



AGENDA
ENVIRONMENTAL ADVISORY BOARD
CITY OF PORT ORANGE

Meeting Date: Monday, August 7, 2023

Time: 5:15 PM

Type of Meeting: Special

Location: 2nd Floor Conference Room
City Hall, 1000 City Center Circle

A. CALL TO ORDER

1. Roll Call

B. NOMINATION OF VICE CHAIR

C. DISCUSSION/ACTION

2. Consideration of Minutes - April 24, 2023
3. Crystal Lake Business Park - Historic Tree Removal Request
4. Spruce Creek Dredging Project
5. Items for Next Agenda

D. PUBLIC COMMENTS

E. BOARD COMMENTS

F. ADJOURNMENT

6. Next Meeting Date: Monday, September 11, 2023 @ 4:00 p.m.
7. Board Report to City Council: Tuesday, August 15, 2023

NOTICES – PURSUANT TO SECTION 286.0105 OF THE FLORIDA STATUTES, IF ANY PERSON DECIDES TO APPEAL ANY DECISION MADE BY THE ENVIRONMENTAL ADVISORY BOARD WITH RESPECT TO ANY MATTER CONSIDERED AT THIS PUBLIC MEETING OR HEARING, SUCH PERSON WILL NEED A RECORD OF THE PROCEEDINGS, AND THAT, FOR SUCH PURPOSE, SUCH PERSON MAY NEED TO ENSURE THAT A VERBATIM RECORD OF THE PROCEEDINGS IS MADE, WHICH RECORD INCLUDES THE TESTIMONY AND EVIDENCE UPON WHICH THE APPEAL IS TO BE BASED. THE CITY DOES NOT PREPARE OR PROVIDE SUCH A RECORD.



FOR SPECIAL ACCOMMODATIONS, PLEASE NOTIFY THE CITY CLERK'S OFFICE (PHONE: 386-506-5563) AS FAR IN ADVANCE AS POSSIBLE, BUT PREFERABLY WITHIN 2 WORKING DAYS OF YOUR RECEIPT OF THIS NOTICE OR 5 DAYS PRIOR TO THE MEETING OR HEARING DATE.



HELP FOR THE HEARING IMPAIRED IS AVAILABLE THROUGH THE ASSISTIVE LISTENING SYSTEM. RECEIVERS CAN BE OBTAINED FROM THE CITY CLERKS' OFFICE.

IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA), IF YOU ARE A PERSON WITH A DISABILITY WHO NEEDS AN ACCOMMODATION IN ORDER TO PARTICIPATE IN THIS PROCEEDING, YOU ARE ENTITLED, AT NO COST TO YOU, THE PROVISION OF CERTAIN

Environmental Advisory Board Meeting

Monday, August 7, 2023

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ASSISTANCE. PLEASE CONTACT THE CITY CLERK FOR THE CITY OF PORT ORANGE, 1000 CITY CENTER CIRCLE, PORT ORANGE, FLORIDA 32129, TELEPHONE NUMBER 386-506-5563, CITYCLERK@PORT-ORANGE.ORG, AS FAR IN ADVANCE AS POSSIBLE, BUT PREFERABLY WITHIN 2 WORKING DAYS OF YOUR RECEIPT OF THIS NOTICE OR 5 DAYS PRIOR TO THE MEETING OR HEARING DATE. IF YOU ARE HEARING OR VOICE IMPAIRED, CONTACT THE RELAY OPERATOR AT 7-1-1 or 1-800-955-8771.

UPON REQUEST BY A QUALIFIED INDIVIDUAL WITH A DISABILITY, THIS DOCUMENT WILL BE MADE AVAILABLE IN AN ALTERNATE FORMAT. IF YOU NEED TO REQUEST THIS DOCUMENT IN AN ALTERNATE FORMAT, PLEASE CONTACT THE CITY CLERK WHOSE CONTACT INFORMATION IS PROVIDED ABOVE.

ENVIRONMENTAL ADVISORY BOARD
MEETING MINUTES
SECOND FLOOR CONFERENCE ROOM, CITY HALL
PORT ORANGE, FLORIDA
APRIL 24, 2023

THE REGULAR ENVIRONMENTAL ADVISORY BOARD MEETING of the City of Port Orange was called to order by Chair Kristine Cunningham at 5:15 p.m.

Roll Call	Present:	Shawn Goepfert Philip Klema Kristine Cunningham John Macaluso
	Absent:	Daniel Pompei Michael Anderson
	Also Present:	Margaret Tomlinson, Construction and Engineering Manager Tim Burman, Community Development Director Tracee Cody, Deputy City Clerk Meghan Meyer, Administrative Assistant

DISCUSSION/ACTION

2. Consideration of Minutes - January 23, 2023

Motion to approve January 23, 2023 meeting minutes as presented was made by Member John Macaluso and seconded by Member Shawn Goepfert. Motion carried unanimously by voice vote.

3. Presentation on the Riverwalk Development

Tim Burman, Community Development Director, discussed the Riverwalk concept plan and layout. The proposal includes trying to preserve oak trees on site and using native landscaping. Member Goepfert asked what standards the city is holding for Bristol's contracting for building the structure near the water. Mr. Burman advised the new development will be created with concrete that will help sustain the salt water.

4. Garden Spot Update

Chair Cunningham added rain barrels for extra water. She has also added more photos to be included into her portfolio. Member Goepfert mentioned the Rotary Club meets every Tuesday at the park and can possibly be of service to the garden spot.

