

Estuary, LLC

Conceptual Master Plan

Transmittal Package for Multi-Use FLUE

May 1, 2024

Estuary, LLC Conceptual Master Plan

April 15th 2024

Multi-Use: Future Land Use

The following written description is provided to demonstrate compliance of the attached Conceptual Master Plan with the nine (9) conditions of Future Land Use Element Policies 4.3.22 of the City's Comprehensive Plan. Each of the conditions are listed below followed by a written description of how the Conceptual Master Plan complies with the condition.

1. The general distribution, location and densities/intensities of residential and non-residential development;

The Conceptual Master Plan Exhibit 1.1 depicts a mixed-use Master Plan located on approximately 11,047 acres east of major regional roadway corridors of Interstate 295, State Road 9B and US highway 1. The proposed Master Plan is east of the eTown and Wells Creek communities, south of the Seven Pines community, north of Nocatee, and the St Johns County line is its eastern border.

The Conceptual Master Plan illustrates the general distribution, location and densities/intensities of residential and mixed-use development by upland parcel. Up to 10,142 dwelling units and 690,000 square feet of mixed-use space may be developed within the Property. The mixed-use areas are located in three separate nodes. These three nodes are central to the Property and are served by one or more collector road. The residential uses will generally transition from multi-family uses generally surrounding mixed use nodes to provide a transition in density and intensity of use to the lower density single family residential neighborhoods that are generally defined by the major wetland and conservation systems.

The proposed Conceptual Master Plan is designed utilizing smart growth design principles in order to create a socially, economically and environmentally sustainable community. Design principles will include: a mix of uses; walkable neighborhoods with a wide range of housing options; preservation of unique open space and environmentally sensitive areas that will help to define community edges, utilize landmarks and nodes to help create community identity and a strong sense of place; and the provision of a balanced, multi-modal transportation system to increase mobility choice and to help reduce vehicle miles traveled. Civic space and pocket parks will be provided within walking distance of homes. A wide range of land uses will be included, from low-density residential to traditional neighborhood developments, and from low-intensity neighborhood commercial to mixed-use villages.

2. Acknowledgement that rezonings will be submitted where such uses, densities and intensities are inconsistent with the current zoning designations prior to development reviews and approvals for development within the overall site.

It is acknowledged that future rezonings will be required where the proposed uses and densities are inconsistent with the current zoning designation.

3. The general distribution and location of conservation areas and wetland buffers;

The Conceptual Master Plan Exhibit 1.1 depicts an interconnected network of greenways and conservation lands that define the edges of residential neighborhoods and provide wildlife habitat corridors. The Majority of the Property's wetlands will ultimately be placed in conservation with upland buffers. Consistent with Conservation Element Policy 4.1.9. of the City's Comprehensive Plan, the wetlands to be conserved shall be protected by recordation of conservation easements prior to or at the time of platting of adjacent upland areas in accordance with the terms of the applicable Environmental Resource Permit ("ERP") issued by the St. Johns River Water Management District (SJRWMD). Mitigation for proposed wetland impacts shall be subject to approval by the SJRWMD and the United States Army Corps of Engineers ("ACOE"). Upland buffers consistent with SJRWMD standards and the City of Jacksonville Land Development Regulations shall be provided. Wetland mitigation will include wetland and upland preservation and may include wetland restoration, enhancement, a mitigation bank, and creation and upland buffer enhancement as part of the mitigation plan under the SJRWMD and ACOE permits. The exact boundaries of wetland areas to be conserved shall be determined in connection with wetland permitting by the SJRWMD and ACOE. The limits of conserved wetlands shall be delineated on engineering plans submitted for approval by City of Jacksonville.

4. The strategy for providing centralized utilities for water and sewer service throughout the planning area, including a general phasing plan that identifies when development is anticipated to require the need for additional facilities, and the Water Supply Facilities Work Plan (WSFWP) must be updated prior to any development phase requiring construction of potable, treatment, and/or non-potable water supply facilities to incorporate the applicable planned facilities into the WSFWP;

Coordination with JEA was conducted through a series of meetings and preliminary design. Through this coordination a Conceptual Utility Exhibit (Exhibit 4.1) was created that shows the major utility corridors (water, sewer, and reuse) through the property including multiple connection points to the existing and proposed JEA system. These corridors make regional utility loops supporting resiliency of the utility system. As can be seen in the JEA Water, Wastewater, and Reuse Exhibit (Exhibit 4.1); the project connects to planned utilities west and south of the Property. These utilities will be supplied by existing connections within e-Town, Nocatee, at US 1, and the Greenland Waste Water Treatment Plant. According see attached April 9, 2024 letter from Robert Zammataro with JEA for additional information (Exhibit 4.2). Additional coordination was done with JEA Electrical Transmission and Distribution group. Corridors needed to supply and serve the area were identified and depicted in the Electrical Transmission Routing and Substation Citing Exhibit (Exhibit 4.3). Attached is an April 5, 2024 letter from Russell Durham with JEA for additional information (Exhibit 4.4).

5. Identification of the major internal transportation facilities necessary to serve the future land uses through an efficient and connected network;

An interconnected multi-modal transportation network will be provided to serve the Master Plan and the various neighborhoods. The major roadway corridors are depicted on the Conceptual Master Plan (Exhibit 1.1). The major transportation corridors connect with Big Creek Timber's neighboring PUD and Conceptual Master Plan to the west. Together they form a cohesive transportation network to efficiently serve both the Property and Big Creek Timber. An interconnected local street network with sidewalks will be provided within the neighborhoods to provide multiple options to connect to the major north-south and east-west corridors.

6. General identification of how the major internal transportation facilities will connect to the external transportation network with proposed future connections to any State facilities subject to review by the Florida Department of Transportation;

Coordination with FDOT was conducted through a series of meetings and review of traffic analyses provided by the applicant. Attached as Exhibit 6.1 is a copy of FDOT's letter stating their ongoing role in review of the Conceptual Master Plan. The Property's owner has agreed to FDOT's request for continued coordination on all modeling revisions made to the City and that limitations on unit conversion will be documented in the Property's PUD. It is also recognized that City and FDOT's review of the modeling does not relieve the need for City Civil Plan approval or FDOT permitting for improvements that may be identified in the Conceptual Master Plan.

Additionally, coordination has occurred with City planning staff to evaluate the effects of this project on existing and future City Facilities. The Master Plan Traffic Assessment and travel demand model has been delivered to the City for review. The Traffic Assessment illustrates the lanage requirements, both within the master plan area and adjacent off-site facilities. We will continue to coordinate with the planning and development department and traffic engineering division as the project progresses. In the event additional external access points are added, that trip generation rates are updated or refined, uses of alternative modes of transportation change, advances in traffic modeling and data collection occur, or capacity increases within the transportation network updates may be made to the Net External Trip total, shown in Table 4, which will be reviewed and approved by the Planning and Development Department and FDOT. This allows the planning to respond to changes like added external road connections, age-restricted residential units, and transportation modeling advancements. Amendments to the Conceptual Master Plan's overall unit counts and density will be reviewed and approved by the Planning and Development Department and FDOT with respect to maintaining the Net External Trip total. A corresponding PUD revision must also be approved for increases of the overall units counts or the Net External Trip totals.

7. A basic assessment shall be conducted of the currently identified and expected roadway operating conditions of the immediately surrounding transportation network for the conceptual master plan (methodologies and assumptions used in this assessment shall be agreed upon by the Planning and Development Department, the Florida Department of Transportation, and the owner or authorized agent); and

An analysis of the future operating conditions was conducted using the NERPM-AB 1v3 travel demand model modified to include the proposed development and internal roadway network. The daily traffic predicted by the model was used to develop annual average daily traffic(AADT) volumes along with design hourly volumes (DHV) using a model output correction factor of 0.96 and a K_{factor} of 0.09. These volumes along with the FDOT Quality and Level of Service Handbook (2020) were used to establish the required lanage for the internal roadway network. Roadways may be constructed incrementally as required for project traffic (i.e. 2 lane construction of future 4 lane). Above referenced modeling has been coordinated with and provided to COJ electronically.

The developer shall cause the design and construction of the roadway improvements shown on the Developer Constructed Roadways Plan (Exhibit 7.1). The roadway improvements will be phased as required to appropriately serve the parcels. The Master Plan area is subject to City of Jacksonville Mobility Fees. Additional on-site and off-site improvements may be designed and constructed by the developer at the developer's discretion subject to the review and approval of the City and FDOT.

8. Coordination with the Florida Fish and Wildlife Conservation Commission staff in the design of the conceptual master plan.

Coordination with FWC was conducted through discussions with their staff (Josh Cucinella) and presenting the Comprehensive Plan Amendment and Conceptual Master Plan. Discussions covered a wide range of topics that will ultimately need to be permitted with FWC when specific infrastructure or sites within the Master Plan are developed.

The Florida Fish and Wildlife Conservation Commission issued a letter January 16th, 2024 with comments and recommendations (Exhibit 8.1).

