



Broward County Land Use Plan:  
Environmentally Sensitive Lands

PCNRM 10-1 Amended Map to Include Wedge.  
Please contact the Planning Council at  
954.357.8051, if you need additional information.

PALM BEACH COUNTY

Legend

- Designated lands
- Protected lands
- Section Township Range
- Municipal Boundaries

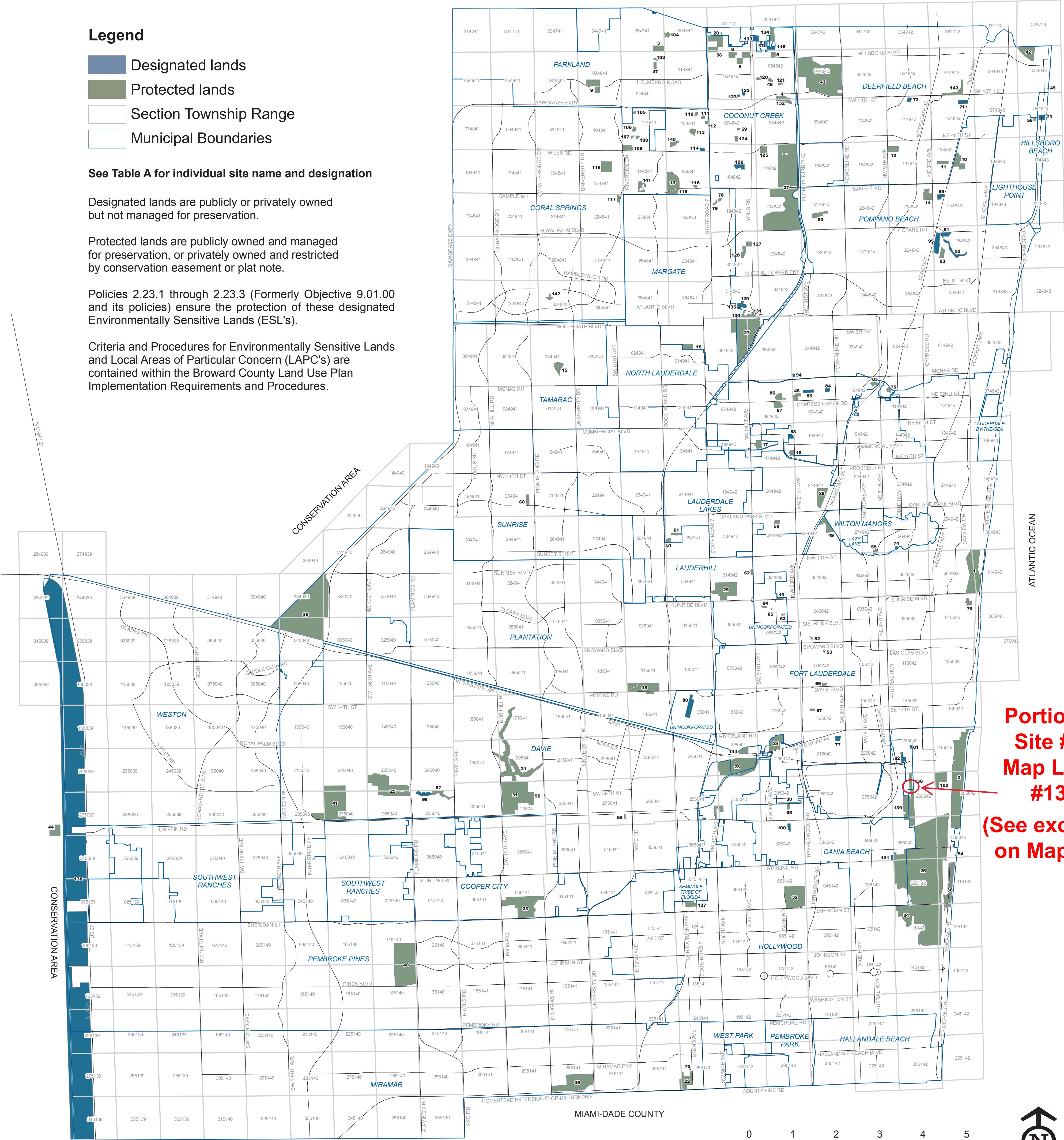
See Table A for individual site name and designation

Designated lands are publicly or privately owned but not managed for preservation.