5. Debriefing on the Spring Tree Giveaway

The board ended up giving away 125 trees for the spring giveaway. The email with information regarding the trees came from Engineering but the recipients didn't recognize the email address. Despite the miscommunication Chair Cunningham said that the people were appreciative. She also thinks bushes would be better to give out next year compared to the smaller trees.

6. 2023 Meeting Schedule

Chair Cunningham mentioned having a meeting on September 11, 2023, at 4:00 prior to Family Days and possibly another meeting on December 11, 2023.

7. Items for Next Agenda

Garden Spot Update
Discussion about Sea Bird Island
Spruce Creek Trestle Update

PUBLIC COMMENTS

There were none.

BOARD COMMENTS

Member Macaluso said he was appointed by County Council to Volusia Forever Advisory Committee and Volusia Echo Advisory Committee.

Member Klema expressed concerns about AquaHawk's automatic call phone system and it not disconnecting automatically.

Chair Cunningham mentioned that she holds Seat 5 for Volusia Soil and Water Conservation District.

ADJOURNMENT – 6:17 p.m.

8. Next Meeting Date: Monday, July 24, 2023 @ 5:15 p.m.

9. Board Report to City Council: Tuesday, May 2, 2023

Chair Kristine Cunningham



EAB AGENDA ITEM

EAB MEETING DATE 8/7/2023
CITY COUNCIL DATE 8/15/2023

SUBJECT: Historic Tree Removal – Crystal Lake Business Park 1101 Reed Canal Road

DEPARTMENT: Community Development

SUMMARY:

The applicant, Chad Cowart representing the property owners Cowart & Sons Development LLC, has submitted a request to remove four of the 19 historic live oak trees on Lot 17 of the Crystal Lake PUD, located on the south side of Reed Canal Road, west of Nova Road, east of Atlantic High School (Figure 1 – Location map). The applicant plans to develop the subject property with multiple multi-tenant office-warehouse buildings along with site improvements including stormwater retention, landscaping, utilities, parking and access drives, and tree preservation areas. The subject property is 10.7 acres and zoned Crystal Lake Planned Unit Development (PUD), and the office/warehouse use is permitted by the current zoning.

Figure 1. Location map



The applicant had a tree survey and arborist report completed last fall after Hurricane Ian and Nicole to locate and identify all historic trees on the subject property. According to the report, there are 19 historic live oak trees scattered throughout the 10.7-acre property. According to the applicant, the project engineer has prepared various site layouts and the current concept plan

requires the least number of historic trees having to be removed while still providing 78,040 square feet of office/warehouse building area, parking and access, stormwater infrastructure, and tree preservation areas to meet the requirements of the Land Development Code (LDC) requirements. The applicant intends to set aside buffer areas as well as areas around the proposed stormwater retention areas for tree preservation to ensure the existing specimen and historic trees to remain on the site will be in areas that have enough open area to sustain the trees to be preserved. There are areas shown on the concept plan that would provide space for new replacement trees including perimeter buffers and areas around the proposed buildings.

The Staff Development Review Committee (SDRC), including the City Forester, has reviewed the tree survey, arborist report, and concept plan for the proposed project, and while the four trees proposed to be removed are considered healthy but have signs of decline and there are concerns that based on these trees proximity to proposed buildings that the four trees will eventually become compromised either by natural or construction activities based on current health conditions (i.e. broken limbs, uneven or thinning canopy, etc.). Therefore, the applicant is requesting to remove the four trees.

Pursuant to LDC Ch. 9, Art. III, Sec. 16.5 (b) (5) the EAB may recommend mitigation for historic tree removal, provided by city staff, based upon the resolution adopted by city council. In the interest of flexibility and fairness, the environmental advisory board (EAB) may allow a party to mitigate the replacement of a historic tree through any combination of replacement trees, and/or contribution to the city's tree bank provided that the combination equals or exceeds the required percentage of the total cross-sectional area of the removed historic tree as established by resolution by city council.

Resolution 20-46 Exhibit A for Healthy Historic Trees on Commercial Properties requires a 15% cross-sectional area replacement. For two 36" diameter trees and two 37" diameter trees this equates to the following mitigation options.

MITIGATION OPTIONS:

1. Provide (39) 4" caliper x 14' high replacement shade trees or
2. Provide \$16,594.00 tree mitigation payment or
3. Provide a combination of replacement trees and a payment to the tree mitigation bank;

The applicant has stated they are willing to provide 39 upsized replacement trees as mitigation for the historic tree removal.

This item is being scheduled for City Council on August 15, 2023, and will include the mitigation recommendation from EAB in the report.

Attachment:

1. Exhibit 1 – Conceptual Development Plan, Tree Survey and Arborist Report

Notes:

- Grading and drainage design is conceptual and pending final engineering and water management district permitting. However, the pond design and proposed grade reflect the applicant's intent to preserve the largest specimen and historic trees present on this site.
- The trees shown on this preservation plan were measured and graded in October 2022 (following Tropical Storm Ian) by Don Spence, Ph.D., Board Certified Master Arborist; No. FL-1341BM. Locations were surveyed by Sliger & Associates during the same time period.
- The quantity of trees proposed for removal is minimal and necessary to accommodate the minimum amount of development yield for this property. The site plan proposed is the sixth version of the original plan and was modified as such to avoid removal of Specimen and Historic Trees.
- The Historic Trees proposed for removal are the smallest on this site (36 & 37-inch DBH) and are at the bottom range of classification for Historic Trees by only one inch. The applicant has made significant effort to preserve the largest trees which include 42, 44, 49, and 52-inch Live Oaks.



