feet. RU-1-11 does not permit horses, barns or horticulture.

EU-2 zoning classification is an estate single family residential zoning classification. The minimum lot size is 9,000 square feet with a minimum lot width of 90 feet and depth of 100 feet. The minimum living area is 1,500 square feet.

SR classification permits single family residences on minimum half acre lots, with a minimum width of 100 feet and a depth of 150 feet. The minimum house size in SR is 1,300 square feet.

AU zoning classification permits single-family residences and agricultural uses on 2.5-acre lots, with a minimum lot width and depth of 150 feet. The minimum house size in AU is 750 square feet. The AU classification also permits the raising/grazing of animals, fowl and beekeeping.

SEU zoning permits suburban estate residential uses on lots of one acre (minimum) with a width of 125 feet and a depth of 200 feet. Minimum floor area is 2,000 square feet of living area.

RRMH-1 classification permits single-family mobile homes and detached single-family residential land uses on minimum one acre lots, with a minimum width and depth of 125 feet. This classification permits horses, barns and horticulture as accessory uses. The minimum house size is 600 square feet.

There has been three zoning actions within a half-mile radius of the subject property within the last three years. The most recent action, **20Z00028,** was for a change of zoning from AU and EU-2 with BDP to all EU-2 and removal of BDP adopted on December 3, 2020. This location lies 1,440 feet in a southerly direction from this parcel and is located on the east side of Londontown Road. The second action, **18PZ00161,** was for a rezoning from BU-1, BU-2 and GU to all BU-2 approved under a BDP recorded in ORB 8454, Pages 2241-2244, (limiting development to a fast food restaurant with drive-thru, of no more than 2,700 square feet, a convenience store of no more than 10,300 square feet, a gas station of no more than 24 fueling stations, a tire center with a maximum of 3 bays and a hotel with a maximum of 120 rooms) adopted on June 4, 2019. This location lies 1,250 feet in an easterly direction from this site and is located on the north side of Highway SR-46. The third action, **18PZ00005**, was for a rezoning from AU to RR-1 adopted on May 3, 2018. This location lies 1,870 feet in a SW direction from this lot on the east side of Tomato Farm Road.

Preliminary Concurrency

The closest concurrency management segment to the subject property is US Highway 1, between Dairy Road to SR Highway 46, which has a Maximum Acceptable Volume (MAV) of 41,700 trips per day, a Level of Service (LOS) of D, and currently operates at 37.09% of capacity daily. The maximum development potential from the proposed rezoning does increase the percentage of MAV utilization by 4.51%. The corridor is anticipated to operate at 41.60% of capacity daily. The proposal is not anticipated to create a deficiency in LOS.

At this time, the school concurrency service area for the Mims Elementary School, Madison Middle School and Astronaut High School are projected to have sufficient capacity to accommodate the maximum potential residential development resulting from the proposed Summerfields development. This accommodation for predicting development and potential redistricting of students is done in coordination between Brevard County Government and Brevard County Schools, through

intergovernmental coordination. A copy of the Brevard Public Schools concurrency analysis is included in the package for Board consideration.

The parcel is not currently connected to water and sewer at this time, however, the owner has submitted for a Potable Water Service Capacity Availability Certificate and a Sanitary Sewer Service Capacity Availability Certificate from Brevard County Utilities. The County's analysis is, as of this date, that there is sufficient capacity available for the 198-unit project.

Environmental Constraints

- Wetlands/Hydric Soils
- Aquifer Recharge Soils
- Protected Species
- Specimen and Protected Trees

The subject parcel contains a large area of mapped National Wetlands Inventory (NWI) wetlands, SJRWMD wetlands, and hydric soils. A wetland delineation will be required prior to any land clearing activities or site plan/subdivision application. Per Section 62-3694(c)(1), residential land uses within wetlands shall be limited to not more than one (1) dwelling unit per five (5) acres unless strict application of this policy renders a legally established parcel as of September 9, 1988, which is less than five (5) acres, as unbuildable. For subdivisions greater than five acres in area, the preceding limitation of one dwelling unit per five (5) acres within wetlands may be applied as a maximum percentage limiting wetland impacts to not more than 1.8% of the total non-commercial and non-industrial acreage on a cumulative basis as set forth in Section 65-3694(c)(6). Any permitted wetland impacts must meet the requirements of Sections 62-3694(e), including avoidance of impacts, and 62-3696. The applicant is encouraged to contact NRM at 321-633-2016 prior to any site plan design or permit submittal.

The property contains large areas of mapped wetland and upland forests. A tree survey will be required at time of site plan submittal, and is highly recommended prior to any site plan design/engineering. Per Section 62-4341(18), Specimen and Protected Trees shall be preserved or relocated on site to the Greatest Extent Feasible. Per Section 62-4332, Definitions, Greatest Extent Feasible shall include, but not be limited to, relocation of roads, buildings, ponds, increasing building height to reduce building footprint or reducing Vehicular Use Areas. Land clearing is not permitted without prior authorization by NRM.

For Board Consideration

The Board may wish to consider whether the requested rezoning action is consistent and compatible with the surrounding area and does the stipulations in the BDP mitigate potential impacts.

NATURAL RESOURCES MANAGEMENT DEPARTMENT
Rezoning Review & Summary

Item # 21Z00030

Applicant: Genoni for Calligan

Zoning Request: RU-1-11 with BDP to RU-1-7 with replacement BDP for a single-family subdivision with 301 units.

P&Z Hearing Date: 11/15/21; **BCC Hearing Date**: 12/02/21

Tax ID No: 2112413

- This is a preliminary review based on best available data maps reviewed by the Natural Resources Management Department (NRM) and does not include a site inspection to verify the accuracy of the mapped information.
- In that the rezoning process is not the appropriate venue for site plan review, specific site designs submitted with the rezoning request will be deemed conceptual. Board comments relative to specific site design do not provide vested rights or waivers from Federal, State or County regulations.
- **This review does not guarantee whether or not the proposed use, specific site design, or development of the property can be permitted under current Federal, State, or County Regulations.**

Summary of Mapped Resources and Noteworthy Land Use Issues:

- Wetlands/Hydric Soils
- Aquifer Recharge Soils
- Protected Species
- Specimen and Protected Trees

The subject parcel contains a large area of mapped National Wetlands Inventory (NWI) wetlands, SJRWMD wetlands, and hydric soils. A wetland delineation will be required prior to any land clearing activities or site plan/subdivision application. Per Section 62-3694(c)(1), residential land uses within wetlands shall be limited to not more than one (1) dwelling unit per five (5) acres unless strict application of this policy renders a legally established parcel as of September 9, 1988, which is less than five (5) acres, as unbuildable. For subdivisions greater than five acres in area, the preceding limitation of one dwelling unit per five (5) acres within wetlands may be applied as a maximum percentage limiting wetland impacts to not more than 1.8% of the total non-commercial and non-industrial acreage on a cumulative basis as set forth in Section 65-3694(c)(6). Any permitted wetland impacts must meet the requirements of Sections 62-3694(e), including avoidance of impacts, and 62-3696. The applicant is encouraged to contact NRM at 321-633-2016 prior to any site plan design or permit submittal.

The property contains large areas of mapped wetland and upland forests. A tree survey will be required at time of site plan submittal, and is highly recommended prior to any site plan design/engineering. Per Section 62-4341(18), Specimen and Protected Trees shall be preserved or relocated on site to the Greatest Extent Feasible. Per Section 62-4332, Definitions, Greatest Extent Feasible shall include, but not be limited to, relocation of roads, buildings, ponds, increasing building height to reduce building footprint or reducing Vehicular Use Areas. Land clearing is not permitted without prior authorization by NRM.

Land Use Comments:

Wetlands/Hydric Soils

The subject parcel contains a large area of mapped NWI wetlands, SJRWMD wetlands, and hydric soils (Terra Ceia muck, Tomoka muck, Anclote sand frequently ponded, and Basinger sand) as shown on the NWI Wetlands, SJRWMD Florida Land Use & Cover Codes, and USDA Soil Conservation Service Soils Survey maps, respectively; indicators that wetlands may be present on the property. A wetland delineation will be required prior to any land clearing activities or site plan/subdivision application. Per Section 62-3694(c)(1), residential land uses within wetlands shall be limited to not more than one (1) dwelling unit per five (5) acres unless strict application of this policy renders a legally established parcel as of September 9, 1988, which is less than five (5) acres, as unbuildable. For subdivisions greater than five acres in area, the preceding limitation of one dwelling unit per five (5) acres within wetlands may be applied as a maximum percentage limiting wetland impacts to not more than 1.8% of the total non-commercial and non-industrial acreage on a cumulative basis as set forth in Section 65-3694(c)(6). Any permitted wetland impacts must meet the requirements of Sections 62-3694(e) including avoidance of impacts, and 62-3696. The applicant is encouraged to contact NRM at 321-633-2016 prior to any site plan design or permit submittal.

Aquifer Recharge Soils

The subject parcel contains mapped aquifer recharge soils (Pomello sand, Pompano sand and Basinger sand) as shown on the USDA Soil Conservation Service Soils Survey map. The applicant is hereby notified of the development and impervious restrictions within Conservation Element Policy 10.2 and the Aquifer Protection Ordinance.

Specimen and Protected Trees

The subject property contains mapped areas of SJRWMD FLUCCS codes 4340-Upland Mixed Coniferous/Hardwood Forest, 6300-Wetland Mixed Forest, and 6170-Wetland Mixed Hardwoods. Protected Trees (greater than or equal to 10 inches in diameter) and Specimen Trees (greater than or equal to 24 inches in diameter) are included in these FLUCCS codes and are likely found on the project area. A tree survey will be required at time of site plan submittal, and is recommended prior to any site plan design. Per Brevard County Landscaping, Land Clearing and Tree Protection ordinance, Section 62-4331(3), the purpose and intent of the ordinance is to encourage the protection of Heritage Specimen trees. In addition, per Section 62-4341(18), Specimen Trees shall be preserved or relocated on site to the Greatest Extent Feasible. Per Section 62-4332, Definitions, Greatest Extent Feasible shall include, but not be limited to, relocation of roads, buildings, ponds, increasing building height to reduce building footprint or reducing Vehicular Use Areas. The applicant is advised to refer

to Article XIII, Division 2, entitled Land Clearing, Landscaping, and Tree Protection, for specific requirements for tree preservation and canopy coverage requirements. Land clearing is not permitted without prior authorization by NRM.

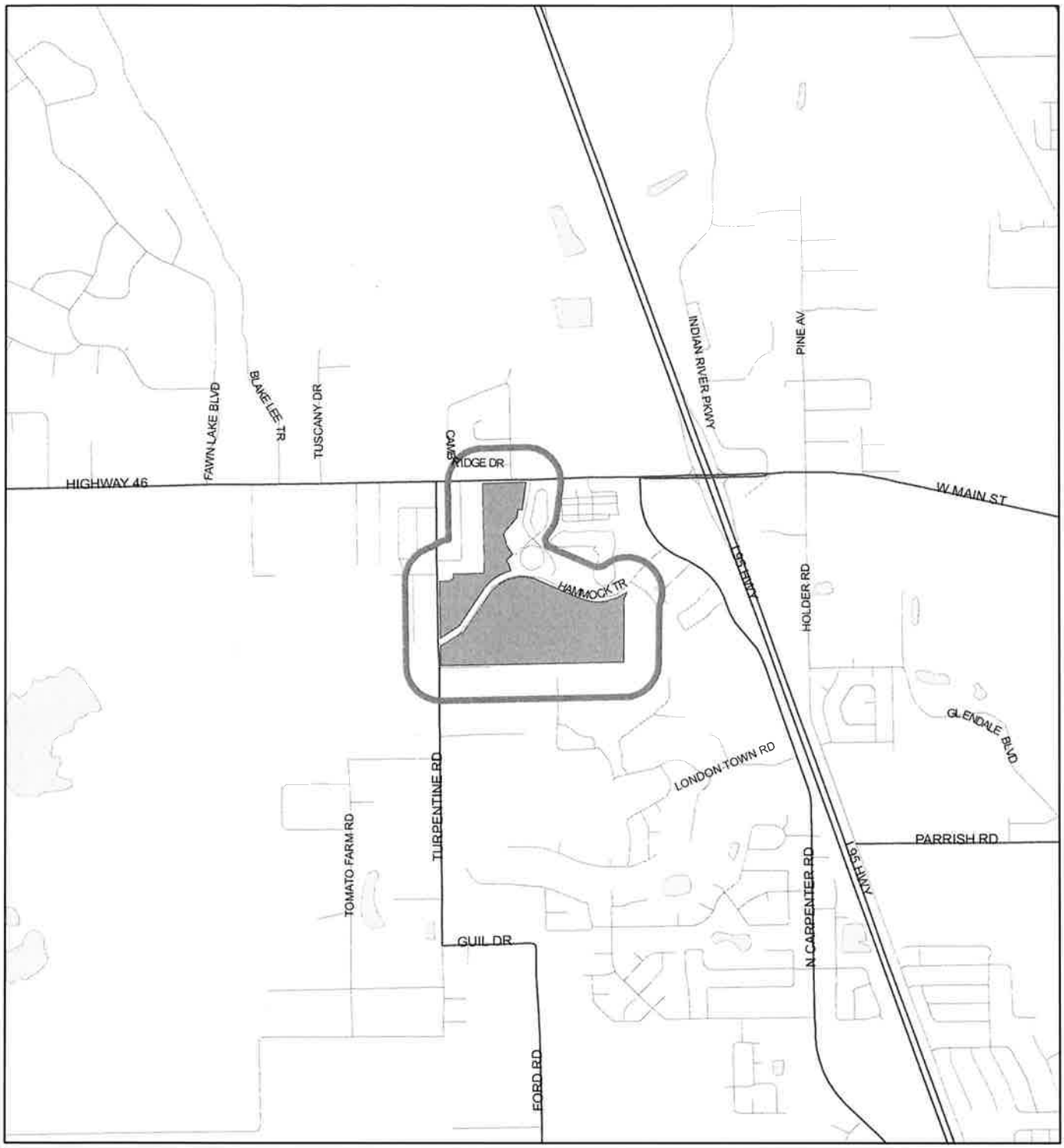
Protected Species

Information available to NRM indicates that federally and/or state protected species may be present on the property. Specifically, gopher tortoises can be found in areas of aquifer recharge soils. Prior to any plan, permit submittal, or development activity, including land clearing, the applicant should obtain any necessary permits or clearance letters from the Florida Fish and Wildlife Conservation Commission and/or U.S. Fish and Wildlife Service, as applicable.

LOCATION MAP

THE HEATHER CALLIGAN TRUST

21Z00030



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1:24,000 or 1 inch = 2,000 feet

Buffer Distance: 500 feet

This map was compiled from recorded documents and does not reflect an actual survey. The Brevard County Board of County Commissioners does not assume responsibility for errors or omissions hereon.

Produced by BoCC - GIS Date: 9/10/2021

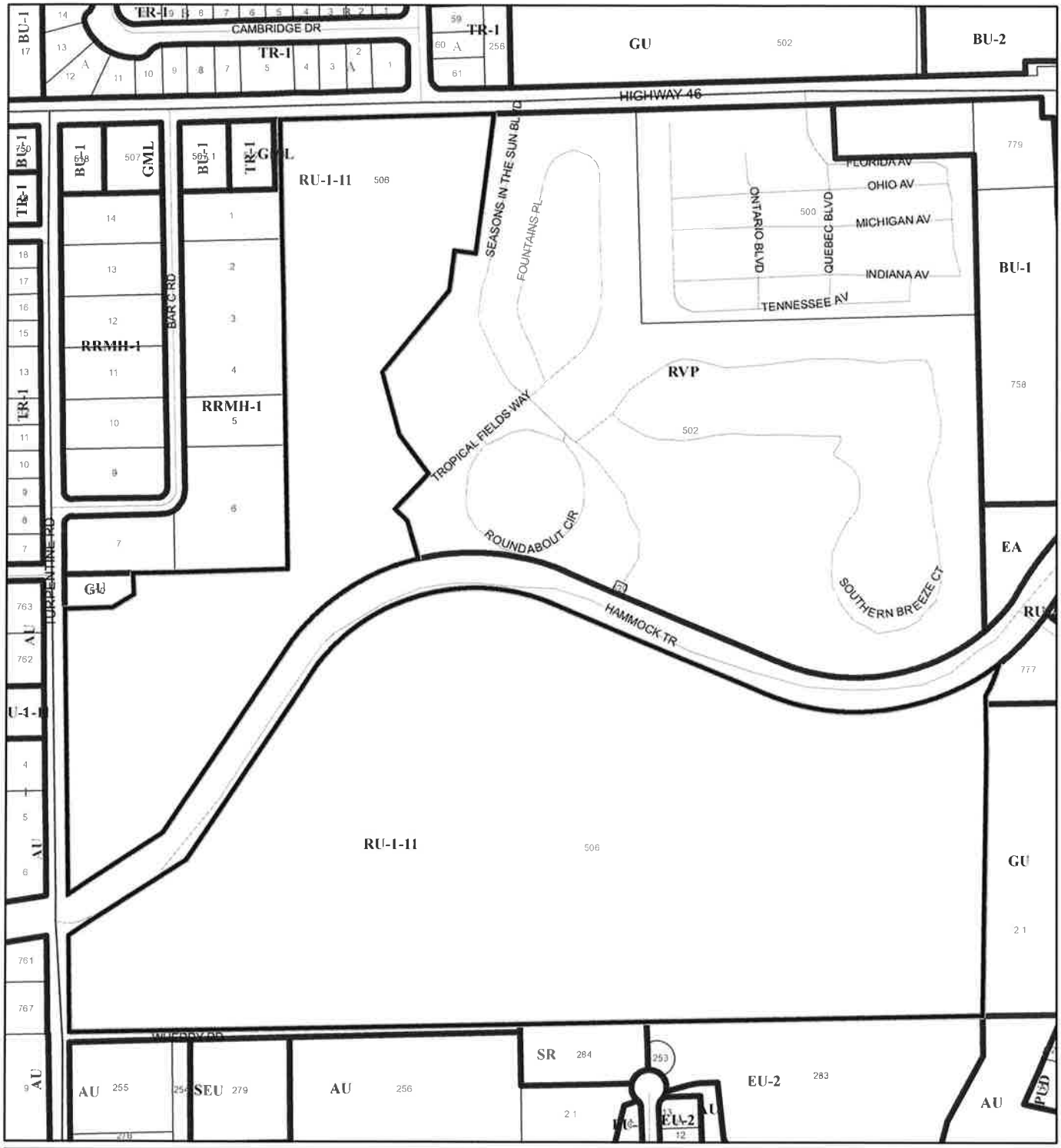
Buffer

Subject Property

ZONING MAP

THE HEATHER CALLIGAN TRUST

21Z00030



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1:4,800 or 1 inch = 400 feet

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Produced by BoCC - GIS Date: 9/10/2021

Subject Property

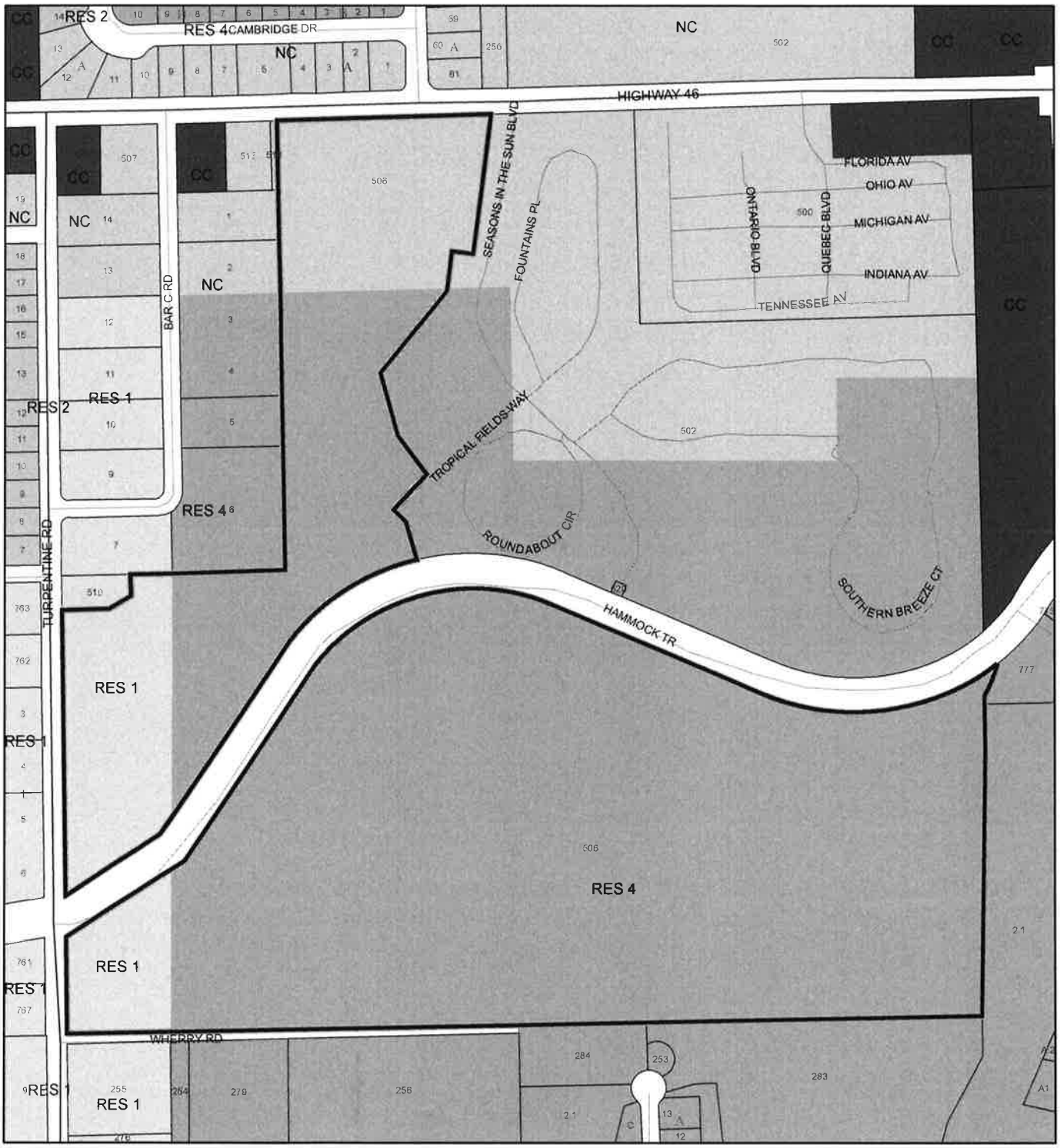
Parcels

Zoning

FUTURE LAND USE MAP

THE HEATHER CALLIGAN TRUST

21Z00030



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1:4,800 or 1 inch = 400 feet

Subject Property

Parcels

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AERIAL MAP

THE HEATHER CALLIGAN TRUST

21Z00030

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1:4,800 or 1 inch = 400 feet

PHOTO YEAR: 2021

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Produced by BoCC - GIS Date: 9/10/2021

Subject Property

Parcels

NWI WETLANDS MAP

THE HEATHER CALLIGAN TRUST

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1:4,800 or 1 inch = 400 feet

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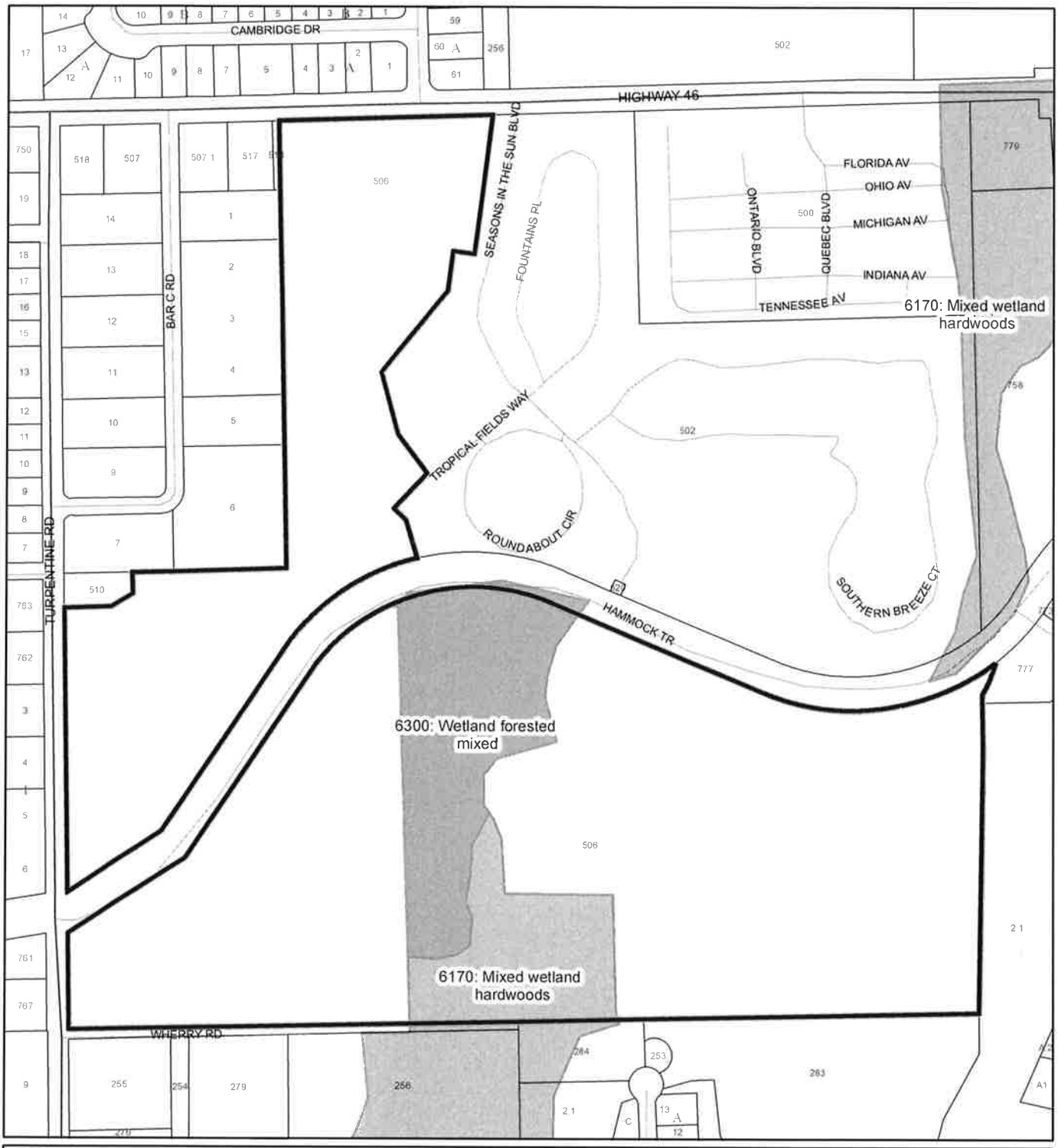
National Wetlands Inventory (NWI)

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine
- Subject Property
- Parcels

SJRWMD FLUCCS WETLANDS - 6000 Series MAP

THE HEATHER CALLIGAN TRUST

21Z00030



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Produced by BoCC - GIS Date: 9/10/2021

SJRWMD FLUCCS WETLANDS

- Wetland Hardwood Forests - Series 6100
- Wetland Coniferous Forest - Series 6200
- Wetland Forested Mixed - Series 6300
- Vegetated Non-Forested Wetlands - Series 6400
- Non-Vegetated Wetland - Series 6500

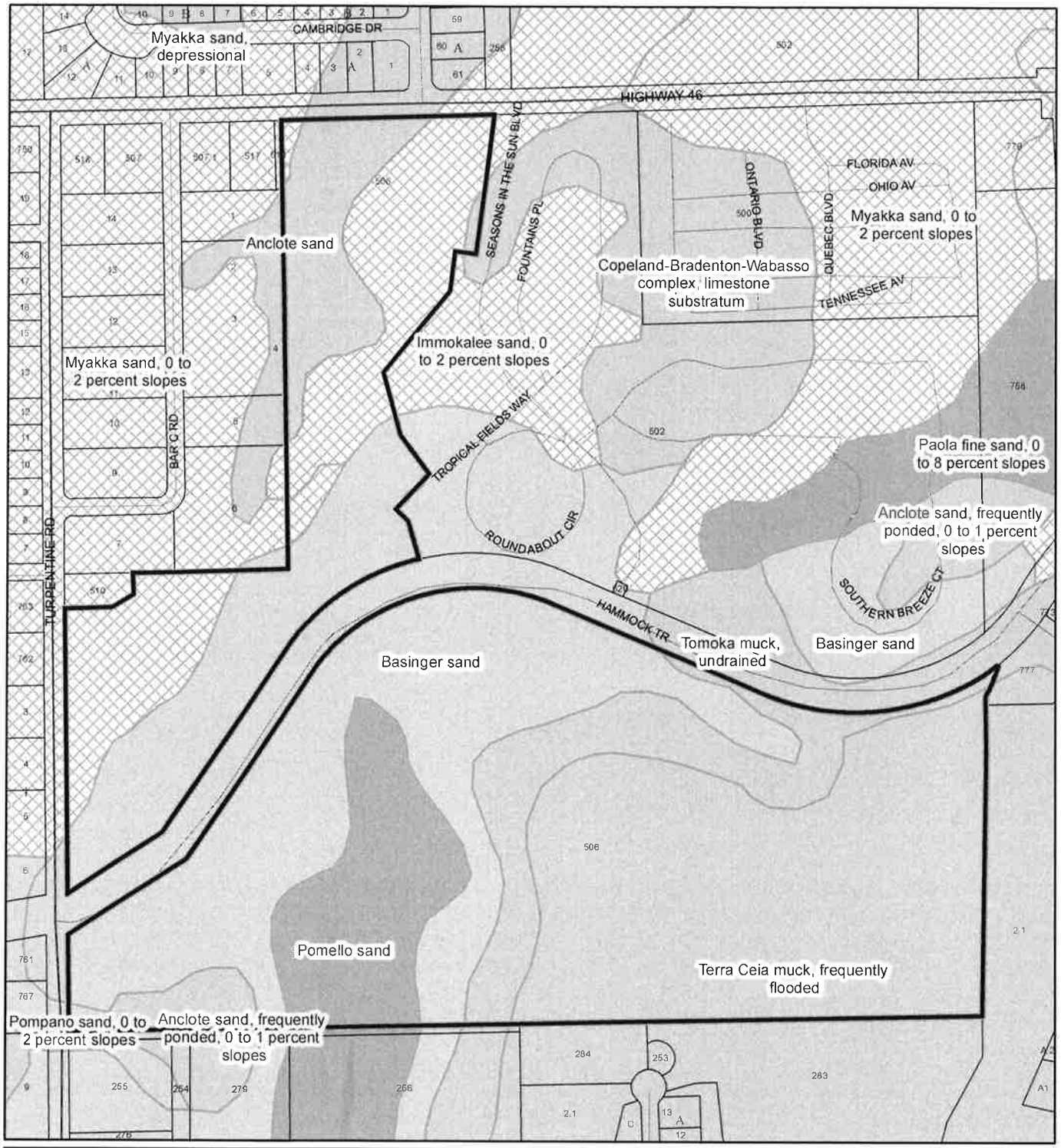
Subject Property

Parcels

USDA SCSSS SOILS MAP

THE HEATHER CALLIGAN TRUST

21Z00030



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Produced by BoCC - GIS Date: 9/10/2021

USDA SCSSS Soils

- Aquifer and Hydric
- Aquifer
- Hydric
- None

Subject Property

Parcels

FEMA FLOOD ZONES MAP

THE HEATHER CALLIGAN TRUST

21Z00030

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1:4,800 or 1 inch = 400 feet

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Produced by BoCC - GIS Date: 9/10/2021

FEMA Flood Zones

A AO X

AE Open Water

AH VE

Subject Property Parcels

COASTAL HIGH HAZARD AREA MAP

THE HEATHER CALLIGAN TRUST

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1:4,800 or 1 inch = 400 feet

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Produced by BoCC - GIS Date: 9/10/2021

Subject Property

Parcels

Coastal High Hazard Area

SurgeZoneCat1

INDIAN RIVER LAGOON SEPTIC OVERLAY MAP

THE HEATHER CALLIGAN TRUST

21Z00030

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1:4,800 or 1 inch = 400 feet

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Produced by BoCC - GIS Date: 9/10/2021

Subject Property

Parcels

Septic Overlay

40 Meters

60 Meters

All Distances

EAGLE NESTS MAP

THE HEATHER CALLIGAN TRUST

21Z00030

SCRUB JAY OCCUPANCY MAP

THE HEATHER CALLIGAN TRUST

21Z00030

This map was compiled from recorded documents and does not reflect an actual survey. The Brevard County Board of County Commissioners does not assume responsibility for errors or omissions hereon.

Produced by BoCC - GIS Date: 9/10/2021

SJRWMD FLUCCS UPLAND FORESTS - 4000 Series MAP

THE HEATHER CALLIGAN TRUST

21Z00030

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1:4,800 or 1 inch = 400 feet

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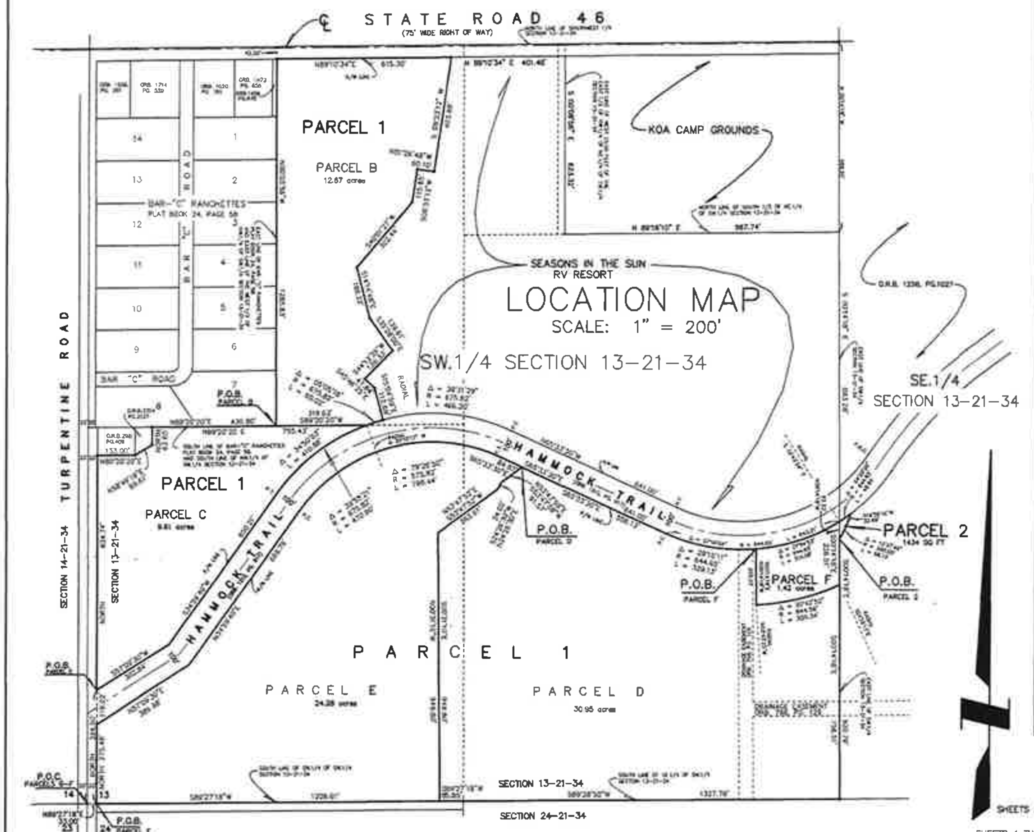
Produced by BoCC - GIS Date: 9/10/2021

SJRWMD FLUCCS Upland Forests

- Upland Coniferous Forest - 4100 Series
- Upland Hardwood Forest - 4200 Series
- Upland Mixed Forest - 4300 Series
- Tree Plantations - 4400 Series

Subject Property

Parcels



BOUNDARY AND TOPOGRAPHIC SURVEY OF:

PARCELS OF LAND LYING IN THE SOUTH 1/2 OF SECTION 13, TOWNSHIP 21 SOUTH, RANGE 34 EAST BREVARD COUNTY, FLORIDA DESCRIBED AS FOLLOWS:

PARCEL 1:

(PARCEL B)
A PARCEL OF LAND BEING A PART OF THE SOUTHWEST 1/4 OF SECTION 13, TOWNSHIP 21 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA, DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST CORNER OF SAID SECTION 13, THENCE N.89°27'18"E., ALONG THE SOUTH LINE OF SAID SECTION 13, A DISTANCE OF 33.00 FEET TO A POINT LYING ON THE EAST RIGHT OF WAY LINE OF TURPENTINE ROAD (A 66.00 FOOT WIDE RIGHT OF WAY); THENCE ON A BEARING OF NORTH ALONG SAID EAST RIGHT OF WAY LINE OF TURPENTINE ROAD (SAID RIGHT OF WAY LINE LYING PARALLEL WITH AND 33.00 FEET EAST OF THE WEST LINE OF SAID SECTION 13), 394.50 FEET TO THE INTERSECTION WITH THE NORTHERLY RIGHT OF WAY LINE OF HAMMOCK TRAIL (A 100 FOOT WIDE RIGHT OF WAY) AS DESCRIBED IN OFFICIAL RECORDS BOOK 1212, PAGE 917 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA; THENCE CONTINUE ON A BEARING OF NORTH, ALONG THE AFOREMENTIONED EASTERLY RIGHT OF WAY LINE OF TURPENTINE ROAD, 834.74 FEET TO THE SOUTHWEST CORNER OF THE PARCEL OF LAND DESCRIBED IN OFFICIAL RECORDS BOOK 396, PAGE 409 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA; THENCE N.89°20'20"E., ALONG THE SOUTH LINE OF SAID PARCEL, 133.00 FEET TO THE SOUTHEAST CORNER THEREOF AND SAID POINT BEING THE SOUTHWEST CORNER OF THE PARCEL OF LAND DESCRIBED IN OFFICIAL RECORDS BOOK 2214, PAGE 2137 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA; THENCE ALONG THE BOUNDARIES OF SAID PARCEL OF LAND, THE FOLLOWING TWO COURSES AND DISTANCES; THENCE N.58°49'19"E., 69.61 FEET; THENCE ON A BEARING OF NORTH, 62.65 FEET TO A POINT LYING ON THE SOUTH LINE OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF THE AFORESAID SECTION 13 AND THE SOUTH LINE OF BAR-"C" RANCHETTES AS RECORDED IN PLAT BOOK 24, PAGE 58 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA; THENCE N.89°20'20"E., ALONG SAID LINE, 436.80 FEET TO THE SOUTHEAST CORNER OF SAID PLAT OF BAR-"C" RANCHETTES AND THE SOUTHEAST CORNER OF THE WEST 1/2 OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SAID SECTION 13 AND SAID POINT BEING THE POINT OF BEGINNING OF THE LAND HEREIN DESCRIBED; THENCE N.00°03'56"W., ALONG THE EAST LINE OF SAID PLAT OF BAR-"C" RANCHETTES AND ALONG SAID EAST LINE OF THE WEST 1/2 OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 13, A DISTANCE OF 1285.83 FEET TO A POINT LYING ON THE SOUTH RIGHT OF WAY LINE OF STATE ROAD NO.46; THENCE N.89°10'34"E., ALONG SAID RIGHT OF WAY LINE, 615.30 FEET; THENCE S.00°33'12"W., 403.88 FEET; THENCE N.81°28'48"W., 60.10 FEET; THENCE S.08°33'12"W., 115.85 FEET; THENCE S.40°01'27"W., 300.44 FEET; THENCE S.14°14'48"E., 186.22 FEET; THENCE S.35°28'00"E., 129.81 FEET; THENCE S.44°12'35"W., 138.33 FEET; THENCE S.45°46'25"E., 47.64 FEET; THENCE S.10°04'58"E., 113.86 FEET TO A POINT LYING ON THE NORTHERLY RIGHT OF WAY LINE OF THE AFORESAID HAMMOCK TRAIL AND THE ARC OF A CIRCULAR CURVE, CONCAVE SOUTHERLY, HAVING A RADIUS OF 675.82 FEET AND TO WHICH POINT A RADIAL LINE BEARS N.15°04'59"W.; THENCE WESTERLY, ALONG SAID RIGHT OF WAY LINE AND ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 05°05'18", 60.02 FEET TO A POINT LYING ON THE SOUTH LINE OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SAID SECTION 13; THENCE S.89°20'20"W., ALONG SAID LINE, 318.62 FEET TO THE POINT OF BEGINNING.
CONTAINING 12.87 ACRES MORE OR LESS.

(PARCEL C)
A PARCEL OF LAND BEING A PART OF THE SOUTHWEST 1/4 OF SECTION 13, TOWNSHIP 21 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA, DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST CORNER OF SAID SECTION 13, THENCE N.89°27'18"E., ALONG THE SOUTH LINE OF SAID SECTION 13, A DISTANCE OF 33.00 FEET TO A POINT LYING ON THE EAST RIGHT OF WAY LINE OF TURPENTINE ROAD (A 66.00 FOOT WIDE RIGHT OF WAY); THENCE ON A BEARING OF NORTH ALONG SAID EAST RIGHT OF WAY LINE OF TURPENTINE ROAD (SAID RIGHT OF WAY LINE LYING PARALLEL WITH AND 33.00 FEET EAST OF THE WEST LINE OF SAID SECTION 13), 394.50 FEET TO THE INTERSECTION WITH THE NORTHERLY RIGHT OF WAY LINE OF HAMMOCK TRAIL (A 100 FOOT WIDE RIGHT OF WAY) AS DESCRIBED IN OFFICIAL RECORDS BOOK 1212, PAGE 917 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA AND SAID POINT BEING THE POINT OF BEGINNING OF THE LAND HEREIN DESCRIBED; THENCE CONTINUE ON A BEARING OF NORTH, ALONG THE AFOREMENTIONED EASTERLY RIGHT OF WAY LINE OF TURPENTINE ROAD, 834.74 FEET TO THE SOUTHWEST CORNER OF THE PARCEL OF LAND DESCRIBED IN OFFICIAL RECORDS BOOK 396, PAGE 409 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA; THENCE N.89°20'20"E., ALONG THE SOUTH LINE OF SAID PARCEL, 133.00 FEET TO THE SOUTHEAST CORNER THEREOF AND SAID POINT BEING THE SOUTHWEST CORNER OF THE PARCEL OF LAND DESCRIBED IN OFFICIAL RECORDS BOOK 2214, PAGE 2137 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA; THENCE ALONG THE BOUNDARIES OF SAID PARCEL OF LAND, THE FOLLOWING TWO COURSES AND DISTANCES; THENCE N.58°49'19"E., 69.61 FEET; THENCE ON A BEARING OF NORTH, 62.65 FEET TO A POINT LYING ON THE SOUTH LINE OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF THE AFORESAID SECTION 13 AND THE SOUTH LINE OF BAR-"C" RANCHETTES AS RECORDED IN PLAT BOOK 24, PAGE 58 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA; THENCE N.89°20'20"E., ALONG SAID LINE, 755.43 FEET TO A POINT LYING ON THE NORTHERLY RIGHT OF WAY LINE OF THE AFORESAID HAMMOCK TRAIL AND THE ARC OF A CIRCULAR CURVE, CONCAVE SOUTHEASTERLY, HAVING A RADIUS OF 675.82 FEET AND TO WHICH POINT A RADIAL LINE BEARS N.20°10'17"W.; THENCE ALONG SAID RIGHT OF WAY LINE OF HAMMOCK TRAIL THE FOLLOWING THREE COURSES AND DISTANCES; THENCE SOUTHWESTERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 34°50'03", 410.88 FEET TO THE POINT OF TANGENCY; THENCE S.34°59'40"W., 650.21 FEET; THENCE S.57°09'30"W., 302.84 FEET TO THE POINT OF BEGINNING.
CONTAINING 9.61 ACRES MORE OR LESS.

(PARCEL D)
A PARCEL OF LAND BEING A PART OF THE SOUTHWEST 1/4 OF SECTION 13, TOWNSHIP 21 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA, DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST CORNER OF SAID SECTION 13, THENCE N.89°27'18"E., ALONG THE SOUTH LINE OF SAID SECTION 13, A DISTANCE OF 33.00 FEET TO A POINT LYING ON THE EAST RIGHT OF WAY LINE OF TURPENTINE ROAD (A 66.00 FOOT WIDE RIGHT OF WAY); THENCE ON A BEARING OF NORTH ALONG SAID EAST RIGHT OF WAY LINE OF TURPENTINE ROAD (SAID RIGHT OF WAY LINE LYING PARALLEL WITH AND 33.00 FEET EAST OF THE WEST LINE OF SAID SECTION 13), 275.48 FEET TO THE INTERSECTION WITH THE SOUTHERLY RIGHT OF WAY LINE OF HAMMOCK TRAIL (A 100 FOOT WIDE RIGHT OF WAY) AS DESCRIBED IN OFFICIAL RECORDS BOOK 1212, PAGE 917 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA; THENCE ALONG THE RIGHT OF WAY LINE OF SAID HAMMOCK TRAIL, THE FOLLOWING SIX COURSES AND DISTANCES; THENCE N.57°09'30"E., 366.88 FEET; THENCE N.34°59'40"E., 669.79 FEET TO THE POINT OF CURVATURE OF A CIRCULAR CURVE, CONCAVE SOUTHERLY AND HAVING A RADIUS OF 575.82 FEET; THENCE NORTHEASTERLY, EASTERLY AND SOUTHEASTERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 79°28'50", 798.44 FEET TO THE POINT OF TANGENCY; THENCE S.65°33'30"E., 84.67 FEET TO THE POINT OF BEGINNING OF THE LAND HEREIN DESCRIBED; THENCE CONTINUE S.65°33'30"E., 556.13 FEET TO THE POINT OF CURVATURE OF A CIRCULAR CURVE, CONCAVE NORTHERLY AND HAVING A RADIUS OF 644.65 FEET; THENCE EASTERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 29°15'11", 329.13 FEET; THENCE S.00°14'18"E., 200.33 FEET TO A POINT LYING ON THE ARC OF A CIRCULAR CURVE, CONCAVE NORTHERLY, HAVING A RADIUS OF 844.56 FEET AND TO WHICH POINT A RADIAL LINE BEARS N.03°43'25"W.; THENCE EASTERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 20°42'32", 305.34 FEET TO A POINT LYING ON THE EAST LINE OF THE SOUTHWEST 1/4 OF THE AFOREMENTIONED SECTION 13; THENCE S.00°14'18"E., 758.51 FEET TO THE SOUTHEAST CORNER THEREOF; THENCE S.89°28'50"W., ALONG THE SOUTH LINE OF THE SOUTHEAST 1/4 OF THE SOUTHWEST 1/4 OF SAID SECTION 13, A DISTANCE OF 1327.78 FEET TO THE SOUTHWEST CORNER THEREOF; THENCE S.89°27'18"W., ALONG THE SOUTH LINE OF THE SOUTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SAID SECTION 13, A DISTANCE OF 85.85 FEET; THENCE N.00°31'10"W., 848.80 FEET; THENCE N.53°47'52"E., 283.81 FEET; THENCE N.24°26'30"E., 24.03 FEET; THENCE N.53°47'58"E., 91.87 FEET TO THE POINT OF BEGINNING.
CONTAINING 30.95 ACRES MORE OR LESS.

(PARCEL E)
A PARCEL OF LAND BEING A PART OF THE SOUTHWEST 1/4 OF SECTION 13, TOWNSHIP 21 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA, DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST CORNER OF SAID SECTION 13, THENCE N.89°27'18"E., ALONG THE SOUTH LINE OF SAID SECTION 13, A DISTANCE OF 33.00 FEET TO A POINT LYING ON THE EAST RIGHT OF WAY LINE OF TURPENTINE ROAD (A 66.00 FOOT WIDE RIGHT OF WAY) AND SAID POINT BEING THE POINT OF BEGINNING OF THE LAND HEREIN DESCRIBED; THENCE ON A BEARING OF NORTH ALONG SAID EAST RIGHT OF WAY LINE OF TURPENTINE ROAD (SAID RIGHT OF WAY LINE LYING PARALLEL WITH AND 33.00 FEET EAST OF THE WEST LINE OF SAID SECTION 13), 275.48 FEET TO THE INTERSECTION WITH THE SOUTHERLY RIGHT OF WAY LINE OF HAMMOCK TRAIL (A 100 FOOT WIDE RIGHT OF WAY) AS DESCRIBED IN OFFICIAL RECORDS BOOK 1212, PAGE 917 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA; THENCE ALONG THE RIGHT OF WAY LINE OF SAID HAMMOCK TRAIL, THE FOLLOWING FOUR COURSES AND DISTANCES: THENCE N.57°09'30"E., 366.88 FEET; THENCE N.34°59'40"E., 669.79 FEET TO THE POINT OF CURVATURE OF A CIRCULAR CURVE, CONCAVE SOUTHERLY AND HAVING A RADIUS OF 575.82 FEET; THENCE NORTHEASTERLY, EASTERLY AND SOUTHEASTERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 79°28'50", 798.44 FEET TO THE POINT OF TANGENCY; THENCE S.65°33'30"E., 84.67 FEET; THENCE S.53°47'58"W., 91.87 FEET; THENCE S.24°26'30"W., 24.03 FEET; THENCE S.53°47'52"W., 283.81 FEET; THENCE S.00°31'10"E., 848.80 FEET TO A POINT LYING ON THE SOUTH LINE OF THE SOUTHWEST 1/4 OF THE SOUTHWEST 1/4 OF THE AFOREMENTIONED SECTION 13; THENCE S.89°27'18"W., ALONG SAID LINE, 1208.61 FEET TO THE POINT OF BEGINNING.
CONTAINING 24.28 ACRES MORE OR LESS.

(PARCEL F)
A PARCEL OF LAND BEING A PART OF THE SOUTHWEST 1/4 OF SECTION 13, TOWNSHIP 21 SOUTH RANGE 34 EAST, BREVARD COUNTY, FLORIDA, DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST CORNER OF SAID SECTION 13, THENCE N.89°27'18"E., ALONG THE SOUTH LINE OF SAID SECTION 13, A DISTANCE OF 33.00 FEET TO A POINT LYING ON THE EAST RIGHT OF WAY LINE OF TURPENTINE ROAD (A 66.00 FOOT WIDE RIGHT OF WAY); THENCE ON A BEARING OF NORTH ALONG SAID EAST RIGHT OF WAY LINE OF TURPENTINE ROAD (SAID RIGHT OF WAY LINE LYING PARALLEL WITH AND 33.00 FEET EAST OF THE WEST LINE OF SAID SECTION 13), 275.48 FEET TO THE INTERSECTION WITH THE SOUTHERLY RIGHT OF WAY LINE OF HAMMOCK TRAIL (A 100 FOOT WIDE RIGHT OF WAY) AS DESCRIBED IN OFFICIAL RECORDS BOOK 1212, PAGE 917 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA; THENCE ALONG THE RIGHT OF WAY LINE OF SAID HAMMOCK TRAIL, THE FOLLOWING SIX COURSES AND DISTANCES; THENCE N.57°09'30"E., 366.88 FEET; THENCE N.34°59'40"E., 669.79 FEET TO THE POINT OF CURVATURE OF A CIRCULAR CURVE, CONCAVE SOUTHERLY AND HAVING A RADIUS OF 575.82 FEET; THENCE NORTHEASTERLY, EASTERLY AND SOUTHEASTERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 79°28'50", 798.44 FEET TO THE POINT OF TANGENCY; THENCE S.65°33'30"E., 641.00 FEET TO THE POINT OF CURVATURE OF A CIRCULAR CURVE, CONCAVE NORTHERLY AND HAVING A RADIUS OF 644.65 FEET; THENCE EASTERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 29°15'11", 329.13 FEET TO THE POINT OF BEGINNING OF THE LAND HEREIN DESCRIBED; THENCE CONTINUE EASTERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 27°54'33", 314.08 FEET TO A POINT LYING ON THE EAST LINE OF THE SOUTHWEST 1/4 OF THE AFORESAID SECTION 13; THENCE S.00°14'18"E., ALONG SAID LINE, 228.51 FEET TO A POINT LYING ON THE ARC OF A CIRCULAR CURVE, CONCAVE NORTHERLY, HAVING A RADIUS OF 844.56 FEET, AND TO WHICH POINT A RADIAL LINE BEARS S.24°26'17"E.; THENCE WESTERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 20°42'32", 305.34 FEET; THENCE N.00°14'18"W., 200.33 FEET TO THE POINT OF BEGINNING.
CONTAINING 1.42 ACRES MORE OR LESS.

PARCEL 2

A PARCEL OF LAND LYING IN THE SOUTHEAST 1/4 OF SECTION 13, TOWNSHIP 21 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA DESCRIBED AS FOLLOWS:
COMMENCING AT THE SOUTHWEST CORNER OF THE SOUTHEAST 1/4 OF SAID SECTION 13; THENCE N.00°14'18"W., ALONG THE WEST LINE OF SAID SOUTHEAST 1/4 OF SAID SECTION 13, A DISTANCE OF 986.79 FEET TO THE POINT OF BEGINNING OF THE PARCEL OF LAND HEREIN DESCRIBED; THENCE CONTINUE N.00°14'18"W., ALONG SAID LINE, 62.23 FEET TO A POINT LYING ON THE SOUTHEASTERLY RIGHT OF WAY LINE OF HAMMOCK TRAIL, A 100 FOOT WIDE ROAD RIGHT OF WAY AS DESCRIBED IN OFFICIAL RECORDS BOOK 1212, PAGE 917 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA AND SAID RIGHT OF WAY LINE BEING AN ARC OF A CIRCULAR CURVE, CONCAVE NORTHWESTERLY, HAVING A RADIUS OF 644.65 FEET AND TO WHICH POINT A RADIAL LINE BEARS S.32°43'34"E.; THENCE NORTHEASTERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 04°20'28", 48.84 FEET; THENCE S.19°35'16"W., 32.69 FEET TO THE POINT OF CURVATURE OF A CIRCULAR CURVE, CONCAVE NORTHWESTERLY AND HAVING A RADIUS OF 300.00 FEET; THENCE SOUTHWESTERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 12°37'48", 66.13 FEET TO THE POINT OF BEGINNING.
CONTAINING 1434 SQUARE FEET MORE OR LESS.

TABLE OF CONTENTS:

SURVEYOR'S NOTES:

1) THE BEARING SYSTEM SHOWN HEREON IS BASED ON AN ASSUMED BEARING OF "NORTH) ALONG THE CENTERLINE OF TURPENTINE ROAD.
2) AS PER FLOOD INSURANCE RATE MAPS NO.12009C0100G AND 12009C0115G, INDEX DATE 3/17/14, THE ABOVE DESCRIBED PROPERTY LIES IN ZONE X.
3) THE RIGHT OF WAY OF STATE ROAD NO.46 AS SHOWN HEREON IS PER FLORIDA STATE ROAD DEPARTMENT RIGHT OF WAY MAP PROJ. F.A.S. 3-A, DATED 8-15-38.
4) LEGAL DESCRIPTION ORIGINALLY PREPARED BY SURVEYOR.
5) THE BENCHMARK OF ORIGIN IS NGS BENCHMARK DESIGNATION I95 73 B17, PID AK8214. ELEVATION = 37.45 N.A.V.D.88.
6) PARCELS B THROUGH F DESIGNATIONS ADDED TO LEGALS PROVIDED FOR PURPOSES OF IDENTIFYING PARCELS ON MAP.
7) ONLY THE OUTER BOUNDARIES OF THE COLLECTIVE PARCELS WERE MONUMENTED. PARCELS B AND C WERE MONUMENTED AS ONE AND PARCELS D, E, F, AND 2 WERE MONUMENTED AS ONE.
8) THE ABOVE DESCRIBED PARCEL OF LAND IS ZONED RU-1-11 (SINGLE FAMILY) PER THE BREVARD COUNTY ZONING DEPARTMENT.
9) OTHER THAN THE FEW MINOR IMPROVEMENTS SHOWN, THE PROPERTY IS A MIX OF ABANDONED ORANGE GROVES AND FORESTED AREAS.

EXCEPTIONS LISTED IN SCHEDULE B-SECTION II OF OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY COMMITMENT FILE NO:14058081 LWE, EFFECTIVE DATE: JULY 1, 2014 AT 8:00 A.M. ARE ADDRESSED AS FOLLOWS:

1, 3, 4, 6, 8, 10, 17, 18) NOT MATTERS OF SURVEY.
2) MINOR ENCROACHMENTS SHOWN PLOTTED HEREON.
5) THE SURVEYOR IS NOT AWARE OF ANY EASEMENTS OR CLAIMS OF EASEMENTS NOT FOUND IN THE PUBLIC RECORDS.
7) THE SURVEYOR IS NOT AWARE OF ANY ADVERSE OWNERSHIP CLAIM BY THE STATE OF FLORIDA BY RIGHT OF SOVEREIGNTY TO ANY PORTION OF THE LAND SHOWN SURVEYED HEREON.
9) THE SURVEYOR IS NOT AWARE OF ANY MINERAL RIGHTS RESERVATIONS.
11) CENTERLINE OF DITCH EASEMENT (WITH NO WIDTH DEFINED) DESCRIBED IN DEED BOOK 219, PAGE 275 IS SHOWN PLOTTED HEREON
PORTIONS OF DRAINAGE AND IRRIGATION EASEMENT AREAS (DITCH ALLOWED NOT TO EXCEED 25' WIDE) DESCRIBED IN DEED BOOK 188, PAGE 525 IS SHOWN PLOTTED HEREON.
DRAINAGE AND IRRIGATION EASEMENT AREA (DITCH ALLOWED NOT TO EXCEED 25' WIDE) DESCRIBED IN DEED BOOK 189, PAGE 453 IS SHOWN PLOTTED HEREON.
DITCH EASEMENT CENTERLINE (WIDTH NOT DEFINED) DESCRIBED IN DEED BOOK 218, PAGE 315 IS SHOWN PLOTTED HEREON.
12) A 30 FOOT WIDE DRAINAGE EASEMENT PER O.R.B.798, PG. 129 IS SHOWN PLOTTED HEREON.
O.R.B.182, PG 98 AND O.R.B 189, PG.50 DO NOT AFFECT THIS PROPERTY.
AN 8 FOOT WIDE DRAINAGE EASEMENT PER DEED BOOK 215, PG. 346 IS SHOWN PLOTTED HEREON.
O.R.B.1157, PAGE 763 MAKES MENTION OF DRAINAGE EASEMENT DESCRIBED IN DEED BOOK 218, PAGE 315 WHICH IS SHOWN PLOTTED HEREON AND ALSO MAKES MENTION OF A POWER LINE EASEMENT, BUT GIVES NO REFERENCE AS TO WHERE IT IS.
13) THE RIGHT OF WAY DEED RECORDED IN O.R.B.1212, PAGE 917 DESCRIBES THE RIGHT OF WAY OF HAMMOCK TRAIL SHOWN PLOTTED HEREON.
14) AN F.P.&L. EASEMENT RECORDED IN O.R.B. 3123, PAGE 3054 LIES ENTIRELY WITHIN THE RIGHT OF WAY OF TURPENTINE ROAD AND DOES NOT AFFECT THIS PROPERTY. IT IS SHOWN PLOTTED HEREON
AN F.P.&L. EASEMENT DESCRIBED IN O.R.B 4288, PAGE 3527 DOES NOT AFFECT THIS PROPERTY.
15) THE RIGHT OF WAY AND DRAINAGE CANAL REFERRED TO IN O.R.B. 1139, PAGE 790 AS BEING UNRECORDED AND THEREFORE NOT PARTICULARLY DEFINED, APPEARS TO BE WHAT HAMMOCK TRAIL IS TODAY.
16) O.R.B. 4213, PAGE 1023 DOES NOT AFFECT THIS PROPERTY.
19) O.R.B. 4506, PAGE 1246 AND O.R.B.5560, PAGE 2230 DO NOT AFFECT THIS PROPERTY.
20) CONSERVATION EASEMENT PER O.R.B.5400, PAGE 2782 IS SHOWN PLOTTED HEREON.

LEGEND

B/O = Blow Off Valve
B.F.P. = Back Flow Preventer
C.B. = Concrete Block
C.B.S. = Concrete Block Stucco
℄ = Centerline
C.L.F. = Chain Link Fence
C.L.R. = Clear
C.M. = Concrete Monument
C/O = Clean Out
COL = Column
CONC. = Concrete
D = Deed
DB____ PG____ = Deed Book and Page
240-431 = Typical nomenclature for Deed Book and Page
EL or ELEV = Elevation
ENCH. = Encroachment
FD = Found
FIN. FL. ELEV. = Finish Floor Elevation
F.P.L. = Florida Power and Light
INV = Invert
I.P. = Iron Pipe
I.R. = Iron Rod
LP = Light Pole
(M) = Measured
MH = Man Hole
N/D = Nail & Disk
ORB___ PG___ = Official Records Book and Page
3240/2334 = A typical nomenclature for official records book and page
P = Plat
P.C. = Point of Curvature
P.C.C. = Point of Compound Curvature
P.O.B. = Point of Beginning
P.O.C. = Point of Commencement
P.O.T. = Point of Termination
PP = Power Pole
P.R.C. = Point of Reverse Curvature
P.R.M. = Permanent Reference Monument
P.T. = Point of Tangency
P.U.&D. ESMT. = Public Utility & Drainage Easement
PVC = Polyvinyl Chloride Pipe
C.P.P. = Corrugated Polyethylene Pipe
PVMT = Pavement
R.C.P. = Reinforced Concrete Pipe
RGE = Range
R/W = Right-of-way
SBT = Southern Bell Telephone
SV = Sanitary Sewer Valve
TYP = Typical
TWP = Township
WM = Water Meter
WV = Water Valve
△ = Delta Angle
FD CM = Found 4"x4" concrete monument with aluminum cap Stamped "PRM PLS 4014" unless noted otherwise.
= Found 1/2" iron rod with plastic cap stamped "LB 6762"

SHEET 1 OF 8 SHEETS

ALL THE FOREGOING SUBJECT TO ANY DEDICATIONS, LIMITATIONS, RESERVATIONS, RESTRICTIONS OR EASEMENTS OF RECORD.
NOT VALID WITHOUT SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.

DATE:	ORDER NO.	F.B. NO.	REVISIONS

DATE:	8/18/14
ORDER NO.	24796
F.B. NO.	614
SCALE:	AS SHOWN
DWG. NO.	85-1039-14
CADD FILE:	HEATHER 8ND SHT1-FLDWG

CERTIFIED TO: HEATHER CALLIGAN
SEASONS IN THE SUN LLC
COMMUNITY CREDIT UNION OF FLORIDA
STATE TITLE
OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY A06372
CANTWELL & GOLDMAN, P.A.

Honeycutt & Associates, Inc.
ENGINEERS • SURVEYORS • PLANNERS
3700 South Washington Avenue • Titusville, Florida 32780
(321) 267-6233 Fax (321) 269-7947

GRAPHIC SCALE
(IN FEET)
1 inch = 200 ft.

CERTIFIED BY: ________
DENNIS [illegible] WRIGHT
REGISTERED LAND SURVEYOR NO. 4014
STATE OF FLORIDA

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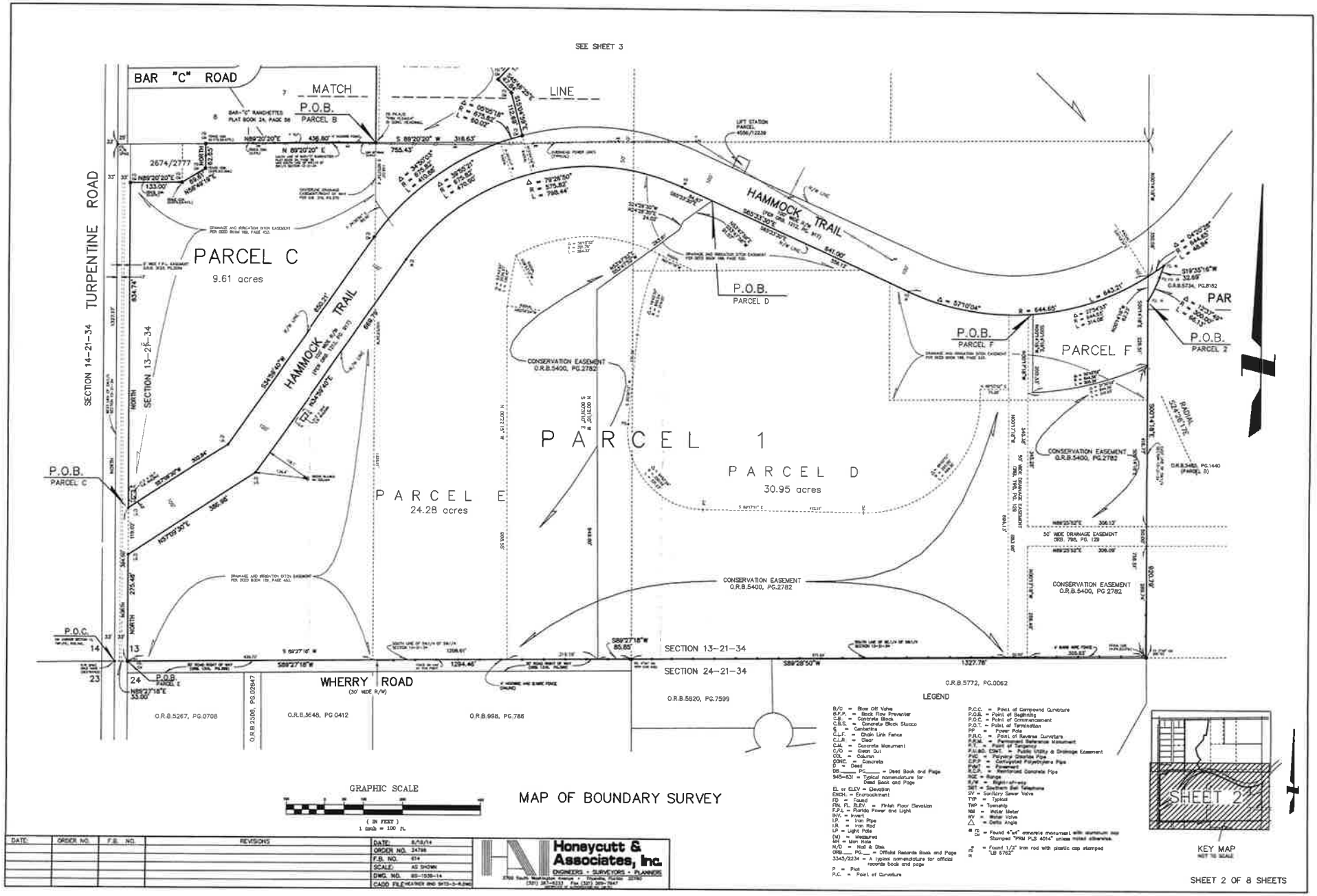
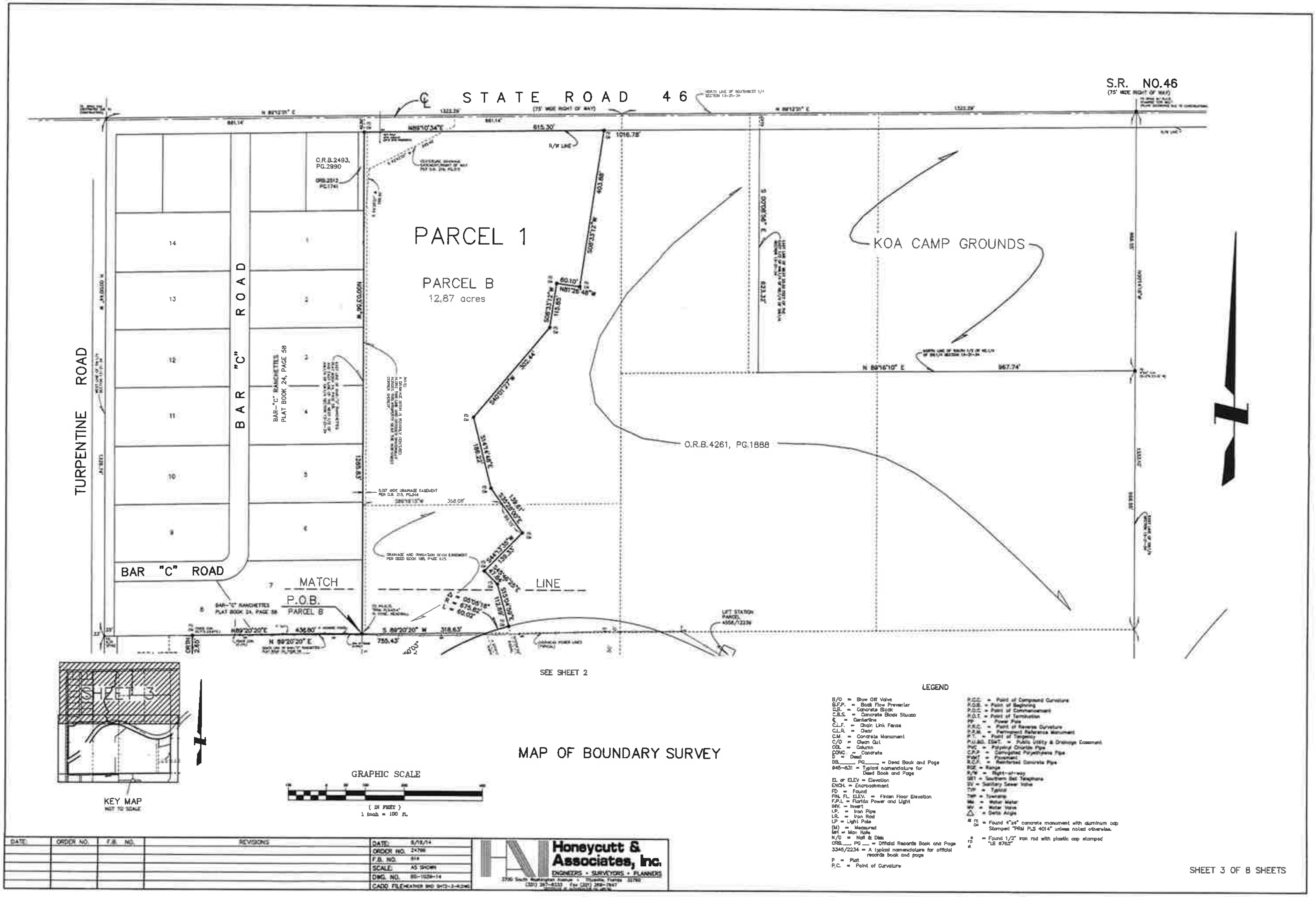


DATE:	ORDER NO.	F.B. NO.	REVISIONS

DATE:	8/18/14
ORDER NO.	24798
F.B. NO.	614
SCALE:	AS SHOWN
DWG. NO.	85-1030-14
CADD FILE(HEATER BNS SHTS-3-8.DWG	

Honeycutt & Associates, Inc.
ENGINEERS • SURVEYORS • PLANNERS

SHEET 2 OF 8 SHEETS


STATE ROAD 46
(75' WIDE RIGHT OF WAY)
S.R. NO.46
(75' WIDE RIGHT OF WAY)
TURPENTINE ROAD
BAR "C" ROAD
BAR "C" ROAD
PARCEL 1
PARCEL B
12.87 acres
KOA CAMP GROUNDS
O.R.B.4261, PG.1888
O.R.B.2493, PG.2990
BAR-"C" RANCHETTES PLAT BOOK 24, PAGE 58
MATCH LINE
P.O.B. PARCEL B
R/W LINE
LIFT STATION PARCEL
SEE SHEET 2
N00°03'56"W
1265.83'
N89°10'34"E
615.30'
1016.78'
S08°33'12"W
403.68'
60.10'
N81°26'48"W
S08°33'12"W
115.85'
S40°01'27"W
302.44'
S14°14'48"E
186.22'
S32°28'00"E
139.61'
S89°16'13"W
358.08'
S 89°20'20" W
318.63'
755.43'
N89°20'20"E
436.80'
N 89°16'10" E
967.74'
S 00°08'56" E
823.32'
N 89°12'31" E
1322.29'
881.14'
MAP OF BOUNDARY SURVEY
GRAPHIC SCALE
(IN FEET)
1 inch = 100 ft.
KEY MAP
NOT TO SCALE
SHEET 3
LEGEND
B/O = Blow Off Valve
B.F.P. = Back Flow Preventer
C.B. = Concrete Block
C.B.S. = Concrete Block Stucco
℄ = Centerline
C.L.F. = Chain Link Fence
C.M. = Concrete Monument
C/O = Clean Out
CONC = Concrete
D = Deed
EL or ELEV = Elevation
ENCH. = Encroachment
FD = Found
FIN. FL. ELEV. = Finish Floor Elevation
F.P.L. = Florida Power and Light
INV. = Invert
I.P. = Iron Pipe
I.R. = Iron Rod
LP = Light Pole
(M) = Measured
N/D = Nail & Disk
P = Plat
P.C. = Point of Curvature
P.C.C. = Point of Compound Curvature
P.O.B. = Point of Beginning
P.O.C. = Point of Commencement
P.O.T. = Point of Termination
P.R.C. = Point of Reverse Curvature
P.R.M. = Permanent Reference Monument
P.T. = Point of Tangency
PVC = Polyvinyl Chloride Pipe
R/W = Right-of-way
TYP = Typical
WM = Water Meter
WV = Water Valve
Δ = Delta Angle
Found 4"x4" concrete monument with aluminum cap Stamped "PRM PLS 4014" unless noted otherwise.
Found 1/2" iron rod with plastic cap stamped "LB 6762"
DATE:
ORDER NO.
F.B. NO.
REVISIONS
DATE: 6/18/14
ORDER NO. 24786
SCALE: AS SHOWN
DWG. NO. 85-1029-14
Honeycutt & Associates, Inc.
ENGINEERS • SURVEYORS • PLANNERS
SHEET 3 OF 8 SHEETS

School Board of Brevard County
2700 Judge Fran Jamieson Way • Viera, FL 32940-6699
Mark W. Mullins, Ed.D., Superintendent

Brevard Public Schools

September 1, 2021

Mr. Paul Body
Planner II
Planning & Development Department
Brevard County Board of County Commissioners
2726 Judge Fran Jamieson Way
Viera, Florida 32940

RE: Proposed Summerfields Development
School Impact Analysis – Capacity Determination CD-2021-21

Dear Mr. Body,

We received a completed *School Facility Planning & Concurrency Application* for the referenced development. The subject property is Tax Account 2112413 (Parcel ID: 21-34-13-00-506) containing approximately 79.16 acres in District 1, Brevard County, Florida. The proposed single-family development includes 198 homes. The School Impact Analysis of this proposed development has been undertaken and the following information is provided for your use.

The calculations used to analyze the prospective student impact are consistent with the methodology outlined in Section 13.2 of the *Interlocal Agreement for Public School Facility Planning & School Concurrency (ILA-2014)*. The following capacity analysis is performed using capacities/projected students as shown in years 2020-21 to 2025-26 of the *Brevard County Public Schools Financially Feasible Plan for School Years 2020-2021 to 2025-26* which is attached for reference.

Single-Family Homes	198		
Students Generated	**Student Generation Rates**	**Calculated Students Generated**	**Rounded Number of Students**
Elementary	0.28	55.44	55
Middle	0.08	15.84	16
High	0.16	31.68	32
Total	0.52		103

Planning & Project Management
Facilities Services
Phone: (321) 633-1000 x11418 • FAX: (321) 633-4646

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FISH Capacity (including relocatables) from the Financially Feasible Plan (FFP) Data and Analysis for School Years 2020-21 to 2025-26

School	2021-22	2022-23	2023-24	2024-25	2025-26
Mims	725	725	725	725	725
Madison	781	781	781	781	781
Astronaut	1,446	1,446	1,446	1,446	1,446

Projected Student Membership

School	2021-22	2022-23	2023-24	2024-25	2025-26
Mims	422	398	499	514	515
Madison	475	445	468	465	426
Astronaut	1,141	1,081	1,092	1,065	1,052

Students Generated by Newly Issued SCADL Reservations Since FFP

School	2021-22	2022-23	2023-24	2024-25	2025-26
Mims	-	52	104	104	104
Madison	-	13	24	24	24
Astronaut	1	22	41	41	41

Cumulative Students Generated by Proposed Development

School	2021-22	2022-23	2023-24	2024-25	2025-26
Mims	-	14	28	42	55
Madison	-	4	8	12	16
Astronaut	-	8	16	24	32

Total Projected Student Membership (includes Cumulative Impact of Proposed Development)

School	2021-22	2022-23	2023-24	2024-25	2025-26
Mims	422	464	631	660	674
Madison	475	462	500	501	466
Astronaut	1,142	1,111	1,149	1,130	1,125

Projected Available Capacity = FISH Capacity - Total Projected Student Membership

School	2021-22	2022-23	2023-24	2024-25	2025-26
Mims	303	261	94	65	51
Madison	306	319	281	280	315
Astronaut	304	335	297	316	321

At this time, Mims Elementary School, Madison Middle School and Astronaut High School are projected to have enough capacity for the total of projected and potential students from the Summerfields development.

This is a **non-binding** review; a *Concurrency Determination* must be performed by the School District prior to a Final Development Order and the issuance of a Concurrency Evaluation Finding of Nondeficiency by the Local Government.

We appreciate the opportunity to review this proposed project. Please let us know if you require additional information.