Protected lands are publicly owned and managed for preservation, or privately owned and restricted by conservation easement or plat note.

Policies 2.23.1 through 2.23.3 (Formerly Objective 9.01.00 and its policies) ensure the protection of these designated Environmentally Sensitive Lands (ESL's).

Criteria and Procedures for Environmentally Sensitive Lands and Local Areas of Particular Concern (LAPC's) are contained within the Broward County Land Use Plan Implementation Requirements and Procedures.



Portion of  
Site #97/  
Map Label  
#136  
(See excerpt  
on Map 2)

III.B. Natural Resource Map Series: Environmentally Sensitive Lands

Source:  
Broward County Natural Resources Planning and Management Division  
Prepared By  
Land Preservation Program  
954-519-0305  
Adopted: January 28, 2020

This map is for conceptual purposes only and should not be used for legal boundary determinations. Please contact the Broward County Planning Council office regarding questions pertaining to parcel boundaries or limits.



MAP 2  
BROWARDNEXT - BROWARD COUNTY LAND USE PLAN  
AERIAL PHOTOGRAPH OF ENVIRONMENTALLY SENSITIVE LANDS EXCERPT  
AMENDMENT PCNRM 24-3



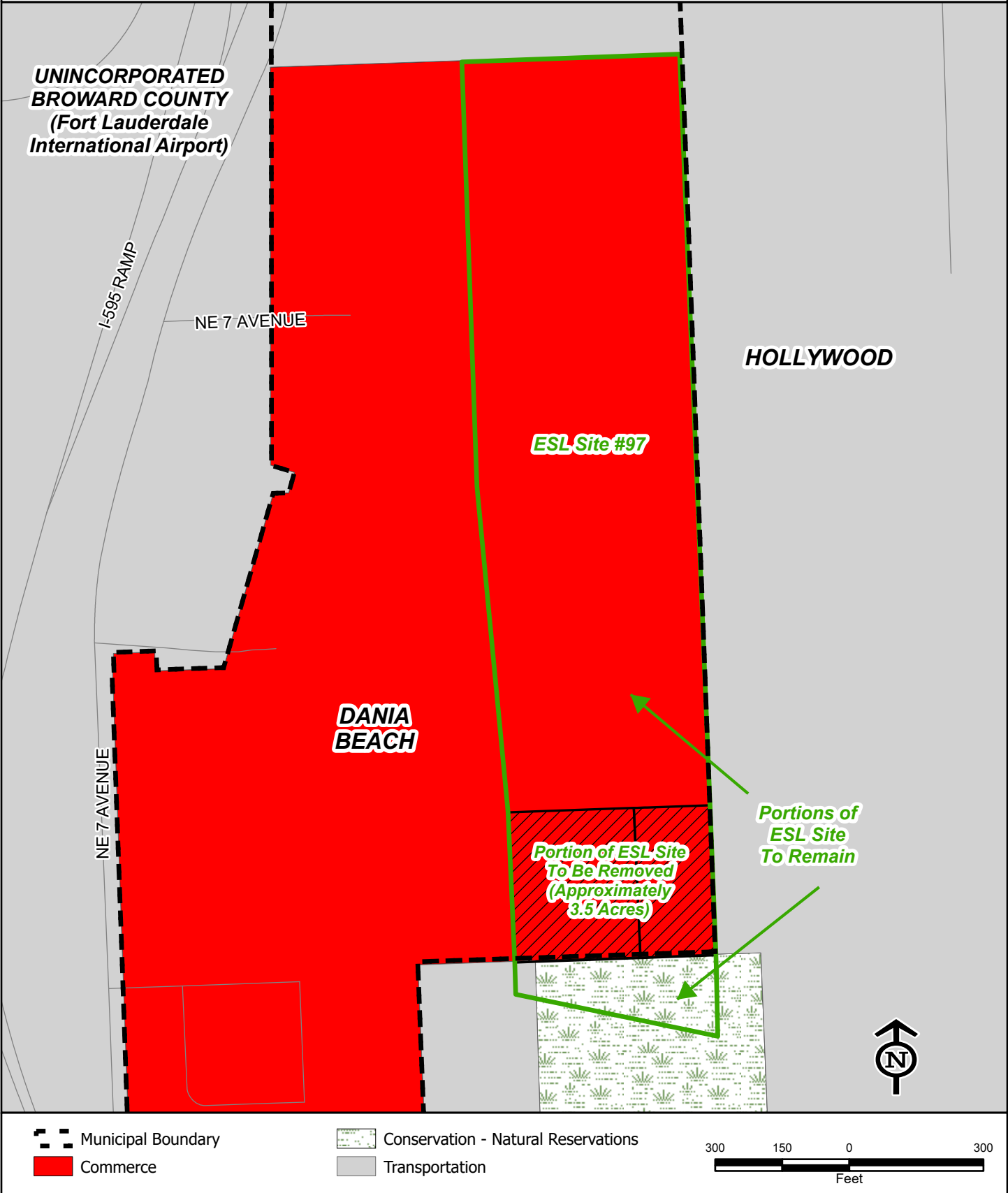


**MAP 3**  
**BROWARDNEXT - BROWARD COUNTY LAND USE PLAN**  
**AERIAL PHOTOGRAPH OF REMAINING SITE 97 AND PROPOSED CONSERVATION EASEMENT**  
**AMENDMENT PCNRM 24-3**





**MAP 4**  
**BROWARDNEXT - BROWARD COUNTY LAND USE PLAN**  
**FUTURE LAND USE DESIGNATIONS**  
**AMENDMENT PCNRM 24-3**





**SECTION I**  
**AMENDMENT REPORT**  
**BROWARD COUNTY LAND USE PLAN**  
**PROPOSED AMENDMENT PCNRM 24-3**

**NATURAL RESOURCE MAP SERIES -**  
**ENVIRONMENTALLY SENSITIVE LANDS MAP**  
**REMOVAL OF PORTION OF SITE 97 – CITY OF DANIA BEACH**

**RECOMMENDATIONS/ACTIONS**

**DATE**

*I. Planning Council Staff Transmittal Recommendation*

*May 13, 2025*

Due to concerns regarding sea level rise, stormwater management and the protection of natural resources, including wetlands and mangroves, consistent with several Broward County Land Use Plan Policies, Planning Council staff is unable to support the proposed amendment to remove approximately 3.5 acres of the overall 21.0-acre ESL Site 97 / Map Label 136 from the Natural Resource Map Series Environmentally Sensitive Lands Map.