Chapter 9, Article II, Tree Preservation

LDC Section 15: Minimum tree coverage requirements			
Required:	1 Tree/2500 s.f. lot area =	187 trees	
	10.71 ac. site = 466,528 s.f.		
	(466528 s.f. / 2500 = 187)		
Proposed:	Preserved trees =	113 trees	
	Proposed trees =	75 trees	
	Total trees =	188 trees (meets requirement)	
LDC Section 16: Specimen trees			
No. of (existing) Specimen trees =		60 trees	
No. of (existing) Historic trees =		19 trees	
Total Specimen/Historic trees =		79 trees (7.4 trees per acre)	
Required:	5.1 - 8.0 trees/acre =	40 trees (50% of 79 existing specimen trees)	
Proposed:	Specimen trees preserved =	30 trees	
	Historic trees preserved =	15 trees	
	Total trees preserved =	45 trees (meets requirement)	
Section 17: Area tree protection requirements			
Required:	15% of lot area =	69,979 s.f.	
	(466,258 s.f. x 15% = 69,979)		
Proposed:	Proposed protected area =	69,986 s.f. (meets requirement)	
Section 19: Tree replacement or mitigation			
Section A: Mitigation for All trees 6" or greater from Buffer			
Trees for removal =		11 trees	
Replacement trees =		14 trees (or \$4,751.46 to tree bank)	
Section C: Mitigation for healthy Specimen trees			
Trees for removal =		17 trees	
Replacement trees =		64 trees (or \$21,720.96 to tree bank)	
Section E: Mitigation for healthy Historic trees (15% cross sectional area, Res. 20-46)			
Trees for removal =		4 trees	
Replacement trees =		39 trees (or \$16,953.90 to tree bank)	
Total Replacement Trees =		117 trees (or \$43,426.32 to tree bank)	

Tree Preservation Legend	
	PRESERVED HISTORIC TREE (14 qty.)
	PRESERVED SPECIMEN TREE (30 qty.)
	PRESERVED NON-SPECIMEN TREE (69 qty.)
	REMOVED TREE IN BUFFERS (11 qty.)
	REMOVED SPECIMEN TREE (17 healthy, 11 diseased)
	REMOVED HISTORIC TREE (4 healthy)
	TREE DAMAGED BY WINDSTORM (19 qty.)
	OTHER NON-REGULATED TREES OR VEGETATION (SUCH AS PALMS) TO BE REMOVED
	TREE PRESERVATION AREA (69,986 s.f. provided)

General Notes

Proposed Light Industrial Condominiums

- A. Office/Warehouse Units**
12 Units (55' x 30')
- B. Commercial / Industrial Warehouse Units**
48 Units (40' x 28')

Project Total
13 Buildings
60 Potential Units

No.	Revision/Issue	Date

Engineer's Seal

Owner
COWART & SONS DEVELOPMENT, LLC
912 BENTWOOD LANE
PORT ORANGE, FL 32127
386-299-8593

Professional Engineer
PARKER MYNCHENBERG & ASSOC.
1729 RIDGEWOOD AVENUE
HOLLY HILL, FLORIDA 32174
PE 32645
386-677-6891

Applicant
COWART & SONS DEVELOPMENT, LLC
912 BENTWOOD LANE
PORT ORANGE, FL 32127
407-434-1633

Project
CRYSTAL LAKE BUSINESS PARK
REED CANAL ROAD
PORT ORANGE, FL 32129
22-0002

Project	CLBP	Sheet
Date	8/2/2023	01
Scale	As Noted	

NATIVE FLORIDA LANDSCAPES

Environmental & Vegetation Consulting
207 County Line Rd. Young Harris, GA 30582
386-235-0404 ✿ donaldjspence@gmail.com

October 25, 2022

Mr. Chad Cowart
Director of Master Planning
Cowart & Sons Development, LLC
Port Orange, FL 32127

Subj: Landscape evaluations

Dear Mr. Cowart,

We completed our tree inventory at the site on Reed Canal Road (Figure 1) on October 20, 2022. Overall, we found 98 trees, with many having storm damage. I have summarized our findings in the Table 1 and provided all our tree data in Table 2. I will email you the tree data in an Excel document and provide you with a pdf that shows each tree's approximate location. We found two trees (Numbers 88 and 94) that were included on the survey but were not specimen trees due to size. The ID tags for these two trees on the survey should be modified with our DBH measurements so they will not appear as specimen trees. I have included the approximate locations of the historic trees Figure 2. Tree No. 25 is a laurel oak (*Quercus laurifolia*) in poor health. The poor health did not seem to be directly related to the past storm event, however, due to its poor health, it could be downgraded to a 'regular protected tree' category. You can work with the City during the permitting process to have the tree downgraded so it will not be counted as a Specimen Tree.

To conduct our inventory, we began at the northeast corner of the property and worked along the eastern boundary, eventually working in a north-south manner that eventually allowed us to navigate to the western property boundary. We used property corners, cement slabs, fence lines, and the wetland line delineation flags to help us find trees and provide their approximate location.