Sincerely,

Karen M. Black, AICP Candidate
Manager – Facilities Planning & Intergovernmental Coordination
Planning & Project Management, Facilities Services

Enclosure: *Brevard County Public Schools Financially Feasible Plan for School Years 2020-2021 to 2025-26*

Copy: Susan Hann, Assistant Superintendent of Facility Services
File CD-2021-21

David G. Lindemann, AICP, Director of Planning & Project Management, Facilities Services
File CD-2021-21

Brevard County Public Schools
Financially Feasible Plan To Maintain Utilization Rates Lower than the 100% Level of Service
Data and Analysis for School Years 2020-21 to 2025-26

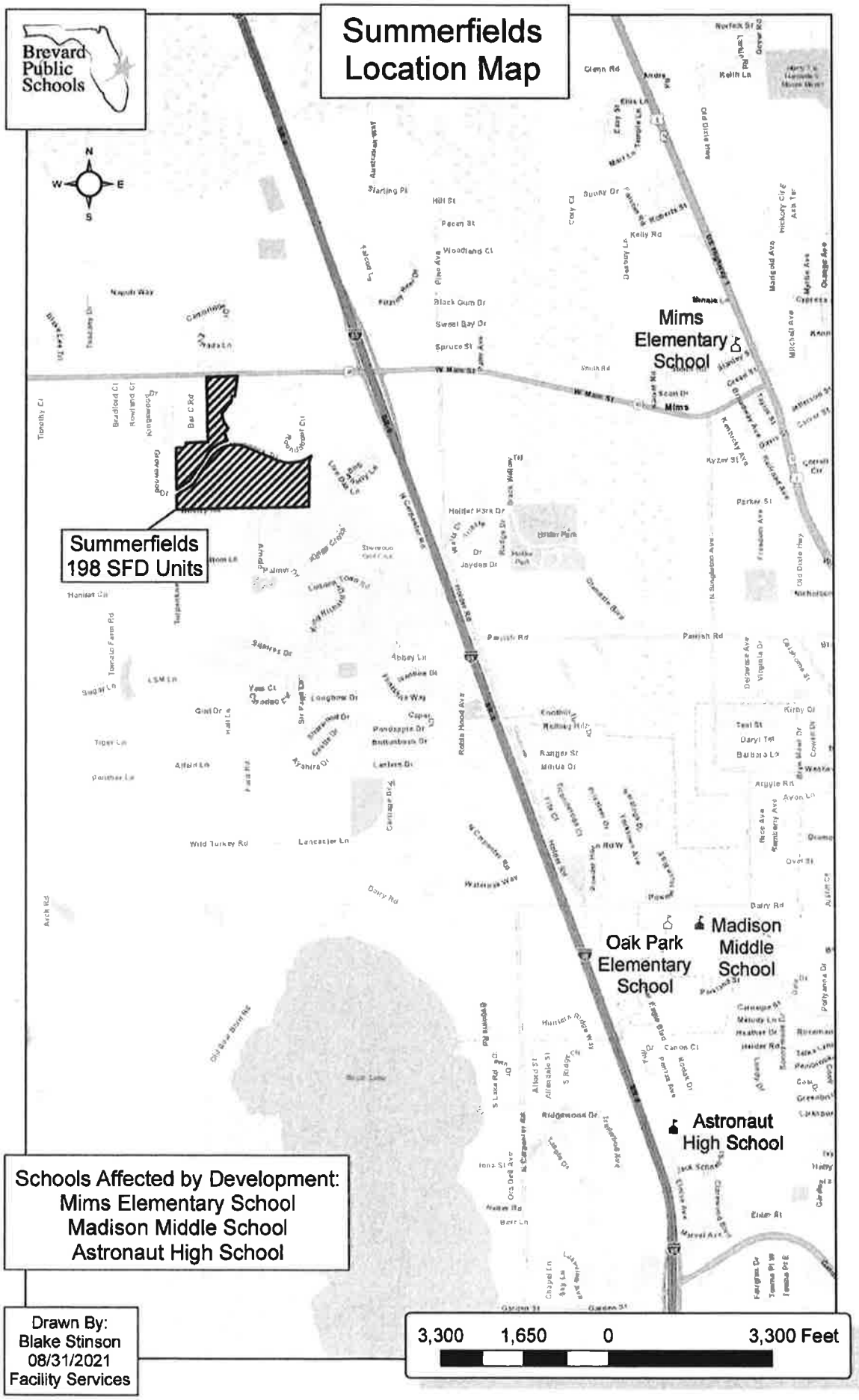
Summary	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26
Highest Utilization Elementary Schools:	87%	90%	100%	100%	100%	100%
Highest Utilization Middle Schools:	87%	89%	90%	93%	98%	99%
Highest Utilization Jr / Sr High Schools:	81%	81%	80%	89%	94%	96%
Highest Utilization High Schools:	93%	99%	99%	99%	99%	100%

School	Type	Grades	Utilization Factor	School Year 2020-21			School Year 2021-22			School Year 2022-23			School Year 2023-24			School Year 2024-25			School Year 2025-26		
				FISH Capacity	10/09/19 Member-ship	Total Capacity Utilization	Future FISH Capacity	Student Projection	Total Capacity Utilization	Future FISH Capacity	Student Projection	Total Capacity Utilization	Future FISH Capacity	Student Projection	Total Capacity Utilization	Future FISH Capacity	Student Projection	Total Capacity Utilization	Future FISH Capacity	Student Projection	Total Capacity Utilization
Elementary School Concurrency Service Areas																					
Allen	Elementary	PK-6	100%	751	596	79%	751	679	90%	751	652	87%	751	681	91%	773	758	98%	795	791	99%
Anderson	Elementary	K-6	100%	884	618	70%	884	617	70%	884	687	78%	884	698	79%	884	702	79%	884	713	81%
Apollo	Elementary	K-6	100%	902	785	87%	902	801	89%	902	777	86%	902	755	84%	902	757	84%	902	744	82%
Atlantis	Elementary	PK-6	100%	739	633	86%	739	660	89%	739	625	85%	739	624	84%	739	616	83%	739	610	83%
Audubon	Elementary	PK-6	100%	761	469	62%	761	475	62%	761	471	62%	761	476	63%	761	475	62%	761	484	64%
Cambridge	Elementary	PK-6	100%	765	519	68%	765	525	69%	765	503	66%	765	494	65%	765	469	61%	765	458	60%
Cape View	Elementary	PK-6	100%	570	302	53%	570	283	50%	570	277	49%	570	269	47%	570	253	44%	570	254	45%
Carroll	Elementary	K-6	100%	751	593	79%	751	593	79%	751	530	71%	751	553	74%	751	558	74%	751	540	72%
Challenger 7	Elementary	PK-6	100%	573	477	83%	573	493	86%	573	443	77%	573	423	74%	573	406	71%	573	398	69%
Columbia	Elementary	PK-6	100%	751	405	54%	751	400	53%	751	455	61%	751	514	68%	751	533	71%	751	547	73%
Coquina	Elementary	K-6	100%	711	489	70%	711	532	75%	711	475	67%	711	436	61%	711	398	56%	711	378	53%
Creel	Elementary	PK-6	100%	1,154	703	61%	1,154	748	65%	1,154	743	64%	1,154	737	64%	1,154	740	64%	1,154	741	64%
Croton	Elementary	PK-6	100%	795	480	60%	795	530	67%	795	615	77%	795	622	78%	795	627	79%	795	635	80%
Discovery	Elementary	PK-6	100%	980	560	57%	980	550	56%	980	494	50%	980	500	51%	980	507	52%	980	503	51%
Endeavour	Elementary	PK-6	100%	990	608	61%	990	646	65%	990	589	59%	990	581	59%	990	528	53%	990	527	53%
Enterprise	Elementary	K-6	100%	729	536	74%	729	584	80%	729	525	72%	729	520	71%	729	512	70%	729	492	67%
Fairglen	Elementary	PK-6	100%	789	577	73%	789	590	75%	789	598	76%	789	630	80%	789	676	86%	789	700	89%
Gemini	Elementary	K-6	100%	711	426	60%	711	457	64%	711	401	56%	711	384	54%	711	379	53%	711	383	54%
Golfview	Elementary	PK-6	100%	777	439	56%	777	450	58%	777	528	68%	777	522	67%	777	537	69%	777	545	70%
Harbor City	Elementary	PK-6	100%	629	345	55%	629	378	60%	629	379	60%	629	418	66%	629	412	66%	629	402	64%
Holland	Elementary	PK-6	100%	605	410	68%	605	485	80%	605	429	71%	605	430	71%	605	418	69%	605	417	69%
Imperial Estates	Elementary	K-6	100%	729	605	83%	729	608	83%	729	615	84%	729	627	86%	729	644	88%	729	648	89%
Indialantic	Elementary	K-6	100%	798	662	83%	798	694	87%	798	683	86%	798	679	85%	798	668	84%	798	649	81%
Jupiter	Elementary	PK-6	100%	930	679	73%	930	658	71%	930	705	76%	930	806	87%	930	876	94%	930	926	100%
Lockmar	Elementary	PK-6	100%	892	632	71%	892	609	68%	892	592	66%	892	555	62%	892	541	61%	892	518	58%
Longleaf	Elementary	PK-6	100%	790	568	72%	790	577	73%	790	585	74%	790	595	75%	790	603	76%	790	602	76%
Manatee	Elementary	K-6	100%	998	668	67%	998	896	90%	998	808	81%	998	786	79%	998	748	75%	998	714	72%
McAuliffe	Elementary	PK-6	100%	918	669	73%	918	657	72%	918	591	64%	918	594	65%	918	561	61%	918	570	62%
Meadowlane Intermediate	Elementary	3-6	100%	1,114	772	69%	1,114	839	75%	1,114	853	77%	1,114	915	82%	1,114	968	87%	1,114	998	90%
Meadowlane Primary	Elementary	K-6	100%	824	661	80%	824	724	88%	824	634	77%	824	687	83%	824	687	83%	824	699	85%
Mila	Elementary	PK-6	100%	707	426	61%	707	442	63%	707	432	61%	707	426	61%	707	418	59%	707	408	58%
Mims	Elementary	PK-6	100%	725	389	54%	725	422	58%	725	398	55%	725	499	69%	725	514	71%	725	515	71%
Oak Park	Elementary	PK-6	100%	968	603	62%	968	580	60%	968	542	56%	968	514	53%	968	484	50%	968	482	50%
Ocean Breeze	Elementary	PK-6	100%	654	508	78%	654	545	83%	654	465	71%	654	462	71%	654	455	70%	654	429	66%
Palm Bay Elem	Elementary	PK-6	100%	983	573	58%	983	596	61%	983	653	66%	983	738	75%	983	770	78%	983	773	79%
Pinewood	Elementary	PK-6	100%	569	470	83%	569	488	86%	569	493	87%	569	504	89%	569	510	90%	569	516	91%
Port Malabar	Elementary	PK-6	100%	852	648	76%	852	631	74%	852	616	72%	852	612	72%	852	617	72%	852	625	73%
Quest	Elementary	PK-6	100%	1,152	795	69%	1,152	682	59%	1,152	676	59%	1,152	651	57%	1,152	647	56%	1,152	675	59%
Riviera	Elementary	PK-6	100%	777	561	72%	777	578	74%	821	818	100%	885	848	96%	885	836	97%	885	817	94%
Roosevelt	Elementary	K-6	100%	599	263	44%	599	247	41%	599	242	40%	599	220	38%	599	207	35%	599	193	32%
Sabal	Elementary	PK-6	100%	785	549	70%	785	564	72%	785	584	74%	785	594	76%	785	580	74%	785	581	74%
Saturn	Elementary	PK-6	100%	976	794	81%	976	841	86%	976	825	85%	1,042	1,039	100%	1,042	1,020	98%	1,042	997	96%
Sea Park	Elementary	PK-6	100%	461	272	59%	461	298	65%	461	287	62%	461	288	62%	461	294	64%	461	288	62%
Sherwood	Elementary	PK-6	100%	609	393	65%	609	416	68%	609	379	62%	609	381	63%	609	386	63%	609	379	62%
South Lake	Elementary	K-6	100%	481	367	76%	481	387	63%	481	367	76%	481	367	76%	481	367	76%	481	367	76%
Sunrise	Elementary	PK-6	100%	913	700	77%	913	893	76%	913	791	87%	957	941	98%	1,023	1,021	100%	1,111	1,098	99%
Suntree	Elementary	K-6	100%	755	584	78%	755	616	82%	755	571	76%	755	579	77%	755	546	72%	755	535	71%
Surfside	Elementary	K-6	100%	541	438	81%	541	457	84%	541	430	79%	541	412	76%	541	398	74%	541	400	74%
Tropical	Elementary	K-6	100%	910	682	75%	910	725	80%	910	623	68%	910	603	66%	910	565	62%	910	547	60%
Turner	Elementary	PK-6	100%	874	529	61%	874	525	60%	874	602	69%	874	675	77%	874	720	82%	874	733	84%
University Park	Elementary	PK-6	100%	811	432	53%	811	471	58%	811	638	79%	811	738	91%	811	748	92%	811	747	92%
Viera Elem	Elementary	K-6	100%	1,012	384	38%	1,012	843	84%	1,012	613	61%	1,012	697	69%	1,012	738	73%	1,012	741	73%
Westside	Elementary	K-6	100%	857	671	78%	857	594	69%	857	617	72%	857	641	75%	857	663	77%	857	663	77%
Williams	Elementary	PK-6	100%	715	482	67%	715	484	68%	715	463	65%	715	444	62%	715	425	59%	715	398	55%
Elementary Totals				42,996	29,821		42,996	30,667		43,040	30,387		43,194	31,384		43,282	31,483		43,392	31,487	

Middle School Concurrency Service Areas																				
Central	Middle	7-8	90%	1,505	1,135	75%	1,505	1,136	75%	1,505	1,076	71%	1,505	1,187	78%	1,505	1,173	78%	1,505	1,250	83%
DeLaura	Middle	7-8	90%	939	800	85%	939	787	84%	939	846	90%	939	873	93%	939	924	98%	939	899	96%
Hoover	Middle	7-8	90%	680	488	69%	680	493	73%	680	480	71%	680	468	69%	680	486	71%	680	529	78%
Jackson	Middle	7-8	90%	654	588	87%	654	583	89%	654	523	80%	654	558	85%	654	585	89%	654	534	82%
Jefferson	Middle	7-8	90%	854	647	76%	854	640	75%	854	632	74%	854	609	71%	854	601	70%	854	593	69%
Johnson	Middle	7-8	90%	997	731	73%	997	710	71%	997	894	70%	997	727	73%	997	773	78%	997	805	81%
Kennedy	Middle	7-8	90%	813	668	82%	813	638	78%	813	618	76%	813	606	75%	813	618	76%	813	635	78%
Madison	Middle	7-8	90%	781	470	60%	781	475	61%	781	445	57%	781	455	58%	781	455	60%	781	428	55%
McNair	Middle	7-8	90%	611	407	67%	611	390	64%	611	438	72%	611	448	73%	611	440	72%	611	455	74%
Southwest	Middle	7-8	90%	1,177	904	77%	1,177	886	75%	1,177	892	76%	1,177	879	75%	1,177	949	81%	1,177	1,025	87%
Stone	Middle	7-8	90%	1,024	775	76%	1,024	754	74%	1,024	856	84%	1,024	927	91%	1,044	1,021	98%	1,044	1,031	99%
Middle Totals				**10,035**	**7,570**		**10,035**	**7,492**		**10,035**	**7,500**		**10,035**	**7,730**		**10,055**	**8,015**		**10,055**	**8,182**	
Junior / Senior High School Concurrency Service Areas																				
Cocoa	Jr / Sr High	PK, 7-12	90%	2,084	1,572	75%	2,084	1,578	76%	2,084	1,668	80%	2,084	1,857	89%	2,084	1,956	94%	2,084	2,005	96%
Cocoa Beach	Jr / Sr High	7-12	90%	1,466	964	66%	1,466	1,000	68%	1,466	948	65%	1,466	914	62%	1,466	884	60%	1,466	818	56%
Space Coast	Jr / Sr High	7-12	90%	1,857	1,501	81%	1,857	1,505	81%	1,857	1,492	80%	1,857	1,455	78%	1,857	1,460	79%	1,857	1,437	77%
Jr / Sr High Totals				**5,407**	**4,037**		**5,407**	**4,083**		**5,407**	**4,108**		**5,407**	**4,226**		**5,407**	**4,310**		**5,407**	**4,260**	
Senior High School Concurrency Service Areas																				
Astronaut	High	9-12	95%	1,446	1,087	75%	1,446	1,141	79%	1,446	1,081	75%	1,446	1,092	76%	1,446	1,065	74%	1,446	1,052	73%
Bayside	High	9-12	95%	2,257	1,568	69%	2,257	1,625	72%	2,257	1,869	83%	2,257	2,010	89%	2,257	2,046	91%	2,257	2,034	90%
Eau Gallie	High	PK, 9-12	95%	2,221	1,605	72%	2,221	1,642	74%	2,221	1,726	78%	2,221	1,741	78%	2,221	1,758	79%	2,221	1,783	80%
Heritage	High	9-12	95%	2,314	1,899	82%	2,314	1,953	84%	2,314	1,980	86%	2,314	2,081	90%	2,314	2,161	93%	2,314	2,179	94%
Melbourne	High	9-12	95%	2,370	2,112	89%	2,370	2,148	91%	2,370	2,338	99%	2,370	2,354	99%	2,393	2,373	99%	2,393	2,392	100%
Merritt Island	High	PK, 9-12	95%	1,891	1,489	79%	1,891	1,587	84%	1,891	1,494	79%	1,891	1,517	80%	1,891	1,491	79%	1,891	1,428	76%
Palm Bay	High	PK, 9-12	95%	2,602	1,338	51%	2,602	1,288	50%	2,602	1,629	63%	2,602	1,827	70%	2,602	1,943	75%	2,602	2,041	78%
Rockledge	High	9-12	95%	1,701	1,518	89%	1,701	1,570	92%	1,701	1,624	95%	1,701	1,664	98%	1,701	1,676	99%	1,701	1,683	99%
Satellite	High	PK, 9-12	95%	1,516	1,412	93%	1,516	1,496	99%	1,516	1,411	93%	1,516	1,393	92%	1,516	1,343	89%	1,516	1,334	88%
Titusville	High	9-12	95%	1,848	1,230	67%	1,848	1,230	67%	1,848	1,391	75%	1,848	1,428	77%	1,848	1,460	79%	1,848	1,490	81%
Viera	High	PK, 9-12	95%	2,275	2,096	92%	2,275	2,185	96%	2,322	2,266	98%	2,393	2,377	99%	2,512	2,493	99%	2,512	2,495	99%
High Totals				**22,441**	**17,352**		**22,441**	**17,845**		**22,488**	**18,809**		**22,559**	**19,484**		**22,701**	**19,809**		**22,701**	**19,891**	
Schools of Choice (Not Concurrency Service Areas)																				
Freedom 7	Elementary	K-6	100%	475	395	83%	475	414	87%	475	395	83%	475	395	83%	475	395	83%	475	395	83%
Stevenson	Elementary	K-6	100%	569	487	86%	569	505	89%	569	488	86%	569	488	86%	569	488	86%	569	488	86%
West Melbourne	Elementary	K-6	100%	618	531	86%	618	552	89%	618	531	86%	618	531	86%	618	531	86%	618	531	86%
Edgewood	Jr / Sr High	7-12	90%	1,072	937	87%	1,072	950	89%	1,072	942	88%	1,072	942	88%	1,072	942	88%	1,072	942	88%
West Shore	Jr / Sr High	7-12	90%	1,284	967	77%	1,284	956	76%	1,284	967	77%	1,284	967	77%	1,284	967	77%	1,284	967	77%
Schools of Choice				**3,998**	**3,317**		**3,998**	**3,377**		**3,998**	**3,323**		**3,998**	**3,323**		**3,998**	**3,323**		**3,998**	**3,323**	
Brevard Totals				**84,877**	**61,397**		**84,877**	**63,484**		**84,968**	**64,127**		**85,193**	**66,147**		**85,443**	**66,948**		**85,553**	**67,143**	

Notes

1. FISH Capacity is the sum of the factored permanent capacity and the factored relocatable capacity. Permanent and relocatable capacities for 2020-21 are reported from the FISH database as of August 6, 2020.
2. Student Membership is reported from the Fall Final Membership Count (10/09/20).
3. Davis Demographics SchoolSite Enrollment Forecasting Extension for ArcGIS estimates future student populations by analyzing the following data:
   - Development Projections from Brevard County Local Government Jurisdictions
   - Brevard County School Concurrency Student Generation Multipliers (SGM)
   - Fall Membership student addresses and corresponding concurrency service areas
   - Student Mobility Rates / Cohort Survival Rates
   - Brevard County Birth rates by zip code
4. Davis Demographics estimates are then adjusted using the following factors:
   - PK (Pre-Kindengarten) and AH (daycare for students with infants) enrollment number are assumed to be constant
   - Current From/To attendance patterns are assumed to remain constant.
   - Nongeocoded student addresses are assumed to continue in their attendance schools.
   - Charter School Growth.
5. In order to maintain utilization rates lower than the 100% Level of Service, Permanent Capacity and Relocatable Classrooms are assumed to add future student stations as necessary.
6. A total of 30 Relocatable Classrooms are assumed to add future student stations as listed below:
   - Primary relocatable classrooms (Grades K-3) = 18 student stations, Intermediate (Grades 4-8) relocatable classrooms = 22 student stations, and High School (Grades 9-12) relocatable classrooms = 25 student stations
   Intermediate relocatable classrooms are proposed to be added at Roy Allen Elementary, Riviera Elementary, Setum Elementary, Sunrise Elementary, and Stone Middle School (Total 19 Classrooms)
   High school relocatable classrooms are proposed to be added at Melbourne High and Viera High (Total of 11 Classrooms)
7. Redistricting was approved for the 2021-22 school year and the projected enrollment for 2021-22 is adjusted for those areas.


Brevard Public Schools
Summerfields Location Map
N
W
E
S
Summerfields
198 SFD Units
Mims Elementary School
Oak Park Elementary School
Madison Middle School
Astronaut High School
Schools Affected by Development:
Mims Elementary School
Madison Middle School
Astronaut High School
Drawn By:
Blake Stinson
08/31/2021
Facility Services
3,300 1,650 0 3,300 Feet

38

Existing BDP
21Z00030
Calligan

BINDING DEVELOPMENT PLAN

BDP/RU 1-11/79.13 Acres
Parcels 2, 3, 4, 5, & 6

THIS AGREEMENT, entered into this 30th day of MARCH, 2005, between the BOARD OF COUNTY COMMISSIONERS OF BREVARD COUNTY, FLORIDA, a political subdivision of the State of Florida (hereinafter referred to as "County") and Vero-Pittsburgh Partners L.L.C. the successor in interest to Seasons In The Sun L.L.C., (hereinafter referred to as "Developer/Owner").

RECITALS

WHEREAS, Developer/Owner plans to develop the property (hereinafter referred to as the "Property") in Brevard County, Florida, as more particularly described in Exhibit "1" attached hereto and incorporated herein by this reference; and

WHEREAS, as part of its plan for development of the property, Developer/Owner wishes to mitigate negative impact on abutting land owners and affected facilities or services; and

WHEREAS, the County is authorized to regulate development of the property.

NOW, THEREFORE, the parties agree as follows:

1. The County shall not be required or obligated in any way to construct or maintain or participate in any way in the construction or maintenance of the improvements. It is the intent of the parties that the Developer/Owner, its grantees, successors or assigns in interest or some other association and/or assigns satisfactory to the County shall be responsible for the maintenance of any improvements.

2. Developer/Owner shall limit gross density on the property to 2.5 dwelling units per acre or 198 units. Any increase in site density will require an amendment to this agreement and will require public hearings and notice as provided in the Code of Ordinances of Brevard County, Florida, and will be restricted to a maximum of four (4) units per acre which may be further restricted by and changes to the Comprehensive Plan or the Land Development Regulations.

3. The Developer/Owner shall construct a berm with an average height of four (4) feet (varies from three (3) feet to five (5) feet high) along the length of the Property that fronts on Turpentine Road. The berm will be located in the buffer area contiguous to Turpentine Road. This area will also include a six (6) foot high wood fence or opaque vegetative landscaped buffer. The berm will be irrigated and maintained by the Developer/Owner and or its assigns. The berm will be constructed along with the initial phase of construction.

RETURN: Clerk to the Board #27

Scott Ellis
Clerk Of Courts, Brevard County
#Pgs: 12 #Names: 2
Trust: 6.50 Rec: 97.00 Serv: 0.00
Deed: 0.00 Excise: 0.00
Mtg: 0.00 Int Tax: 0.00
CFN:2005183943 05-25-2005 09:22 am
OR Book/Page: 5472 / 3172

Z11076

4. The Developer/Owner shall provide a 300 foot wide buffer along the east 1,600 feet of the South Property line. The east 1,600 feet shall be placed in a conservation easement. The conservation easement may be used for mitigation of wetlands with the St. Johns River Water Management District (SRJWMD). In that case the easement will be in favor of the SJRWMD only. The remaining (western) portion of the south property line shall have one acre lots adjacent to the (south) property line as more particularly shown in Exhibit A with a minimum unit square footage of 2,200 square feet. The 300 foot conservation area shall be used for conservation, wetland mitigation and/or open space only.

5. The Developer/Owner shall provide a twenty-five (25) foot wide buffer along the south Property line of Bar "C" Ranchettes (as recorded in plat book 24, page 58 of the public records of Brevard County, Florida) where it contiguous to the Property and along the contiguous property line of the Property with the two (2) parcels as recorded in Official Record Book 298, page 409 and Official Record Book 2314 page 2137 or the public records of Brevard County, Florida. The Developer/Owner shall install a six (6) foot high opaque wooden fences along this contiguous property line and along the southeast three hundred and fifty (350) feet of Bar "C" Ranchettes east of boundary line which is contiguous to the Property. In addition to the wood fence, a six (6) foot high landscaped buffer will be provided along Bar-C Ranchettes south property line where it is contiguous to the Property. A buffer area for the undisturbed area as shown and dimensioned on Exhibit "B" will be provided no less than fifty (150) feet extending south from the north three hundred (300) feet of Bar "C" Ranchettes east property line which is contiguous to the Property. The area between the north three hundred (300) feet and the south three hundred and fifty (350) feet on east property line shall be a minimum of a fifty (50) foot buffer. Property abutting S.R. 46 will provide an opaque vegetative buffer no less than fifty (50) feet east of the one hundred and fifty (150) buffer and extend from the south side of S.R. 46 which is contiguous to the property. Existing vegetations shall remain intact in the buffer area. The Developer/Owner shall provide replacement vegetation in this area if the existing vegetation is destroyed.

6. The Developer/Owner shall comply with all regulations and ordinances of Brevard County, Florida. This agreement constitutes Developers/Owners agreement to meet additional standards or restrictions in developing the Property. This agreement provides no vested rights against changes to the comprehensive plan or land development regulations as they may apply to this property.

7. Developer/Owner, upon execution of this Agreement, shall pay to the County the cost of recording this Agreement in Brevard County, Florida.

8. This Agreement shall be binding and shall inure to the benefit of the successors or assigns of the parties and shall run with the subject property unless or until rezoned and be binding upon any person, firm or corporation who may become the successor in interest directly or indirectly to the subject Property.

9. Subdivision will have deed restrictions and an architectural review committee.

a. Deed restrictions shall require all common tract natural buffers areas be placed in ownership of the Home Owners Association.

b. Deed restrictions shall include the Home Owners Association as solely responsible for the maintenance of the common tract natural buffer areas.

c. Deed restrictions shall include that conservation common tracts shall not permit any structures be erected. Encroachments into the common tracts shall be prohibited.

d. Deed restrictions shall permit conservation common tracts to add natural vegetation by the Home Owners Association as appropriate for the purposes of maintenance, overall conservation and aesthetic quality, consistent with permitted plant materials and installation methodologies of Brevard County.

10. Minimum unit size shall be eighteen hundred (1,800) square feet or larger except for the one acre lot parcels.

11. The average lot size for the project shall be a minimum of or above 6,000 square feet, with no lots under 5,500 square feet.

12. S&T Bank, the Developer / Owner's Mortgagee has joined in this Binding Development Plan as evidenced by their execution of the Joinder document which is attached hereto as Exhibit "C" and is incorporated by reference herein.

IN WITNESS THEREOF, the parties hereto have caused these presents to the signed all as of the date and year first written above.

STATE OF PENNSYLVANIA
COUNTY OF ALLEGHENY

WITNESSES:

DEVELOPER/OWNER:

Managing Member of Welcast Partners, LLC, which is the General Partner of Caste-Woodland Partners, L.P., a Pennsylvania Limited Partnership, which is a Managing Member of Vero-Pittsburgh Partners, LLC

RETURN: Clerk to the Board #27

Z11076

The foregoing instrument was acknowledged before me this 20th day of March, 2005, by F. Daniel Caste, who is the Managing Member of Welcast Partners, LLC, which is the General Partner of Caste Woodland Partners, L.P., which is a Managing Member of Vero Pittsburgh Partners, LLC, who is known to me.

My commission expires
Commission No.:

SEAL

Donna J. Hirschfield
Notary Public

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Donna J. Hirschfield, Notary Public
City Of Pittsburgh, Allegheny County
My Commission Expires July 22, 2008
Member, Pennsylvania Association Of Notaries

ATTEST:

Scott Ellis, Clerk
(SEAL)

BOARD OF COUNTY COMMISSIONERS
OF BREVARD COUNTY, FLORIDA
2725 Judge Fran Jamieson Way
Viera FL 32940

Ron Pritchard, D.P.A., Chairman
As approved by the Board on May 17, 2005

STATE OF FLORIDA §
COUNTY OF BREVARD §

The foregoing instrument was acknowledged before me this 17th day of May, 2005, by Ron Pritchard, D.P.A., Chairman of the Board of County Commissioners of Brevard County, Florida, who is personally known to me or who has produced _____ as identification.

My commission expires

Bernadette S. Talbert
Notary Public

SEAL
Commission No.:

BERNADETTE S. TALBERT
MY COMMISSION # DD 297064
EXPIRES: May 14, 2008
Bonded Thru Notary Public Underwriters

_____
(Name typed, printed or stamped)

Z11076

Prepared by/Return to:
Dianne C. Cisarano
LANDAMERICA GULFATLANTIC TITLE
752 Country Club Drive
Titusville, Florida 32780
Case No.: 0409617 tvl

Property Appraisers Parcel No.

CFN 2005096731 03-21-2005 02:35 pm
OR Book/Page: 5439 / 0860

Scott Ellis
Clerk Of Courts, Brevard County
#Pgs: 5 #Names: 2
Trust: 3.00 Rec: 41.00 Serv: 0.00
Mtg: 0.00 Excise: 0.00
nt Tax: 0.00

THIS WARRANTY DEED made on 03/11/05
SEASONS IN THE SUN, LLC
a FLORIDA corporation, hereinafter called Grantor to:

VERO-PITTSBURGH PARTNERS, LLC :

hereinafter called Grantee, and whose post office address is:
300 WEYMAN ROAD, SUITE 210 PITTSBURGH, PA. 15236

WITNESSETH: That the Grantor, for and in consideration of the sum of $10.00 and other valuable considerations, receipt whereof is hereby acknowledged, hereby bargains, sells, aliens, remises, releases, conveys and confirms unto the Grantee all that certain land situate in Brevard County, Florida, viz:

PARCEL 2:

A PARCEL OF LAND BEING A PART OF THE SOUTHWEST 1/4 OF SECTION 13, TOWNSHIP 21 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA, DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST CORNER OF SAID SECTION 13, THENCE NORTH 89 DEGREES 27'18" EAST, ALONG THE SOUTH LINE OF SAID SECTION 13, A DISTANCE OF 33.00 FEET TO A POINT LYING ON THE EAST RIGHT OF WAY LINE OF TURPENTINE ROAD (A 66.00 FOOT WIDE RIGHT OF WAY); THENCE ON A BEARING OF NORTH ALONG SAID EAST RIGHT OF
Continued

TOGETHER with all the tenements, hereditaments and appurtenances thereto belonging or in any wise appertaining.

TO HAVE AND TO HOLD, the same in fee simple forever.

AND the Grantor hereby covenants with said Grantee that the Grantor is lawfully seized of said land in fee simple; that the Grantor has good right and lawful authority to sell and convey said land and hereby warrants the title to said land and will defend the same against the lawful claims of all persons whomsoever, and that the land is free of all encumberances, except taxes for the current year and subsegent years, restrictions, limitations, covenants, and easements of record, if any.

(CORPORATE SEAL) IN WITNESS WHEREOF the grantor has caused these presents to be executed in its name, and its corporate seal to be hereunto affixed, by its proper officers thereunto duly authorized, the day and year first above written.

Witnessed By:

Printed/typed name of above witness

Dianne C. Cisarano

Printed/typed name of above witness

SEASONS IN THE SUN, LLC

By: HEATHER CALLIGAN, MANAGING MEMBER
Address of corporation:

Z11076

State of FLORIDA
County of BREVARD

The foregoing instrument was acknowledged before me on 03/11/05
by HEATHER CALLIGAN as MANAGING MEMBER
of SEASONS IN THE SUN, LLC a FLORIDA corporation
who is personally known to me or who produced a Driver's License as identification.

(SEAL) Dianne C Cisarano MY COMMISSION # DD050948 EXPIRES August 19, 2005 BONDED THRU TROY FAIN INSURANCE INC.

Notary Public
DIANNE C. CISARANO
Print/type name of notary:
My commission expires:

(tvcwd 5/04)

EXHIBIT
tabbies
1

RETURN: Clerk to the Board #27

145

Continued

WAY LINE OF TURPENTINE ROAD (SAID RIGHT OF WAY LINE LYING PARALLEL WITH AND 33.00 FEET TO THE WEST LINE OF SAID SECTION 13), 394.50 FEET TO THE INTERSECTION WITH THE NORTHERLY RIGHT OF WAY LINE OF HAMMOCK TRAIL (A 100 FOOT WIDE RIGHT OF WAY AS DESCRIBED IN OFFICIAL RECORDS BOOK 1212, PAGE 917, OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA; THENCE CONTINUE ON A BEARING OF NORTH ALONG THE AFOREMENTIONED EASTERLY RIGHT OF WAY LINE OF TURPENTINE ROAD, 834.74 FEET TO THE SOUTHWEST CORNER OF THE PARCEL OF LAND DESCRIBED IN OFFICIAL RECORDS BOOK 298, PAGE 409, OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA; THENCE NORTH 89 DEGREES 20'20" EAST, ALONG THE SOUTH LINE OF SAID PARCEL, 133.00 FEET TO THE SOUTHEAST CORNER THEREOF AND SAID POINT BEING THE SOUTHWEST CORNER OF THE PARCEL OF LAND DESCRIBED IN OFFICIAL RECORDS BOOK 2314, PAGE 2137, OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA; THENCE ALONG THE BOUNDARIES OF SAID PARCEL OF LAND, THE FOLLOWING TWO COURSES AND DISTANCES; THENCE NORTH 58 DEGREES 49'19" EAST, 69.61 FEET; THENCE ON A BEARING OF NORTH 62.65 FEET TO A POINT LYING ON THE SOUTH LINE OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF THE AFORESAID SECTION 13 AND THE SOUTH LINE OF BAR "C" RANCHETTES, AS RECORDED IN PLAT BOOK 24, PAGE 58, OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA; THENCE NORTH 89 DEGREES 20'20" EAST ALONG SAID LINE, 436.80 FEET TO THE SOUTHEAST CORNER OF SAID PLAT OF BAR "C" RANCHETTES AND THE SOUTHEAST CORNER OF THE WEST 1/2 OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SAID SECTION 13 AND SAID POINT BEING THE POINT OF BEGINNING OF THE LAND HEREIN DESCRIBED; THENCE NORTH 00 DEGREES 03'56" WEST, ALONG THE EAST LINE OF SAID PLAT OF BAR "C" RANCHETTES AND ALONG SAID EAST LINE OF THE WEST 1/2 OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 13, A DISTANCE OF 1285.83 FEET TO A POINT LYING ON THE SOUTH RIGHT OF WAY LINE OF STATE ROAD NO. 46; THENCE NORTH 89 DEGREES 10'34" EAST ALONG SAID RIGHT OF WAY LINE, 615.30 FEET; THENCE SOUTH 08 DEGREES 33'12" WEST, 403.88 FEET; THENCE NORTH 81 DEGREES 26'48" WEST, 60.10 FEET; THENCE SOUTH 08 DEGREES 33'12" WEST, 115.85 FEET; THENCE SOUTH 40 DEGREES 01'27" WEST, 302.44 FEET, THENCE SOUTH 14 DEGREES 14'48" EAST, 186.22 FEET; THENCE SOUTH 35 DEGREES 28'00" EAST, 139.61 FEET; THENCE SOUTH 44 DEGREES 13'35" WEST, 139.33 FEET; THENCE SOUTH 45 DEGREES 46'25" EAST, 47.84 FEET; THENCE SOUTH 15 DEGREES 04'59" EAST, 112.69 FEET TO A POINT LYING ON THE NORTHERLY RIGHT OF WAY LINE OF THE AFORESAID HAMMOCK TRAIL AND THE ARC OF A CIRCULAR CURVE, CONCAVE SOUTHERLY HAVING A RADIUS OF 675.82 FEET AND TO WHICH POINT A RADIAL LINE BEARS NORTH 15 DEGREES 04'59" WEST; THENCE WESTERLY ALONG SAID RIGHT OF WAY LINE AND ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 05 DEGRRES 05'18", 60.02 FEET TO A POINT LYING ON THE SOUTH LINE OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SAID SECTION 13; THENCE SOUTH 89 DEGREES 20'20" WEST ALONG SAID LINE, 318.63 FEET TO THE POINT OF BEGINNING.

PARCEL 3:

A PARCEL OF LAND BEING A PART OF THE SOUTHWEST 1/4 OF SECTION 13, TOWNSHIP 21 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA, DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST CORNER OF SECTION 13; THENCE NORTH 89 DEGREES 27'18" EAST, ALONG THE SOUTH LINE OF SAID SECTION 13, A DISTANCE OF 33.00 FEET TO A POINT LYING ON THE EAST RIGHT OF WAY LINE OF TURPENTINE ROAD (A 66.00 FOOT WIDE RIGHT OF WAY), THENCE ON A BEARING OF NORTH ALONG SAID EAST RIGHT OF WAY LINE OF TURPENTINE ROAD (SAID RIGHT OF WAY LINE LYING PARALLEL WITH AND 33.00 FEET EAST OF THE WEST LINE OF SAID SECTION 13), 394.50 FEET TO THE INTERSECTION WITH THE NORTHERLY RIGHT OF WAY LINE OF HAMMOCK TRAIL (A 100 FOOT WIDE RIGHT OF WAY) AS DESCRIBED IN OFFICI RECORDS BOOK 1212, PAGE 917, OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA AND SAID POINT BEING THE POINT OF BEGINNING OF THE LAND HERRIN DESCRIBED; THENCE CONTINUE ON A BEARING OF NORTH, ALONG THE AFOREMENTIONED EASTERLY RIGHT OF WAY LIN OF TURPENTINE ROAD, 834.74 FEET TO THE SOUTHWEST CORNER OF THE PARCEL OF LAND DESCRIBED IN OFFICIAL RECORDS BOOK 298, PAGE 409, OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA; THENCE NORTH 89 DEGREES 20'20" EAST, ALONG THE SOUTH LINE OF SAII PARCEL, 133.00 FEET TO THE SOUTHEAST CORNER THEREOF AND SAID POINT BEING THE SOUTHWEST CORNER OF THE PARCEL OF LAND DESCRIBED IN OFFICIAL RECORDS BOOK 2314, PAGE 2137, OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA; THENCE ALONG THE BOUNDARIES OF SAID PARCEL OF LAND THE FOLLOWING TWO COURSES AND DISTANCES; THENCE NORTH 58 DEGREES 49'19" EAST, 69.61 FEET, THENCE ON A BEARING OF NORTH, 62.65 FEET TO A POINT LYING ON THE SOUTH LINE OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF THE AFORESAID SECTION 13 AND THE SOUTH LINE OF BAR "C" RANCHETTES AS RECORDED IN PLAT BOOK 24, PAGE 58, OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA; THENCE NORTH 89 DEGREES 20'20" EAST, ALONG SAID LINE, 755.43 FEET TO A POINT LYING ON THE NORTHERLY RIGHT OF WAY LINE OF THE AFORESAID HAMMOCK TRAIL AND THE ARC OF A CIRCULAR CURVE CONCAVE SOUTHEASTERLY, HAVING A RADIUS OF 675.82 FEET AND TO WHICH POINT A RADIAL LINE BEARS NORTH 20 DEGREES 10'17" WEST; THENCE ALONG SAID RIGHT OF WAY LINE OF HAMMOCK TRAIL, THE FOLLOWING THREE COURSES AND DISTANCES, THENCE SOUTHWESTERLY ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 34 DEGREES 50'03", 410.88 FEET TO THE POINT OF TANGENCY, THENCE SOUTH 34 DEGREES 59'40" WEST, 650.21 FEET; THENCE SOUTH 57 DEGREES 09'30" WEST, 302.84 FEET TO THE POINT OF BEGINNING.

PARCEL 4:

A PARCEL OF LAND BEING A PART OF THE SOUTHWEST 1/4 OF SECTION 13, TOWNSHIP 21 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA, DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST CORNER OF SAID SECTION 13; THENCE NORTH 89 DEGREES 27'18" EAST, ALONG THE SOUTH LINE OF SAID SECTION 13, A DISTANCE OF 33.00 FEET TO A POINT LYING ON THE EAST RIGHT OF WAY LINE OF TURPENTINE ROAD (A 66.00 FOOT WIDE RIGHT OF WAY); THENCE ON A BEARING OF NORTH ALONG SAID EAST RIGHT OF WAY LINE OF TURPENTINE ROAD (SAID RIGHT OF WAY LINE LYING PARALLEL WITH AND 33.00 FEET EAST OF THE WEST LINE OF SAID SECTION 13), 275.48 FEET TO THE INTERSECTION WITH THE

Continued

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OR Book/Page: 5439 / 0862

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Continued

SOUTHERLY RIGHT OF WAY LINE OF HAMMOCK TRAIL (A 100 FOOT WIDE RIGHT OF WAY) AS DESCRIBED IN OFFICIAL RECORDS BOOK 1212, PAGE 917M OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA; THENCE ALONG THE RIGHT OF WAY LINE OF SAID HAMMOCK TRAIL, THE FOLLOWING SIX COURSES AND DISTANCES; THENCE NORTH 57 DEGREES 09'30" EAST, 386.98 FEET, THENCE NORTH 34 DEGREES 59'40" EAST, 669.79 FEET TO THE POINT OF CURVATURE OF A CIRCULAR CURVE, CONCAVE SOUTHERLY AND HAVING A RADIUS OF 575.82 FEET; THENCE NORTHEASTERLY, EASTERLY AND SOUTHEASTERLY ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 79 DEGREES 26'50", 798.44 FEET TO THE POINT OF TANGENCY; THENCE SOUTH 65 DEGREES 33'30" EAST, 84.87 FEET TO THE POINT OF BEGINNING OF THE LAND HEREIN DESCRIBED; THENCE CONTINUE SOUTH 65 DEGREES 33'30" EAST, 556.13 FEET TO THE POINT OF CURVATURE OF A CIRCULAR CURVE, CONCAVE NORTHERLY AND HAVING A RADIUS OF 644.65 FEET; THENCE EASTERLY ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 29 DEGREES 15'11", 329.13 FEET; THENCE SOUTH 00 DEGREES 14'18" EAST, 200.33 FEET TO A POINT LYING ON THE ARC OF A CIRCULAR CURVE CONCAVE NORTHERLY HAVING A RADIUS OF 844.56 FEET AND TO WHICH POINT A RADIAL LINE BEARS NORTH 03 DEGREES 43'25" WEST; THENCE EASTERLY ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 20 DEGREES 42'52", 305.34 FEET TO A POINT LYING ON THE EAST LINE OF THE SOUTHWEST 1/4 OF THE AFOREMENTIONED SECTION 13; THENCE SOUTH 00 DEGREES 14'18" EAST, 756.51 FEET TO THE SOUTHEAST CORNER THEREOF; THENCE SOUTH 89 DEGREES 28'50" WEST, ALONG THE SOUTH LINE OF THE SOUTHEAST 1/4 OF THE SOUTHWEST 1/4 OF SAID SECTION 13, A DISTANCE OF 1327.78 FEET TO THE SOUTHWEST CORNER THEREOF; THENCE SOUTH 89 DEGREES 27'18" WEST, ALONG THE SOUTH LINE OF THE SOUTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SAID SECTION 13, A DISTANCE OF 85.85 FEET; THENCE NORTH 00 DEGREES 31'10" WEST, 949.80 FEET; THENCE NORTH 53 DEGREES 47'52" EAST, 263.61 FEET; THENCE NORTH 24 DEGREES 26'30" EAST, 24.02 FEET; THENCE NORTH 53 DEGREES 47'58" EAST, 91.57 FEET TO THE POINT OF BEGINNING.

PARCEL 5:

A PARCEL OF LAND BEING A PART OF THE SOUTHWEST 1/4 OF SECTION 13, TOWNSHIP 21 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA, DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST CORNER OF SAID SECTION 13; THENCE NORTH 89 DEGREES 27'18" EAST, ALONG THE SOUTH LINE OF SAID SECTION 13, A DISTANCE OF 33.00 FEET TO A POINT LYING ON THE EAST RIGHT OF WAY LINE OF TURPENTINE ROAD (A 66.00 FOOT WIDE RIGHT OF WAY) AND SAID POINT BEING THE POINT OF BEGINNING OF THE LAND HEREIN DESCRIBED; THENCE ON A BEARING OF NORTH ALONG SAID EAST RIGHT OF WAY LINE OF TURPENTINE ROAD (SAID RIGHT OF WAY LINE LYING PARALLEL WITH AND 33.00 FEET EAST OF THE WEST LINE OF SAID SECTION 13), 275.48 FEET TO THE INTERSECTION WITH THE SOUTHERLY RIGHT OF WAY LINE OF HAMMOCK TRAIL (A 100 FOOT WIDE RIGHT OF WAY) AS DESCRIBED IN OFFICIAL RECORDS BOOK 1212, PAGE 917 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA; THENCE ALONG THE RIGHT OF WAY LINE OF SAID HAMMOCK TRAIL, THE FOLLOWING FOUR COURSES AND DISTANCES; THENCE NORTH 57 DEGREES 09'30" EAST, 386.98 FEET; THENCE NORTH 34 DEGREES 59'40" EAST, 669.79 FEET TO THE POINT OF CURVATURE OF A CIRCULAR CURVE CONCAVE SOUTHERLY AND HAVING A RADIUS OF 575.82 FEET; THENCE NORTHEASTERLY, EASTERLY AND SOUTHEASTERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 79 DEGREES 26'50", 798.44 FEET TO THE POINT OF TANGENCY; THENCE SOUTH 65 DEGREES 33'30" EAST, 84.87 FEET; THENCE SOUTH 53 DEGREES 47'58" WEST, 91.57 FEET; THENCE SOUTH 24 DEGREES 26'30" WEST, 24.02 FEET; THENCE SOUTH 53 DEGREES 47'52" WEST, 263.61 FEET; THENCE SOUTH 00 DEGREES 31'10" EAST, 949.80 FEET TO A POINT LYING ON THE SOUTH LINE OF THE SOUTHWEST 1/4 OF THE SOUTHWEST 1/4 OF THE AFOREMENTIONED SECTION 13; THENCE SOUTH 89 DEGREES 27'18" WEST, ALONG SAID LINE, 1208.61 FEET TO THE POINT OF BEGINNING.

PARCEL 6:

A PARCEL OF LAND BEING A PART OF THE SOUTHWEST 1/4 OF SECTION 13, TOWNSHIP 21 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA, DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST CORNER OF SAID SECTION 13; THENCE NORTH 89 DEGREES 27'18" EAST ALONG THE SOUTH LINE OF SAID SECTION 13, A DISTANCE OF 33.00 FEET TO A POINT LYING ON THE EAST RIGHT OF WAY LINE OF TURPENTINE ROAD (A 66.00 FOOT WIDE RIGHT OF WAY); THENCE ON A BEARING OF NORTH ALONG SAID EAST RIGHT OF WAY LINE OF TURPENTINE ROAD (SAID RIGHT OF WAY LINE LYING PARALLEL WITH AND 33.00 FEET EAST OF THE WEST LINE OF SAID SECTION 13), 275.48 FEET TO THE INTERSECTION WITH THE SOUTHERLY RIGHT OF WAY LINE OF HAMMOCK TRAIL (A 100 FOOT WIDE RIGHT OF WAY) AS DESCRIBED IN OFFICIAL RECORDS BOOK 1212, PAGE 917, OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA; THENCE ALONG THE RIGHT OF WAY LINE OF SAID HAMMOCK TRAIL, THE FOLLOWING SIX COURSES AND DISTANCES; THENCE NORTH 57 DEGREES 09'30" EAST, 386.98 FEET; THENCE NORTH 34 DEGREES 59'40" EAST, 669.79 FEET TO THE POINT OF CURVATURE OF A CIRCULAR CURVE CONCAVE SOUTHERLY AND HAVING A RADIUS OF 575.82 FEET; THENCE NORTHEASTERLY, EASTERLY AND SOUTHEASTERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 79 DEGREES 26'50", 798.44 FEET TO THE POINT OF TANGENCY; THENCE SOUTH 65 DEGREES 33'30" EAST, 641.00 FEET TO THE POINT OF CURVATURE OF A CIRCULAR CURVE CONCAVE NORTHERLY AND HAVING A RADIUS OF 644.65 FEET; THENCE EASTERLY ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 29 DEGREES 15'11", 329.13 FEET TO THE POINT OF BEGINNING OF THE LAND HEREIN DESCRIBED; THENCE CONTINUE EASTERLY ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 27 DEGREES 54'53", 314.08 FEET TO

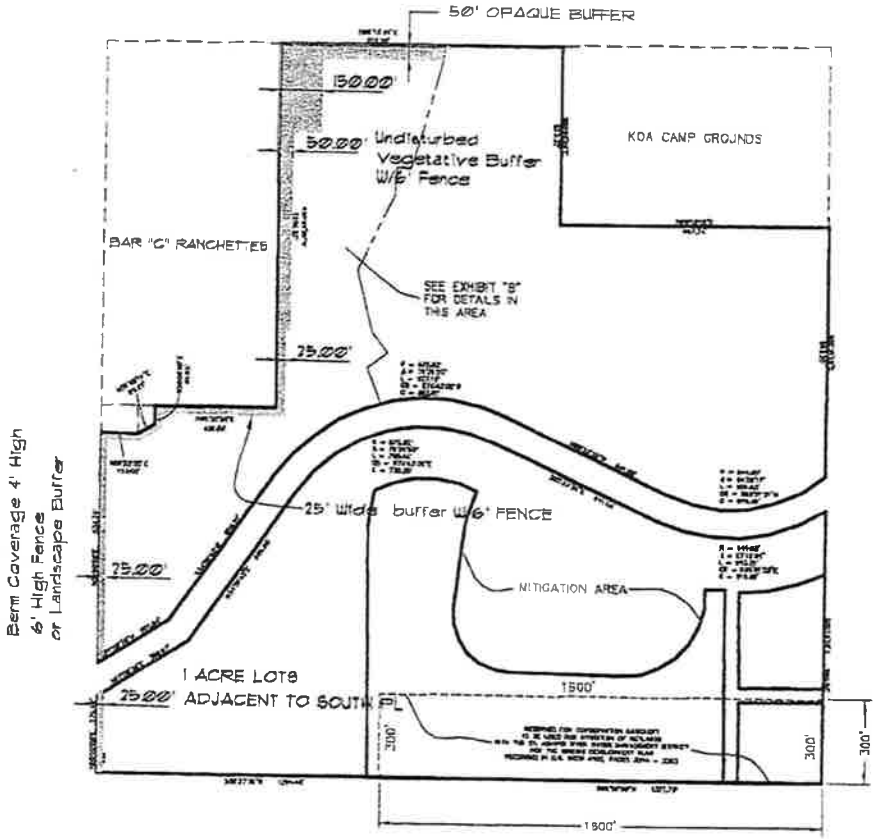
A POINT LYING ON THE EAST LINE OF THE SOUTHWEST 1/4 OF THE AFORESAID SECTION 13; THENCE SOUTH 00 DEGREES 14'18" EAST, ALONG SAID LINE, 226.51 FEET TO A POINT LYING ON THE ARC OF A CIRCULAR CURVE CONCAVE NORTHERLY, HAVING A RADIUS OF 844.56 FEET AND TO WHICH POINT A RADIAL LINE BEARS SOUTH 24 DEGREES 26'17" EAST; THENCE WESTERLY, ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 20 DEGREES 42'52", 305.34 FEET; THENCE NORTH 00 DEGREES 14'18" WEST, 200.33 FEET TO THE POINT OF BEGINNING.
LESS AND EXCEPT CORRECTIVE DEED RECORDED IN OFFICIAL RECORDS BOOK 4560 PAGE 2224, BREVARD COUNTY, FLORIDA

CFN 2005086731
OR Book/Page: 5439 / 0864

Z11076

EXHIBIT A

Z11076



MILLER LEGG

Central Florida Office: 631 S. Orlando Avenue - Suite 200
Winter Park, Florida - 32789-7122
407-628-5580 - Fax: 407-628-7863
www.millerlegg.com

SEASONS IN THE SUN

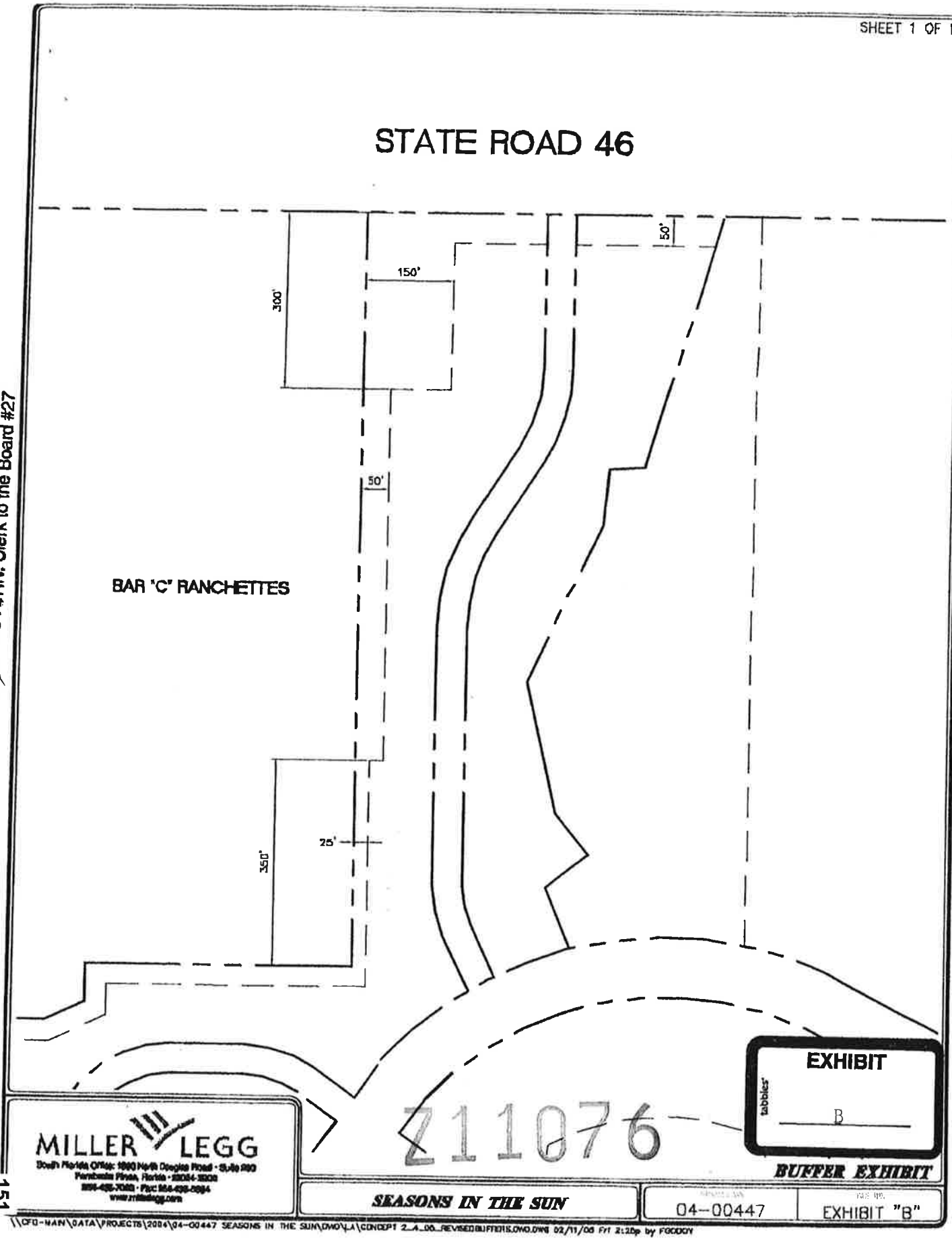
EXHIBIT A

BINDING DEVELOPMENT PLAN

TITUSVILLE, FLORIDA

RETURN: Clerk to the Board #27

SHEET 1 OF 1



RETURN: Clerk to the Board #27

Z11076

EXHIBIT
tabbies
B

BUFFER EXHIBIT

MILLER LEGG

SEASONS IN THE SUN | 04-00447 | EXHIBIT "B"

\\CFD-MAIN\DATA\PROJECTS\2004\04-00447 SEASONS IN THE SUN\DWG\LA\CONCEPT 2_4_06_REVISED BUFFERS.DWG.DWG 02/11/06 Fri 2:25p by FGOOCH

151

JOINDER IN BINDING DEVELOPMENT PLAN

KNOW ALL MEN BY THESE PRESENTS, that the undersigned, being the authorized agent and signatory for the owner and holder of that certain Mortgage dated MARCH 11, 2005, given by VERO - PITTSBURGH PARTNERS, LLC, as mortgagor, in favor of the undersigned, S&T BANK, as mortgagee, recorded in Official Records Book 5439, page 0865, Public Records of Brevard County, Florida, and encumbering lands described in said Mortgage, does hereby join in the foregoing Binding Development Plan for the purpose of subordinating the lien of the undersigned's Mortgage to said Binding Development Plan.

WITNESSES:

Jonathan M. Kamin
(Witness name typed or printed)

Jonathan M. Kamin
(Witness name typed or printed)

MORTGAGEE NAME/ADDRESS:
S&T BANK
800 Philadelphia Street, Indiana, PA 15701
(Address)

Michele Petrovsky, AVP
Authorized Agent

(Name typed, printed or stamped) & Title of Agent

STATE OF Pennsylvania §

COUNTY OF Allegheny §

The foregoing instrument was acknowledged before me this 14 day of March, 2005, by Michelle Petrovsky, who is personally known to me or who has produced _____ as identification.

My commission expires

SEAL
Commission No.:

Donna J. Hirschfield
Notary Public
Donna J. Hirschfield
(Name typed, printed or stamped)

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Donna J. Hirschfield, Notary Public
City Of Pittsburgh, Allegheny County
My Commission Expires July 22, 2008
Member, Pennsylvania Association Of Notaries

EXHIBIT
tabbies
C

Rev. 3/9/05

Z11076

RETURN: Clerk to the Board #2

152

Existing BDP (eastern portion)
21Z00030
Heather Calligan

BREVARD County
BOARD OF COUNTY COMMISSIONERS

FLORIDA'S SPACE COAST

BERNADETTE S. TALBERT, Clerk to the Board, 400 South Street • P.O. Box 999, Titusville, Florida 32781-0999 Telephone: (321) 637-2001
Fax: (321) 264-6972

March 23, 2006

MEMORANDUM

TO: Scott Knox, County Attorney Attn: Christine Lepore

RE: Item I.A.13, Binding Development Plan with Vero-Pittsburgh Partners, LLC

The Board of County Commissioners, in regular session on March 21, 2006, executed Binding Development Plan with Vero-Pittsburgh Partners, LLC for property located west of Carpenter Road, south side of Hammock Trail. Said Agreement was recorded in ORB 5620, PGs 5603 through 5609. Enclosed for your necessary action are two certified copies of the recorded document.

Your continued cooperation is greatly appreciated.

Sincerely yours,

BOARD OF COUNTY COMMISSIONERS
SCOTT ELLIS, CLERK

Bernadette S. Talbert, Deputy Clerk

/crc

Encls. (2)

cc: ✓Zoning – Rick Enos
Contracts Administration

49
Z11158

RETURN: Clerk to the Board #27

Scott Ellis
Clerk Of Courts, Brevard County
#Pgs: 7 #Names: 2
Trust: 4.00 Rec: 57.00 Serv: 0.00
Mtg: 0.00 Excise: 0.00
nt Tax: 0.00

THIS INSTRUMENT PREPARED BY AND RETURNED TO:
JONATHAN M. KAMIN, ESQUIRE
GOLDBERG, KAMIN AND GARVIN
1806 FRICK BUILDING, 437 GRANT STREET
PITTSBURGH, PA 15219-6101

BDP / RU-1-11
6.36 ACRES

CFN:2006084950 03-23-2006 09:52 am
OR Book/Page: 5620 / 5603

BINDING DEVELOPMENT PLAN

THIS AGREEMENT, entered into this ___ day of _____, 2006, between the BOARD OF COUNTY COMMISSIONERS OF BREVARD COUNTY, FLORIDA, a political, subdivision of the State of Florida (hereinafter referred to as "County") and VERO-PITTSBURGH PARTNERS, LLC, a Florida Limited Liability Company, whose office address is 300 Weyman Road, Suite 210, Pittsburgh, PA 15236, (hereinafter referred to as "Developer").

RECITALS:

WHEREAS, Developer owns, by virtue of a Warranty Deed recorded in the Office of the Clerk of Brevard County, Florida in Official Records Book 5495, Page 1377, that certain parcel of property, which is more particularly described in Exhibit "A", which is attached hereto and is incorporated by reference herein (hereinafter referred to as "Property"). The Property is also known in the Office of Property Appraiser of Brevard County as Parcel I.D. #21-34-13-00-00752.0; and

WHEREAS, the County and the Developer desire to enter into a Binding Development Plan for the purpose of assuring both the County and the Developer that the proposed development will be built in accordance with the representations of the Developer; and

WHEREAS, the County is authorized to regulate development of the Property.

NOW, THEREFORE, the Parties hereto agree as follows:

711158 (5D)

1. The County shall not be required or obligated in any way to construct or maintain or participate in any way in the construction or maintenance of the improvements (other than street improvements and maintenance once the same have been dedicated to and accepted by the County). It is the intent of the Parties that the Developer, its grantees, successors or assigns in interest or some other association and/or assigns satisfactory to the County shall be responsible for the maintenance of any improvements.

2. The Developer shall not erect more than three (3) dwelling units on the portion of the Property which has been rezoned to RU-1-11, which is more particularly described in Exhibit "B", which is attached hereto and is incorporated by reference herein (hereinafter referred to as "Rezoned Property"). The Developer shall have the right to use the remaining portion of the Property in accordance with the provisions of its GU zoning, or such other designations as may be applicable.

3. The Parties agree that violation of this Agreement will also constitute a violation of the Zoning Classification and this Agreement may be enforced by Sections 1.7 and 62-5, Code of Ordinances of Brevard County, as amended.

4. Developer shall comply with all regulations and ordinances of Brevard County, Florida. This agreement constitutes Developer's agreement to meet additional standards or restrictions in developing the Properties. This agreement provides no vested rights against changes to the comprehensive plan or land development regulations as they may apply to this Property.

5. Developer, upon execution of this agreement, shall pay to the County the cost of recording this agreement in Brevard County, Florida.

6. This agreement shall be binding and shall inure to the benefit of the successors or assigns of the Parties and shall run with the subject Property unless or until rezoned and be binding upon any person, firm or corporation who may become the successor in interest directly or indirectly to the subject Property. If the Property is

RETURN: Clerk to the Board #27

annexed into a municipality, the municipality may enforce the agreement or declare it null and void.

IN WITNESS WHEREOF, the Parties hereto have caused these presents to the signed all as of the date and year first written above.

COUNTY:

ATTEST:

Scott Ellis, Clerk
(SEAL)

BOARD OF COUNTY COMMISSIONERS
OF BREVARD COUNTY, FLORIDA
2725 Judge Fran Jamieson Way
Viera, FL 32940

By: Helen Voltz
Helen Voltz, Chair

As approved by the Board on March 21, 2006

STATE OF FLORIDA §
COUNTY OF BREVARD §

The foregoing instrument was acknowledged before me this 21 day of March, 2006, by, Helen Voltz, as Chairman of the Board of County Commissioners of Brevard County, Florida, who is personally known to me or who has produced _____ as identification.

Notary Public

My commission expires:

TAMARA J. RICARD
Notary Public - State of Florida
My Commission Expires Nov 9, 2009
Commission # DD 489244
Bonded By National Notary Assn.

Commission No.:

Tamara J. Ricard
(Name typed, printed or stamped)

WITNESSES:

DEVELOPER:

VERO-PITTSBURGH PARTNERS, LLC,
a Florida Limited Liability Company

By: _____
F. Daniel Caste, Managing Member of Welcast Partners, LLC, which is the General Partner of Caste-Woodland Partners, L.P., which is a Managing Member of Vero-Pittsburgh Partners, LLC

Jonathan M. Kamin
(Witness Name typed or printed)

David M. Kamin
(Witness Name typed or printed)

Z11158

RETURN: Clerk to the Board #27

COMMONWEALTH OF PENNSYLVANIA §
COUNTY OF ALLEGHENY §

The foregoing instrument was acknowledged before me this 6th day of March, 2006, by, F. Daniel Caste, Managing Member of Welcast Partners, LLC, which is the General Partner of Caste-Woodland Partners, L.P., which is a Managing Member of Vero-Pittsburgh Partners, LLC, on behalf of Vero-Pittsburgh Partners, LLC, who is personally known to me or who has produced his driver's license as identification.

Donna J. Hirschfield
Notary Public

My commission expires:

SEAL

Donna J. Hirschfield
(Name typed, printed or stamped)

Commission No.:

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Donna J. Hirschfield, Notary Public
City Of Pittsburgh, Allegheny County
My Commission Expires July 22, 2008
Member, Pennsylvania Association Of Notaries

Z 1 1 1 5 8 (3)

RETURN: Clerk to the Board #27

EXHIBIT "A"

LEGAL DESCRIPTION OF THE PROPERTY

Tax Parcel 752, as recorded in ORB 5495, Pages 1377 through 1388, Public Records, Brevard County, Florida. Section 13, Township 21, Range 34 on 6.36 acres.

Z111158

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EXHIBIT "B"

LEGAL DESCRIPTION OF THE REZONED PROPERTY

A parcel of land lying in the Southeast 1/4 of Section 13, Township 21 South, Range 34 East, Brevard County, Florida, described as follows: commencing at the Southwest corner of the Southeast 1/4 of said Section 13, thence N. 00° 56' 18" W., along the West line of said Southeast 1/4 of Section 13, a distance of 898.60 feet to the point of beginning of the land herein described; thence continue N. 00° 56' 18" W., along said line, 84.42 feet to a point lying on the Southerly right of way line of Hammock Trail as described in Official Records Book 1212, Page 917 of the public records of Brevard County, Florida and said right of way line being the arc of a circular curve, concave Northwesterly, having a radius of 644.65 feet and to which point a radial line bears S. 33° 25' 34" E.; thence Northeasterly, along the arc of said curve, through a central angle of 22° 14' 51", 250.31 feet to a point lying on the Westerly line of the parcel of land described in Official Records Book 2676, Page 0012 of the public records of Brevard County, Florida; thence along the Westerly boundary of said parcel of land, the following two courses and distances; thence S. 54° 21' 29" E., 247.45 feet; thence S. 32° 57' 46" E., 82.36 feet; thence S. 78° 03' 33" W., 123.00 feet; thence N. 77° 42' 41" W., 18.00 feet; thence S. 83° 32' 24" W., 76.00 feet; thence S. 40° 24' 42" W., 16.00 feet; thence S. 89° 03' 23" W., 198.00 feet to the point of beginning.

Containing 1.45 acres more or less.

Z11158

(15)

RETURN: Clerk to the Board #27

JOINDER IN BINDING DEVELOPMENT PLAN

KNOW ALL MEN BY THESE PRESENTS, that the undersigned, being the authorized agent and signatory for the owner and holder of that certain Mortgage dated July 6, 2005, given by Vero-Pittsburgh Partners, LLC, as Mortgagor, in favor of the undersigned, S & T Bank, as Mortgagee, recorded in Official Records Book 5495, Page 1389, Public Records of Brevard County, Florida, and encumbering lands described in said Mortgage, does hereby join in the foregoing Binding Development Plan, for the purpose of subordinating the lien of the undersigned's Mortgage to said Binding Development Plan.

WITNESSES:

Susan D Scarnato

Susan D. Scarnato
(Witness name typed or printed)

Susan D. Scarnato

Susan D. Scarnato
(Witness name typed or printed)

MORTGAGEE NAME/ADDRESS:
S & T Bank
800 Philadelphia Street
Indiana, PA 15701

Michelle Petrovsky, SVP

Michelle Petrovsky, SVP
Authorized Agent

MICHELLE PETROVSKY
(Name typed, printed or stamped) &
Title of Agent)

COMMONWEALTH OF PENNSYLVANIA)
) SS:
COUNTY OF Indiana)

The foregoing instrument was acknowledged before me this 24th day of January, 2006, by Michelle Petrovsky SVP, who is personally known to me or who has produced _____ as identification.

My commission expires: 3-27-08

Sharon E Syster
Notary Public

SEAL

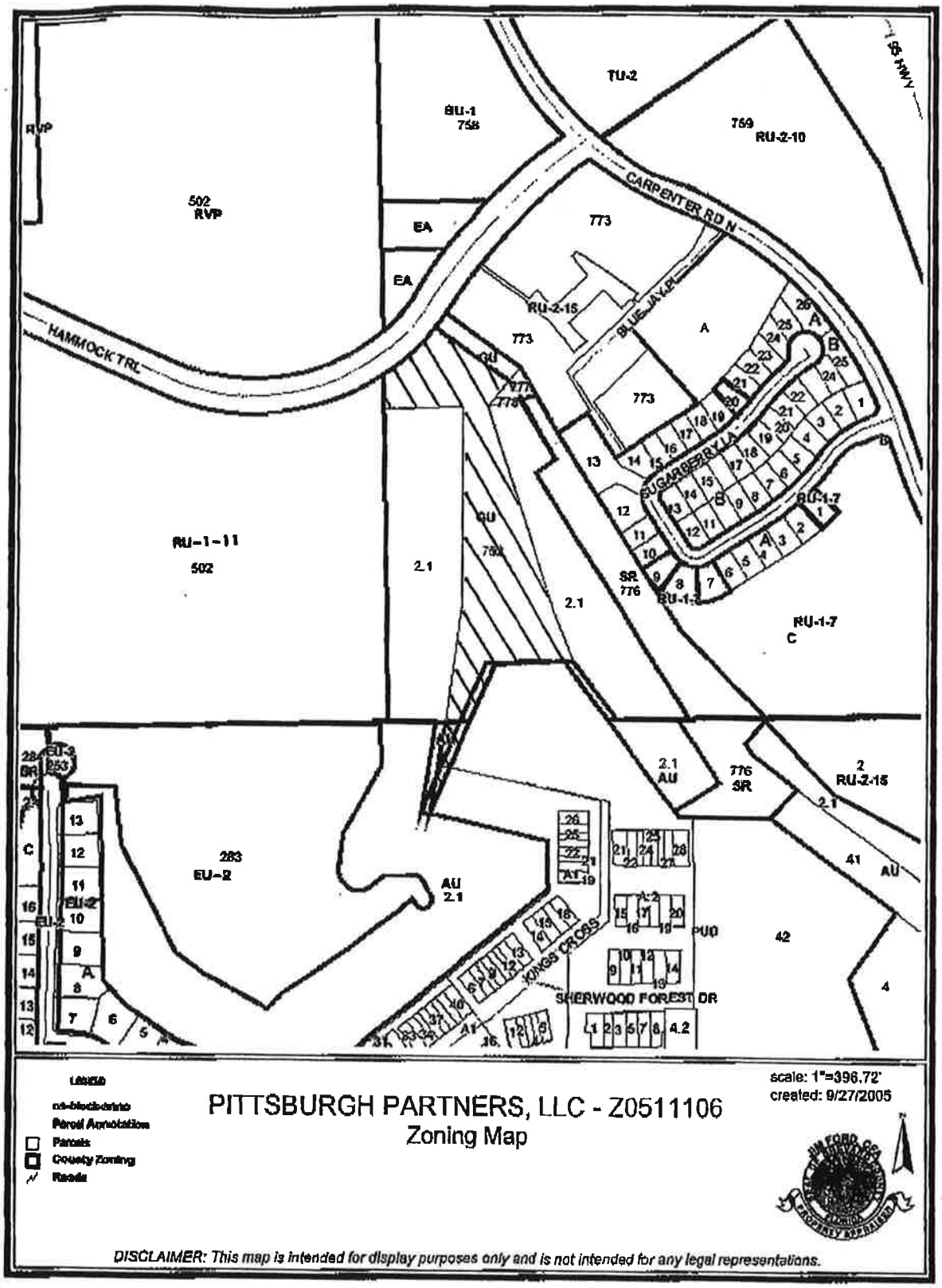
COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Sharon E. Syster, Notary Public
Indiana Boro, Indiana County
My Commission Expires Mar. 27, 2008
Member, Pennsylvania Association Of Notaries

Sharon E. Syster
(Name typed, printed or stamped)

Z11158

160

PITTSBURGH PARTNERS, LLC - Z0511106



Z11158 (57)

Draft BDP
21Z00030
Heather Calligan
(Submitted 11-15-21)

Prepared by: Charles B. Genoni
Flordevco Corp.
4760 N. US1 #201
Melbourne FL 32935

BINDING
DEVELOPMENT PLAN

THIS AGREEMENT, entered into this_____day of _____, 20__ between the BOARD OF COMMISIONERS OF BREVARD COUNTY, FLORIDA, a political subdivision of the State of Florida (hereinafter referred to as "County") and Heather Colligan Trust, (hereinafter referred to as Owner").

RECITALS

WHEREAS Developer/Owner owns property (hereinafter referred to as the "Property") in Brevard County, Florida, as more particularly described in **Exhibit "A"** attached hereto and incorporated herein by this reference; and

WHEREAS, Developer/Owner has requested the RU 1-7 zoning classification and desire to develop the Property as a Single-Family Subdivision, and pursuant to the Brevard County Code, Section 62-1157; and

WHEREAS, as part of its plan for development of the Property, Developer/Owner wishes to mitigate negative impact on abutting landowners and affected facilities or services; and

WHEREAS the County is authorized to regulate development of the Property.

NOW, THEREFORE, the parties agree as follows:

1. The County shall not be required or obligated in any way to construct or maintain or participate in any way in the construction or maintenance of the improvements. It is the intent of the parties that the Developer/Owner, its grantees, successors or assigns in interest or some other association and/or assigns satisfactory to the County shall be responsible for the maintenance of any improvements.

2. Developer/Owner shall limit gross density on the property to 2.5 dwelling or a maximum units per acre or 198 units. Minimum unit size shall be eighteen hundred (1800) square feet or larger except for the one-acre lot parcels. The average lot size for the project shall be a minimum of or above 6,000 square feet. Any increase in site density will require an amendment to this agreement and will require public hearings and notice as provided in the Code of Ordinances of Brevard County, Florida.

3. The Developer/Owner shall construct a berm with an average height of four (4) feet (varies from three (3) feet to five (5) feet high) along the length of the Property that fronts on Turpentine Road. The berm will be located in the buffer area contiguous to Turpentine Road. This area will also include a six (6) foot high wood fence or opaque vegetative landscaped buffer. The berm will be irrigated and maintained by the Developer/Owner and or its assigns. The berm will be constructed along with the initial phase of construction.

4. The Developer/Owner shall provide a 300-foot-wide buffer along the east approximately 1,600 feet of the South Property line. The east approximately 1,600 feet 300-foot-wide of the South Property line shall be placed in a conservation easement. The conservation easement may be used for mitigation of wetlands with the St. Johns River Water Management District (SRJWMD). In that case the easement will be in favor of the SJRWMD only. The remaining (western) portion of the South Property line shall keep a minimum 30' buffer between the property line and the nearest home.

5. The Developer/Owner shall provide a twenty-five (25) foot wide buffer along the south Property line of Bar "C" Ranchettes (as recorded in plat book 24, page 58 of the public records of Brevard County, Florida) where it is contiguous to the Property and along the contiguous property line of the Property with the two (2) parcels as recorded in Official Record Book 298, page 409 and Official Record Book 2314 page 2137 or the public records of Brevard County, Florida. The Developer/Owner shall install a six (6) foot high opaque wooden fence along this contiguous property line and along the southeast three hundred and fifty (350) feet of Bar "C" Ranchettes east of boundary line which is contiguous to the Property. In addition to the wood fence, a six (6) foot high landscaped buffer will be provided along Bar-C Ranchettes south property line where it is contiguous to the Property. A buffer area for the undisturbed area will be provided

no less than fifty (50) feet extending south from the north three hundred (300) feet of Bar "C" Ranchettes east property line which is contiguous to the Property. The area between the north three hundred (300) feet and the south three hundred and fifty (350) feet on east property line shall be a minimum of a fifty (50) foot buffer. Property abutting S.R. 46 will provide an opaque vegetative buffer no less than fifty (50) feet east of the one hundred and fifty (150) buffer and extend from the south side of S.R. 46 which is contiguous to the property. Existing vegetations shall remain intact in the buffer area unless invasives are required to be removed. The Developer/Owner shall provide replacement vegetation in this area if the existing non-invasive vegetation is destroyed.

6. Developer/Owner shall comply with all regulations and ordinances of Brevard County, Florida. This Agreement constitutes Developer's/Owner's agreement to meet additional standards or restrictions in developing the Property. This agreement provides no vested rights against changes to the Comprehensive Plan or land development regulations as they may apply to this Property.

7. Developer/Owner, upon execution of this Agreement, shall pay to the Clerk of Courts the cost of recording this Agreement in the Public Records of Brevard County, Florida.

8. This Agreement shall be binding and shall insure to the benefit of the successors or assigns of the parties and shall run with the subject Property unless or until rezoned and be binding upon any person, firm or corporation who may become the successor in interest directly or indirectly to the subject Property and be subject to the above referenced conditions as approved by the Board of County Commissioners on _____, 20__. In the event the subject Property is annexed into a municipality and rezoned, this agreement shall be null and void.

9. Violation of this Agreement will also constitute a violation of the Zoning Classification and this Agreement may be enforced by Sections 1.7 and 62-5, Code of Ordinances of Brevard County, Florida, as may be amended.

10. Conditions precedent. All mandatory conditions set forth in this Agreement mitigate the potential for

incompatibility and must be satisfied before Developer/Owner may implement the approved use(s), unless stated otherwise. The failure to timely comply with any mandatory condition is a violation of this Agreement, constitutes a violation of the Zoning Classification and is subject to enforcement action as described in Paragraph 6 above.

11. This BDP shall replace the 1999 and 2005 BDPs recorded on 12-10-99 at OR Book 4100 Page 3354 and 5-25-2005 at OR Book 5472 Page 3172.

IN WITNESS THEREOF, the parties hereto have caused these presents to be signed all as of the date and year first written above.

ATTEST:

BOARD OF COUNTY COMMISSIONERS
OF BREVARD COUNTY, FLORIDA
2725 Judge Fran Jamison Way
Viera, FL 32940

_____
_____, Clerk
(SEAL)

_____
_____ Chair
As approved by the Board on_____

(Please note: you must have two witnesses and a notary for each signature required, the notary may serve as one witness.)