9. Requirements and Limitations for submitting proposed conceptual master plan amendments.

Revisions to the Master Plan are subject to review by the City Council and may be sought by the owner of the parcel which is the subject of the amendment, but only with the written consent of the Master Developer of Record.

The property owner shall provide the Planning and Development Department with a letter formally dedicating the Master Developer of Record for the purposes of implementation and compliance with the Master Plan. The letter shall include contact information for the Master Developer and shall be submitted to the Planning and Development Department within 30 days of the approval of the Master Plan.

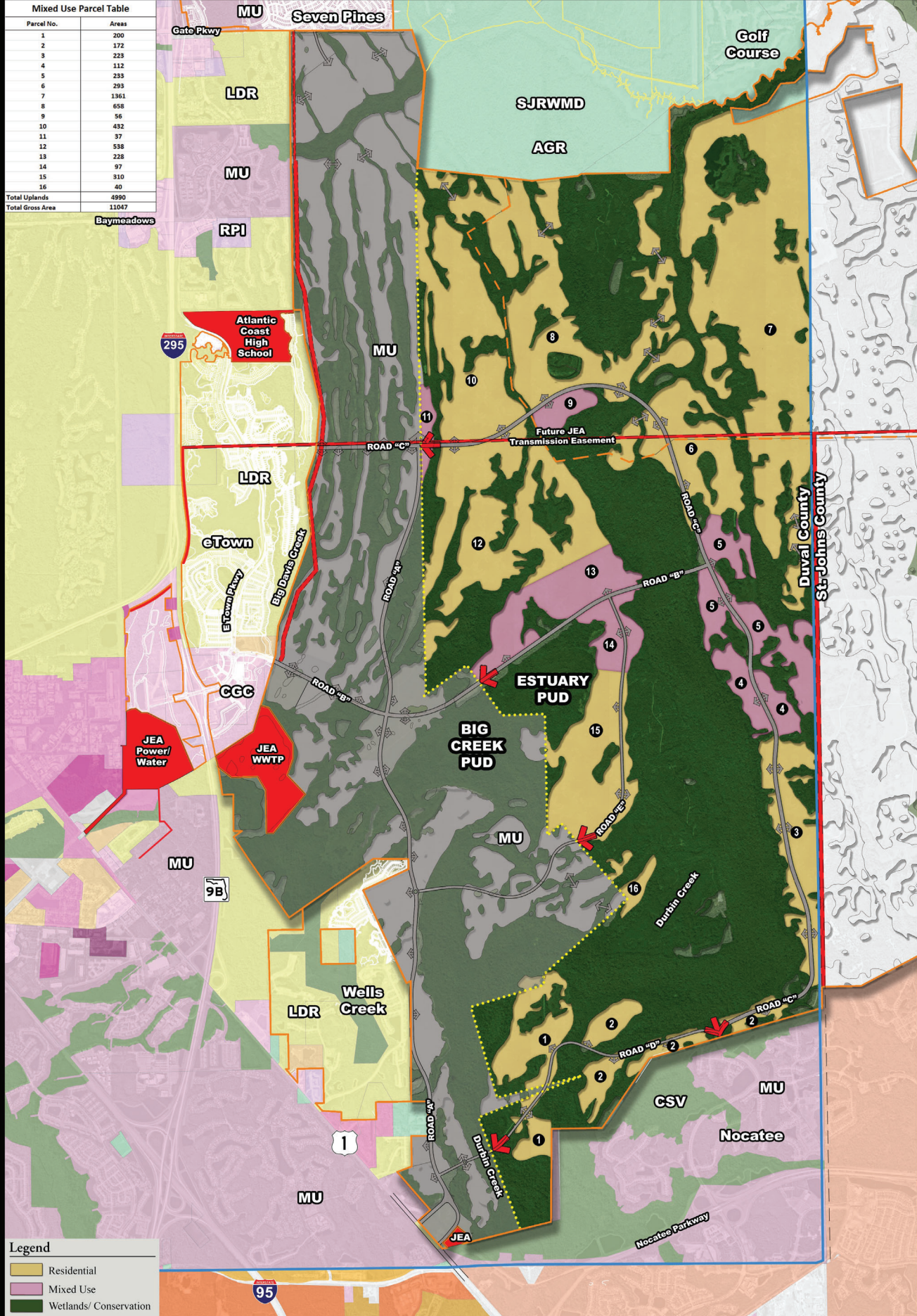
EXHIBIT 1.1

Estuary Conceptual Master Plan

Northeast Florida

April 24, 2024

Mixed Use Parcel Table		
Parcel No.	Area	
1	200	
2	172	
3	225	
4	112	
5	253	
6	293	
7	1361	
8	658	
9	56	
10	432	
11	37	
12	538	
13	228	
14	97	
15	310	
16	40	
Total Uplands		4990
Total Gross Area		11047



Legend	
[Light Green Box]	Residential
[Pink Box]	Mixed Use
[Dark Green Box]	Wetlands/ Conservation



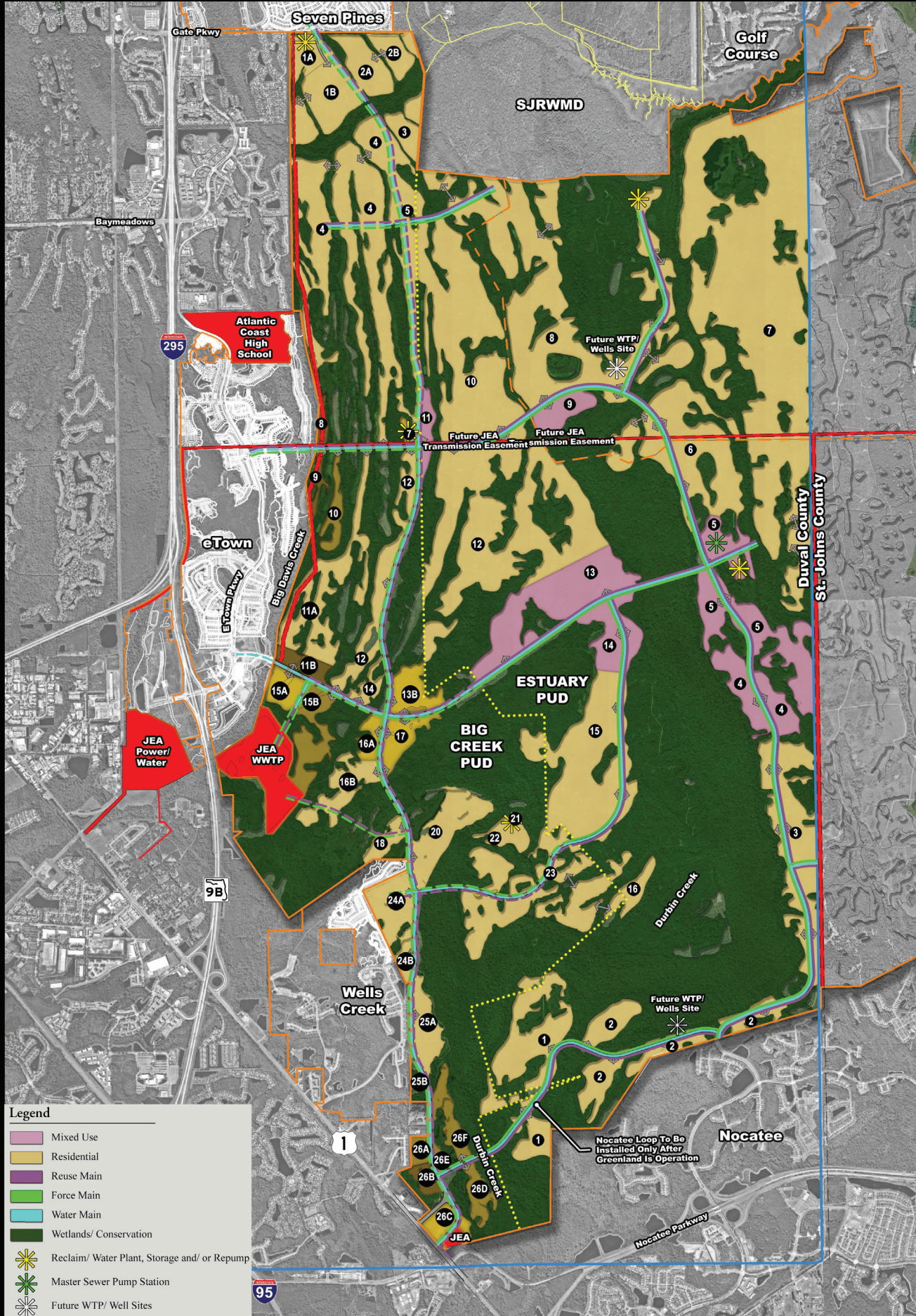
NOTE: NON BONDING SITE PLAN

Note: This land plan and/or rendering is only valid and is subject to review, change and approval by all governmental agencies to meet environmental, technical and other standards. This plan was completed based on limited information, then for informational purposes only and is not intended to be used for any other purpose and is subject to change.