Our tree health assessments were made using the International Society of Arboriculture's Level 2 Basic Assessment protocol. Through this level of assessment, we non-invasively assess a tree's canopy, branches, trunk, and root system to determine if the tree is healthy, in a fair condition, or if it has structural or disease issues that have severely compromised the tree's health.

If you have any questions, feel free to contact me.
Best wishes,



Don Spence, Ph.D.
Board Certified Master Arborist; No. FL-1341BM

Figure 1 – Site Location

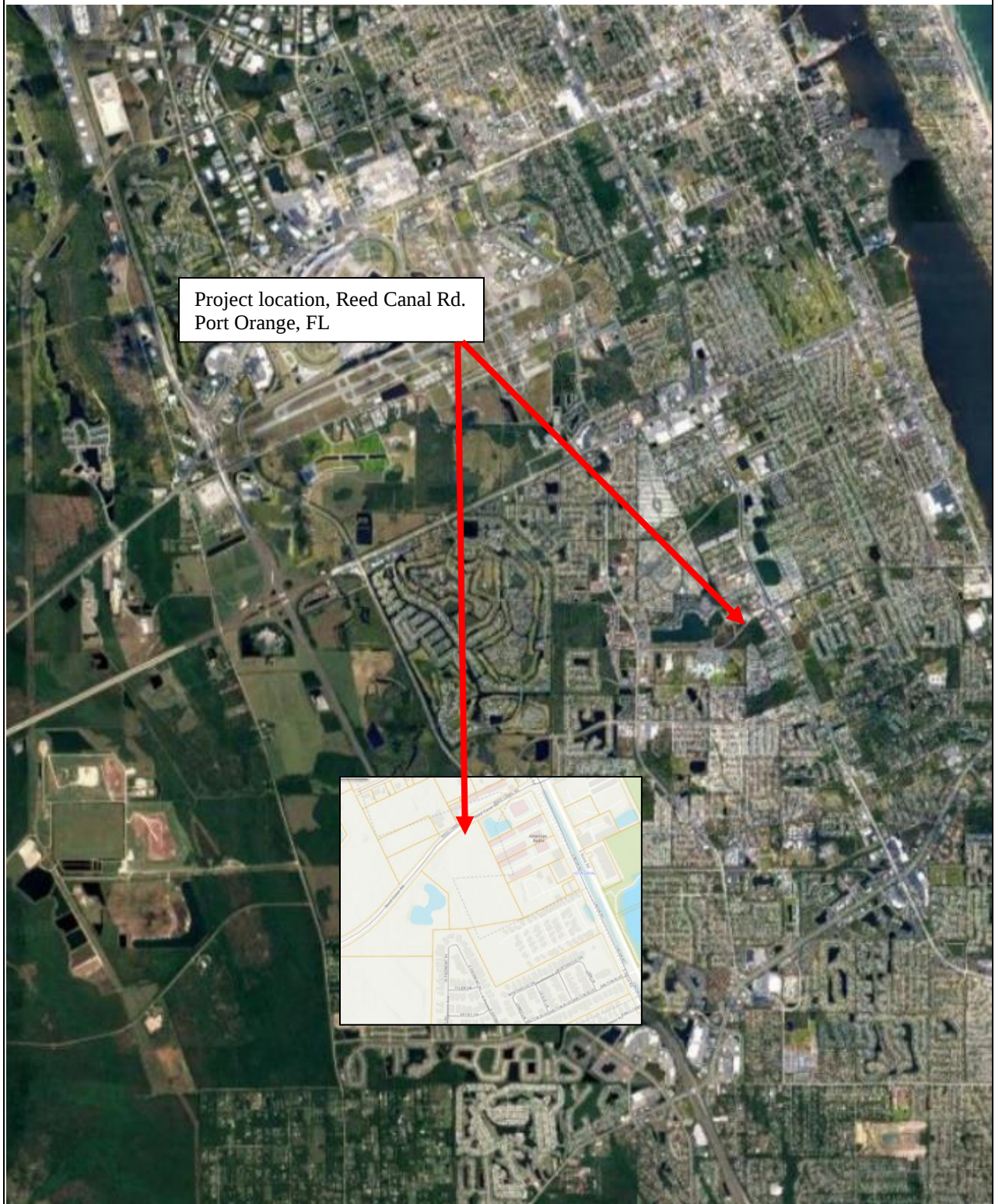


Table 1 – Tree Summary Table

	Qty
Specimen Trees	60
Historic Trees	19
Damaged Specimen and Historic Trees	17
Trees that are not specimen	2
(due to numbering, there is a 53a and a 59a) Total	98