Planning Council staff notes that the applicant may request the Planning Council support the amendment. It is suggested that any alternate Planning Council recommendation retain the 1.29-acre conservation easement on the Environmentally Sensitive Lands (ESL) Map.

As the Planning Council is aware, the Broward County Charter requires at least one Planning Council public hearing and Article 1.2(A) of the *Administrative Rules Document: BrowardNext* outlines the following circumstances in which a second Planning Council public hearing may be recommended or required:

- (1) At its initial public hearing, the Planning Council takes an action to recommend denial of a proposed amendment; or
- (2) At its initial public hearing, the Planning Council takes an action to recommend approval subject to meeting specific criteria or policy prior to a second Planning Council public hearing; or
- (3) At its initial public hearing, the Planning Council votes by a majority of the members present with a minimum of six (6) affirmative votes for a second Planning Council public hearing; or
- (4) If the County Commission requests by a vote of the majority of members present to request a second Planning Council public hearing; or
- (5) If an objection or comment on adverse impacts to important state resources or facilities is issued during the State of Florida Chapter 163 review process; or
- (6) If State of Florida Chapter 163 requires or is modified to require a second local planning agency public hearing.

**If the Planning Council chooses to require a second Planning Council public hearing per Article 1.2(A)(1)(2) or (3), such recommendation must be made as part of its motion.**



**RECOMMENDATIONS/ACTIONS (continued)**

**DATE**

**II. Planning Council Transmittal Recommendation**

**May 22, 2025**

Planning Council recommended approval of the proposed amendment to remove approximately 3.5 acres of the existing 21.0-acre Site 97 / Map Label 136 from the Environmentally Sensitive Lands Map, subject to the on-site 1.29-acre conservation easement, including not requiring a second public hearing. (Vote of the board; Unanimous: 11-0: Abramson, Castillo, Geller, Gomez, Greenberg, Hardin, Horland, Newbold, Ryan, Zeman and DiGiorgio)