WITNESSES:

OWNER

Heather Calligan Trust

_____

_____
(Witness Name typed or printed)

_____

_____
(Witness Name typed or printed)

_____

3942 Rambling Acres Dr Titusville FL 32796

STATE OF_____

COUNTY OF_____

The foregoing instrument was acknowledged before me this_____day of ____,20__,

by_____, as_____of_____,

who is personally known or produced_____as identification.

My commission expires_____
Commission no_____
SEAL

_____
Notary Public
(Name typed, printed, or stamped)

Exhibit "A"

PARCEL 1:

(PARCEL B)

A PARCEL OF LAND BEING A PART OF THE SOUTHWEST 1/4 OF SECTION 13, TOWNSHIP 21 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA, DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHWEST CORNER OF SAID SECTION 13, THENCE N.89°27'18"E., ALONG THE SOUTH LINE OF SAID SECTION 13, A DISTANCE OF 33.00 FEET TO A POINT LYING ON THE EAST RIGHT OF WAY LINE OF TURPENTINE ROAD (A 66.00 FOOT WIDE RIGHT OF WAY); THENCE ON A BEARING OF NORTH ALONG SAID EAST RIGHT OF WAY LINE OF TURPENTINE ROAD (SAID RIGHT OF WAY LINE LYING PARALLEL WITH AND 33.00 FEET EAST OF THE WEST LINE OF SAID SECTION 13), 394.50 FEET TO THE INTERSECTION WITH THE NORTHERLY RIGHT OF WAY LINE OF HAMMOCK TRAIL (A 100 FOOT WIDE RIGHT OF WAY) AS DESCRIBED IN OFFICIAL RECORDS BOOK 1212, PAGE 917 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA; THENCE CONTINUE ON A BEARING OF NORTH, ALONG THE AFOREMENTIONED EASTERLY RIGHT OF WAY LINE OF TURPENTINE ROAD, 834.74 FEET TO THE SOUTHWEST CORNER OF THE PARCEL OF LAND DESCRIBED IN OFFICIAL RECORDS BOOK 298, PAGE 409 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA; THENCE N.89°20'20"E., ALONG THE SOUTH LINE OF SAID PARCEL, 133.00 FEET TO THE SOUTHEAST CORNER THEREOF AND SAID POINT BEING THE SOUTHWEST CORNER OF THE PARCEL OF LAND DESCRIBED IN OFFICIAL RECORDS BOOK 2314, PAGE 2137 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA; THENCE ALONG THE BOUNDARIES OF SAID PARCEL OF LAND, THE FOLLOWING TWO COURSES AND DISTANCES; THENCE N.58°49'19"E., 69.61 FEET; THENCE ON A BEARING OF NORTH, 62.65 FEET TO A POINT LYING ON THE SOUTH LINE OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1 /4 OF THE AFORESAID SECTION 13 AND THE SOUTH LINE OF BAR-"C" RANCHETTES AS RECORDED IN PLAT BOOK 24, PAGE 58 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA; THENCE N.89°20'20"E., ALONG SAID LINE, 436.80 FEET TO THE SOUTHEAST CORNER OF SAID PLAT OF BAR-"C" RANCHETTES AND THE SOUTHEAST CORNER OF THE WEST 1 /2 OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SAID SECTION 13 AND SAID POINT BEING THE POINT OF BEGINNING OF THE LAND HEREIN DESCRIBED; THENCE N.00°03'56"W., ALONG THE EAST LINE OF SAID PLAT OF BAR-"C" RANCHETTES AND ALONG SAID EAST LINE OF THE WEST 1/2 OF THE NORTHWEST 1 /4 OF THE SOUTHWEST 1/4 OF SECTION 13, A DISTANCE OF 1285.83 FEET TO A POINT LYING ON THE SOUTH RIGHT OF WAY LINE OF STATE ROAD N0.46; THENCE N.89°10'34"E., ALONG SAID RIGHT OF WAY LINE, 615.30 FEET; THENCE S.08°33'12"W., 403.88 FEET; THENCE N.81°26'48"W., 60.10 FEET; THENCE S.08°33'12"W., 115.85 FEET: THENCE S.40°01'27"W., 302.44 FEET; THENCE S.14°14'48"E.; 186.22 FEET; THENCE S.35°28'00"E.; 139.61 FEET; THENCE S.44°13'35" W., 139.33 FEET; THENCE S.45°4°6'25"E., 47.84 FEET; THENCE S.15°04'59"E., 112.69 FEET TO A POINT LYING ON THE NORTHERLY RIGHT OF WAY LINE OF THE AFORESAID HAMMOCK TRAIL AND THE ARC OF A CIRCULAR CURVE, CONCAVE SOUTHERLY, HAVING A RADIUS OF 675.82 FEET AND TO WHICH POINT A RADIAL LINE BEARS N.15°04'59"W.; THENCE WESTERLY, ALONG SAID RIGHT OF WAY LINE AND ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 05°05'18", 60.02 FEET TO A POINT LYING ON THE SOUTH LINE OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SAID SECTION 13; THENCE S.89°20'20"W., ALONG SAID LINE, 318.63 FEET TO THE POINT OF BEGINNING. CONTAINING 12.87 ACRES MORE OR LESS.

(PARCEL C)

A PARCEL OF LAND BEING A PART OF THE SOUTHWEST 1/4 OF SECTION 13, TOWNSHIP 21 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA, DESCRIBED AS FOLLOWS: COMMENCING

AT THE SOUTHWEST CORNER OF SAID SECTION 13, THENCE N.89◦27'18"E., ALONG THE SOUTH LINE OF SAID SECTION 13, A DISTANCE OF 33.00 FEET TO A POINT LYING ON THE EAST RIGHT OF WAY LINE OF TURPENTINE ROAD (A 66.00 FOOT WIDE RIGHT OF WAY); THENCE ON A BEARING OF NORTH ALONG SAID EAST RIGHT OF WAY LINE OF TURPENTINE ROAD (SAID RIGHT OF WAY LINE LYING PARALLEL WITH AND 33.00 FEET EAST OF THE WEST LINE OF SAID SECTION 13), 394.50 FEET TO THE INTERSECTION WITH THE NORTHERLY RIGHT OF WAY LINE OF HAMMOCK TRAIL (A 100 FOOT WIDE RIGHT OF WAY) AS DESCRIBED IN OFFICIAL RECORDS BOOK 1212, PAGE 917 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA AND SAID POINT BEING THE POINT OF BEGINNING OF THE LAND HEREIN DESCRIBED; THENCE CONTINUE ON A BEARING OF NORTH, ALONG THE AFOREMENTIONED EASTERLY RIGHT OF WAY LINE OF TURPENTINE ROAD, 834. 74 FEET TO THE SOUTHWEST CORNER OF THE PARCEL OF LAND DESCRIBED IN OFFICIAL RECORDS BOOK 298, PAGE 409 OF THE PUBLIC RECORDS OF BREVARD COUNTY. FLORIDA; THENCE N.89◦20'20"E., ALONG THE SOUTH LINE OF SAID PARCEL, 133.00 FEET TO THE SOUTHEAST CORNER THEREOF AND SAID POINT BEING THE SOUTHWEST CORNER OF THE PARCEL OF LAND DESCRIBED IN OFFICIAL RECORDS BOOK 2314, PAGE 2137 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA; THENCE ALONG THE BOUNDARIES OF SAID PARCEL OF LAND, THE FOLLOWING TWO COURSES AND DISTANCES; THENCE N.58◦49'19"E., 69.61 FEET; THENCE ON A BEARING OF NORTH, 62.65 FEET TO A POINT LYING ON THE SOUTH LINE OF THE NORTHWEST 1 /4 OF THE SOUTHWEST 1 /4 OF THE AFORESAID SECTION 13 AND THE SOUTH LINE OF BAR-"C" RANCHETTES AS RECORDED IN PLAT BOOK 24, PAGE 58 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA: THENCE N.89◦20'20"E., ALONG SAID LINE, 755.43 FEET TO A POINT LYING ON THE NORTHERLY RIGHT OF WAY LINE OF THE AFORESAID HAMMOCK TRAIL AND THE ARC OF A CIRCULAR CURVE, CONCAVE SOUTHEASTERLY, HAVING A RADIUS OF 675.82 FEET AND TO WHICH POINT A RADIAL LINE BEARS N.20◦10'17"W.; THENCE ALONG SAID RIGHT OF WAY LINE OF HAMMOCK TRAIL, THE FOLLOWING THREE COURSES AND DISTANCES; THENCE SOUTHWESTERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 34°50'03", 410.88 FEET TO THE POINT OF TANGENCY; THENCE S.34◦59'40"W., 650.21 FEET: THENCE S.57◦09'30"W., 302.84 FEET TO THE POINT OF BEGINNING. CONTAINING 9.61 ACRES MORE OR LESS.

(PARCEL D)

A PARCEL OF LAND BEING A PART OF THE SOUTHWEST 1/4 OF SECTION 13, TOWNSHIP 21 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA, DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHWEST CORNER OF SAID SECTION 13, THENCE N.89◦27"18"E., ALONG THE SOUTH LINE OF SAID SECTION 13, A DISTANCE OF 33.00 FEET TO A POINT LYING ON THE EAST RIGHT OF WAY LINE OF TURPENTINE ROAD (A 66.00 FOOT WIDE RIGHT OF WAY); THENCE ON A BEARING OF NORTH ALONG SAID EAST RIGHT OF WAY LINE OF TURPENTINE ROAD (SAID RIGHT OF WAY LINE LYING PARALLEL WITH AND 33.00 FEET EAST OF THE WEST LINE OF SAID SECTION 13), 275.48 FEET TO THE INTERSECTION WITH THE SOUTHERLY RIGHT OF WAY LINE OF HAMMOCK TRAIL (A 100 FOOT WIDE RIGHT OF WAY) AS DESCRIBED IN OFFICIAL RECORDS BOOK 1212, PAGE 917 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA; THENCE ALONG THE RIGHT OF WAY LINE OF SAID HAMMOCK TRAIL, THE FOLLOWING SIX COURSES AND DISTANCES: THENCE N.57◦09'30"E.; 386.98 FEET; THENCE N.34•59'40"E., 669.79 FEET TO THE POINT OF CURVATURE OF A CIRCULAR CURVE, CONCAVE SOUTHERLY AND HAVING A RADIUS OF 575.82 FEET: THENCE NORTHEASTERLY, EASTERLY AND SOUTHEASTERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 79◦26'50", 798.44 FEET TO THE POINT OF TANGENCY; THENCE S.65•33'30"E., 84.87 FEET TO THE POINT OF BEGINNING OF THE LAND HEREIN DESCRIBED; THENCE CONTINUE S.65.33'30"E.; 556.13 FEET TO THE POINT OF CURVATURE OF A

CIRCULAR CURVE, CONCAVE NORTHERLY AND HAVING A RADIUS OF 644.65 FEET: THENCE EASTERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 29◦5'11", 329.13 FEET; THENCE S.00◦4'18"E., 200.33 FEET TO A POINT LYING ON THE ARC OF A CIRCULAR CURVE, CONCAVE NORTHERLY, HAVING A RADIUS OF 844.56 FEET AND TO WHICH POINT A RADIAL LINE BEARS N.03◦43'25"W.; THENCE EASTERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 20•42'52". 305.34 FEET TO A POINT LYING ON THE EAST LINE OF THE SOUTHWEST 1/4 OF THE AFOREMENTIONED SECTION 13; THENCE S.00◦14'18"E., 756.51 FEET TO THE SOUTHEAST CORNER THEREOF; THENCE S.89◦28'50"W., ALONG THE SOUTH LINE OF THE SOUTHEAST 1/4 OF THE SOUTHWEST 1/4 OF SAID SECTION 13, A DISTANCE OF 1327.78 FEET TO THE SOUTHWEST CORNER THEREOF; THENCE S.89◦27'18"W., ALONG THE SOUTH LINE OF THE SOUTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SAID SECTION 13, A DISTANCE OF 85.85 FEET; THENCE N.00◦31'10"W., 949.80 FEET; THENCE N.53◦47'52"E., 263.61 FEET; THENCE N.24◦26'30"E., 24.02 FEET: THENCE N.53◦47'58"E ., 91.57 FEET TO THE POINT OF BEGINNING. CONTAINING 30.95 ACRES MORE OR LESS.

(PARCEL E)

A PARCEL OF LAND BEING A PART OF THE SOUTHWEST 1/4 OF SECTION 13, TOWNSHIP 21 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA, DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHWEST CORNER OF SAID SECTION 13, THENCE N.89◦27'18"E., ALONG THE SOUTH LINE OF SAID SECTION 13, A DISTANCE OF 33.00 FEET TO A POINT LYING ON THE EAST RIGHT OF WAY LINE OF TURPENTINE ROAD (A 66.00 FOOT WIDE RIGHT OF WAY) AND SAID POINT BEING THE POINT OF BEGINNING OF THE LAND HEREIN DESCRIBED; THENCE ON A BEARING OF NORTH ALONG SAID EAST RIGHT OF WAY LINE OF TURPENTINE ROAD (SAID RIGHT OF WAY LINE LYING PARALLEL WITH AND 33.00 FEET EAST OF THE WEST LINE OF SAID SECTION 13), 275.48 FEET TO THE INTERSECTION WITH THE SOUTHERLY RIGHT OF WAY LINE OF HAMMOCK TRAIL (A 100 FOOT WIDE RIGHT OF WAY) AS DESCRIBED IN OFFICIAL RECORDS BOOK 1212, PAGE 917 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA; THENCE ALONG THE RIGHT OF WAY LINE OF SAID HAMMOCK TRAIL, THE FOLLOWING FOUR COURSES AND DISTANCES: THENCE N.57◦09'30"E., 386.98 FEET; THENCE N.34◦59'40"E., 669.79 FEET TO THE POINT OF CURVATURE OF A CIRCULAR CURVE, CONCAVE SOUTHERLY AND HAVING A RADIUS OF 575.82 FEET; THENCE NORTHEASTERLY, EASTERLY AND SOUTHEASTERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 79◦26'50", 798.44 FEET TO THE POINT OF TANGENCY; THENCE S.55•33'30"E., 84.87 FEET: THENCE S.5◦47'58"W., 91.57 FEET: THENCE S.24◦26'30"W., 24.02 FEET: THENCE S.53◦47'52"W., 263.61 FEET: THENCE S.00•31'10"E., 949.80 FEET TO A POINT LYING ON THE SOUTH LINE OF THE SOUTHWEST 1/4 OF THE SOUTHWEST 1/4 OF THE AFOREMENTIONED SECTION 13; THENCE S.89◦27'18° W., ALONG SAID LINE, 1208.61 FEET TO THE POINT OF BEGINNING. CONTAINING 24.28 ACRES MORE OR LESS.

(PARCEL F)

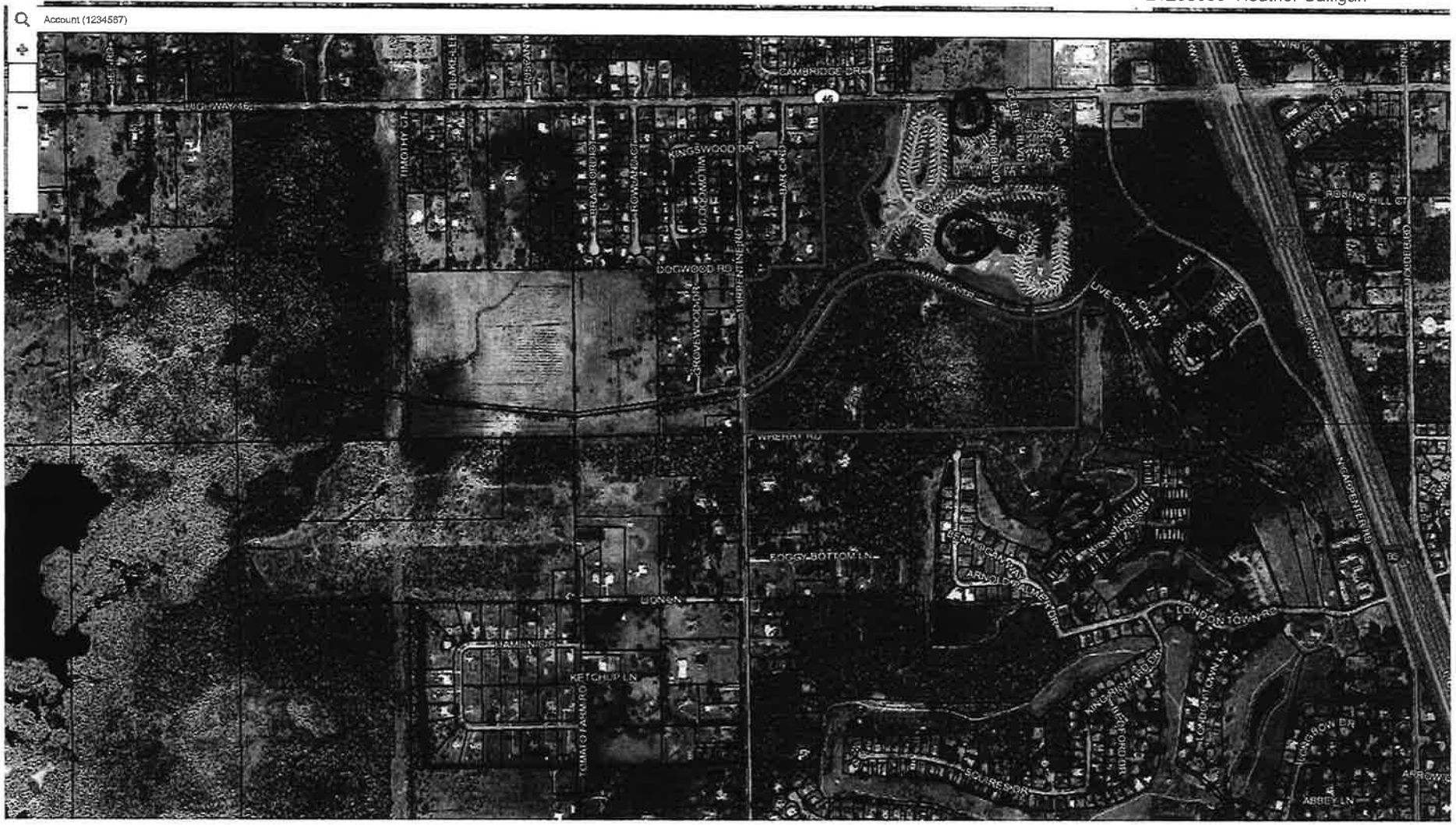
A PARCEL OF LAND BEING A PART OF THE SOUTHWEST 1/4 OF SECTION 13, TOWNSHIP 21 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA, DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHWEST CORNER OF SAID SECTION 13, THENCE N.89◦27"18"E., ALONG THE SOUTH LINE OF SAID SECTION 13, A DISTANCE OF 33.00 FEET TO A POINT LYING ON THE EAST RIGHT OF WAY LINE OF TURPENTINE ROAD (A 66.00 FOOT WIDE RIGHT OF WAY): THENCE ON A BEARING OF NORTH ALONG SAID EAST RIGHT OF WAY LINE OF TURPENTINE ROAD (SAID RIGHT OF WAY LINE LYING PARALLEL WITH AND 33.00 FEET EAST OF THE WEST LINE OF SAID SECTION 13), 275.48 FEET TO THE INTERSECTION WITH THE SOUTHERLY RIGHT OF WAY LINE OF HAMMOCK TRAIL (A 100 FOOT WIDE RIGHT OF WAY) AS DESCRIBED IN OFFICIAL RECORDS BOOK

1212, PAGE 917 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA; THENCE ALONG THE RIGHT OF WAY LINE OF SAID HAMMOCK TRAIL, THE FOLLOWING SIX COURSES AND DISTANCES: THENCE N.57◦09'30"E., 386.98 FEET; THENCE N.34◦59'40"E., 669.79 FEET TO THE POINT OF CURVATURE OF A CIRCULAR CURVE, CONCAVE SOUTHERLY AND HAVING A RADIUS OF 575.82 FEET; THENCE NORTHEASTERLY, EASTERLY AND SOUTHEASTERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 79◦26'50", 798.44 FEET TO THE POINT OF TANGENCY; THENCE S.55•33'30"E., 641.00 FEET TO THE POINT OF CURVATURE OF A CIRCULAR CURVE, CONCAVE NORTHERLY AND HAVING A RADIUS OF 644.65 FEET: THENCE EASTERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 29◦ 5'11 ", 329.13 FEET TO THE POINT OF BEGINNING OF THE LAND HEREIN DESCRIBED: THENCE CONTINUE EASTERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 27°54'53", 314.08 FEET TO A POINT LYING ON THE EAST LINE OF THE SOUTHWEST 1/4 OF THE AFORESAID SECTION 13; THENCE S.00◦14'18"E.. ALONG SAID LINE, 226.51 FEET TO A POINT LYING ON THE ARC OF A CIRCULAR CURVE, CONCAVE NORTHERLY, HAVING A RADIUS OF 844.56 FEET, AND TO WHICH POINT A RADIAL LINE BEARS S.24◦26'17"E.; THENCE WESTERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 20'42'52", 305.34 FEET: THENCE N.00◦4'18"W ., 200.33 FEET TO THE POINT OF BEGINNING. CONTAINING 1.42 ACRES MORE OR LESS.

PARCEL 2

A PARCEL OF LAND LYING IN THE SOUTHEAST 1/4 OF SECTION 13, TOWNSHIP 21 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHWEST CORNER OF THE SOUTHEAST 1/4 OF SAID SECTION 13: THENCE N.00◦4'18"W., ALONG THE WEST LINE OF SAID SOUTHEAST 1/4 OF SAID SECTION 13, A DISTANCE OF 920. 79 FEET TO THE POINT OF BEGINNING OF THE PARCEL OF LAND HEREIN DESCRIBED; THENCE CONTINUE N.00◦4'18"W., ALONG SAID LINE, 62.23 FEET TO A POINT LYING ON THE SOUTHEASTERLY RIGHT OF WAY LINE OF HAMMOCK TRAIL, A 100 FOOT WIDE ROAD RIGHT OF WAY AS DESCRIBED IN OFFICIAL RECORDS BOOK 1212, PAGE 917 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA AND SAID RIGHT OF WAY LINE BEING AN ARC OF A CIRCULAR CURVE, CONCAVE NORTHWESTERLY, HAVING A RADIUS OF 644.65 FEET AND TO WHICH POINT A RADIAL LINE BEARS S.32◦43'34"E.; THENCE NORTHEASTERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 04◦20'28", 48.84 FEET; THENCE S.19◦35'16"W., 32.69 FEET TO THE POINT OF CURVATURE OF A CIRCULAR CURVE, CONCAVE NORTHWESTERLY AND HAVING A RADIUS OF 300.00 FEET; THENCE SOUTHWESTERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 12◦37'49", 66.13 FEET TO THE POINT OF BEGINNING. CONTAINING 1434 SQUARE FEET MORE OR LESS.

FYI Submitted by Applicant 11-15-21
21Z00030 Heather Calligan



21Z00030

Account: 2112413 Parcel ID: 21-34-13-00-506
Sale: 9/3/2014 $325,000
BCPAO Market Value: $270,750
Owners: HEATHER CALLIGAN TRUST
Address: 1909 UNKNOWN FL

Zoom | Clear | Details | EagleView | Hide Info

BCPAODana Blickley, CFA, Brevard County Property Appraiser | Instructions | Disclaimer

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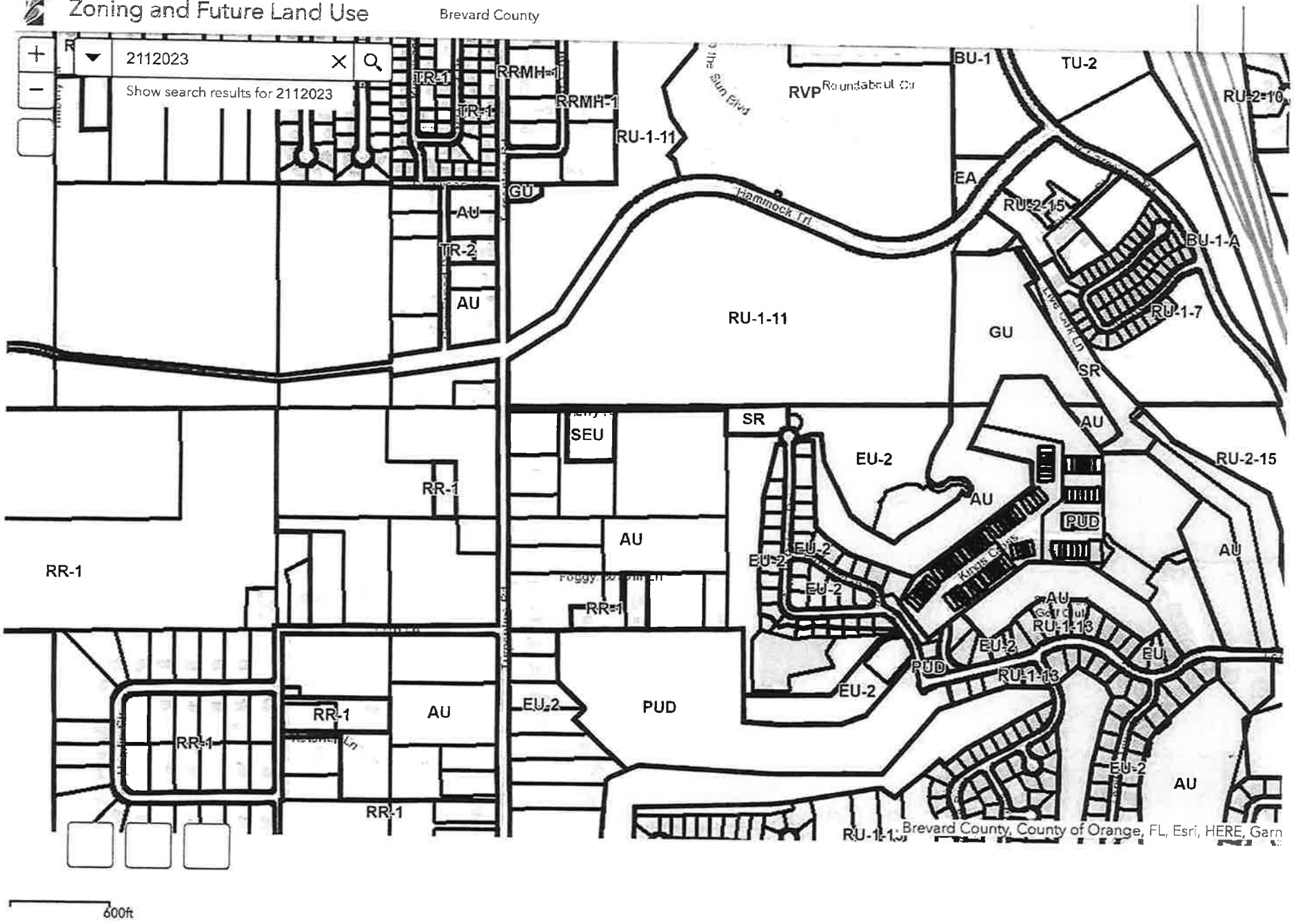
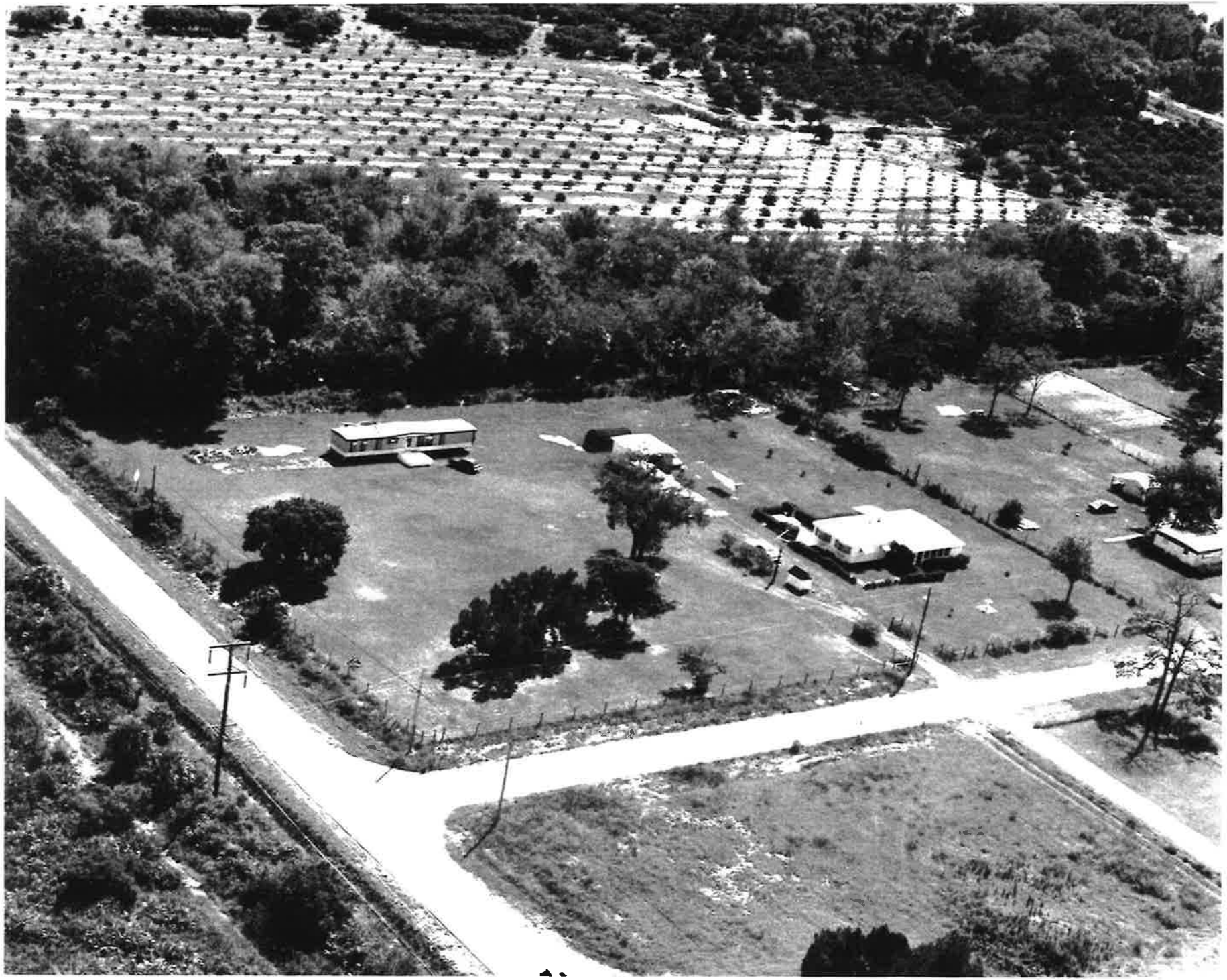
Zoning and Future Land Use

Brevard County





Submitted by Margaret Primavere on 11-15-21 21Z00030 Heather Calligan

Feb 3 2005

Item IV.D.2., (NMI50102) Francis Carter and James Duggan (Debra Duggan)'s request for change from AU to RR-1 on 41 acres located on the north side of Pine Island Road, east of Briar Oak Drive, which was recommended for denial by the North Merritt Island Dependent Special District Board.

Chairman Pritchard advised the applicant would like to pull the item, and he has a card for Debra Duggan.

Debra Duggan advised she called the P&Z and found out they needed it in writing one week in advance; the problem was their attorney did not received his notes in time and did not have enough time to review them because the Minutes from the January 13, 2005 meeting were not available until Thursday afternoon; so they would like to request a tabling if possible. She stated one of their members is not here; there was a death of a friend; she is sick and does not want to make anyone else sick; and they would like to request tabling to next month if at all possible.

Motion by Commissioner Voltz, seconded by Commissioner Carlson, to table Item IV.D.2 to March 3, 2005. Motion carried and ordered unanimously.

Chairman Pritchard stated he mentioned to Amy Tidd, he has a lot of cards on this item; and if anyone is here to speak to IV.D.2., it has been tabled.

Item IV.B.10. (Z0501103) Seasons in the Sun, LLC (Heather Calligan)'s request for amendment to existing Binding Development Plan in RVP zoning classification on 38.10 acres; and change of zoning from RVP with Binding Development Plan to RU-1-7 with amendment to Binding Development Plan on 79.13 acres of 117.23 acres located on the south side of SR 46 and east side of Turpentine Road, which was recommended for denial by the P&Z Board.

Commissioner Scarborough stated Todd Peetz will speak for the applicant; there will be questions from the audience; and requested Mr. Peetz turn the maps so people who are interested can at least observe what is being said so they can understand and can go back and forth to the diagrams. He stated the Board received a new Binding Development Plan as of this evening.

Todd Peetz with Miller Legg & Associates, representing the future owner of the property, advised they came to the P&Z Board with the understanding that the Binding Development Plan is as it was mentioned to the community; the firm became involved later in the process and found out at that meeting that there was a great deal of concern with the project and the Binding Development Plan; so in the meantime, they met with the representatives of those areas as well as the property owners in the area; and he passed around a letter from the Sherwood Homeowners Association expressing its feelings towards the meetings they had. He stated some members of the audience attended the meetings; the book was passed out to the Board, either by hand-delivery or mail; it documents the people who were there and the kinds of changes they had; and explained a map of the area, identifying the KOA Campground, Seasons in the Sun existing RV Park, another trailer park, a one-acre mobile home park, North Carpenter Road, I-95, and Sherwood development. He stated they have some larger lots with single-family units, some one-acre lots, unit sizes range from 600 to 1,500 square feet, and in the south end the unit sizes are much larger. He stated the proposed binding development plan has a 300-foot buffer extending 600 feet north/south; they have one-acre lots adjacent to the south property line; and when they get to Turpentine Road, there is a 25-foot bermed buffer with either a fence or vegetation running along the south side of the Bar C range, and an existing wooded vegetative area. He stated they requested the buffer be 50 feet on the west property line as well as a change they received along the north side where SR 46 abuts the property. Mr. Peetz stated when they met with the property owners, they raised some additional issues with the company; they were concerned about the number of units that were going on the site; they originally had 237 units, and reduced that number to 198 units; they clarified what the fence type would be, which is wood, and they also clarified in line 3 that it would be an opaque vegetative buffer. He stated they added the one-acre lots on line 4 on the south property and minimum unit size of 2,200 square feet; they added in line 5 the 50-foot buffer on the north side of the property; and on line 9 they added deed restrictions and an architectural review committee to the process as there was concern about what kind of development it would be and that it would not be a well maintained community. He stated as part of the homeowners' concerns, they made the minimum unit size 1,800 square feet on line 10; a good part of the development would be built less than that, but on the south they are larger than that; and that is why they have the 2,200 square feet on the south side. He stated when they met with the homeowners association, they showed them the plan; it is a conceptual plan based on the open space concept where they tried to maintain as much green space as possible; and the green area they have they want to maintain as much as possible because it gives them points with the Open Space Ordinance. He stated they want to have connectivity between the pod areas both vehicular and pedestrian to access the open space areas; it was the plan the community saw; and after seeing it, they basically appreciated the opportunity to see it and understood better what his client was doing. He stated the Open Space Ordinance allows them to go down to 5,000 square-foot lots; they are not intending to go with 5,000 square-foot lots; they added in there no lots below 5,500 square feet with an average of 6,000 square feet; and the only reason it is written like that is because there are still some unknowns since they have not had a chance to revisit the site plan since they added the one-acre lots. He stated they talked to the residents about potentially moving Hammock Trail, but until that has been changed officially, they are not sure what that will do to the lot count and it will also impact lot size, so

that is why they have the lot sizes the way they have them in the binding development agreement. He noted they had a nice time meeting with the residents, believes they went a long way to work with them.

Heather Calligan of Titusville, representing Seasons in the Sun, advised she is the petitioner working with Todd Peetz, but she is also a surrounding property owner and is speaking to the Board as a surrounding property owner. She stated Seasons in the Sun RV Park that she developed, the entire boundary on the west side of her property and the entire boundary on the south side of her property, which is 38 acres, is going to abut this land that they are getting the rezoning change on; and obviously she is in favor of the zoning change. She stated the Future Land Use Map calls for residential four units per acre, which agrees with the RU-1-11 zoning being requested, except they indicated in their binding development plan a further restriction on the density for the property to 2.5 units per acre, down from 4 units per acre. She stated she is sure the County spent considerable time, effort, and money in adopting the Future Land Use Plan to use as a guideline for how the area should be developed; and that being the case, she would anticipate the zoning request within the guidelines set up by the County would be in the best interest of the surrounding properties. Ms. Calligan stated as the petitioner, she submitted considerable information in support of the zoning change request; they addressed utilities, schools, and harmony with the surrounding properties; they also held community meetings and worked closely with those who attended to address their issues and concerns; and they modified the Binding Development Plan to incorporate those changes. She stated they cannot please everyone no matter how hard they try, but they feel they have been successful in satisfying the vast majority of issues and concerns, which were brought to them at the community meetings; and they anticipate a positive turnout in favor of the request tonight. She stated many of those who could not attend advised her they contacted Commissioner Scarborough's office to tell him of their position in favor of the rezoning request; the land is located off I-95 interchange, Exit No. 223; it is reasonable to expect that property located at an interchange location will be developed and not left as agricultural land, which the land was when she originally purchased it; and she subsequently changed it to RVP for the RV park she developed. She stated since the Future Land Use Map calls for residential, it is reasonable to expect the zoning change request within those guidelines would be in harmony with the surrounding properties; and as an abutting property owner, she is in favor of the zoning request and would like to see a favorable vote. She stated as County representatives who use the Future Land Use Map for guidance, she would hope that the Board votes in favor of the low-density zoning request that falls within those guidelines; and thanked the Board for its consideration.

Margaret Primavere of Mims identified her property on a map; stated right now there is a 300-foot buffer zone intact from when the developer originally put in the RV park; and she is here to speak on behalf of herself, her husband, her father-in-law, and the people who live on Bar C Road. She stated when she attended two meetings in January at the library next to Pinewood School, she addressed the issue of a drainage easement that has water that flows behind her home all the way to South Lake; and she asked if the Army Corps of Engineers designed the buffer zone to preserve and protect the drainage easement for flood control or if it was the State or County that implemented it many years ago. She identified the drainage ditch on the map; and stated it is a drainage easement with a buffer zone. Ms. Primavere stated she has lived on her property for 26 years; and presented a picture of the buffer zone when there was no RV park and when it was groves. She stated since the experience of the last hurricane season, the flow of the drainage ditch was tremendous plus it was very full; the agencies need to be contacted before an excavation or building takes place; and she would like to be notified with information regarding this request. She stated Vero-Pittsburgh wants to put homes down the entranceway off SR 46; she is not sure where because there is no engineering paperwork as of yet, pending the rezoning; but if the homes have to be 18 inches higher than SR 46, where does all the water go but to the low lands, which means their properties; so leaving a 50-foot buffer is not an acceptable amount of footage. She stated her neighbor Phil Osborne asked why they cannot utilize the existing entrance of Seasons in the Sun and branch off further down. She stated they also discussed how many homes per acre; the residences on Bar C Road are on one-acre lots; and they would like to have their new neighbors on one-acre lots. Ms. Primavere stated there are water concerns all over the area; people are in fear of their wells drying up and shortages because there is not enough water for all the development that has hit Brevard County. She stated another problem that needs to be addressed is overcrowded schools; she asked for information on that and was told the schools were not over capacity; she went to Mims Elementary on January 31 and was informed they were 110% capacity with the reduction of class sizes, which means all the rooms are used and portables are on the way. She stated she went to the meeting at Astronaut High School on the same day where Dr. Bobay informed them that the schools were 110% at Mims, 91% at Oak Park, 77% at Pinewood, 78% at South Lake, 104% at Madison, and 111% at Astronaut High School. She stated the Board needs to take those issues into consideration; and she hopes it will listen to them and address the issues.

William Hall of Mims stated schools are a problem, they are overcrowded; water is a problem, the County and City of Titusville put in deep wells to the north, and they are having trouble; and traffic is a problem. He stated he has pictures taken from the air; the shrubbery goes way out and it was not supposed to be taken down; they have not designated single-family dwellings; the residents want single-family dwellings; they have .4 acre per house; and by the time they figure the acreage for the roads and common areas, and possibly water retention areas, that would be less than .4 acre. He stated they need one house per acre designated to apply the same density as the surrounding area; and they will be happy with one house per acre, but need greater than a 50-foot clearance because they have to take down a whole lot of shrubbery to get down to 50 feet. Mr. Hall stated when they have hurricanes, the drainage ditch backs up about 50 to 75 feet on the back of his property, so it is not adequate right now; it needs to be cleaned out; and the County used to do it every year, but it has not done it lately. He stated Planning and Zoning recommended this not be approved; he would like to see changes to one house per acre and greater buffer on the back of Bar C Road from the

project; and that would make it more acceptable.

Monica Katrick of Mims stated she lives on Wherry Road, which was Turpentine Road and renamed for emergency access purposes; her property abuts the property in question on the south side; originally they were very much opposed to the plan when Heather Calligan first began working at rezoning the property because it was proposed for RU-1-7; and they could see hundreds of homes, possibly poorly built, so she and her husband began a petition around the Turpentine Road area to oppose the plan to build small homes and took the signatures to the P&Z Board. Ms. Katrick stated the P&Z Board said the residents needed some questions answered; and what ended up happening was the developers sent out notices to the community inviting them to come and have their questions answered and met with them; and at the first meeting they said they were concerned about school overcrowding, water resources, evacuation, house size, lot size, and vegetative buffers, but they did not get far. She stated they came back at the next meeting with answers from the County about water resources, and said they should be able to add 8,000 homes in the area and it would not affect the water pressure, water resources, and water availability. She stated they guaranteed that anything they put in next door to them would have the type of piping that would not interfere with the quality of life they are used to. She stated she hopes the Board intends to keep the school impact fee because it is going to help with the quality of the homes; and people who really want to be there will come and pay the impact fees to build schools and keep existing schools from becoming overcrowded. She stated she has two children still in school, one in elementary and the other in high school; it is a concern of theirs; and when the developer met with them, they had taken the time to go and visit the schools and find out information about how that was going to be handled. Ms. Katrick stated they agreed to a vegetative buffer; at the meeting they said to put on the line what they wanted; they said they wanted one-acre lots on the south side; they said okay, they will see what they can do; and they put one-acre lots on the south side. She stated they wanted less density and the developer worked with them; they want quality development; and she likes the fact that the Commissioners say to go back and talk to the people in the communities. She stated the developers have put in the binding development plan how they are going to build it and addressed their concerns; it is a much better scenario than not knowing or having the land sit there, and even better than having an RV park, which is what it would stay; and it would be nice having a buffer and the one-acre lots to maintain their privacy. She stated they like privacy, nature, and animals; and she thinks that will be maintained with the compromises the developer has made, so she is now in support of the project.

Mike Katrick of Mims stated they have been actively involved with this project since it was originally proposed in June; the original proposal was for RU-1-7 with density of 399 homes; they circulated a petition at that time and got approximately 100 signatures; and the neighbors were against that type of density. He stated they did not just get the neighbors immediately adjacent to their property, but got them down the street within a mile or so; and since then, it has been changed to RU-1-11. He stated with the Binding Development Plan, he is in favor of the project; the RV park has a 300-foot buffer zone across the south side, which they are giving up in lieu of one-acre lots in that corner; and the developers worked with them on that and have addressed a lot of the concerns the neighbors had as best they could. He stated the property is big; and to make it usable as an investment prospect and do what they can, they did pretty good for the neighbors; what he foresees happening with the property is like the home sizes of Sherwood Country Club area; the house sizes in there are approximately what they are proposing to develop along with the one-acre lot size; and he is not opposed to living near that. Mr. Katrick stated Sherwood is right around the corner from his property; it is a mixed area; they bought the property ten years ago and built their house six years ago; and there are anywhere from half a million dollar homes to single wide mobile homes; so the development will fit in well with the neighborhood and he is happy with the progress they have made to address the concerns of the residents.

Jane Wherry of Mims stated she has been to the dance since 1999 when they first started the RV park, so she is not going to revisit the overcrowding of schools and the drainage issues, but will say that there are two other developments currently being built within a five-mile radius, which are the Walkabout Community and Eagle's Nest Subdivision, as well as the recently developed dense Birchwood Subdivision. She stated all of those homes will access onto SR 46, Turpentine Road, Dairy Road, and Carpenter Road; and SR 46 is a two-lane heavily traveled road, which she understands Department of Transportation has no intention of widening for 15 to 20 years unless it changed that. She stated as a 33-year resident of her home, which abuts the area south where the one-acre lots are proposed, she still has a problem with the overall density; they have worked with the community; but the Board has to address density and drainage in the area at some time.

Commissioner Scarborough stated an RV site is different than a home site; but if they look at the approved RV site, it is 399 units; if this item is approved, it goes down to about 198 units; so they would lose more than 200 units, even though they are not the same type of units. He stated the MPO at the last meeting saw favorably to request from the tri-counties MPO, which are Seminole, Orange, and Osceola Counties, to put in the plan the four-laning of SR 46 now; that is just the plan, but it does mean a commitment from both MPO's to move forward with Department of Transportation in seeing that funded. Ms. Wherry noted it is easier to go into Sanford to do business than to go into Mims.

John Greene of Titusville, representing the owners of 32 acres, 20 of which are zoned BU-1 and some of it adjacent to the existing Seasons in the Sun Resort, stated the balance of the property is between Carpenter Road and Interstate 95; and he is here to support the proposed zoning change. He stated they have enough RV parks with Seasons in the

Sun and the KOA; by changing the zoning to RU-1-11, it will comply with the Future Land Use Map and will be a benefit to the area; so they support the zoning change.

Steve Jack, President of Mims Community Group, stated they had one meeting with Heather Calligan; he has been in touch with her for the last few months; some of his friends and coworkers live in that area; they have made concessions on both sides; and everybody would like to see one-acre lots. He stated when he built his home he had to have one acre about eight years ago; he is in the middle trying to be a mediator; and he does not want to see the project denied, but there are a couple of issues they need to talk about. He stated they are sincere people; he works with several of them; and whatever the Board can work out would be great because he does not want to see it totally denied.

Mike Katrick stated he forgot to mention something; he spoke to the neighbors who live around him on the south side of the property and Hal Lilly, Paul Marsh, and Mr. Keen attended the meetings at the library and also wanted him to express their support of the project at this time.

Todd Peetz advised they do not have a record of any Army Corps of Engineers' buffer in the area; but they do know the original buffer was 300 feet and was part of the RVP requirement because it was a recreational vehicle park next to single-family development. He stated they do not feel they need to buffer single-family from rural mobile home park by 300 feet; that is why they are asking to reduce but maintain the buffer; and they want to make sure it is opaque so the residents do not have to look at their development and they do not have to look at the existing development. He stated drainage is a site plan issue; obviously they cannot drain onto somebody's property and have to maintain the drainage and the system; and water resources is explained in the letter noted as #5 in the package he provided, which states there is adequate water well into the future. He stated there are two resources of information regarding schools; he just received something from the School Board this week; it said that under the current way they evaluate schools, Mims is 92%, Madison 98%, Astronaut 106%; however, when they go to class size reduction, the schools will go to 100% capacity. He stated under the current scenario of the impact fee, although they are under 200 units, they are still looking at an impact fee of $850,000 to $900,000 based on the number of units. Mr. Peetz stated traffic has not been identified as a problem; there was a concern raised at the P&Z Board meeting regarding hurricane evacuation problems; but their site will have three points of ingress/egress that will help move people around if an entrance gets blocked. He stated again the buffer issue was raised; it was meant for the RVP zoning; the buffer on the south side was to buffer the residents from the RV park; and they understood the concerns of the residents, which is why they provided the large buffers and included 1,800 square-foot minimum unit size. He stated it exceeds the unit size on the west side but does not quite get there on the south side; however, they made the effort to get it closer to what they had.

Commissioner Colon stated a lady mentioned a concern about drainage because the homes were going to be higher than the road; and even though this issue is zoning, the Board may have to get a little more detail to assure the folks what happens to retention. Mr. Peetz stated they cannot drain on anyone's property and have to hold the water on site; it is a site planning issue and not a zoning issue; but he understands drainage is an issue that concerns people. He stated they are making every effort they can to engineer the project properly so they do not have flooding problems; and that is what they are required to do. He noted they do not see why they would not be able to accommodate that.

Commissioner Carlson stated even though they are not going to have an RV on the site any longer, the number of trips they had previously was 1,900 and now it is going up to 3,379; and they reduced the number of units to 198, so that is twice as many trips than an RV park based on the calculation. She stated she knows traffic studies were done and improvements to SR 46 happened; she knows Commissioner Scarborough said the MPO's are in line to increase the width of SR 46; but that is probably not going to happen for a while; so she wonders if they need to do another traffic study based on the number of trips calculated for each single-family home and see if there are future improvements they need to make on SR 46.

Commissioner Scarborough stated he is not a traffic expert, but drives it enough; he wishes he had somebody here who has traffic expertise; but it is probably level of service A or something like that. Commissioner Scarborough stated there is minimal traffic on SR 46 at this time, but he does not want the Board to move differently from him on the four-laning of SR 46 because there are a lot of dynamics between what is in the Sanford community with AMTRAK, the Airport, etc., and the connectivity to Brevard County for economic reasons. He stated there is not a level of service problem on SR 46 at this time; if the Board wants to do a traffic study, it could; but a casual observer would say there are hazards but not level of service problems.

Commissioner Carlson stated her concern was that the Board was not accommodating the growth that it is talking about because it is an increase in density so that is what she wanted to find out. She inquired if Commissioner Scarborough thinks the improvements they made based on the previous Binding Development Plan are sufficient to accommodate the increased density.

Commissioner Scarborough stated if Commissioner Carlson wants to talk about transportation, he wants somebody

here who is knowledgeable of it; the level of service on SR 46 is not an issue; they have people who pass carelessly on a two-lane road, there are deep ditches on each side of the road, and driving conditions can cause accidents; but it is not because of the level of service. He stated what seems to come up is the buffer area on the northwest corner; when he talked to Todd Peetz one thing he said is he needs flexibility to save the trees; and in that context it would be beneficial if he could put within the development plan some commitment beyond just the 50-foot buffer there. He stated the 50 feet is substantially different than what they currently look at; and other than the loss of buffer, they will have a net improvement in what the community is going to see. He stated they are going to have people who live there; they are not going to have RV's; they are going to have a nature of a community that is going to put more investment in where they are than an RV park; and maybe it is discriminatory but maybe it is not, but when people own homes, they have different feelings about them. He inquired if there is something Mr. Peetz can do to help with the northwest corner vegetative area that has been identified. He stated he saw the picture of it and it is worth preserving not only as an amenity to the homes, but for conservation.

Mr. Peetz stated as the green buffer comes in, it starts to fade; the existing Binding Development Plan says all native vegetation will stay intact; and they want to try and achieve that the best they can. He stated the lots start brushing into the vegetative buffer, and that is why they said it would be easier for them to try and save as many trees as the could without limiting them too much; and that is why they went to 50 feet. He stated the buffer is about 50 feet, then 75 feet, then it starts to expand up to 300 feet; they are trying to find a way to take out the edges rather than say no taking out of the native buffer; and it was more difficult to write to see if they wanted to clip the edges through that area.

Commissioner Scarborough inquired if the east side has 50 feet; with Mr. Peetz responding that is correct. Commissioner Scarborough stated it is going from 300 feet to 50 feet; it is one thing that they have seen in the final hour, which they really need to think about; so he would suggest, rather than hold the Board up, to let them go out and discuss it in the hall and bring it back.

[redacted] Pritchard postponed Item IV.B.16 until later in the meeting.

Item IV.B.17. (Z0411401) Suntree Community Developers, Inc. (Boaz Bar-Navon)'s request for change from PUD to RP with Binding Development Plan stipulating to no commercial uses on 5.28 acres located on the east side of Holiday Springs Road, south of Viera Boulevard, which was recommended for approval with a Binding Development Plan by the P&Z Board.

Commissioner Carlson stated she wants to clarify one thing before Mr. Bar-Navon says his presentation. She stated based on the fact that the property was used for a conservation easement to allow for mitigation in the existing PUD for Holiday Springs, she believes the development rights have already been identified in the Holiday Springs Subdivision; so she is not sure why the Board is here today talking about it. She requested Assistant County Attorney Eden Bentley talk about the legalities of this issue, as she did not realize they could transfer development rights twice.

Assistant County Attorney Eden Bentley advised there are two different issues; one is the real estate issue of the conservation easement, which eliminates all development; and the way the conservation easements are written, they have no surface development rights at all. She stated there is the permitting issue of whether or not they already used the units elsewhere as part of their PUD; and the zoning staff can probably answer that a little better than she can. She stated there are two prongs going on, plus it is a PUD; and there is a question of whether or not the PUD needs to be amended as well.

Commissioner Carlson stated those were several of her concerns; she knows that Natural Resources Management made comments on it and the comments were in the information packet, which says, "Since the parcel was mitigation for the conservation of wetlands to buildable uplands in the Magnolia Springs Subdivision, the developer has already gained additional units available through density transfer." She stated the P&Z Board actually approved it, which she does not understand because maybe it did not have a legal perspective or Natural Resources did not give it any advisement; and inquired if anyone knows why the P&Z Board approved it; with Ms. Bentley responding she does not know as she was not at the meeting, but is sure the minutes would reflect it. Ms. Bentley stated the Board is in a public hearing context here.

Chairman Pritchard stated he feels like Commissioner Carlson does that the development rights were already transferred to another part of the PUD on the other side of Holiday Springs Road; and by allowing additional units to be transferred from the parcel to the parcel that is designated RP just north of it, seems as if they are double dipping. Commissioner Carlson stated that was her first impression, and if the Board desires to listen to the applicant or anybody else, that is fine, but she is very concerned about setting a precedent by separating it from the existing PUD. She stated it might require another public hearing to amend the PUD as mentioned by Ms. Bentley; and she finds it difficult to accept because the PUD has been developed, so it does not make a lot of sense. Chairman Pritchard advised the Board will give Mr. Bar-Navon an opportunity to present his side.

PLANNING AND ZONING BOARD MINUTES

The Brevard County Planning & Zoning Board met in regular session on **Monday, November 15, 2021,** at **3:00 p.m.**, in the Florida Room, Building C, Brevard County Government Center, 2725 Judge Fran Jamieson Way, Viera, Florida.

The meeting was called to order at 3:00 p.m.

Board members present were: Ron Bartcher (D1); Brian Hodgers (D2); Ben Glover (D3); William Capote (D3); Mark Wadsworth, Chair (D4); Liz Alward (D4 - Alt); Bruce Moia (D5); Peter Filiberto, Vice Chair (D5); and David Bassford (D5 - Alt).

Staff members present were: Jeffrey Ball, Planning and Zoning Manager; George Ritchie, Planner III; Paul Body, Planner II; Peter Martin, Planner II Kyle Harris, Associate Planner; Alex Esseesse, Assistant County Attorney; and Jennifer Jones, Special Projects Coordinator.

Excerpt from Complete Minutes

The Heather Calligan Trust (Chad Genoni)
A change of zoning classification from RU-1-11 (Single-Family Residential) with an existing BDP (Binding Development Plan) to RU-1-7 (Single-Family Residential), with an amendment to the existing BDP. The property is 79.16 acres, located on the south side of State Road 46, approx. 635 ft. east of Turpentine Road. (No assigned address. In the Mims area.) (Tax Account 2112413) (District 1)

George Ritchie noted there are two BDP's on the property currently; one BDP covers almost the entire parcel, and the other BDP is on a small portion of the lot lying south of Hammock Trail. The request is for RU-1-7 with an amendment to the existing BDP. He stated the request was amended after the application was submitted, and the first request was to have the RU-1-7 zoning consistent with the Residential 1 and Residential 4 Future Land Use designations. When an issue came up with the potential number of lots, the applicant revised the proposed BDP to limit the number of lots to what is existing and approved for the site currently under one of the conditions of the existing BDP.

Mark Wadsworth asked if there are still two BDP's on the property. Mr. Ritchie replied the request is to change it to the proposed BDP which will cover the entire property. The second BDP, which is on the small piece at the southeast corner, was a change of zoning from GU to RU-1-11, but that piece is too small to be a separate lot, it is less than 2,000 square feet, so it doesn't add any extra units to the property it just adds additional land area to the request.

Kim Rezanka, Lacy, Lyons, Rezanka Law Firm, Rockledge, distributed a revised BDP to the board. [The revised BDP and other handouts provided by Ms. Rezanka can be found in file 21Z00030, located in the Planning and Development Department]. She stated the proposed BDP is to replace the other two BDP's and it includes almost everything from the 2005 BDP except for one buffer issue, so it is nothing new, and the applicant is just requesting to change to RU-1-7 for flexibility of lot size. She explained that the new BDP came about after a community meeting. She said the subject property has been proposed for development since before 1999, yet it has not been able to be developed. The property is unique in that it has wetlands, a conservation easement, and it is bisected by Hammock Trail, which has been attempted to be vacated, but the County did not want to vacate because of historical drainage. There are two RV parks to the north of the property; there are townhomes along the Sherwood Golf Course to the south; and there is RU-1-7 developed property to the east, as well as condominiums, so there is a mix of uses in the area. She said her clients are not asking for an increase in density, they are limiting it to the exact same number that was in the original BDP, which is 198 units, or 2.5 dwelling units per acre. She stated during the community meeting the

residents were concerned about buffering to the south, flooding on Turpentine Road, traffic on Turpentine Road, and trash along Hammock Trail. The revised BDP encompasses everything except in paragraph 4. In 2005 there was to be a buffer of 300 feet on the south property line, or there was to be one-acre lots. She said they are asking to reduce the southern buffer on the west portion of it to a minimum 30 feet between the property line and the nearest home. That is the only change from the 2005 Binding Development Plan, and that is just to allow more flexibility. She noted they are still working on the engineering plan, but all of the water on the property will have to be retained. She noted that because Hammock Trail goes through the property, it will be cleaned up. The residents also asked if access onto Turpentine Road could be eliminated, but that is not known yet because it is a public road and because the property is so long, the Fire Code will probably require two accesses. She noted the developer is willing to work with the neighbors and has met with them and will continue to meet with them as they go through engineering.

Public Comment:

Donald Martin, 1735 Turpentine Road, Mims, asked if the developer has they thought about how they are going to handle the schools, water, wastewater, and traffic.

Mark Wadsworth stated those issues will be handled in the engineering and permitting stages.

Mr. Martin asked who decides if the zoning gets changed or not. Mr. Wadsworth replied the Planning and Zoning Board makes recommendations to the Board of County Commissioners, and this request will be heard by the Commission on December 2nd and they will make the final decision.

Mr. Martin stated he is against the rezoning request.

Michael Katrick, 2185 Wherry Road, Mims. [Mr. Katrick distributed minutes from the February 3, 2005, County Commission meeting. The minutes can be found in file 21Z00030 located in the Planning and Development Department] He stated when the rezoning was first approached, there was a 300-foot buffer that went along the entire 300 feet of the south corridor, and negotiations with the developer at the County Commission meeting allowed them to put one-acre lots in that section and waive the buffer. That is how the buffer went from 300 feet to one-acre lots. He said what is being proposed now is a 30-foot buffer which is not acceptable. In 2005, the Planning & Zoning Board denied the request to go to RU-1-7, and after negotiations the request went to RU-1-11 and the neighbors accepted that. The far west section of the property has a Residential 1 Future Land Use designation; the middle section and the east side has Residential 4, and in order to do a change to residential land uses, Brevard County shall facilitate development of residential neighborhoods that offer the highest quality of life through implementation of policies.

Mr. Wadsworth asked if Mr. Katrick originally agreed to the RU-1-11. Mr. Katrick replied yes. Mr. Wadsworth asked if he is now opposing RU-1-7. Mr. Katrick replied he and others opposed RU-1-7 all along, but they negotiated to RU-1-11.

Tamara Fox, 2179 Turpentine Road, Mims, stated she would like to see the area maintained as what it is currently, a minimum of one-acre lots. She said Hammock Trail is basically a dump land; people dump whatever they want into the ditch. She said she would like to see one-acre lots along the south side. The majority of the surrounding properties are one or two-acre lots, outside of the RV park and campgrounds.

Margaret Primavere, 2485 Bar C Road, Mims. [Ms. Primavere distributed a photo to the board. The photo can be found in file 21Z00030, located in the Planning and Development Department] She stated she would like to keep the buffer zone, which she has been told by the Army Corps of Engineers is a protected easement. She said she hasn't been able to talk to anyone recently to see if that has changed. She stated she is opposed to the request.

Greg Holiday, 2181 Wherry Road, Mims, stated he lives on three acres and the reason he bought his property was because he likes the rural area, and he's opposed to the rezoning request.

Philip Osbourne, 2375 Turpentine Road, Mims, asked if the request will go to the County Commission if this board denies it. Mr. Wadsworth replied yes, it will go to the County Commission regardless of this board's recommendation.

Monica Katrick, 2185 Wherry Road, Mims, stated she was involved in the 2005 request to rezone the property. She said the original BDP shouldn't need to be changed because the number of units they are proposing would work with the original agreement, and she is against the request.

Ruth Surrell, 1950 Tomato Farm Road, Mims, stated she is against the request because there is no reason to change the original BDP unless they are trying to make it something it wasn't supposed to be in 2005.

Jacob Turner, 1980 Tomato Farm Road, Mims, stated he does not want to see the zoning changed. He said everything in the area is rural with mostly one-acre lots.

Mr. Wadsworth asked Ms. Rezanka to clarify the number of units and the buffer.

Ms. Rezanka stated there is no change in the buffer next to Ms. Primavere's property at all. The only change is in Paragraph 4, and in 2005 Paragraph 4 said there either needed to be a 300-foot buffer or one-acre lots, and with one-acre lots there is a 20-foot setback from the property line. She noted there will still have to be a subdivision buffer of 15 feet around the entirety of the project. The number of units have not changed. The one other change is that the developer is asking for flexibility of the lot sizes but there is still going to be natural buffers that will remain in the BDP. The circumstances have changed since 2005. She said there is a conservation easement that has been put on a large part of the property since then, and the wetlands regulations have changed since 2005. She stated there is no evidence of a reduction of value in any of the neighboring properties. There is not much of a change other than the ability to have different lot sizes, which are very similar to what's out there in Birchwood Forest and the Fairwoods Condominiums. The reason for the request is because circumstances have changed.

Ron Bartcher asked how many acres of the total project are planned for a conservation easement. Ms. Rezanka replied currently, there are 17 acres under a conservation easement, but there are wetlands as well.

Mr. Bartcher asked if the entrances will be on S.R. 46, Hammock Trail, or Turpentine Road?

Rick Kern, 5963 Stillwater Avenue, Cocoa, Engineer for the project, stated there will be an entrance on S.R. 46 and also on Turpentine Road. Mr. Bartcher asked if Hammock Trail will be used as ingress/egress. Mr. Kern replied if Hammock Trail is used, they will use a portion of it for access on

the southwest side, and it would be paved. Mr. Bartcher asked if there are plans for club-like amenities. Mr. Kern replied there will be an amenities and a playground.

Ms. Rezanka stated the new BDP says the minimum lot size will be 6,000 square feet, where the 2005 BDP says 5,500 square-foot lots, so the lot size has increased from what it could be with the previous BDP.

Ben Glover noted they are keeping the number of lots at 198, and asked the reason for reducing the buffer size. Ms. Rezanka replied because the land itself has changed, and to allow them to be able to get those number of lots. She said they don't know where all of the buffers are going to be. She said they really haven't changed it, because it's either a one-acre lot, or it's a 300-foot buffer.

Mr. Glover asked, with the wetlands, does the applicant believe they will get 198 units. Ms. Rezanka replied it's going to be difficult to get there, but that's what the previous one did, and that's why they used the same number of units, so it wouldn't be an increase of what was allowed before. Mr. Glover stated there will be water retention in place, because someone mentioned flooding, but this would retain all of the water instead of flooding into the neighboring properties.

Peter Filiberto asked if the project will hook up to water and sewer. Ms. Rezanka replied, yes. Mr. Filiberto stated for traffic, he sees no deficiency in level of service; schools have sufficient capacity as well. He said he has a concern about flooding, but that will be addressed in engineering.

Mr. Ritchie stated the request is just a zoning change with a BDP, and there were no changes to the Comprehensive Plan as part of this request. Neighborhood Commercial, Residential 1, and Residential 4 are the three different land use designations on the property. In the staff comments there was an explanation as to how many units could be done in each land use designation. The area that's Residential 1 is one unit per acre, so the request to have 6,000 square-foot lots is something they are requesting to have put into the plan, which is consistent with RU-1-7 zoning's 50x100 feet, so it's a bigger lot than what is required by RU-1-7, but it is still smaller than the Comprehensive Plan land use of Residential 1, and the Neighborhood Commercial land use designation gives the ability to go up one level higher, so their density would be two units per acre. Two parts of this plan is going to be limited by development under the Comp Plan. They may be able to get more units in the Residential 4, and overall the project would have 198 units, but in those portions that are Residential 1 and Neighborhood Commercial, those densities will be capped appropriate to the Comp Plan. More of those units are going to be pushed in to the Residential 4 area rather than into the Residential 1, which is along the west border. Also, some of the items seem similar to the previous BDP, but with it just being presented today, staff hasn't had sufficient time to thoroughly go through it to make sure there aren't any additional changes that may or may not have omitted that staff hasn't verified yet.

Liz Alward stated on the Comp Plan map provided, Residential 1 seems to run along Turpentine Road, and asked if those would be the one unit per acre lots.

Mr. Ritchie stated it's one unit per acre density, so their lot sizes can be different but staff will be calculating how many units come in that area when the subdivision plan is submitted. That part of the BDP is not voluntary. Section 62-1255 allows an applicant to go through this procedure to choose a zoning that normally is not consistent with the Comp Plan, but to make it consistent with the Comp Plan, so that's a request they are making; otherwise, we would have to have a lower intensity zoning

to be compatible with Residential 1 or compatible with the Residential 4 and Neighborhood Commercial land use designations.

Motion by Liz Alward, seconded by William Capote, to approve the change of zoning classification from RU-1-11 with an existing BDP to RU-1-7, with an amendment to the existing BDP. The motion passed unanimously.

Objection
21Z00030
Calligan

From: stonepeeps@outlook.com
To: Jones, Jennifer
Subject: ID# 21Z00030 Rezoning Proposal
Date: Saturday, November 13, 2021 3:08:24 PM

Ms. Jennifer Jones:

I have recently become aware of a proposed zoning change for Brevard County parcel 21-34-13-00-506, the subject property of the above ID#. Living in the vicinity of this property, I have some concerns regarding proposed development relative to: 1) compatibility with surrounding residential areas, 2) increasing vehicle traffic, and 3) public safety.

1. **Compatibility with surrounding residential areas.** I understand that the property is currently zoned RU-1-11, which would allow for a dwelling density far in excess of surrounding properties. While the R-1-11 zoning may be a "done deal" at this point, the county should not add insult to injury by a zoning change to RU-1-7, which would allow an even higher density. The entire area immediately adjacent to the subject property, and in surrounding areas south of Highway 46 and along Turpentine Road is currently characterized as "rural residential", with lot sizes typically one acre or more. The RU-1-7 zoning, which allows lots as small as 0.115 acres is in no way compatible with the character of surrounding residential areas. In asking for the zoning change from RU-1-11 to RU-1-7, it is clearly the intent of the property owner to achieve maximum density of constructed dwellings, such that we may expect the property to build out in a density completely incompatible with the rural nature of the area.
2. **Increased vehicular traffic.** Given the high dwelling density allowed by RU-1-7 zoning, traffic can be expected to increase exponentially. Traffic congestion in the area has already increased dramatically, backing up traffic on Highway 46 from the new stoplights, following the recent opening of the Love's truck stop at the end of North Carpenter Road. Assuming a net dwelling density ranging from 50 to 70 percent, the RU-1-7 zoning would allow 340 to 480 new residences adding traffic to this congested area.
3. **Public Safety.** There are a number of school bus stops along Turpentine Road in the vicinity of the subject property. Turpentine Road is clearly designed and maintained to serve a rural/low-density residential area. There are no sidewalks for pedestrians, or children awaiting the bus, to stay out of traffic. High-capacity power poles line the east side of Turpentine through this area, close to the road, which will complicate or preclude road widening or improvements for sidewalks. Also, many local residents walk their dogs, walk for exercise, and bicycle along the roads in this immediate area. The increase in traffic would be a serious hazard to non-vehicular users of these roads.

Given the above concerns, I would ask the County to reject the proposed rezoning, and consider the following:

- The burden to the County in providing funding and resources for the sure-to-be-needed traffic upgrades and public safety improvements that would accompany such a high population increase in this immediate neighborhood.
- Creating additional congestion in an already-congested traffic area that would result from development of this property under the proposed (and even the existing) zoning, and the corresponding safety hazards to pedestrians, school children, and cyclists.
- The dramatic re-characterization of the residential neighborhoods surrounding the property, with resulting negative impacts to existing residents of the area: property values, environmental degradation, and aesthetic concerns.

Thank you for your time and attention,

Nancy D Bolton
4957 Hamlin Circle
Mims (Brevard County)

Sent from Mail for Windows

Objection
21Z00030
Calligan

From: Gary Parker
To: Jones, Jennifer
Subject: 21Z00030
Date: Monday, November 15, 2021 12:08:24 PM

Sent from Mail for Windows 10
I have spoken with my neighbors on the subject of re-zoning this parcel of land. We are ALL in agreement that the existing BDP should be upheld. My address is 2360 turpentine rd. phone # 321-223-8327

Objection
21Z00030
Calligan

From: Tim Polk
To: Commissioner, D1
Subject: Subject: Re-zoning of Mims property
Date: Sunday, November 14, 2021 6:14:58 PM

This email is in reference to the proposed rezoning of the property located south of SR-46 and between North Carpenter and Turpentine road.
We are opposed to the request to increase the density proposed for the acreage as it will be a detriment to the current area as we are a mostly rural community. The 50% increase in homes per acre will put too much strain on the resources and roads in this area.
With the addition of the Loves truckstop and the continued increase of traffic from the Geneva and Oviedo , the intersection at Carpenter and 46 has quite a bit more traffic now.
The addition of +400 more homes will make the area more like Orlando than Mims.
Please count us as a no vote for this request.

Thank you.

Tim & Mary Polk
4956 Hamlin Circle.
Mims, Fl

Objection
21Z00030
Calligan

From: Margaret
To: Commissioner, D1
Subject: Zoning ID# 21Z00030
Date: Saturday, November 13, 2021 2:40:27 PM

Dear Commissioner Pritchard,

I live at 1705 Turpentine Rd, Mims, Fl. I am opposed to the rezoning of the 79.16 acres owned by the Heather Calligan Trust on the South side of State Rd 46 and East of Turpentine Rd.

The new Loves Truck Stop has brought so much extra traffic to SR 46 that trying to pull out from Turpentine Rd you take your life in your hands. So extra homes will be a transportation nightmare!

In 2005 this property was zoned RU11 with Binding Development Plans for buffer zones. If the owner of this property wins a rezoning, this will be a zero lot line subdivision with no buffer zone.

The rural community that I live in and love will be ruined. Thank you!

Warren and Margaret Vessels

Objection
21Z00030
Calligan

From: Commissioner, D1
To: Jones, Jennifer
Cc: Mascellino, Carol; Price, Jessica
Subject: Zoning Item 21Z00030
Date: Monday, November 22, 2021 3:52:31 PM

Good Afternoon,

On behalf of Commissioner Pritchett, our office received the following email regarding zoning item #21Z00030.

Best Regards,

Nate Smith
Legislative Aide to Commissioner Rita Pritchett
District 1 Commission Office
7101 South Hwy 1
Titusville, FL 32780
321-607-6901

-----Original Message-----
From: mike <m.katrick@earthlink.net>
Sent: Sunday, November 21, 2021 5:29 PM
To: Commissioner, D1 <D1.Commissioner@brevardfl.gov>
Subject: 21Z00030

Hello,
After speaking with Nate I have put together a quick note of some of our objections to rezoning to RU 1-7 with the proposed BDP.
This proposed BDP and zero lot line RU 1-7 zoning change are not compatible with 95% abutting and neighboring properties.

A little history of property:
Originally zoned AU, current owner / applicant has made each and every zoning with BDP plan change since 1999.
Applicant purchased this property along with another 36 acres as AU and then rezoned the entire parcel RVP with BDP which after negotiations we (neighbors) where acceptable of.
In 2004 the original application was for RU 1-7 which was recommended for denial by P&Z and we had over 100 signatures against RU 1-7 zoning. Eventually was rezoned to RU 1-11 with BDP then sold for $2,950,000 in March 2005. (Only noting the price to demonstrate property is very marketable at current zoning) At bottom of market applicant repurchased property Sept 2014 for $325k.
Nov 2021 Applicant requests rezoning to RU 1-7 zero lot line with BDP for potential buyer.

Our home is on southern border of this property, 2nd home in from Turpentine Rd and our front door faces north so

we will be looking directly at back the of whatever winds up in this spot. The other 3 homes on the south border have between 2 acres up to 10 acres and up to 4000 sq ft living area. Zoning for our 2 acre home is Suburban Estate and we needed a 1 acre lot size and min 2000 sq ft home. None of this is any way consistent or compatible with zero lot line, 700 sq ft home community. In 2005 current owner applied for RU 1-7 zoning and after negotiations with local neighbors entered into the current BDP with RU 1-11 zoning. This agreement with these neighbors included replacing the western section of the south 300' conservation area with 1 acre lots and 2200 sq ft homes. This was agreed upon to provide transition of the abutting the many AU and SEU zoned, 2 acre properties with 4000+ sq ft homes to the south. Proposed BDP is an insult with '30' buffer between property line and nearest home". According to P&Z Administration Policy 4 " Character of the neighborhood or area shall be a factor for consideration whenever a rezoning or any application involving a specific proposed use is reviewed. The character of the area must not be materially or adversely affected by the proposed rezoning or land use application." Applicants representative mentioned paving Hammock Trail to Turpentine to route traffic. Turpentine rd is residential with homes and driveways, 30 mph speed limit and children often riding bikes and playing ball in the road and has a stop sign at SR 46. If paving Hammock Trail becomes a reality traffic routed to Carpenter rd would make sense and be safer for everyone. Carpenter is 40 mph main road, BU-1 and CC TU-2 zoning and has a stop light with turn lanes where it meets SR46.

A review of Board minutes Feb 3 2005 item IV.B.16 will demonstrate agreement made between applicant and local homeowners which is where the existing BDP was derived.

Other issues of proposed BDP:

* 95% of abutting properties are larger than 1 acre, 5000 sq ft lot is not compatible to these properties

* Paragraph 2 "the average lot size shall be a minimum of, or above 6000 sq ft" current is 7500 sq ft

* Paragraph 4 "The remaining (western) portion of the south property line shall keep minimum 30' buffer between the property and nearest home. Existing is 1 acre lots or 300' vegetated buffer.

* Reduction of virtually all buffers from previous BDP

* Claiming to want to keep same density as existing zoning and BDP, so why the need for change? This area of Brevard is quite rural. Some people choose to live in densely populated areas, we here chose to live in rural setting.

* Entire western 350' is RES 1 Future Land Use (1 home per acre)

Positive notes of proposed BDP :

* Maintain 1800 sq Ft min home size from previous BDP

Thank you for prioritizing the citizens of this wonderful county in which we all live. Please feel free to contact me at anytime.

Michael Katrick
321-213-5810

Objection
21Z00030
Calligan

From: Commissioner, D1
To: Jones, Jennifer
Cc: Mascellino, Carol; Price, Jessica
Subject: RE: Heather Calligan Trust zoning
Date: Monday, November 22, 2021 3:53:51 PM
Attachments: image001.png

Good Afternoon,

On behalf of Commissioner Pritchett, our office received the following email regarding zoning item #21Z00030.

Best Regards,

Nate Smith
Legislative Aide to Commissioner Rita Pritchett

District 1 Commission Office
7101 South Hwy 1
Titusville, FL 32780
321-607-6901

From: Debbie Bedard <dab819@aol.com>
Sent: Wednesday, November 17, 2021 9:45 AM
To: Commissioner, D1 <D1.Commissioner@brevardfl.gov>
Subject: Fwd: Heather Calligan Trust zoning

Begin forwarded message:

From: dab819@aol.com
Date: November 13, 2021 at 10:18:55 AM EST
To: rita.pritchard@brevardfl.gov
Subject: Heather Calligan Trust zoning
Reply-To: dab819@aol.com

ID# 21Z00030

Dear Ms. Pritchard,

I have just been notified of the intention to change the zoning classification on 79.16 acres near my home. I have lived here since 1996 and remain because of the rural community. This would completely ruin the community that myself and neighbors have chosen to live in. Not to mention what it would do to the current residents property values!

This is deplorable.

I urge you to please consider our community over the greed that is the Heather Calligan Trust.

Sincerely,

Debbie Bedard
Turpentine Road, Mims, FL 32754
(321) 544-7469

Brevard COUNTY

BOARD OF COUNTY COMMISSIONERS

Planning and Development Department
2725 Judge Fran Jamieson Way
Building A
Viera, Florida 32940

Inter-Office Memo

TO: Board of County Commissioners

FROM: Tad Calkins, Director

Cc: Frank Abbate, County Manager
John Denninghoff, P.E., Assistant County Manager

DATE: November 22, 2021

SUBJECT: **21Z00030 The Heather Calligan Trust (Chad Genoni) Addendum to Staff Comments**

This memo provides an analysis of the proposed stipulations contained in the Binding Development Plan (BDP) that the applicant submitted a during the November 15, 2021, P&Z meeting. The limitations contained within BDP are to support the applicant's rezoning request to change the current zoning from RU-1-11 to RU-1-7. According to the applicant, the proposed BDP updates and carries forward the conditions within the two existing BDPs which affect the subject property. Should the Board accept the proposed BDP it will replace the existing ones.

The Board may wish to consider whether the following stipulations support the applicant's request and mitigate potential impacts to the surround area. The numbering associated with the following paragraphs represents the numbering in the BDP. This memo only evaluated the provisions unique to proposed BDP and does not include the standard paragraphs.

2. Developer/Owner shall limit gross density on the property to 2.5 dwelling or a maximum units per acre or 198 units. Minimum unit size shall be eighteen hundred (1800) square feet or larger except for the one-acre lot parcels. The average lot size for the project shall be a minimum of or above 6,000 square feet. Any increase in site density will require an amendment to this agreement and will require public hearings and notice as provided in the Code of Ordinances of Brevard County, Florida.

Analysis: This condition is primarily a carryover from the existing BDP with the exception of the 6,000 square feet average lot size. The RU1-7 minimum lot size is 5,000 square feet and the minimum living area size is 700 square feet. The requested RU-1-7 and future land use would potentially allow the property to be developed with 301 units without a BDP cap.