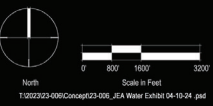
EXHIBIT 4.1

Estuary JEA Water, Wastewater & Reuse Exhibit

Northeast Florida
April 10 2024



- Legend**
- Mixed Use
 - Residential
 - Reuse Main
 - Force Main
 - Water Main
 - Wetlands/ Conservation
 - Reclaim/ Water Plant, Storage and/ or Repump
 - Master Sewer Pump Station
 - Future WTP/ Well Sites



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EXHIBIT 4.2



225 N Pearl Street
Jacksonville, Florida 32202

April 9, 2024

Brett James
Director of Planning and Development
City of Jacksonville
214 N. Hogan Street, Suite 300
Jacksonville, FL 32202

Subject: Estuary Development
Water/Sewer/Reclaim Utility Master Plan

Dear Mr. James:

Following the City's policy requirements for Multi Use land, Estuary, LLC has developed a conceptual long-term master plan addressing their 11,047 acre property to be designated MU. Requirement #4 of that conceptual master plan is to address; "The strategy for providing centralized utilities for water and sewer service throughout the planning area."

JEA staff has had multiple meetings and discussions with the developer, Parc Group, and their consultant, England- Thims and Miller, Inc. During these discussions major utility corridors within the property and multiple connection points to the existing and proposed JEA utility system for water, sewer, and reclaimed water have been identified. These corridors and connection points are shown on the attached Estuary JEA Water Exhibit. Onsite facility locations and offsite treatment facility expansions will be required in the future. JEA currently estimates the need for six (6) treatment plant, tank storage and/or master pump or repump station facilities located along main routes to serve the property. The Developer shall be providing all the property and easements, at no cost to JEA, needed to serve the Development. The timing of these improvements will be addressed as part of the master plan analysis required as the development progresses through the JEA Development process. The current 2018-2028 Water Supply Facilities Work Plan (WSFWP) includes projects that will sufficiently meet the needs of the portion of this development which will occur during the plan timeframe.

Subject to further project coordination, meeting JEA standards and final engineering, JEA will have the capacity to serve this project with central water, sewer, and reclaimed water. Should additional information be required or if you have any questions, please feel free contact me at zammrj2@jea.com or 904-616-6288.

Sincerely,

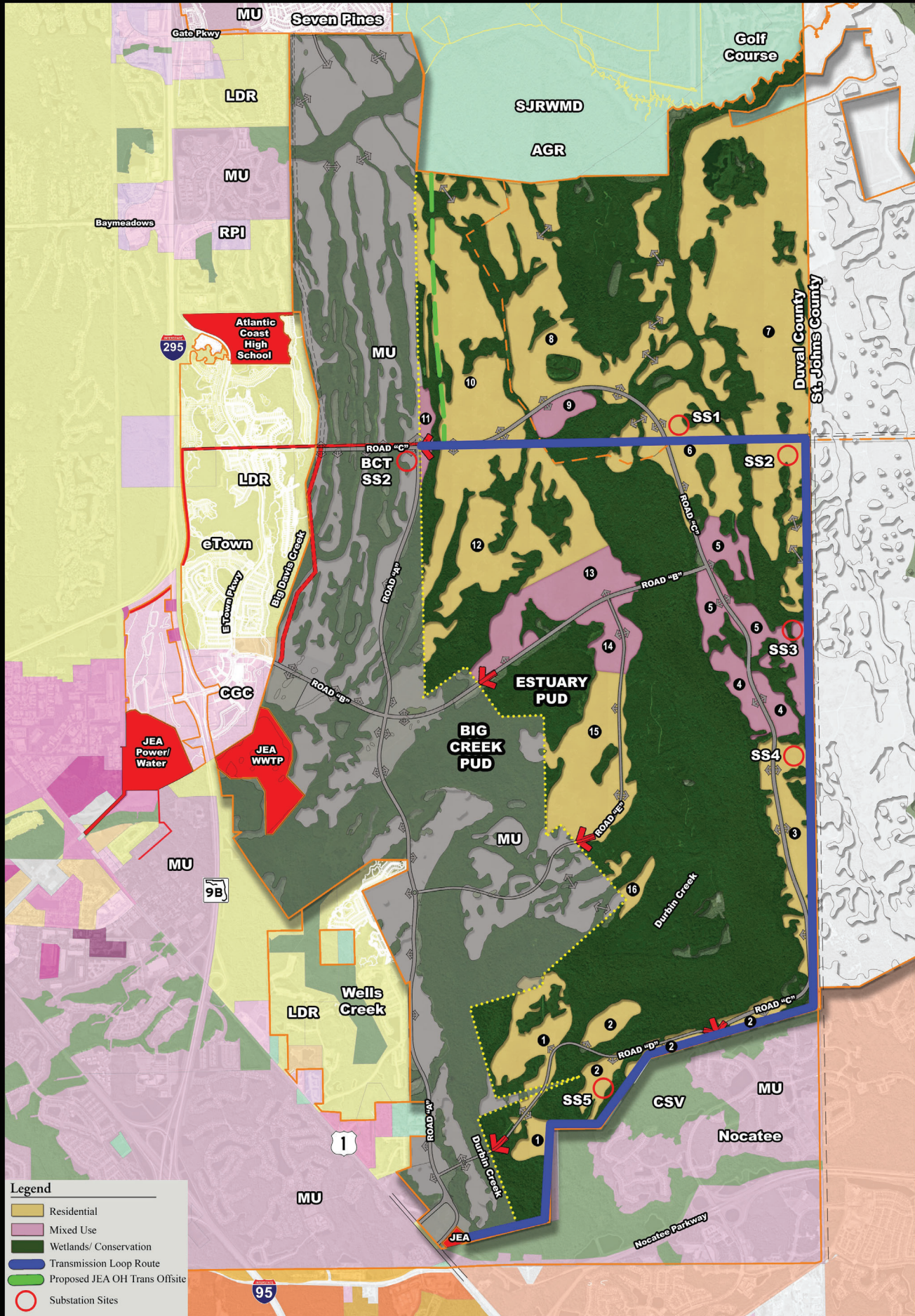
A handwritten signature in blue ink, appearing to read 'Robert Zammataro', is written over a light blue circular stamp.

Robert Zammataro, PE
Director Water Planning & Development

EXHIBIT 4.3

Conceptual Electrical Transmission Routing Exhibit and Substation Citing Exhibit

Northeast Florida
March 19, 2024



Legend

- Residential
- Mixed Use
- Wetlands/ Conservation
- Transmission Loop Route
- Proposed JEA OH Trans Offsite
- Substation Sites



NOTE: NON BONDING SITE PLAN

Note: This land plan and/or rendering is not intended to be used as a basis for any governmental action or approval. It is subject to review, change and approval by the appropriate governmental agencies to meet environmental, technical and other standards. This plan was completed based on limited information. Figures are approximate and are subject to change.

EXHIBIT 4.4

225 North Pearl Street Jacksonville,
FL 32202-4513



Brett James
Director of Planning and Development
City of Jacksonville
214 N. Hogan Street, Suite 300
Jacksonville, FL 32202

April 5th, 2024

Dear Mr. James:

Following the City's policy for Multi Use land, Estuary, LLC has developed a conceptual long-term master plan addressing their property to be designate MU. Requirement #4 of that conceptual master plan is to address; "The strategy for providing centralized utilities for ... service throughout the planning area."

JEA staff has had multiple meetings and discussions with the Parc Group and their consultants during these discussions we have identified electrical transmission routing within the property and connection points to existing and proposed JEA facilities. These corridors and connection points can be seen on the attached Conceptual Electrical Transmission Routing Exhibit and Substation Citing Exhibit. This exhibit depicts the conceptual location of electrical transmission circuits/corridors needed to serve and supply the property. Electrical substation sites, potentially five (5), located adjacent to the transmission route will be necessary to serve the property and are being planned for by the property owner. Onsite and offsite facility expansions may be required in the future. These items will be addressed as needed or coordinated as the development progresses.

Subject to further project coordination, meeting JEA standards and final engineering; Based on approximate new electric services/load types listed below for Estuary, JEA will have the capacity to serve this property with electrical service. Should you need any further documentation, please do not hesitate in calling.

- 10,000 Single Family
- 2,000 Multi Family
- 1.5 million SF commercial/office/institutional

Sincerely,

A handwritten signature in black ink that reads "Russell Durham". The signature is written in a cursive, flowing style.

Russell Durham
Manager, Electric T&D Planning

EXHIBIT 6.1



Florida Department of Transportation

RON DESANTIS
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

JARED W. PERDUE, P.E.
SECRETARY

R. Brett James, LLA, AICP
Director of Planning and Development
City of Jacksonville
214 N. Hogan Street, Suite 300
Jacksonville, FL 32202

April 24, 2024

Dear Mr. James:

The City's policy for the MU Land Use category requires the owner to develop a conceptual long-term master plan addressing the entire property. Estuary, LLC has engaged in this long-term planning for the 11,047 acre property proposed for MU Land Use, see attached Conceptual Master Plan. Two requirements of that master plan are to address;

- Item #6 of the master plan: "Identification of the major internal transportation facilities necessary to serve the future land uses through an efficient and connected network."
- Item #7 of the master plan: "General identification of how the major internal transportation facilities will connect to the external transportation network."