**SECTION II**

**PROPOSED AMENDMENT PCNRM 24-3**

## **INTRODUCTION AND APPLICANT'S RATIONALE**

- |      |  |  |
|------|--|--|
| I.   | <u>Municipality:</u>   | Dania Beach  |
| II.  | <u>County Commission District:</u>   | District 6   |
| III. | <u>Site Characteristics</u>  |  |
| A.   | Size:  | Approximately 3.5 acres  |
| B.   | Location:  | In Section 26, Township 50 South, Range 42 East; generally located east of Northeast 7 Avenue, south of Eller Drive.                               |
| C.   | Existing Use:  | Natural area   |
| D.   | Broward County Land Use Plan (BCLUP) Designation:                          | Commerce   |
| IV.  | <u>Existing Uses and BCLUP Designations Adjacent to the Amendment Site</u> |  |
| A.   | Existing Uses:   | North: Natural area<br>East: FPL Easement (Hollywood)<br>South: FPL Easement (Hollywood)<br>West: Vacant and warehouse                             |
| B.   | Planned Uses:  | North: Commerce<br>East: Transportation (Hollywood)<br>South: Conservation – Natural Reservations and Transportation (Hollywood)<br>West: Commerce |



V. Applicant/Petitioner

- VI. Recommendation of Local Governing Body:

## VII. Applicant's Rationale

In addition to the preservation and enhancement of wetlands on site, a credit purchase from the Everglades Mitigation Bank will be made. The existing wetland has been degraded and the habitat value is rapidly diminishing because of the invasion of exotic vegetation and the deterioration caused by the industrial development in the surrounding area. In addition, similar parcels containing contiguous forested wetlands, as opposed to isolated depressional wetlands, are not common within the New River drainage basin. Given the relative lack of privately-owned parcels with existing mangrove wetlands onsite, impacts to small, isolated wetlands on subject sites would not result in a large loss of wetland acreage within the ecosystem. The wetlands located onsite provide little function to the watershed due to the poor quality of the wetlands. The purchase of credits from the offsite permitted Everglades Mitigation Bank will offset any existing wetland function and will not result in any adverse cumulative impacts within the New River drainage basin.”

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**SECTION III**  
**AMENDMENT REPORT**  
**PROPOSED AMENDMENT PCNRM 24-3**

**BACKGROUND INFORMATION**

Environmentally Sensitive Land (ESL) “means those areas containing Natural Resources, as depicted in the Natural Resource Map Series of the Broward County Land Use Plan, which have been determined to be environmentally sensitive by the Broward County Board of County Commissioners. The criteria for designation of an ESL are contained within the Implementation Requirements and Procedures Section of the Broward County Land Use Plan. Policies which ensure the protection of Environmentally Sensitive Lands are contained within the Broward County Land Use Plan.”

Pursuant to Policy 2.23.1 of the BrowardNext - Broward County Land Use Plan (BCLUP), Broward County maintains the Environmentally Sensitive Lands (ESL) Map that identifies natural resources, including Local Areas of Particular Concern (LAPC’s). The Map was developed from a comprehensive study prepared by the Environmental Coalition of Broward County in 1987 and was initially adopted as part of the 1989 BCLUP.

The proposed amendment would remove an approximately 3.5-acre portion of a 21.0-acre LAPC site identified as “Site 97 / Map Label 136” from the ESL Map. The site is located east of Northeast 7 Avenue and south of Eller Drive, in the City of Dania Beach, and has a land use designation of Commerce, an umbrella category which generally permits commercial, industrial, employment, commercial recreation, open space and community facility uses. **See Maps 1 through 4.** The subject site is a “designated land” on the ESL Map which means that it is privately owned but not managed for preservation. Designated lands are subject to the provisions of the Broward County Land Development Code per BCLUP Policy 2.23.2. These provisions regulate clearing activities on the site, as well as require the applicant to prepare an Environmental Impact Report identifying the effects that proposed development would have on the unique natural qualities and resources of the area and identifying strategies to protect the resource or mitigate unavoidable adverse impacts on the resource.