3. The Developer/Owner shall construct a berm with an average height of four (4) feet (varies from three (3) feet to five (5) feet high) along the length of the Property that fronts on Turpentine Road. The berm will be located in the buffer area contiguous to Turpentine Road. This area will also

include a six (6) foot high wood fence or opaque vegetative landscaped buffer. The berm will be irrigated and maintained by the Developer/Owner and or its assigns. The berm will be constructed along with the initial phase of construction.

Analysis: This condition is a carryover from the existing BDP. The subdivision code requires a 15-foot natural buffer tract along the perimeter of a development.

4. The Developer/Owner shall provide a 300-foot-wide buffer along the east approximately 1,600 feet of the South Property line. The east approximately 1,600 feet 300-foot-wide of the South Property line shall be placed in a conservation easement. The conservation easement may be used for mitigation of wetlands with the St. Johns River Water Management District (SRJWMD). In that case the easement will be in favor of the SJRWMD only. The remaining (western) portion of the South Property line shall keep a minimum 30' buffer between the property line and the nearest home.

Analysis: This condition is primarily a carryover from the existing BDP. The exception being the insertion of the "approximately" in the 1,600 distance requirements and the provision establishes a 30-foot minimum between property line and the nearest home.

5. The Developer/Owner shall provide a twenty-five (25) foot wide buffer along the south Property line of Bar "C" Ranchettes (as recorded in plat book 24, page 58 of the public records of Brevard County, Florida) where it is contiguous to the Property and along the contiguous property line of the Property with the two (2) parcels as recorded in Official Record Book 298, page 409 and Official Record Book 2314 page 2137 or the public records of Brevard County, Florida. The Developer/Owner shall install a six (6) foot high opaque wooden fence along this contiguous property line and along the southeast three hundred and fifty (350) feet of Bar "C" Ranchettes east of boundary line which is contiguous to the Property. In addition to the wood fence, a six (6) foot high landscaped buffer will be provided along Bar-C Ranchettes south property line where it is contiguous to the Property. A buffer area for the undisturbed area will be provided no less than fifty (50) feet extending south from the north three hundred (300) feet of Bar "C" Ranchettes east property line which is contiguous to the Property. The area between the north three hundred (300) feet and the south three hundred and fifty (350) feet on east property line shall be a minimum of a fifty (50) foot buffer. Property abutting S.R. 46 will provide an opaque vegetative buffer no less than fifty (50) feet east of the one hundred and fifty (150) buffer and extend from the south side of S.R. 46 which is contiguous to the property. Existing vegetations shall remain intact in the buffer area unless invasive are required to be removed. The Developer/Owner shall provide replacement vegetation in this area if the existing non- invasive vegetation is destroyed.

Analysis: This condition is primarily a carryover from the existing BDP. The exception being an apparent typo correction with clarifying reducing the buffer area for the undisturbed area will be provided no less than fifty (50) feet extending south from the north three hundred (300) feet of Bar "C" Ranchettes. In addition, the proposed condition allows for the removal of invasive vegetation. The subdivision code requires a 15-foot natural buffer tract along the perimeter of a development.

11. This BDP shall replace the 1999 and 2005 BDPs recorded on 12-10-99 at OR Book 4100 Page 3354 and 5-25-2005 at OR Book 5472 Page 3172.

Analysis: This condition is not carry-over from the existing BDP.

Objection
21Z00030
Calligan

21Z00030 Heather Calligan Trust

Dear County Commisoners,

This land is indeed unique. It is historic wetlands/swamp (see 1A, 1B, 1C). Section 13 contains the property that is under consideration. Section 24 is in reference to the area containing Sherwood Estates and Lantern Park. These maps show this land was almost completely swamp. Miss Kim Rezanka representing the Develop/Heather Calligan Trust, said she has never seen drainage like on this property, with ditches running under the road and all across this property. I'm sure that is true, it takes a lot of drainage to drain a swamp/wetland. It has been swamp since before Florida was a state. Without the labyrinth of drainage ditches on section 13 and 24 this land would be under water the majority (if not all) of the time. The area that contains Lantern Park and Sherwood Estates began development in the mid 1900's. Since that time we, as individuals and communities, have voted for and supported environmental protections of sensitive lands. The codes, rules, laws and agencies put in place are numerous. I believe by todays standards the areas of section 13 and 24 wouldn't be allowed to be built on and would actually be protected wetlands/swamp. These restrictions have been put in place because we have realized the mistakes of our past and in order to preserve our future we must protect these areas. These restrictions protect natural resources, wetlands, flood plains and habitat for endangered animals such as the Gopher Tortoise and the scrub jay. This land either is known to contain these animals or likely to considering there are local scrub jay protected lands in this area. In 1999 the county of Brevard protected the land on the south side of Sherwood Estates for these exact reasons.

Developing this piece of land has many problems one of is drainage. There are property owners that live down stream from this property. I called SJRWMD, speaking to a Mr. Jennings, concerning the flooding issues. (See 1D Fema Flood Zone map). The canal that runs along Hammock Road drains into existing wetlands as you can see on map 1E. Not only would any additional drainage cause flooding down stream, it would decrease the property value of current owners and damage current agriculture here. It would also bring additional flooding to the Salt Lake Management Area lands. I'm sure any good developer is aware of the laws concerning this matter and understands this would not be allowed, (see 1F). Mr. Jennings has reassured me ALL storm water would be required to be contained on the property on Hammock Rd. There absolutely may not be any run off into the ditches bordering this property; meaning there would need to be storm water retention ponds that could contain water from a 100 year rain event.

I believe the idea of putting retention ponds on this property should scare all of us. The majority of this land is covered by Aquifer recharging soils, (see 1G, 1H). Any attempt to change the natural water flow would damage the volume and quality of the flow of water to the aquifer recharging soil area, (see 1E and 1F). Mr. Jennings explained to me the vital importance of these recharging areas. Also, NASA completed a study of the natural recharging areas in 1990. While the area of study was on the Space Center the results apply to other aquifer recharging areas as well, (see 2A page 25). This study highlights the importance of these areas and how they replenish our aquifer. It goes on to conclude any changes in elevation makes it highly likely that it will effect our water table. Not only that but it is likely to cause leaching, accumulation of organic matter and formation of soil horizons. This should concern all of us, because it will not only affect private wells but Brevard County and the City of

Titusville wells. When I spoke with the development department at the City of Titusville the possibility of changing or damaging the aquifer so close to were they have protected land was of interest to them as well, (see 3). As you can see by the map the cities protected land for their wells connects very close to the area in question.
Brevard County already buys water from other municipalities. This would affect the current water price, increasing costs to the counties current residence. Adding to the already planned increases planned over the next few years.

This area has seen no new subdivisions built in any recent times. The only subdivisions ever built in this area was Sherwood Estates and Lantern Park. The land began development in the mid 1900s and is not relevant to the current preposed subdivision. In recent years while we haven't seen much building we have seen an uptick in preserving the sensitive land in this area. In 1999 Brevard County recognized the sensitive lands in this area and preserved all the land South of Sherwood Estates and Lantern Park to Dairy Rd called South Lake Conservation Area, (see 4A). The County of Brevard has preserved more than just this one area; there is also Fox Lake Sanctuary, Indian Mound Station Sanctuary, and North Buck Lake Scrub Sanctuary close by this area, (see 4B). It hasn't only been the county that has seen the need to protect these biodiverse lands, but the State of Florida also has Salt Lake Management Area and Buck Lake Management Area which are close to this area. As you can see by 4C, our area is in need of more of these protected lands as our biodiverse land is in danger. As you can see by 4D our community with local, county, and state government have been working hard to ensure these vital lands are protected.

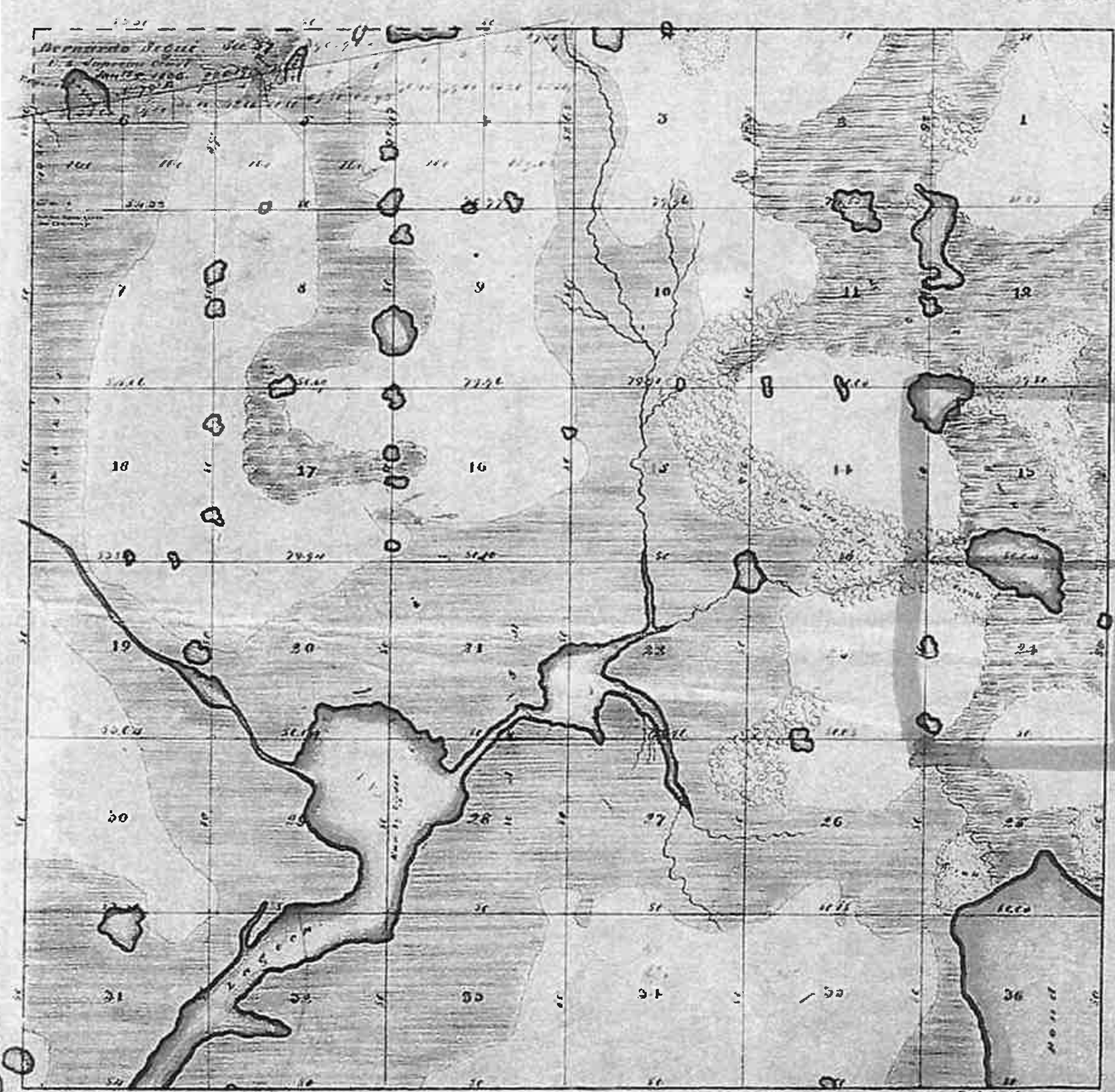
As I have explained, our current regulations, codes, laws and protections, would in today's world, have prevented the area containing Sherwood Estates and Lantern Park from being developed to the density that it currently exists. I believe it would be a part of one of the near by sanctuaries and protected lands. We should not be governed by the mistakes of our past when considering the present and future of this area. We should be learning from our mistakes and do better. The facts I have presented to you do not support the rezoning of this property. I would go so far as to say, not only should rezoning be denied but so should the whole development. In an effort to protect our future water availability, water quality, water use, biodiversity, and endangered animals this land should be entered into one of the programs to preserve lands like this. Allowing this development to move forward would likely cause damage to our local aquifer. I employ you to protect this land and our local aquifer by denying the rezoning, and supporting the preservation of this land. I have already been in contact with the state and our local representative concerning these programs. I sincerely hope that in an effort to protect the residents of our county you would join me in this effort.

Sincerely,

Ruth Sorrell
1950 Tomato Farm Rd
Mims Fl, 32754

T 21 S - R 34 E -

East Florida.



Public Land.					
Sec	Area	Sec	Area	Sec	Area
1	640.	13	640.	25	640.
2	[illegible]	14	640.	26	640.
3	[illegible]	15	640.	27	640.
4	[illegible]	16	640.	28	640.
5	[illegible]	17	640.	29	640.
6	[illegible]	18	[illegible]	30	[illegible]
7	[illegible]	19	[illegible]	31	[illegible]
8	640.	20	640.	32	640.
9	640.	21	640.	33	640.
10	640.	22	640.	34	640.
11	640.	23	640.	35	640.
12	640.	24	640.	36	640.
Total 22,907.70 Acres.					

The Township was Surveyed in the 3rd Quarter of 1844 by Henry Washington Dep. Surveyor. Variation 4° East.

The Private Claim,

was Surveyed in the 4th Quar. of 1831 by A. M. Randolph D.S. contract with Surv. Genl. of Florida, dated Decemb. 10th 1831.

Domingo Lorente } Chainmen.
John Andrew }

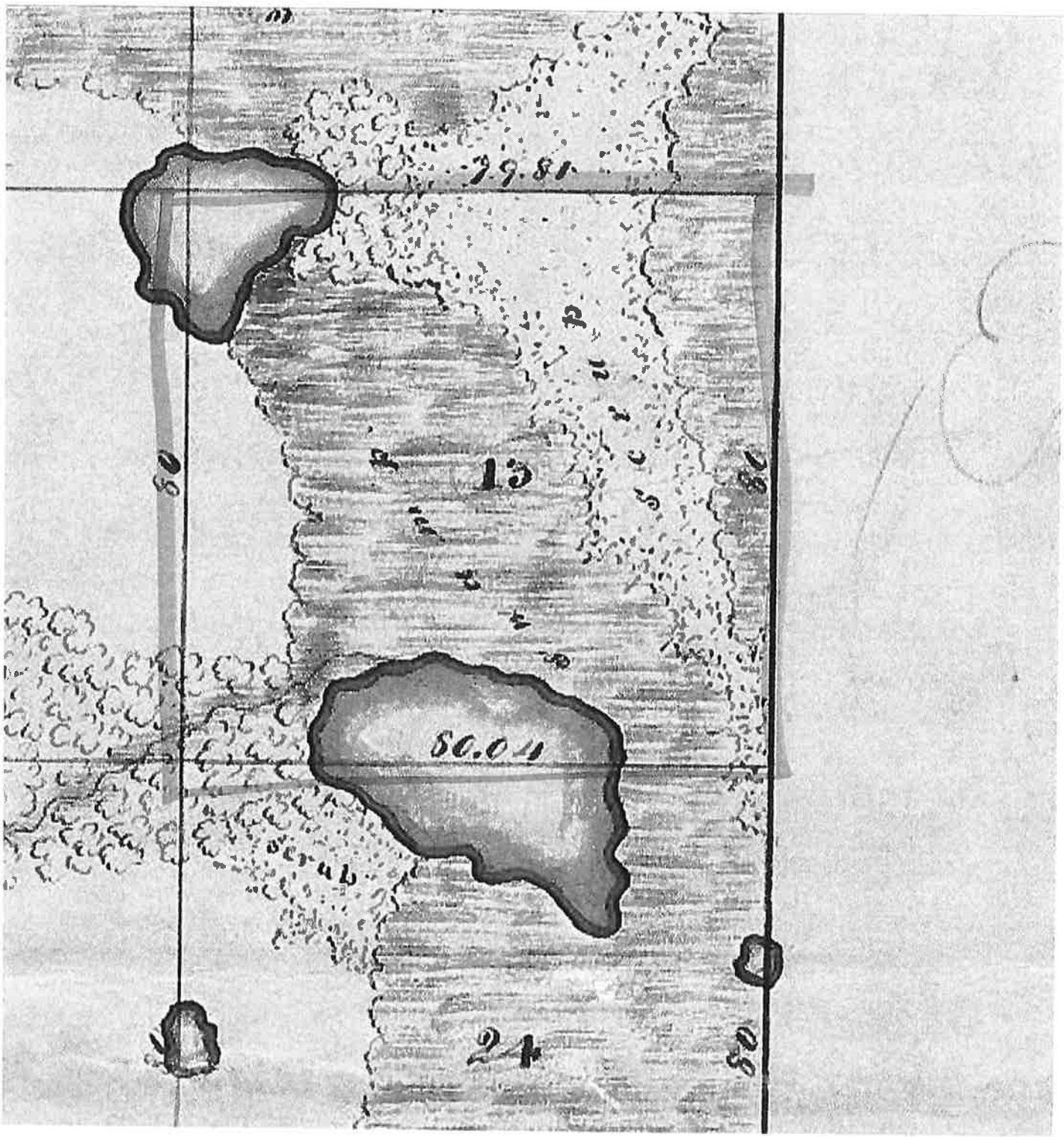
Variation 4° East.

Examined, Compared with Field notes & Approved
12 March 1852.

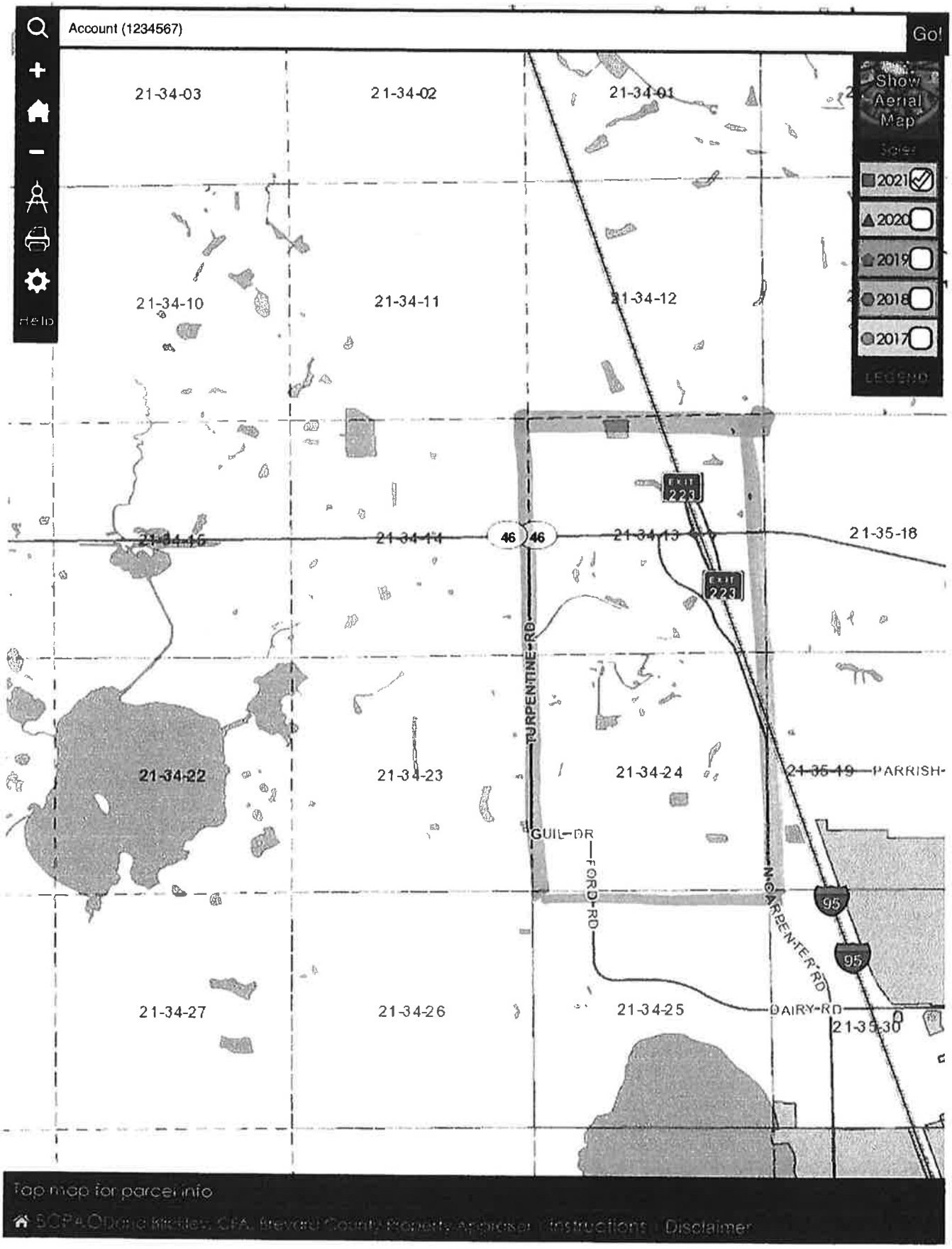
B. A. Putnam
Surveyor General

Randolph's Survey Paid [illegible] Office Report 2352 [illegible] 13 April 1850 [illegible]

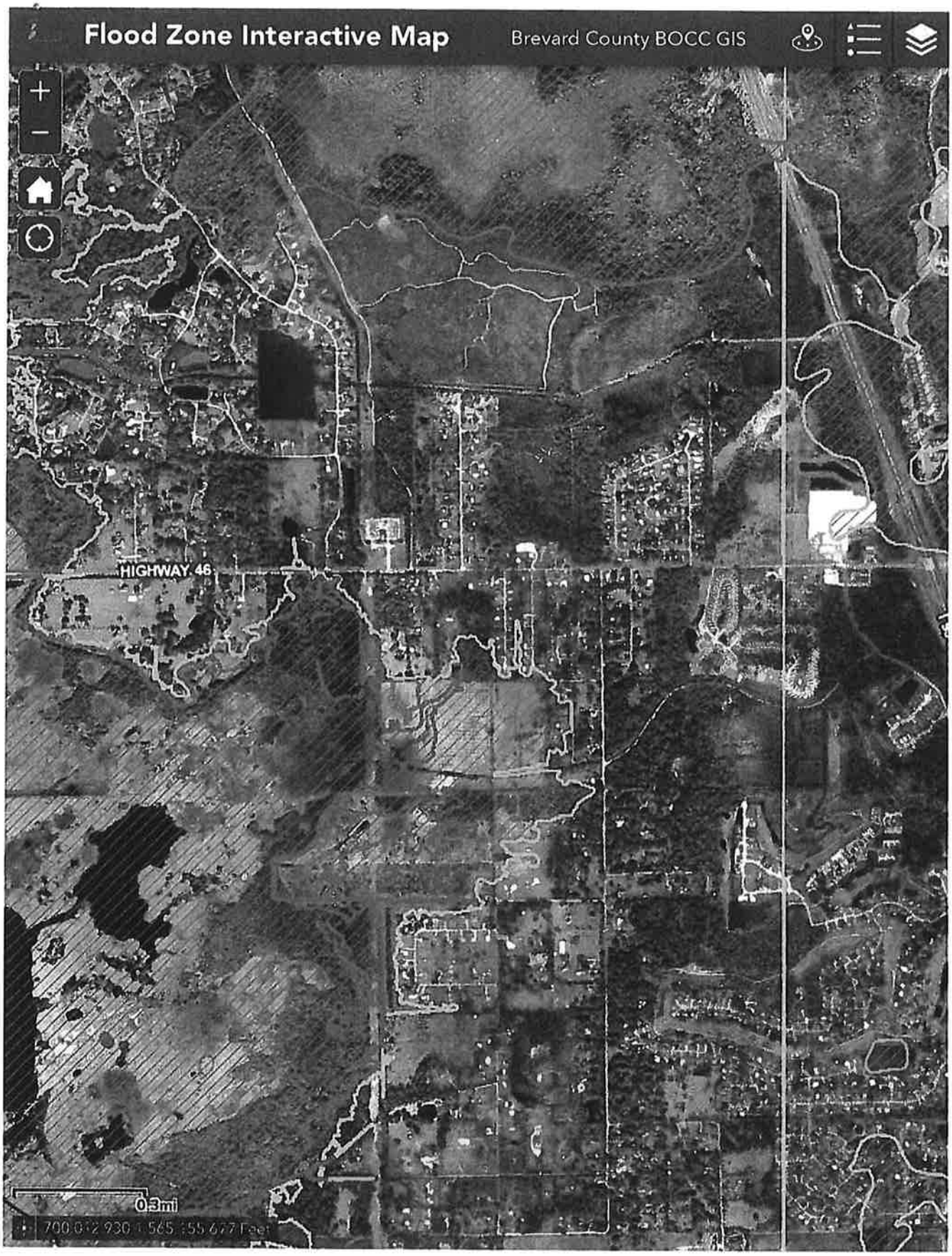
1B



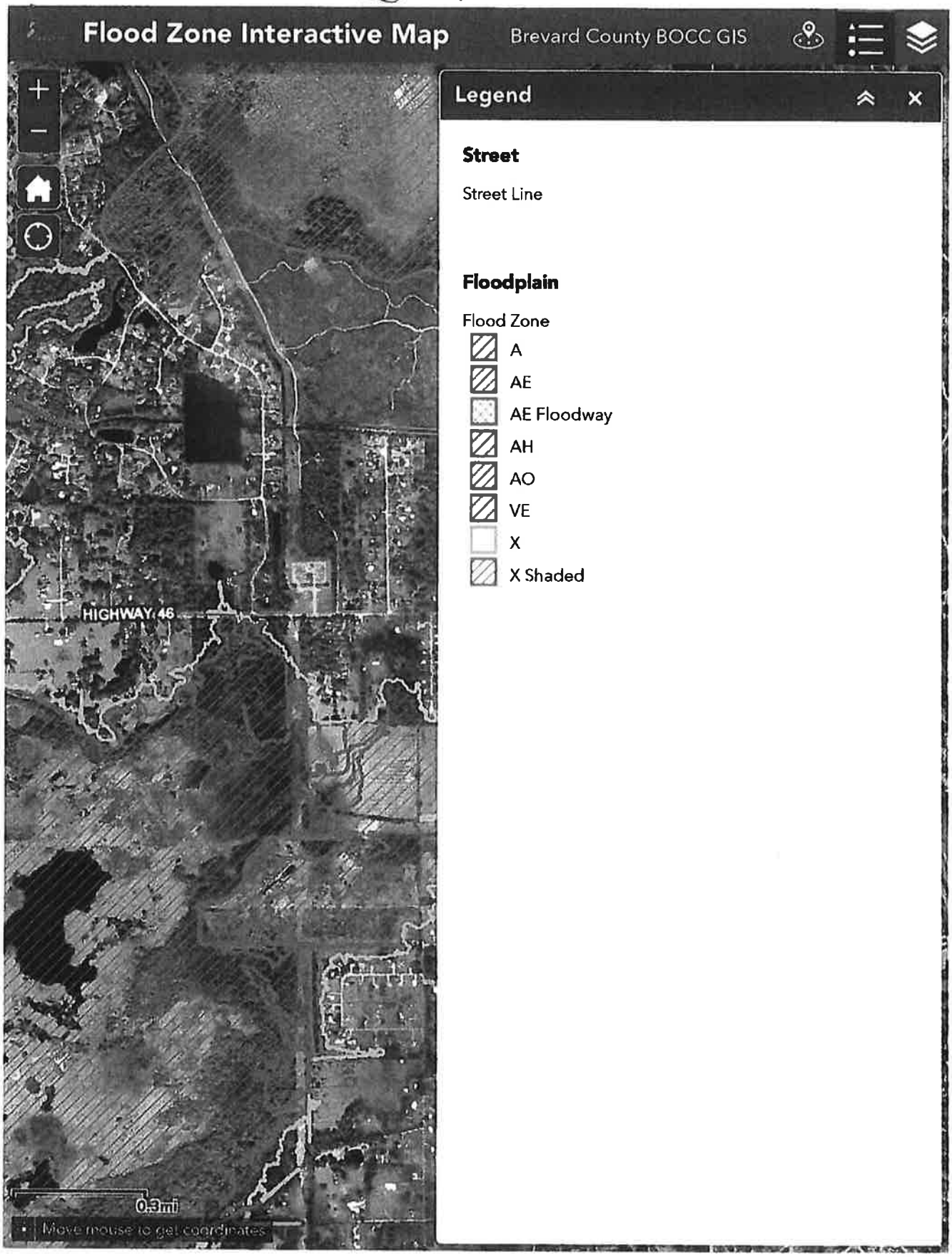
1C


Account (1234567)
Go!
Show Aerial Map
2021
2020
2019
2018
2017
LEGEND
Help
21-34-03
21-34-02
21-34-01
21-34-10
21-34-11
21-34-12
21-34-16
21-34-14
21-34-13
21-35-18
46
46
EXIT 223
EXIT 223
TURPENTINE RD
21-34-22
21-34-23
21-34-24
21-35-19
PARRISH-
GUIL-DR
FORD RD
CARPENTER RD
95
95
21-34-27
21-34-26
21-34-25
DAIRY RD
21-35-30
Tap map for parcel info
Instructions
Disclaimer

(88) 10


Flood Zone Interactive Map
Brevard County BOCC GIS
HIGHWAY 46
0.3mi

4D


Flood Zone Interactive Map
Brevard County BOCC GIS
Legend
Street
Street Line
Floodplain
Flood Zone
A
AE
AE Floodway
AH
AO
VE
X
X Shaded
HIGHWAY 46
0.3mi
Move mouse to get coordinates

1D

Flood Advocate

- Home
- FEMA Flood Maps
- Flood Zone Determination Form
- Flood Zone Report
- eLOMA

Home » What is a Flood Zone? | FEMA Zone Definitions

FEMA Zone Definitions

Special Flood Hazard Areas – High Risk

Special Flood Hazard Areas represent the area subject to inundation by 1-percent-annual chance flood. Structures located within the SFHA have a 26-percent chance of flooding during the life of a standard 30-year mortgage. Federal floodplain management regulations and mandatory flood insurance purchase requirements apply in these zones.

ZONE	DESCRIPTION
A	Areas subject to inundation by the 1-percent-annual-chance flood event. Because detailed hydraulic analyses have not been performed, no Base Flood Elevations (BFEs) or flood depths are shown.
AE, A1-A30	Areas subject to inundation by the 1-percent-annual-chance flood event determined by detailed methods. BFEs are shown within these zones. (Zone AE is used on new and revised maps in place of Zones A1–A30.)
AH	Areas subject to inundation by 1-percent-annual-chance shallow flooding (usually areas of ponding) where average depths are 1–3 feet. BFEs derived from detailed hydraulic analyses are shown in this zone.
AO	Areas subject to inundation by 1-percent-annual-chance shallow flooding (usually sheet flow on sloping terrain) where average depths are 1–3 feet. Average flood depths derived from detailed hydraulic analyses are shown within this zone.

AR	Areas that result from the decertification of a previously accredited flood protection system that is determined to be in the process of being restored to provide base flood protection.
A99	Areas subject to inundation by the 1-percent-annual-chance flood event, but which will ultimately be protected upon completion of an under-construction Federal flood protection system. These are areas of special flood hazard where enough progress has been made on the construction of a protection system, such as dikes, dams, and levees, to consider it complete for insurance rating purposes. Zone A99 may be used only when the flood protection system has reached specified statutory progress toward completion. No BFEs or flood depths are shown.

Coastal High Hazard Areas – High Risk

Coastal High Hazard Areas (CHHA) represent the area subject to inundation by 1-percent-annual chance flood, extending from offshore to the inland limit of a primary front al dune along an open coast and any other area subject to high velocity wave action from storms or seismic sources. Structures located within the CHHA have a 26-percent chance of flooding during the life of a standard 30-year mortgage. Federal floodplain management regulations and mandatory purchase requirements apply in these zones.

ZONE	DESCRIPTION
V	Areas along coasts subject to inundation by the 1-percent-annual-chance flood event with additional hazards associated with storm-induced waves. Because detailed coastal analyses have not been performed, no BFEs or flood depths are shown.
VE, V1-V30	Areas along coasts subject to inundation by the 1-percent-annual-chance flood event with additional hazards due to storm-induced velocity wave action. BFEs derived from detailed hydraulic coastal analyses are shown within these zones. (Zone VE is used on new and revised maps in place of Zones V1–V30.)

Moderate and Minimal Risk Areas

Areas of moderate or minimal hazard are studied based upon the principal source of flood in the area. However, buildings in these zones could be flooded by severe, concentrated rainfall coupled

1D

with inadequate local drainage systems. Local stormwater drainage systems are not normally considered in a community's flood insurance study. The failure of a local drainage system can create areas of high flood risk within these zones. Flood insurance is available in participating communities, but is not required by regulation in these zones. Nearly 25-percent of all flood claims filed are for structures located within these zones.

ZONE	DESCRIPTION
B, X (shaded)	Moderate risk areas within the 0.2-percent-annual-chance floodplain, areas of 1-percent-annual-chance flooding where average depths are less than 1 foot, areas of 1-percent-annual-chance flooding where the contributing drainage area is less than 1 square mile, and areas protected from the 1-percent-annual-chance flood by a levee. No BFEs or base flood depths are shown within these zones. (Zone X (shaded) is used on new and revised maps in place of Zone B.)
C, X (unshaded)	Minimal risk areas outside the 1-percent and .2-percent-annual-chance floodplains. No BFEs or base flood depths are shown within these zones. (Zone X (unshaded) is used on new and revised maps in place of Zone C.)

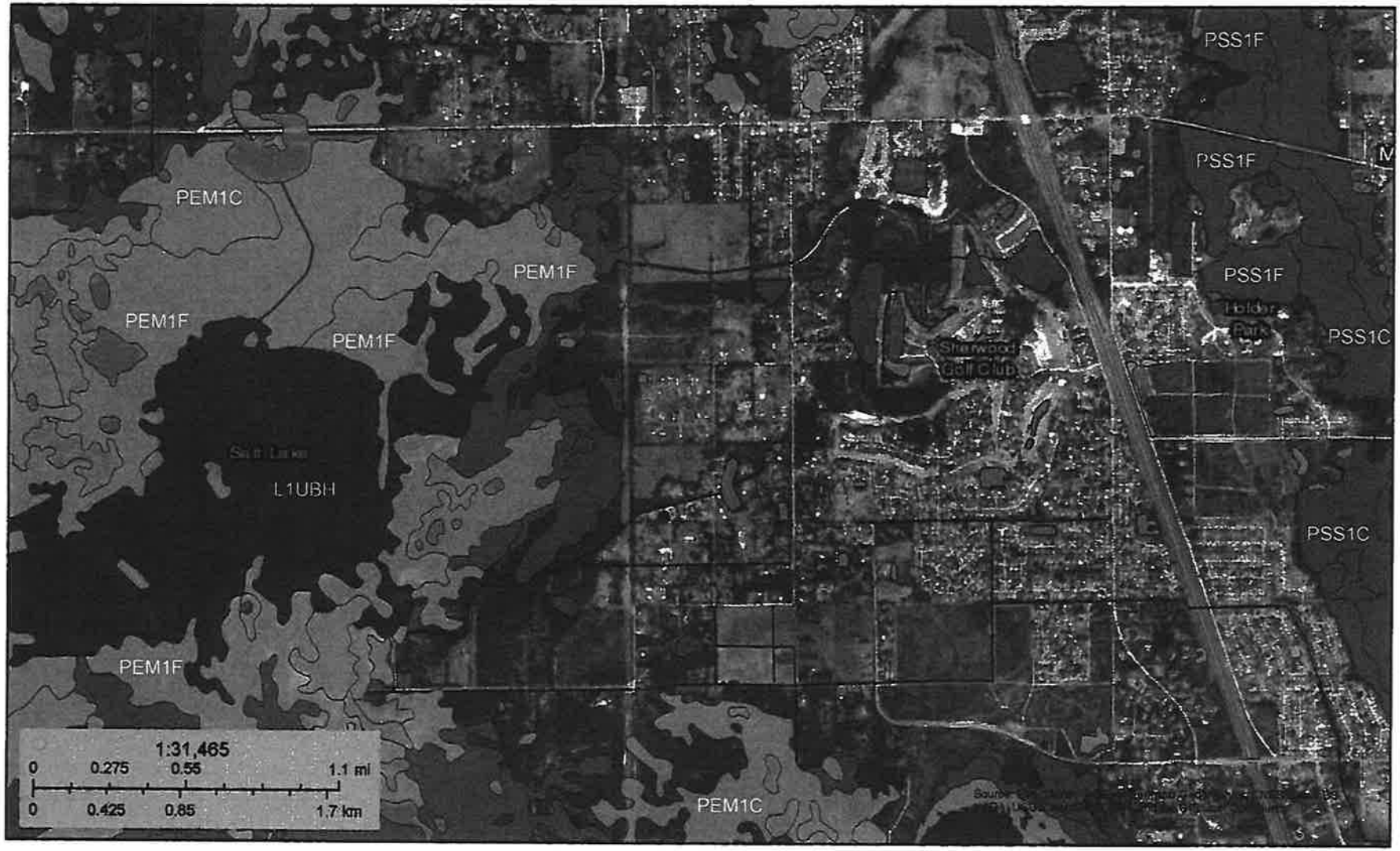
Undetermined Risk Areas

ZONE	DESCRIPTION
D	Unstudied areas where flood hazards are undetermined, but flooding is possible. No mandatory flood insurance purchase requirements apply, but coverage is available in participating communities.

Order a Flood Zone Report and see your FEMA Flood Zone. Click here

National Wetlands Inventory

Wetlands



November 18, 2021

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

1F

Rule: 18-14.003

Prev Up Next

Rule Title: Violations

Department: BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND

Division: Departmental

Chapter: ADMINISTRATIVE FINES FOR DAMAGING STATE LANDS OR PRODUCTS THEREOF

Add to MyFLRules Favorites

Latest version of the final adopted rule presented in Florida Administrative Code (FAC):

VIEW RULE

Effective Date: 7/7/1985

History Notes: Rulemaking Authority 253.04(2) FS. Law Implemented 253.04 FS. History–New 7-7-85, Formerly 16Q-14.03, 16Q-14.003.

References in this version: No reference(s).

History of this Rule since Jan. 6, 2006

Notice / Adopted	Section	Description	ID	Publish Date
HTML	Withdrawal 18-14.001	Definitions, Determination of Fines, Violations, Applicability, Imposition and Collection of Fines	11123977	3/2/2012 Vol. 38/09
HTML	Correction 18-14.001	Definitions, Determination of Fines, Violations, Applicability, Imposition and Collection of Fines	9457226	12/17/2010 Vol. 36/50
HTML	Proposed 18-14.001	To revise and clarify the process for assessing administrative fines for violations on state-owned land. The proposed amendments allow The Department of Environmental Protection ("DEP") to first issue a warning letter to	9419299	11/24/2010 Vol. 36/47
HTML	Development 18-14.001	To revise and clarify the assessment of administrative fines for violations on state-owned submerged land. The proposed amendments will provide for issuance of a Warning Letter instead of a Notice of Violation for unauthorized	6950067	10/2/2009 Vol. 35/39
	Validity 18-14.003	Bernard Montgomery Myers vs. Department of Environmental Protection and Board of Trustees of The Internal Improvement ....; Case No.: 09-2928RX; Rule No.: 18-14.003; Petition	7260758	6/12/2009 Vol. 35/23
	Final 18-14.003	Violations	1383140	Effective: 07/07/1985

1F

18-14.003 Violations.

It shall be a violation of this rule for any person or the agent of any person to knowingly refuse to comply with any provision of Chapter 253, F.S., willfully violate any provision of Chapter 253, F.S., or to willfully damage state land (the ownership or boundaries of which have been established by the state) or products thereof, by doing any of the following:

(1) Fill, excavate, or dredge, including prop dredging in a manner which produces a defined channel, on state land without the lease, license, easement or other form of consent required by the Board.

(2) Remove, in violation of state or federal law, any product from state land without written approval or specific exemption from the Board or Department.

(3) Discharge contaminants, wastes, effluents, sewage or any other pollutant as defined in Chapter 376 or 403, F.S., on, under or over state land; when such discharge is in violation of Chapter 403, F.S., or conditions of a permit issued pursuant to that chapter, or conditions of a lease or easement issued pursuant to Chapter 253, F.S.

(4) Maintain, place or build permanent or temporary structures, including, but not limited to, additions to existing structures; all structures whose use is not water-dependent; sanitary septic systems; fences, docks and pilings; houses; oil rigs; and utility installations on or over state land without consent or authority from the Board or Department.

(5) Place garbage, refuse, or debris on or over state land without approval by the Board or Department.

(6) Any other willful act that causes damage to state land, or products thereof, when such activity occurs without the required approval by the Board or Department.

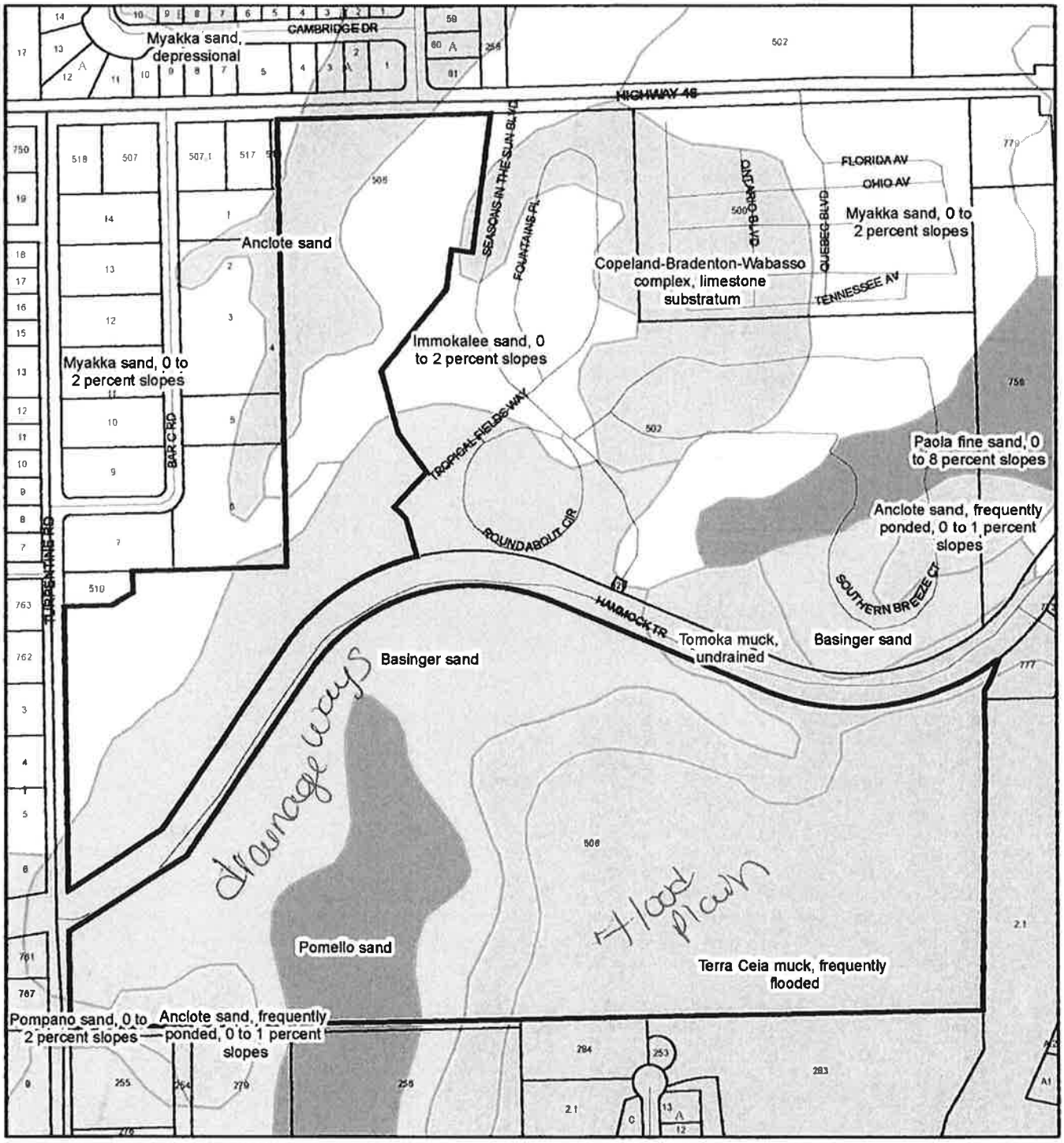
Rulemaking Authority 253.04(2) FS. Law Implemented 253.04 FS. History–New 7-7-85, Formerly 16Q-14.03, 16Q-14.003.

E-16

USDA SCSSS SOILS MAP

THE HEATHER CALLIGAN TRUST

21Z00030



N

W E

S

1:4,800 or 1 inch = 400 feet

This map was compiled from recorded documents and does not reflect an actual survey. The Brevard County Board of County Commissioners does not assume responsibility for errors or omissions hereon.

Produced by BoCC - GIS Date: 9/10/2021

USDA SCSSS Soils

- Aquifer and Hydric
- Aquifer
- Hydric
- None

- Subject Property
- Parcels

Hydric Soils

This table lists the map unit components that are rated as hydric soils in the survey area. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 2002).

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for all of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

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). These soils, under natural conditions, 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).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Map units that are dominantly made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units dominantly made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

The criteria for hydric soils are represented by codes in the table (for example, 2). Definitions for the codes are as follows:

1. All Histels except for Folistels, and Histosols except for Folists.
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
   A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
   B. Show evidence that the soil meets the definition of a hydric soil;
3. Soils that are frequently ponded for long or very long duration during the growing season.
   A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
   B. Show evidence that the soil meets the definition of a hydric soil;
4. Map unit components that are frequently flooded for long duration or very long duration during the growing season that:
   A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
   B. Show evidence that the soil meets the definition of a hydric soil;

Hydric Condition: Food Security Act information regarding the ability to grow a commodity crop without removing woody vegetation or manipulating hydrology.

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Report—Hydric Soils

Hydric Soils—Palm Beach County Area, Florida				
Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric criteria
2—Anclote fine sand				
	Anclote	90	Drainageways on marine terraces, flats on marine terraces	2
	Basinger	3	Drainageways on marine terraces	2
	Okeelanta, drained	3	Depressions on marine terraces	1, 3
	Pompano	2	Drainageways on marine terraces	2
	Sanibel	2	Depressions on marine terraces	2, 3
4—Arents-Urban land complex, 0 to 5 percent slopes				
	Basinger	5	Drainageways on marine terraces	2
6—Basinger fine sand, 0 to 2 percent slopes				
	Basinger	90	Drainageways	2
	Margate	3	Drainageways on marine terraces	2
	Placid, depressional	3	Depressions on marine terraces	2, 3
7—Basinger-Urban land complex				
	Basinger	55	Drainageways on marine terraces	2
	Pompano	1	Drainageways on marine terraces	2
8—Basinger and Myakka sands, depressional				
	Basinger, depressional	47	Depressions on marine terraces	2, 3
	Myakka, depressional	47	Depressions on marine terraces	2, 3
	Sanibel	2	Depressions on marine terraces	2, 3
	Pompano	2	Drainageways on marine terraces	2
	Anclote	2	Drainageways on marine terraces, flats on marine terraces	2

Hydric Soils–Palm Beach County Area, Florida				
Map symbol and map unit name	**Component**	**Percent of map unit**	**Landform**	**Hydric criteria**
10—Boca fine sand				
	Boca	85	Drainageways on marine terraces, flats on marine terraces	2
	Pineda	4	Drainageways on marine terraces, flats on marine terraces	2
	Riviera	3	Drainageways on marine terraces, flats on marine terraces	2
12—Chobee fine sandy loam				
	Chobee	88	Drainageways on marine terraces	2
	Riviera	3	Drainageways on marine terraces, flats on marine terraces	2
	Tequesta	3	Depressions on marine terraces	2, 3
	Floridana	3	Depressions on marine terraces	2, 3
	Winder	3	Drainageways on marine terraces, flats on marine terraces	2
14—Dania muck				
	Dania, drained	92	Depressions on marine terraces	1, 3
	Boca	2	Drainageways on marine terraces, flats on marine terraces	2
	Jupiter	2	Drainageways on marine terraces	2
	Pahokee, drained	1	Depressions on marine terraces	1, 3
	Lauderhill, drained	1	Depressions on marine terraces	1, 3

Hydric Soils--Palm Beach County Area, Florida				
Map symbol and map unit name	**Component**	**Percent of map unit**	**Landform**	**Hydric criteria**
15—Floridana fine sand				
	Floridana	85	Depressions on marine terraces	2, 3
	Holopaw	4	Drainageways on marine terraces	2
	Riviera	4	Drainageways on marine terraces, flats on marine terraces	2
	Anclote	4	Drainageways on marine terraces, flats on marine terraces	2
	Tequesta	3	Depressions on marine terraces	2, 3
16—Hallandale fine sand				
	Riviera	3	Drainageways on marine terraces, flats on marine terraces	2
	Pineda	3	Drainageways on marine terraces, flats on marine terraces	2
	Boca	3	Drainageways on marine terraces, flats on marine terraces	2
	Jupiter	3	Drainageways on marine terraces	2
17—Holopaw fine sand				
	Holopaw	85	Drainageways on marine terraces	2
	Basinger	3	Drainageways on marine terraces	2
	Boca	2	Drainageways on marine terraces, flats on marine terraces	2
	Pineda	2	Drainageways on marine terraces, flats on marine terraces	2
	Riviera	2	Drainageways on marine terraces, flats on marine terraces	2
	Pompano	2	Drainageways on marine terraces	2

Hydric Soils–Palm Beach County Area, Florida				
Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric criteria
18—Immokalee fine sand, 0 to 2 percent slopes				
	Basinger	5	Drainageways on marine terraces, flats on marine terraces	2
	Margate	3	Drainageways on marine terraces	2
	Placid, depressional	2	Depressions on marine terraces	2, 3
19—Jupiter fine sand				
	Jupiter	85	Drainageways on marine terraces	2
	Boca	3	Drainageways on marine terraces, flats on marine terraces	2
	Riviera	3	Drainageways on marine terraces, flats on marine terraces	2
	Tequesta	3	Depressions on marine terraces	2, 3
	Dania, drained	3	Depressions on marine terraces	1, 3
20—Lauderhill muck				
	Lauderhill, drained	85	Depressions on marine terraces	1, 3
	Okeelanta, drained	4	Depressions on marine terraces	1, 3
	Dania, drained	4	Depressions on marine terraces	1, 3
	Pahokee, drained	4	Depressions on marine terraces	1, 3
	Terra ceia, drained	3	Depressions on marine terraces	1, 3
21—Myakka fine sand, 0 to 2 percent slopes				
	Basinger	5	Drainageways on marine terraces	2
	Placid, depressional	1	Depressions on marine terraces	2, 3
22—Myakka-Urban land complex				
	Basinger	4	Drainageways on marine terraces	2
	Pompano	3	Drainageways on marine terraces	2

Hydric Soils–Palm Beach County Area, Florida				
Map symbol and map unit name	**Component**	**Percent of map unit**	**Landform**	**Hydric criteria**
23—Okeechobee muck				
	Okeechobee	85	Depressions on marine terraces	1, 3
	Okeelanta, drained	5	Depressions on marine terraces	1, 3
	Terra ceia, drained	5	Depressions on marine terraces	1, 3
	Pahokee, drained	5	Depressions on marine terraces	1, 3
24—Okeelanta muck				
	Okeelanta, drained	80	Depressions on marine terraces	1, 3
	Lauderhill, drained	4	Depressions on marine terraces	1, 3
	Okeechobee	4	Depressions on marine terraces	1, 3
	Sanibel	3	Depressions on marine terraces	2, 3
	Tequesta	3	Depressions on marine terraces	2, 3
	Pahokee, drained	3	Depressions on marine terraces	1, 3
	Terra ceia, drained	3	Depressions on marine terraces	1, 3
25—Oldsmar sand, 0 to 2 percent slopes				
	Basinger	4	Drainageways on marine terraces	2
26—Pahokee muck				
	Pahokee, drained	85	Depressions on marine terraces	1, 3
	Lauderhill, drained	4	Depressions on marine terraces	1, 3
	Terra ceia, drained	4	Depressions on marine terraces	1, 3
	Okeelanta, drained	4	Depressions on marine terraces	1, 3
	Torry, drained	3	Depressions on marine terraces	1, 3
29—Pineda fine sand, 0 to 2 percent slopes				
	Pineda	93	Flats, drainageways	2
	Boca	4	Drainageways on marine terraces	2
	Hallandale	3	Drainageways on marine terraces	2

Hydric Soils–Palm Beach County Area, Florida				
Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric criteria
30—Pinellas fine sand				
	Pineda	3	Drainageways on marine terraces, flats on marine terraces	2
	Riviera	3	Drainageways on marine terraces, flats on marine terraces	2
	Boca	3	Drainageways on marine terraces, flats on marine terraces	2
	Holopaw	3	Drainageways on marine terraces	2
33—Pomello fine sand, 0 to 5 percent slopes				
	Basinger	3	Drainageways on marine terraces	2
34—Pompano fine sand				
	Pompano	85	Drainageways on marine terraces	2
	Riviera	3	Drainageways on marine terraces, flats on marine terraces	2
	Holopaw	3	Drainageways on marine terraces	2
	Basinger	3	Drainageways on marine terraces	2
	Anclote	3	Drainageways on marine terraces, flats on marine terraces	2
36—Riviera fine sand				
	Riviera	82	Drainageways on marine terraces, flats on marine terraces	2
	Holopaw	3	Drainageways on marine terraces	2
	Boca	3	Drainageways on marine terraces, flats on marine terraces	2
	Pineda	2	Drainageways on marine terraces, flats on marine terraces	2

Hydric Soils–Palm Beach County Area, Florida				
Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric criteria
37—Riviera fine sand, depressional				
	Riviera, depressional	85	Depressions on marine terraces	2, 3
	Chobee	4	Drainageways on marine terraces	2
	Floridana	4	Depressions on marine terraces	2, 3
	Holopaw	4	Drainageways on marine terraces	2
	Tequesta	3	Depressions on marine terraces	2, 3
38—Riviera-Urban land complex				
	Riviera	50	Drainageways on marine terraces	2
	Pompano	2	Drainageways on marine terraces	2
	Holopaw	2	Drainageways on marine terraces	2
	Riviera, depressional	1	Depressions on marine terraces	2, 3
39—Sanibel muck				
	Sanibel	85	Depressions on marine terraces	2, 3
	Holopaw	4	Drainageways on marine terraces	2
	Anclote	4	Drainageways on marine terraces, flats on marine terraces	2
	Okeelanta, drained	4	Depressions on marine terraces	1, 3
	Tequesta	3	Depressions on marine terraces	2, 3

Hydric Soils–Palm Beach County Area, Florida				
Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric criteria
42—Tequesta muck				
	Tequesta	85	Depressions on marine terraces	2, 3
	Chobee	3	Drainageways on marine terraces	2
	Holopaw	2	Drainageways on marine terraces	2
	Riviera, depressional	2	Depressions on marine terraces	2, 3
	Floridana	2	Depressions on marine terraces	2, 3
	Winder	2	Drainageways on marine terraces, flats on marine terraces	2
	Sanibel	2	Depressions on marine terraces	2, 3
	Okeelanta, drained	2	Depressions on marine terraces	1, 3
43—Terra Ceia muck				
	Terra ceia, drained	84	Depressions on marine terraces	1, 3
	Okeelanta, drained	4	Depressions on marine terraces	1, 3
	Pahokee, drained	4	Depressions on marine terraces	1, 3
	Okeechobee	4	Depressions on marine terraces	1, 3
	Torry, drained	4	Depressions on marine terraces	1, 3
44—Kesson mucky sand, tidal				
	Kesson, tidal	100	Mangrove swamps on marine terraces	2, 4
45—Wulfert and Durbin muck, tidal				
	Wulfert, tidal	50	Mangrove swamps on marine terraces	1, 4
	Durbin, tidal	50	Mangrove swamps on marine terraces	1, 4

Hydric Soils–Palm Beach County Area, Florida				
Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric criteria
46—Torry muck				
	Torry, drained	85	Depressions on marine terraces	1, 3
	Okeelanta, drained	5	Depressions on marine terraces	1, 3
	Terra cela, drained	5	Depressions on marine terraces	1, 3
	Pahokee, drained	5	Depressions on marine terraces	1, 3
47—Udorthents, 2 to 35 percent slopes				
	Riviera	5	Drainageways on marine terraces, flats on marine terraces	2
49—Wabasso fine sand				
	Boca	3	Drainageways on marine terraces, flats on marine terraces	2
	Pineda	3	Drainageways on marine terraces, flats on marine terraces	2
	Riviera	2	Drainageways on marine terraces, flats on marine terraces	2
50—Winder fine sand				
	Winder	90	Drainageways on marine terraces, flats on marine terraces	2
	Chobee	4	Drainageways on marine terraces	2
	Riviera	3	Drainageways on marine terraces, flats on marine terraces	2
	Tequesta	3	Depressions on marine terraces	2, 3

Data Source Information

Soil Survey Area: Palm Beach County Area, Florida
Survey Area Data: Version 8, Dec 30, 2013

NASA Technical Memorandum 103813

Geology, Geohydrology And Soils Of Kennedy Space Center: A Review

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National Aeronautics and
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John F. Kennedy Space Center

NASA

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Abstract

Sediments underlying Kennedy Space Center (KSC) have accumulated in alternating periods of deposition and erosion since the Eocene. Surface sediments are of Pleistocene and Recent ages. Fluctuating sea levels with the alternating glacial-interglacial cycles have shaped the formation of the barrier islands. Merritt Island is an older landscape whose formation may have begun as much as 240,000 years ago, although most of the surface sediments are not that old. Cape Canaveral probably dates from <7,000 years B.P. (before present) as does the barrier strip separating Mosquito Lagoon from the Atlantic Ocean. Merritt Island and Cape Canaveral have been shaped by progradational processes but not continuously so, while the Mosquito Lagoon barrier has been migrating landward.

Deep aquifers beneath KSC are recharged inland but are highly mineralized in the coastal region and interact little with surface vegetation. The Surficial aquifer has formed in the Pleistocene and Recent deposits and is recharged by local rainfall. Sand ridges in the center of Merritt Island are important to its recharge. Discharge is from evapotranspiration, seepage to canals and ditches, seepage into interior wetland marshes, and seepage into impoundments, lagoons, and the ocean. This aquifer exists in dynamic equilibrium with rainfall and with the fresh-saline water interface. Freshwater wetlands depend on the integrity of this aquifer, and it provides freshwater discharge to the lagoons and impoundments.

Soils of KSC reflect the complexity of soil forming factors (parent material, topography, time, biota) on the landscape. Numerous soil series are represented. Within a given area, soils vary from well to poorly drained. On well drained sites of different ages, leaching has modified soil properties. Parent material differences (sand, loam, clay, coquina) are also reflected in the soil pattern.

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Acknowledgments

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Introduction

Surficial geology and geologic history form the context under which the biota of a region has developed. The barrier island complex of Merritt Island-Cape Canaveral has a varying history of deposition and erosion with numerous geologic formations represented. In areas of low topographic relief and abundant rainfall such as that occupied by Kennedy Space Center (KSC), the groundwater system interacts dynamically with the surficial geology, vegetation, and soils. Soils form in the surficial geologic deposits. Their properties are influenced by geologic parent material, topographic position, particularly relations to the water table, the prevailing climate, the length of time over which they have formed, and interactions with the biota (Jenny 1941, 1980). In turn, soil properties influence the vegetation growing on a site.

In this report, we review information on the geology, geohydrology, and soils of KSC. Our focus is on those properties of importance to the biota, particularly vegetation, of the area. This is one in a series of reports summarizing information on current environmental conditions on KSC. Other reports will examine quantitative vegetation-soil relationships.

Geology

Merritt Island together with the adjacent Cape Canaveral form a barrier island complex. Topographic relief is slight; elevation ranges from sea level to about 3 m (10 ft) in the inland areas of Merritt Island and to slightly over 6 m (20 ft) on Cape Canaveral and the recent dunes. The topography is marked by a sequence of ridges and swales reflecting relict beach ridges.

Fenneman (1938) mapped the area as part of the East Florida Flatwoods Region of the Coastal Plain Province. Brooks (1981b) mapped the area as the Cape

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Canaveral section of the Central Atlantic Coast Strip within the Eastern Flatwoods District.

Florida has a complex geologic history with repeated periods of deposition when the Florida Plateau was submerged and erosion when the seas recessed. The oldest formation known to occur beneath Brevard County, the Avon Park limestone, was deposited in the early (?) Eocene in an open ocean that received little sand or clay (Cooke 1945). This was followed by withdrawal of the sea and a period of erosion. In late Eocene, the seas advanced and limestones of the Ocala group were deposited in an open, fairly shallow sea (Cooke 1945). Following another period of recession of the sea and erosion of the land surface, the Hawthorn formation of calcareous clay, phosphatic limestone, phosphorite, and radiolarian clay was deposited in the late Miocene (Cooke 1945, Brown et al. 1962). Overlying this are unconsolidated beds of fine sand, shells, clay, and calcareous clay of late Miocene or Pliocene age (Brown et al. 1962); these may be equivalent to the Caloosahatchee Marl of Cooke (1945). Surface strata in Brevard County are primarily unconsolidated white to brown quartz sand containing beds of sandy coquina of Pleistocene and Recent (= Holocene) age (Brown et al. 1962). Formations are summarized in Table 1.

Surficial deposits of Merritt Island and Cape Canaveral are of Pleistocene and Recent ages and consist primarily of sand and sandy coquina. Pleistocene deposits on Merritt Island are sometimes mapped as the Anastasia formation of high energy beach and bar shelly sand, some dune sand, loose coquina, and very hard shelly limestone; this formation can have multiple cap rocks (Brooks 1981a). Cooke (1945) restricted the Anastasia formation to coquina cemented by calcium carbonate or iron oxide that ranged from coarse rock of unbroken shells to sandstone where the shells were reduced to "coral sand"; he noted that this formation occurred in Brevard County in a narrow strip of mainland facing the Indian River and at the southern end of Merritt

Table 1. Stratigraphic units of Brevard County, Florida.[1]

Geologic age	Stratigraphic Unit	Approximate thickness (ft) (m)	General Lithologic Character	Water-bearing properties
Recent Pleistocene	Pleistocene and Recent Deposits	0 - 110 (0 - 33.5)	Fine to medium sand, coquina and sandy shell marl.	Permeability low due to small grain size, yields small quantities of water to shallow wells, principal source of water for domestic uses not supplied by municipal water systems.
Pliocene	Upper Miocene and Pliocene deposits (Caloosahatchee marl)	20 - 90 (6.1 - 27.4)	Gray to greenish gray sandy shell marl, green clay, fine sand, and silty shell.	Permeability very low, acts as confining bed to artesian aquifer, produces small amount of water to wells tapping shell beds.
Miocene	Hawthorn Formation	10 - 300 (3.0 - 91.4)	Light green to greenish gray sandy marl, streaks of greenish clay, phosphatic radiolarian clay, black and brown phosphorite, thin beds of phosphatic sandy limestone.	Permeability generally low, may yield small quantities of fresh water in recharge areas, generally permeated with water from the artesian zone. Contains relatively impermeable beds, that prevent or retard upward movement of water from the underlying artesian aquifer. Basal permeable beds are considered part of the Floridan aquifer.
Eocene	Ocala Group: Crystal River Formation	0 - 100 (0 - 30.5)	White to cream, friable, porous coquina in a soft, chalky, marine limestone.	Floridan aquifer: Permeability generally very high, yields large quantities of artesian water. Chemical quality of the water varies from one area to another and is the dominant factor controlling utilization. A large percentage of the ground water used in Brevard County is from the artesian aquifer. The Crystal River Formation will produce large quantities of artesian water. The Inglis Formation is expected to yield more than the Williston Formation. Local dense, indurate zones in the lower part of the Avon Park Limestone restrict permeability but in general the formation will yield large quantities of water.
	Ocala Group: Williston Formation	10 - 50 (3.0 - 15.2)	Light cream, soft, granular marine limestone, generally finer grained than the Inglis Formation, highly fossiliferous.	
	Ocala Group: Inglis Formation	70 + (21.3 +)	Cream to creamy white, coarse granular limestone, contains abundant echinoid fragments.	
	Avon Park Limestone	285+ (86.9+)	White to cream, purple tinted, soft, dense chalky limestone. Localized zones altered to light brown or ashen gray, hard, porous, crystalline dolomite.	

[1] Modified from Brown et al. (1962)

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Island. Cape Canaveral and the active barrier beach are mapped as Holocene undifferentiated deposits of sand, shell, clay, marl, or peat (Brooks 1981a). These overlay upper Miocene or Pliocene deposits of unconsolidated beds of fine sand, shells, clay, and calcareous clay (Brown et al. 1962). In the northern section of Merritt Island, the Pliocene Tamiami formation has been identified; it includes a narrow band of shelly conglomerate or medium hard limestone (Edward E. Clark Engineers-Scientists, Inc. 1987c) [hereafter referenced as Clark]. Under these are the Hawthorn formation of Miocene age composed of calcareous clay, sandy phosphatic limestone, phosphorite, and radiolarian clay (Brown et al. 1962). Within KSC, two thin, discontinuous conglomerate limestone/sandstone beds occur within the Hawthorn formation (Clark 1987c). Below these are a series of limestones of Eocene age that include the Ocala group and the Avon Park limestone and also constitute the Floridan aquifer (Brown et al. 1962). Geologic cross sections for Merritt Island are given in Figures 1, 2, and 3; these figures were derived from data from numerous borings conducted in developing the space center (NASA 1986).

In addition to the sequences of sediments of varying age, the surface of Florida is marked by a series of terraces and former shorelines of varying ages. The number and ages of the terraces has been a matter of debate (Fenneman 1938, Cooke 1945, MacNeil 1950, Alt and Brooks 1965, Healy 1975). As summarized by Healy (1975), eight terraces are recognized: Hazelhurst (215-270 ft), Coharie (170-215 ft), Sunderland (100-170 ft), Wicomico (70-100 ft), Penholoway (42-70 ft), Talbot (25-42 ft), Pamlico (5-25 ft), and Silver Bluff (0-10 ft). Cooke (1945) considered these terraces to represent different interglacial periods of high sea level during the Pleistocene. However, Alt and Brooks (1965) concluded that the highest terrace (Hazelhurst, 215-270 ft) was probably of Miocene age, the terrace at 90-100 ft (Wicomico) was probably Pliocene, and the distinct shoreline at 25-30 ft (Pamlico) was definetly Pleistocene and

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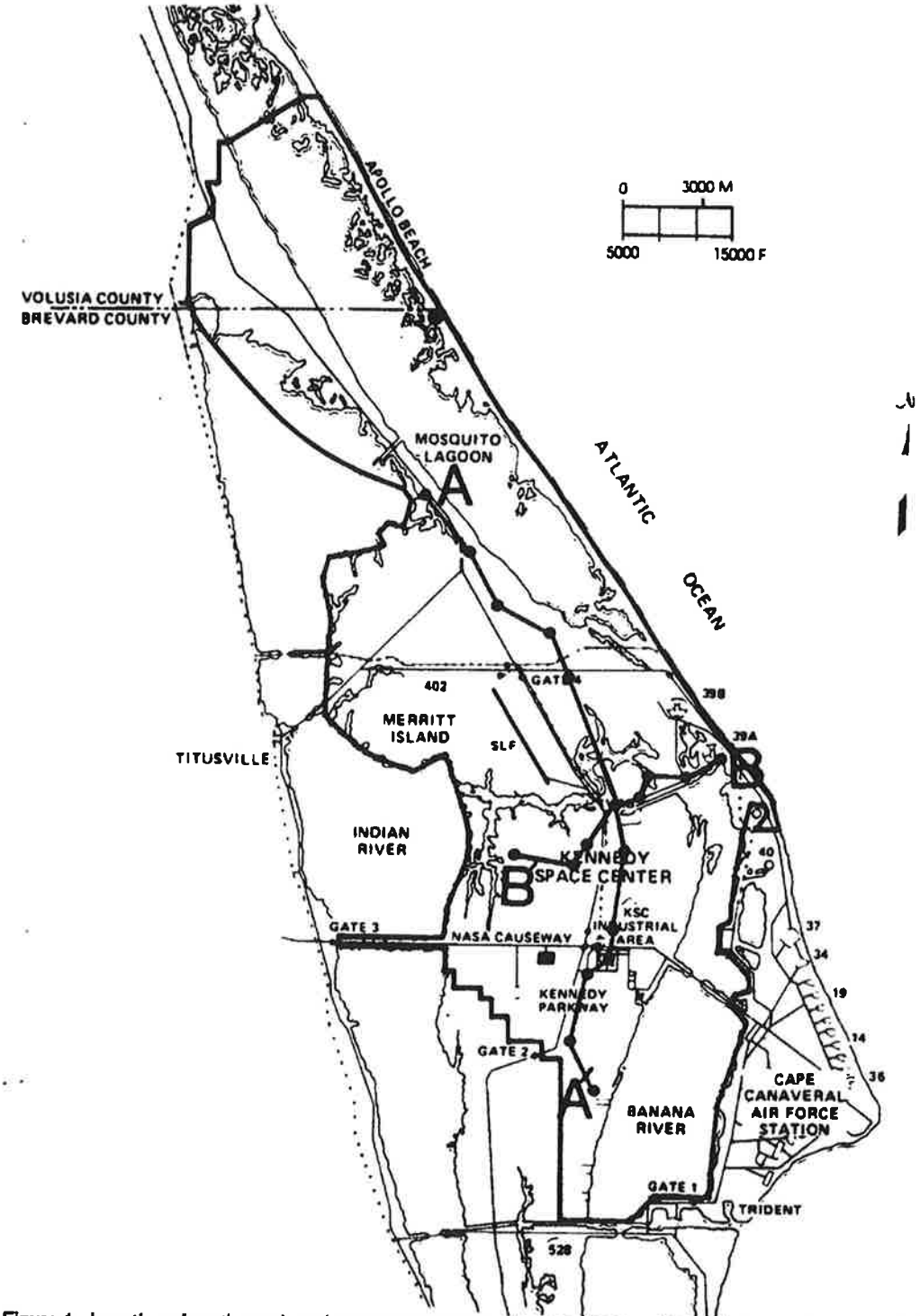

Figure 1. Location of north-south and east-west geologic cross sections on Kennedy Space Center (redrafted from Clark 1987c).

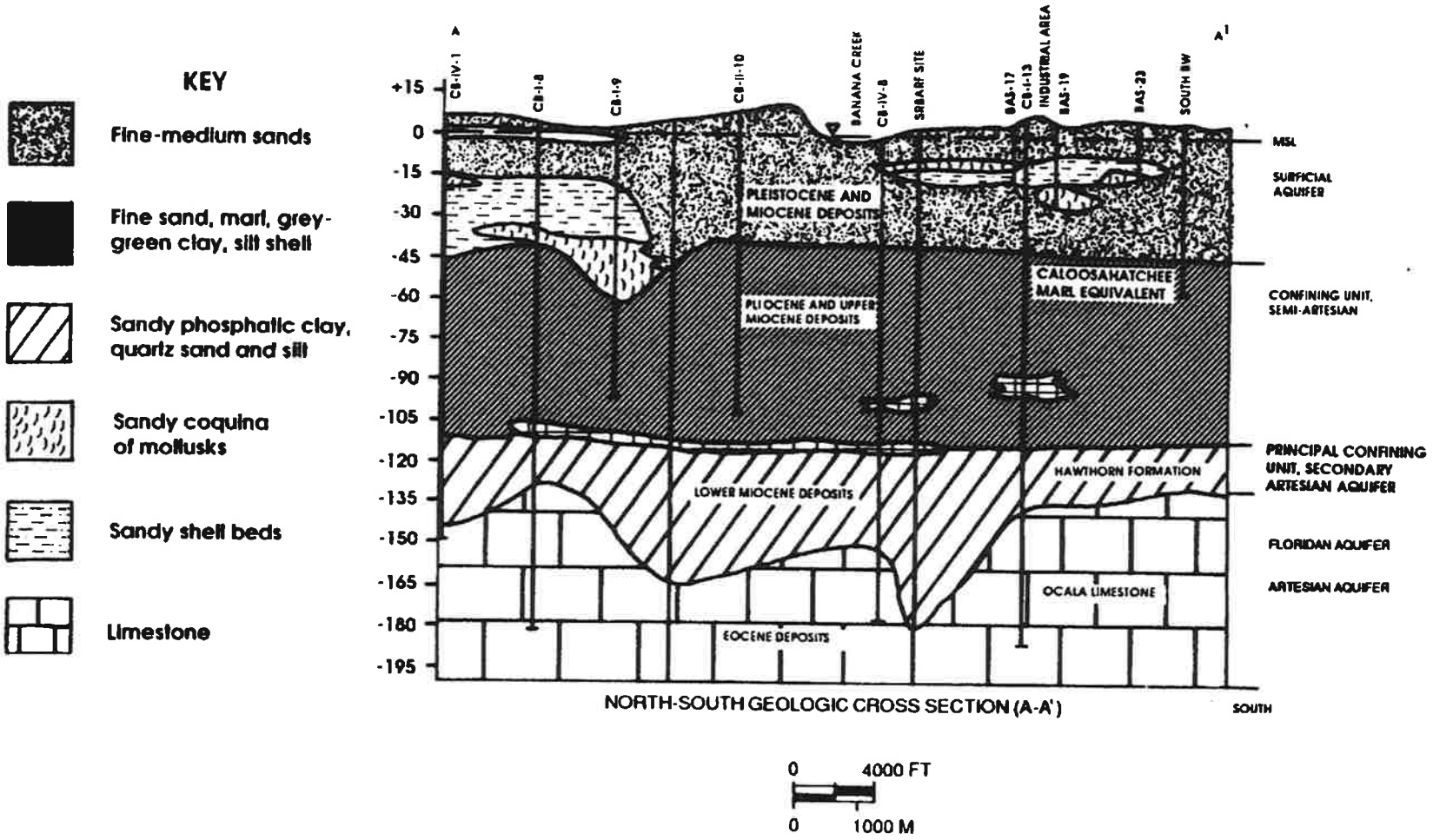

Figure 2. North-south geologic cross section, Kennedy Space Center (redrafted from Clark 1987c). Vertical scale is elevation in feet relative to mean sea level.

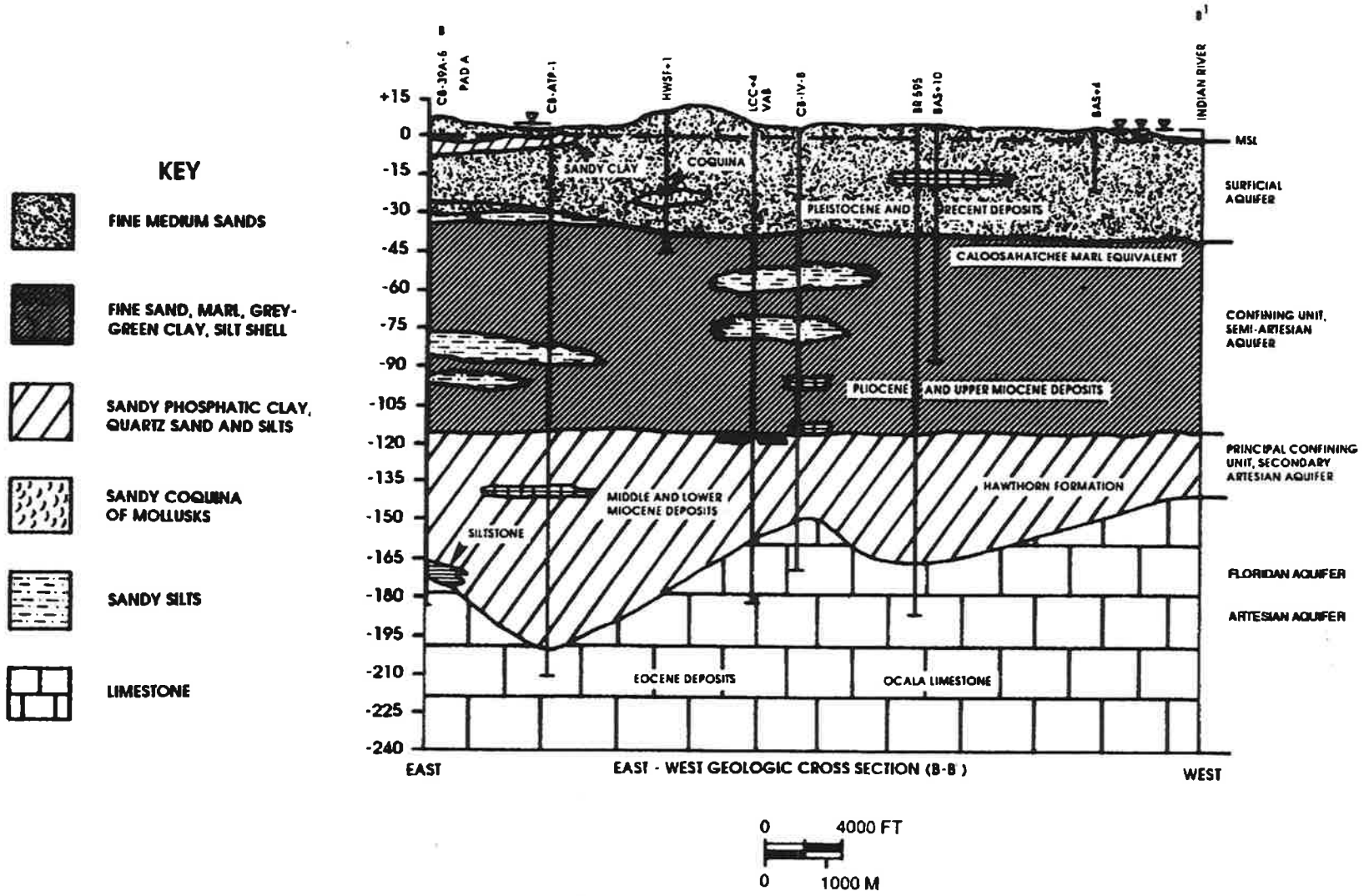

Figure 3. East-west geologic cross section, Kennedy Space Center (redrafted from Clark 1987c). Vertical scale is elevation in feet relative to mean sea level.

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may have been occupied repeatedly. Healy (1975) mapped Merritt Island and Cape Canaveral as belonging to the Silver Bluff Terrace, while the Atlantic Coastal Ridge on the adjacent mainland belongs to the Pamlico Terrace.

During the Pleistocene, repeated glaciation of the northern hemisphere produced fluctuations in sea level (see Bowen 1978), while sea level rose with glacial retreat. At the maximum of the Wisconsinan glaciation (ca. 18,000 yr B.P.[before present]) sea levels were on the order of 100 m lower than present and substantial additional areas were exposed along the Atlantic and Gulf Coasts including Florida (Delcourt and Delcourt 1981).