FDOT has had meetings and discussions with the Parc Group and their consultant England-Thims and Miller, Inc. During these discussions we have reviewed the major transportation corridors within the 11,047 acre property and the multiple connection points to the existing transportation network. These corridors and connection points can be seen on the attached Exhibit.

Subject to meeting FDOT standards, final engineering, permitting, and approvals; FDOT believes the proposed internal transportation facilities and connections to the external transportation network are an appropriate plan for the development.

Sincerely,

A handwritten signature in blue ink, appearing to read "J. Knight", is written over a light blue circular stamp.

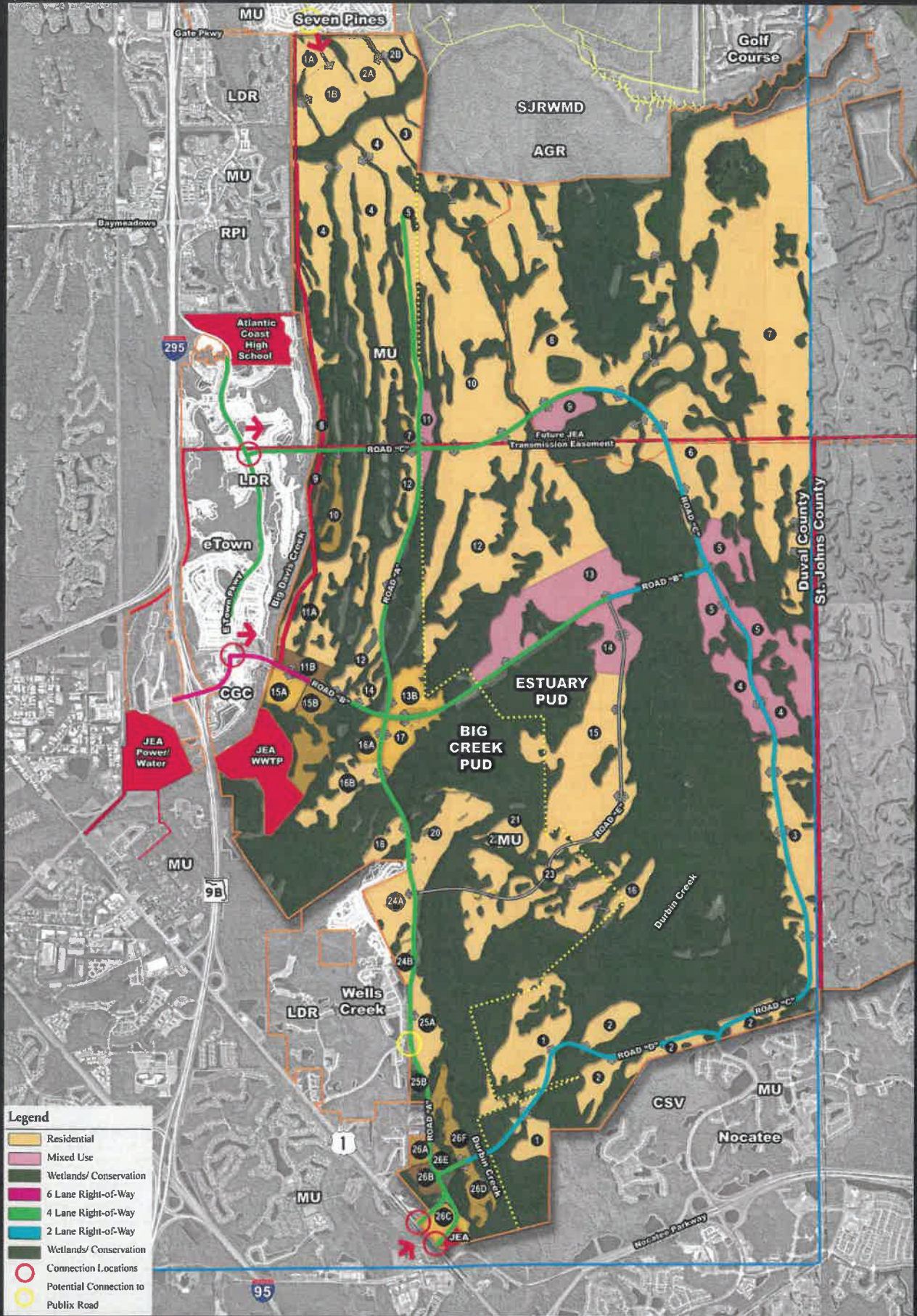
James M. Knight, P.E.
Urban Planning and Modal Administrator
Florida Department of Transportation District 2

Estuary Roadway Exhibit

Northeast Florida

April 10, 2024

13-000000-0000-0000-0000-0000



Legend

- Residential
- Mixed Use
- Wetlands/ Conservation
- 6 Lane Right-of-Way
- 4 Lane Right-of-Way
- 2 Lane Right-of-Way
- Wetlands/ Conservation
- Connection Locations
- Potential Connection to Publix Road

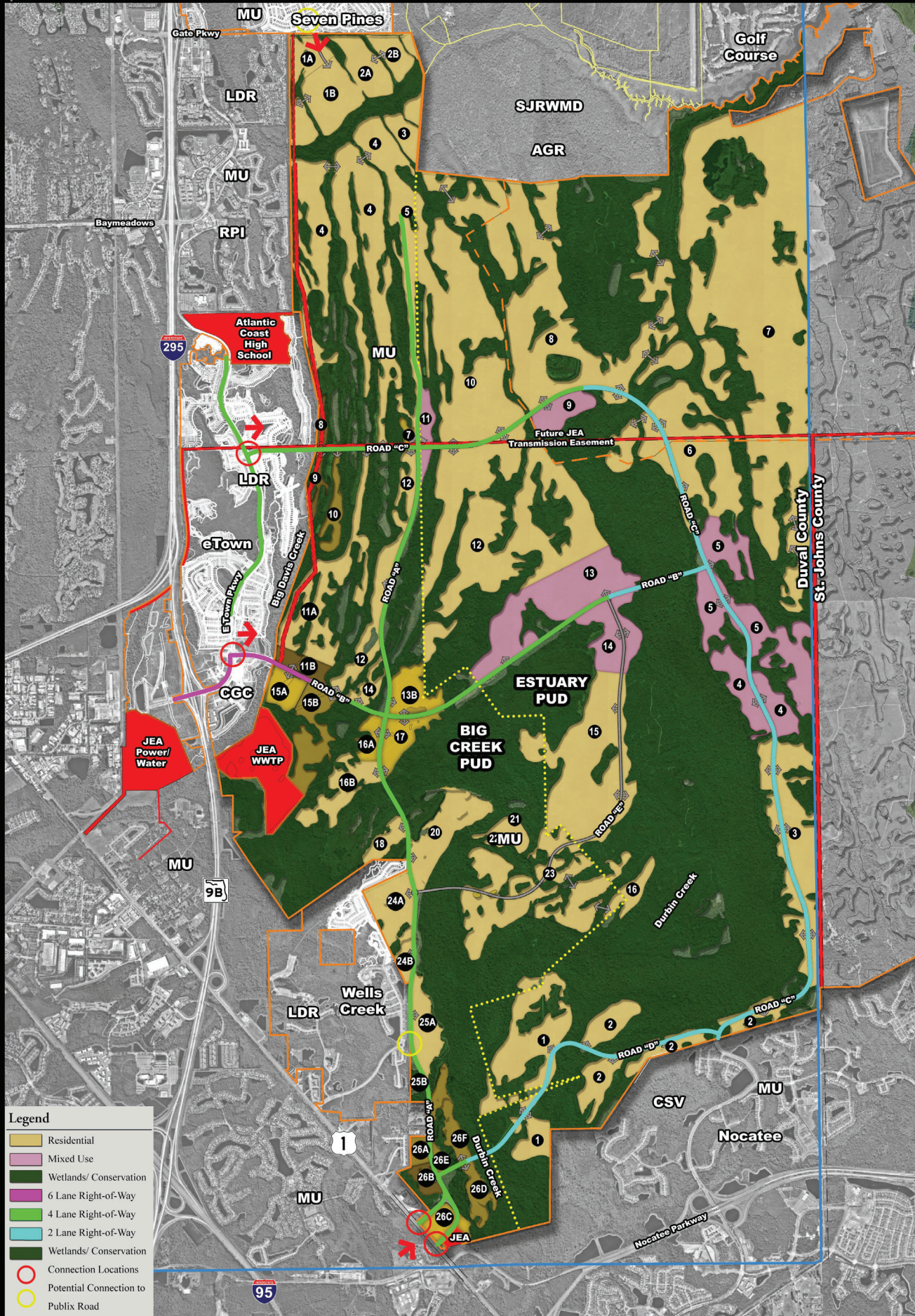
NOTE: NON BONDING SITE PLAN

EXHIBIT 7.1

Estuary Roadway Exhibit

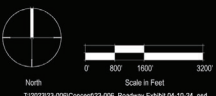
Northeast Florida

April 10 2024



Legend

- Residential
- Mixed Use
- Wetlands/ Conservation
- 6 Lane Right-of-Way
- 4 Lane Right-of-Way
- 2 Lane Right-of-Way
- Wetlands/ Conservation
- Connection Locations
- Potential Connection to
- Publix Road