Based on information provided by the applicant, the 3.5-acre site is vacant and consists of red and black mangroves, surface water, uplands and stormwater retention areas. The stormwater retention area will remain intact and the higher quality mangroves will be mitigated via offsite mitigation at the Everglades Mitigation Bank. The easternmost 1.29 acres will be enhanced and preserved under a Conservation Easement. **See Attachment 1 and Map 3.**



## **REVIEW AGENCY COMMENTS**

**The proposed amendment to remove approximately 3.5 acres of the existing 21.0-acre Site 97 / Map Label 136 from the Environmentally Sensitive Lands Map was distributed to County and municipal agencies for comments and input. The following comments have been received:**

The **City of Dania Beach** has no opposition to the proposed amendment. **See Attachment 2.**

The **Broward County Urban Planning Division (BCUPD)** staff evaluated the site based on BCLUP Policy 2.21.5 which addresses sea level rise, and Policies 2.23.1, 2.23.2, 2.23.3 and 2.23.4 which address Local Areas of Particular Concern (LAPC's). The BCUPD staff states that the site continues to function as a wetland, is consistent with LAPC criteria, and may also be prone to flooding and the impacts of sea level rise. Any development of the site would be required to demonstrate that it can be served by adequate storm water management and drainage facilities, does not adversely affect groundwater quality or environmentally sensitive lands, and does not increase saltwater intrusion or area-wide flooding. In addition, removal of the LAPC designation for the subject site would likely result in the request for removal of other private properties located within the remainder of Site 97, as well as impact the resiliency of the area's coastal wetland system. The BCUPD staff does not support the removal of the site from the ESL Map. **See Attachment 3.**

The **Broward County Resilient Environment Department (BCRED)** report indicates that the amendment site is located entirely within an area prioritized for resilience planning consideration, as indicated on the Priority Planning Area for Sea Level Rise Map. Therefore, BCLUP Policies 2.21.1, 2.21.5 and 2.21.6 apply. Specifically, the applicant must demonstrate that the project will not increase saltwater intrusion or area-wide flooding, not adversely affect groundwater quality or environmentally significant lands and that subsequent development will be served by adequate stormwater management and drainage facilities. The applicant has not sufficiently addressed how risk from sea level rise will be mitigated, how areawide flooding will be minimized or how water quality will not be adversely affected. The BCRED also notes the applicability of the Future Conditions Average Wet Season Groundwater Elevation Map and 100-Year Flood Elevation Map for permitting and design, should development occur on the subject site. The applicant should review the height of all banks and/or berms for consistency with Chapter 39 of the Broward County Code of Ordinances. Further, the applicant is encouraged to consider the Climate Change Action Plan and the Regional Climate Action Plan recommendations and strategies pertaining to natural system/wetland/coastal/urban green space conservation and protections. **See Attachment 4.**

The **Broward County Environmental Permitting Division (BCEPD)** report summarizes the environmental license and permit applications associated with the property since 2022 which remain under review. The BCEPD staff finds that the subject site meets several LAPC criterion: the site has a predominance of native, mature red and black mangroves, provides nursery, roosting, foraging and refuge habitat for many species, and is a natural ecosystem and physiographical feature confined to a small area of the County. Further, the site is unique and diverse, with a low level of exotic vegetation, and hydrologically and tidally connected to the surrounding mangrove wetlands and the Dania Cut-off Canal. In addition, the BCEPD report

### **REVIEW AGENCY COMMENTS (continued)**

identifies that mangrove habitat is a limited resource in Broward County with some areas under threat from development, and that there is a cumulative impact to the overall mangrove resource from projects proposing “small” impacts to mangroves. The BCEPD staff objects to the removal of the site from the ESL Map, as development will have a negative impact on the adjacent mangrove area, creating a dam and limiting tidal flow/flushing of the surrounding wetlands. **See Attachment 5 and Map 3.**

**The relevant BCLUP Policies that are cited by the review agencies are provided in Attachment 6, for ease of reference.**

The applicant has provided additional information in response to review agency concerns:

- Approximately 1.29 acres of mangrove habitat/wetlands will remain on the easternmost portion of the subject site. Said area will be enhanced and placed under a Conservation Easement to allow hydrologic flow to continue, including connection to the Dania Cut-off Canal to the south and to adjacent mangrove wetlands to the north, south and east of the property.
- A credit from the Everglades Mitigation Bank (EMB) will be purchased. The EMB credit will provide regional ecological value and will result in a significantly higher value habitat than the subject site.
- The western upland portion of the site contains exotic species (62 of the 63 existing trees are exotic species), has been impacted by fill and a lake excavation, and is surrounded by high intensity warehouse facilities. The exotic trees will be removed and replaced with native trees in accordance with the City of Dania Beach’s tree removal requirements.
- The Cumulative Impact Analysis demonstrates that a cumulative impact to the New River Basin would not occur and the EMB credit purchase would fully offset the impacts of the proposed project.
- The migration of species will not be altered as the surrounding conservation easements and County parks provide a larger area for nesting and foraging.
- Stormwater calculations indicate that any proposed development of the subject site will retain the 25-year storm through a network of drainage wells, exfiltration trenches, and retention areas. These systems will introduce a groundwater mound during rain events to an area that will reduce the impact of saltwater intrusion in the immediate area and will provide the required water quality treatment with no runoff discharged to the surface water bodies being designed.
- Mangrove habitat is not a unique habitat in southeast Florida. Of the 4.21 acres of privately owned wetlands, 1.29 acres will remain under a conservation easement and are minimal to the adjacent 160 acres of red and black mangrove habitat owned by Broward County.