Table 2 – Complete tree list with notes

Tree No	DBH	Designation	Species	Common name	Condition
1	26	Specimen	Liquidambar styraciflua	Sweetgum	Healthy
3	22	Specimen	Liquidambar styraciflua	Sweetgum	Healthy
4	20	Specimen	Liquidambar styraciflua	Sweetgum	Healthy
5	42	Historic	Quercus virginiana	Live oak	Healthy, but storm damaged
7	49	Historic	Quercus virginiana	Live oak	Healthy
8	35	Specimen	Liquidambar styraciflua	Sweetgum	Healthy
9	44	Historic	Quercus virginiana	Live oak	Healthy
12	22	Specimen	Liquidambar styraciflua	Sweetgum	Fair, storm damage
13	20	Specimen	Liquidambar styraciflua	Sweetgum	Fair, storm damage
15	40	Specimen	Quercus laurifolia	Laurel oak	Fair, storm damage
16	21	Specimen	Quercus laurifolia	Laurel oak	Fair, tree in decline
18	35	Specimen	Quercus virginiana	Live oak	Healthy
19	19	Specimen	Liquidambar styraciflua	Sweetgum	Healthy
20	19	Specimen	Ulmus americana	American elm	Healthy
21	34	Specimen	Ulmus americana	American elm	Healthy
22	36	Historic	Quercus virginiana	Live oak	Healthy
25	19	Specimen	Quercus laurifolia	Laurel oak	Poor
26	36	Historic	Quercus virginiana	Live oak	Healthy
27	24	Specimen	Liquidambar styraciflua	Sweetgum	Healthy
28	22	Specimen	Liquidambar styraciflua	Sweetgum	Fair
29	27	Specimen	Quercus laurifolia	Laurel oak	Fair
30	24	Specimen	Liquidambar styraciflua	Sweetgum	Healthy
31	22	Specimen	Ulmus americana	American elm	Healthy
32	27	Specimen	Quercus laurifolia	Laurel oak	Fair
35	35	Specimen	Liquidambar styraciflua	Sweetgum	Healthy

36	36	Specimen	Quercus laurifolia	Laurel oak	Fair, storm damage
37	22	Specimen	Ulmus americana	American elm	Fair, storm damage
38	32	Specimen	Quercus virginiana	Live oak	Healthy
39	32	Specimen	Quercus virginiana	Live oak	Healthy
40	30	Specimen	Quercus laurifolia	Laurel oak	Fair, storm damage
41	22	Specimen	Ulmus americana	American elm	Fair
42	34	Specimen	Liquidambar styraciflua	Sweetgum	Fair
44	39	Historic	Quercus virginiana	Live oak	Healthy
45	36	Specimen	Quercus laurifolia	Laurel oak	Healthy
46	22	Specimen	Liquidambar styraciflua	Sweetgum	Healthy
47	28	Specimen	Liquidambar styraciflua	Sweetgum	Fair
48	52	Historic	Quercus virginiana	Live oak	Fair
49	36	Specimen	Quercus laurifolia	Laurel oak	Fair
50	38	Specimen	Quercus laurifolia	Laurel oak	Fair
51	36	Historic	Quercus virginiana	Live oak	Healthy
52	32	Specimen	Quercus virginiana	Live oak	Healthy
53	21	Specimen	Quercus virginiana	Live oak	Healthy
53a	22	Specimen	Quercus virginiana	Live oak	Healthy
54	32	Specimen	Quercus virginiana	Live oak	Healthy
55	25	Specimen	Quercus virginiana	Live oak	Healthy
56	29	Specimen	Liquidambar styraciflua	Sweetgum	Healthy
57	32	Specimen	Quercus virginiana	Live oak	Healthy
58	32	Specimen	Liquidambar styraciflua	Sweetgum	Healthy
59	22	Specimen	Quercus virginiana	Live oak	Healthy
59a	18	specimen	Quercus virginiana	Live oak	Healthy
60	33	Specimen	Quercus virginiana	Live oak	Healthy
61	21	Specimen	Quercus virginiana	Live oak	Healthy
62	32	Specimen	Quercus virginiana	Live oak	Healthy
63	21	Specimen	Quercus virginiana	Live oak	Healthy
64	27	Specimen	Quercus virginiana	Live oak	Healthy
65	30	Specimen	Quercus laurifolia	Laurel oak	Healthy
67	36	Specimen	Liquidambar styraciflua	Sweetgum	Healthy
68	36	Specimen	Carya glabra	Hickory	Healthy
70	43	Historic	Quercus virginiana	Live oak	Healthy
71	36	Specimen	Liquidambar styraciflua	Sweetgum	Healthy
73	19	Specimen	Liquidambar styraciflua	Sweetgum	Healthy
75	19	Specimen	Liquidambar styraciflua	Sweetgum	Healthy
76	38	Historic	Quercus virginiana	Live oak	Healthy
77	36	Historic	Quercus virginiana	Live oak	Healthy