NOTE: NON BONDING SITE PLAN

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EXHIBIT 7.2

ESTUARY PUD AND CONCEPTUAL MASTER PLAN

Table 7 - Projected Right of Way Requirements

Roadway	Segment	PM Peak Volume (vph)	Projected Lanage Requirement	Minimum Right of Way Width (ft)
Road A	US-1 to east fork of Road A	1150	4-lanes	140
	to Parcel 25B	2950	4-lanes	140
	Parcel 25B to Parcel 20	2030	4-lanes	140
	Parcel 20 to Road B	2190	4-lanes	140
	Road B to Road C	3330	4-lanes	140
	Road C to Parcel 10	2100	4-lanes	140
	Parcel 10 to Parcel 3	1210	2-lanes	140
East Fork Road A	US-1 to Road A	2070	2-lanes	140
Road B	eTown Parkway to Parcel 12	4980	6-lanes	200
	Parcel 12 to Road A	4550	6-lanes	200
	Road A to Parcel 13	2850	4-lanes	140
	Parcel 13 to Road C	1440	2-lanes	100
Road C	Nocatee Connector to Parcel 3	1290	2-lanes	100
	Parcel 3 to Parcel 5	1290	2-lanes	100
	Parcel 5 to Road B	1500	4-lanes	140
	Road B to Parcel 6	1150	2-lanes	100
	Parcel 6 to Parcel 7	720	2-lanes	100
	Parcel 7 to Parcel 9	1000	2-lanes	100
	Parcel 9 to Road A	1670	4-lanes	140
	Road A to Parcel 4	2020	4-lanes	140
Road D	Parcel 4 to eTown Parkway	1940	4-lanes	140
	Road A to Nocatee Connector	1380	2-lanes	100

Estuary PUD and Conceptual Master Plan Parcel Table

Parcel Table with Unit Counts, Minimums, Maximums

Parcel No.	Areas (Ac)	Single Family (Units)	Multi-Family (Units)	Mixed-Use (SF)	Conversion Minimum	Conversion Maximum
1	200	600			200	800
2	172	516			172	750
3	223	669			223	1,000
4	112			390,000	100,000	550,000
5	179	-	1,500		179	2700
6	347	900			347	1,400
7	1361	1,200			1,361	1,800
8	658	1,200			658	1,800
9	56			195,000	75,000	250,000
10	432	1,296			432	1,800
11	37	111			37	200
12	538	750			538	1,100
13	228	-	750		228	1,140
14	97			105,000	45,000	175,000
15	310	530			310	750
16	40	120			40	200
Total Uplands	4,990	7,892	2,250	690,000		
Total Gross Area	11,047					

Estuary PUD - Conversion Matrix

Created 3/22/2024

LUC	Description	Converting To										Trip Rates
		210	220	221	251	252	310	710	820	Commercial	1000 sf	
	Single Family	MF Low Rise	MF Mid Rise	Adult SF	Adult MF	Hotel	Gen Office					
	DU	DU	DU	DU	DU	DU	1000 sf	1000 sf				
210	Single Family Detached	1.95900	1.95950	3.33160	3.05720	1.18230	0.54610	0.23170	0.7646			
220	Multi Family (Low Rise)	0.51050	1.00030	1.70070	1.56060	0.60350	0.27880	0.11830	0.3903			
221	Multi Family (Mid Rise)	0.51030	0.99970	1.70020	1.56020	0.60340	0.27870	0.11820	0.3902			
251	Active Adult - Single Family	0.30020	0.58800	0.58820	0.91760	0.35490	0.16390	0.06950	0.2295			
252	Active Adult - Multi Family	0.32710	0.64080	0.64100	1.08980	0.38670	0.17860	0.07580	0.2501			
310	Hotel	0.84580	1.65690	1.65740	2.81790	2.58580	0.46190	0.19600	0.6467			
710	Office	0.00180	0.00360	0.00360	0.00610	0.00220	0.00560	0.42420	0.0014			
820	Retail	0.00430	0.00850	0.00850	0.01440	0.00510	2.35710	0.0033	0.0014			
	Trip Rates	0.7646	0.3903	0.3902	0.2295	0.2501	0.6467	0.0014	0.0033			

LUC	Land Use Type	Proposed	Units	Min	Max
210	Single Family Detached	7,892	DUs	4,318	11,600
220	Multi Family (Low Rise)	0	DUs	0	0
221	Multi Family (Mid Rise)	2,250	DUs	407	3,840
251	Active Adult - Single Family	0	DUs	0	0
252	Active Adult - Multi Family	0	DUs	0	0
310	Hotel	0	Rooms	0	0
710	Office	0	Square Feet	0	0
820	Retail	690,000	Square Feet	220,000	975,000

Examples:
 To convert 50 Single Family Residential Dwelling Units to Shopping Center, multiply 50 * 0.23170 = 11,585 SF
 Check: (50*0.7646)= 38 PHT (11,585*0.0033)= 38 PHT
 To convert 10,000 sf of Retail to Multi Family Low Rise, multiply 10,000 * 0.00850 = 85 Dus
 Check: (10,000*0.0033)= 33 PHT (85*0.3903)= 33 PHT

Source: PM Peak Hour Rates and Equations, "Trip Generation", 11th Edition, ITE.
 Based on no ITE pass-by or internal capture reduction.

Note: After conversion, revise the Trip Generation calculation using ITE pass-by and internal capture reduction for the entire development and determine new Net External Daily Trips.

Estuary PUD - Average Trip Rate Calculations

Buildout Land Use	Description	Size	Units	PM Peak Hour Equation*	Gross Trip Generation	PM Peak Hr Trip Rate
210	Single Family Residential	7,892	DU	$\ln(T) = 0.94 * \ln(X) + 0.27$	6,034	0.76460
220	Multi-Family (Low Rise)	1,000	DU	$(T) = .39 (X) + 0.34$	390	0.39030
221	Multi-Family (Mid Rise)	2,250	DU	$(T) = .39 (X) + 0.34$	878	0.39020
251	Senior Adult Housing - Single Family	2,000	DU	$\ln(T) = 0.78 * \ln(X) + 0.20$	459	0.22950
252	Senior Adult Housing - Multi Family	500	DU	$(T) = .25 (X) + 0.07$	125	0.25010
310	Hotel	300	Room	$(T) = .4 (X) - 27.89$	194	0.64670
710	General Office	250,000	1000 SF GFA	$\ln(T) = 0.83 * \ln(X) + 1.29$	355	0.00140
820	Shopping Center	690,000	1000 SF GLA	$\ln(T) = 0.72 * \ln(X) + 3.02$	2,267	0.00330

*Source: PM Peak Hour Rates and Equations, "Trip Generation", 11th Edition, ITE.

NOTE: Sizes shown in *italics* are placeholders demonstrating Trip Rates for Uses that are not part of the PUD's density

Estuary PUD - External Daily Trip Calculations

Development	TAZ	Parcel	LUC	Description	Quantity	Units	Daily Trip Generation	
							Rate/Equation	Gross Trips
Estuary	581	10	210	Single Family Residential	1,300	DUs	$\text{Ln}(t) = 0.92\text{Ln}(x) + 2.71$	11,009
		11	210	Single Family Residential	120	DUs	$\text{Ln}(t) = 0.92\text{Ln}(x) + 2.71$	1,230
		11	520	Elementary School	1,000	Students	$T = 2.27x$	2,270
Estuary	772				1,420			
		14	820	Shopping Center	105,000	Sq Ft	$\text{Ln}(t) = 0.68\text{Ln}(x) + 5.57$	6,215
		15	210	Single Family Residential	530	DUs	$\text{Ln}(t) = 0.92\text{Ln}(x) + 2.71$	4,822
		16	210	Single Family Residential	120	DUs	$\text{Ln}(t) = 0.92\text{Ln}(x) + 2.71$	1,230
Estuary	961				746			
		3	210	Single Family Residential	800	DUs	$\text{Ln}(t) = 0.92\text{Ln}(x) + 2.71$	7,043
		4	820	Shopping Center	390,000	Sq Ft	$\text{Ln}(t) = 0.68\text{Ln}(x) + 5.57$	15,169
		5	221	Multi-Family Housing (Mid Rise)	1,750	Units	$T = 5.45x - 1.75$	9,536
					2,550			
Estuary	962	1	210	Single Family Residential	780	DUs	$\text{Ln}(t) = 0.92\text{Ln}(x) + 2.71$	6,881
		2	210	Single Family Residential	780	DUs	$\text{Ln}(t) = 0.92\text{Ln}(x) + 2.71$	6,881
Estuary	963				1,560			
		6	210	Single Family Residential	900	DUs	$\text{Ln}(t) = 0.92\text{Ln}(x) + 2.71$	7,849
Estuary	964				900			
		9	820	Shopping Center	195,000	Sq Ft	$\text{Ln}(t) = 0.68\text{Ln}(x) + 5.57$	9,468
		9	525	High School	1,500	Students	$T = 1.94x$	2,910
		12	210	Single Family Residential	750	DUs	$\text{Ln}(t) = 0.92\text{Ln}(x) + 2.71$	6,637
		13	221	Multi-Family Housing (Mid Rise)	750	Units	$T = 5.45x - 1.75$	4,086
Estuary	965				1,200			
		8	210	Single Family Residential	1,200	DUs	$\text{Ln}(t) = 0.92\text{Ln}(x) + 2.71$	10,228
Estuary	1144				1,200			
		7	210	Single Family Residential	1,200	DUs	$\text{Ln}(t) = 0.92\text{Ln}(x) + 2.71$	10,228