The Cape Canaveral-Merritt Island barrier island complex is unique along the Florida coast; it is not associated with rivers or former deltas as are capes on the coast of the Carolinas (Hoyt and Henry 1970). White (1958, 1970) described this as a prograding barrier island complex. He considered Cape Canaveral to be the result of the southward (longshore) growth of an original cape at the site of the present False Cape. The eastern edge of Merritt Island at its contact with Mosquito Lagoon and the Banana River forms a relict cape coaxial with False Cape. Multiple dune ridges parallel to the present shore inland on Merritt Island apparently represent successive stages in this growth. White (1958, 1970) thought that this succession of cape formations was probably structurally controlled by some bedrock feature that influenced the southward movement of sediments along the coast. Hydrologic factors may also be involved. Brown et al. (1962) showed that the depth to the Eocene limestone formation below the land surface forms a ridge-like structure roughly conforming to the shape of Cape Canaveral, which may be the structure responsible for the cape formation. Chaki (1974) distinguished eleven distinct beach ridge sets on Cape Canaveral and suggested that periods of deposition and erosion have alternated; elevation of older ridges had been reduced by the dissolution of shell

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material. Brooks (1972) states that the geologic history of the Merritt Island-Cape Canaveral barrier islands is complex, and this is not a simple progradational feature developed during recent times. The older portion of Merritt Island consists of beach deposits > 240,000 years old (Brooks 1972). Previous dating of fossil beach rock, shells, or coquina (Osmond et al. 1970) gave recent ages on the current barrier beach, ca. 30,000 BP on Merritt Island, and ca. 110,000 BP on the adjacent mainland. Changes of sea levels from glacial eustatic ice water volume have occurred, and the Merritt Island-Cape Canaveral complex has grown by successive increments (Brooks 1972). Brooks (1981a) mapped Cape Canaveral as of Holocene age, mostly less than 4,500 BP, but Merritt Island as Pleistocene. He earlier suggested that the formation of the Cape Canaveral peninsula began about 7,000 years ago (Brooks 1972). Successively older landscapes occur westward on Merritt Island. Brooks (1972) related the western part of Merritt Island to the Yarmouth glacial period (ca. 240,000 years ago) and the eastern part to the Sangamon period (110,000 ± 20,000 years ago). Erosion has reduced the western side of Merritt Island to a nearly level plain (Brown et al. 1962) with karst features such as sinkholes not present on the eastern part of the island (Brooks 1972).

Mehta and Brooks (1973) considered the geologic history of Mosquito Lagoon and the barrier beach separating it from the Atlantic Ocean. They state that the seaward barrier initiated at the same time as the Cape Canaveral peninsula about 7,000 years ago. Unlike Cape Canaveral, the history of this barrier beach is marked by erosion, overwash, and landward migration rather than progradation; these processes continue today. They document that there have been five separate inlets between Mosquito Lagoon and the Atlantic Ocean within the last 6,000 to 7,000 years. The most recent one was in the vicinity of Turtle Mound and closed more than 1,500 years ago. Since then, Mosquito Lagoon has been accumulating fine grain sediments.

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In the southern Indian River Lagoon, Bader and Parkinson (1990) documented the Holocene flooding of a Pleistocene topographic depression (paleolagoon) at about 5,000 - 6,000 years B.P.

Geohydrology

The geologic structure and composition of the Merritt Island-Cape Canaveral barrier island complex together with climatic conditions form the basis for the hydrology of the system. Groundwater hydrology of KSC has been the subject of recent studies (Edward E. Clark Engineers-Scientists, Inc. 1985, 1987a,b,c) [hereafter referenced as Clark]; the discussion that follows is based primarily on the areawide survey (Clark 1987c).

General characteristics of the groundwater system are given in Figure 4 and Table 2. The principal artesian aquifer beneath KSC is the Floridan aquifer which occurs within the Ocala limestones. Recharge areas for this aquifer are the high ridges of central Florida. This is a large and productive aquifer; however, in the coastal areas, as beneath KSC, the water is highly mineralized. This aquifer is confined by the silts and clays of the Hawthorn formation in most places. Secondary artesian aquifers occur within the Hawthorn formation and the Caloosahatchee Marl Equivalent. The Hawthorn Limestone aquifer is associated with thin, discontinuous beds of limestone, sandstone, and sand within the silts and clays of the Hawthorn formation. It is recharged by upward leakage from the Floridan aquifer. The Shallow Rock aquifer is associated with beds of partially consolidated shelly quartz sand with silt and grey clay and some medium hard limestone of the Tamiami formation or Caloosahatchee Marl Equivalent. Recharge is by upward leakage from the Floridan aquifer. The Semi-artesian Shell and Sand Bed aquifer is associated with minor, discontinuous sand and

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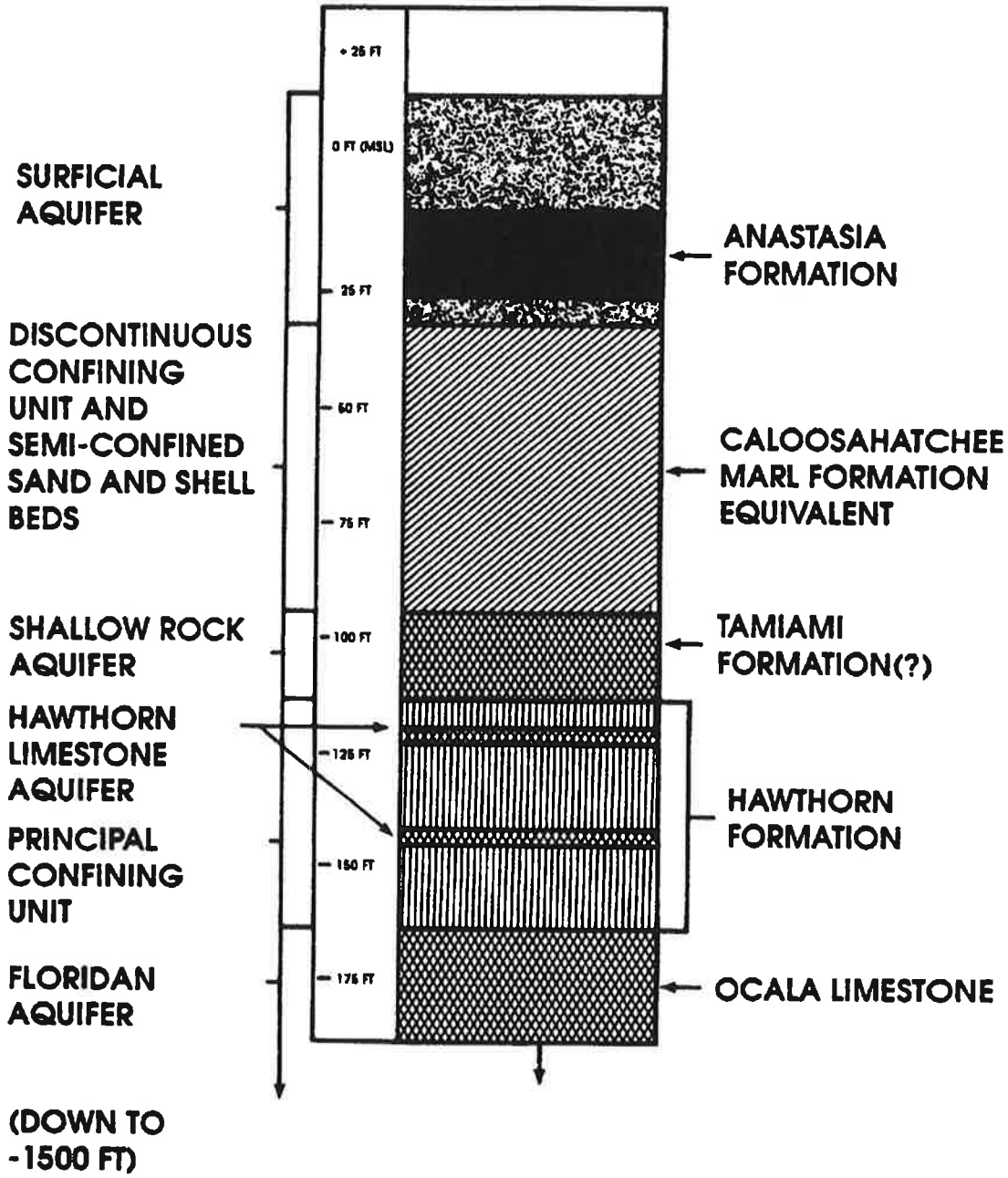

Figure 4. Geohydrologic units on Kennedy Space Center (redrafted from Clark 1987c).

Table 2. General characteristic of the aquifers on Kennedy Space Center.[1]

Aquifer	Geologic Strata	Recharge Areas	Discharge Area	Water Quality
Principal Artesian Aquifer: Floridan Aquifer	Eocene limestones- Ocala Group , Avon Park Formation	Central Florida - West Osceola, South Orange, and Polk Counties; Mims - Titusville ridge	Atlantic Ocean via offshore submarine springs, upward leakage where Hawthorn Formation thins	Highly mineralized, primarily chlorides
Secondary Artesian Aquifers: Hawthorne Limestone Aquifer	Thin beds of weathered limestone, sandstone, and sand within the Hawthorn Formation	Leakage upward from Floridan aquifer	(?)	Moderately brackish
Shallow Rock Aquifer	Tamiami Formation - shelly, partially consolidated quartz sand and some limestone	Leakage upward from Floridan aquifer	(?)	Brackish
Semi-artesian Shell and Sand Beds	Discontinuous sand and shell beds within Caloosahatchee Marl Equivalent	Little freshwater recharge, may act as conduits for seawater intrusion	(?)	Moderately brackish, generally poorer than Floridan aquifer
Unconfined Water Table Aquifer: Surficial Aquifer	Pleistocene and Recent desposits - sand, shell, coquina, silt, and marl	Rainfall and direct infiltration, particularly that on central sand ridges of island	Drainage canals and ditches (11%), evapotranspiration including loss from swales (87%), seepage to impoundments, lagoons, and ocean (0.5%)	Fresh in center of island, becomes mineralized toward lagoons and ocean

[1] Data from Clark (1987c).

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shell beds within the Caloosahatchee Marl Equivalent. There is little freshwater recharge of this aquifer, and it may act as a conduit for seawater intrusion. Both the Shallow Rock and Sand and Shell Bed aquifers are confined by less permeable sediments of the Caloosahatchee Marl Equivalent. The artesian aquifers have little direct influence on surface vegetation; however, artesian wells have been used to irrigate orange groves and previously to maintain water levels in some mosquito impoundments on Merritt Island (Clark 1987c).

The Surficial aquifer occurs in the saturated part of the moderately permeable Pleistocene and Recent deposits of fine to medium sand, shell, coquina, silts, and marl. Its upper boundary is the water table and the lower boundary is the confining unit at the base of the Pleistocene and Recent deposits. Recharge is by direct infiltration of rainfall. The higher sand ridges in the center of the island are particularly important for recharge (Figure 5). These ridges are relatively high, are composed of permeable sands, and infiltration is less restricted by subsurface hardpans than in other areas. Two important areas of sand ridges have been distinguished: the Happy Creek Sand Ridges north of Banana Creek and the Schwartz Road Sand Ridges south of Banana Creek. From these prime recharge areas, groundwater flows east and west toward the lagoon systems and the ocean (Figure 6). Discharge from the surface aquifer is from evapotranspiration, seepage into canals and ditches, seepage into interior wetland swales, and seepage into impoundments, lagoons, and the ocean. Most of the seepage into interior wetland swales is subsequently lost to evapotranspiration. Seasonal fluctations in the water table occur with changes in precipitation and evapotranspiration. The water table is highest late in the wet season (typically September-October) and drops as precipitation declines. In the winter, evapotranspiration is low as temperatures decline and some of the vegetation is dormant. In spring, evapotranspiration increases and the water table may decline

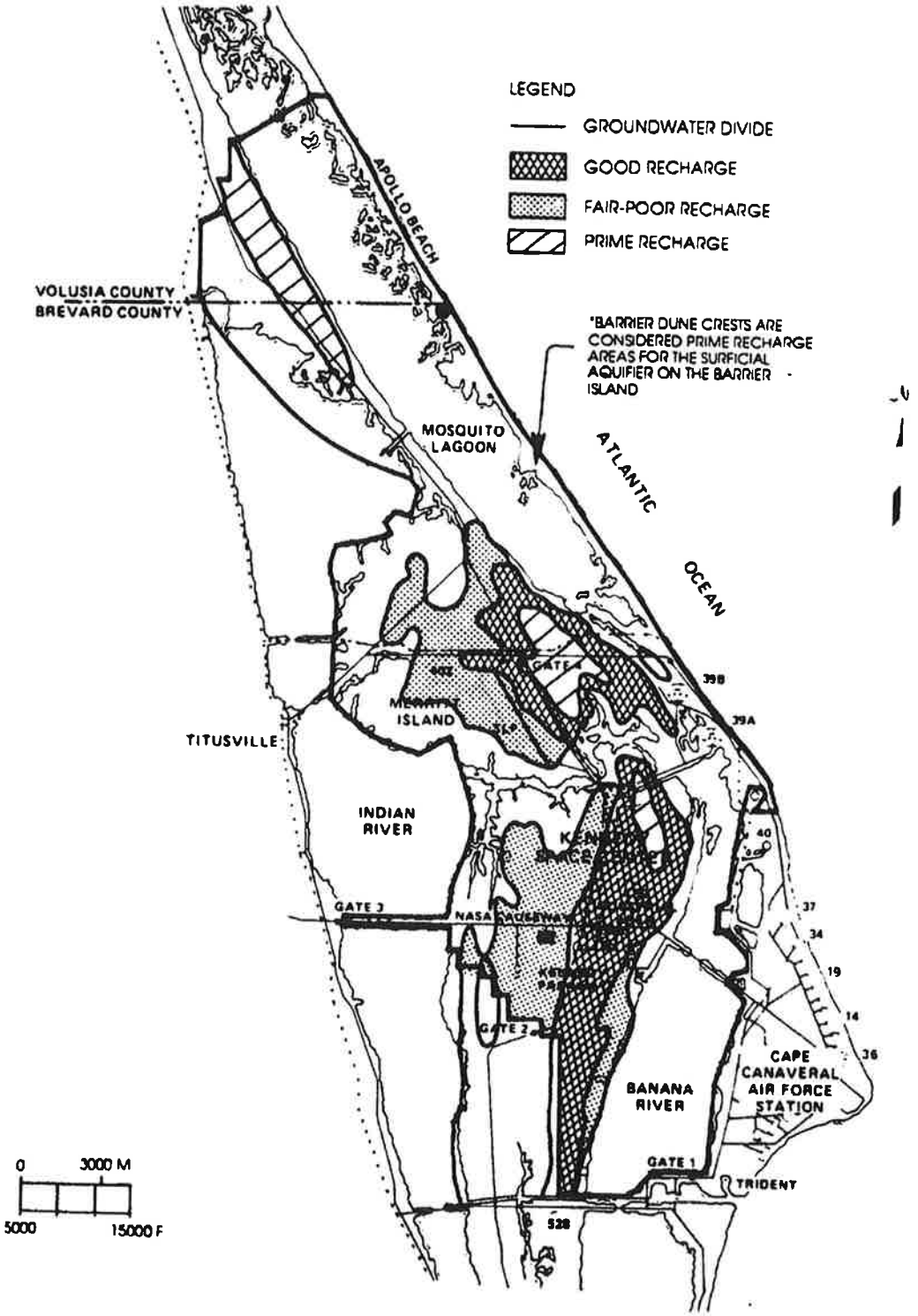

Figure 5. Potential for recharge of the Surficial aquifer (redrafted from Clark 1987c).

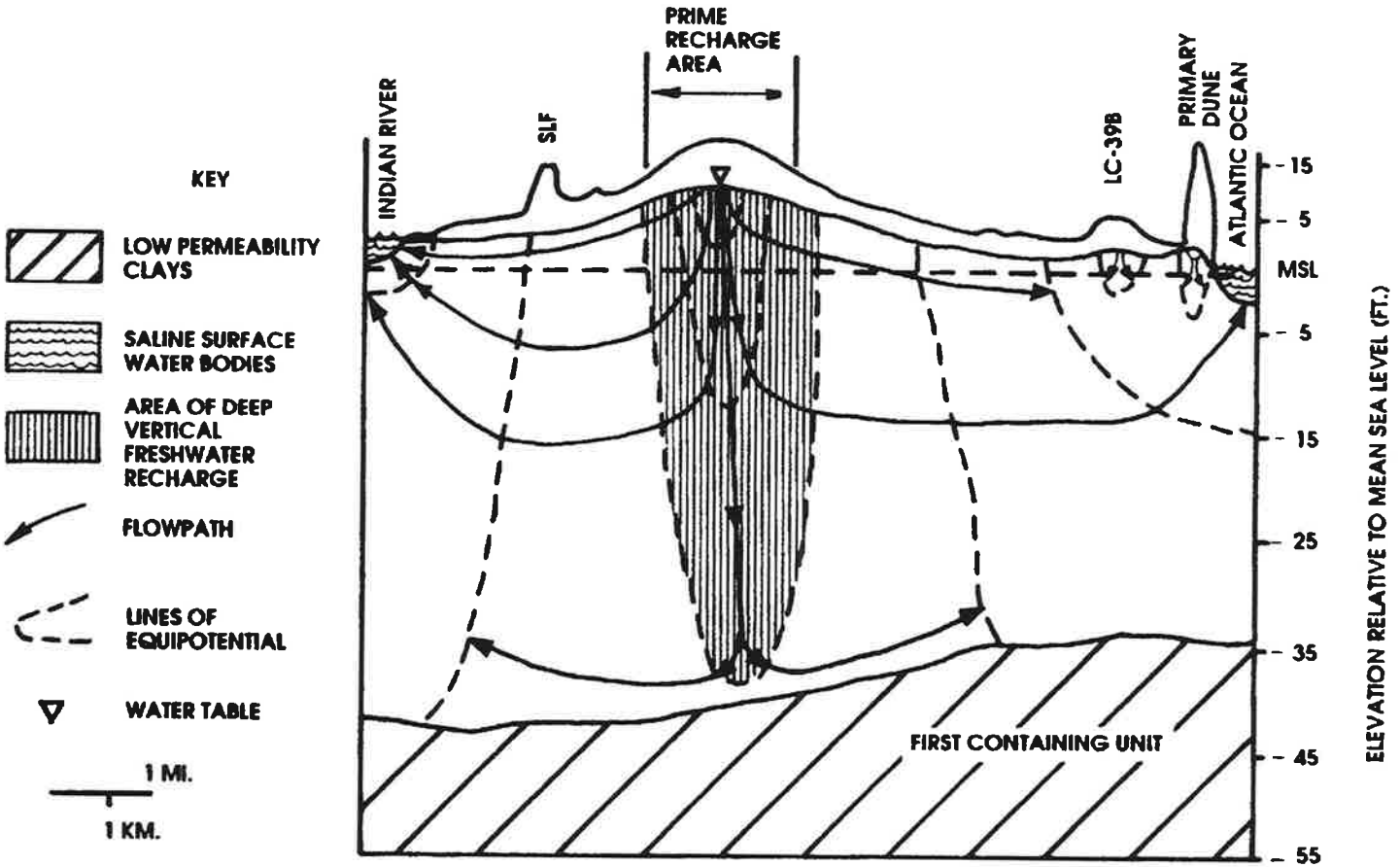

Figure 6. Groundwater circulation in the Surficial aquifer (redrafted from Clark 1987c).

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during spring droughts. See Mailander (1990) for further discussion of precipitation and evapotranspiration patterns. The Surficial aquifer is extremely important since it supports the freshwater wetlands and provides fresh groundwater discharge to the surrounding subsaline lagoons (Clark 1987c).

The Surficial aquifer can be divided into several subsystems (Figure 7). The Barrier Island subsystem has a lens of freshwater less than 10 ft (3 m) thick on top of intruded saline water (Figure 8). The primary dune acts as the prime recharge area. Shallow groundwater flows east of the ridge to the Atlantic Ocean and west to Banana River, Mosquito Lagoon, or swales; at depth (> 20 ft [6.1 m]) flow is to the Atlantic Ocean. The Dune-Swale subsystem (Figures 7, 8) includes the high ridges with permeable sand that favor recharge. This is the only area where the freshwater recharge of the deeper layers of the surficial aquifer occurs (Figure 6). During most of the year, shallow groundwater discharges to the swales. At the beginning of the rainy season after the spring drought, swales collect water and remain flooded; lateral and downward seepage from the swales helps to recharge the groundwater. In areas of pine flatwoods and swales, topography is lower and most soils have well developed humic hardpans (spodic horizon, Bh layer) that restrict infiltration. During heavy rains, water perches above the hardpan and infiltrates slowly into the Surficial aquifer. This increases evapotranspiration and reduces recharge relative to the prime recharge areas. In the West Plain and Lowland subsystems (Figure 7, 8), the water table is typically within 3 ft (0.9 m) of the land surface, evapotranspiration losses are high, and the dispersed saline water interface renders water quality variable. In the West Plain south of Banana Creek, a limerock "hardpan" replaces the humic hardpan of the Dune-Swale flatwoods. Along the coastlines, the Surficial aquifer contacts the saline water of the Atlantic Ocean and the brackish lagoons. Seawater intrusion occurs as a wedge at the base of the Surficial aquifer since seawater is denser than fresh. The

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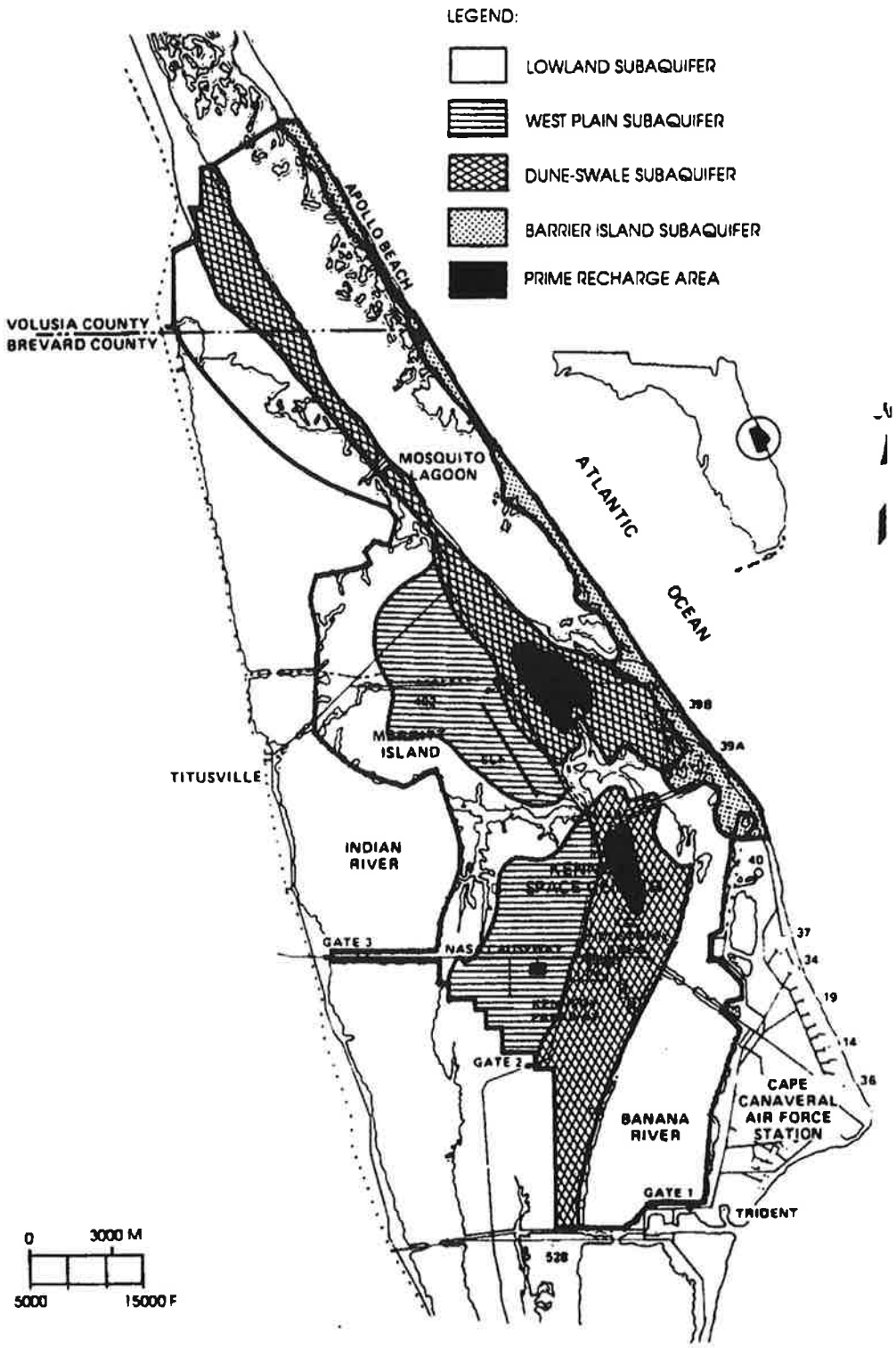

Figure 7. Subsystems of the Surficial aquifer (redrafted from Clark 1987c).

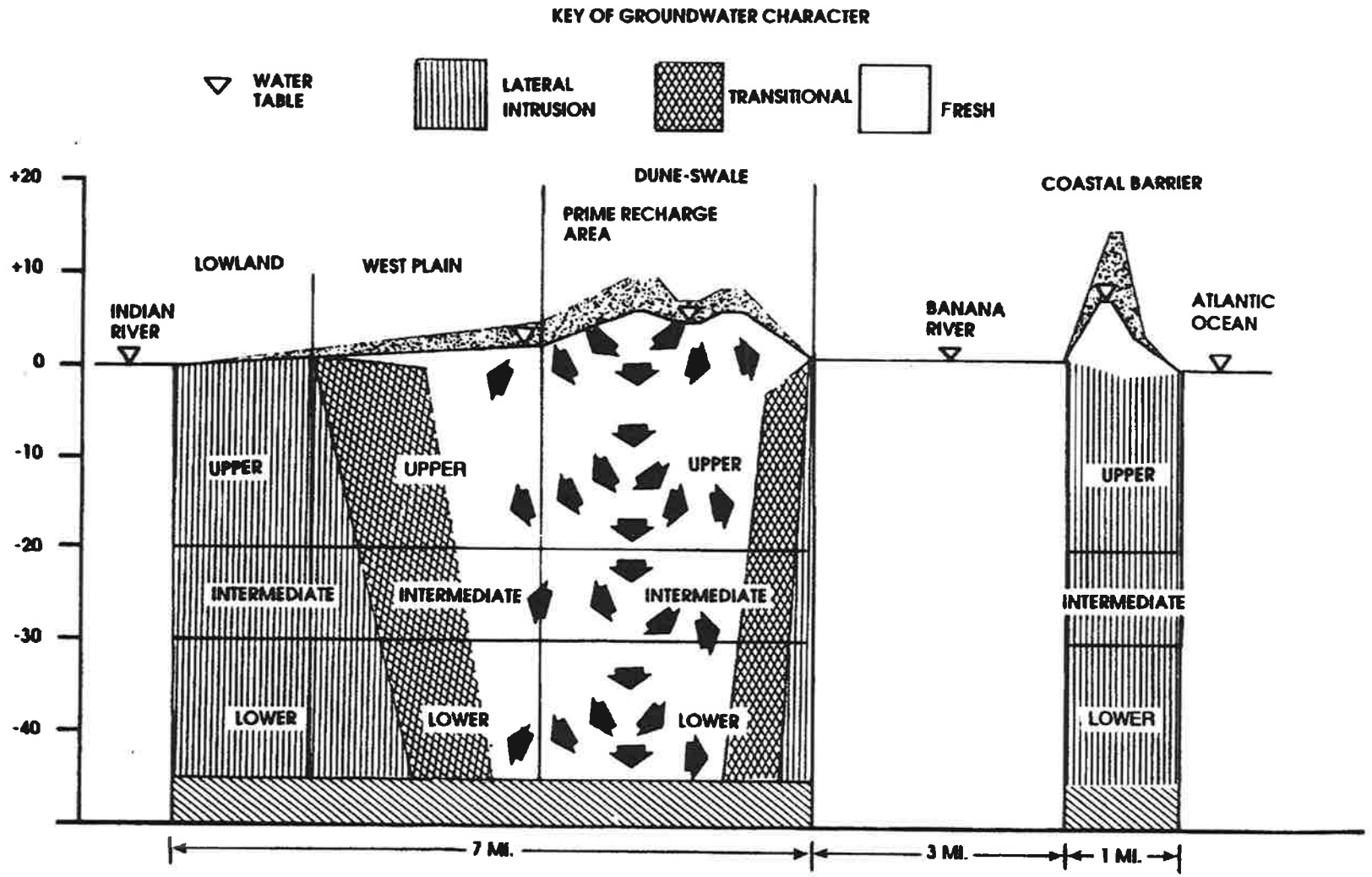

Figure 8. Chemical evolution of groundwater in the Surficial aquifer (redrafted from Clark 1987c).

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position of the fresh-saline water interface fluctuates; when water levels are low saline water moves inland, and when they are high saline water is forced out, producing a dynamic system.

Soils

Soils differ through the interaction of several factors: climate, parent material, topography, organisms, and time (Jenny 1941, 1980). The soils of KSC are mapped in the soil surveys for Brevard County (Huckle et al. 1974) and Volusia County (Baldwin et al. 1980), and the resulting soil pattern is complex. Numerous soil series and land types are represented (Table 3), and these include representatives of many of the major soil groups (Table 4). This is interesting since Merritt Island is a relatively young landscape and one formed from coastal plain deposits. Some differences in soil parent material do occur (Table 5). In particular, soils that formed in deposits over limestone, coquina, or other alkaline material differ greatly in properties from those formed in sand. Textural differences in parent material such as that between loam or clay material and sand also influence soil properties.

Not all of the Cape Canaveral-Merritt Island complex is of the same age, as discussed earlier. Soils on Cape Canaveral, False Cape, and the barrier island section on the east side of Mosquito Lagoon are younger than those of Merritt Island and therefore have had less time to weather. Predominant well drained soil series (e.g., Palm Beach, Canaveral) in these areas still retain shell fragments in the upper layers, while those inland on Merritt Island (e.g., Paola, Pomello) do not. The presence of shell fragments influences soil nutrient levels, particularly calcium and magnesium, and pH. The eastern and western sections of Merritt Island differ in age. The eastern section of Merritt Island inland to about State Route 3 has a marked ridge-swale topography presumably retained from its formation as a barrier island, while

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Table 3. Soil and land types occurring on Kennedy Space Center.[1]

Soil and Land Types	Area (acres)	Area (hectares)	Percent
Anclote sand	2494.7	1009.6	3.33
Astatula fine sand	592.0	239.6	0.79
Basinger sand	1130.2	457.4	1.51
Beaches	442.1	178.9	0.59
Bradenton fine sand, shallow variant	690.9	279.6	0.92
Bulow sand	58.3	23.6	0.08
Canaveral sand	396.5	160.5	0.53
Canaveral-urban complex	463.6	187.6	0.62
Canova peat	14.0	5.7	0.02
Chobee fine sandy loam	244.4	98.9	0.33
Cocoa sand	845.9	342.3	1.13
Copeland complex	4463.2	1806.2	5.96
Daytona sand	143.2	58.0	0.19
Felda and Winder	4569.6	1849.3	6.10
Felda and Winder, ponded	3949.9	1598.5	5.27
Floridana	95.0	38.4	0.13
Hydraquents	955.6	386.7	1.28
Immokalee sand	12882.9	5213.6	17.19
Myakka sand	4615.5	1867.9	6.16
Myakka sand, ponded	36.6	14.8	0.05
Myakka variant	67.8	27.4	0.09
Orsino fine sand	109.1	44.2	0.15
Palm Beach sand	1346.5	544.9	1.80
Paola fine sand	1221.6	494.4	1.63
Parkwood fine sand	138.7	56.1	0.19
Pineda fine sand	483.4	195.6	0.65
Placid fine sand, depressional	82.5	33.4	0.11
Pomello sand	2068.6	837.2	2.76
Pompano sand	757.7	306.6	1.01
Quartzipsamments	191.9	77.7	0.26
Riviera fine sand	111.4	45.1	0.15
St. Johns fine sand	3004.9	1216.1	4.01
St. Johns fine sand, ponded	1620.2	655.7	2.16
St. Lucie fine sand	6.5	2.6	0.01
Swamp	313.5	126.9	0.42
Submerged marsh	11418.9	4621.2	15.23
Tavares fine sand	40.4	16.3	0.05
Tidal marsh	1383.0	559.7	1.85
Tidal swamp	293.7	118.9	0.39
Turnball muck	554.4	224.4	0.74
Turnball variant sand	104.5	42.3	0.14
Tuscawilla fine sand	291.6	118.0	0.39
Urban land	1426.4	577.3	1.90
Wabasso fine sand	3665.9	1483.6	4.89

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Table 3. (continued)

Soil and Land Types	Area (acres)	Area (hectares)	Percent
Winder loamy sand	6.9	2.8	0.01
Gravel pits and quarries	116.5	47.1	0.16
Spoil banks	364.5	147.5	0.49
Dikes	2316.1	937.3	3.09
Made land and other land	21.2	8.5	0.03
Transportation	2333.2	944.2	3.11
Total	74945.6	30330.1	

[1] Data derived from digitized soil map, base maps by Huckle et al. (1974) and Baldwin et al. (1980).

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Table 4. Classification of Kennedy Space Center soil series.[1]

Series	Family	Subgroup	Order
Anclote	Sandy, siliceous, hyperthermic	Typic Haplaquoll	Mollisol
Astatula	Hyperthermic, uncoated	Typic Quartzipsamment	Entisol
Basinger	Siliceous, hyperthermic	Spodic Psammaquent	Entisol
Bradenton shallow variant	Fine-loamy, mixed, hyperthermic	Typic Ochraqualf	Alfisol
Bulow	Loamy, siliceous, hyperthermic	Typic Hapludalf	Alfisol
Canaveral	Mixed, hyperthermic	Aquic Udipsamment	Entisol
Canova	Fine-loamy, siliceous, hyperthermic	Typic Glossaqualf	Alfisol
Cassia	Sandy, siliceous, hyperthermic	Typic Haplohumod	Spodosol
Chobee	Fine-loamy, mixed, hyperthermic	Typic Argiaquoll	Mollisol
Cocoa	Sandy, siliceous, hyperthermic	Psammentic Hapludalf	Alfisol
Copeland	Fine-loamy, mixed, hyperthermic	Typic Argiaquoll	Mollisol
Daytona	Sandy, siliceous, hyperthermic	Entic Haplohumod	Spodosol
Felda	Loamy, siliceous, hyperthermic	Arenic Ochraqualf	Alfisol
Floridana	Loamy, siliceous, hyperthermic	Arenic Argiaquoll	Mollisol
Immokalee	Sandy, siliceous, hyperthermic	Arenic Haplaquod	Spodosol
Myakka	Sandy, siliceous, hyperthermic	Aeric Haplaquod	Spodosol
Myakka variant	Sandy, siliceous, hyperthermic	Aeric Haplaquod	Spodosol
Orsino	Hyperthermic, uncoated	Spodic Quartzipsamment	Entisol
Palm Beach	Carbonitic, hyperthermic	Typic Udipsamment	Entisol
Paola	Hyperthermic, uncoated	Spodic Quartzipsamment	Entisol
Parkwood moderately fine subsoil variant	Fine-loamy, mixed, hyperthermic	Mollic Ochraqualf	Alfisol
Pineda	Loamy, siliceous, hyperthermic	Arenic Ochraqualf	Alfisol
Placid	Sandy, siliceous, hyperthermic	Typic Humaquept	Inceptisol
Pomello	Sandy, siliceous, hyperthermic	Arenic Haplohumod	Spodosol
Pompano	Siliceous, hyperthermic	Typic Psammaquent	Entisol

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Table 4. (continued)

Series	Family	Subgroup	Order
Riviera	Loamy, siliceous, hyperthermic	Arenic Glossaqualf	Alfisol
St. Johns	Sandy, siliceous, hyperthermic	Typic Haplaquod	Spodosol
St. Lucie	Hyperthermic, uncoated	Typic Quartzipsamment	Entisol
Tavares	Hyperthermic, uncoated	Typic Quartzipsamment	Entisol
Turnbull	Clayey over sandy or sandy-skeletal, montmorillonitic, nonacid, hyperthermic	Typic Hydraquent	Entisol
Turnbull variant	Mixed, hyperthermic	Aquic Udipsamment	Entisol
Tuscawilla	Fine-loamy, mixed, hyperthermic	Typic Ochraqualf	Alfisol
Wabasso	Sandy over loamy, siliceous, hyperthermic	Alfic Haplaquod	Spodosol
Winder	Fine-loamy, siliceous, hyperthermic	Typic Glossaqualf	Alfisol

[1] Classification from Huckle et al. (1974) and Baldwin et al. (1980).

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Table 5. Parent material of Kennedy Space Center soil series.[1]

Soil Type	Parent Material
Anclote sand	Sandy marine sediments
Astatula fine sand	Marine or eolian sediments
Basinger sand	Sandy marine sediments
Bradenton fine sand, shallow variant	Sandy and loamy marine sediments over limestone
Canaveral sand	Marine sands and shell fragments
Canova peat	Thin deposits of herbaceous organic material over loamy marine sediments
Chobee fine sandy loam	Loamy marine sediments
Cocoa sand	Sandy marine or eolian sediments over coquina
Copeland complex	Beds of sandy and loamy marine sediments over limestone or coquina
Daytona sand	Beds of marine sand
Felda sand	Stratified marine sands and loamy material
Floridana sand	Sandy and loamy marine sediments
Immokalee sand	Beds of marine sand
Myakka sand	Beds of marine sand
Orsino fine sand	Deep beds of marine or eolian sand
Palm Beach sand	Thick deposits of marine sand and shell fragments
Paola fine sand	Thick beds of eolian sand
Parkwood fine sand	Sandy and loamy marine material over calcareous material
Pineda fine sand	Sandy and loamy marine material
Placid fine sand	Thick beds of sandy marine sediments
Pomello sand	Thick beds of marine sand
Pompano sand	Thick beds of marine sand
Riviera fine sand	Marine sands and clays over alkaline material
St. Lucie fine sand	Thick beds of marine or eolian sand
St. Johns fine sand	Marine sands
Tavares fine sand	Thick beds of sandy marine or eolian deposits
Turnbull muck	Clayey and sandy estuarine deposits
Turnbull variant sand	Deposits of sand and shells over estuarine deposits resulting from dredging
Tuscawilla fine sand	Sandy and loamy marine sediment and shells
Wabasso fine sand	Sandy marine sediments over loamy material
Winder loamy sand	Loamy marine material

[1] Huckle et al. (1974), Baldwin et al. (1980).

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west of State Route 3, the island is flatter, without obvious ridges and swales probably due to the greater age of this topography.

Differences in age and parent material account for some soil differences, but on landscapes of Merritt Island with similar age, topography has a dramatic effect on soil formation. Relatively small elevation changes cause dramatic differences in the position of the water table that, in turn, affect leaching, accumulation of organic matter, and formation of soil horizons. In addition, proximity to the lagoon systems influences soil salinity.

The major soil series and land types on KSC are discussed in Appendix I based on their general characteristics and occurrence on the KSC landscape. Quantitative soil data will be discussed in following reports.

Summary

1. Sediments underlying KSC have accumulated in alternating periods of deposition and erosion since the Eocene. Surface sediments are of Pleistocene and Recent ages. Fluctuating sea levels with the alternating glacial-interglacial cycles have shaped the formation of the barrier islands. Merritt Island is an older landscape whose formation may have begun as much as 240,000 years ago, although most of the surface sediments are not that old. Cape Canaveral probably dates from <7,000 years B.P. as does the barrier strip separating Mosquito Lagoon from the Atlantic Ocean. Merritt Island and Cape Canaveral have been shaped by progradational processes but not continuously so, while the Mosquito Laggon barrier has been migrating landward.

2. Deep aquifers beneath KSC are recharged inland but are highly mineralized in the coastal region and interact little with surface vegetation. The surficial aquifer has formed in the Pleistocene and Recent deposits and is recharged by local rainfall. Sand

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ridges in the center of Merritt Island are important to its recharge. Discharge is from evapotranspiration, seepage to canals and ditches, seepage into interior wetland swales, and seepage into impoundments, lagoons, and the ocean. This aquifer exists in dynamic equilibrium with rainfall and with the fresh-saline water interface. Freshwater wetlands depend on the integrity of this aquifer, and it provides freshwater discharge to the lagoons and impoundments.

3. Soils of KSC reflect the complexity of soil forming factors (parent material, topography, time, biota) on the landscape. Numerous soil series are represented. Within a given area, soils vary from well to poorly drained. On well drained sites of differing ages, leaching has modified soil properties. Parent material differences (sand, loam, clay, coquina) are also reflected in the soil pattern.

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Appendix I

Descriptions of the Soil Series and Land Types on Kennedy Space Center

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Descriptions of the Soil Series and Land Types on KSC

Anclote sand is a nearly level, very poorly drained, sandy soil in marshy depressions in flatwoods, broad areas on floodplains, and in poorly defined drainageways. In most years the water table is <10" (25 cm) for >6 months and seldom >40" (102 cm). These soils are occasionally flooded for 2-7 days after heavy rain (Huckle et al. 1974). On KSC, Anclote soils are primarily in swales in flatwoods and scrub and along drainageways.

Astatula fine sand is a nearly level to gently sloping, excessively drained, sandy soil on high undulating ridges. It has low organic matter content and low natural fertility. The water table is typically below 120" (305 cm). This series is better drained than Pomello and lacks the A2 and B horizons of Paola (Huckle et al. 1974). On KSC, this series is found primarily on the higher ridges north of Haulover Canal.

Basinger sand is a nearly level, poorly drained, sandy soil in sloughs of poorly defined drainageways and depressions in flatwoods. In most years, the water table is <10" (25 cm) for 2-6 months, between 10-40" (25-102 cm) for 6 months, and >40" (102 cm) for short periods in the dry season. This series is better drained than Anclote and lacks the weakly cemented Bh horizon of Immokalee (Huckle et al. 1974). On KSC, Basinger sand occurs primarily in swales in flatwoods and scrub.

Beaches are the narrow sandy strips along the Atlantic coast composed of fine to coarse sand mixed with multicolored shells and shell fragments. Sea water regularly overwashes the larger part of these areas at high tide but the higher areas only at equinoctal or storm-driven tides (Huckle et al. 1974).

Bradenton fine sand, shallow variant is a nearly level, poorly drained soil with limestone at a depth of ca. 40" (102 cm). The water table is <10" (25 cm) for 2-6 months, between 10-30" (25-76 cm) for >6 months, and >30" (76 cm) for short periods

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in the dry season. These soils may be flooded for 2-7 days once in 1-5 years. This series is better drained than Copeland (Huckle et al. 1974). On KSC, this series occurs mainly in the central and western parts of Merritt Island near areas mapped as the Copeland complex.

Bulow sand is a gently sloping, well drained, moderately deep, sandy soil underlain by differentially weathered coquina on narrow sand ridges. The water table is typically below 72" (183 cm) (Baldwin et al. 1980). Bulow sand occurs only to a minor extent on KSC (Table 3) and is found on ridges north of Haulover Canal.

Canaveral sand is a nearly level and gently undulating, moderately well drained, sandy soil mixed with shell fragments. The map unit consists of 60% Canaveral sand and 30% a more poorly drained Canaveral sand in sloughs between ridges with a thicker, darker surface layer and the water table closer to the surface for longer periods. Canaveral sand is not as well drained as Palm Beach but better drained than Anclote (Huckle et al. 1974). On KSC, Canaveral sand is found primarily on the coastal strip inland from Palm Beach sand. It is of modest extent on KSC (Table 3) but occupies most of Cape Canaveral.

Canova peat is a nearly level, very poorly drained soil with a peat surface layer and a loamy subsoil occurring on broad floodplains. The water table is <10" (25 cm) for 9-12 months, continuously flooded for 3-6 months, and >10" (25 cm) for short periods in the dry season. This series is more poorly drained than Felda and Winder soils and has an organic surface layer (Huckle et al. 1974). Canova peat is of minor extent on KSC (Table 3).

Chobee fine sandy loam is a nearly level, very poorly drained, loamy soil with a thick black surface layer that occurs in marshy depressions and floodplains. The water table is <10" (25 cm) for 6-9 months, between 10-40" (25-102 cm) for 3-6 months, >40" (102 cm) for short periods in the dry season, and may be flooded continuously for 1-6

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months. This series is more poorly drained than Felda (Huckle et al. 1974). On KSC, a minor acreage (Table 3) of this series occurs on the central and western part of Merritt Island.

Cocoa sand is a nearly level and gently sloping, well drained, sandy soil over coquina. The water table is >72" (183 cm) all year (Huckle et al. 1974). On KSC, this series occurs primarily on low ridges north and south of Haulover Canal.

Copeland is a nearly level, sandy to loamy, very poorly drained soil on low flats underlain by limestone. The Copeland complex map unit consists of several nearly level, very poorly drained soils where the water table is <10" (25 cm) for >6 months, between 10-30" (25-76 cm) in the dry season, and flooded 7-30 days once in 5-20 years. Soils in the complex differ in depth to the limestone layer (Huckle et al. 1974). On KSC, this complex occurs mainly in the central and western part of Merritt Island west of State Route 3.

Daytona sand is a moderately well drained, nearly level to gently sloping soil on undulating sandhills or slightly elevated places in the flatwoods. The water table is between 40-50" (102-127 cm) for 1-4 months per year in the wet season and >72" (183 cm) in the dry season (Baldwin et al. 1980). On KSC, small areas of this series (Table 3) are mapped on ridges north of Haulover Canal in Volusia County.

Felda sand is a nearly level, poorly drained soil on broad low flats, in sloughs, depressions, and poorly defined drainageways. The water table is <10" (25 cm) for 2-6 months and between 10-40" (25-102 cm) for the rest of the year. Water may be above the surface for 2-7 days in 1-3 months per year. Depressions are flooded for >6 months per year (Huckle et al. 1974).

Felda and Winder soils consist of poorly drained soils in low sloughs and slightly higher hammocks. The map unit consists of about 65% sloughs and 35% hammocks. In the sloughs, the soils are 35% Felda, 30% Winder, and <20% Chobee,

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Floridana, and/or Wabasso. In the hammocks, the soils are 55% a soil similar to Wabasso but over limestone and the remainder a soil similar to Copeland (Huckle et al. 1974). These soils occur in low areas in flatwoods on the east side of Merritt Island and on low flats on the west side of the island.

Felda and Winder soils, ponded are the landward areas of former high tidal marsh impounded for mosquito control and now continuously flooded for >6 months per year. About 50% of the soils are Felda and 25% Winder (Huckle et al. 1974). This soil is also mapped in some of the large interior wetlands on KSC.

Floridana sand is a nearly level, very poorly drained soil in broad areas of floodplains and small to large marshy depressions. The water table is <10" (25 cm) for 6-9 months and between 10-30" (25-76 cm) for the rest of the year. This series is more poorly drained than Felda or Winder (Huckle et al. 1974). Only minor areas of this soil occur on KSC (Table 3).

Hydraquents are variable, silty, clayey, or loamy tidal deposits in mangrove swamps and islands. The outer edges experience tidal overwash daily, while the inner parts are slightly elevated and are inundated only during storms and equinoctal tides. Hydraquents are mapped in Volusia County (Baldwin et al. 1980); in Brevard County, the map unit of Tidal swamp is apparently equivalent (Huckle et al. 1974).

Immokalee sand is a nearly level, poorly drained, sandy soil in broad areas in flatwoods, low ridges between sloughs, and in narrow areas between sand ridges and lakes or ponds. The water table is <10" (25 cm) for 1-2 months, between 10-40" (25-102 cm) for >6 months, and >40" (102 cm) for short dry periods. It may be flooded for 2-7 days once in 1-5 years (Huckle et al. 1974). Immokalee is the one of the major soil series in flatwoods and scrub on KSC (Table 3).

Myakka sand is a nearly level, poorly drained, sandy soil in broad areas in flatwoods, low ridges between sloughs, and in narrow areas between sand ridges and

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lakes or ponds. The water table is <10" (25 cm) for 1-4 months, between 10-40" (25-102 cm) for >6 months, and >40" (102 cm) for short dry periods. It may be flooded for 2-7 days once in 1-5 years (Huckle et al. 1974). Myakka is an important series in flatwoods and wetter scrub on KSC (Table 3) where it is in lower areas than Immokalee.

Myakka sand, ponded is a nearly level, poorly drained, sandy soil in shallow depressions in flatwoods. It is similar to Myakka but is flooded for 6-12 months per year (Huckle et al. 1974). Only minor areas of this series occur on KSC (Table 3).

Myakka variant fine sand is a nearly level, poorly drained, sandy soil in swells in flatwoods and in slightly higher areas in hardwood hammocks near the coast. The water table is <10" (25 cm) in the rainy season. This series differs form Myakka in the fine sand texture and the presence of a neutral to alkaline IIC horizon with shell fragments (Baldwin et al. 1980). Small areas of this series (Table 3) occur in the northern section of KSC in Volusia County.

Orsino fine sand is a nearly level, moderately well drained, sandy soil on moderately low ridges and between high ridges and poorly drained areas. The water table is between 40-60" (102-152 cm) for >6 months, during dry periods it is >60" (152 cm), and during wet periods between 20-40" (51-102 cm) for 7 days to 1 month (Huckle et al. 1974). Small areas of this soil (Table 3) occur on ridges in the central part of Merritt Island.

Palm Beach sand is a nearly level and gently sloping, excessively drained soil on dune-like ridges that roughly parallel the Atlantic Ocean and consists of mixed sand and shell fragments. The water table is >120" (305 cm). This series is better drained than Canaveral sand (Huckle et al. 1974). On KSC, it occurs on the recent dunes inland from the beaches.

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Pompano is a nearly level, poorly drained, sandy soil on broad flats, in shallow depressions, and in sloughs. The water table is <10" (25 cm) for 2-6 months per year, between 10-40" (25-102 cm) for >6 months per year, and >40" (102 cm) in the dry season (Huckle et al. 1974).

Quartipsamments are nearly level to steeply sloping soils reworked by earthmoving equipment. The soil material is derived from a variety of sandy soils (Huckle et al. 1974).

Riviera fine sand is a poorly drained, nearly level soil in broad low flats. The water table is <10" (25 cm) for 2-6 months per year and >40" (102 cm) for ca. 6 months per year (Baldwin et al. 1980). Minor areas of this series (Table 3) occur in the northern part of Merritt Island in Volusia County.

St. Johns sand is a nearly level, poorly drained, sandy soil on broad low ridges in the flatwoods. The water table is <10" (25 cm) for 2-6 months per year and between 10-40" (25-102 cm) the rest of the time. During extended dry periods it may be >40" (102 cm), and the soils may be flooded for 2-7 days following heavy rain (Huckle et al. 1974). This series occurs in low swales in the flatwoods and scrub on the eastern part of Merritt Island and in low flats on the western part of the island.

St. Johns soils, ponded are in sloughs, poorly defined drainageways, and shallow intermittent ponds in the flatwoods. The water table is <10" (25 cm) for 6-12 months per year, and they may be flooded for >6 months per year (Huckle et al. 1974). On KSC, this series is primarily in swales in flatwoods and scrub.

St. Lucie fine sand is a deep, nearly level to strongly sloping, excessively drained, sandy soil on high dune-like ridges and isolated knolls. The water table is below 120" (305 cm) (Huckle et al. 1974). Only minor areas of this soil occur on KSC (Table 3).

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Spoil banks are piles of soil material dug from large ditches and canals or dredged from ship channels in the Indian River. On the mainland, spoil banks occur as long, narrow areas adjacent to the ditches and canals from which they were dug. In the Indian River, they occur as scattered islands near the ship channel from which they were dredged. Properties of spoil banks vary depending on the material from which they were taken (Huckle et al. 1974).

Swamp includes nearly level, poorly drained and very poorly drained areas of soils with dense cover of wetland hardwoods, vines, and shrubs in poorly defined drainageways, depressions, and large bay heads. They are flooded with freshwater most of the time. The soil pattern is intricate, varied, and impractical to map separately and includes Anclote, Basinger, Pompano, Terra Ceia, and Tomoka soils (Huckle et al. 1974). On KSC, this series occurs in swales and along drainages.

Submerged marsh is the mapping unit used for areas on the lagoonward side of marshes impounded for mosquito control (Huckle et al. 1974). These are now flooded for much of the year; they may be primarily open water or may still support some marsh vegetation.

Tavares fine sand is a nearly level and gently sloping, well drained, sandy soil on narrow to broad, moderately low ridges. The water table is between 40-60" (102-152 cm) for >6 months per year and >60" (152 cm) in the dry season. This series is better drained than Immokalee or Myakka but less well drained than Astatula, Paola, or St. Lucie (Huckle et al. 1974). Only minor areas of this series occur on KSC (Table 3).

Tidal marsh includes nearly level areas of soils covered with salt or brackish waters at high tide. Soils are highly variable and include shallow mucky sands over marl or limestone, irregularly stratified mixed sand and shell fragments, silty or clayey layers over sand and shells, and deep organic material (Huckle et al. 1974). Tidal

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marsh is mapped in Brevard County for marsh areas adjacent to the lagoon systems (Indian River, Banana River, Mosquito Lagoon) that are not impounded.

Tidal swamp includes nearly level areas at about mean sea level covered with dense tangled growth of mangrove trees and roots. Soil material ranges from mixed sand and shells to organic material (Huckle et al. 1974). This type is mapped in Brevard County for mangrove islands in Mosquito Lagoon and the Banana River and for other unimpounded areas of mangroves adjacent to the lagoon systems.

Turnbull muck is a very poorly drained soil formed in clayey and sandy estuarine deposits near sea level and periodically flooded by tidal overwash (Baldwin et al. 1980). This series is mapped in marshes bordering the Indian River and Mosquito Lagoon in the Volusia County section of KSC.

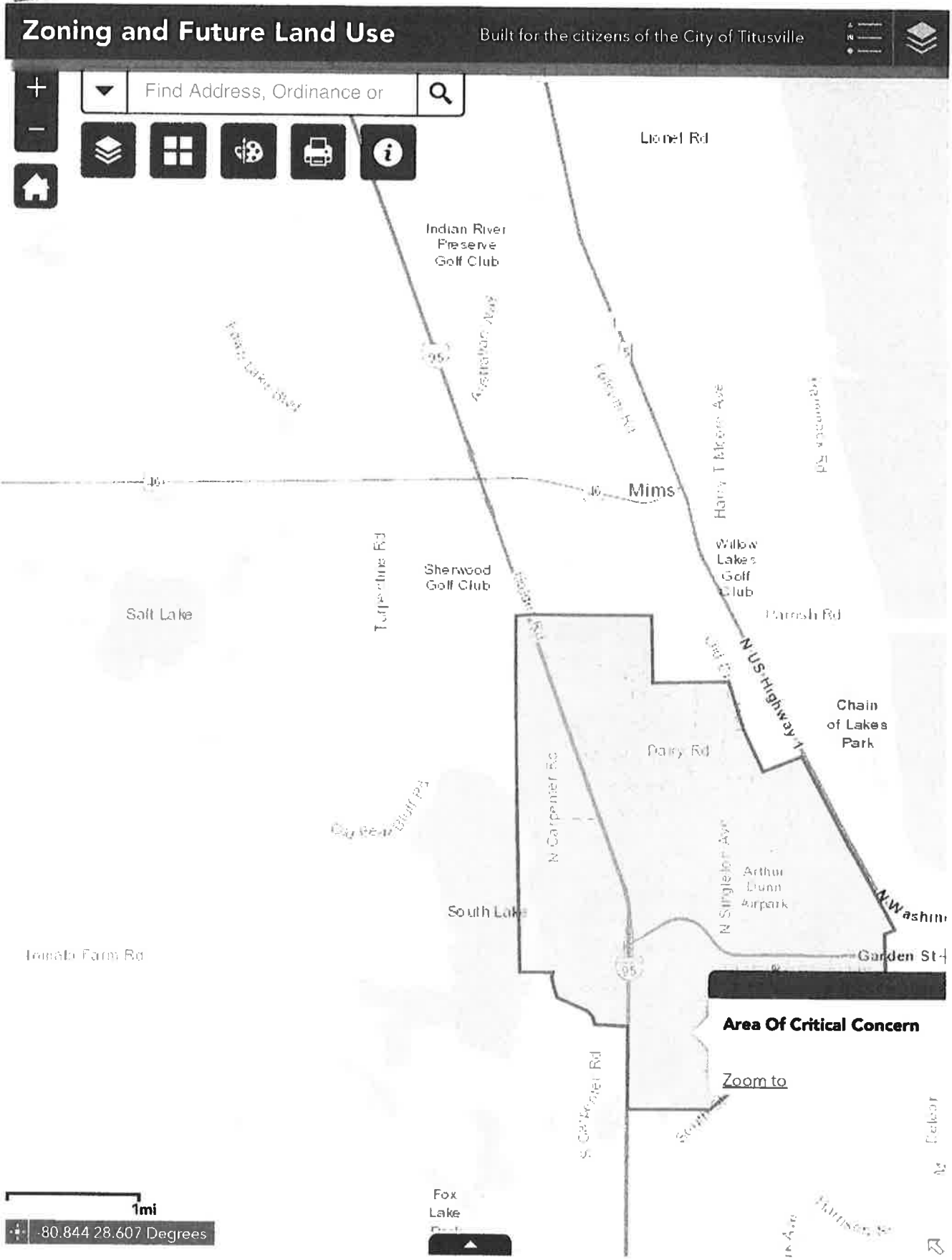
Turnbull variant sand consists of mixed sandy and shelly material dredged from the Intracoastal Waterway and placed in narrow strips along it over underlying material of organic deposits and layers of clayey and sandy estuarine deposits (Baldwin et al. 1980). Minor areas (Table 3) of this soil are mapped in the Volusia County section of KSC. It appears to be similar or identical to the Spoil bank type in Brevard County (Huckle et al. 1974).

Tuscawilla fine sand is a nearly level, poorly drained soil in broad hammocks near the coast. The water table is <10" for 2-6 months per year (Baldwin et al. 1980). Areas of this soil are mapped in the northern part of Merritt Island in Volusia County.

Urban land consists of areas that are 60 to >75% covered with streets, buildings, parking lots and similar structures (Huckle et al. 1974).

Wabasso loamy sand is a nearly level, poorly drained, sandy soil on broad areas in the flatwoods and on low ridges in the flatwoods. The water table is <10" (25 cm) for 1-2 months per year and <30" (76 cm) most of the time; during the dry season it may be >30" (76 cm) for short periods. These soils may be flooded for 2-7 days once in

3


Zoning and Future Land Use
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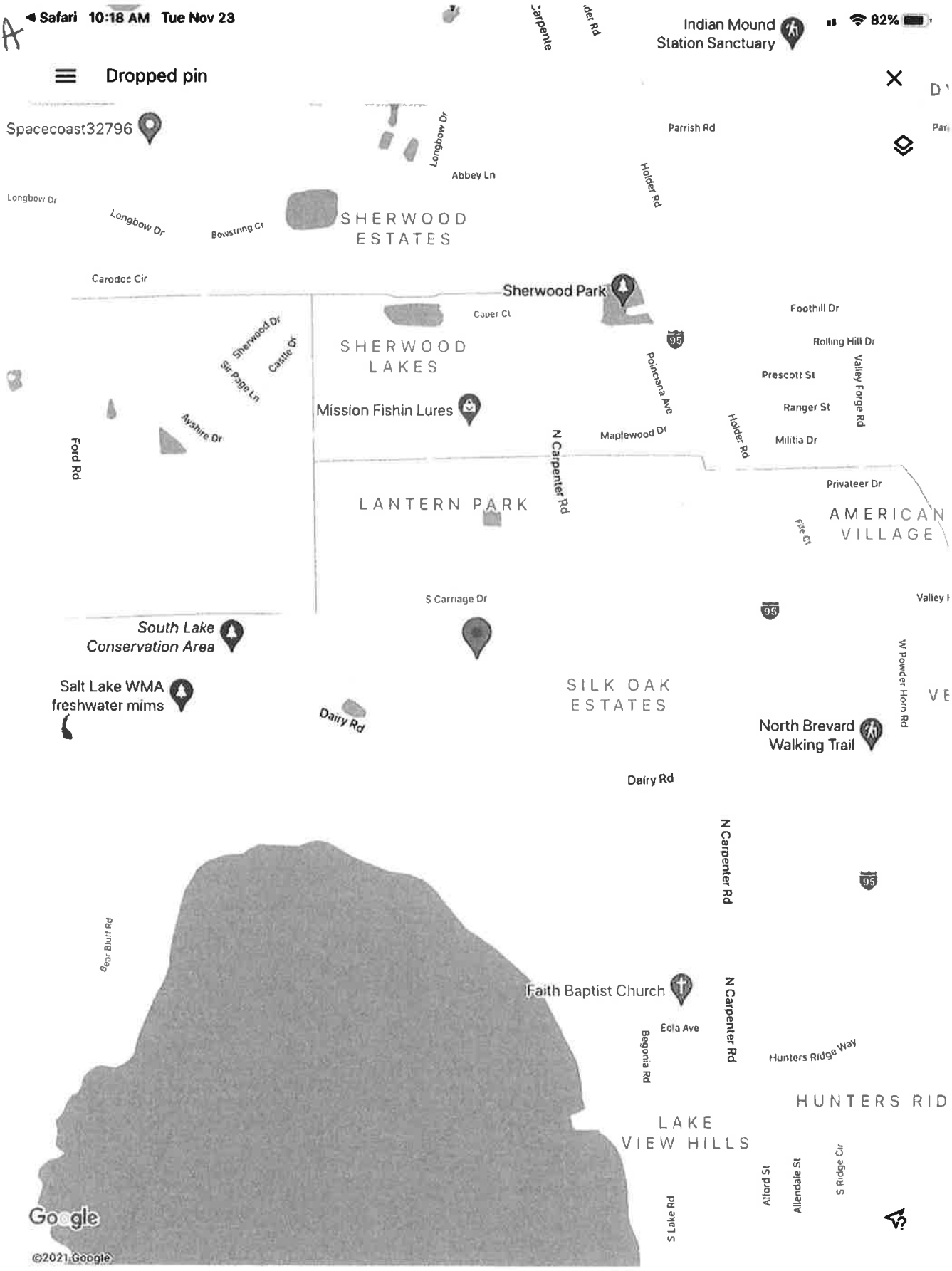

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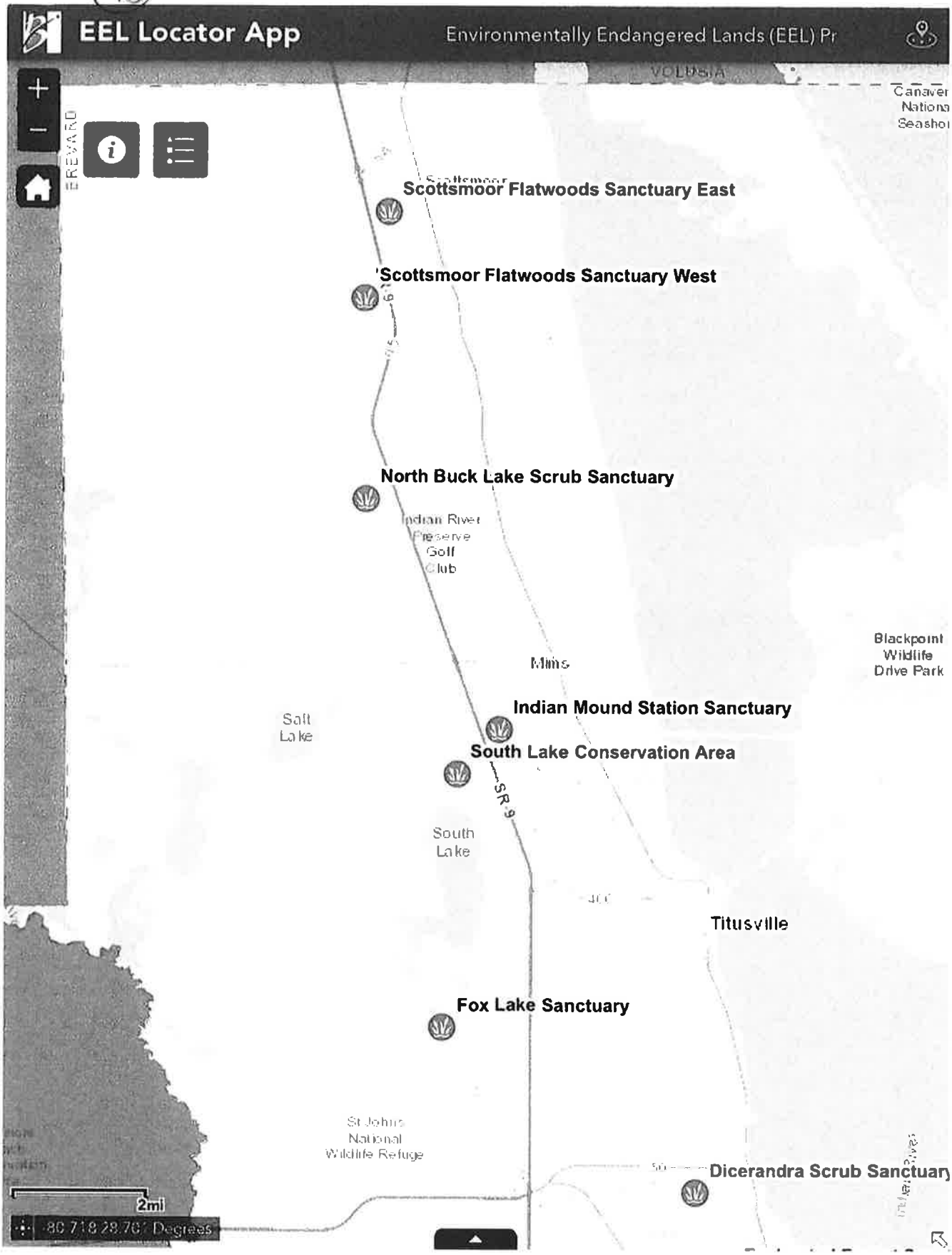
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Fox Lake Sanctuary
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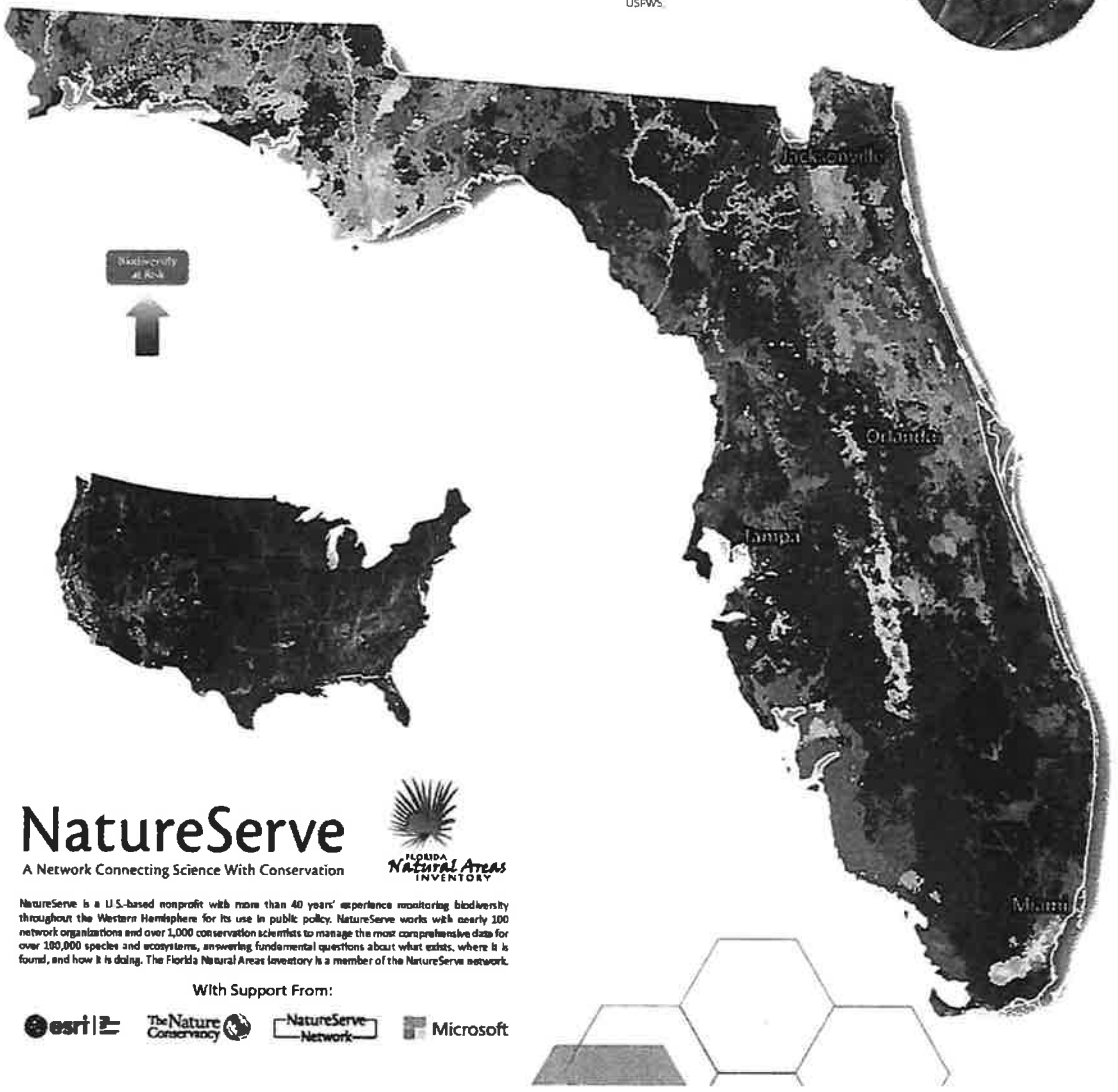
The Map of Biodiversity Importance

Areas of Importance for Conservation of Imperiled Species in Florida

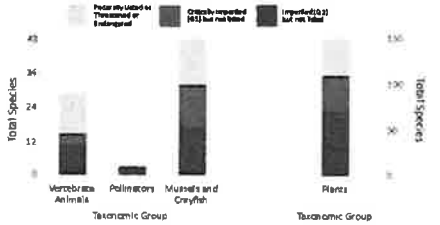
Florida is home to nearly 800 globally imperiled species. Many of those imperiled species only exist in a few places and thus have limited opportunities for protection. To better understand where conservation action can help at-risk species, NatureServe recently released the Map of Biodiversity Importance (MoBI), a first ever high-precision map of areas of importance for conservation of imperiled species in the 48 conterminous United States.

The Map of Biodiversity Importance is based on habitat suitability models for 2,216 of the nation's most at-risk species, including vertebrates, freshwater invertebrates (mussels and crayfish), pollinators (bumblebees and butterflies and skippers) and vascular plants. By combining those models and applying weights based on range-size, the warmest colors on the map identify places where imperiled species with few opportunities for protection are concentrated. When used in conjunction with state-specific data collected and maintained by the Florida Natural Diversity Database, a collaborator on this project, decision-makers are empowered with information to direct conservation efforts to the places they can have the greatest impact.

Imperiled species in Florida include the Florida Scrub Jay (*Aphelocoma coerulescens*). NatureServe Global Conservation Status: Imperiled (G2); Endangered Species Status: Listed threatened. Photo by Mike Carlo, USFWS.



Florida Species Included in MoBI by Taxonomic Group and Conservation Status



This graph shows the number of species included in MoBI with habitat in Florida. Many of these species have been formally listed as Threatened or Endangered under the U.S. Endangered Species Act (yellow). Other species are imperiled but are not federally listed (green and blue). Taking action now can prevent the need for federal listing.

NatureServe

A Network Connecting Science With Conservation

FLORIDA Natural Areas INVENTORY

NatureServe is a U.S.-based nonprofit with more than 40 years' experience monitoring biodiversity throughout the Western Hemisphere for its use in public policy. NatureServe works with nearly 100 network organizations and over 1,000 conservation scientists to manage the most comprehensive data for over 100,000 species and ecosystems, answering fundamental questions about what exists, where it is found, and how it is doing. The Florida Natural Areas Inventory is a member of the NatureServe network.

With Support From:

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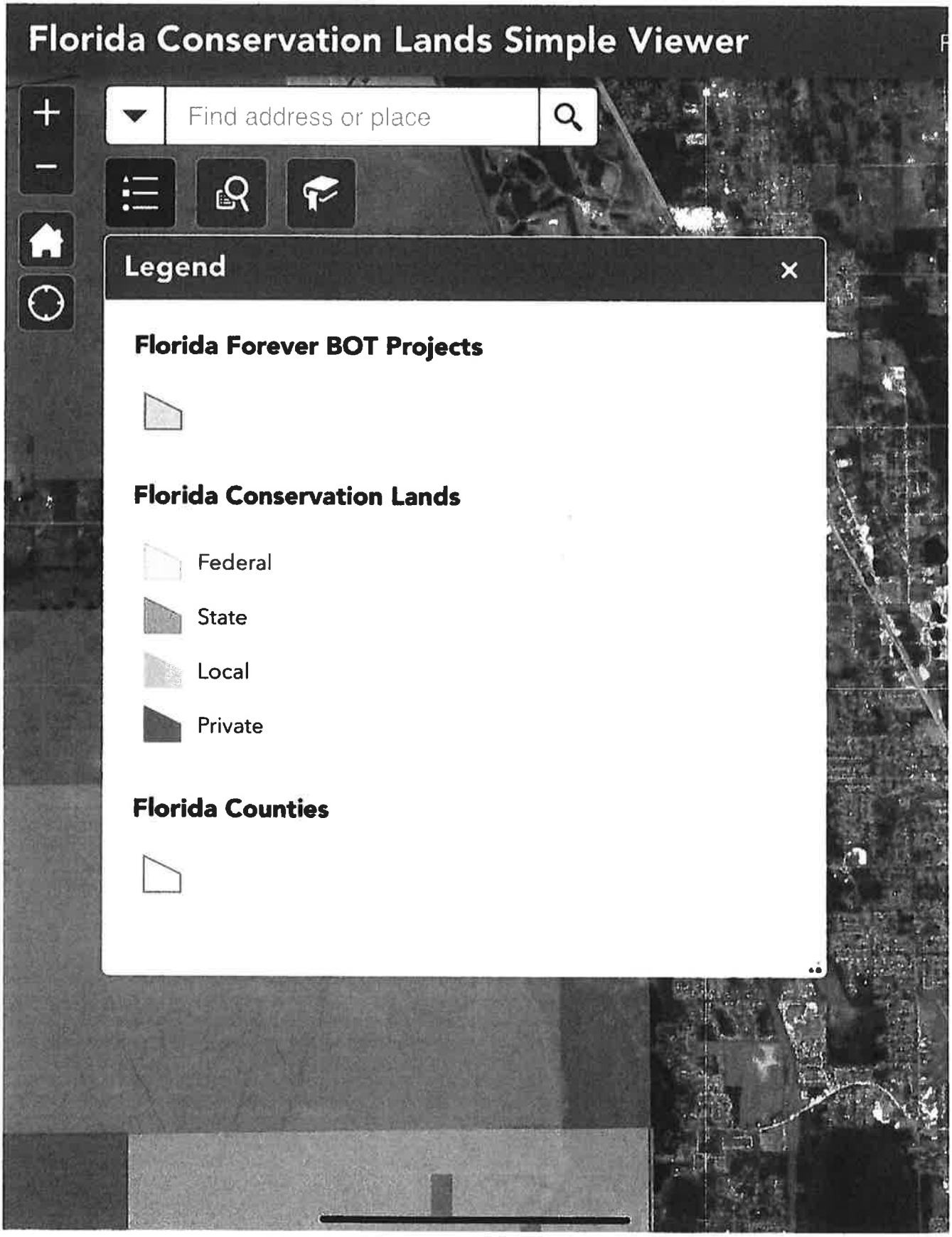
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Objection
21Z00030
Calligan

From: Commissioner, D1
To: Jones, Jennifer
Cc: Pritchett, Rita; Smith, Nathan; Mascellino, Carol; Price, Jessica
Subject: FW: Request For Rezoning RU-1-7 ID#21Z00030
Date: Wednesday, December 1, 2021 12:43:08 PM
Attachments: image001.png
image002.png

Good Afternoon,

On behalf of Commissioner Pritchett, please see the public comment below regarding zoning item 21Z00030.

Best regards,

Carol Mascellino
Legislative Aide to Commissioner Rita Pritchett

District 1 Commission Office
7101 S. Highway 1
Titusville, FL 32780
Telephone: 321-607-6901

From: Commissioner, D1
Sent: Wednesday, December 1, 2021 12:40 PM
To: margie.d.primavere@gmail.com
Cc: Pritchett, Rita <Rita.Pritchett@brevardfl.gov>; Smith, Nathan <Nathan.Smith@brevardfl.gov>; Mascellino, Carol <Carol.Mascellino@brevardfl.gov>; Price, Jessica <Jessica.Price@brevardfl.gov>
Subject: RE: Request For Rezoning RU-1-7 ID#21Z00030

Good Afternoon,
On behalf of Commissioner Pritchett, thank you for your email. The Commissioner has reviewed your email and wants you to know that she will take your comments into consideration.
Thank you for contacting our office and sharing your concerns.

Best regards,

Carol Mascellino
Legislative Aide to Commissioner Rita Pritchett

District 1 Commission Office
7101 S. Highway 1
Titusville, FL 32780
Telephone: 321-607-6901

From: margie.d.primavere@gmail.com <margie.d.primavere@gmail.com>
Sent: Wednesday, December 1, 2021 12:19 PM
To: Commissioner, D1 <D1.Commissioner@brevardfl.gov>
Subject: Request For Rezoning RU-1-7 ID#21Z00030

Good Afternoon Comminissioner Pritchard,

This email is in reference to the request to rezone RU-1-7, property owned by Heather Calligan Trust (79.16 acres) which is located on the south side of SR 46, approximately 635 ft. east of Turpentine Road, Mims. This request is to change the zoning of an existing BDP (Binding Development Plan) to a zero lot line. This property is currently zoned agricultural, yet there has been significant growth in this area over the years. I want to take a moment of your time to express my concerns with this new proposal to rezone this area to accommodate approximately 198 homes on considerably small lots. As I am not opposed to growth, opportunities for new families, and improvements to communities, I feel this proposal will negatively impact the current residences/homeowners residing adjacent to this property.