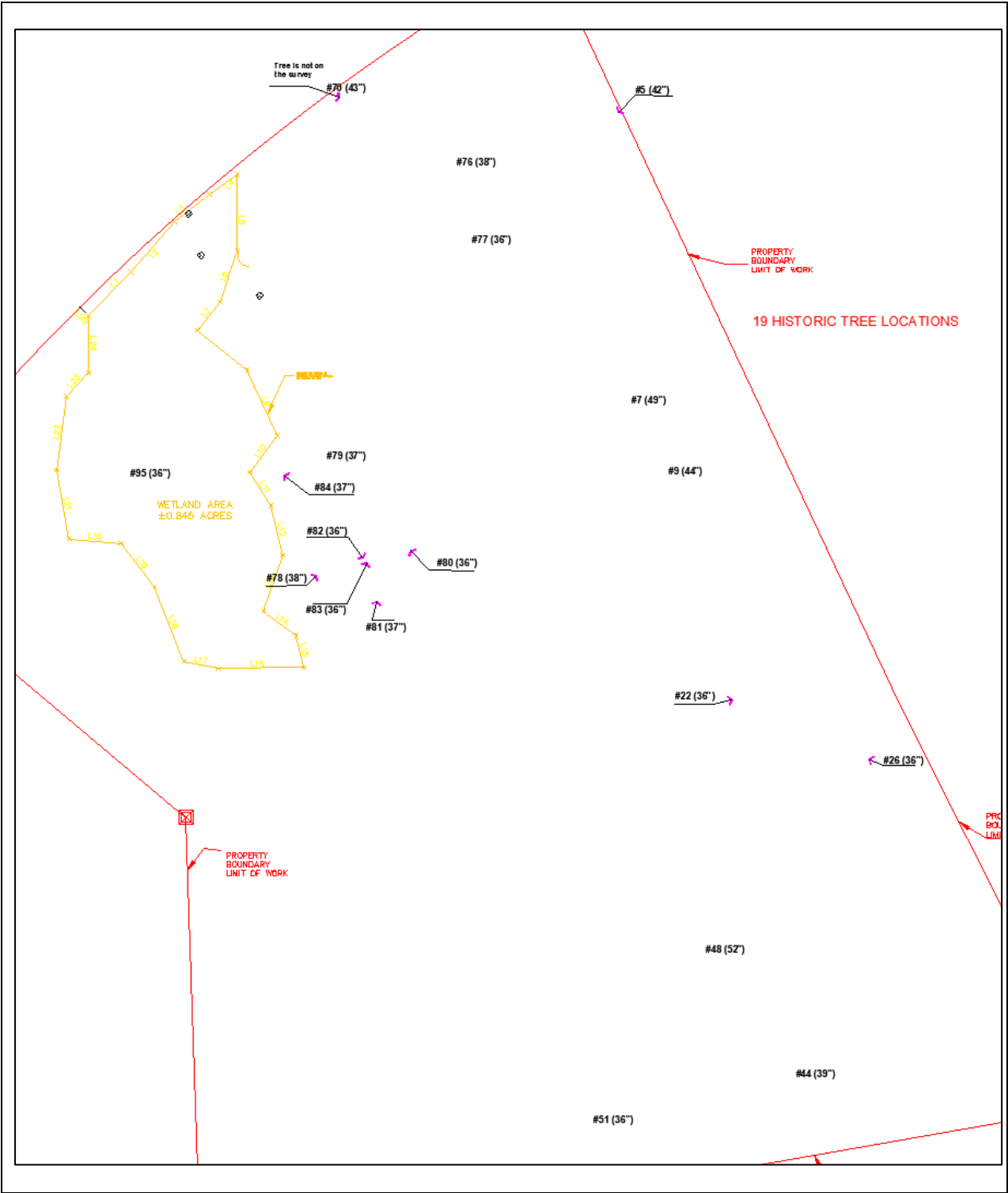
78	38	Historic	Quercus virginiana	Live oak	Healthy
79	37	Historic	Quercus virginiana	Live oak	Healthy
80	36	Historic	Quercus virginiana	Live oak	Healthy
81	37	Historic	Quercus virginiana	Live oak	Healthy
82	36	Historic	Quercus virginiana	Live oak	Healthy
83	36	Historic	Quercus virginiana	Live oak	Healthy
84	37	Historic	Quercus virginiana	Live oak	Healthy
85	18	Specimen	Liquidambar styraciflua	Sweetgum	Healthy
86	21	Specimen	Acer rubrum	Red maple	Fair, storm damage
87	27	Specimen	Liquidambar styraciflua	Sweetgum	Fair
89	26	Specimen	Quercus virginiana	Live oak	Fair
90	21	Specimen	Quercus virginiana	Live oak	Fair
91	21	Specimen	Quercus virginiana	Live oak	Fair
92	27	Specimen	Quercus laurifolia	Laurel oak	Healthy
95	36	Historic	Quercus virginiana	Live oak	Healthy

TREES THAT ARE DAMAGED AND WILL NOT COUNT AGAINST YOUR PROJECT

2	22	Specimen	Carya glabra	Hickory	Storm damaged and blown over
6	24	Specimen	Quercus laurifolia	Laurel oak	Storm damaged and blown over
10	42	Specimen	Quercus laurifolia	Laurel oak	Storm damaged and blown over
11	24	Specimen	Liquidambar styraciflua	Sweetgum	Storm damaged and blown over
14	20	Specimen	Quercus laurifolia	Laurel oak	Storm damaged and blown over
17	30	Specimen	Quercus laurifolia	Laurel oak	Storm damaged and blown over
23	36	Historic	Quercus virginiana	Live oak	Dead, dying, damaged
24	48	Specimen	Liquidambar styraciflua	Sweetgum	Storm damaged and blown over
33	24	Specimen	Liquidambar styraciflua	Sweetgum	Storm damage tree has been blown over
34	36	Specimen	Quercus laurifolia	Laurel oak	Storm damaged and fallen over
43	20	Specimen	Quercus laurifolia	Laurel oak	Storm damaged and blown over

66	unknown		Liquidambar styraciflua	Sweetgum	Storm damaged and blown over
69	24	Specimen	Quercus laurifolia	Laurel oak	Storm damaged and blown over
72	19	Specimen	Liquidambar styraciflua	Sweetgum	Storm damaged and blown over
74	unknown		Liquidambar styraciflua	Sweetgum	Damaged and blown over
93	18	Specimen	Acer rubrum	Red maple	Damaged and blown over
96	27	Specimen	Quercus virginiana	Live oak	Storm damaged and blown over