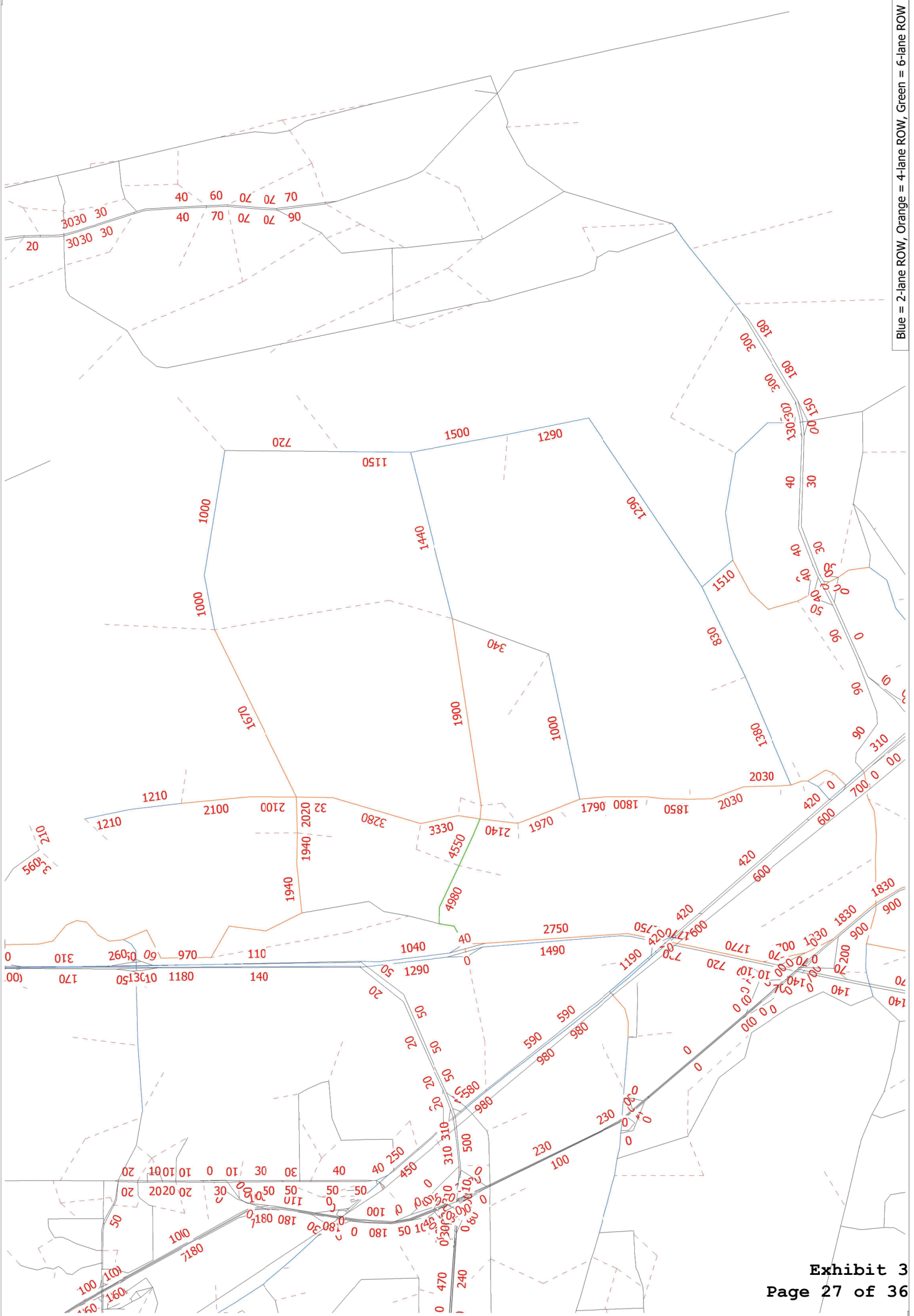
Notes: 1) Trip generation rates/equations are from the 11th edition of the Institute of Transportation Engineers **Trip Generation Manual**.

2) No reduction for pass-by traffic for the non-residential development was used.

External Trip Calculations

Gross Daily Trip Generation	121,422
Internal Capture (30%)	36,427
Net External Trips	84,995

Estuary Buildout Two-Way PM Peak Hour Traffic



Blue = 2-lane ROW, Orange = 4-lane ROW, Green = 6-lane ROW
(Licensed to England-Thims & Miller Inc)



EXHIBIT 8.1



January 16, 2024

Florida Fish and Wildlife Conservation Commission

Commissioners
Rodney Barreto
Chairman
Coral Gables

Steven Hudson
Vice Chairman
Fort Lauderdale

Preston Farris
Tampa

Gary Lester
Oxford

Albert Maury
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Roger A. Young
Executive Director

Charles "Rett" Boyd
Assistant Executive Director

George Warthen
Chief Conservation Officer

Jessica Crawford
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Managing fish and wildlife resources for their long-term well-being and the benefit of people.

620 South Meridian Street
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800 955-8770 (V)

MyFWC.com

Kristen Reed
City of Jacksonville
Community Planning Division
214 North Hogan Street
Edward Ball Building, Suite 300
Jacksonville, Florida 32202
kreed@coj.net

Re: Duval–Jacksonville 23-04ESR (L-5861-23A, DDOT Ranch Colony), Comprehensive Plan Amendment

Dear Ms. Reed:

Florida Fish and Wildlife Conservation Commission (FWC) staff reviewed the above-referenced comprehensive plan amendment package and provides the following comments and recommendations for consideration in accordance with Chapter 163.3184, Florida Statutes. While there are no objections to the amendment, the following technical assistance information is provided to assist the Department of Economic Opportunity, the County, and any applicants during the amendment review and future project planning.

Project Description

Duval County transmitted this comprehensive plan map and text amendment that amends the Future Land Use from Agriculture to Multi-Use land use category on approximately 11,109 acres and adds Policy 4.3.23. According to Policy 4.3.23, the multi-use land use category includes a variety of single-family and multi-family residential and neighborhood and regional commercial centers. The multi-use land use category in Duval County requires the development of a long-term conceptual master plan, that addresses the distribution of land uses and the location of conservation areas. This plan has not yet been developed.

This site of the proposed land use change is located approximately 1.8 miles east of I-295, 1.6 miles south of J Turner Butler Boulevard, and 0.5 miles north of Nocatee Parkway in Duval County. Landcovers on the project site include 4,071.6 acres of freshwater forested wetlands, 3,023 acres of tree plantations, 1,084 acres of high pine and scrub, 933 acres of wet flatwoods, 413.8 acres of mesic flatwoods, 324.3 acres of rural, 265.8 acres of sandhill, 234 acres of improved pasture, 223.9 acres of cypress, 173.4 acres of prairies and bogs, 70.9 acres of salt marsh, 69 acres of baygall, 43 acres of mixed hardwood- coniferous, 38.6 acres of lacustrine, 35.8 acres of upland hardwood forest, 32 acres of cropland/ pasture, 24.8 acres of cultural-lacustrine, 24 acres of utilities, 9.6 acres of low intensity urban, 4.8 acres of marshes, 1.8 acres of estuarine, and 1.2 acres of freshwater non-forested wetlands.

Potentially Affected Resources

Oneida Environmental Consultants provided an *Environmental Assessment* (August 2023) in support of the amendment. The report indicates that general presence-absence wildlife assessments were conducted from May 2, 2023, through May 10, 2023, with a focus on the following listed and managed species:

- Eastern indigo snake (*Drymarchon couperi*, Federally Threatened [FT])
- Wood stork (*Mycteria americana*, FT)

- Gopher tortoise (*Gopherus polyphemus*, State Threatened [ST])
- Florida sandhill crane (*Antigone canadensis pratensis*, ST)
- Little blue heron (*Egretta caerulea*, ST)
- Tricolored heron (*Egretta tricolor*, ST)
- Bald eagle (*Haliaeetus leucocephalus*)

Gopher tortoises, Florida sandhill cranes, and little blue herons were observed onsite. Bald eagles were seen flying over; however, no nests were observed. The report also indicates that the Dee Dot wood stork colony is located within the project area.