My husband and I have lived at our property, 2485 Bar C Road for nearly 40 years and moved here due to the rural demographics this area offered. Our residence is one acre in size, just east of Bar C

Road and South of SR 46. Behind our residence, to the south, there is currently a 300' protected agricultural buffer with a drainage ditch that controls water flow, especially during hurricane season. After experiencing several hurricanes while living at this residence, this drainage ditch is crucial to protecting the residences in this area from flooding. The water flow during these natural phenomenon's and the current, natural foliage buffer has served it's intended purpose. The concerns of minimizing the current buffer zone in this request will significantly impact the residence in this area. Changing the natural topographical state of this buffer will directly impact the flow of water during these natural weather conditions occurring every year. On November 15th, there was a meeting at 3:00pm with Planning and Zoning, Mrs. Kim Rezanka stated there is no change in the buffer zone near my residence at all (For details of Mrs. Rezanka's statement, please refer to the minutes of the meeting). If the BDP states their intentions to construct a large number of small, single family residences in such a small area, then with this amount of construction, reduction in the buffer zone, where would the water naturally flow? What is the drainage/sewer plan to mitigate any issues/concerns with how water can impact surrounding structures and residence if not properly contained. The new houses would generally be built on foundations higher which will cause water to flow to the low lands. This current buffer acts as a filtration system to protect the current homes and properties that are directly adjacent to the property in question for development. Although the BDP indicates that a berm will be constructed, vegetation added, irrigated and maintained in the buffer area, I feel this will not be sufficient to control the natural flow of water as the current buffer has done for all these years. The 50 foot buffer proposal is not consistent with current zoning of one acre lots in this rural area which we all have chosen to live in for its natural beauty, privacy, and safety for our families.

As stated above, I am not opposed to growth and expansion, however, the increase in this many homes in such a small, condensed area will generate more traffic safety issues/concerns on Bar C Road, Turpentine Road, SR 46, and Hammock Trail. SR 46 is a primary ingress/egress route from East Orlando, Geneva, Sandford, and Oviedo. This route is a two-lane SR and already congested with it's travels to Interstate 95. With the increase to direct residential building off of SR 46, the increased traffic is a strong concern for many of us. Already, there has been a truck stop built at the intersection of SR 46 and Carpenter Road. A traffic light has been installed to control the flow of traffic in this area, and I have experience significant increase in traffic congestion just because of this business being built. Again, I understand the need for resources and growth, however, the individuals who have lived in this general area for decades have enjoyed the benefits of living in such a rural area by choice. These decisions to construct extremely small homes in a condensed area will increase the already congested environment only for monitorial gain and not for the best interest of the community. The schools and one hospital (Parrish Medical Center) are almost, if not already at full capacity for this area, where wait times in the emergency room have increased significantly.

In order to maintain the integrity of what this area was intended for, and in preservation of current residences benefiting from the natural buffer protecting them from erosion, flooding, wind damage, etc., it is my opinion the conservation drainage buffer should NOT be limited to 50 feet and should maintain its original form established so long ago. In 1999 and 2005, this particular buffer zone and rezoning has been attempted before and the same concerns from then are the same now, yet, with a more densely populated intent structurally and humanly. The area does not seem to be demographically designed for such construction and changing the buffer zone will affect the rural

allure that attracted individuals. Altering the buffer zones natural state to build more smaller houses will generate a negative "ripple effect" that can be detrimental to the existing residences in this area due to water retention and drainage concerns, traffic congestion increases, population overflow, and the resources this area currently provides the residence and visitors in this immediate vicinity.

In closing, the BDP doesn't address some of the concerns and building is contingent on rezoning and I understand this, however, the sever altering of the existing buffer zone from 300 feet to 50 feet seems to be an unreasonable and unnecessary reduction. If the previous BDP indicates 1800 square foot homes on one acre lots, then this appears reasonable and would maintain the current conservation buffer. Finally, it is my interpretation, the St. Johns River Water Management District (SJRWMD) identifies this buffer zone as a conversation easement which may be used for mitigation of wetlands, which is in favor of the SJRWMD to control flooding and erosion of surrounding existing residence. With that being said, it is greatly appreciated the time and energy the Commissioner's Office spends on the citizens of Brevard County and listening to our concerns. As a residence of this great county, we have been blessed with the most professional representatives of our community.

Sincerely,

Margaret D. Primavere
2485 Bar C Road
Mims, Florida 32754

Objection
21Z00033
Preece

From: Commissioner, D1
To: Jones, Jennifer
Cc: Pritchett, Rita; Smith, Nathan; Mascellino, Carol; Price, Jessica
Subject: FW: Rezoning 117 Franklyn Avenue
Date: Wednesday, December 1, 2021 9:30:39 AM
Attachments: image001.png
image002.png

Good Morning,

On behalf of Commissioner Pritchett, please see the public comment below regarding zoning item #21Z00033.

Best regards,

Carol Mascellino
Legislative Aide to Commissioner Rita Pritchett

District 1 Commission Office
7101 S. Highway 1
Titusville, FL 32780
Telephone: 321-607-6901

From: Commissioner, D1
Sent: Wednesday, December 1, 2021 8:50 AM
To: Lori Werdenberg <lorilove19@icloud.com>
Cc: Pritchett, Rita <Rita.Pritchett@brevardfl.gov>; Smith, Nathan <Nathan.Smith@brevardfl.gov>; Mascellino, Carol <Carol.Mascellino@brevardfl.gov>; Price, Jessica <Jessica.Price@brevardfl.gov>
Subject: RE: Rezoning 117 Franklyn Avenue

Good Morning,
On behalf of Commissioner Pritchett, thank you for your email. The Commissioner has reviewed your email and wants you to know that she will take your comments into consideration.

Thank you for contacting our office and sharing your concerns.
Best regards,

Carol Mascellino
Legislative Aide to Commissioner Rita Pritchett

District 1 Commission Office
7101 S. Highway 1
Titusville, FL 32780
Telephone: 321-607-6901

From: Lori Werdenberg <lorilove19@icloud.com>
Sent: Tuesday, November 30, 2021 3:30 PM
To: Commissioner, D1 <D1.Commissioner@brevardfl.gov>; Commissioner, D2 <D2.Commissioner@brevardfl.gov>; Commissioner, D3 <d3.commissioner@brevardfl.gov>; Commissioner, D4 <D4.Commissioner@brevardfl.gov>; Commissioner, D5 <D5.Commissioner@brevardfl.gov>
Cc: gladelia5@hotmail.com
Subject: Rezoning 117 Franklyn Avenue

Please see attached letter regarding the rezoning of 117 Franklyn Avenue.
Thank you

Objection
21Z00033
Preece

From: Commissioner, D1
To: Jones, Jennifer
Cc: Pritchett, Rita; Smith, Nathan; Mascellino, Carol; Price, Jessica
Subject: FW: Request to Commission to vote NO to rezoning 117 Franklyn Avenue
Date: Wednesday, December 1, 2021 9:31:19 AM
Attachments: image001.png
image002.png

Good Morning,

On behalf of Commissioner Pritchett, please see the public comment below regarding zoning item #21Z00033.

Best regards,

Carol Mascellino
Legislative Aide to Commissioner Rita Pritchett

District 1 Commission Office
7101 S. Highway 1
Titusville, FL 32780
Telephone: 321-607-6901

From: Commissioner, D1
Sent: Wednesday, December 1, 2021 8:51 AM
To: Jan Herndon <jan.herndon@yahoo.com>
Cc: Pritchett, Rita <Rita.Pritchett@brevardfl.gov>; Smith, Nathan <Nathan.Smith@brevardfl.gov>; Mascellino, Carol <Carol.Mascellino@brevardfl.gov>; Price, Jessica <Jessica.Price@brevardfl.gov>
Subject: RE: Request to Commission to vote NO to rezoning 117 Franklyn Avenue

Good Morning,
On behalf of Commissioner Pritchett, thank you for your email. The Commissioner has reviewed your email and wants you to know that she will take your comments into consideration.
Thank you for contacting our office and sharing your concerns.

Best regards,

Carol Mascellino
Legislative Aide to Commissioner Rita Pritchett

District 1 Commission Office
7101 S. Highway 1
Titusville, FL 32780
Telephone: 321-607-6901

From: Jan Herndon <jan.herndon@yahoo.com>
Sent: Tuesday, November 30, 2021 2:25 PM
To: Commissioner, D1 <D1.Commissioner@brevardfl.gov>
Cc: Commissioner, D2 <D2.Commissioner@brevardfl.gov>
Subject: Request to Commission to vote NO to rezoning 117 Franklyn Avenue

Please consider this request prior to your vote on December 2. Thank you so much for your time.

Jan H. Herndon
321-626-1326

Objection
21Z00033
Preece

From: Commissioner, D1
To: Jones, Jennifer
Cc: Pritchett, Rita; Smith, Nathan; Mascellino, Carol; Price, Jessica
Subject: FW: Rezoning of 117 Franklyn Ave, Indialantic, FL. ID# 21Z00033
Date: Wednesday, December 1, 2021 9:31:51 AM
Attachments: image001.png
image002.png

Good Morning,

On behalf of Commissioner Pritchett, please see the public comment below regarding zoning item #21Z00033.

Best regards,

Carol Mascellino
Legislative Aide to Commissioner Rita Pritchett

District 1 Commission Office
7101 S. Highway 1
Titusville, FL 32780
Telephone: 321-607-6901

From: Commissioner, D1
Sent: Wednesday, December 1, 2021 8:52 AM
To: Michelle T. <michelletishler@gmail.com>
Cc: Pritchett, Rita <Rita.Pritchett@brevardfl.gov>; Smith, Nathan <Nathan.Smith@brevardfl.gov>; Mascellino, Carol <Carol.Mascellino@brevardfl.gov>; Price, Jessica <Jessica.Price@brevardfl.gov>
Subject: RE: Rezoning of 117 Franklyn Ave, Indialantic, FL. ID# 21Z00033

Good Morning,
On behalf of Commissioner Pritchett, thank you for your email. The Commissioner has reviewed your email and wants you to know that she will take your comments into consideration.
Thank you for contacting our office and sharing your concerns.

Best regards,

Carol Mascellino
Legislative Aide to Commissioner Rita Pritchett

District 1 Commission Office
7101 S. Highway 1
Titusville, FL 32780
Telephone: 321-607-6901

From: Michelle T. <michelletishler@gmail.com>
Sent: Tuesday, November 30, 2021 12:34 PM
To: Commissioner, D1 <D1.Commissioner@brevardfl.gov>
Cc: Mascellino, Carol <Carol.Mascellino@brevardfl.gov>; Price, Jessica <Jessica.Price@brevardfl.gov>; Pritchett, Rita <Rita.Pritchett@brevardfl.gov>
Subject: Re: Rezoning of 117 Franklyn Ave, Indialantic, FL. ID# 21Z00033

Hi Nate,
Thanks for your response and for your time!

Best,
Michelle Tishler

On Tue, Nov 30, 2021, 14:26 Commissioner, D1 <D1.Commissioner@brevardfl.gov> wrote:

> Good Morning,
>
> On behalf of Commissioner Pritchett, thank you for your email. The Commissioner has reviewed your email and wants you to know that she will take your comments into consideration.

Thank you for contacting our office and sharing your concerns.

Best Regards,

Nate Smith
Legislative Aide to Commissioner Rita Pritchett

District 1 Commission Office
7101 South Hwy 1
Titusville, FL 32780
321-607-6901

From: Michelle T. <michelletishler@gmail.com>
Sent: Monday, November 29, 2021 4:09 PM
To: Commissioner, D1 <D1.Commissioner@brevardfl.gov>
Subject: Rezoning of 117 Franklyn Ave, Indialantic, FL. ID# 21Z00033

Dear Commissioner Rita Pritchett,

This email is pertaining to the rezoning of 117 Franklyn Ave, Indialantic, FL. ID# 21Z00033

I was unable to attend the public hearing, but would like to voice my concerns for this rezoning and implications for the neighborhood. The owner plans to install a tall triplex, with 2-3 stories - these will be rentals and not available for resale. This is rather obscene for this small residential street.

I am against this particular rezoning because:
1) financial damage by reducing the value of my home and neighboring homes.
2) We already have several multi-family households on the street, but these are simply duplexes - adding more will change the feel of the residential street.
3) The anticipation of major construction and how this construction will impact my family's safety and other family's safety in addition to the school traffic we experience on that street and how large trucks tend to drive VERY fast on this street (thus large construction trucks)
4) safety concerns due to the potential of high volume of airbnb and tourist visitations, and reducing the safety of the neighborhood with having continuous new neighbors.
5) increased noise pollution from construction activities over a prolonged duration
6) addition of sidewalks for improved safety on this street like the rest of Franklyn Avenue.

If this zoning does go through, I am concerned it will drive a few of the existing families off the street. I say no to this rezoning because it doesn't mean a small duplex, it means an apartment complex in a residential neighborhood directly next to a nursery, elementary school, and middle school.

If the county continues to move forward with this, then I request the county prepare and perform the following mitigations to the neighbors and neighborhood:
1)providing short-term and long-term compensation for home devaluation (with use of an independent home and neighborhood assessor)
2) compensation for applying new safety features either on individual homes or on the street (providing us funds to purchase our own camera and alarm systems and adding more lights to the street)
3) installation of speed bumps on the street.
4) rental restrictions on the homes to ensure a this stays a residential neighborhood and not an AirBNB
5) noise-canceling headphones for every family within a 500 yard radius

Thank you for your time and consideration. I am happy to further elaborate on these mitigation actions if needed.

Best,
Michelle Tishler of Franklyn Avenue.

Objection
21Z00033
Preece

From: Commissioner, D1
To: Jones, Jennifer
Cc: Pritchett, Rita; Smith, Nathan; Mascellino, Carol; Price, Jessica
Subject: FW: Rezoning_117_Franklyn_Ave.
Date: Wednesday, December 1, 2021 9:32:17 AM
Attachments: image001.png
image002.png

Good Morning,

On behalf of Commissioner Pritchett, please see the public comment below regarding zoning item #21Z00033.

Best regards,

Carol Mascellino
Legislative Aide to Commissioner Rita Pritchett

District 1 Commission Office
7101 S. Highway 1
Titusville, FL 32780
Telephone: 321-607-6901

From: Commissioner, D1
Sent: Wednesday, December 1, 2021 8:53 AM
To: Chuck Sigmund <thesigmunds@gmail.com>
Cc: Pritchett, Rita <Rita.Pritchett@brevardfl.gov>; Smith, Nathan <Nathan.Smith@brevardfl.gov>; Mascellino, Carol <Carol.Mascellino@brevardfl.gov>; Price, Jessica <Jessica.Price@brevardfl.gov>
Subject: RE: Rezoning_117_Franklyn_Ave.

Good Morning,
On behalf of Commissioner Pritchett, thank you for your email. The Commissioner has reviewed your email and wants you to know that she will take your comments into consideration.
Thank you for contacting our office and sharing your concerns.

Best regards,

Carol Mascellino
Legislative Aide to Commissioner Rita Pritchett

District 1 Commission Office
7101 S. Highway 1
Titusville, FL 32780
Telephone: 321-607-6901

From: Chuck Sigmund <thesigmunds@gmail.com>
Sent: Tuesday, November 30, 2021 11:40 AM
To: Commissioner, D1 <D1.Commissioner@brevardfl.gov>
Subject: Rezoning_117_Franklyn_Ave.

My name is Charles Sigmund and I live at 225 Grosse Pointe Ave. in Indialantic.

I am writing to you, Commissioner Pritchett, about ID# 21Z00033 that will be voted upon in the December 2nd meeting. It concerns the rezoning of the property owned by James Eric Preece, Trustee, at 117 Franklyn Ave., Indialantic. He is requesting the zoning be changed from RU-1-11 (Single Family Residential) to RU-2-12 (Medium Density Multi-Family Residential). This property has frontage on both Franklyn Ave. and Grosse Pointe Ave.

I do not think this rezoning request should be allowed for the following reasons.

1. The safety issue involved for the students of Indialantic, Hoover Middle School and high school students who use this road . If approved, this would allow multi-family housing to be built alongside Grosse Pointe Ave. Grosse Pointe Avenue is a very busy road. It is used by

students who walk and ride their bicycles on this road. Also, Melbourne senior high students walk down Grosse Pointe to catch the school bus at Grosse Pointe and Shannon Avenues. Why this is a safety issue will be obvious from the following reasons.

2. Grosse Pointe is a well travelled road. It is one of only two roads having a traffic light on A1A in the city limits of Indialantic. As such, it is used by numerous cars who want the benefit of a traffic light when making a turn on A1A. Also, it is a busy road because the Indialantic Shopping Center is at the end of the road by A1A. Even more, LongDoggers Restaurant is at the intersection of A1A and Grosse Pointe. There are also three other restaurants in the shopping center along with a hardware store, General Dollar and a number of other stores. Grosse Pointe has no speed limit signs allowing cars to travel as fast as they want.

3. There are presently two duplexes on the north side of Grosse Pointe Avenue that would connect to this property. These duplexes are often lived in by several adults each with their own vehicle. Consequently, the way they park, often partially or fully on the road, causes traffic congestion and problems on Grosse Pointe. To get around such vehicles, school busses, garbage trucks etc. often have to drive onto the lawn of the properties on the south side of Grosse Pointe. Thus, the safety issue in reason one above.

4. Grosse Pointe is probably the narrowest street in the area but the most travelled. What makes it worse is the lack of a sidewalk. This street desperately needs a sidewalk, but neither the city of Indialantic or Brevard County (it separates the two) apparently wants to spend the money for a sidewalk. Grosse Pointe is less than a block and a half long. The cost to put a sidewalk wouldn't be overly expensive.

5. An over 55 adult community is directly across the street from the property in question. It definitely would cause issues for the elderly people who live in that complex.

6. From what I am told, the mayor of Indialantic, Dave Berkman, opposes this rezoning. I am told that he has written to the zoning board and/or the county commissioners stating his reasoning as to why the property in question should not be rezoned.

7. Franklyn and Grosse Pointe Avenue are two entirely different streets. The street at 117 Franklyn is a quiet street. As such, it has none of the issues that I've stated above concerning Grosse Pointe Ave. It is not a road used as a through way to a light, it is not used by school buses, it has no shopping center at the end of its street, it has no adult only 55 units along its road. Building multi-unit housing would make little difference on this road. However, it would make a dramatic difference on Grosse Pointe Avenue.

As a Brevard County Commissioner, I urge you to acquaint yourself with the issues involved in the request to rezone the property in question. If you do, I think you would agree that

rezoning the property in question is not a good idea.

Respectfully,
Charles Sigmund

p.s. I was told by someone attending the rezoning committee meeting on November 15th that it was obvious that the committee came to the meeting with their minds made up. Hopefully this won't be true of the Brevard Commissioners come December 2nd.

Objection
21Z00033
Preece

From: Commissioner, D1
To: Jones, Jennifer
Cc: Pritchett, Rita; Smith, Nathan; Mascellino, Carol; Price, Jessica
Subject: FW: Say NO to 117 Franklyn Ave. rezoning
Date: Wednesday, December 1, 2021 12:47:22 PM
Attachments: SKM_C450i21120111070.pdf
image001.png

Good Afternoon,

On behalf of Commissioner Pritchett, please see the public comment attached regarding zoning item 21Z00033.

Best regards,

Carol Mascellino
Legislative Aide to Commissioner Rita Pritchett

District 1 Commission Office
7101 S. Highway 1
Titusville, FL 32780
Telephone: 321-607-6901

From: ATLANTIC870 <atlantic870@yourgotoplace.com>
Sent: Wednesday, December 1, 2021 11:19 AM
To: Commissioner, D1 <D1.Commissioner@brevardfl.gov>; Commissioner, D2 <D2.Commissioner@brevardfl.gov>; Commissioner, D3 <d3.commissioner@brevardfl.gov>; Commissioner, D4 <D4.Commissioner@brevardfl.gov>
Subject: Say NO to 117 Franklyn Ave. rezoning

---------- Forwarded message ---------
From: <atlantic870@yourgotoplace.com>
Date: Wed, Dec 1, 2021 at 11:14 AM
Subject: Message from KM_C450i
To: <atlantic870@yourgotoplace.com>

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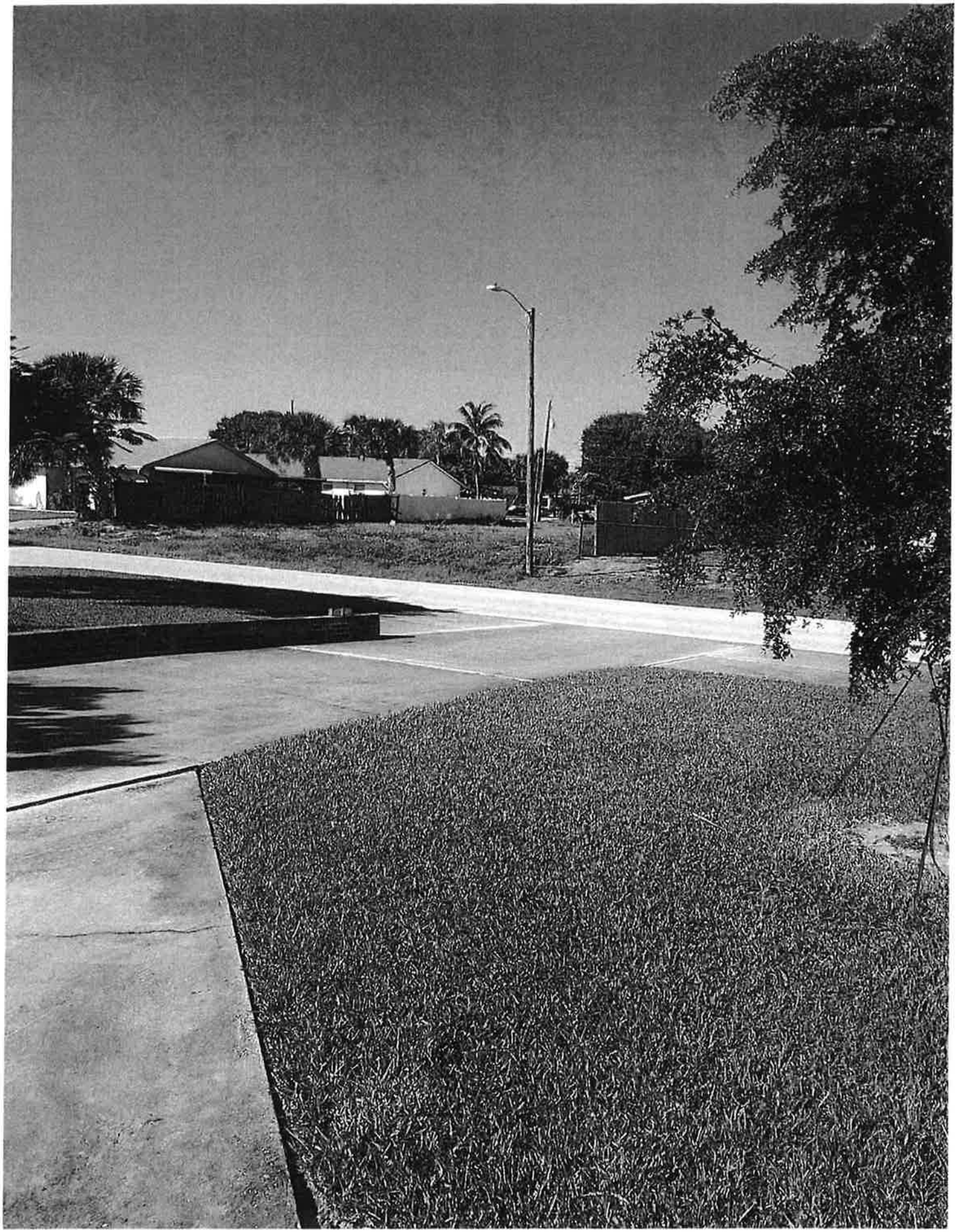

To: Commissioner of Brevard County

From: Diane Burnette 207 Grosse Pointe Ave, Indialantic 32903
Correspondence ID # 21Z00033

NIMFY (Not in my front yard - please) This is a picture of 117 Franklyn Ave. taken from my home across the street. I will be directly impacted negatively by James Eric Peece's request for RU 2-12 Medium Density Multi-Family Residential, if a triplex is built - and worse if it's 2-3 stories high. This property has frontage on both streets, Franklyn Avenue and my street, Grosse Pointe Avenue. The driveways could come out both sides. The extra vehicles coming and going during day and night will be disturbing. Car doors slamming and people talking outside into the late night and early morning affect my sleep and wellness. When there's been parties at the rental duplexes on my street, their visitors have parked on the north side edge of Grosse Pointe east of the duplexes, which is legal per police. The problem is usually upon their leaving when they can be boisterous, loud and some appeared drunk in their actions. That invades my privacy. I've had to close my bedroom and bathroom windows which face Grosse Pointe during the cooler months due to the noise caused by their parties. Some times even when the windows are closed during the heat, I could hear at times above the AC and TV noise - and I'm hard of hearing. If asleep, I've had to get up and check to be sure no one is bothering around my home or the neighbors'. With one party the crowd was large and loud, the town and county police came and the visitors dispersed quickly trying to get away. I was quite frightened when raising a bedroom window coming face to face with a young man hiding behind my hibiscus. The numerous cars had blocked the other streets, N. Palm and Shannon, besides my driveway. The single family dwelling (on north side of 230 Grosse Pte) has parties but their visitors have been orderly.

Duplex tenants (rental) are transient. You never know if the new tenants will act responsibly and be good neighbors. There's usually several adults, each with a vehicle. These extra vehicles present a problem with their parking situations extending to along the north side of Grosse Pointe. There's already too much traffic and it gets very congested at school arrival and dismissal times with parents/grandparents bringing and picking up their children at the daycare and two schools, Indialantic

(picture) 1

Elementary and Hoover Middle. Then there's others trying to get to/from work on time. The parked cars cause delay in trying to maneuver around them on this narrowest - 2 mile long Grosse Pointe Avenue about 19 ft. 5 in wide. East Franklyn is about 20 ft. 10 in and the wider Franklyn (east of Riverside Drive) is about 27 ft. 2 in. Grosse Pointe is a popular and busy connection between Riverside Drive and A1A (Miramar Ave.) and has the only traffic light at the intersection of Grosse Pointe and A1A. It has numerous cars, school buses, delivery and garbage trucks. The traffic light makes an easier access for them thus traveling on Grosse Pointe. It is not marked with a line for two lanes. To get around the parked cars, the vehicles often drive on the properties on the south side of Grosse Pointe. This has caused damage to our yards and sprinklers.

There's a busy and active shopping center at the light with restaurants (Long Dogger's, pizza, burrito) and many businesses (Publix opened June 2020, ACE Hardware, Dollar General, Atlantic Pack 'n' Post, Beach Bodies, produce, organic market, etc). People/families use this road to go these establishments and of course, the beach via cars, walkers, bicyclists, golf carts, runners, scooters, skateboarders, etc. There's no posted speed limit signs. We have many vehicles that appear to be traveling at an unsafe speed.

Another reason against the request is a safety issue with students of Indialantic Elementary and Hoover Schools. Many walk or ride their bikes to school. Melbourne High School students get on/off at their bus stop at the corner of Grosse Pointe and Shannon Ave. Extra vehicles would worsen the problems on this street.

I live in the over 55 homeowners complex directly across the street from the Tresse property requesting multi-family. If a triplex of 2 or 3 stories high is built, it would block the pretty view of trees and houses on Franklyn Ave. and our view of the frequent space launches as we watch them from our yards with great pleasure, awe and patriotism. Some of us are many times unable to go to the beach since we have health problems so it's so nice we can see here from our neighborhood. Duplexes here are one story. Our environment will be more polluted with the additional cars and pavement of driveways and possible parking spaces. I have also been hit by previous duplex tenant by a "BB"

he shot across the street while I was standing in my yard. He never apologized even after learning it had hit my arm. His response was that it's only plastic. I did not report the incident as I fear retaliation/intimidation in some manner. It's too dangerous in today's world when you're not able to defend yourself or property. With the triplex, there will be families of varying ages. There's greater possibilities of children/teens who may play outside their yards (skateboarding, ball, etc) as they've done with the two duplexes on Grosse Pointe (and as in the case of shooting BB's from their yard into mine). A young children was left unsupervised in their yard.

There's many concerns. Please vote no to multi-family residential at 117 Franklyn and also 115 Franklyn Avenue. Both have frontage on Grosse Pointe Ave. and Franklyn Ave. I'm including the second property because it directs impacts me. If an owner gets a great price, he/she can't refuse. They'll sell and buy elsewhere. Then this single family zoning would be in question and I don't think the Board wants to do again. The multi family zoning seems better suited nearer the beach side as it already has noise and activity that we don't have in our small neighborhood. I've spoken personally to over 30 people in our neighborhood (Grosse Pointe, Chalet Avenue, N. Palm Ave, east Franklyn Ave, Niemen Ave) and all are against the request. Only one was against and she's newer in the area and a land developer.

It'd be much to my dismay if I'd ever have to sell and go into assisted living and the triplex had been approved. I know this would affect my property value. There's one residence at 215 Grosse Pointe that will soon be on the market. I was told by a potential buyer they'd not give over $150000 for it if the multi family residential zoning is approved. I'm afraid others will not want to pay as much as it's worth either. After all my years of work and saving, this loss of money would be devastating in my greatest time of need.

Thank you for your consideration of this matter and hopefully, I can count on you to listen to your people and vote No.

To:

Brevard County Commissioner

Please KEEP the current zoning classification of RU-1-11 (Single Family Residential) for the property (117 Franklyn Ave., Indialantic, FL) on the south side of Franklyn Ave. approximately 320 ft. east of Palm Ave. Please DENY the request to change its zoning classification to RU-2-12 (Medium Density Multi-Family Residential). Thank you.

House Number	Address	Print Name	Signature	(O) owner or (R) Renter
208	Chalet Ave	Michael Heckman		O
208	Chalet Ave	Debra Heckman		O
202	CHALET AVE	Ken Bemis	KEN & BEMISS	O
202	Chalet Ave	Angela Bemis	Angela Bem	O
216	CHALET AVE	William H. WEEKS	William H Weeks	O
209	Grosse Pointe	JOANNE EVERETT	Joanne Everett	O
210	Chalet Ave	Anna Rotondo	Anna Rotondo	O
203	Grosse Pointe Ave	JANICE RASBERRY DARLING	Janice Darling	O
217	Grosse Pointe	Angela Brown	Angela Brown	O
211	Grosse Pte Ave	Elsie T. Amos	Elsie T Amos	O
200	Chalet Ave	Mary Collins (Amy Seidel P.O.A.)	Amy Seidel	O
7130	Shadrow Ave	Gladie Elisser	Gladie Elisser	O
207	Grosse Pointe Ave.	Diane Burnette	Diane Burnette	O

Number	Franklyn Ave Address	Print Name	Signature	(O) owner or (R) Renter
125		Jen Gordon		Rente
123		Rich Egan		Rente
109		Alena Knapper →		Own
105		Wendy Kletish		Own
112		Ann Thompson	Ann M Thompson	Own
18				

Objection
21Z00033
Preece

From: Commissioner, D3
To: Jones, Jennifer
Subject: FW: Say NO to 117 Franklyn Ave. rezoning
Date: Wednesday, December 1, 2021 1:51:46 PM
Attachments: SKM_C450i21120111070.pdf

Good afternoon,

Our office just received another disclosure regarding H.9.

Thank you,

Katelynne Prasad
Constituent Affairs Director
County Commissioner John Tobia, District 3
PH: (321) 633-2075 * Fax: (321) 633-2196
2539 Palm Bay Road NE, Suite 4
Palm Bay, FL 32905

From: ATLANTIC870 <atlantic870@yourgotoplace.com>
Sent: Wednesday, December 1, 2021 11:19 AM
To: Commissioner, D1 <D1.Commissioner@brevardfl.gov>; Commissioner, D2 <D2.Commissioner@brevardfl.gov>; Commissioner, D3 <d3.commissioner@brevardfl.gov>; Commissioner, D4 <D4.Commissioner@brevardfl.gov>
Subject: Say NO to 117 Franklyn Ave. rezoning

---------- Forwarded message ---------
From: <atlantic870@yourgotoplace.com>
Date: Wed, Dec 1, 2021 at 11:14 AM
Subject: Message from KM_C450i
To: <atlantic870@yourgotoplace.com>

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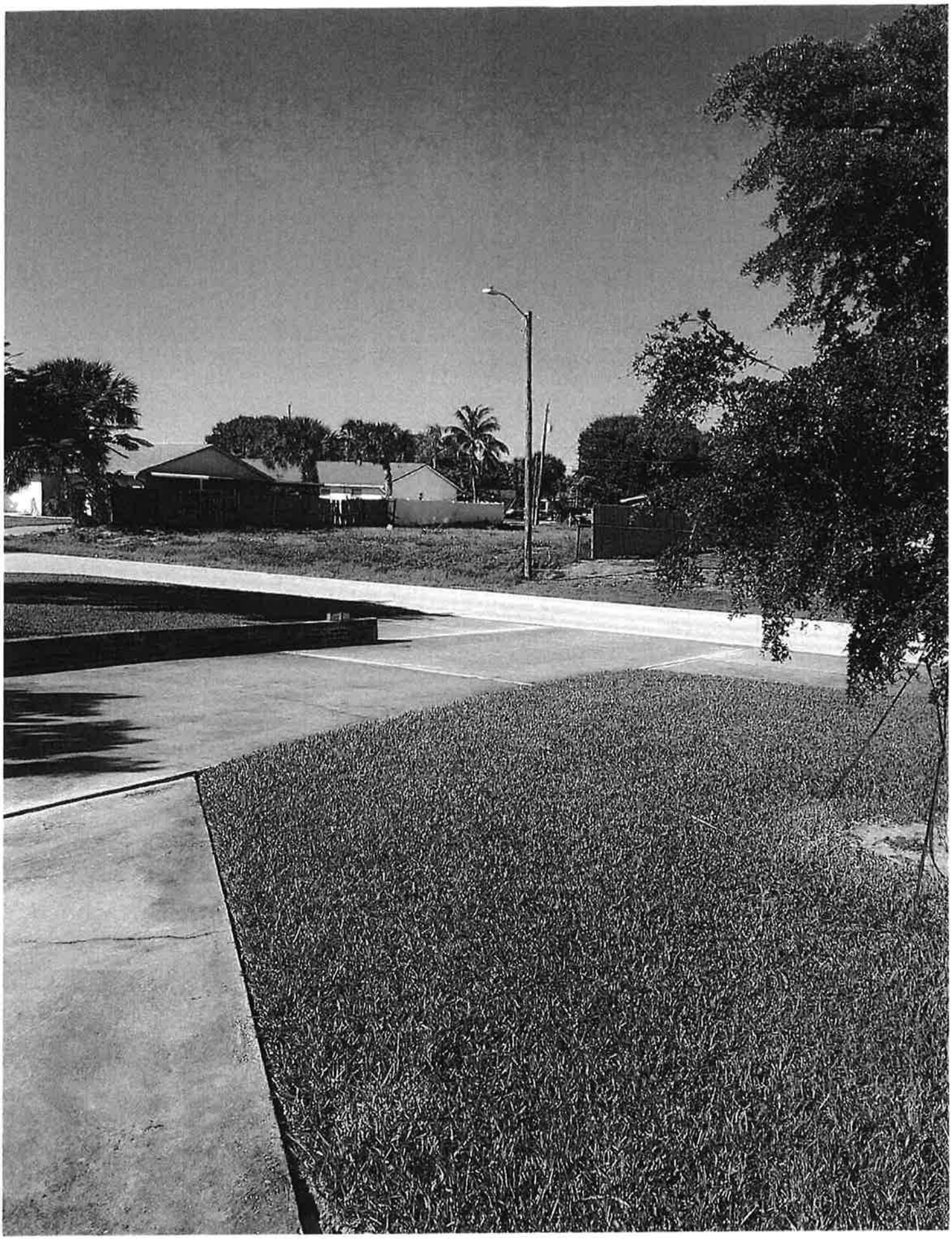


To: Commissioner of Brevard County

From: Diane Burnette 207 Grosse Pointe Ave, Indialantic 32903
Correspondence ID # 21Z00033

NIMFY (Not in my front yard - please) This is a picture of 117 Franklyn Ave. taken from my home across the street. I will be directly impacted negatively by James Eric Peece's request for RU 2-12 Medium Density Multi-Family Residential, if a triplex is built - and worse if it's 2-3 stories high. This property has frontage on both streets, Franklyn Avenue and my street, Grosse Pointe Avenue. The driveways could come out both sides. The extra vehicles coming and going during day and night will be disturbing. Car doors slamming and people talking outside into the late night and early morning affect my sleep and well-ness. When there's been parties at the rental duplexes on my street, their visitors have parked on the north side edge of Grosse Pointe east of the duplexes, which is legal per police. The problem is usually upon their leaving when they can be boisterous, loud and some appeared drunk in their actions. That invades my privacy. I've had to close my bedroom and bathroom windows which face Grosse Pointe during the cooler months due to the noise caused by their parties. Some times even when the windows are closed during the heat, I could hear at times above the AC and TV noise - and I'm hard of hearing. If asleep, I've had to get up and check to be sure no one is bothering around my home or the neighbors'. With one party the crowd was large and loud, the town and county police came and the visitors dispersed quickly trying to get away. I was quite frightened when raising a bedroom window coming face to face with a young man hiding behind my hibiscus. The numerous cars had blocked the other streets, N. Palm and Shannon, besides my driveway. The single family dwelling (on north side of 230 Grosse Pte) has parties but their visitors have been orderly.

Duplex tenants (rental) are transient. You never know if the new tenants will act responsibly and be good neighbors. There's usually several adults, each with a vehicle. These extra vehicles present a problem with their parking situations extending to along the north side of Grosse Pointe. There's already too much traffic and it gets very congested at school arrival and dismissal times with parents/grandparents bringing and picking up their children at the daycare and two schools, Indialantic

(Picture) 1

Elementary and Hoover Middle. Then there's others trying to get to/from work on time. The parked cars cause delay in trying to maneuver around them on this narrowest - 2 mile long Grosse Pointe Avenue about 19ft. 5in wide. East Franklyn is about 20ft. 10in and the wider Franklyn (east of Riverside Drive) is about 27ft. 2in. Grosse Pointe is a popular and busy connection between Riverside Drive and A1A (Miramar Ave.) and has the only traffic light at the intersection of Grosse Pointe and A1A. It has numerous cars, school buses, delivery and garbage trucks. The traffic light makes an easier access for them then traveling on Grosse Pointe. It is not marked with a line for two lanes. To get around the parked cars, the vehicles often drive on the properties on the south side of Grosse Pointe. This has caused damage to our yards and sprinklers.

There's a busy and active shopping center at the light with restaurants (Long Dogger's, pizza, burrito) and many businesses (Publix opened June 2020, ACE Hardware, Dollar General, Atlantic Pack 'n' Post, Beach Bodies, produce, organic market, etc). People/families use this road to go these establishments and of course, the beach - via cars, walkers, bicyclists, golf carts, runners, scooters, skateboarders, etc. There's no posted speed limit signs. We have many vehicles that appear to be traveling at an unsafe speed.

Another reason against the request is a safety issue with students of Indialantic Elementary and Hoover Schools. Many walk or ride their bikes to school. Melbourne High school students get on/off at their bus stop at the corner of Grosse Pointe and Shannon Avenues. Extra vehicles would worsen the problems on this street.

I live in the over 55 homeowners complex directly across the street from the Tresse property requesting multi-family. If a triplex of 2 or 3 stories high is built, it would block the pretty view of trees and houses on Franklyn Ave. and our view of the frequent space launches as we watch them from our yards with great pleasure, awe and patriotism. Some of us are many times unable to go to the beach since we have health problems so it's so nice we can see here from our neighborhood. Duplexes here are one story. Our environment will be more polluted with the additional cars and pavement of driveways and possible parking spaces. I have also been hit by previous duplex tenant by a "BB"

Proposed BDP
21Z00030
Calligan
Submitted 12-02-21

Prepared by: Charles B. Genoni
Flordevco Corp.
4760 N. US1 #201
Melbourne FL 32935

BINDING
DEVELOPMENT PLAN

THIS AGREEMENT, entered into this_____day of _____, 20__ between the BOARD OF COMMISIONERS OF BREVARD COUNTY, FLORIDA, a political subdivision of the State of Florida (hereinafter referred to as "County") and Heather Colligan Trust, (hereinafter referred to as Owner").

RECITALS

WHEREAS Developer/Owner owns property (hereinafter referred to as the "Property") in Brevard County, Florida, as more particularly described in **Exhibit "A"** attached hereto and incorporated herein by this reference; and

WHEREAS, Developer/Owner has requested the RU 1-7 zoning classification and desire to develop the Property as a Single-Family Subdivision, and pursuant to the Brevard County Code, Section 62-1157; and

WHEREAS, as part of its plan for development of the Property, Developer/Owner wishes to mitigate negative impact on abutting landowners and affected facilities or services; and

WHEREAS the County is authorized to regulate development of the Property.

NOW, THEREFORE, the parties agree as follows:

1. The County shall not be required or obligated in any way to construct or maintain or participate in any way in the construction or maintenance of the improvements. It is the intent of the parties that the Developer/Owner, its grantees, successors or assigns in interest or some other association and/or assigns satisfactory to the County shall be responsible for the maintenance of any improvements.

2. Developer/Owner shall limit gross density on the property to 2.5 dwelling or a maximum units per acre or 198 units. Minimum unit size shall be eighteen hundred (1,800) square feet or larger. The minimum lot size for the project shall be 6,000 square feet. Any increase in site density will require an amendment to this agreement and will require public hearings and notice as provided in the Code of Ordinances of Brevard County, Florida.

3. The Developer/Owner shall construct a berm with an average height of four (4) feet (varies from three (3) feet to five (5) feet high) along the length of the Property that fronts on Turpentine Road. The berm will be located in the buffer area contiguous to Turpentine Road. This area will also include a six (6) foot high wood fence or opaque vegetative landscaped buffer. The berm will be irrigated and maintained by the Developer/Owner and or its assigns. The berm will be constructed along with the initial phase of construction.

4. The Developer/Owner shall provide a 300-foot-wide buffer along the east approximately 1,600 feet of the South Property line. The east approximately 1,600 feet 300-foot-wide of the South Property line shall be placed in a conservation easement. The conservation easement may be used for mitigation of wetlands with the St. Johns River Water Management District (SRJWMD). In that case the easement will be in favor of the SJRWMD only. The remaining (western) portion of the South Property line shall keep a minimum 30' natural vegetative buffer between the property boundary line and the rear property line of the lot(s). The homes abutting Wherry Rd. will be required to build a 6' wood or vinyl fence at the back of the lot. This requirement shall be enforced by the Property's Home Owners Association documents.

5. The Developer/Owner shall provide a twenty-five (25) foot wide buffer along the south Property line of Bar "C" Ranchettes (as recorded in plat book 24, page 58 of the public records of Brevard County, Florida) where it is contiguous to the Property and along the contiguous property line of the Property with the two (2) parcels as recorded in Official Record Book 298, page 409 and Official Record Book 2314 page 2137 or the public records of Brevard County, Florida. The Developer/Owner shall install a six (6) foot high opaque wooden fence along this contiguous property line and along the southeast three hundred and fifty (350) feet of Bar "C" Ranchettes east of boundary line which is contiguous to the Property. In addition to

the wood fence, a six (6) foot high landscaped buffer will be provided along Bar-C Ranchettes south property line where it is contiguous to the Property. A buffer area for the undisturbed area will be provided no less than fifty (50) feet extending south from the north three hundred (300) feet of Bar "C" Ranchettes east property line which is contiguous to the Property. The area between the north three hundred (300) feet and the south three hundred and fifty (350) feet on east property line shall be a minimum of a fifty (50) foot buffer. Property abutting S.R. 46 will provide an opaque vegetative buffer no less than fifty (50) feet east of the one hundred and fifty (150) buffer and extend from the south side of S.R. 46 which is contiguous to the property. Existing vegetations shall remain intact in the buffer area unless invasives are required to be removed. The Developer/Owner shall provide replacement vegetation in this area if the existing non-invasive vegetation is destroyed.

6. Developer/Owner shall comply with all regulations and ordinances of Brevard County, Florida. This Agreement constitutes Developer's/Owner's agreement to meet additional standards or restrictions in developing the Property. This agreement provides no vested rights against changes to the Comprehensive Plan or land development regulations as they may apply to this Property.

7. Developer/Owner, upon execution of this Agreement, shall pay to the Clerk of Courts the cost of recording this Agreement in the Public Records of Brevard County, Florida.

8. This Agreement shall be binding and shall insure to the benefit of the successors or assigns of the parties and shall run with the subject Property unless or until rezoned and be binding upon any person, firm or corporation who may become the successor in interest directly or indirectly to the subject Property and be subject to the above referenced conditions as approved by the Board of County Commissioners on _____, 20__. In the event the subject Property is annexed into a municipality and rezoned, this agreement shall be null and void.

9. Violation of this Agreement will also constitute a violation of the Zoning Classification and this Agreement may be enforced by Sections 1.7 and 62-5, Code of Ordinances of Brevard County, Florida,

as may be amended.

10. Conditions precedent. All mandatory conditions set forth in this Agreement mitigate the potential for incompatibility and must be satisfied before Developer/Owner may implement the approved use(s), unless stated otherwise. The failure to timely comply with any mandatory condition is a violation of this Agreement, constitutes a violation of the Zoning Classification and is subject to enforcement action as described in Paragraph 6 above.

11. This BDP shall replace the 1999 and 2005 BDPs recorded on 12-10-99 at OR Book 4100 Page 3354 and 5-25-2005 at OR Book 5472 Page 3172.

IN WITNESS THEREOF, the parties hereto have caused these presents to be signed all as of the date and year first written above.

ATTEST:

BOARD OF COUNTY COMMISSIONERS
OF BREVARD COUNTY, FLORIDA
2725 Judge Fran Jamison Way
Viera, FL 32940

_____
_____, Clerk
(SEAL)

_____
_____ Chair
As approved by the Board on_____

(Please note: you must have two witnesses and a notary for each signature required, the notary may serve as one witness.)

WITNESSES:

OWNER

Heather Calligan Trust

_____

_____
(Witness Name typed or printed)

_____

_____
(Witness Name typed or printed)

_____

3942 Rambling Acres Dr Titusville FL 32796

STATE OF_____

COUNTY OF_____

The foregoing instrument was acknowledged before me this_____day of ____,20__,

by_____, as_____of_____,

who is personally known or produced_____as identification

My commission expires_____
Commission no_____
SEAL

_____
Notary Public
(Name typed, printed, or stamped)

Exhibit "A"

PARCEL 1:

(PARCEL B)

A PARCEL OF LAND BEING A PART OF THE SOUTHWEST 1/4 OF SECTION 13, TOWNSHIP 21 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA, DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHWEST CORNER OF SAID SECTION 13, THENCE N.89◦27'18"E., ALONG THE SOUTH LINE OF SAID SECTION 13, A DISTANCE OF 33.00 FEET TO A POINT LYING ON THE EAST RIGHT OF WAY LINE OF TURPENTINE ROAD (A 66.00 FOOT WIDE RIGHT OF WAY); THENCE ON A BEARING OF NORTH ALONG SAID EAST RIGHT OF WAY LINE OF TURPENTINE ROAD (SAID RIGHT OF WAY LINE LYING PARALLEL WITH AND 33.00 FEET EAST OF THE WEST LINE OF SAID SECTION 13), 394.50 FEET TO THE INTERSECTION WITH THE NORTHERLY RIGHT OF WAY LINE OF HAMMOCK TRAIL (A 100 FOOT WIDE RIGHT OF WAY) AS DESCRIBED IN OFFICIAL RECORDS BOOK 1212, PAGE 917 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA; THENCE CONTINUE ON A BEARING OF NORTH, ALONG THE AFOREMENTIONED EASTERLY RIGHT OF WAY LINE OF TURPENTINE ROAD, 834.74 FEET TO THE SOUTHWEST CORNER OF THE PARCEL OF LAND DESCRIBED IN OFFICIAL RECORDS BOOK 298, PAGE 409 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA; THENCE N.89◦20'20"E., ALONG THE SOUTH LINE OF SAID PARCEL, 133.00 FEET TO THE SOUTHEAST CORNER THEREOF AND SAID POINT BEING THE SOUTHWEST CORNER OF THE PARCEL OF LAND DESCRIBED IN OFFICIAL RECORDS BOOK 2314, PAGE 2137 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA; THENCE ALONG THE BOUNDARIES OF SAID PARCEL OF LAND, THE FOLLOWING TWO COURSES AND DISTANCES; THENCE N.58◦49'19"E., 69.61 FEET; THENCE ON A BEARING OF NORTH, 62.65 FEET TO A POINT LYING ON THE SOUTH LINE OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1 /4 OF THE AFORESAID SECTION 13 AND THE SOUTH LINE OF BAR-"C" RANCHETTES AS RECORDED IN PLAT BOOK 24, PAGE 58 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA; THENCE N.89◦20'20"E., ALONG SAID LINE, 436.80 FEET TO THE SOUTHEAST CORNER OF SAID PLAT OF BAR-"C" RANCHETTES AND THE SOUTHEAST CORNER OF THE WEST 1 /2 OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SAID SECTION 13 AND SAID POINT BEING THE POINT OF BEGINNING OF THE LAND HEREIN DESCRIBED; THENCE N.00◦03'56"W., ALONG THE EAST LINE OF SAID PLAT OF BAR-"C" RANCHETTES AND ALONG SAID EAST LINE OF THE WEST 1/2 OF THE NORTHWEST 1 /4 OF THE SOUTHWEST 1/4 OF SECTION 13, A DISTANCE OF 1285.83 FEET TO A POINT LYING ON THE SOUTH RIGHT OF WAY LINE OF STATE ROAD N0.46; THENCE N.89◦10'34"E., ALONG SAID RIGHT OF WAY LINE, 615.30 FEET; THENCE S.08◦33'12"W., 403.88 FEET; THENCE N.81◦26'48"W., 60.10 FEET; THENCE S.08◦33'12"W., 115.85 FEET: THENCE S.40◦01'27"W., 302.44 FEET; THENCE S.14◦14'48"E.; 186.22 FEET; THENCE S.35◦28'00"E.; 139.61 FEET; THENCE S.44◦13'35" W., 139.33 FEET; THENCE S.45◦4◦6'25"E., 47.84 FEET; THENCE S.15◦04'59"E., 112.69 FEET TO A POINT LYING ON THE NORTHERLY RIGHT OF WAY LINE OF THE AFORESAID HAMMOCK TRAIL AND THE ARC OF A CIRCULAR CURVE, CONCAVE SOUTHERLY, HAVING A RADIUS OF 675.82 FEET AND TO WHICH POINT A RADIAL LINE BEARS N.15◦04'59"W.; THENCE WESTERLY, ALONG SAID RIGHT OF WAY LINE AND ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 05◦05'18", 60.02 FEET TO A POINT LYING ON THE SOUTH LINE OF THE NORTHWEST 1/4 OF THE SOUTHWEST

1/4 OF SAID SECTION 13; THENCE S.89◦20'20"W., ALONG SAID LINE, 318.63 FEET TO THE POINT OF BEGINNING. CONTAINING 12.87 ACRES MORE OR LESS.

(PARCEL C)

A PARCEL OF LAND BEING A PART OF THE SOUTHWEST 1/4 OF SECTION 13, TOWNSHIP 21 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA, DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHWEST CORNER OF SAID SECTION 13, THENCE N.89◦27'18"E., ALONG THE SOUTH LINE OF SAID SECTION 13, A DISTANCE OF 33.00 FEET TO A POINT LYING ON THE EAST RIGHT OF WAY LINE OF TURPENTINE ROAD (A 66.00 FOOT WIDE RIGHT OF WAY); THENCE ON A BEARING OF NORTH ALONG SAID EAST RIGHT OF WAY LINE OF TURPENTINE ROAD (SAID RIGHT OF WAY LINE LYING PARALLEL WITH AND 33.00 FEET EAST OF THE WEST LINE OF SAID SECTION 13), 394.50 FEET TO THE INTERSECTION WITH THE NORTHERLY RIGHT OF WAY LINE OF HAMMOCK TRAIL (A 100 FOOT WIDE RIGHT OF WAY) AS DESCRIBED IN OFFICIAL RECORDS BOOK 1212, PAGE 917 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA AND SAID POINT BEING THE POINT OF BEGINNING OF THE LAND HEREIN DESCRIBED; THENCE CONTINUE ON A BEARING OF NORTH, ALONG THE AFOREMENTIONED EASTERLY RIGHT OF WAY LINE OF TURPENTINE ROAD, 834. 74 FEET TO THE SOUTHWEST CORNER OF THE PARCEL OF LAND DESCRIBED IN OFFICIAL RECORDS BOOK 298, PAGE 409 OF THE PUBLIC RECORDS OF BREVARD COUNTY. FLORIDA; THENCE N.89◦20'20"E., ALONG THE SOUTH LINE OF SAID PARCEL, 133.00 FEET TO THE SOUTHEAST CORNER THEREOF AND SAID POINT BEING THE SOUTHWEST CORNER OF THE PARCEL OF LAND DESCRIBED IN OFFICIAL RECORDS BOOK 2314, PAGE 2137 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA; THENCE ALONG THE BOUNDARIES OF SAID PARCEL OF LAND, THE FOLLOWING TWO COURSES AND DISTANCES; THENCE N.58◦49'19"E., 69.61 FEET; THENCE ON A BEARING OF NORTH, 62.65 FEET TO A POINT LYING ON THE SOUTH LINE OF THE NORTHWEST 1 /4 OF THE SOUTHWEST 1 /4 OF THE AFORESAID SECTION 13 AND THE SOUTH LINE OF BAR-"C" RANCHETTES AS RECORDED IN PLAT BOOK 24, PAGE 58 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA: THENCE N.89◦20'20"E., ALONG SAID LINE, 755.43 FEET TO A POINT LYING ON THE NORTHERLY RIGHT OF WAY LINE OF THE AFORESAID HAMMOCK TRAIL AND THE ARC OF A CIRCULAR CURVE, CONCAVE SOUTHEASTERLY, HAVING A RADIUS OF 675.82 FEET AND TO WHICH POINT A RADIAL LINE BEARS N.20◦10'17"W.; THENCE ALONG SAID RIGHT OF WAY LINE OF HAMMOCK TRAIL, THE FOLL0WING THREE COURSES AND DISTANCES; THENCE SOUTHWESTERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 34°50'03", 410.88 FEET TO THE POINT OF TANGENCY; THENCE S.34◦59'40"W., 650.21 FEET: THENCE S.57◦09'30"W., 302.84 FEET TO THE POINT OF BEGINNING. CONTAINING 9.61 ACRES MORE OR LESS.

(PARCEL D)

A PARCEL OF LAND BEING A PART OF THE SOUTHWEST 1/4 OF SECTION 13, TOWNSHIP 21 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA, DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHWEST CORNER OF SAID SECTION 13, THENCE N.89◦27"18"E., ALONG THE SOUTH LINE OF SAID SECTION 13, A DISTANCE OF 33.00 FEET TO A POINT LYING ON THE EAST RIGHT OF WAY LINE OF TURPENTINE ROAD (A 66.00 FOOT WIDE RIGHT OF WAY); THENCE ON A BEARING OF NORTH ALONG SAID EAST RIGHT OF WAY LINE OF TURPENTINE ROAD (SAID RIGHT OF WAY LINE LYING PARALLEL WITH AND 33.00 FEET EAST OF THE WEST LINE OF SAID SECTION 13), 275.48 FEET TO THE INTERSECTION WITH THE SOUTHERLY RIGHT OF WAY LINE OF HAMMOCK TRAIL (A 100 FOOT WIDE RIGHT OF WAY) AS DESCRIBED IN OFFICIAL RECORDS BOOK 1212, PAGE 917 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA; THENCE ALONG THE RIGHT OF WAY LINE OF SAID HAMMOCK TRAIL, THE FOLLOWING SIX COURSES AND DISTANCES:

THENCE N.57◦09'30"E.; 386.98 FEET; THENCE N.34•59'40"E., 669.79 FEET TO THE POINT OF CURVATURE OF A CIRCULAR CURVE, CONCAVE SOUTHERLY AND HAVING A RADIUS OF 575.82 FEET: THENCE NORTHEASTERLY, EASTERLY AND SOUTHEASTERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 79◦26'50", 798.44 FEET TO THE POINT OF TANGENCY; THENCE S.65•33'30"E., 84.87 FEET TO THE POINT OF BEGINNING OF THE LAND HEREIN DESCRIBED; THENCE CONTINUE S.65.33'30"E.; 556.13 FEET TO THE POINT OF CURVATURE OF A CIRCULAR CURVE, CONCAVE NORTHERLY AND HAVING A RADIUS OF 644.65 FEET: THENCE EASTERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 29◦5'11", 329.13 FEET; THENCE S.00◦4'18"E., 200.33 FEET TO A POINT LYING ON THE ARC OF A CIRCULAR CURVE, CONCAVE NORTHERLY, HAVING A RADIUS OF 844.56 FEET AND TO WHICH POINT A RADIAL LINE BEARS N.03◦43'25"W.; THENCE EASTERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 20•42'52". 305.34 FEET TO A POINT LYING ON THE EAST LINE OF THE SOUTHWEST 1/4 OF THE AFOREMENTIONED SECTION 13; THENCE S.00◦14'18"E., 756.51 FEET TO THE SOUTHEAST CORNER THEREOF; THENCE S.89◦28'50"W., ALONG THE SOUTH LINE OF THE SOUTHEAST 1/4 OF THE SOUTHWEST 1/4 OF SAID SECTION 13, A DISTANCE OF 1327.78 FEET TO THE SOUTHWEST CORNER THEREOF; THENCE S.89◦27'18"W., ALONG THE SOUTH LINE OF THE SOUTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SAID SECTION 13, A DISTANCE OF 85.85 FEET; THENCE N.00◦31'10"W., 949.80 FEET; THENCE N.53◦47'52"E., 263.61 FEET; THENCE N.24◦26'30"E., 24.02 FEET: THENCE N.53◦47'58"E ., 91.57 FEET TO THE POINT OF BEGINNING. CONTAINING 30.95 ACRES MORE OR LESS.

(PARCEL E)

A PARCEL OF LAND BEING A PART OF THE SOUTHWEST 1/4 OF SECTION 13, TOWNSHIP 21 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA, DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHWEST CORNER OF SAID SECTION 13, THENCE N.89◦27'18"E., ALONG THE SOUTH LINE OF SAID SECTION 13, A DISTANCE OF 33.00 FEET TO A POINT LYING ON THE EAST RIGHT OF WAY LINE OF TURPENTINE ROAD (A 66.00 FOOT WIDE RIGHT OF WAY) AND SAID POINT BEING THE POINT OF BEGINNING OF THE LAND HEREIN DESCRIBED; THENCE ON A BEARING OF NORTH ALONG SAID EAST RIGHT OF WAY LINE OF TURPENTINE ROAD (SAID RIGHT OF WAY LINE LYING PARALLEL WITH AND 33.00 FEET EAST OF THE WEST LINE OF SAID SECTION 13), 275.48 FEET TO THE INTERSECTION WITH THE SOUTHERLY RIGHT OF WAY LINE OF HAMMOCK TRAIL (A 100 FOOT WIDE RIGHT OF WAY) AS DESCRIBED IN OFFICIAL RECORDS BOOK 1212, PAGE 917 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA; THENCE ALONG THE RIGHT OF WAY LINE OF SAID HAMMOCK TRAIL, THE FOLLOWING FOUR COURSES AND DISTANCES: THENCE N.57◦09'30"E., 386.98 FEET; THENCE N.34◦59'40"E., 669.79 FEET TO THE POINT OF CURVATURE OF A CIRCULAR CURVE, CONCAVE SOUTHERLY AND HAVING A RADIUS OF 575.82 FEET; THENCE NORTHEASTERLY, EASTERLY AND SOUTHEASTERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 79◦26'50", 798.44 FEET TO THE POINT OF TANGENCY; THENCE S.55•33'30"E., 84.87 FEET: THENCE S.5◦47'58"W., 91.57 FEET: THENCE S.24◦26'30"W., 24.02 FEET: THENCE S.53◦47'52"W., 263.61 FEET: THENCE S.00•31'10"E., 949.80 FEET TO A POINT LYING ON THE SOUTH LINE OF THE SOUTHWEST 1/4 OF THE SOUTHWEST 1/4 OF THE AFOREMENTIONED SECTION 13; THENCE S.89◦27'18° W., ALONG SAID LINE, 1208.61 FEET TO THE POINT OF BEGINNING. CONTAINING 24.28 ACRES MORE OR LESS.

(PARCEL F)

A PARCEL OF LAND BEING A PART OF THE SOUTHWEST 1/4 OF SECTION 13, TOWNSHIP 21 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA, DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHWEST CORNER OF SAID SECTION 13, THENCE N.89◦27"18"E., ALONG THE SOUTH

LINE OF SAID SECTION 13, A DISTANCE OF 33.00 FEET TO A POINT LYING ON THE EAST RIGHT OF WAY LINE OF TURPENTINE ROAD (A 66.00 FOOT WIDE RIGHT OF WAY): THENCE ON A BEARING OF NORTH ALONG SAID EAST RIGHT OF WAY LINE OF TURPENTINE ROAD (SAID RIGHT OF WAY LINE LYING PARALLEL WITH AND 33.00 FEET EAST OF THE WEST LINE OF SAID SECTION 13), 275.48 FEET TO THE INTERSECTION WITH THE SOUTHERLY RIGHT OF WAY LINE OF HAMMOCK TRAIL (A 100 FOOT WIDE RIGHT OF WAY) AS DESCRIBED IN OFFICIAL RECORDS BOOK 1212, PAGE 917 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA; THENCE ALONG THE RIGHT OF WAY LINE OF SAID HAMMOCK TRAIL, THE FOLLOWING SIX COURSES AND DISTANCES: THENCE N.57◦09'30"E., 386.98 FEET; THENCE N.34◦59'40"E., 669.79 FEET TO THE POINT OF CURVATURE OF A CIRCULAR CURVE, CONCAVE SOUTHERLY AND HAVING A RADIUS OF 575.82 FEET; THENCE NORTHEASTERLY, EASTERLY AND SOUTHEASTERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 79◦26'50", 798.44 FEET TO THE POINT OF TANGENCY; THENCE S.55•33'30"E., 641.00 FEET TO THE POINT OF CURVATURE OF A CIRCULAR CURVE, CONCAVE NORTHERLY AND HAVING A RADIUS OF 644.65 FEET: THENCE EASTERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 29◦ 5'11 ", 329.13 FEET TO THE POINT OF BEGINNING OF THE LAND HEREIN DESCRIBED: THENCE CONTINUE EASTERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 27°54'53", 314.08 FEET TO A POINT LYING ON THE EAST LINE OF THE SOUTHWEST 1/4 OF THE AFORESAID SECTION 13; THENCE S.00◦14'18"E.. ALONG SAID LINE, 226.51 FEET TO A POINT LYING ON THE ARC OF A CIRCULAR CURVE, CONCAVE NORTHERLY, HAVING A RADIUS OF 844.56 FEET, AND TO WHICH POINT A RADIAL LINE BEARS S.24◦26'17"E.; THENCE WESTERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 20'42'52", 305.34 FEET: THENCE N.00◦4'18"W ., 200.33 FEET TO THE POINT OF BEGINNING. CONTAINING 1.42 ACRES MORE OR LESS.

PARCEL 2

A PARCEL OF LAND LYING IN THE SOUTHEAST 1/4 OF SECTION 13, TOWNSHIP 21 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHWEST CORNER OF THE SOUTHEAST 1/4 OF SAID SECTION 13: THENCE N.00◦4'18"W., ALONG THE WEST LINE OF SAID SOUTHEAST 1/4 OF SAID SECTION 13, A DISTANCE OF 920. 79 FEET TO THE POINT OF BEGINNING OF THE PARCEL OF LAND HEREIN DESCRIBED; THENCE CONTINUE N.00◦4'18"W., ALONG SAID LINE, 62.23 FEET TO A POINT LYING ON THE SOUTHEASTERLY RIGHT OF WAY LINE OF HAMMOCK TRAIL, A 100 FOOT WIDE ROAD RIGHT OF WAY AS DESCRIBED IN OFFICIAL RECORDS BOOK 1212, PAGE 917 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA AND SAID RIGHT OF WAY LINE BEING AN ARC OF A CIRCULAR CURVE, CONCAVE NORTHWESTERLY, HAVING A RADIUS OF 644.65 FEET AND TO WHICH POINT A RADIAL LINE BEARS S.32◦43'34"E.; THENCE NORTHEASTERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 04◦20'28", 48.84 FEET; THENCE S.19◦35'16"W., 32.69 FEET TO THE POINT OF CURVATURE OF A CIRCULAR CURVE, CONCAVE NORTHWESTERLY AND HAVING A RADIUS OF 300.00 FEET; THENCE SOUTHWESTERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 12·37'49", 66.13 FEET TO THE POINT OF BEGINNING. CONTAINING 1434 SQUARE FEET MORE OR LESS.

Public Comment
21Z00030
Calligan

From: Commissioner, D1
To: Jones, Jennifer
Cc: Pritchett, Rita; Mascellino, Carol; Smith, Nathan; Price, Jessica
Subject: FW: Agenda Item H.5. at Tonight"s Zoning Meeting
Date: Thursday, December 2, 2021 12:53:31 PM
Attachments: image003.png

Good Afternoon,

On behalf of Commissioner Pritchett, please see the below public comment regarding zoning item #21Z00030.

Best regards,

Carol Mascellino
Legislative Aide to Commissioner Rita Pritchett

District 1 Commission Office
7101 S. Highway 1
Titusville, FL 32780
Telephone: 321-607-6901

From: laurileethompson@aol.com <laurileethompson@aol.com>
Sent: Thursday, December 2, 2021 12:20 PM
To: Commissioner, D1 <D1.Commissioner@brevardfl.gov>
Subject: Agenda Item H.5. at Tonight's Zoning Meeting

Dear Commissioner Pritchett,

I am writing to you regarding Agenda Item H.5. at tonight's Zoning Meeting. I applaud Mr. Genoni for keeping the same number of houses in his proposed new BDP as were included in the 2005 BDP. In fact, it appears that most everything is the same in the two versions except for the requirement for homes on one-acre lots along the western half of the southern boundary of the proposed development. The homes on one-acre lots along the western half of the southern boundary that were required in the 2005 BDP have been replaced with a 30-foot buffer in order to allow for more flexibility.

I understand that a lot has changed since 2005 and that homes on one-acre lots in that location today could reduce the number of dwellings that could be built. But – there is a big difference between one-acre lots and a 30-foot buffer. The homes that are adjacent to the western half of the southern boundary of the proposed development are on very large heavily wooded lots. The character of that area is why the homeowners paid a lot of money for those homes. A 30-foot buffer is not enough to preserve the large oak trees and character of that area.

The following statement appears in Kim Rezanka's comments within the minutes from the November 15 P&Z meeting: The developer is willing to work with the neighbors and has met with them and will continue to meet with them as they go through engineering.

I encourage you to please Table H.5 until the developer meets with the homeowners and a compromise can be reached between the developer and the homeowners over the required 30-foot buffer along the western half of the southern boundary.

Thank you,
Laurilee Thompson

21Z0030
H, 5

2. Developer/Owner shall limit gross density on the property to 2.5 dwelling or a maximum units per acre or 198 units. Minimum unit size shall be eighteen hundred (1,800) square feet or larger. The minimum lot size for the project shall be 6,000 square feet. Any increase in site density will require an amendment to this agreement and will require public hearings and notice as provided in the Code of Ordinances of Brevard County, Florida.

3. The Developer/Owner shall construct a berm with an average height of four (4) feet (varies from three (3) feet to five (5) feet high) along the length of the Property that fronts on Turpentine Road. The berm will be located in the buffer area contiguous to Turpentine Road. This area will also include a six (6) foot high wood fence or opaque vegetative landscaped buffer. The berm will be irrigated and maintained by the Developer/Owner and or its assigns. The berm will be constructed along with the initial phase of construction.

4. The Developer/Owner shall provide a 300-foot-wide buffer along the east approximately 1,600 feet of the South Property line. The east approximately 1,600 feet 300-foot-wide of the South Property line shall be placed in a conservation easement. The conservation easement may be used for mitigation of wetlands with the St. Johns River Water Management District (SRJWMD). In that case the easement will be in favor of the SJRWMD only. The remaining (western) portion of the South Property line shall keep a minimum 30' natural vegetative buffer between the property boundary line and the rear property line of the lot(s). The homes abutting Wherry Rd. will be required to build a 6' wood or vinyl fence at the back of the lot. This requirement shall be enforced by the Property's Home Owners Association documents.

5. The Developer/Owner shall provide a twenty-five (25) foot wide buffer along the south Property line of Bar "C" Ranchettes (as recorded in plat book 24, page 58 of the public records of Brevard County, Florida) where it is contiguous to the Property and along the contiguous property line of the Property with the two (2) parcels as recorded in Official Record Book 298, page 409 and Official Record Book 2314 page 2137 or the public records of Brevard County, Florida. The Developer/Owner shall install a six (6) foot high opaque wooden fence along this contiguous property line and along the southeast three hundred and fifty (350) feet of Bar "C" Ranchettes east of boundary line which is contiguous to the Property. In addition to

Commissioner, D4

From: laurileethompson@aol.com
Sent: Thursday, December 2, 2021 12:19 PM
To: Commissioner, D4
Subject: Agenda Item H.5. at Tonight's Zoning Meeting

Dear Commissioner Smith,
I am writing to you regarding Agenda Item H.5. at tonight's Zoning Meeting. I applaud Mr. Genoni for keeping the same number of houses in his proposed new BDP as were included in the 2005 BDP. In fact, it appears that most everything is the same in the two versions except for the requirement for homes on one-acre lots along the western half of the southern boundary of the proposed development. The homes on one-acre lots along the western half of the southern boundary that were required in the 2005 BDP have been replaced with a 30-foot buffer in order to allow for more flexibility.
I understand that a lot has changed since 2005 and that homes on one-acre lots in that location today could reduce the number of dwellings that could be built. But – there is a big difference between one-acre lots and a 30-foot buffer. The homes that are adjacent to the western half of the southern boundary of the proposed development are on very large heavily wooded lots. The character of that area is why the homeowners paid a lot of money for those homes. A 30-foot buffer is not enough to preserve the large oak trees and character of that area.
The following statement appears in Kim Rezanka's comments within the minutes from the November 15 P&Z meeting: The developer is willing to work with the neighbors and has met with them and will continue to meet with them as they go through engineering.
I encourage you to please Table H.5 until the developer meets with the homeowners and a compromise can be reached between the developer and the homeowners over the required 30-foot buffer along the western half of the southern boundary.
Thank you,
Laurilee Thompson

Disclosures to turn in at meeting

Agenda H.5.
21Z00030

H.5

This is a petition to oppose the rezoning being considered on Hammock Rd between Turpentine Rd and Carpenter Rd. The Parce lId 21-34-13-00-506, reference number to which the county rezoning has assigned is 21Z00030.

I oppose the rezoning of this land for numerous reasons. This planned development doesn't fit into our community lay out as most properties are 1 acre or larger out here. It would cause numerous devastating environmental issues in this area. There are currently federally protected animals on this property. Also it would damage our aquifer as it is a recharging area. It would create water issues and water quality issues for residence and likely both Brevard County and City of Titusville wells. The schools may have the space but we are in a teacher crisis and do not have the staff in our schools to support a new influx of students. This would be a disservice to current students as well as incoming students. We as a community are saying no to rezoning.

Name	Address
	1950 TOMATO FARM RD
Robert Turner	1950 Tomato Farm Rd, Mims, FL 32754
Sheri Vincent	1975 Tomato Farm Rd. Mims, FL. 32754
Theda Robert	1945 Tomato Farm Rd, Mims FL 32754
MacRoel Roberts	1945 Tomato Farm Rd Mims FL 32754
Mary T. Burke	1770 Tomato Farm Rd Mims FL. 32754
Paula Durden	1920 Tomato Farm Rd Mims FL 32754
	1755 Tomato Farm RD Mims FL 32754
Phillip Talbot	1755 Tomato Farm RD Mims, FL 32754
Ralph W Higginbotham	5500 Paces Landing Rd Mims Fla
Wanda T Pearce	4955 Panther Ln Mims FL. 32754
Jessie Mims	4900 Panther Lane Mims FL 32754
Mackenzie Horton	4900 Panther Lane Mims FL 32754
Pamela Cadden	4900 Panther Lane Mims FL 32754
Shannon Olain	4900 Panther Lane Mims FL 32754
John T. Higginbotham	4990 Panther Ln Mims FL 32754
Sheena Pinchard	5040 Panther Ln Mims FL 32754
Matt Bruno	1687 Arch Rd Mims FL 32754
Monica Bruno	1687 Arch Rd Mims FL 32754
Ken Chasteen	5315 Paces Landing Rd 32754
Manuel Montes	1645 Arch Rd. Mims, FL 32754
	1850 Tomato Farm Rd, Mims, FL 32754
	1895 Tomato Farm Rd Mims Fla 32754
	1896 Sugar Ln. Mims FL 32754
	1895 Sugar Ln Mims, FL 32754
	1975 Tomato Farm Rd. Mims FL 32754

Name	Address
Dylan Henderson	4951 Hamlin Cir Mims FL 32754
Coral Ramos	4986 Hamlin Cir, Mims, FL 32754
Troy Eaton	4950 Hamlin Circle Mims, FL 32754
Elizabeth Valentine	4950 Hamlin Circle Mims FL 32754
Logan Eaton	4950 Hamlin Circle Mims FL 32754
Allyssa Copeland	1745 Turpentine Rd. Mims FL 32754
Nancy Bolton	4957 Hamlin Circle Mims FL 32754
Tyler Polk	4956 Hamlin Circle Mims FL, 32754
Jason Land	4961 Hamlin Cir, Mims, FL 32754
Susan Rismiller	4963 Hamlin Cir, Mims, FL 32754
Steve Rismiller	4963 Hamlin Cir, Mims, FL 32754
Kimberlee Towne	4975 Hamlin Cir Mims, FL 32754
FREDERICK J SCHMITT	4979 HAMLIN CIR MIMS FL 32754
Aaron Avery	4984 Hamlin Cir, Mims FL 32754
LARRY LEAVITT	4985 Hamlin Circle Mims FL 32754
Pam Avery	4991 Hamlin Circle FL 32754,
Nathan Young	4983 Hamlin Circle FL 32754
Ashely Conner	4983 Hamlin Circle FL 32754
Carrie CARVER	1930 TOMATO FARM RD MIMS FL 32754
Elizabeth Canada	1605 ARCH Rd Mims, FL 32754
CARLIN CANADA	1605 ARCH, Rd, Mims, FL 32754
Helene Batson	5305 Paces Landing Rd mims FL 32754
Israel Batson	5305 Paces Landing Rd. Mims, FL 32754
Mildred Canada	1615 ARCH Rd Mims, FL 32754
Ashley Carver	1679 Arch Rd mims FL 32754
Michael Knight	1695 Arch Rd Mims FL 32754
Joshua Rowell	5050 Panther Ln Mims FL 32754
Sabrina Wagner	5050 Panther Ln, Mims FL 32754
Rickey W. Roberts	1915 Tomato Farm Rd. Mims, FL 32754
Judith K Roberts	1915 Tomato Farm Rd Mims FL 32754
Kaela Turner	1980 Tomato Farm Rd. Mims, FL 32754
Luis Moreno	4753 Affield Lane Mims, FL 32754
Susan Moreno	4753 Affield Lane Mims FL 32754
Abegail Moreno	4753 Affield Lane Mims FL 32754
Tyler Storm	2155 Tomato Farm Road FL 32754
Terri MCCall	4895 LIONLN. MIMS FL 32754

Name	Address
[illegible]	4895 Lion Ln Mims FL 32754
Linda Tortorella	4896 Lion Lane Mims FL 32754
Robert Sanford	4870 Lion Lane Mims, FL 32754
Sherry Sanford	4870 Lion Ln Mims 32754
[illegible]	7929 holly St Titusville Fl 32796
[illegible]	4885 Tiger Lane Mims 32754
[illegible]	4820 Tiger Lane Mims, FL 32754
Don Martin	1735 Turpentine Rd Mims, FL 32754
Tracie Martin	1735 Turpentine Rd Mims, FL 32754
James H Copeland	TURPANTER- MIMS 32754
Donna Wasileski	5000 Tiger Ln, Mims, 32754
[illegible]	5850 Tiger Ln Mims 32754
[illegible]	2105 Turpentine Rd Mims 32754
[illegible]	5045 Tiger LN mims FL 32754
Sandra Wilkins	5045 Tiger La Mims, FL 32754
WILLIAM R BURKS SR	1770 TOMATO FARM ROAD 32754
Jacob Turner	1980 Tomato Farm RD Mims FL 32754
Ruth Sorrell	1950 tomato farm Rd Mims, FL 32754

H.5

21Z00030 Heather Calligan Trust

Dear County Commisoners,

This land is indeed unique. It is historic wetlands/swamp (see 1A, 1B, 1C). Section 13 contains the property that is under consideration. Section 24 is in reference to the area containing Sherwood Estates and Lantern Park. These maps show this land was almost completely swamp. Miss Kim Rezanka representing the Develop/Heather Calligan Trust, said she has never seen drainage like on this property, with ditches running under the road and all across this property. I'm sure that is true, it takes a lot of drainage to drain a swamp/wetland. It has been swamp since before Florida was a state. Without the labyrinth of drainage ditches on section 13 and 24 this land would be under water the majority (if not all) of the time. The area that contains Lantern Park and Sherwood Estates began development in the mid 1900's. Since that time we, as individuals and communities, have voted for and supported environmental protections of sensitive lands. The codes, rules, laws and agencies put in place are numerous. I believe by todays standards the areas of section 13 and 24 wouldn't be allowed to be built on and would actually be protected wetlands/swamp. These restrictions have been put in place because we have realized the mistakes of our past and in order to preserve our future we must protect these areas. These restrictions protect natural resources, wetlands, flood plains and habitat for endangered animals such as the Gopher Tortoise and the scrub jay. This land either is known to contain these animals or likely to considering there are local scrub jay protected lands in this area. In 1999 the county of Brevard protected the land on the south side of Sherwood Estates for these exact reasons.

Developing this piece of land has many problems one of is drainage. There are property owners that live down stream from this property. I called SJRWMD, speaking to a Mr. Jennings, concerning the flooding issues. (See 1D Fema Flood Zone map). The canal that runs along Hammock Road drains into existing wetlands as you can see on map 1E. Not only would any additional drainage cause flooding down stream, it would decrease the property value of current owners and damage current agriculture here. It would also bring additional flooding to the Salt Lake Management Area lands. I'm sure any good developer is aware of the laws concerning this matter and understands this would not be allowed, (see 1F). Mr. Jennings has reassured me ALL storm water would be required to be contained on the property on Hammock Rd. There absolutely may not be any run off into the ditches bordering this property; meaning there would need to be storm water retention ponds that could contain water from a 100 year rain event.