Figure 2 – Approximate historic tree locations



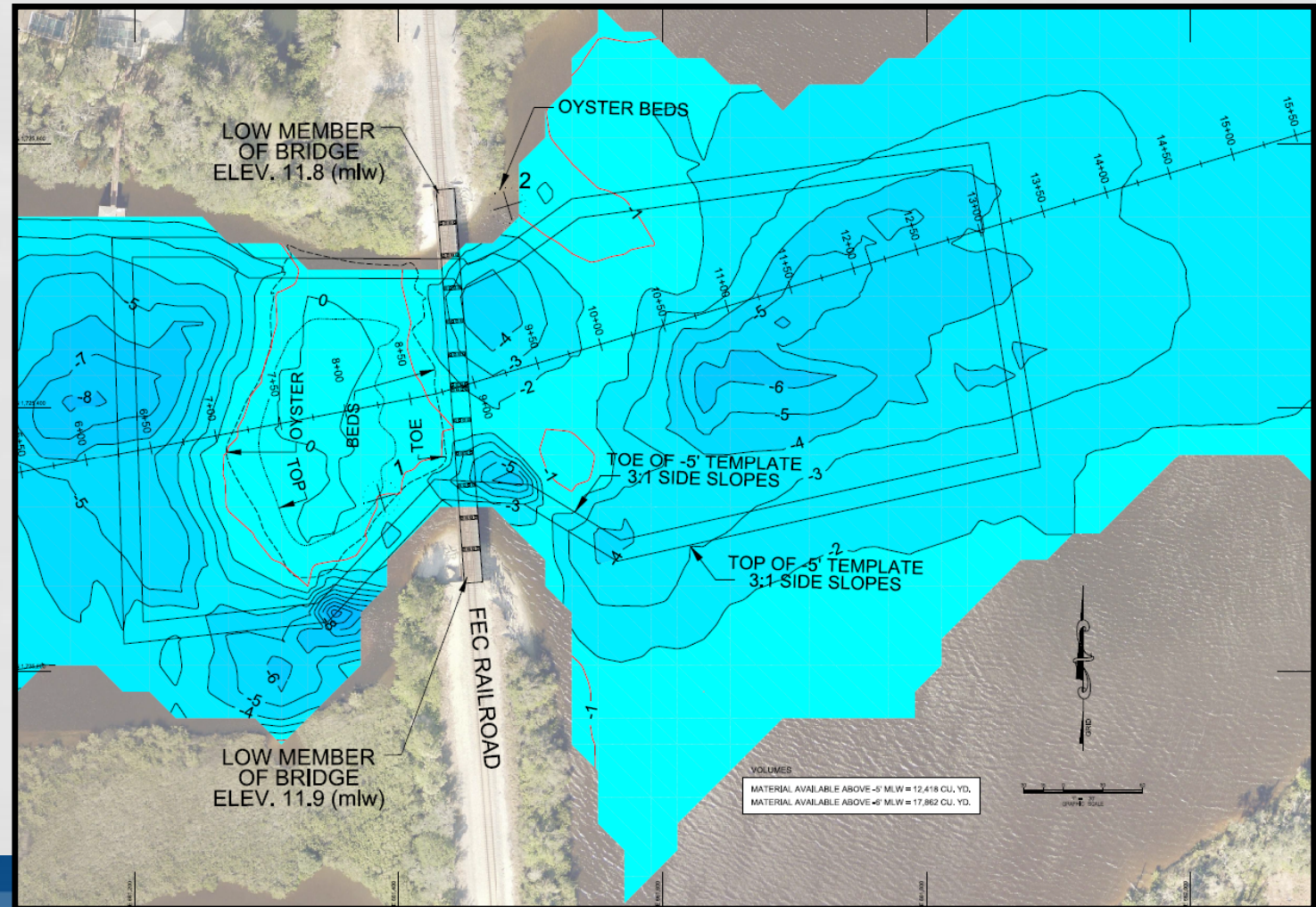
Spruce Creek Dredging

Niles Cyzycki
Activity Project Manager
Volusia County Coastal Division
nczycki@volusia.org



Dredge Area

- Location of proposed dredge area.
- Proposed dredge depth of -6ft below mean water.
- +/- 18,000 cubic yards of material.



Flushing Study

- DMC completes a Hydronamic Flow Analysis.
- Concludes that the proposed dredge project will make the tidal flow more uniform and reduce areas of peak current.
- Will increase total flow into the system.