FWC staff conducted a geographic information system (GIS) analysis of the project area which confirmed the information from the *Environmental Assessment* and found that the project site is also located near, within, or adjacent to:

- U.S. Fish and Wildlife Service (USFWS) Consultation Area for the red-cockaded woodpecker (*Picoides borealis*, Federally Endangered)
- Potential habitat for federally and state-listed species:
 - Eastern black rail (*Laterallus jamaicensis jamaicensis*, FT)
 - Least tern (*Sternula antillarum*, ST)
 - Florida pine snake (*Pituophis melanoleucus mugitus*, ST)
 - Short tailed snake (*Lampropeltis extenuate*, ST)
 - Roseate spoonbill (*Platalea ajaja*, ST)
 - Florida burrowing owl (*Athene cunicularia floridana*, ST)
 - Black Creek crayfish (*Procambarus pictus*, ST)
 - Worthington's marsh wren (*Cistothorus palustris griseus*, ST)
 - Southeastern American kestrel (*Falco sparverius Paulus*, ST)
- Potential habitat for the Florida black bear (*Ursus americanus floridanus* – North and Central Management Unit)
- Existing Conservation Area: Hodges Conservation Easement/Pablo Creek Preserve

Comments and Recommendations

Wading Birds

The potential exists for wading bird nesting activity in the freshwater marshes and freshwater forested wetlands on the project site. FWC staff recommends that specific surveys be conducted for wading birds in the freshwater marshes and freshwater forested wetlands prior to the commencement of any clearing, grading, or filling activities. Surveys should be conducted during their breeding season, which extends from March through August. Additional information and guidance for conducting surveys can be found in the *Species Conservation Measures and Permitting Guidelines for Little Blue Heron, Reddish Egret, Roseate Spoonbill, and Tricolored Heron* (<https://myfwc.com/media/18634/threatenedwadingbirds-guidelines.pdf>). If there is evidence of nesting during this period, FWC staff recommends that any wading bird nest sites be buffered by 100 meters (330 feet) to avoid disturbance by human activities.

Gopher Tortoise

Due to the documented presence of gopher tortoises on site, FWC staff recommends that the applicant refer to the *Gopher Tortoise Permitting Guidelines* (revised April 2023)

(<http://www.myfwc.com/license/wildlife/gopher-tortoise-permits/>) for survey methodology and permitting guidance. Burrow surveys should cover a minimum of 15 percent of potential gopher tortoise habitat to be impacted by development activities including staging areas (refer to Appendix 4 in the *Guidelines* for additional information). Specifically, the permitting guidelines include methods for avoiding impacts (such as preservation of occupied habitat) as well as options and state requirements for minimizing, mitigating, and permitting potential impacts of the proposed activities. Any commensal species observed during burrow excavation should be handled in accordance with Appendix 9 of the *Guidelines*. For questions regarding gopher tortoise permitting, contact Jillian LeVasseur by phone at (850) 694-9856 or at jillian.levasseur@MyFWC.com.

Florida Sandhill Crane

The site provides foraging habitat for Florida sandhill crane, and the freshwater marshes and freshwater forested wetlands onsite may provide potential nesting habitat for this species. FWC staff recommends that surveys for nesting Florida sandhill cranes be conducted prior to construction activities and during the December through August breeding season. If construction occurs over several years, it may be necessary to conduct surveys each year as Florida sandhill cranes do not nest in the same location every year. The *Species Conservation Measures and Permitting Guidelines for the Florida Sandhill Crane* recommend that nest sites be buffered by 400 feet to avoid disturbance by human activities. If nesting is discovered after construction has begun or if maintaining the recommended buffer is not possible, the applicant can contact FWC staff identified below to discuss potential permitting needs. Additional information and guidance for conducting Florida sandhill crane surveys can be found in the *Guidelines* (<https://myfwc.com/media/11565/florida-sandhill-crane-guidelines.pdf>).

Florida Pine Snake

Florida pine snakes have historically occurred in this area, and suitable habitat may also occur on the project site. Florida pine snakes are naturally secretive in nature and can spend up to 80 percent of their time in underground refuges like stump holes, gopher tortoise burrows, and the burrows of nine-banded armadillos and mice. This species is often associated with southeastern pocket gophers (*Geomys pinetis*); however, they can persist and thrive in areas without this species. Florida pine snakes are active from March through October but show the greatest activity in May, June, July, and October when they move more frequently and travel farther distances. Florida pine snakes are sensitive to habitat fragmentation and often negatively impacted by roadways. Additional information can be found in the *Species Conservation Measures and Permitting Guidelines for the Florida Pine Snake* (<https://myfwc.com/media/25003/floridapinesnakegl.pdf>). If a Florida pine snake is observed during construction, FWC staff recommends that work activities cease and the snake be allowed to leave on its own accord, or that the snake is relocated following criteria included in the *Guidelines*. It would also contribute to FWC's research efforts if sightings could be reported to the staff member at the close of this letter, preferably with a photograph and GPS coordinates.

Short-Tailed Snake

The project site is located within the potential range of the short-tailed snake and suitable habitat may occur onsite. Short-tailed snakes are naturally secretive, spending most of their time burrowed in sand and may also use fallen logs and gopher tortoise burrows as refuges. Short-tailed snakes are most active from March through April and October through November. They are sensitive to habitat degradation due to fragmentation and loss but can sometimes persist in subdivisions if some natural ground cover is retained and properly managed. Additional information can be found in the *Species Conservation Measures and Permitting Guidelines for the Short-Tailed Snake* (<https://myfwc.com/media/22867/shorttailedsnakeguidelines-2019.pdf>).

If a short-tailed snake is observed during your project, FWC staff recommends that work activities cease and the snake be allowed to leave on its own accord. It would also contribute to FWC's research efforts if sightings could be reported to the staff member at the close of this letter, preferably with a photograph and GPS coordinates.

Least Tern

While the existing conditions onsite likely do not support least tern nesting activity, clearing associated with construction may create conditions conducive for beach-nesting bird nesting. Cleared sites such as areas that have undergone surface scraping may attract ground nesting species such as least terns or other imperiled beach-nesting birds (IBNB) during nesting season. IBNB nests have been documented on a variety of disturbed sites, including construction sites. Least terns deposit their eggs in shallow depressions or scrapes in the substrate, possibly lined with pebbles, grasses, or coquina shells. Egg-laying usually begins in late April or early May and colonies may range in size from a few breeding pairs to many hundreds. FWC staff recommends the following measures to reduce nesting potential during construction:

- Conduct construction activities outside of the breeding season (generally April through August) if feasible, or,
- If the site is cleared during the breeding season, clear the site only when ready to build, and
- Avoid leaving cleared areas with little to no activity for an extended amount of time.

If nesting is observed, FWC staff are available to discuss necessary nest buffers and potential permitting alternatives. The *Species Conservation Measures and Permitting Guidelines for American Oystercatcher, Snowy Plover, Black Skimmer, and Least Tern* (<https://myfwc.com/media/29766/ibnb-guidelines.pdf>) can be referenced for additional biological information, measures for avoiding impacts, and conservation practices.

Florida Burrowing Owl

Suitable habitat for Florida burrowing owls may be found on the project site. Burrowing owls typically occupy areas with short groundcover like agricultural fields and prairies. FWC staff recommends that pre-construction surveys be conducted to ensure that no burrowing owl burrows occur onsite. Additional information and guidance for conducting burrowing owl surveys can be found in the *Species Conservation Measures and Permitting Guidelines for Florida Burrowing Owl* (<https://myfwc.com/media/2028/florida-burrowing-owl-guidelines.pdf>). If burrowing owls are observed onsite, the applicant should coordinate with FWC staff identified at the close of this letter to discuss avoidance, minimization, and permitting options.

Black Creek Crayfish

The Black Creek crayfish is endemic to Clay, Duval, Putnam, and St. Johns counties, where it inhabits small, relatively cool, swift moving, sand-bottomed, and tannic headwater streams and tributaries. The species has been documented 3-4 miles west and southwest of the project site and the species might also be found in the streams located on the northernmost area of the project site. The Black Creek crayfish requires perennial streams that have highly oxygenated water, sufficient streamside vegetation for cover and food, and canopy to regulate water temperature. The presence of vegetation within and along creek banks as well as tree roots and submerged detritus are important shelter and food sources for the crayfish. This species is particularly susceptible to pollution, changes in water temperature, siltation, and other changes in water quality. The *Species Conservation Measures and Permitting Guidelines for the Black Creek Crayfish* (<https://myfwc.com/media/11560/black-creek-crayfish-guidelines.pdf>) can be referenced for additional biological information, measures for avoiding impacts, and recommended

conservation practices. Surveys for this species may only be conducted after an FWC Scientific Collecting permit has been issued.