I believe the idea of putting retention ponds on this property should scare all of us. The majority of this land is covered by Aquifer recharging soils, (see 1G, 1H). Any attempt to change the natural water flow would damage the volume and quality of the flow of water to the aquifer recharging soil area, (see 1E and 1F). Mr. Jennings explained to me the vital importance of these recharging areas. Also, NASA completed a study of the natural recharging areas in 1990. While the area of study was on the Space Center the results apply to other aquifer recharging areas as well, (see 2A page 25). This study highlights the importance of these areas and how they replenish our aquifer. It goes on to conclude any changes in elevation makes it highly likely that it will effect our water table. Not only that but it is likely to cause leaching, accumulation of organic matter and formation of soil horizons. This should concern all of us, because it will not only affect private wells but Brevard County and the City of

Titusville wells. When I spoke with the development department at the City of Titusville the possibility of changing or damaging the aquifer so close to were they have protected land was of interest to them as well, (see 3). As you can see by the map the cities protected land for their wells connects very close to the area in question.
Brevard County already buys water from other municipalities. This would affect the current water price, increasing costs to the counties current residence. Adding to the already planned increases planned over the next few years.

This area has seen no new subdivisions built in any recent times. The only subdivisions ever built in this area was Sherwood Estates and Lantern Park. The land began development in the mid 1900s and is not relevant to the current preposed subdivision. In recent years while we haven't seen much building we have seen an uptick in preserving the sensitive land in this area. In 1999 Brevard County recognized the sensitive lands in this area and preserved all the land South of Sherwood Estates and Lantern Park to Dairy Rd called South Lake Conservation Area, (see 4A). The County of Brevard has preserved more than just this one area; there is also Fox Lake Sanctuary, Indian Mound Station Sanctuary, and North Buck Lake Scrub Sanctuary close by this area, (see 4B). It hasn't only been the county that has seen the need to protect these biodiverse lands, but the State of Florida also has Salt Lake Management Area and Buck Lake Management Area which are close to this area. As you can see by 4C, our area is in need of more of these protected lands as our biodiverse land is in danger. As you can see by 4D our community with local, county, and state government have been working hard to ensure these vital lands are protected.

As I have explained, our current regulations, codes, laws and protections, would in today's world, have prevented the area containing Sherwood Estates and Lantern Park from being developed to the density that it currently exists. I believe it would be a part of one of the near by sanctuaries and protected lands. We should not be governed by the mistakes of our past when considering the present and future of this area. We should be learning from our mistakes and do better. The facts I have presented to you do not support the rezoning of this property. I would go so far as to say, not only should rezoning be denied but so should the whole development. In an effort to protect our future water availability, water quality, water use, biodiversity, and endangered animals this land should be entered into one of the programs to preserve lands like this. Allowing this development to move forward would likely cause damage to our local aquifer. I employ you to protect this land and our local aquifer by denying the rezoning, and supporting the preservation of this land. I have already been in contact with the state and our local representative concerning these programs. I sincerely hope that in an effort to protect the residents of our county you would join me in this effort.

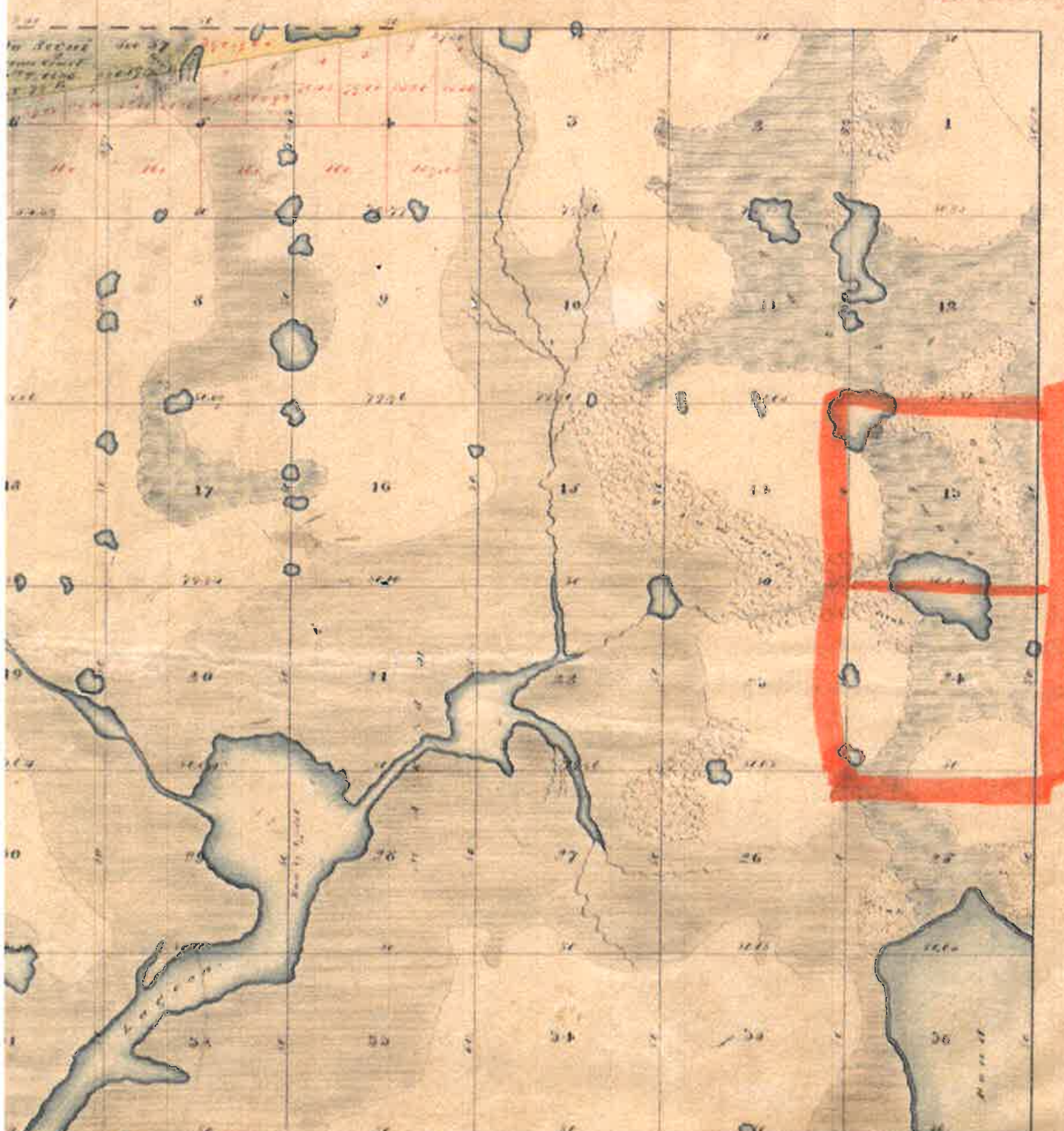
Sincerely,

Ruth Sorrell
1950 Tomato Farm Rd
Mims Fl, 32754

FLORIDA

T 21 S - R 34 E -

East Florida.



Sec	Area	Sec	Area	Sec	Area
1	[illegible]	13	[illegible]	25	[illegible]
2	[illegible]	14	[illegible]	26	[illegible]
3	[illegible]	15	[illegible]	27	[illegible]
4	[illegible]	16	[illegible]	28	[illegible]
5	[illegible]	17	[illegible]	29	[illegible]
6	[illegible]	18	[illegible]	30	[illegible]
7	[illegible]	19	[illegible]	31	[illegible]
8	[illegible]	20	[illegible]	32	[illegible]
9	[illegible]	21	[illegible]	33	[illegible]
10	[illegible]	22	[illegible]	34	[illegible]
11	[illegible]	23	[illegible]	35	[illegible]
12	[illegible]	24	[illegible]	36	[illegible]

Public Land. Total [illegible] Acres.

The Township was Surveyed in the 2d Quarter of 1844 by Henry Washington Dep. Surveyor. Variation [illegible] East.

The Private Claim.

was surveyed in the 3d Quar of 1851 by J. M. Randolph [illegible] with Surv. Gen. of Florida dated [illegible] 1851.

[illegible] } Chainmen.

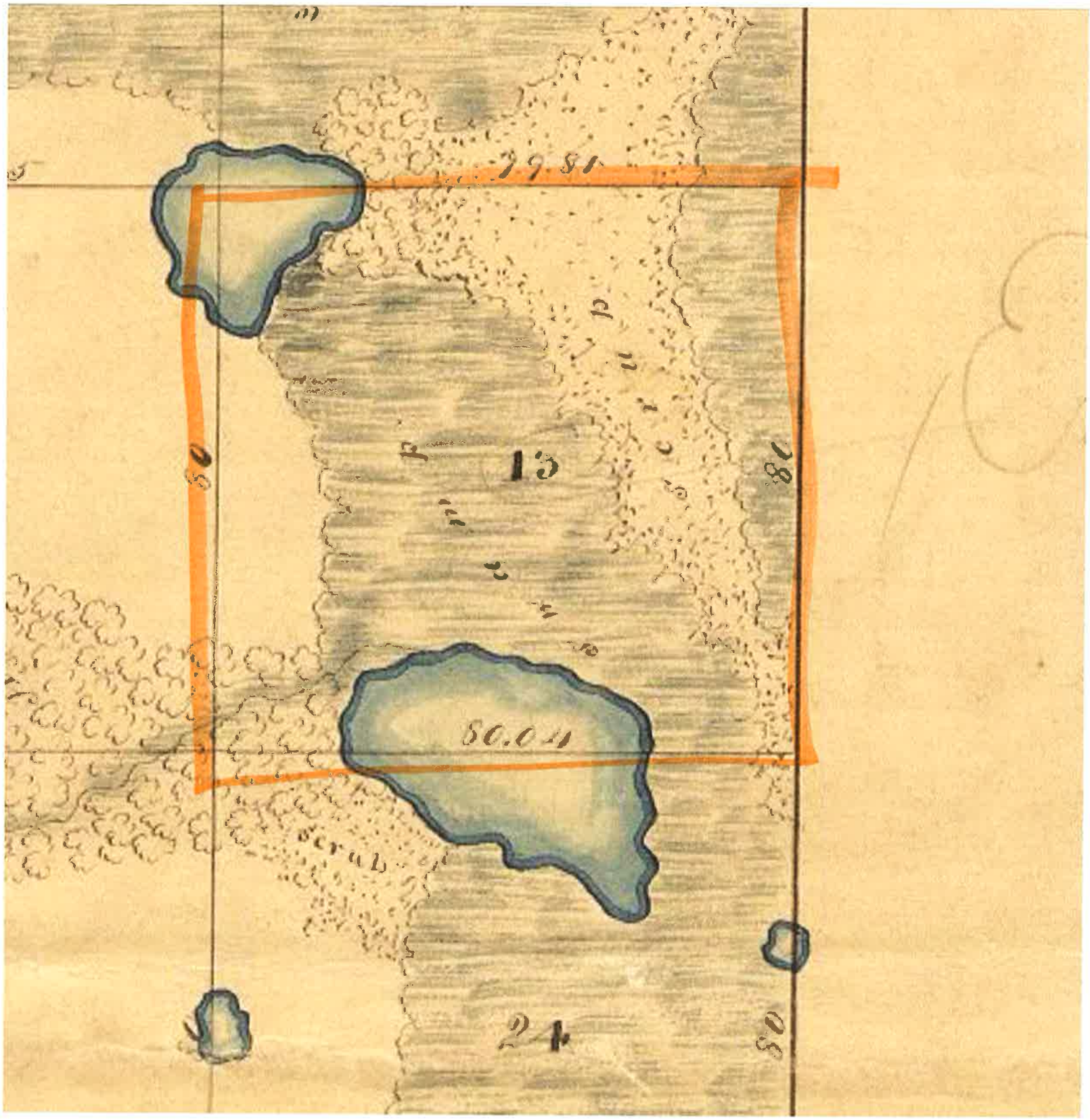
Variation [illegible] East.

Examined, Compared with field notes & Approved

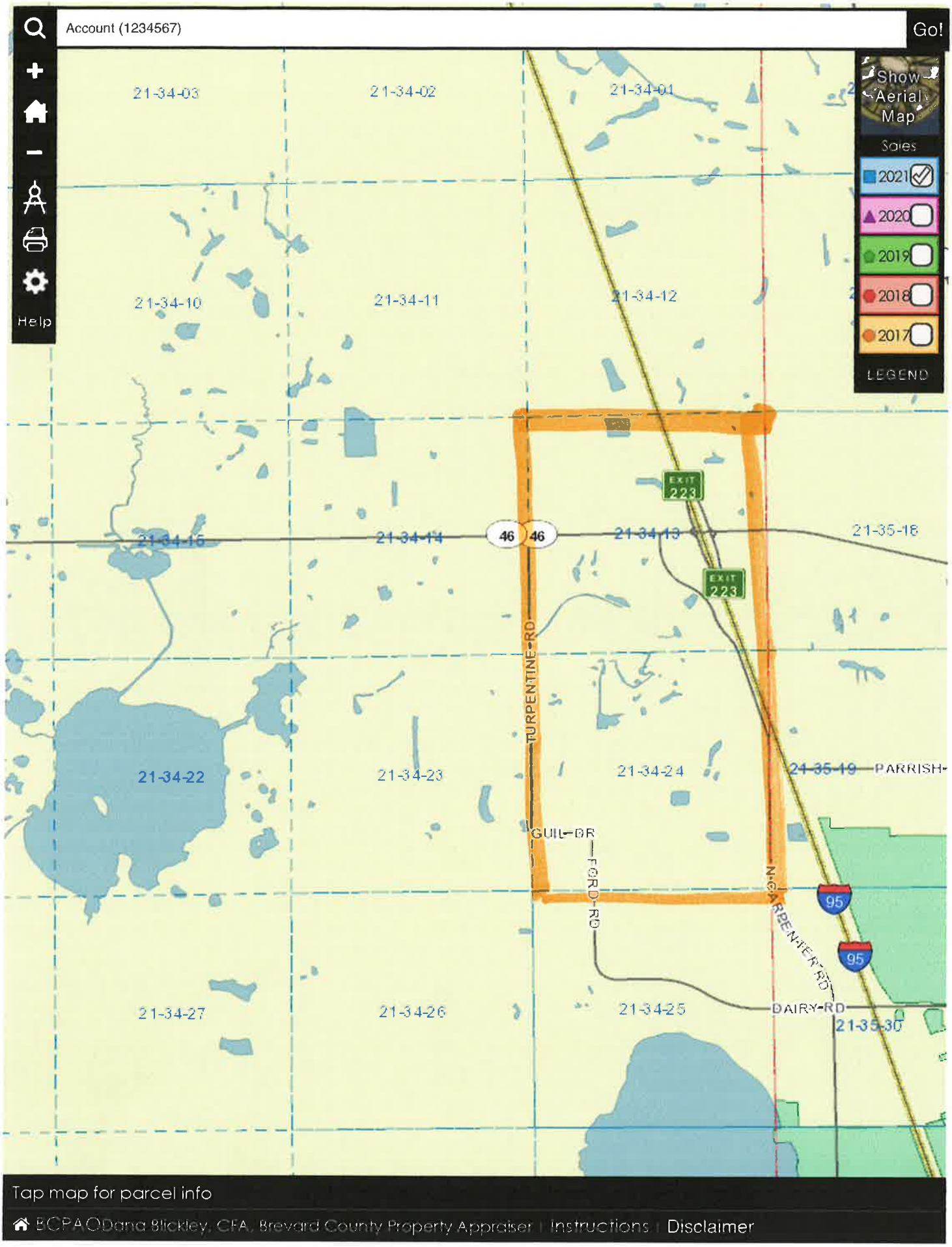
12 March 1852.

B. A. Putnam
Surveyor General

Randolph's Survey [illegible] Report 335 [illegible] 13 April 1852



1C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TURPENTINE RD
GUIL-DR
FORD RD
N-CARPENTER RD
DAIRY RD
PARRISH
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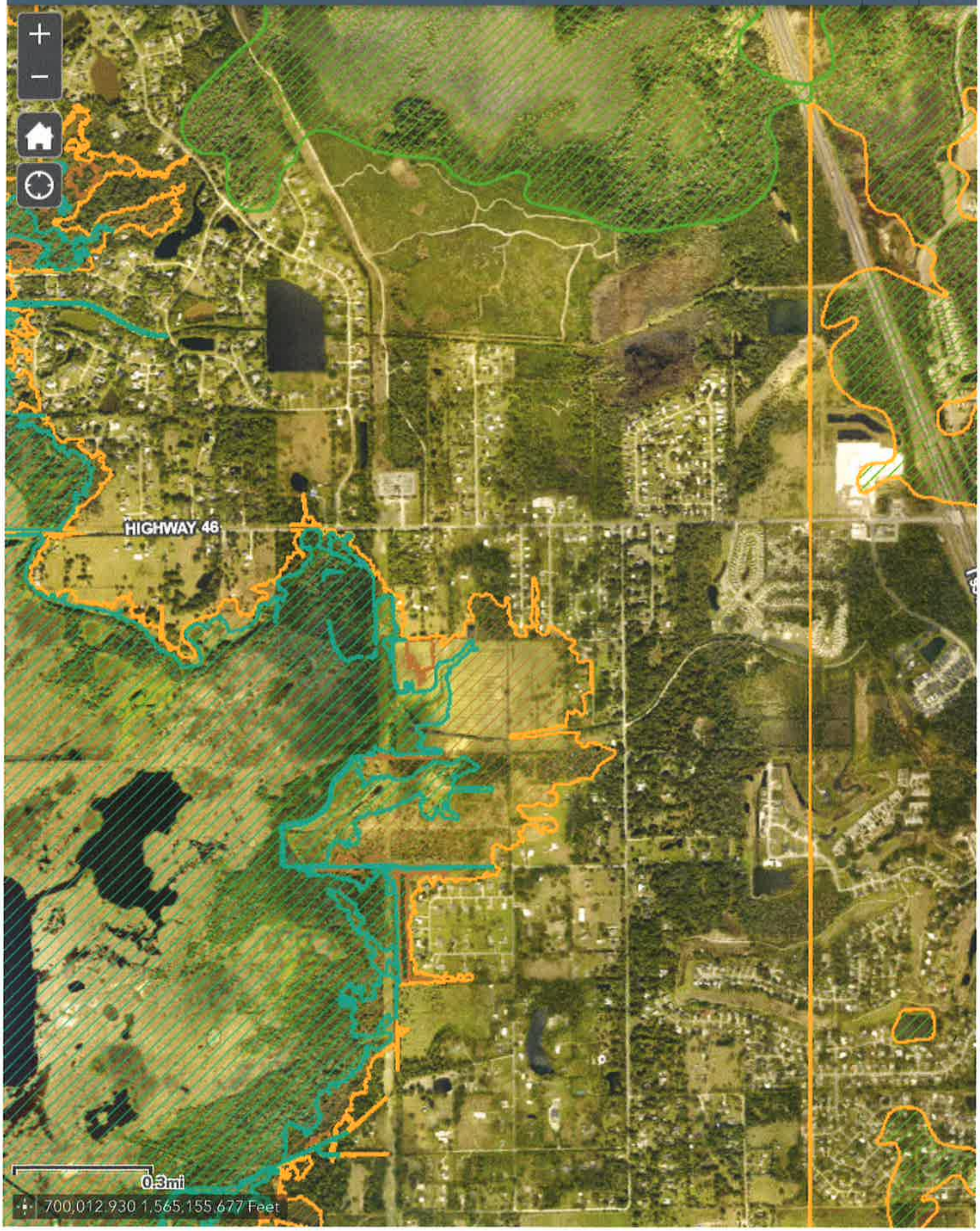
Tap map for parcel info
BCPAODana Blickley, CFA, Brevard County Property Appraiser | Instructions | Disclaimer

1D

Flood Zone Interactive Map

Brevard County BOCC GIS



Flood Zone Interactive Map

Brevard County BOCC GIS

Legend

Street

Street Line

Floodplain

Flood Zone

- A
- AE
- AE Floodway
- AH
- AO
- VE
- X
- X Shaded

1D

Flood Advocate

- Home
- FEMA Flood Maps
- Flood Zone Determination Form
- Flood Zone Report
- eLOMA

Home » What is a Flood Zone? | FEMA Zone Definitions

FEMA Zone Definitions

Special Flood Hazard Areas – High Risk

Special Flood Hazard Areas represent the area subject to inundation by 1-percent-annual chance flood. Structures located within the SFHA have a 26-percent chance of flooding during the life of a standard 30-year mortgage. Federal floodplain management regulations and mandatory flood insurance purchase requirements apply in these zones.

ZONE	DESCRIPTION
A	Areas subject to inundation by the 1-percent-annual-chance flood event. Because detailed hydraulic analyses have not been performed, no Base Flood Elevations (BFEs) or flood depths are shown.
AE, A1-A30	Areas subject to inundation by the 1-percent-annual-chance flood event determined by detailed methods. BFEs are shown within these zones. (Zone AE is used on new and revised maps in place of Zones A1–A30.)
AH	Areas subject to inundation by 1-percent-annual-chance shallow flooding (usually areas of ponding) where average depths are 1–3 feet. BFEs derived from detailed hydraulic analyses are shown in this zone.
AO	Areas subject to inundation by 1-percent-annual-chance shallow flooding (usually sheet flow on sloping terrain) where average depths are 1–3 feet. Average flood depths derived from detailed hydraulic analyses are shown within this zone.

AR	Areas that result from the decertification of a previously accredited flood protection system that is determined to be in the process of being restored to provide base flood protection.
A99	Areas subject to inundation by the 1-percent-annual-chance flood event, but which will ultimately be protected upon completion of an under-construction Federal flood protection system. These are areas of special flood hazard where enough progress has been made on the construction of a protection system, such as dikes, dams, and levees, to consider it complete for insurance rating purposes. Zone A99 may be used only when the flood protection system has reached specified statutory progress toward completion. No BFEs or flood depths are shown.

Coastal High Hazard Areas – High Risk

Coastal High Hazard Areas (CHHA) represent the area subject to inundation by 1-percent-annual chance flood, extending from offshore to the inland limit of a primary front al dune along an open coast and any other area subject to high velocity wave action from storms or seismic sources. Structures located within the CHHA have a 26-percent chance of flooding during the life of a standard 30-year mortgage. Federal floodplain management regulations and mandatory purchase requirements apply in these zones.

ZONE	DESCRIPTION
V	Areas along coasts subject to inundation by the 1-percent-annual-chance flood event with additional hazards associated with storm-induced waves. Because detailed coastal analyses have not been performed, no BFEs or flood depths are shown.
VE, V1-V30	Areas along coasts subject to inundation by the 1-percent-annual-chance flood event with additional hazards due to storm-induced velocity wave action. BFEs derived from detailed hydraulic coastal analyses are shown within these zones. (Zone VE is used on new and revised maps in place of Zones V1–V30.)

Moderate and Minimal Risk Areas

Areas of moderate or minimal hazard are studied based upon the principal source of flood in the area. However, buildings in these zones could be flooded by severe, concentrated rainfall coupled

1D

with inadequate local drainage systems. Local stormwater drainage systems are not normally considered in a community's flood insurance study. The failure of a local drainage system can create areas of high flood risk within these zones. Flood insurance is available in participating communities, but is not required by regulation in these zones. Nearly 25-percent of all flood claims filed are for structures located within these zones.

ZONE	DESCRIPTION
B, X (shaded)	Moderate risk areas within the 0.2-percent-annual-chance floodplain, areas of 1-percent-annual-chance flooding where average depths are less than 1 foot, areas of 1-percent-annual-chance flooding where the contributing drainage area is less than 1 square mile, and areas protected from the 1-percent-annual-chance flood by a levee. No BFEs or base flood depths are shown within these zones. (Zone X (shaded) is used on new and revised maps in place of Zone B.)
C, X (unshaded)	Minimal risk areas outside the 1-percent and .2-percent-annual-chance floodplains. No BFEs or base flood depths are shown within these zones. (Zone X (unshaded) is used on new and revised maps in place of Zone C.)

Undetermined Risk Areas

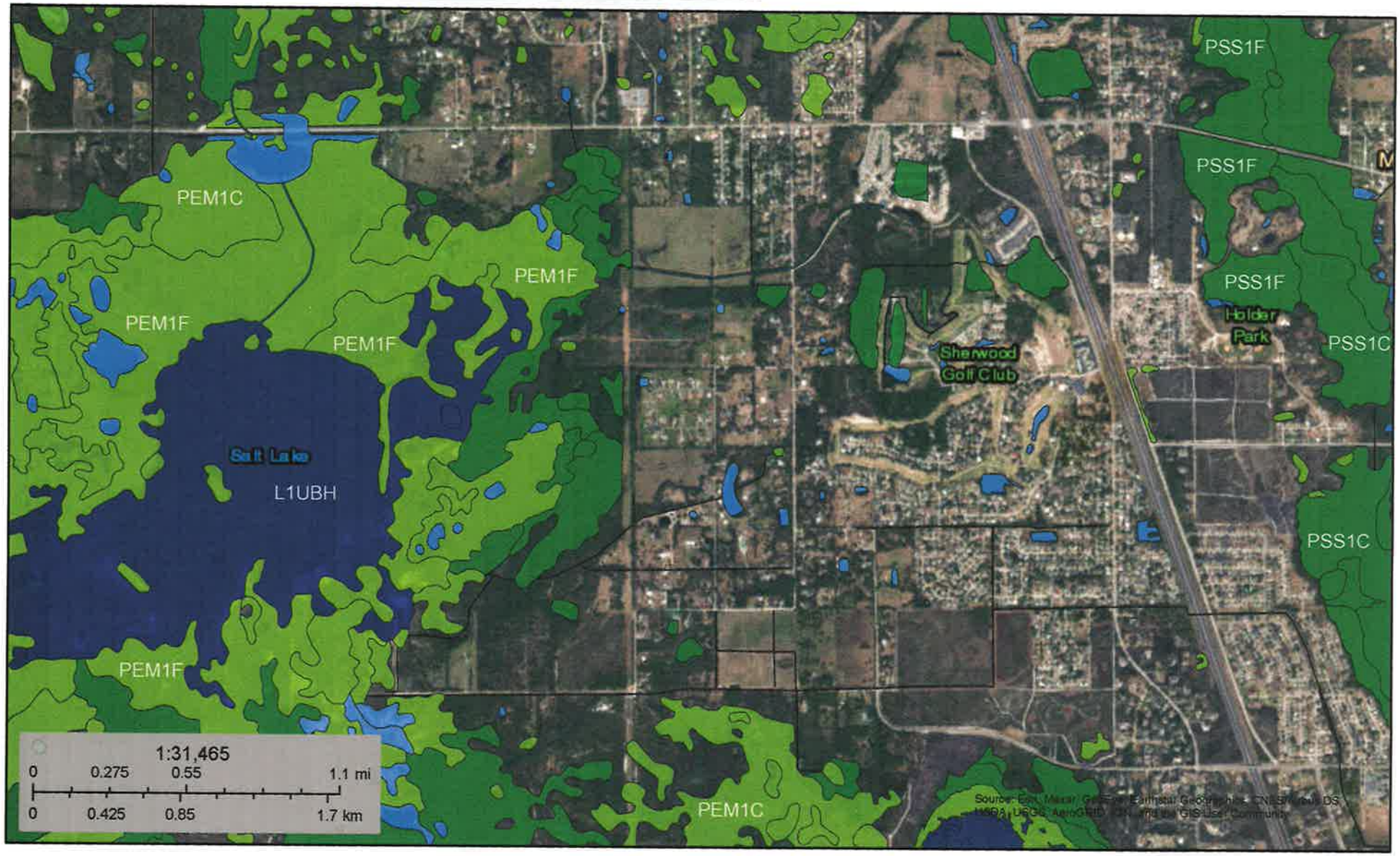
ZONE	DESCRIPTION
D	Unstudied areas where flood hazards are undetermined, but flooding is possible. No mandatory flood insurance purchase requirements apply, but coverage is available in participating communities.

Order a Flood Zone Report and see your FEMA Flood Zone. Click here

U.S. Fish and Wildlife Service

National Wetlands Inventory

Wetlands



November 18, 2021

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

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Rule: 18-14.003

Prev Up Next

Rule Title: Violations

Department: BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND

Division: Departmental

Chapter: ADMINISTRATIVE FINES FOR DAMAGING STATE LANDS OR PRODUCTS THEREOF

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Latest version of the final adopted rule presented in Florida Administrative Code (FAC):

VIEW RULE

Effective Date: 7/7/1985

History Notes: Rulemaking Authority 253.04(2) FS. Law Implemented 253.04 FS. History–New 7-7-85, Formerly 16Q-14.03, 16Q-14.003.

References in this version: No reference(s).

History of this Rule since Jan. 6, 2006

Notice / Adopted	Section	Description	ID	Publish Date
HTML	Withdrawal 18-14.001	Definitions, Determination of Fines, Violations, Applicability, Imposition and Collection of Fines	11123977	3/2/2012 Vol. 38/09
HTML	Correction 18-14.001	Definitions, Determination of Fines, Violations, Applicability, Imposition and Collection of Fines	9457226	12/17/2010 Vol. 36/50
HTML	Proposed 18-14.001	To revise and clarify the process for assessing administrative fines for violations on state-owned land. The proposed amendments allow The Department of Environmental Protection ("DEP") to first issue a warning letter to	9419299	11/24/2010 Vol. 36/47
HTML	Development 18-14.001	To revise and clarify the assessment of administrative fines for violations on state-owned submerged land. The proposed amendments will provide for issuance of a Warning Letter instead of a Notice of Violation for unauthorized	6950067	10/2/2009 Vol. 35/39
W	Validity 18-14.003	Bernard Montgomery Myers vs. Department of Environmental Protection and Board of Trustees of The Internal Improvement ....; Case No.: 09-2928RX; Rule No.: 18-14.003; Petition	7260758	6/12/2009 Vol. 35/23
W	Final 18-14.003	Violations	1383140	Effective: 07/07/1985

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18-14.003 Violations.

It shall be a violation of this rule for any person or the agent of any person to knowingly refuse to comply with any provision of Chapter 253, F.S., willfully violate any provision of Chapter 253, F.S., or to willfully damage state land (the ownership or boundaries of which have been established by the state) or products thereof, by doing any of the following:

(1) Fill, excavate, or dredge, including prop dredging in a manner which produces a defined channel, on state land without the lease, license, easement or other form of consent required by the Board.

(2) Remove, in violation of state or federal law, any product from state land without written approval or specific exemption from the Board or Department.

(3) Discharge contaminants, wastes, effluents, sewage or any other pollutant as defined in Chapter 376 or 403, F.S., on, under or over state land; when such discharge is in violation of Chapter 403, F.S., or conditions of a permit issued pursuant to that chapter, or conditions of a lease or easement issued pursuant to Chapter 253, F.S.

(4) Maintain, place or build permanent or temporary structures, including, but not limited to, additions to existing structures; all structures whose use is not water-dependent; sanitary septic systems; fences, docks and pilings; houses; oil rigs; and utility installations on or over state land without consent or authority from the Board or Department.

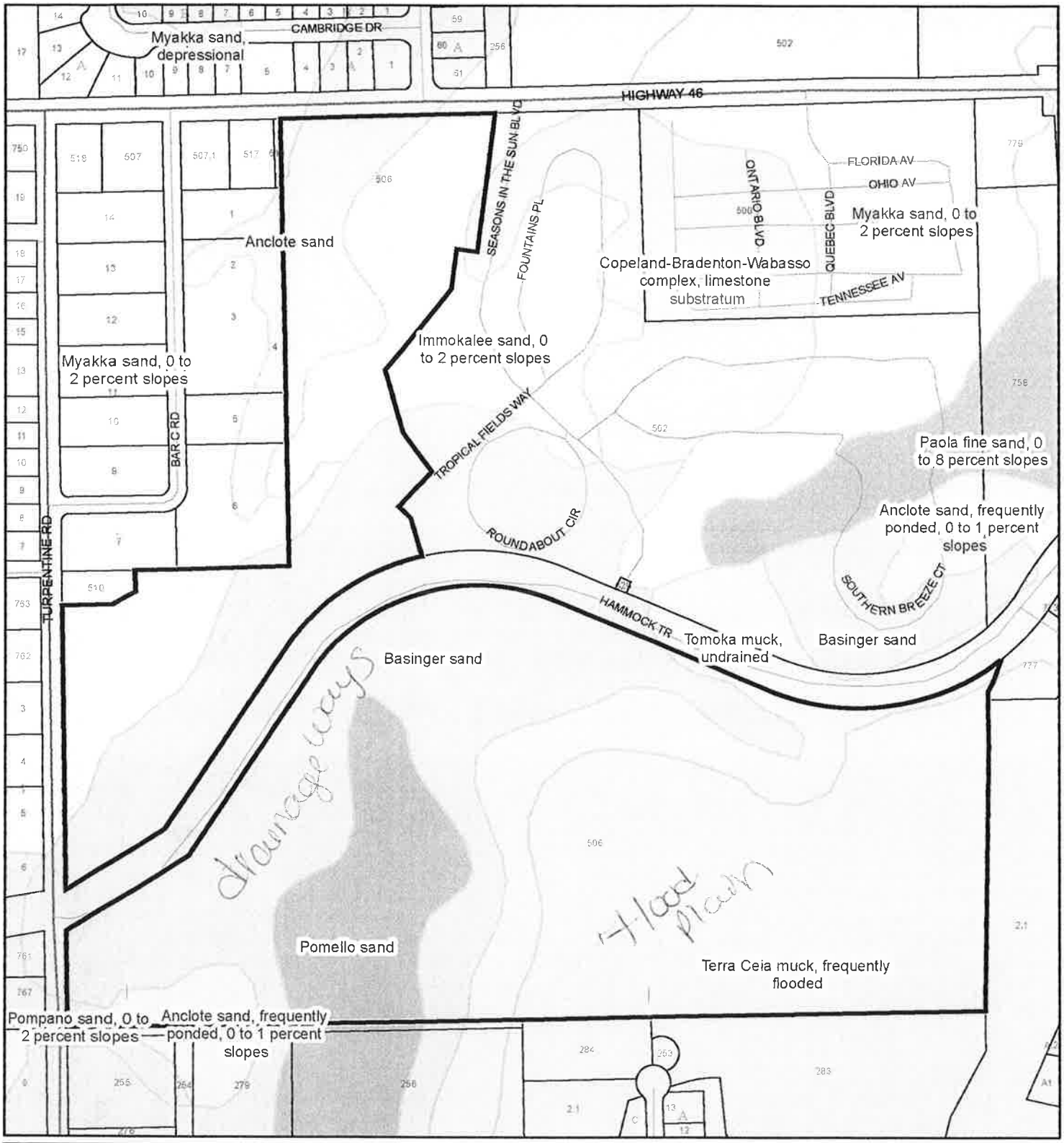
(5) Place garbage, refuse, or debris on or over state land without approval by the Board or Department.

(6) Any other willful act that causes damage to state land, or products thereof, when such activity occurs without the required approval by the Board or Department.

Rulemaking Authority 253.04(2) FS. Law Implemented 253.04 FS. History–New 7-7-85, Formerly 16Q-14.03, 16Q-14.003.

THE HEATHER CALLIGAN TRUST

21Z00030



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1:4,800 or 1 inch = 400 feet

This map was compiled from recorded documents and does not reflect an actual survey. The Brevard County Board of County Commissioners does not assume responsibility for errors or omissions hereon.

Produced by BoCC - GIS Date: 9/10/2021

USDA SCSSS Soils

- Aquifer and Hydric
- Aquifer
- Hydric
- None

Subject Property

Parcels

Hydric Soils

This table lists the map unit components that are rated as hydric soils in the survey area. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 2002).

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for all of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

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). These soils, under natural conditions, 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).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Map units that are dominantly made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units dominantly made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

The criteria for hydric soils are represented by codes in the table (for example, 2). Definitions for the codes are as follows:

1. All Histels except for Folistels, and Histosols except for Folists.
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
   A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
   B. Show evidence that the soil meets the definition of a hydric soil;
3. Soils that are frequently ponded for long or very long duration during the growing season.
   A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
   B. Show evidence that the soil meets the definition of a hydric soil;
4. Map unit components that are frequently flooded for long duration or very long duration during the growing season that:
   A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
   B. Show evidence that the soil meets the definition of a hydric soil;

Hydric Condition: Food Security Act information regarding the ability to grow a commodity crop without removing woody vegetation or manipulating hydrology.

References:

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

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Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

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Report—Hydric Soils

Hydric Soils–Palm Beach County Area, Florida				
Map symbol and map unit name	**Component**	**Percent of map unit**	**Landform**	**Hydric criteria**
2—Anclote fine sand				
	Anclote	90	Drainageways on marine terraces, flats on marine terraces	2
	Basinger	3	Drainageways on marine terraces	2
	Okeelanta, drained	3	Depressions on marine terraces	1, 3
	Pompano	2	Drainageways on marine terraces	2
	Sanibel	2	Depressions on marine terraces	2, 3
4—Arents-Urban land complex, 0 to 5 percent slopes				
	Basinger	5	Drainageways on marine terraces	2
6—Basinger fine sand, 0 to 2 percent slopes				
	Basinger	90	Drainageways	2
	Margate	3	Drainageways on marine terraces	2
	Placid, depressional	3	Depressions on marine terraces	2, 3
7—Basinger-Urban land complex				
	Basinger	55	Drainageways on marine terraces	2
	Pompano	1	Drainageways on marine terraces	2
8—Basinger and Myakka sands, depressional				
	Basinger, depressional	47	Depressions on marine terraces	2, 3
	Myakka, depressional	47	Depressions on marine terraces	2, 3
	Sanibel	2	Depressions on marine terraces	2, 3
	Pompano	2	Drainageways on marine terraces	2
	Anclote	2	Drainageways on marine terraces, flats on marine terraces	2

Hydric Soils–Palm Beach County Area, Florida				
Map symbol and map unit name	**Component**	**Percent of map unit**	**Landform**	**Hydric criteria**
10—Boca fine sand				
	Boca	85	Drainageways on marine terraces, flats on marine terraces	2
	Pineda	4	Drainageways on marine terraces, flats on marine terraces	2
	Riviera	3	Drainageways on marine terraces, flats on marine terraces	2
12—Chobee fine sandy loam				
	Chobee	88	Drainageways on marine terraces	2
	Riviera	3	Drainageways on marine terraces, flats on marine terraces	2
	Tequesta	3	Depressions on marine terraces	2, 3
	Floridana	3	Depressions on marine terraces	2, 3
	Winder	3	Drainageways on marine terraces, flats on marine terraces	2
14—Dania muck				
	Dania, drained	92	Depressions on marine terraces	1, 3
	Boca	2	Drainageways on marine terraces, flats on marine terraces	2
	Jupiter	2	Drainageways on marine terraces	2
	Pahokee, drained	1	Depressions on marine terraces	1, 3
	Lauderhill, drained	1	Depressions on marine terraces	1, 3

Hydric Soils–Palm Beach County Area, Florida				
Map symbol and map unit name	**Component**	**Percent of map unit**	**Landform**	**Hydric criteria**
15—Floridana fine sand				
	Floridana	85	Depressions on marine terraces	2, 3
	Holopaw	4	Drainageways on marine terraces	2
	Riviera	4	Drainageways on marine terraces, flats on marine terraces	2
	Anclote	4	Drainageways on marine terraces, flats on marine terraces	2
	Tequesta	3	Depressions on marine terraces	2, 3
16—Hallandale fine sand				
	Riviera	3	Drainageways on marine terraces, flats on marine terraces	2
	Pineda	3	Drainageways on marine terraces, flats on marine terraces	2
	Boca	3	Drainageways on marine terraces, flats on marine terraces	2
	Jupiter	3	Drainageways on marine terraces	2
17—Holopaw fine sand				
	Holopaw	85	Drainageways on marine terraces	2
	Basinger	3	Drainageways on marine terraces	2
	Boca	2	Drainageways on marine terraces, flats on marine terraces	2
	Pineda	2	Drainageways on marine terraces, flats on marine terraces	2
	Riviera	2	Drainageways on marine terraces, flats on marine terraces	2
	Pompano	2	Drainageways on marine terraces	2

Hydric Soils–Palm Beach County Area, Florida				
Map symbol and map unit name	**Component**	**Percent of map unit**	**Landform**	**Hydric criteria**
18—Immokalee fine sand, 0 to 2 percent slopes				
	Basinger	5	Drainageways on marine terraces, flats on marine terraces	2
	Margate	3	Drainageways on marine terraces	2
	Placid, depressional	2	Depressions on marine terraces	2, 3
19—Jupiter fine sand				
	Jupiter	85	Drainageways on marine terraces	2
	Boca	3	Drainageways on marine terraces, flats on marine terraces	2
	Riviera	3	Drainageways on marine terraces, flats on marine terraces	2
	Tequesta	3	Depressions on marine terraces	2, 3
	Dania, drained	3	Depressions on marine terraces	1, 3
20—Lauderhill muck				
	Lauderhill, drained	85	Depressions on marine terraces	1, 3
	Okeelanta, drained	4	Depressions on marine terraces	1, 3
	Dania, drained	4	Depressions on marine terraces	1, 3
	Pahokee, drained	4	Depressions on marine terraces	1, 3
	Terra ceia, drained	3	Depressions on marine terraces	1, 3
21—Myakka fine sand, 0 to 2 percent slopes				
	Basinger	5	Drainageways on marine terraces	2
	Placid, depressional	1	Depressions on marine terraces	2, 3
22—Myakka-Urban land complex				
	Basinger	4	Drainageways on marine terraces	2
	Pompano	3	Drainageways on marine terraces	2

Hydric Soils–Palm Beach County Area, Florida				
Map symbol and map unit name	**Component**	**Percent of map unit**	**Landform**	**Hydric criteria**
23—Okeechobee muck				
	Okeechobee	85	Depressions on marine terraces	1, 3
	Okeelanta, drained	5	Depressions on marine terraces	1, 3
	Terra ceia, drained	5	Depressions on marine terraces	1, 3
	Pahokee, drained	5	Depressions on marine terraces	1, 3
24—Okeelanta muck				
	Okeelanta, drained	80	Depressions on marine terraces	1, 3
	Lauderhill, drained	4	Depressions on marine terraces	1, 3
	Okeechobee	4	Depressions on marine terraces	1, 3
	Sanibel	3	Depressions on marine terraces	2, 3
	Tequesta	3	Depressions on marine terraces	2, 3
	Pahokee, drained	3	Depressions on marine terraces	1, 3
	Terra ceia, drained	3	Depressions on marine terraces	1, 3
25—Oldsmar sand, 0 to 2 percent slopes				
	Basinger	4	Drainageways on marine terraces	2
26—Pahokee muck				
	Pahokee, drained	85	Depressions on marine terraces	1, 3
	Lauderhill, drained	4	Depressions on marine terraces	1, 3
	Terra ceia, drained	4	Depressions on marine terraces	1, 3
	Okeelanta, drained	4	Depressions on marine terraces	1, 3
	Torry, drained	3	Depressions on marine terraces	1, 3
29—Pineda fine sand, 0 to 2 percent slopes				
	Pineda	93	Flats, drainageways	2
	Boca	4	Drainageways on marine terraces	2
	Hallandale	3	Drainageways on marine terraces	2

Hydric Soils–Palm Beach County Area, Florida				
Map symbol and map unit name	**Component**	**Percent of map unit**	**Landform**	**Hydric criteria**
30—Pinellas fine sand				
	Pineda	3	Drainageways on marine terraces, flats on marine terraces	2
	Riviera	3	Drainageways on marine terraces, flats on marine terraces	2
	Boca	3	Drainageways on marine terraces, flats on marine terraces	2
	Holopaw	3	Drainageways on marine terraces	2
33—Pomello fine sand, 0 to 5 percent slopes				
	Basinger	3	Drainageways on marine terraces	2
34—Pompano fine sand				
	Pompano	85	Drainageways on marine terraces	2
	Riviera	3	Drainageways on marine terraces, flats on marine terraces	2
	Holopaw	3	Drainageways on marine terraces	2
	Basinger	3	Drainageways on marine terraces	2
	Anclote	3	Drainageways on marine terraces, flats on marine terraces	2
36—Riviera fine sand				
	Riviera	82	Drainageways on marine terraces, flats on marine terraces	2
	Holopaw	3	Drainageways on marine terraces	2
	Boca	3	Drainageways on marine terraces, flats on marine terraces	2
	Pineda	2	Drainageways on marine terraces, flats on marine terraces	2

Hydric Soils–Palm Beach County Area, Florida				
Map symbol and map unit name	**Component**	**Percent of map unit**	**Landform**	**Hydric criteria**
37—Riviera fine sand, depressional				
	Riviera, depressional	85	Depressions on marine terraces	2, 3
	Chobee	4	Drainageways on marine terraces	2
	Floridana	4	Depressions on marine terraces	2, 3
	Holopaw	4	Drainageways on marine terraces	2
	Tequesta	3	Depressions on marine terraces	2, 3
38—Riviera-Urban land complex				
	Riviera	50	Drainageways on marine terraces	2
	Pompano	2	Drainageways on marine terraces	2
	Holopaw	2	Drainageways on marine terraces	2
	Riviera, depressional	1	Depressions on marine terraces	2, 3
39—Sanibel muck				
	Sanibel	85	Depressions on marine terraces	2, 3
	Holopaw	4	Drainageways on marine terraces	2
	Anclote	4	Drainageways on marine terraces, flats on marine terraces	2
	Okeelanta, drained	4	Depressions on marine terraces	1, 3
	Tequesta	3	Depressions on marine terraces	2, 3

Hydric Soils–Palm Beach County Area, Florida				
Map symbol and map unit name	**Component**	**Percent of map unit**	**Landform**	**Hydric criteria**
42—Tequesta muck				
	Tequesta	85	Depressions on marine terraces	2, 3
	Chobee	3	Drainageways on marine terraces	2
	Holopaw	2	Drainageways on marine terraces	2
	Riviera, depressional	2	Depressions on marine terraces	2, 3
	Floridana	2	Depressions on marine terraces	2, 3
	Winder	2	Drainageways on marine terraces, flats on marine terraces	2
	Sanibel	2	Depressions on marine terraces	2, 3
	Okeelanta, drained	2	Depressions on marine terraces	1, 3
43—Terra Ceia muck				
	Terra ceia, drained	84	Depressions on marine terraces	1, 3
	Okeelanta, drained	4	Depressions on marine terraces	1, 3
	Pahokee, drained	4	Depressions on marine terraces	1, 3
	Okeechobee	4	Depressions on marine terraces	1, 3
	Torry, drained	4	Depressions on marine terraces	1, 3
44—Kesson mucky sand, tidal				
	Kesson, tidal	100	Mangrove swamps on marine terraces	2, 4
45—Wulfert and Durbin muck, tidal				
	Wulfert, tidal	50	Mangrove swamps on marine terraces	1, 4
	Durbin, tidal	50	Mangrove swamps on marine terraces	1, 4

Hydric Soils--Palm Beach County Area, Florida				
Map symbol and map unit name	**Component**	**Percent of map unit**	**Landform**	**Hydric criteria**
46—Torry muck				
	Torry, drained	85	Depressions on marine terraces	1, 3
	Okeelanta, drained	5	Depressions on marine terraces	1, 3
	Terra ceia, drained	5	Depressions on marine terraces	1, 3
	Pahokee, drained	5	Depressions on marine terraces	1, 3
47—Udorthents, 2 to 35 percent slopes				
	Riviera	5	Drainageways on marine terraces, flats on marine terraces	2
49—Wabasso fine sand				
	Boca	3	Drainageways on marine terraces, flats on marine terraces	2
	Pineda	3	Drainageways on marine terraces, flats on marine terraces	2
	Riviera	2	Drainageways on marine terraces, flats on marine terraces	2
50—Winder fine sand				
	Winder	90	Drainageways on marine terraces, flats on marine terraces	2
	Chobee	4	Drainageways on marine terraces	2
	Riviera	3	Drainageways on marine terraces, flats on marine terraces	2
	Tequesta	3	Depressions on marine terraces	2, 3

Data Source Information

Soil Survey Area: Palm Beach County Area, Florida
Survey Area Data: Version 8, Dec 30, 2013

NASA Technical Memorandum 103813

Geology, Geohydrology And Soils Of Kennedy Space Center: A Review

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G. Ross Hinkle, Ph.D.
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Kennedy Space Center, Florida 32899

August 1990

National Aeronautics and
Space Administration

John F. Kennedy Space Center

NASA

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Abstract

Sediments underlying Kennedy Space Center (KSC) have accumulated in alternating periods of deposition and erosion since the Eocene. Surface sediments are of Pleistocene and Recent ages. Fluctuating sea levels with the alternating glacial-interglacial cycles have shaped the formation of the barrier islands. Merritt Island is an older landscape whose formation may have begun as much as 240,000 years ago, although most of the surface sediments are not that old. Cape Canaveral probably dates from <7,000 years B.P. (before present) as does the barrier strip separating Mosquito Lagoon from the Atlantic Ocean. Merritt Island and Cape Canaveral have been shaped by progradational processes but not continuously so, while the Mosquito Lagoon barrier has been migrating landward.

Deep aquifers beneath KSC are recharged inland but are highly mineralized in the coastal region and interact little with surface vegetation. The Surficial aquifer has formed in the Pleistocene and Recent deposits and is recharged by local rainfall. Sand ridges in the center of Merritt Island are important to its recharge. Discharge is from evapotranspiration, seepage to canals and ditches, seepage into interior wetland swales, and seepage into impoundments, lagoons, and the ocean. This aquifer exists in dynamic equilibrium with rainfall and with the fresh-saline water interface. Freshwater wetlands depend on the integrity of this aquifer, and it provides freshwater discharge to the lagoons and impoundments.

Soils of KSC reflect the complexity of soil forming factors (parent material, topography, time, biota) on the landscape. Numerous soil series are represented. Within a given area, soils vary from well to poorly drained. On well drained sites of differing ages, leaching has modified soil properties. Parent material differences (sand, loam, clay, coquina) are also reflected in the soil pattern.

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Acknowledgments

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2A

Introduction

Surficial geology and geologic history form the context under which the biota of a region has developed. The barrier island complex of Merritt Island-Cape Canaveral has a varying history of deposition and erosion with numerous geologic formations represented. In areas of low topographic relief and abundant rainfall such as that occupied by Kennedy Space Center (KSC), the groundwater system interacts dynamically with the surficial geology, vegetation, and soils. Soils form in the surficial geologic deposits. Their properties are influenced by geologic parent material, topographic position, particularly relations to the water table, the prevailing climate, the length of time over which they have formed, and interactions with the biota (Jenny 1941, 1980). In turn, soil properties influence the vegetation growing on a site.

In this report, we review information on the geology, geohydrology, and soils of KSC. Our focus is on those properties of importance to the biota, particularly vegetation, of the area. This is one in a series of reports summarizing information on current environmental conditions on KSC. Other reports will examine quantitative vegetation-soil relationships.

Geology

Merritt Island together with the adjacent Cape Canaveral form a barrier island complex. Topographic relief is slight; elevation ranges from sea level to about 3 m (10 ft) in the inland areas of Merritt Island and to slightly over 6 m (20 ft) on Cape Canaveral and the recent dunes. The topography is marked by a sequence of ridges and swales reflecting relict beach ridges.

Fenneman (1938) mapped the area as part of the East Florida Flatwoods Region of the Coastal Plain Province. Brooks (1981b) mapped the area as the Cape

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Canaveral section of the Central Atlantic Coast Strip within the Eastern Flatwoods District.

Florida has a complex geologic history with repeated periods of deposition when the Florida Plateau was submerged and erosion when the seas recessed. The oldest formation known to occur beneath Brevard County, the Avon Park limestone, was deposited in the early (?) Eocene in an open ocean that received little sand or clay (Cooke 1945). This was followed by withdrawal of the sea and a period of erosion. In late Eocene, the seas advanced and limestones of the Ocala group were deposited in an open, fairly shallow sea (Cooke 1945). Following another period of recession of the sea and erosion of the land surface, the Hawthorn formation of calcareous clay, phosphatic limestone, phosphorite, and radiolarian clay was deposited in the late Miocene (Cooke 1945, Brown et al. 1962). Overlying this are unconsolidated beds of fine sand, shells, clay, and calcareous clay of late Miocene or Pliocene age (Brown et al. 1962); these may be equivalent to the Caloosahatchee Marl of Cooke (1945). Surface strata in Brevard County are primarily unconsolidated white to brown quartz sand containing beds of sandy coquina of Pleistocene and Recent (= Holocene) age (Brown et al. 1962). Formations are summarized in Table 1.

Surficial deposits of Merritt Island and Cape Canaveral are of Pleistocene and Recent ages and consist primarily of sand and sandy coquina. Pleistocene deposits on Merritt Island are sometimes mapped as the Anastasia formation of high energy beach and bar shelly sand, some dune sand, loose coquina, and very hard shelly limestone; this formation can have multiple cap rocks (Brooks 1981a). Cooke (1945) restricted the Anastasia formation to coquina cemented by calcium carbonate or iron oxide that ranged from coarse rock of unbroken shells to sandstone where the shells were reduced to "coral sand"; he noted that this formation occurred in Brevard County in a narrow strip of mainland facing the Indian River and at the southern end of Merritt

Table 1. Stratigraphic units of Brevard County, Florida.[1]

Geologic age	Stratigraphic Unit	Approximate thickness (ft) (m)	General Lithologic Character	Water-bearing properties
Recent Pleistocene	Pleistocene and Recent Deposits	0 - 110 (0 - 33.5)	Fine to medium sand, coquina and sandy shell marl.	Permeability low due to small grain size, yields small quantities of water to shallow wells, principal source of water for domestic uses not supplied by municipal water systems.
Pliocene	Upper Miocene and Pliocene deposits (Caloosahatchee marl)	20 - 90 (6.1 - 27.4)	Gray to greenish gray sandy shell marl, green clay, fine sand, and silty shell.	Permeability very low, acts as confining bed to artesian aquifer, produces small amount of water to wells tapping shell beds.
Miocene	Hawthorn Formation	10 - 300 (3.0 - 91.4)	Light green to greenish gray sandy marl, streaks of greenish clay, phosphatic radiolarian clay, black and brown phosphorite, thin beds of phosphatic sandy limestone.	Permeability generally low, may yield small quantities of fresh water in recharge areas, generally permeated with water from the artesian zone. Contains relatively impermeable beds, that prevent or retard upward movement of water from the underlying artesian aquifer. Basal permeable beds are considered part of the Floridan aquifer.
Eocene	Ocala Group: Crystal River Formation	0 - 100 (0 - 30.5)	White to cream, friable, porous coquina in a soft, chalky, marine limestone.	Floridan aquifer: Permeability generally very high, yields large quantities of artesian water. Chemical quality of the water varies from one area to another and is the dominant factor controlling utilization. A large percentage of the ground water used in Brevard County is from the artesian aquifer. The Crystal River Formation will produce large quantities of artesian water. The Inglis Formation is expected to yield more than the Williston Formation. Local dense, indurate zones in the lower part of the Avon Park Limestone restrict permeability but in general the formation will yield large quantities of water.
	Ocala Group: Williston Formation	10 - 50 (3.0 - 15.2)	Light cream, soft, granular marine limestone, generally finer grained than the Inglis Formation, highly fossiliferous.	
	Ocala Group: Inglis Formation	70 + (21.3 +)	Cream to creamy white, coarse granular limestone, contains abundant echinoid fragments.	
	Avon Park Limestone	285+ (86.9+)	White to cream, purple tinted, soft, dense chalky limestone. Localized zones altered to light brown or ashen gray, hard, porous, crystalline dolomite.	

[1] Modified from Brown et al. (1962)

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Island. Cape Canaveral and the active barrier beach are mapped as Holocene undifferentiated deposits of sand, shell, clay, marl, or peat (Brooks 1981a). These overlay upper Miocene or Pliocene deposits of unconsolidated beds of fine sand, shells, clay, and calcareous clay (Brown et al. 1962). In the northern section of Merritt Island, the Pliocene Tamiami formation has been identified; it includes a narrow band of shelly conglomerate or medium hard limestone (Edward E. Clark Engineers-Scientists, Inc. 1987c) [hereafter referenced as Clark]. Under these are the Hawthorn formation of Miocene age composed of calcareous clay, sandy phosphatic limestone, phosphorite, and radiolarian clay (Brown et al. 1962). Within KSC, two thin, discontinuous conglomerate limestone/sandstone beds occur within the Hawthorn formation (Clark 1987c). Below these are a series of limestones of Eocene age that include the Ocala group and the Avon Park limestone and also constitute the Floridan aquifer (Brown et al. 1962). Geologic cross sections for Merritt Island are given in Figures 1, 2, and 3; these figures were derived from data from numerous borings conducted in developing the space center (NASA 1986).

In addition to the sequences of sediments of varying age, the surface of Florida is marked by a series of terraces and former shorelines of varying ages. The number and ages of the terraces has been a matter of debate (Fenneman 1938, Cooke 1945, MacNeil 1950, Alt and Brooks 1965, Healy 1975). As summarized by Healy (1975), eight terraces are recognized: Hazelhurst (215-270 ft), Coharie (170-215 ft), Sunderland (100-170 ft), Wicomico (70-100 ft), Penholoway (42-70 ft), Talbot (25-42 ft), Pamlico (5-25 ft), and Silver Bluff (0-10 ft). Cooke (1945) considered these terraces to represent different interglacial periods of high sea level during the Pleistocene. However, Alt and Brooks (1965) concluded that the highest terrace (Hazelhurst, 215-270 ft) was probably of Miocene age, the terrace at 90-100 ft (Wicomico) was probably Pliocene, and the distinct shoreline at 25-30 ft (Pamlico) was definetly Pleistocene and

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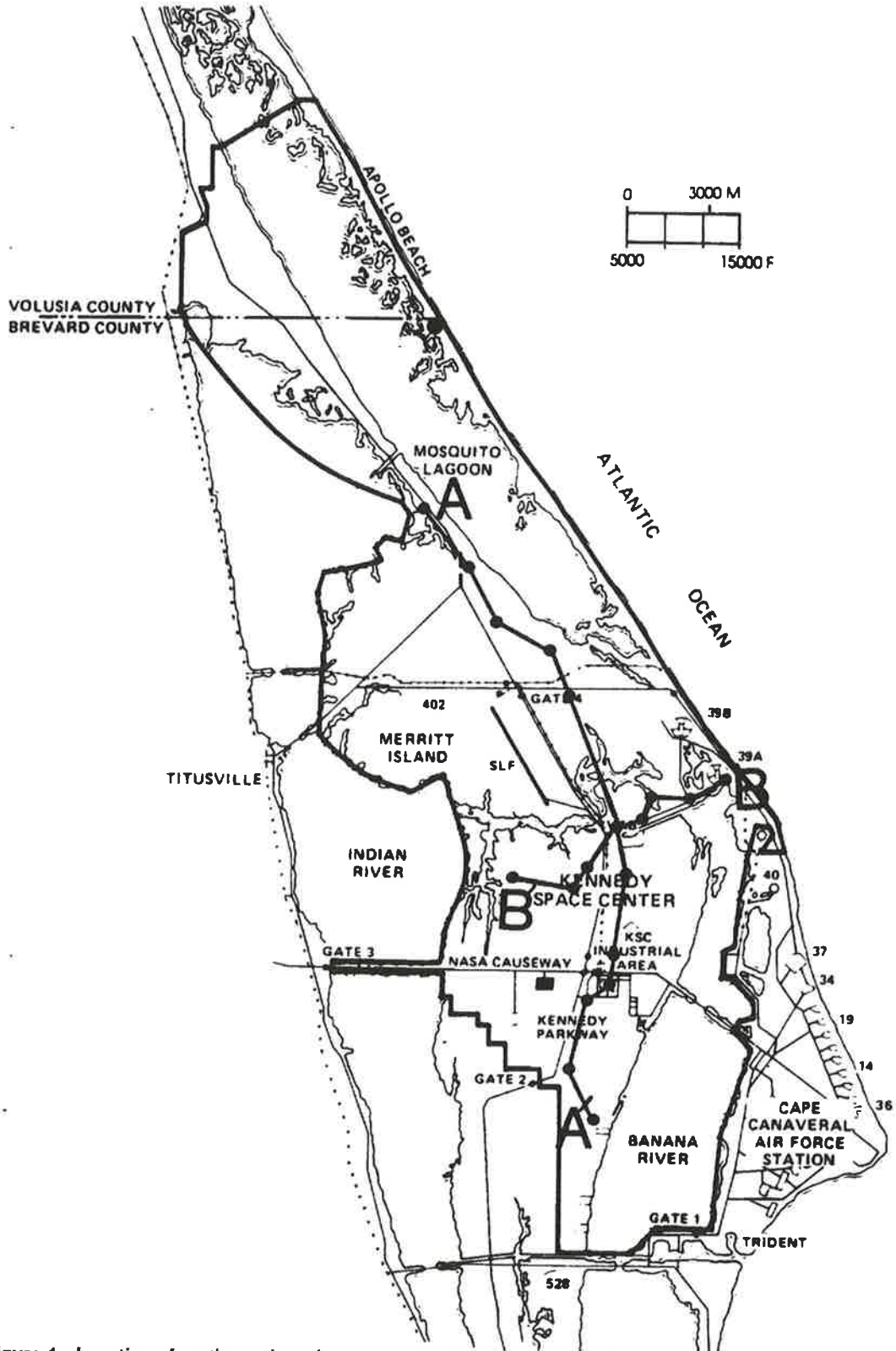

Figure 1. Location of north-south and east-west geologic cross sections on Kennedy Space Center (redrafted from Clark 1987c).

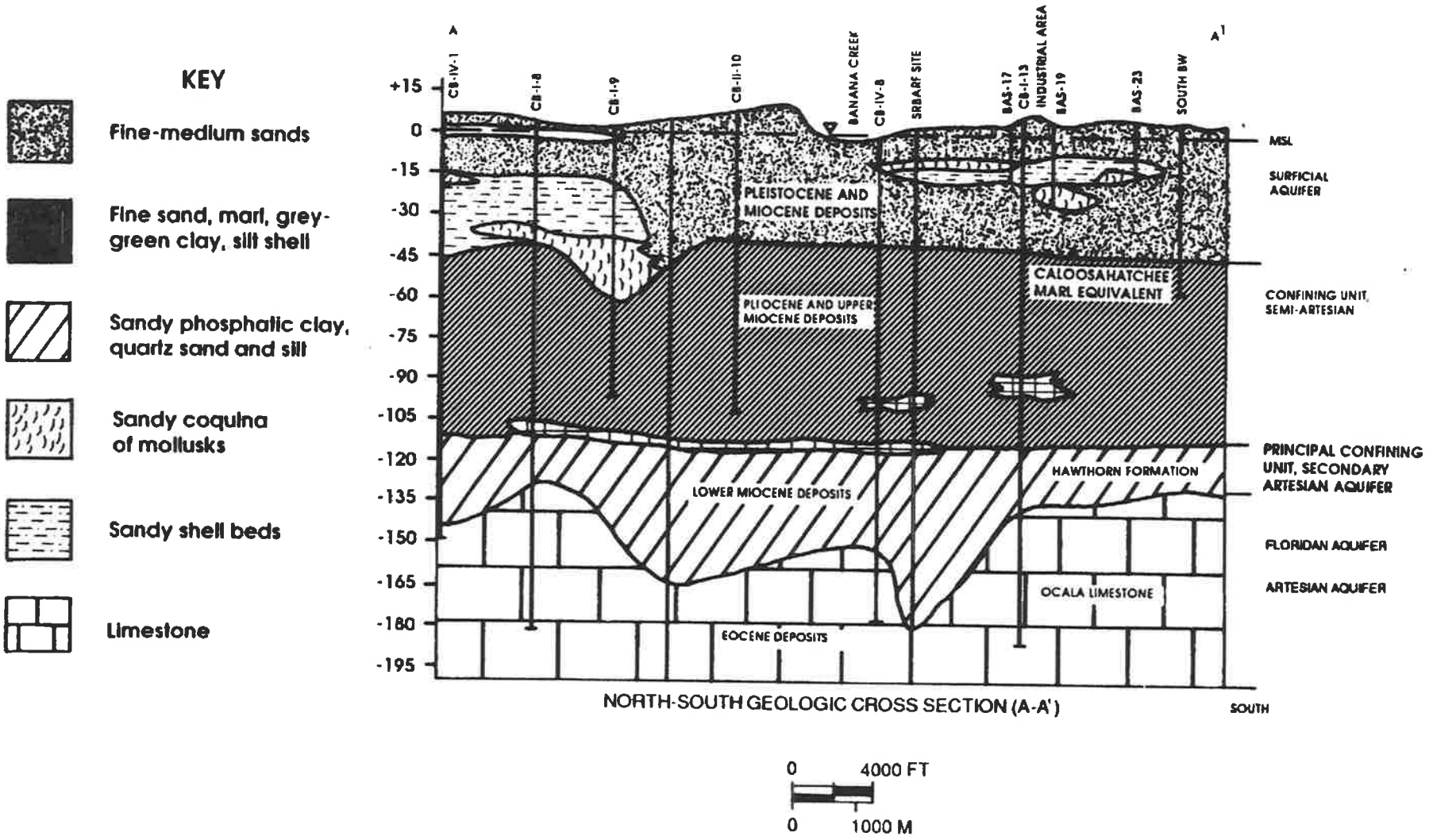

Figure 2. North-south geologic cross section, Kennedy Space Center (redrafted from Clark 1987c). Vertical scale is elevation in feet relative to mean sea level.

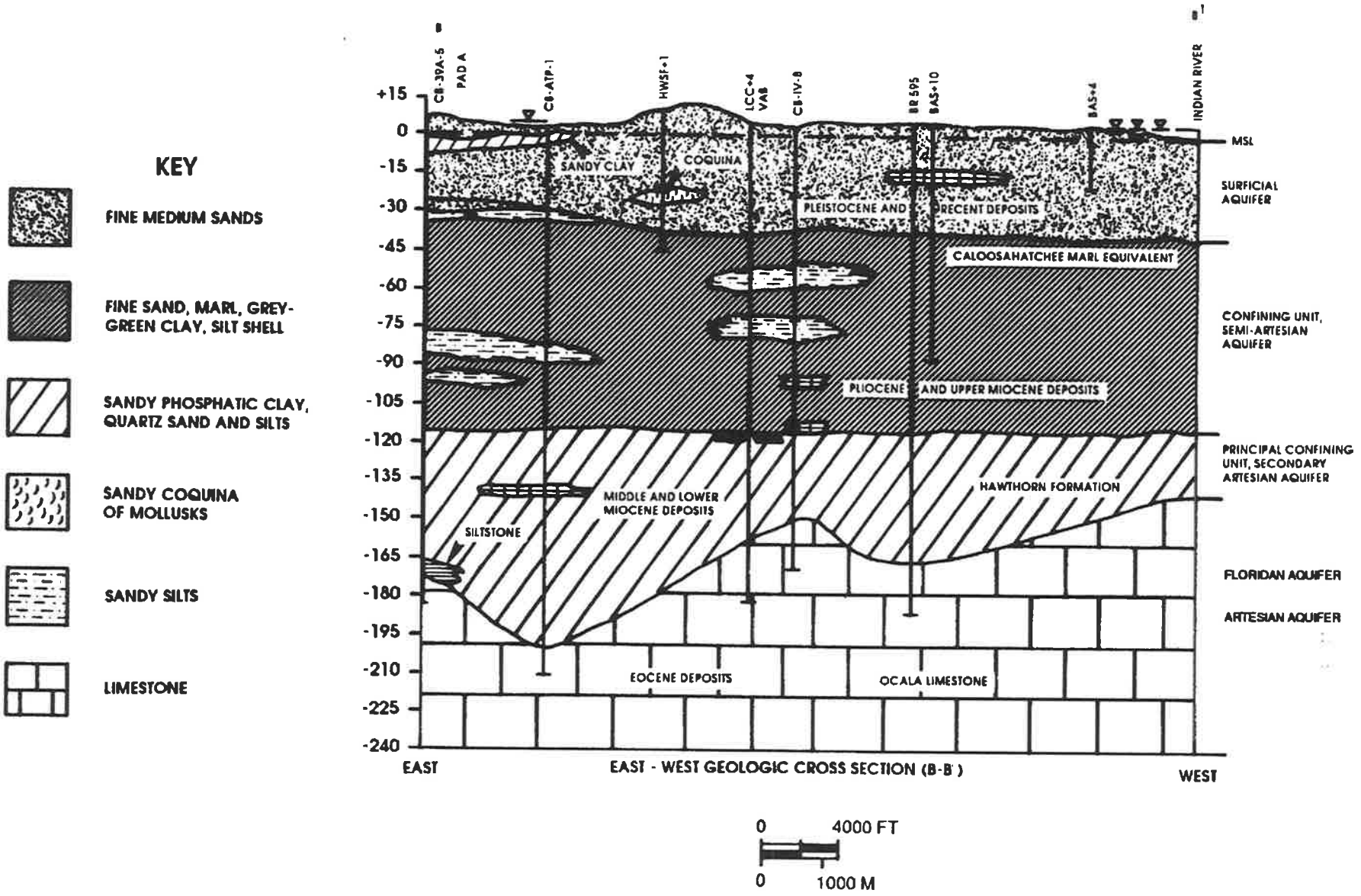

Figure 3. East-west geologic cross section, Kennedy Space Center (redrafted from Clark 1987c). Vertical scale is elevation in feet relative to mean sea level.

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may have been occupied repeatedly. Healy (1975) mapped Merritt Island and Cape Canaveral as belonging to the Silver Bluff Terrace, while the Atlantic Coastal Ridge on the adjacent mainland belongs to the Pamlico Terrace.

During the Pleistocene, repeated glaciation of the northern hemisphere produced fluctuations in sea level (see Bowen 1978), while sea level rose with glacial retreat. At the maximum of the Wisconsinan glaciation (ca. 18,000 yr B.P.[before present]) sea levels were on the order of 100 m lower than present and substantial additional areas were exposed along the Atlantic and Gulf Coasts including Florida (Delcourt and Delcourt 1981).

The Cape Canaveral-Merritt Island barrier island complex is unique along the Florida coast; it is not associated with rivers or former deltas as are capes on the coast of the Carolinas (Hoyt and Henry 1970). White (1958, 1970) described this as a prograding barrier island complex. He considered Cape Canaveral to be the result of the southward (longshore) growth of an original cape at the site of the present False Cape. The eastern edge of Merritt Island at its contact with Mosquito Lagoon and the Banana River forms a relict cape coaxial with False Cape. Multiple dune ridges parallel to the present shore inland on Merritt Island apparently represent successive stages in this growth. White (1958, 1970) thought that this succession of cape formations was probably structurally controlled by some bedrock feature that influenced the southward movement of sediments along the coast. Hydrologic factors may also be involved. Brown et al. (1962) showed that the depth to the Eocene limestone formation below the land surface forms a ridge-like structure roughly conforming to the shape of Cape Canaveral, which may be the structure responsible for the cape formation. Chaki (1974) distinguished eleven distinct beach ridge sets on Cape Canaveral and suggested that periods of deposition and erosion have alternated; elevation of older ridges had been reduced by the dissolution of shell

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material. Brooks (1972) states that the geologic history of the Merritt Island-Cape Canaveral barrier islands is complex, and this is not a simple progradational feature developed during recent times. The older portion of Merritt Island consists of beach deposits > 240,000 years old (Brooks 1972). Previous dating of fossil beach rock, shells, or coquina (Osmond et al. 1970) gave recent ages on the current barrier beach, ca. 30,000 BP on Merritt Island, and ca. 110,000 BP on the adjacent mainland. Changes of sea levels from glacial eustatic ice water volume have occurred, and the Merritt Island-Cape Canaveral complex has grown by successive increments (Brooks 1972). Brooks (1981a) mapped Cape Canaveral as of Holocene age, mostly less than 4,500 BP, but Merritt Island as Pleistocene. He earlier suggested that the formation of the Cape Canaveral peninsula began about 7,000 years ago (Brooks 1972). Successively older landscapes occur westward on Merritt Island. Brooks (1972) related the western part of Merritt Island to the Yarmouth glacial period (ca. 240,000 years ago) and the eastern part to the Sangamon period (110,000 ± 20,000 years ago). Erosion has reduced the western side of Merritt Island to a nearly level plain (Brown et al. 1962) with karst features such as sinkholes not present on the eastern part of the island (Brooks 1972).

Mehta and Brooks (1973) considered the geologic history of Mosquito Lagoon and the barrier beach separating it from the Atlantic Ocean. They state that the seaward barrier initiated at the same time as the Cape Canaveral peninsula about 7,000 years ago. Unlike Cape Canaveral, the history of this barrier beach is marked by erosion, overwash, and landward migration rather than progradation; these processes continue today. They document that there have been five separate inlets between Mosquito Lagoon and the Atlantic Ocean within the last 6,000 to 7,000 years. The most recent one was in the vicinity of Turtle Mound and closed more than 1,500 years ago. Since then, Mosquito Lagoon has been accumulating fine grain sediments.

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In the southern Indian River Lagoon, Bader and Parkinson (1990) documented the Holocene flooding of a Pleistocene topographic depression (paleolagoon) at about 5,000 - 6,000 years B.P.

Geohydrology

The geologic structure and composition of the Merritt Island-Cape Canaveral barrier island complex together with climatic conditions form the basis for the hydrology of the system. Groundwater hydrology of KSC has been the subject of recent studies (Edward E. Clark Engineers-Scientists, Inc. 1985, 1987a,b,c) [hereafter referenced as Clark]; the discussion that follows is based primarily on the areawide survey (Clark 1987c).

General characteristics of the groundwater system are given in Figure 4 and Table 2. The principal artesian aquifer beneath KSC is the Floridan aquifer which occurs within the Ocala limestones. Recharge areas for this aquifer are the high ridges of central Florida. This is a large and productive aquifer; however, in the coastal areas, as beneath KSC, the water is highly mineralized. This aquifer is confined by the silts and clays of the Hawthorn formation in most places. Secondary artesian aquifers occur within the Hawthorn formation and the Caloosahatchee Marl Equivalent. The Hawthorn Limestone aquifer is associated with thin, discontinuous beds of limestone, sandstone, and sand within the silts and clays of the Hawthorn formation. It is recharged by upward leakage from the Floridan aquifer. The Shallow Rock aquifer is associated with beds of partially consolidated shelly quartz sand with silt and grey clay and some medium hard limestone of the Tamiami formation or Caloosahatchee Marl Equivalent. Recharge is by upward leakage from the Floridan aquifer. The Semi-artesian Shell and Sand Bed aquifer is associated with minor, discontinuous sand and

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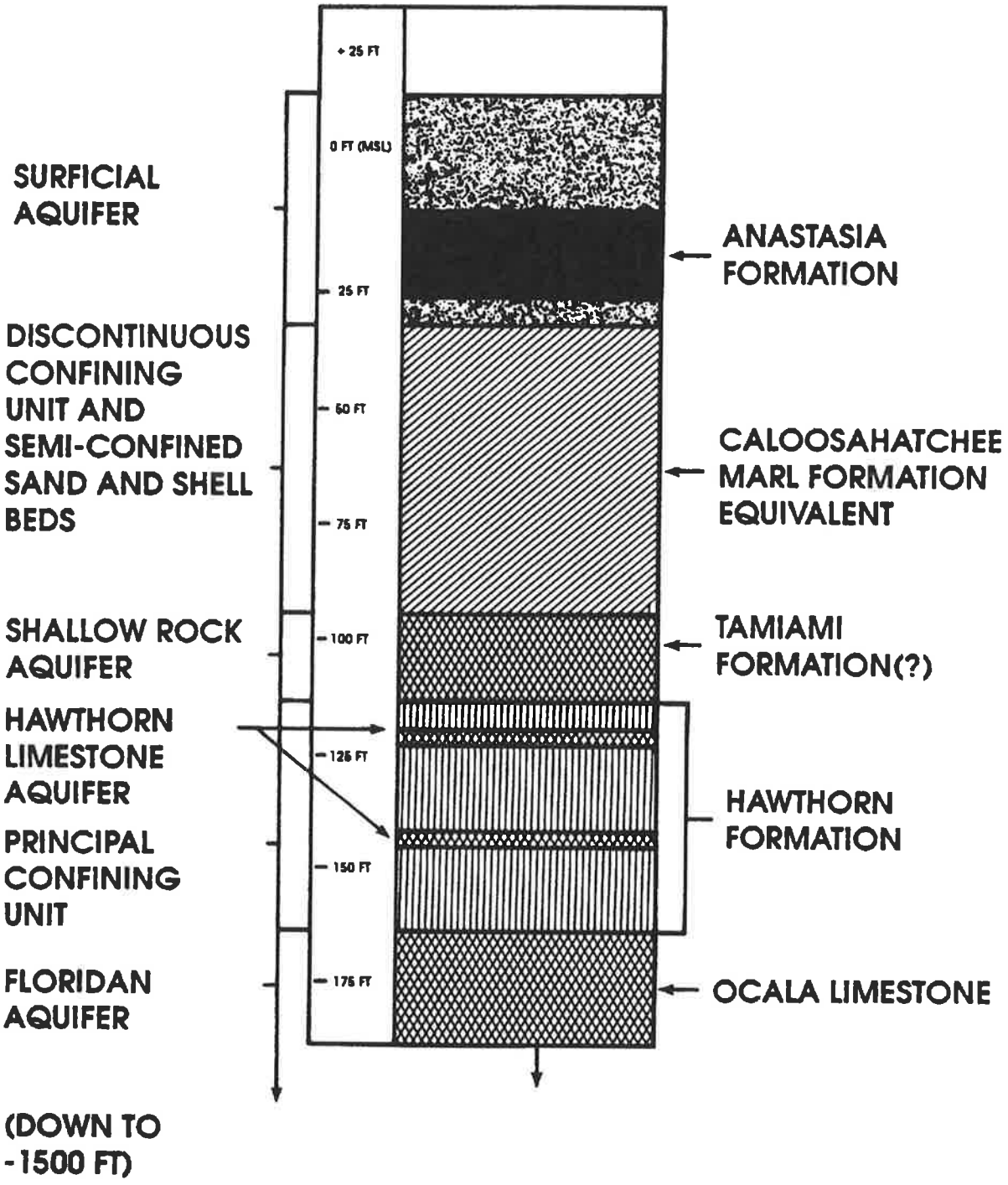

Figure 4. Geohydrologic units on Kennedy Space Center (redrafted from Clark 1987c).