FIGURE 22: SIMULATED FLOW, EXISTING CONDITIONS

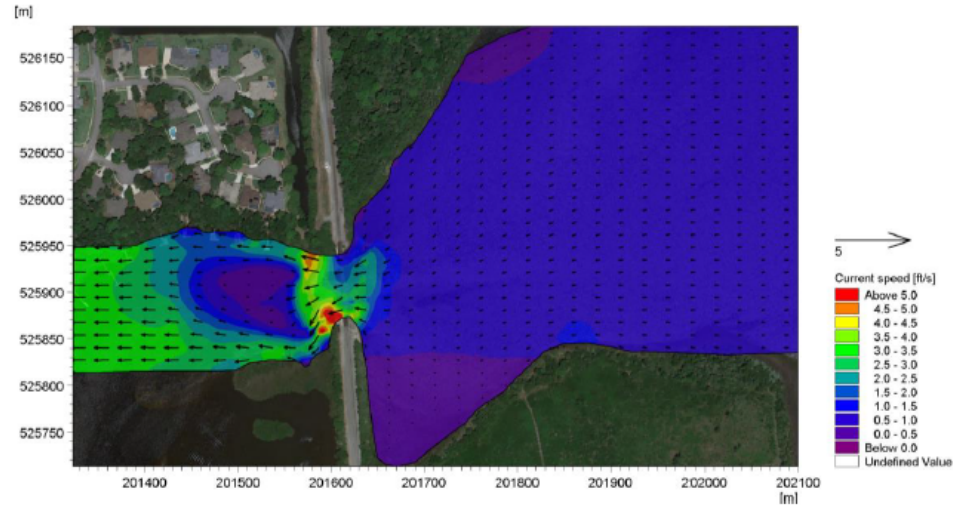
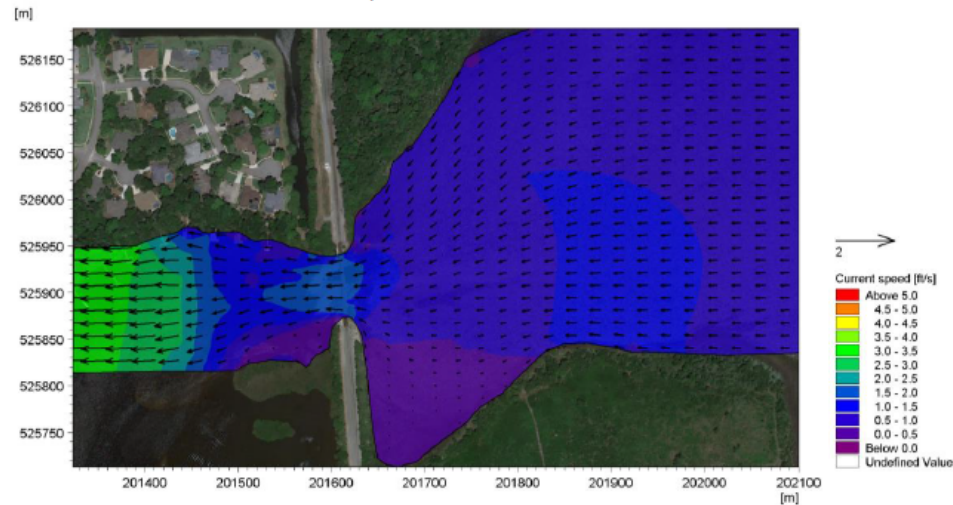


FIGURE 23: SIMULATED FLOW, PROPOSED CONDITIONS



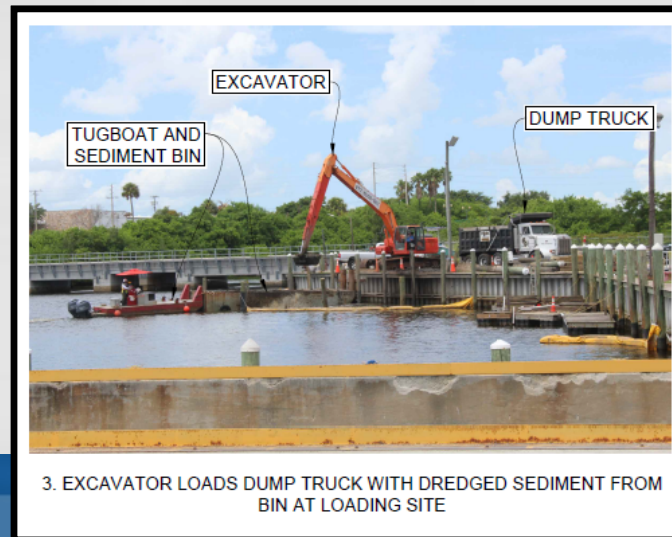
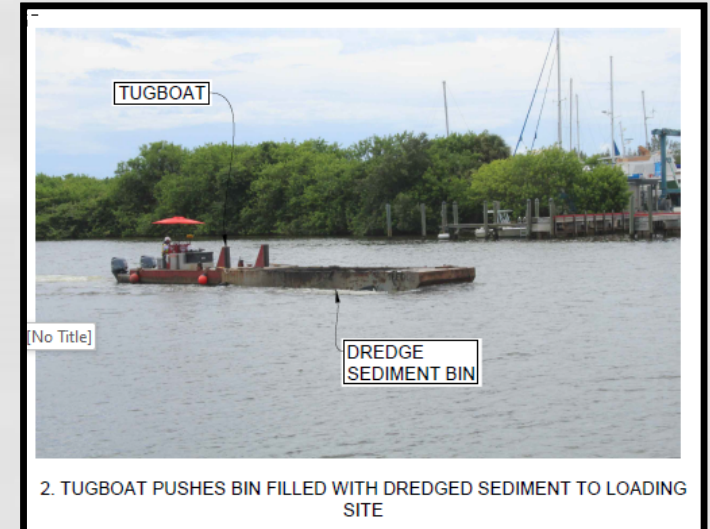
Sediment Sampling and Testing

- Live Oysters
- Sandy material
- No chemical concerns



Dredging and Disposal

- Mechanical Dredging
- Barge mounted excavator and material containment
- Off-load site and trucking
- Turbidity Monitoring
- Construction Inspection



Proposed Offload Site

- South end of Spruce Creek Rd. ROW
- 1 mile from dredge location
- Preservation of existing overhead and underground utilities
- Preservation of existing environmental resources
- Road Sweeping
- Future Use



Permitting & Construction

- Letter of approval to use the Spruce Creek Rd. property for offload of dredged material.
- Temporary License Agreement with Volusia County
- FDEP and USACE Permitting
- Construction Management