Southeastern American Kestrel

Suitable habitat for southeastern American kestrels may be found within the proposed project area, particularly the areas of sandhill. FWC staff recommends that kestrel surveys be conducted from April to August within potentially suitable foraging habitat according to the methodology outlined in the *Species Conservation Measures and Permitting Guidelines for Southeastern American Kestrel* (<https://myfwc.com/media/24482/seamkestrelgl.pdf>). Surveys from May to July are ideal to avoid confusion with the migratory subspecies of American kestrel (*Falco sparverius sparverius*). Surveys may be completed outside of the April to August survey season when necessary, with any kestrels observed assumed to be southeastern American kestrels. Surveys are valid until the beginning of the following breeding season (March). If surveys encounter active nest cavities, FWC staff recommends avoiding project activities within 490 feet (150 meters) of the nest during the breeding season (March through July) to avoid disturbance. If nesting is discovered after construction has begun, or if maintaining the recommended buffer is not possible, the applicant should contact FWC staff identified below to discuss potential permitting needs. In areas of suitable kestrel habitat, the *Guidelines* also recommend retaining snags whenever possible.

Florida Black Bear

The FWC has received 49 reports of human-bear conflicts within a 5-mile radius of the project site since 2014. Florida black bears are common in this area which is within the North and Central BMU's identified in the 2019 Bear Management Plan. While black bears tend to shy away from people, they are adaptable and will take advantage of human-provided food sources. This includes sources that are currently available near this site, sources that may be available during construction, and sources available after construction including unsecured garbage, pet food, and bird seed. Once bears become accustomed to finding food around people, their natural wariness is reduced to the point that there can be an increased risk to public safety or private property.

Proactive planning may help prevent or reduce future conflicts with bears. Site designs for larger developments should locate conservation areas along the borders of developed areas, to avoid encouraging bears to forage within developed areas (<http://myfwc.com/wildlifehabitats/managed/bear/crossings/>). If a homeowners' association or community covenants are planned, by-laws that would require residents to take measures to prevent attracting bears into the neighborhood are recommended. Sample by-law language used by other Florida communities is available at (<http://myfwc.com/wildlifehabitats/managed/bear/living/community-group/bylaw/>).

During construction, construction sites should be kept clean, with refuse that might attract bears kept separate from construction debris and stored securely in bear-resistant containers or removed daily from the construction site before dark. Refuse that might attract bears includes all food and drink-related materials, as well as any items with strong scents like cleaning agents. Once the development is completed, residents should be provided with bear-resistant garbage cans as part of their regular waste service and any larger waste storage containers should also be bear-resistant. Providing residents with information on how to avoid human-bear conflicts is also recommended. This information can include:

- Options for keeping garbage secure which can include using bear-resistant garbage containers, modifying regular containers to be bear-resistant, or keeping containers secure in a garage or sturdy shed and then placing garbage on the curb the morning of pick-up

rather than the night before

(<http://myfwc.com/wildlifehabitats/managed/bear/living/attractants/>);

- Removing bird and wildlife feeders, or modifying them to exclude bears (<http://myfwc.com/wildlifehabitats/managed/bear/wildlife-feeders/>);
- Using electric fencing to secure outdoor attractants like fruiting trees/shrubs, gardens, compost, and small livestock (<https://myfwc.com/media/1886/electricfence.pdf>);
- Proper composting in bear range (<https://myfwc.com/media/1888/howtocompostinbearcountry.pdf>);
- Keeping pets safe (<https://myfwc.com/wildlifehabitats/wildlife/bear/living/protect-pets/>); and
- Cleaning and securing barbeque grills.

Information should also include guidelines for how residents should respond to bears in the area, such as:

- What to do if they encounter a bear, whether from a distance or at close range,
- How to keep pets and livestock safe in bear range, and
- When and how to contact the FWC regarding a bear issue.

FWC staff is available to assist with residential planning to incorporate the above features.

Additional information about Florida black bears can be found on FWC's website at

<http://www.myfwc.com/wildlifehabitats/managed/bear>.

Bald Eagle

Bald eagles were observed flying over the subject property in May 2023. FWC records show that 21 historical bald eagle nests occur within 5 miles of the property. The bald eagle has been removed from state and federal listing but is still governed by the state bald eagle rule (68A-16.002, F.A.C.) and the federal Bald and Golden Eagle Protection Act. The recommended buffer distance from an eagle nest is 660 feet. New or irregular activities planned within 660 feet of a bald eagle nest should follow the USFWS Eagle Management Guidelines found at <https://www.fws.gov/media/national-bald-eagle-management-guidelines> unless an eagle permit is issued. Information about federal eagle permits is available at <https://www.fws.gov/story/do-i-need-eagle-take-permit> or by contacting the regional USFWS Migratory Bird Office directly at (404) 679-7070 or permitsR4MB@fws.gov.

Wildlife Crossings

FWC recommends that wildlife crossings be considered in land use planning when significant areas of productive green space, including wetland and upland forests or small streams or riparian zones, are crossed by major roads. The overall purpose and need for the crossings are to maintain habitat connectivity within natural landscape linkages on the property, avoid habitat degradation, reduce wildlife roadkills, and public safety. Factors to consider when planning wildlife crossings include the total extent of habitat, type of natural systems crossed by the roadway, wildlife species that will potentially utilize the crossing, and an understanding and control of nearby or adjacent planned land uses. There are numerous wildlife crossing designs which are suitable for target mammals, amphibians, and reptile species, including some designs that provide for both aquatic and terrestrial species movement as well as habitat and hydrological connectivity. Structure types may include bridges, box culverts, and large drainage pipes which can be designed and constructed at appropriate locations. Fencing erected along the outside right-of-way is also needed to exclude animals from the roadway and funnel and encourage them to use the structure. Signage for wildlife underpasses and lower speed limits are also useful in the area of heavy animal use near undercross structures. While there are numerous resources to designing

wildlife underpasses, examples and guidelines for various wildlife underpasses in Florida can be obtained from The Florida Department of Transportation at:
https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/environment/pubs/wildlifecrossingguidelines_2018revisions.pdf?sfvrsn=e84b7844_0 or from the U.S. Department of Transportation at:
http://www.fhwa.dot.gov/environment/critter_crossings/main.cfm.

Habitat Management

Developments of this size with large conservation areas or ecological corridors may benefit from a Wildlife and Habitat Management Plan (WHMP) which can provide a framework for habitat management activities that will ensure these areas continue to provide habitat for fish and wildlife resources. A WHMP can include a list of federally and state-listed species which may occur within the project area and suggest actions to minimize, avoid, and mitigate impacts to those species. Similar plans also include information on proposed maintenance activities such as prescribed fire, invasive plant management, or methods to address nuisance and exotic animal species. FWC staff is available to assist in the development of a management plan that includes these details so that conservation areas and open space may continue to provide habitat for fish and wildlife resources.

Stormwater Ponds

The creation of stormwater ponds could provide potential wildlife habitat as well as a recreational area for fishing and wildlife viewing. Stormwater ponds can be managed for both fish production and wildlife habitat, including wading birds and waterfowl. The best design for stormwater ponds is those with complex edges. Providing peninsulas and islands can increase habitat variability for fish and wildlife while increasing access to the resource. The addition of native wetland plants along this gradual slope, ideally constructed at a 4:1 grade, could provide a vegetated littoral fringe which could increase the habitat value of the site and possibly provide foraging or nesting areas for several wading bird species. Littoral fringe habitat may also provide spawning habitat for fish which would enhance future recreational fishing opportunities for the community. FWC staff recommends a commitment to long-term maintenance and development of a plan for managing exotic invasive plant species that can significantly degrade habitat values and impact ponds, wetlands and nearby natural areas. More information on this topic with suggested guidelines for construction and management of stormwater ponds is available at the following website (<http://myfwc.com/conservation/you-serve/recreation/pond-management/>).

Federal Species

This site may also contain habitat suitable for the federally listed species identified above, including the Dee Dot wood stork colony. FWC staff recommends coordination with USFWS North Florida Ecological Services Office (ESO) as necessary for information regarding potential impacts to these species. The USFWS North Florida ESO can be contacted at (352) 448-9151 or email at fw4flesregs@fws.gov.

FWC staff appreciates the opportunity to provide input on this comprehensive plan amendment and is available to assist during the development of the associated conceptual master plan. For specific technical questions regarding the content of this letter, please contact William Hinton at (386) 288-8190 or by email at William.Hinton@MyFWC.com. All other inquiries may be sent to ConservationPlanningServices@MyFWC.com.

Sincerely,



Josh Cucinella
Land Use Planning Program Administrator
Office of Conservation Planning Services

jc/wh

Duval-Jacksonville 23-04ESR_57735_01162024

Cc: Helena Perola, HParola@coj.net