Table 2. General characteristic of the aquifers on Kennedy Space Center.[1]

Aquifer	Geologic Strata	Recharge Areas	Discharge Area	Water Quality
Principal Artesian Aquifer: Floridan Aquifer	Eocene limestones-Ocala Group, Avon Park Formation	Central Florida - West Osceola, South Orange, and Polk Counties; Mims - Titusville ridge	Atlantic Ocean via offshore submarine springs, upward leakage where Hawthorn Formation thins	Highly mineralized, primarily chlorides
Secondary Artesian Aquifers: Hawthorne Limestone Aquifer	Thin beds of weathered limestone, sandstone, and sand within the Hawthorn Formation	Leakage upward from Floridan aquifer	(?)	Moderately brackish
Shallow Rock Aquifer	Tamiami Formation - shelly, partially consolidated quartz sand and some limestone	Leakage upward from Floridan aquifer	(?)	Brackish
Semi-artesian Shell and Sand Beds	Discontinuous sand and shell beds within Caloosahatchee Marl Equivalent	Little freshwater recharge, may act as conduits for seawater intrusion	(?)	Moderately brackish, generally poorer than Floridan aquifer
Unconfined Water Table Aquifer: Surficial Aquifer	Pleistocene and Recent desposits - sand, shell, coquina, silt, and marl	Rainfall and direct infiltration, particularly that on central sand ridges of island	Drainage canals and ditches (11%), evapotranspiration including loss from swales (87%), seepage to impoundments, lagoons, and ocean (0.5%)	Fresh in center of island, becomes mineralized toward lagoons and ocean

[1] Data from Clark (1987c).

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shell beds within the Caloosahatchee Marl Equivalent. There is little freshwater recharge of this aquifer, and it may act as a conduit for seawater intrusion. Both the Shallow Rock and Sand and Shell Bed aquifers are confined by less permeable sediments of the Caloosahatchee Marl Equivalent. The artesian aquifers have little direct influence on surface vegetation; however, artesian wells have been used to irrigate orange groves and previously to maintain water levels in some mosquito impoundments on Merritt Island (Clark 1987c).

The Surficial aquifer occurs in the saturated part of the moderately permeable Pleistocene and Recent deposits of fine to medium sand, shell, coquina, silts, and marl. Its upper boundary is the water table and the lower boundary is the confining unit at the base of the Pleistocene and Recent deposits. Recharge is by direct infiltration of rainfall. The higher sand ridges in the center of the island are particularly important for recharge (Figure 5). These ridges are relatively high, are composed of permeable sands, and infiltration is less restricted by subsurface hardpans than in other areas. Two important areas of sand ridges have been distinguished: the Happy Creek Sand Ridges north of Banana Creek and the Schwartz Road Sand Ridges south of Banana Creek. From these prime recharge areas, groundwater flows east and west toward the lagoon systems and the ocean (Figure 6). Discharge from the surface aquifer is from evapotranspiration, seepage into canals and ditches, seepage into interior wetland swales, and seepage into impoundments, lagoons, and the ocean. Most of the seepage into interior wetland swales is subsequently lost to evapotranspiration. Seasonal fluctations in the water table occur with changes in precipitation and evapotranspiration. The water table is highest late in the wet season (typically September-October) and drops as precipitation declines. In the winter, evapotranspiration is low as temperatures decline and some of the vegetation is dormant. In spring, evapotranspiration increases and the water table may decline

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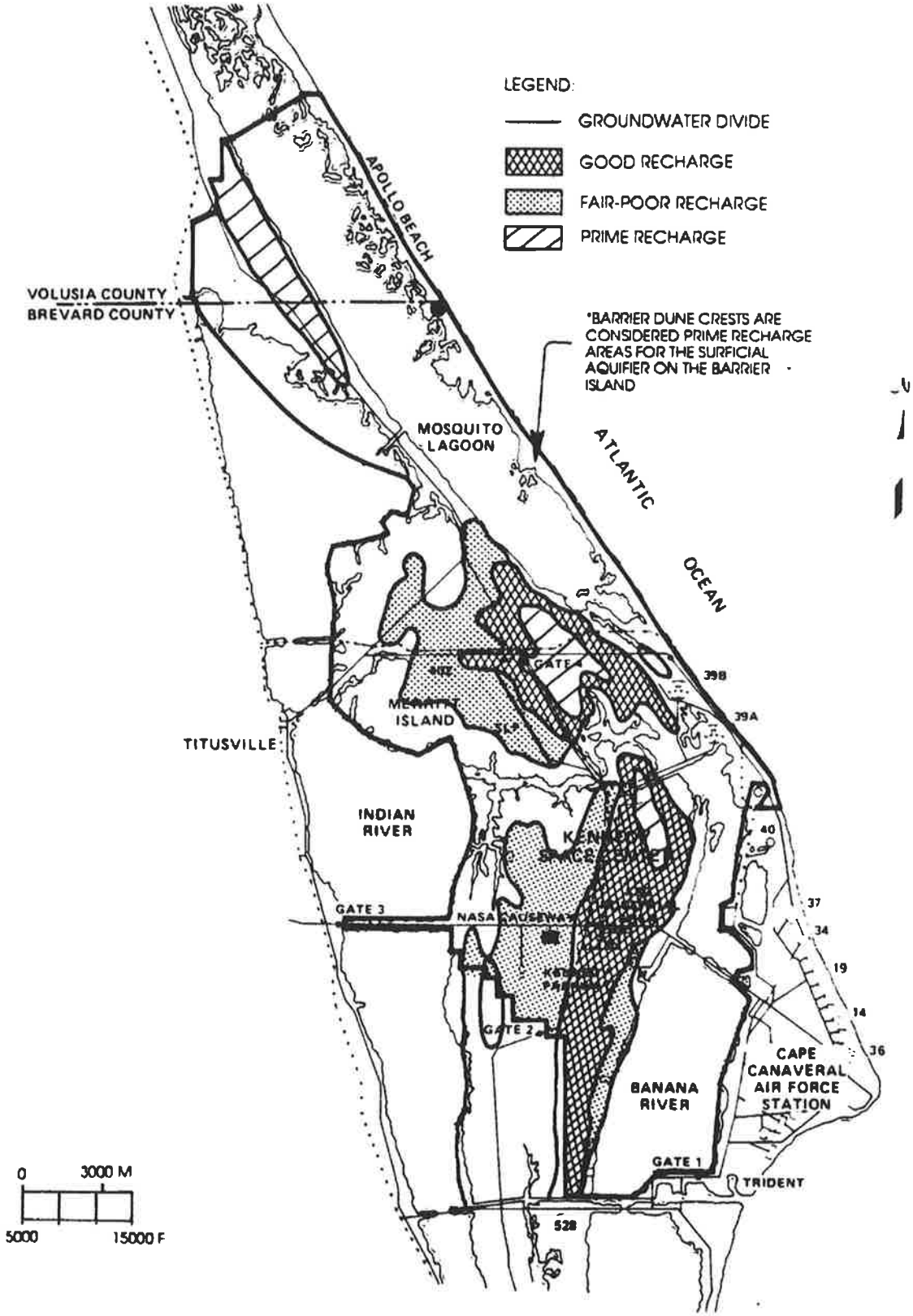

Figure 5. Potential for recharge of the Surficial aquifer (redrafted from Clark 1987c).

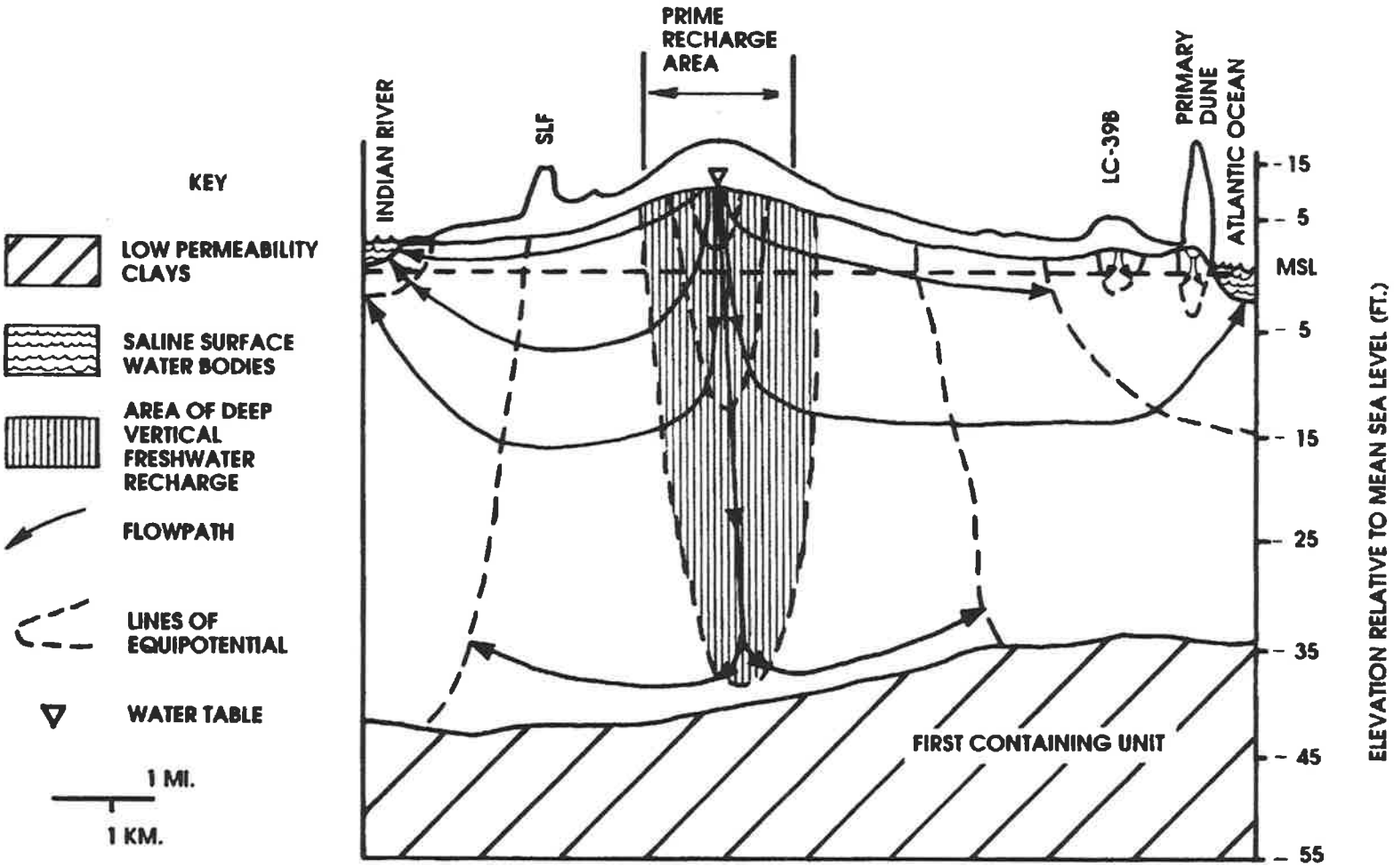

Figure 6. Groundwater circulation in the Surficial aquifer (redrafted from Clark 1987c).

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during spring droughts. See Mailander (1990) for further discussion of precipitation and evapotranspiration patterns. The Surficial aquifer is extremely important since it supports the freshwater wetlands and provides fresh groundwater discharge to the surrounding subsaline lagoons (Clark 1987c).

The Surficial aquifer can be divided into several subsystems (Figure 7). The Barrier Island subsystem has a lens of freshwater less than 10 ft (3 m) thick on top of intruded saline water (Figure 8). The primary dune acts as the prime recharge area. Shallow groundwater flows east of the ridge to the Atlantic Ocean and west to Banana River, Mosquito Lagoon, or swales; at depth (> 20 ft [6.1 m]) flow is to the Atlantic Ocean. The Dune-Swale subsystem (Figures 7, 8) includes the high ridges with permeable sand that favor recharge. This is the only area where the freshwater recharge of the deeper layers of the surficial aquifer occurs (Figure 6). During most of the year, shallow groundwater discharges to the swales. At the beginning of the rainy season after the spring drought, swales collect water and remain flooded; lateral and downward seepage from the swales helps to recharge the groundwater. In areas of pine flatwoods and swales, topography is lower and most soils have well developed humic hardpans (spodic horizon, Bh layer) that restrict infiltration. During heavy rains, water perches above the hardpan and infiltrates slowly into the Surficial aquifer. This increases evapotranspiration and reduces recharge relative to the prime recharge areas. In the West Plain and Lowland subsystems (Figure 7, 8), the water table is typically within 3 ft (0.9 m) of the land surface, evapotranspiration losses are high, and the dispersed saline water interface renders water quality variable. In the West Plain south of Banana Creek, a limerock "hardpan" replaces the humic hardpan of the Dune-Swale flatwoods. Along the coastlines, the Surficial aquifer contacts the saline water of the Atlantic Ocean and the brackish lagoons. Seawater intrusion occurs as a wedge at the base of the Surficial aquifer since seawater is denser than fresh. The

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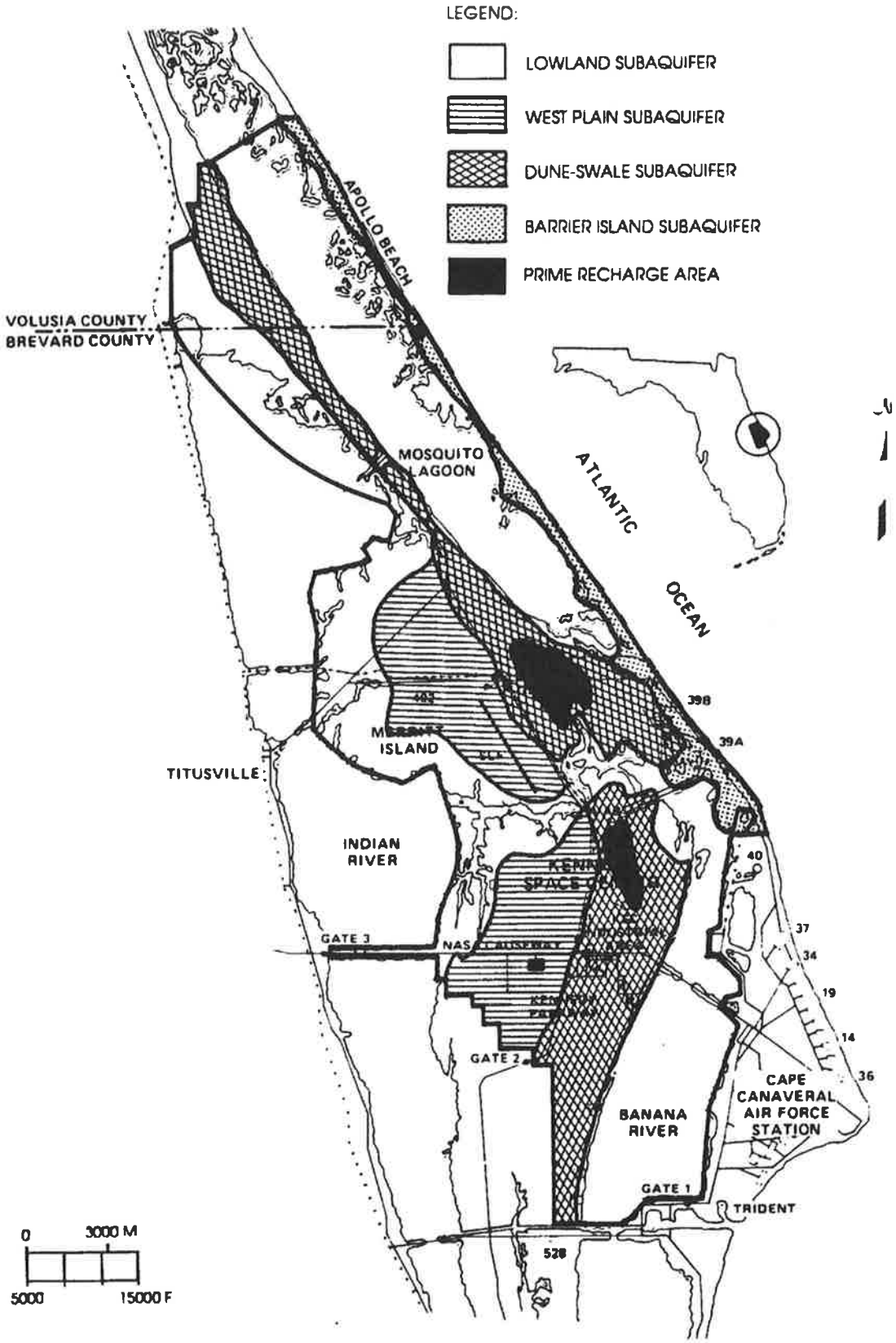

Figure 7. Subsystems of the Surficial aquifer (redrafted from Clark 1987c).

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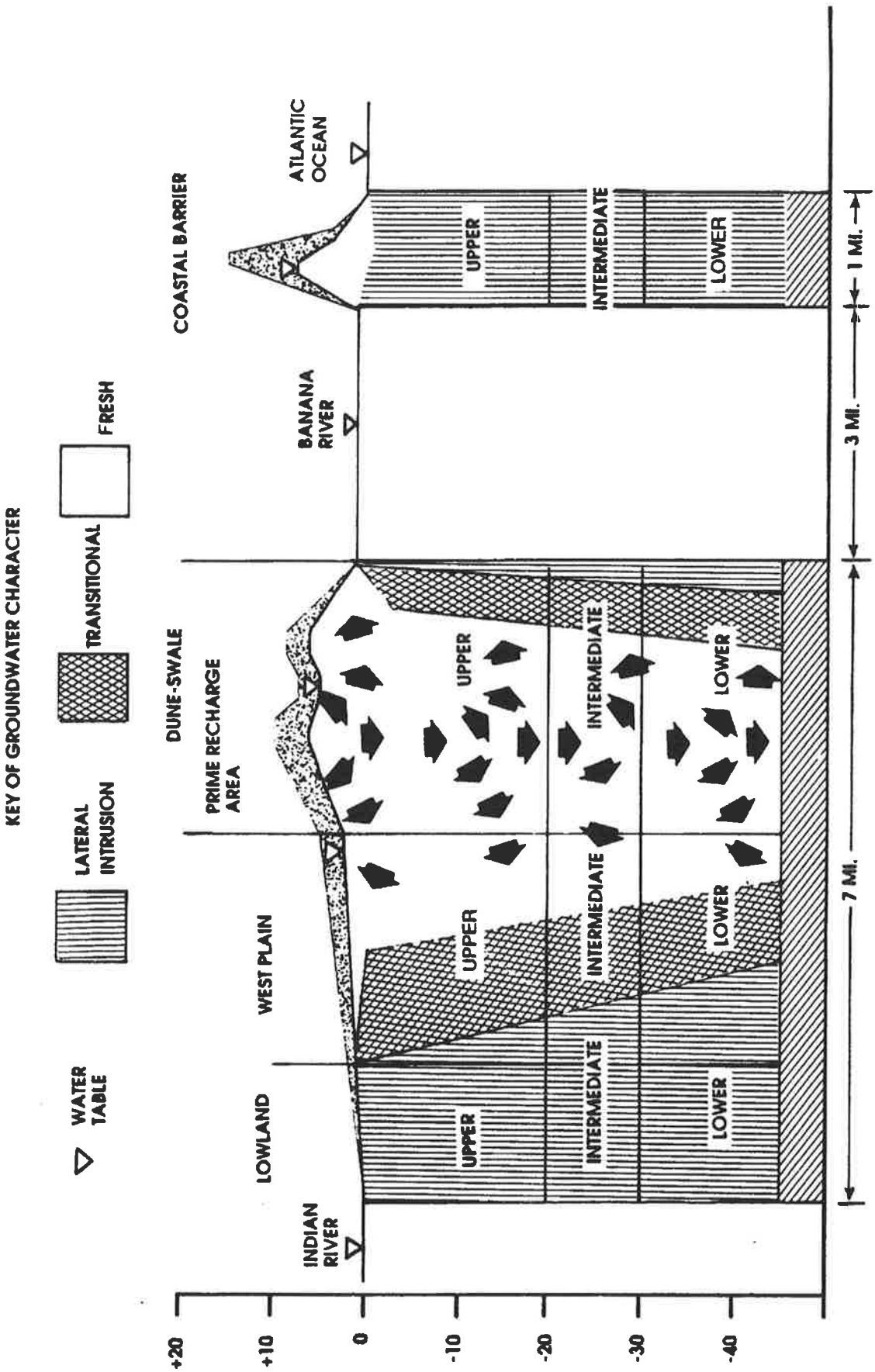

Figure 8. Chemical evolution of groundwater in the Surficial aquifer (redrafted from Clark 1987c).

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position of the fresh-saline water interface fluctuates; when water levels are low saline water moves inland, and when they are high saline water is forced out, producing a dynamic system.

Soils

Soils differ through the interaction of several factors: climate, parent material, topography, organisms, and time (Jenny 1941, 1980). The soils of KSC are mapped in the soil surveys for Brevard County (Huckle et al. 1974) and Volusia County (Baldwin et al. 1980), and the resulting soil pattern is complex. Numerous soil series and land types are represented (Table 3), and these include representatives of many of the major soil groups (Table 4). This is interesting since Merritt Island is a relatively young landscape and one formed from coastal plain deposits. Some differences in soil parent material do occur (Table 5). In particular, soils that formed in deposits over limestone, coquina, or other alkaline material differ greatly in properties from those formed in sand. Textural differences in parent material such as that between loam or clay material and sand also influence soil properties.

Not all of the Cape Canaveral-Merritt Island complex is of the same age, as discussed earlier. Soils on Cape Canaveral, False Cape, and the barrier island section on the east side of Mosquito Lagoon are younger than those of Merritt Island and therefore have had less time to weather. Predominant well drained soil series (e.g., Palm Beach, Canaveral) in these areas still retain shell fragments in the upper layers, while those inland on Merritt Island (e.g., Paola, Pomello) do not. The presence of shell fragments influences soil nutrient levels, particularly calcium and magnesium, and pH. The eastern and western sections of Merritt Island differ in age. The eastern section of Merritt Island inland to about State Route 3 has a marked ridge-swale topography presumably retained from its formation as a barrier island, while

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Table 3. Soil and land types occurring on Kennedy Space Center.[1]

Soil and Land Types	Area (acres)	Area (hectares)	Percent
Anclote sand	2494.7	1009.6	3.33
Astatula fine sand	592.0	239.6	0.79
Basinger sand	1130.2	457.4	1.51
Beaches	442.1	178.9	0.59
Bradenton fine sand, shallow variant	690.9	279.6	0.92
Bulow sand	58.3	23.6	0.08
Canaveral sand	396.5	160.5	0.53
Canaveral-urban complex	463.6	187.6	0.62
Canova peat	14.0	5.7	0.02
Chobee fine sandy loam	244.4	98.9	0.33
Cocoa sand	845.9	342.3	1.13
Copeland complex	4463.2	1806.2	5.96
Daytona sand	143.2	58.0	0.19
Felda and Winder	4569.6	1849.3	6.10
Felda and Winder, ponded	3949.9	1598.5	5.27
Floridana	95.0	38.4	0.13
Hydraquents	955.6	386.7	1.28
Immokalee sand	12882.9	5213.6	17.19
Myakka sand	4615.5	1867.9	6.16
Myakka sand, ponded	36.6	14.8	0.05
Myakka variant	67.8	27.4	0.09
Orsino fine sand	109.1	44.2	0.15
Palm Beach sand	1346.5	544.9	1.80
Paola fine sand	1221.6	494.4	1.63
Parkwood fine sand	138.7	56.1	0.19
Pineda fine sand	483.4	195.6	0.65
Placid fine sand, depressional	82.5	33.4	0.11
Pomello sand	2068.6	837.2	2.76
Pompano sand	757.7	306.6	1.01
Quartzipsamments	191.9	77.7	0.26
Riviera fine sand	111.4	45.1	0.15
St. Johns fine sand	3004.9	1216.1	4.01
St. Johns fine sand, ponded	1620.2	655.7	2.16
St. Lucie fine sand	6.5	2.6	0.01
Swamp	313.5	126.9	0.42
Submerged marsh	11418.9	4621.2	15.23
Tavares fine sand	40.4	16.3	0.05
Tidal marsh	1383.0	559.7	1.85
Tidal swamp	293.7	118.9	0.39
Turnball muck	554.4	224.4	0.74
Turnball variant sand	104.5	42.3	0.14
Tuscawilla fine sand	291.6	118.0	0.39
Urban land	1426.4	577.3	1.90
Wabasso fine sand	3665.9	1483.6	4.89

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Table 3. (continued)

Soil and Land Types	Area (acres)	Area (hectares)	Percent
Winder loamy sand	6.9	2.8	0.01
Gravel pits and quarries	116.5	47.1	0.16
Spoil banks	364.5	147.5	0.49
Dikes	2316.1	937.3	3.09
Made land and other land	21.2	8.5	0.03
Transportation	2333.2	944.2	3.11
Total	74945.6	30330.1	

[1] Data derived from digitized soil map, base maps by Huckle et al. (1974) and Baldwin et al. (1980).

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Table 4. Classification of Kennedy Space Center soil series.[1]

Series	Family	Subgroup	Order
Anclote	Sandy, siliceous, hyperthermic	Typic Haplaquoll	Mollisol
Astatula	Hyperthermic, uncoated	Typic Quartzipsamment	Entisol
Basinger	Siliceous, hyperthermic	Spodic Psammaquent	Entisol
Bradenton shallow variant	Fine-loamy, mixed, hyperthermic	Typic Ochraqualf	Alfisol
Bulow	Loamy, siliceous, hyperthermic	Typic Hapludalf	Alfisol
Canaveral	Mixed, hyperthermic	Aquic Udipsamment	Entisol
Canova	Fine-loamy, siliceous, hyperthermic	Typic Glossaqualf	Alfisol
Cassia	Sandy, siliceous, hyperthermic	Typic Haplohumod	Spodosol
Chobee	Fine-loamy, mixed, hyperthermic	Typic Argiaquoll	Mollisol
Cocoa	Sandy, siliceous, hyperthermic	Psammentic Hapludalf	Alfisol
Copeland	Fine-loamy, mixed, hyperthermic	Typic Argiaquoll	Mollisol
Daytona	Sandy, siliceous, hyperthermic	Entic Haplohumod	Spodosol
Felda	Loamy, siliceous, hyperthermic	Arenic Ochraqualf	Alfisol
Floridana	Loamy, siliceous, hyperthermic	Arenic Argiaquoll	Mollisol
Immokalee	Sandy, siliceous, hyperthermic	Arenic Haplaquod	Spodosol
Myakka	Sandy, siliceous, hyperthermic	Aeric Haplaquod	Spodosol
Myakka variant	Sandy, siliceous, hyperthermic	Aeric Haplaquod	Spodosol
Orsino	Hyperthermic, uncoated	Spodic Quartzipsamment	Entisol
Palm Beach	Carbonitic, hyperthermic	Typic Udipsamment	Entisol
Paola	Hyperthermic, uncoated	Spodic Quartzipsamment	Entisol
Parkwood moderately fine subsoil variant	Fine-loamy, mixed, hyperthermic	Mollic Ochraqualf	Alfisol
Pineda	Loamy, siliceous, hyperthermic	Arenic Ochraqualf	Alfisol
Placid	Sandy, siliceous, hyperthermic	Typic Humaquept	Inceptisol
Pomello	Sandy, siliceous, hyperthermic	Arenic Haplohumod	Spodosol
Pompano	Siliceous, hyperthermic	Typic Psammaquent	Entisol

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Table 4. (continued)

Series	Family	Subgroup	Order
Riviera	Loamy, siliceous, hyperthermic	Arenic Glossaqualf	Alfisol
St. Johns	Sandy, siliceous, hyperthermic	Typic Haplaquod	Spodosol
St. Lucie	Hyperthermic, uncoated	Typic Quartzipsamment	Entisol
Tavares	Hyperthermic, uncoated	Typic Quartzipsamment	Entisol
Turnbull	Clayey over sandy or sandy-skeletal, montmorillonitic, nonacid, hyperthermic	Typic Hydraquent	Entisol
Turnbull variant	Mixed, hyperthermic	Aquic Udipsamment	Entisol
Tuscawilla	Fine-loamy, mixed, hyperthermic	Typic Ochraqualf	Alfisol
Wabasso	Sandy over loamy, siliceous, hyperthermic	Alfic Haplaquod	Spodosol
Winder	Fine-loamy, siliceous, hyperthermic	Typic Glossaqualf	Alfisol

[1] Classification from Huckle et al. (1974) and Baldwin et al. (1980).

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Table 5. Parent material of Kennedy Space Center soil series.[1]

Soil Type	Parent Material
Anclote sand	Sandy marine sediments
Astatula fine sand	Marine or eolian sediments
Basinger sand	Sandy marine sediments
Bradenton fine sand, shallow variant	Sandy and loamy marine sediments over limestone
Canaveral sand	Marine sands and shell fragments
Canova peat	Thin deposits of herbaceous organic material over loamy marine sediments
Chobee fine sandy loam	Loamy marine sediments
Cocoa sand	Sandy marine or eolian sediments over coquina
Copeland complex	Beds of sandy and loamy marine sediments over limestone or coquina
Daytona sand	Beds of marine sand
Felda sand	Stratified marine sands and loamy material
Floridana sand	Sandy and loamy marine sediments
Immokalee sand	Beds of marine sand
Myakka sand	Beds of marine sand
Orsino fine sand	Deep beds of marine or eolian sand
Palm Beach sand	Thick deposits of marine sand and shell fragments
Paola fine sand	Thick beds of eolian sand
Parkwood fine sand	Sandy and loamy marine material over calcareous material
Pineda fine sand	Sandy and loamy marine material
Placid fine sand	Thick beds of sandy marine sediments
Pomello sand	Thick beds of marine sand
Pompano sand	Thick beds of marine sand
Riviera fine sand	Marine sands and clays over alkaline material
St. Lucie fine sand	Thick beds of marine or eolian sand
St. Johns fine sand	Marine sands
Tavares fine sand	Thick beds of sandy marine or eolian deposits
Turnbull muck	Clayey and sandy estuarine deposits
Turnbull variant sand	Deposits of sand and shells over estuarine deposits resulting from dredging
Tuscawilla fine sand	Sandy and loamy marine sediment and shells
Wabasso fine sand	Sandy marine sediments over loamy material
Winder loamy sand	Loamy marine material

[1] Huckle et al. (1974), Baldwin et al. (1980).

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west of State Route 3, the island is flatter, without obvious ridges and swales probably due to the greater age of this topography.

Differences in age and parent material account for some soil differences, but on landscapes of Merritt Island with similar age, topography has a dramatic effect on soil formation. Relatively small elevation changes cause dramatic differences in the position of the water table that, in turn, affect leaching, accumulation of organic matter, and formation of soil horizons. In addition, proximity to the lagoon systems influences soil salinity.

The major soil series and land types on KSC are discussed in Appendix I based on their general characteristics and occurrence on the KSC landscape. Quantitative soil data will be discussed in following reports.

Summary

1. Sediments underlying KSC have accumulated in alternating periods of deposition and erosion since the Eocene. Surface sediments are of Pleistocene and Recent ages. Fluctuating sea levels with the alternating glacial-interglacial cycles have shaped the formation of the barrier islands. Merritt Island is an older landscape whose formation may have begun as much as 240,000 years ago, although most of the surface sediments are not that old. Cape Canaveral probably dates from <7,000 years B.P. as does the barrier strip separating Mosquito Lagoon from the Atlantic Ocean. Merritt Island and Cape Canaveral have been shaped by progradational processes but not continuously so, while the Mosquito Laggon barrier has been migrating landward.

2. Deep aquifers beneath KSC are recharged inland but are highly mineralized in the coastal region and interact little with surface vegetation. The surficial aquifer has formed in the Pleistocene and Recent deposits and is recharged by local rainfall. Sand

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ridges in the center of Merritt Island are important to its recharge. Discharge is from evapotranspiration, seepage to canals and ditches, seepage into interior wetland swales, and seepage into impoundments, lagoons, and the ocean. This aquifer exists in dynamic equilibrium with rainfall and with the fresh-saline water interface. Freshwater wetlands depend on the integrity of this aquifer, and it provides freshwater discharge to the lagoons and impoundments.

3. Soils of KSC reflect the complexity of soil forming factors (parent material, topography, time, biota) on the landscape. Numerous soil series are represented. Within a given area, soils vary from well to poorly drained. On well drained sites of differing ages, leaching has modified soil properties. Parent material differences (sand, loam, clay, coquina) are also reflected in the soil pattern.

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Appendix I

Descriptions of the Soil Series and Land Types on Kennedy Space Center

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Descriptions of the Soil Series and Land Types on KSC

Anclote sand is a nearly level, very poorly drained, sandy soil in marshy depressions in flatwoods, broad areas on floodplains, and in poorly defined drainageways. In most years the water table is <10" (25 cm) for >6 months and seldom >40" (102 cm). These soils are occasionally flooded for 2-7 days after heavy rain (Huckle et al. 1974). On KSC, Anclote soils are primarily in swales in flatwoods and scrub and along drainageways.

Astatula fine sand is a nearly level to gently sloping, excessively drained, sandy soil on high undulating ridges. It has low organic matter content and low natural fertility. The water table is typically below 120" (305 cm). This series is better drained than Pomello and lacks the A2 and B horizons of Paola (Huckle et al. 1974). On KSC, this series is found primarily on the higher ridges north of Haulover Canal.

Basinger sand is a nearly level, poorly drained, sandy soil in sloughs of poorly defined drainageways and depressions in flatwoods. In most years, the water table is <10" (25 cm) for 2-6 months, between 10-40" (25-102 cm) for 6 months, and >40" (102 cm) for short periods in the dry season. This series is better drained than Anclote and lacks the weakly cemented Bh horizon of Immokalee (Huckle et al. 1974). On KSC, Basinger sand occurs primarily in swales in flatwoods and scrub.

Beaches are the narrow sandy strips along the Atlantic coast composed of fine to coarse sand mixed with multicolored shells and shell fragments. Sea water regularly overwashes the larger part of these areas at high tide but the higher areas only at equinoctal or storm-driven tides (Huckle et al. 1974).

Bradenton fine sand, shallow variant is a nearly level, poorly drained soil with limestone at a depth of ca. 40" (102 cm). The water table is <10" (25 cm) for 2-6 months, between 10-30" (25-76 cm) for >6 months, and >30" (76 cm) for short periods

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in the dry season. These soils may be flooded for 2-7 days once in 1-5 years. This series is better drained than Copeland (Huckle et al. 1974). On KSC, this series occurs mainly in the central and western parts of Merritt Island near areas mapped as the Copeland complex.

Bulow sand is a gently sloping, well drained, moderately deep, sandy soil underlain by differentially weathered coquina on narrow sand ridges. The water table is typically below 72" (183 cm) (Baldwin et al. 1980). Bulow sand occurs only to a minor extent on KSC (Table 3) and is found on ridges north of Haulover Canal.

Canaveral sand is a nearly level and gently undulating, moderately well drained, sandy soil mixed with shell fragments. The map unit consists of 60% Canaveral sand and 30% a more poorly drained Canaveral sand in sloughs between ridges with a thicker, darker surface layer and the water table closer to the surface for longer periods. Canaveral sand is not as well drained as Palm Beach but better drained than Anclote (Huckle et al. 1974). On KSC, Canaveral sand is found primarily on the coastal strip inland from Palm Beach sand. It is of modest extent on KSC (Table 3) but occupies most of Cape Canaveral.

Canova peat is a nearly level, very poorly drained soil with a peat surface layer and a loamy subsoil occurring on broad floodplains. The water table is <10" (25 cm) for 9-12 months, continuously flooded for 3-6 months, and >10" (25 cm) for short periods in the dry season. This series is more poorly drained than Felda and Winder soils and has an organic surface layer (Huckle et al. 1974). Canova peat is of minor extent on KSC (Table 3).

Chobee fine sandy loam is a nearly level, very poorly drained, loamy soil with a thick black surface layer that occurs in marshy depressions and floodplains. The water table is <10" (25 cm) for 6-9 months, between 10-40" (25-102 cm) for 3-6 months, >40" (102 cm) for short periods in the dry season, and may be flooded continuously for 1-6

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months. This series is more poorly drained than Felda (Huckle et al. 1974). On KSC, a minor acreage (Table 3) of this series occurs on the central and western part of Merritt Island.

Cocoa sand is a nearly level and gently sloping, well drained, sandy soil over coquina. The water table is >72" (183 cm) all year (Huckle et al. 1974). On KSC, this series occurs primarily on low ridges north and south of Haulover Canal.

Copeland is a nearly level, sandy to loamy, very poorly drained soil on low flats underlain by limestone. The Copeland complex map unit consists of several nearly level, very poorly drained soils where the water table is <10" (25 cm) for >6 months, between 10-30" (25-76 cm) in the dry season, and flooded 7-30 days once in 5-20 years. Soils in the complex differ in depth to the limestone layer (Huckle et al. 1974). On KSC, this complex occurs mainly in the central and western part of Merritt Island west of State Route 3.

Daytona sand is a moderately well drained, nearly level to gently sloping soil on undulating sandhills or slightly elevated places in the flatwoods. The water table is between 40-50" (102-127 cm) for 1-4 months per year in the wet season and >72" (183 cm) in the dry season (Baldwin et al. 1980). On KSC, small areas of this series (Table 3) are mapped on ridges north of Haulover Canal in Volusia County.

Felda sand is a nearly level, poorly drained soil on broad low flats, in sloughs, depressions, and poorly defined drainageways. The water table is <10" (25 cm) for 2-6 months and between 10-40" (25-102 cm) for the rest of the year. Water may be above the surface for 2-7 days in 1-3 months per year. Depressions are flooded for >6 months per year (Huckle et al. 1974).

Felda and Winder soils consist of poorly drained soils in low sloughs and slightly higher hammocks. The map unit consists of about 65% sloughs and 35% hammocks. In the sloughs, the soils are 35% Felda, 30% Winder, and <20% Chobee,

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Floridana, and/or Wabasso. In the hammocks, the soils are 55% a soil similar to Wabasso but over limestone and the remainder a soil similar to Copeland (Huckle et al. 1974). These soils occur in low areas in flatwoods on the east side of Merritt Island and on low flats on the west side of the island.

Felda and Winder soils, ponded are the landward areas of former high tidal marsh impounded for mosquito control and now continuously flooded for >6 months per year. About 50% of the soils are Felda and 25% Winder (Huckle et al. 1974). This soil is also mapped in some of the large interior wetlands on KSC.

Floridana sand is a nearly level, very poorly drained soil in broad areas of floodplains and small to large marshy depressions. The water table is <10" (25 cm) for 6-9 months and between 10-30" (25-76 cm) for the rest of the year. This series is more poorly drained than Felda or Winder (Huckle et al. 1974). Only minor areas of this soil occur on KSC (Table 3).

Hydraquents are variable, silty, clayey, or loamy tidal deposits in mangrove swamps and islands. The outer edges experience tidal overwash daily, while the inner parts are slightly elevated and are inundated only during storms and equinoctal tides. Hydraquents are mapped in Volusia County (Baldwin et al. 1980); in Brevard County, the map unit of Tidal swamp is apparently equivalent (Huckle et al. 1974).

Immokalee sand is a nearly level, poorly drained, sandy soil in broad areas in flatwoods, low ridges between sloughs, and in narrow areas between sand ridges and lakes or ponds. The water table is <10" (25 cm) for 1-2 months, between 10-40" (25-102 cm) for >6 months, and >40" (102 cm) for short dry periods. It may be flooded for 2-7 days once in 1-5 years (Huckle et al. 1974). Immokalee is the one of the major soil series in flatwoods and scrub on KSC (Table 3).

Myakka sand is a nearly level, poorly drained, sandy soil in broad areas in flatwoods, low ridges between sloughs, and in narrow areas between sand ridges and

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lakes or ponds. The water table is <10" (25 cm) for 1-4 months, between 10-40" (25-102 cm) for >6 months, and >40" (102 cm) for short dry periods. It may be flooded for 2-7 days once in 1-5 years (Huckle et al. 1974). Myakka is an important series in flatwoods and wetter scrub on KSC (Table 3) where it is in lower areas than Immokalee.

Myakka sand, ponded is a nearly level, poorly drained, sandy soil in shallow depressions in flatwoods. It is similar to Myakka but is flooded for 6-12 months per year (Huckle et al. 1974). Only minor areas of this series occur on KSC (Table 3).

Myakka variant fine sand is a nearly level, poorly drained, sandy soil in swells in flatwoods and in slightly higher areas in hardwood hammocks near the coast. The water table is <10" (25 cm) in the rainy season. This series differs form Myakka in the fine sand texture and the presence of a neutral to alkaline IIC horizon with shell fragments (Baldwin et al. 1980). Small areas of this series (Table 3) occur in the northern section of KSC in Volusia County.

Orsino fine sand is a nearly level, moderately well drained, sandy soil on moderately low ridges and between high ridges and poorly drained areas. The water table is between 40-60" (102-152 cm) for >6 months, during dry periods it is >60" (152 cm), and during wet periods between 20-40" (51-102 cm) for 7 days to 1 month (Huckle et al. 1974). Small areas of this soil (Table 3) occur on ridges in the central part of Merritt Island.

Palm Beach sand is a nearly level and gently sloping, excessively drained soil on dune-like ridges that roughly parallel the Atlantic Ocean and consists of mixed sand and shell fragments. The water table is >120" (305 cm). This series is better drained than Canaveral sand (Huckle et al. 1974). On KSC, it occurs on the recent dunes inland from the beaches.

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Paola fine sand is a nearly level to strongly sloping, excessively drained, sandy soil of the tops and sides of ridges. This series is better drained than Orsino and much better drained than Immokalee or Myakka (Huckle et al. 1974). On KSC, this series occurs on the higher ridges in the center of Merritt Island and on ridges north of Haulover Canal.

Parkwood fine sand is a nearly level, poorly drained soil with a loamy subsoil occurring in hammocks along streams, poorly defined drainageways, and depressions. The water table is <10" (25 cm) for 2-4 months per year in wet periods, and between 10-30" (25-76 cm) the rest of the year. The soil may be flooded for 7 days to 1 month once in 1-5 years (Huckle et al. 1974). Small areas of this series (Table 3) occur on KSC, generally near the Copeland complex.

Pineda fine sand is a nearly level, poorly drained, sandy soil in broad low flats in the flatwoods, in poorly defined drainageways, and at the edges of sand ponds and swamps. The water table is <10" (25 cm) for 1-6 months; some areas have standing water for 7 days to 6 months in some years (Huckle et al. 1974).

Placid fine sand, depressional is a very poorly drained, nearly level soil in wet depressions. The water table is above the surface for >6 months per year. This series is lower and more poorly drained than Myakka or St. Johns (Baldwin et al. 1980). Minor areas of this series occur on KSC (Table 3).

Pomello sand is a nearly level, moderately well drained, sandy soil on broad low ridges and low knolls in the flatwoods. The water table is between 30-40" (76-102 cm) for 2-4 months per year and between 40-60" (102-152 cm) for >6 months per year. This series is better drained than Immokalee or Myakka but more poorly drained than St. Lucie (Huckle et al. 1974). On KSC, Pomello sand is primarily on the broader ridges of central Merritt Island.

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Pompano is a nearly level, poorly drained, sandy soil on broad flats, in shallow depressions, and in sloughs. The water table is <10" (25 cm) for 2-6 months per year, between 10-40" (25-102 cm) for >6 months per year, and >40" (102 cm) in the dry season (Huckle et al. 1974).

Quartipsamments are nearly level to steeply sloping soils reworked by earthmoving equipment. The soil material is derived from a variety of sandy soils (Huckle et al. 1974).

Riviera fine sand is a poorly drained, nearly level soil in broad low flats. The water table is <10" (25 cm) for 2-6 months per year and >40" (102 cm) for ca. 6 months per year (Baldwin et al. 1980). Minor areas of this series (Table 3) occur in the northern part of Merritt Island in Volusia County.

St. Johns sand is a nearly level, poorly drained, sandy soil on broad low ridges in the flatwoods. The water table is <10" (25 cm) for 2-6 months per year and between 10-40" (25-102 cm) the rest of the time. During extended dry periods it may be >40" (102 cm), and the soils may be flooded for 2-7 days following heavy rain (Huckle et al. 1974). This series occurs in low swales in the flatwoods and scrub on the eastern part of Merritt Island and in low flats on the western part of the island.

St. Johns soils, ponded are in sloughs, poorly defined drainageways, and shallow intermittent ponds in the flatwoods. The water table is <10" (25 cm) for 6-12 months per year, and they may be flooded for >6 months per year (Huckle et al. 1974). On KSC, this series is primarily in swales in flatwoods and scrub.

St. Lucie fine sand is a deep, nearly level to strongly sloping, excessively drained, sandy soil on high dune-like ridges and isolated knolls. The water table is below 120" (305 cm) (Huckle et al. 1974). Only minor areas of this soil occur on KSC (Table 3).

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Spoil banks are piles of soil material dug from large ditches and canals or dredged from ship channels in the Indian River. On the mainland, spoil banks occur as long, narrow areas adjacent to the ditches and canals from which they were dug. In the Indian River, they occur as scattered islands near the ship channel from which they were dredged. Properties of spoil banks vary depending on the material from which they were taken (Huckle et al. 1974).

Swamp includes nearly level, poorly drained and very poorly drained areas of soils with dense cover of wetland hardwoods, vines, and shrubs in poorly defined drainageways, depressions, and large bay heads. They are flooded with freshwater most of the time. The soil pattern is intricate, varied, and impractical to map separately and includes Anclote, Basinger, Pompano, Terra Ceia, and Tomoka soils (Huckle et al. 1974). On KSC, this series occurs in swales and along drainages.

Submerged marsh is the mapping unit used for areas on the lagoonward side of marshes impounded for mosquito control (Huckle et al. 1974). These are now flooded for much of the year; they may be primarily open water or may still support some marsh vegetation.

Tavares fine sand is a nearly level and gently sloping, well drained, sandy soil on narrow to broad, moderately low ridges. The water table is between 40-60" (102-152 cm) for >6 months per year and >60" (152 cm) in the dry season. This series is better drained than Immokalee or Myakka but less well drained than Astatula, Paola, or St. Lucie (Huckle et al. 1974). Only minor areas of this series occur on KSC (Table 3).

Tidal marsh includes nearly level areas of soils covered with salt or brackish waters at high tide. Soils are highly variable and include shallow mucky sands over marl or limestone, irregularly stratified mixed sand and shell fragments, silty or clayey layers over sand and shells, and deep organic material (Huckle et al. 1974). Tidal

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marsh is mapped in Brevard County for marsh areas adjacent to the lagoon systems (Indian River, Banana River, Mosquito Lagoon) that are not impounded.

Tidal swamp includes nearly level areas at about mean sea level covered with dense tangled growth of mangrove trees and roots. Soil material ranges from mixed sand and shells to organic material (Huckle et al. 1974). This type is mapped in Brevard County for mangrove islands in Mosquito Lagoon and the Banana River and for other unimpounded areas of mangroves adjacent to the lagoon systems.

Turnbull muck is a very poorly drained soil formed in clayey and sandy estuarine deposits near sea level and periodically flooded by tidal overwash (Baldwin et al. 1980). This series is mapped in marshes bordering the Indian River and Mosquito Lagoon in the Volusia County section of KSC.

Turnbull variant sand consists of mixed sandy and shelly material dredged from the Intracoastal Waterway and placed in narrow strips along it over underlying material of organic deposits and layers of clayey and sandy estuarine deposits (Baldwin et al. 1980). Minor areas (Table 3) of this soil are mapped in the Volusia County section of KSC. It appears to be similar or identical to the Spoil bank type in Brevard County (Huckle et al. 1974).

Tuscawilla fine sand is a nearly level, poorly drained soil in broad hammocks near the coast. The water table is <10" for 2-6 months per year (Baldwin et al. 1980). Areas of this soil are mapped in the northern part of Merritt Island in Volusia County.

Urban land consists of areas that are 60 to >75% covered with streets, buildings, parking lots and similar structures (Huckle et al. 1974).

Wabasso loamy sand is a nearly level, poorly drained, sandy soil on broad areas in the flatwoods and on low ridges in the flatwoods. The water table is <10" (25 cm) for 1-2 months per year and <30" (76 cm) most of the time; during the dry season it may be >30" (76 cm) for short periods. These soils may be flooded for 2-7 days once in

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1-5 years (Huckle et al. 1974). On KSC, this series occurs on broad flats on the western side of Merritt Island.

Winder sand is a nearly level, poorly drained, sandy soil in low areas and on low ridges. The water table is <30" (76 cm) most of the time and <10" (25 cm) for 2-6 months per year. During short, dry periods it may be >30" (76 cm); these soils may be flooded occasionally for 2-7 days (Huckle et al. 1974). Only small areas of this soil are mapped separately on KSC (Table 3); others are included in the Felda and Winder class.

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KENNEDY SPACE CENTER

16. Abstract

Sediments underlying KSC have accumulated in alternating periods of deposition and erosion since the Eocene. Surface sediments are of Pleistocene and Recent ages. Fluctuating sea levels with the alternating glacial-interglacial cycles have shaped the formation of the barrier islands. Merritt Island is an older landscape whose formation may have begun as much as 240,000 years ago, although most of the surface sediments are not that old. Cape Canaveral probably dates from ≤7,000 years B.P. (before present) as does the barrier strip separating Mosquito Lagoon from the Atlantic Ocean. Merritt Island and Cape Canaveral have been shaped by progradational processes but not continuously so, while the Mosquito Lagoon barrier has been migrating landward.

Deep aquifers beneath KSC are recharged inland but are highly mineralized in the coastal region and interact little with surface vegetation. The Surficial aquifer has formed in the Pleistocene and Recent deposits and is recharged by local rainfall. Sand ridges in the center of Merritt Island are important to its recharge.

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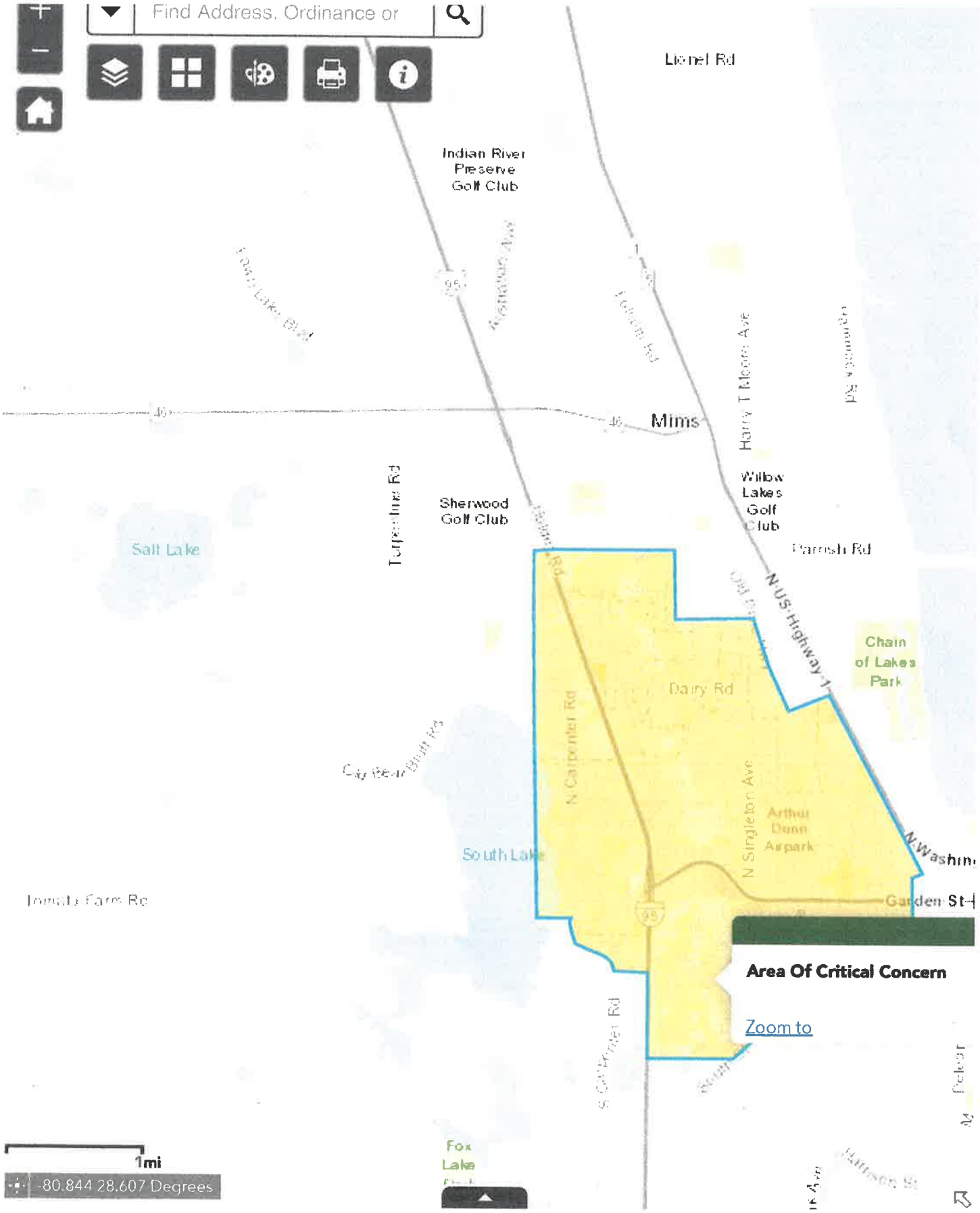
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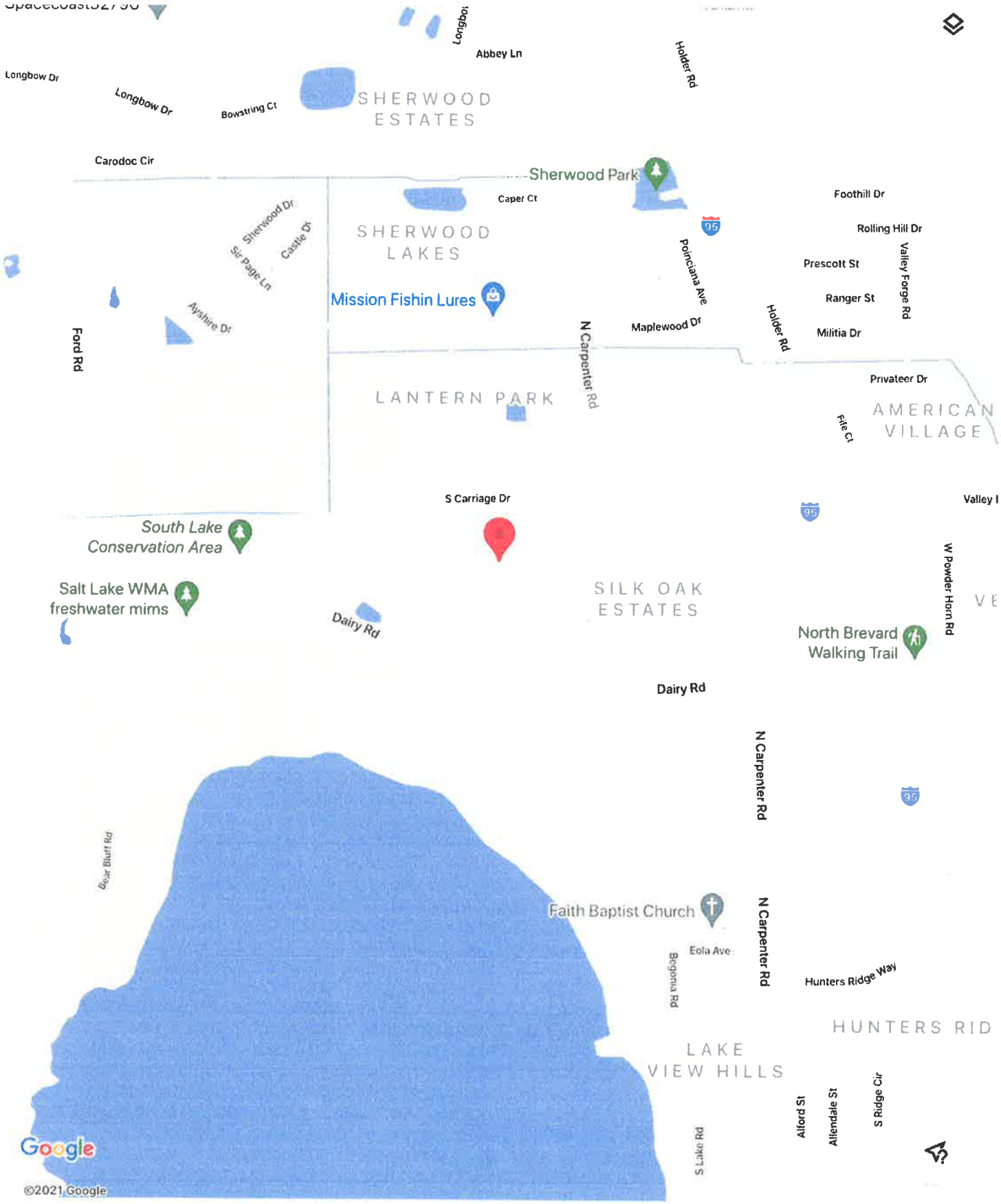
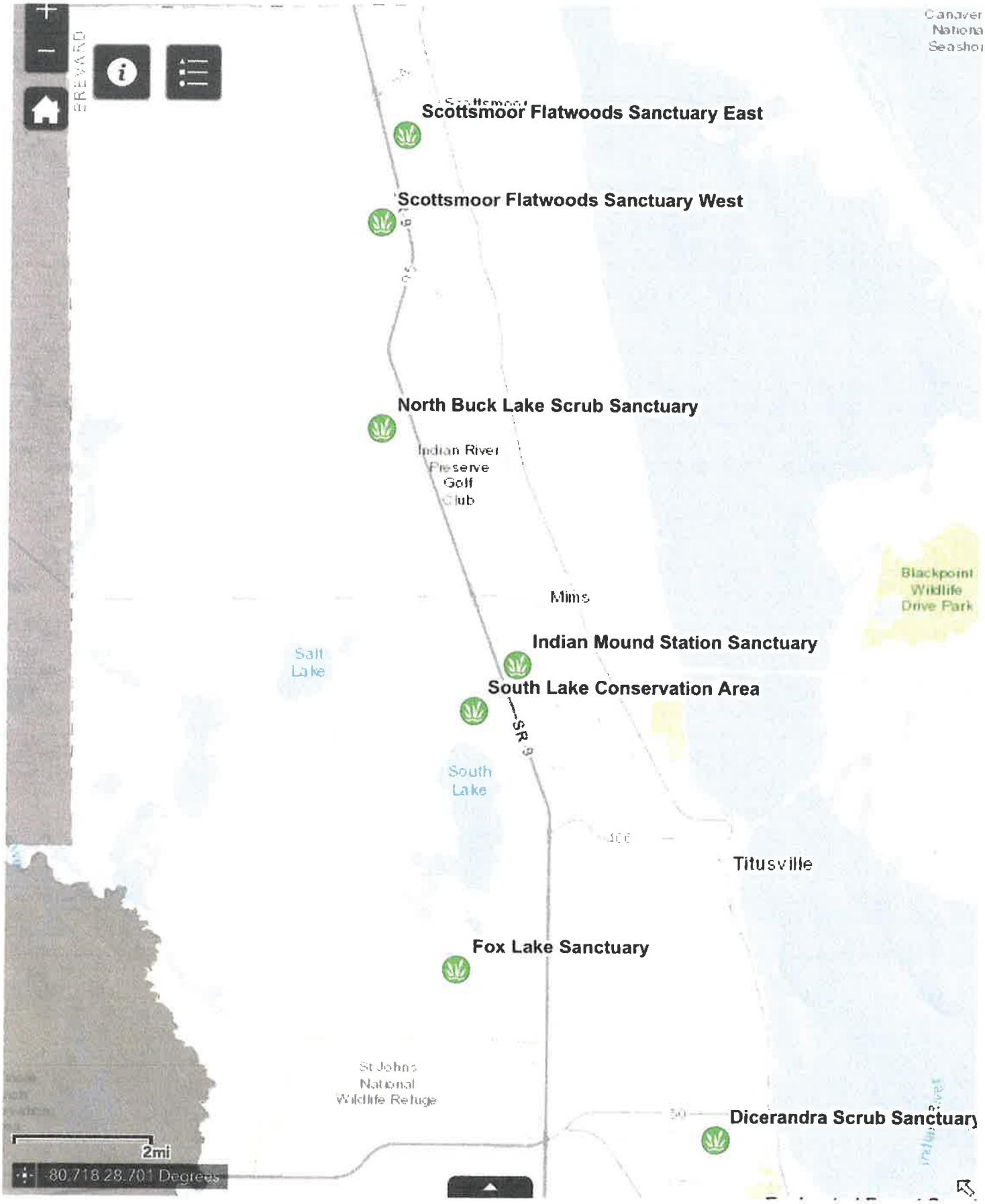
Mims
Harry T Moore Ave
Willow Lakes Golf Club
Sherwood Golf Club
Salt Lake
Parrish Rd
N US Highway 1
Chain of Lakes Park
Dairy Rd
N Carpenter Rd
N Singleton Ave
Arthur Dunn Airpark
South Lake
Garden St
Area Of Critical Concern
Zoom to
Fox Lake
1mi
-80.844 28.607 Degrees



Dropped pin

Near Brevard County, FL


Scottsmoor Flatwoods Sanctuary East
Scottsmoor Flatwoods Sanctuary West
North Buck Lake Scrub Sanctuary
Indian River Preserve Golf Club
Mims
Indian Mound Station Sanctuary
South Lake Conservation Area
Salt Lake
South Lake
SR 9
Titusville
Fox Lake Sanctuary
St Johns National Wildlife Refuge
Dicerandra Scrub Sanctuary
Blackpoint Wildlife Drive Park
2mi
80.718 28.701 Degrees

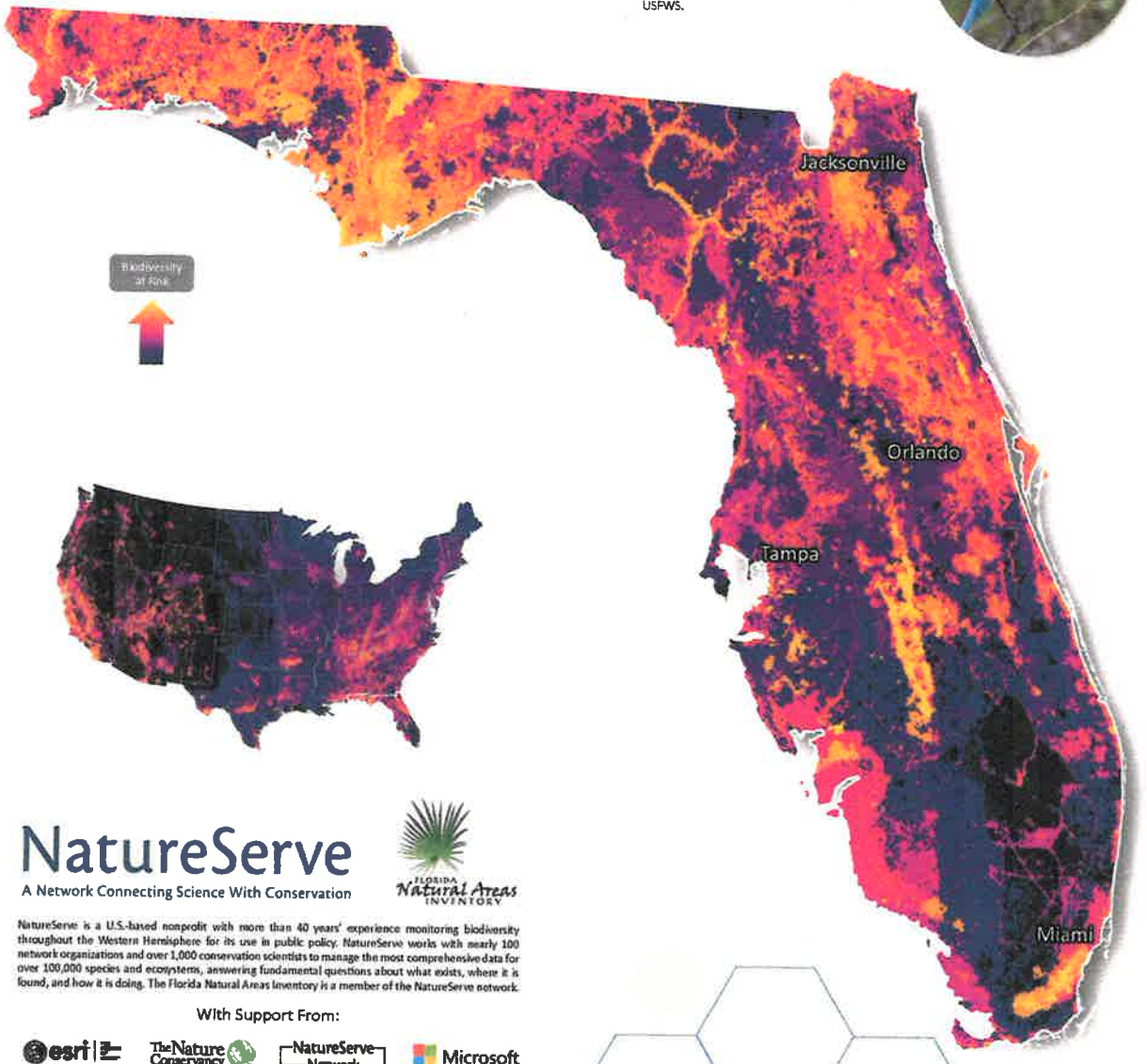
Map of Biodiversity Importance

Importance for Conservation of Imperiled Species in Florida

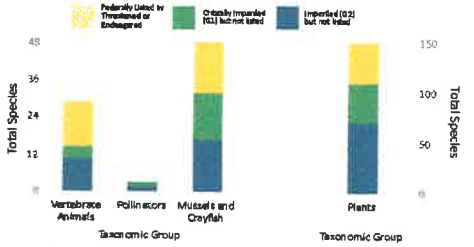
nearly 800 globally imperiled species. Many of those imperiled species
places and thus have limited opportunities for protection. To better
conservation action can help at-risk species, NatureServe recently
f Biodiversity Importance (MoBI), a first ever high-precision map of areas
onservation of imperiled species in the 48 conterminous United States.

ersity Importance is based on habitat suitability models for 2,216 of the
k species, including vertebrates, freshwater invertebrates (mussels and
rs (bumblebees and butterflies and skippers) and vascular plants. By
odels and applying weights based on range-size, the warmest colors on
aces where imperiled species with few opportunities for protection are
n used in conjunction with state-specific data collected and maintained
ral Diversity Database, a collaborator on this project, decision-makers are
nformation to direct conservation efforts to the places they can have the

Imperiled species in Florida include the Florida Scrub Jay (*Aphelocoma coerulescens*), NatureServe Global Conservation Status: Imperiled (G2); Endangered Species Status: Listed threatened. Photo by Mike Carlo, USFWS.



Florida Species Included in MoBI by Taxonomic Group and Conservation Status



This graph shows the number of species included in MoBI with habitat in Florida. Many of these species have been formally listed as Threatened or Endangered under the U.S. Endangered Species Act (yellow). Other species are imperiled but are not federally listed (green and blue). Taking action now can prevent the need for federal listing.

NatureServe

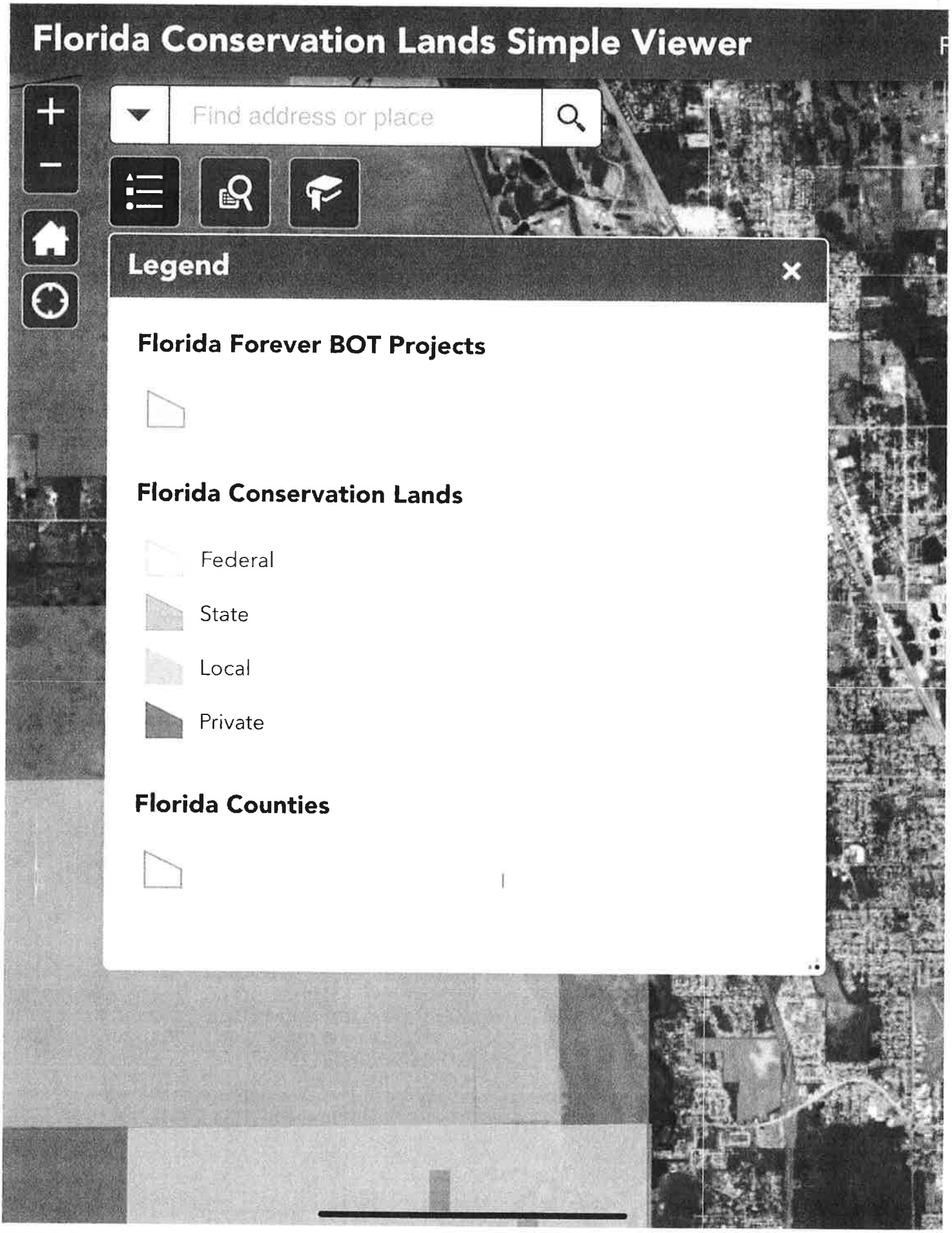
A Network Connecting Science With Conservation

Florida Natural Areas Inventory

NatureServe is a U.S.-based nonprofit with more than 40 years' experience monitoring biodiversity throughout the Western Hemisphere for its use in public policy. NatureServe works with nearly 100 network organizations and over 1,000 conservation scientists to manage the most comprehensive data for over 100,000 species and ecosystems, answering fundamental questions about what exists, where it is found, and how it is doing. The Florida Natural Areas Inventory is a member of the NatureServe network.

With Support From:

esri | The Nature Conservancy | NatureServe Network | Microsoft



1:29 PM Tue Nov 23 4D

63%

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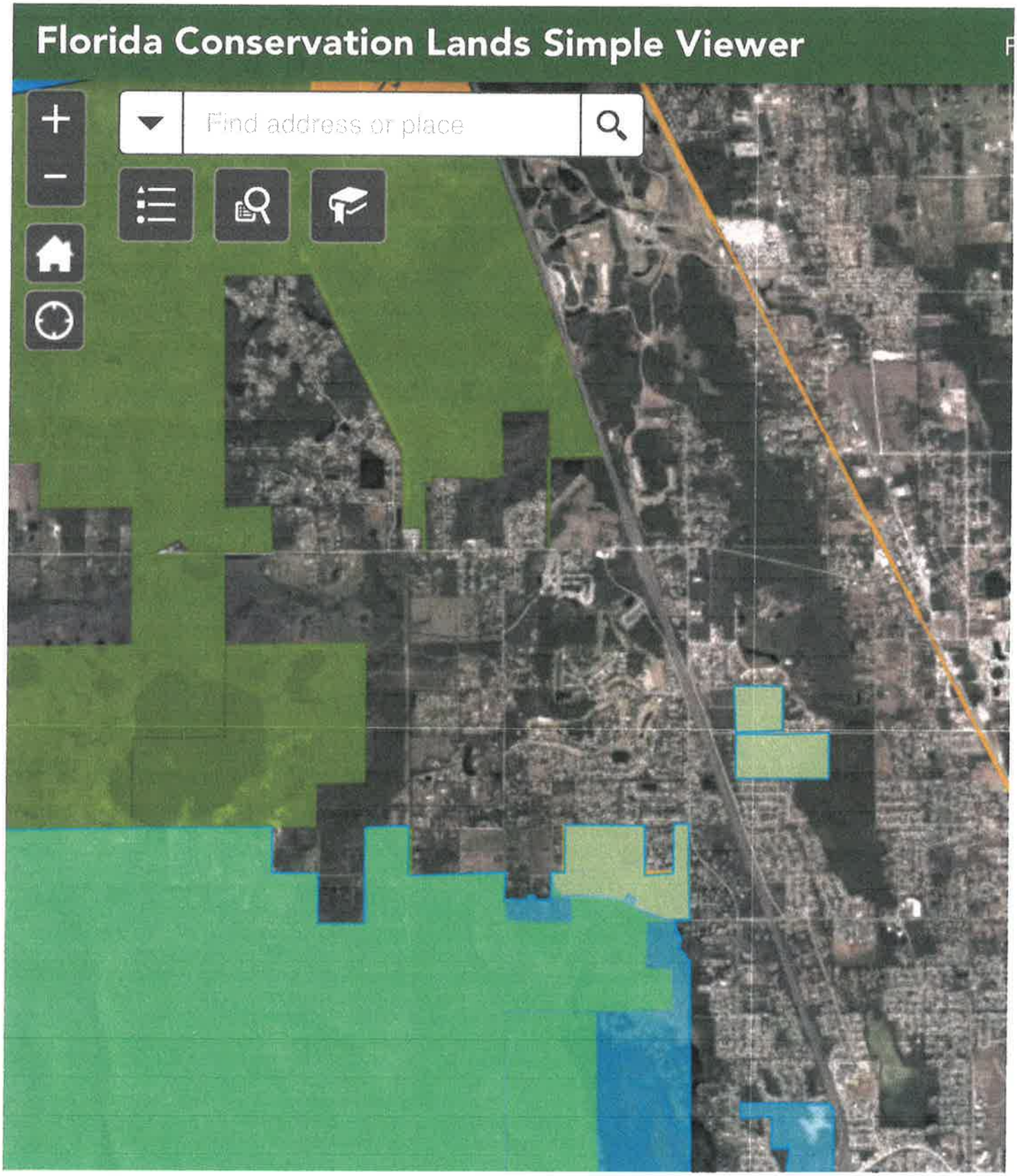
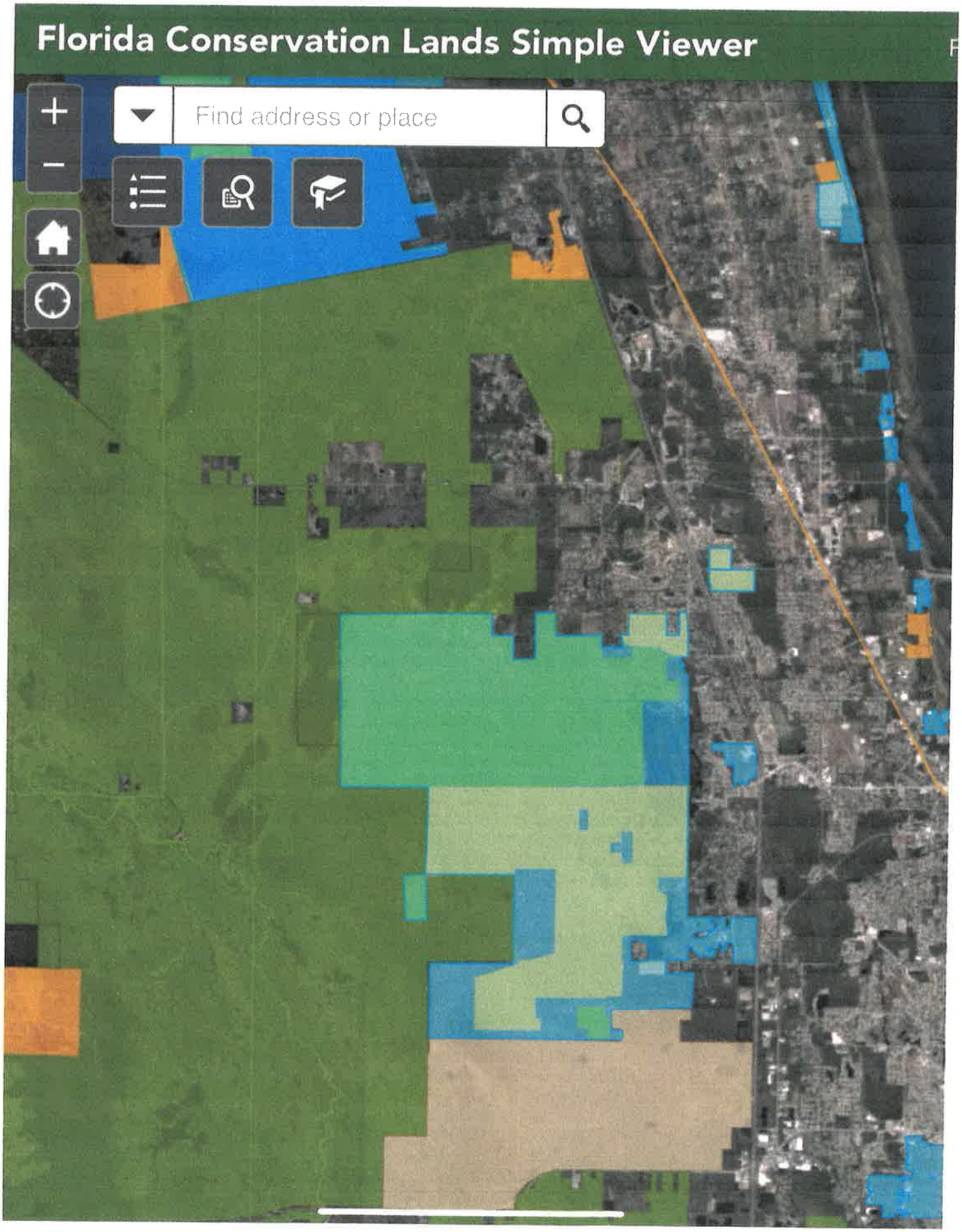
cosspp.maps.arcgis.com

Titusville, 19... Data and Ma... Florida's End... Conservatio... Official Serie... Wetland Eval... in...




Florida Conservation Lands Simple Viewer
Find address or place