**See Attachments 7 through 9.**



### **REVIEW AGENCY COMMENTS (continued)**

The additional information was distributed to the review agencies for consideration. Responses have been received from review agencies as follows:

The **BCEPD** staff continues to object to the removal of the site from the ESL Map. The BCEPD updated report states that the exotic species on the western upland portion of the site can be easily removed or treated. The remainder of the site is a mature, highly functional mangrove ecosystem with large red and black mangroves and no exotic species. The site is not isolated and is contiguous to 160 acres of mangroves. The site is tidally connected to the Dania Cut-off Canal to the south and is flushed by daily tide changes. All stormwater entering the site is pretreated, so there are no negative impacts from the adjacent developed areas. The BCEPD staff visited the site several times and noted abundant wildlife with the mangrove habitat providing roosting, foraging and refuge for many species. Development of this site will have permanent impacts to 2.92 acres of mature, highly functional mangrove wetlands, will create a partial dam limiting water flow and will impact areas outside of the project footprint due to construction, including retaining walls. If this site and other surrounding privately-owned sites are developed, nearly 20 acres of mangroves will be lost. The BCEPD strongly believes the site continues to meet the LAPC criteria and is unsure whether the proposed project will be able to meet the criteria for the issuance of County Environmental Resource and Stormwater Management Licenses or for a State Environmental Resource Permit. **See Attachment 10.**

The **BCRED** staff also continues to object to the removal of the site from the ESL Map. The BCEPD updated report states that the applicant's responses have not fully addressed the County's resilience priorities or the relevant BCLUP Policies. The proposed amendment would not only further development in an area substantially challenged by sea level rise, but at the expense of high quality, unique environmentally sensitive lands both directly and indirectly impacted by proposed development activities. **See Attachment 11.**

The applicant has provided additional information in response to continued review agency objections:

- The site is located adjacent to high-intensity warehouse facilities and was previously a tomato farm. The western upland portion of the site has been impacted by fill and a lake excavation with the presence of exotic and nuisance species, reducing its ecological function.
- The overall impact will be minimal due to the preservation and enhancement of 1.29 acres of wetlands, increasing its function as a wetland and its use for wildlife roosting, foraging and refuge.
- The existing FPL road cuts off much of the tidal connection to the Dania Cut-off Canal. The area north of the road is only connected hydrologically by higher-than-average tides, such as king tides. The wetlands remaining onsite will continue to be tidally connected during king tides to the Dania Cut-off Canal.

**REVIEW AGENCY COMMENTS (continued)**

- The project's stormwater management plan will be sufficient and cause no negative impacts to the surrounding area. Any secondary impacts associated with construction has been accounted for in the mitigation plan, ensuring that environmental effects are minimized and properly managed.
- The 2.92 acres of impacted wetlands are minimal (1.8%) compared to the surrounding 160 acres of wetlands owned by Broward County. This minimal impact will be offset through credits purchased from the Everglades Mitigation Bank (EMB).
- The Cumulative Impact Analysis confirms that the project will not have a cumulative impact on the New River Basin and the EMB credit purchase would fully offset the impacts of the proposed project.
- The surrounding conservation areas, including the FPL easement along Port Everglades, West Lake Park/Anne Kolb Nature Center and Snyder Park, provide biodiversity, habitat connectivity and ample space for nesting and foraging of migratory species.
- Regarding the Regional Climate Change Action Plan, a majority of the recommendations are not intended for the private sector and do not pertain to this project.
- The stormwater management plan will consist of drainage wells and an exfiltration trench to meet water quality and quantity requirements. The drainage wells have been revised to a pressurized well system to account for sea level rise within the area. Stormwater runoff will be infiltrated into a shallow aquifer or into a deeper aquifer using the drainage wells.

**See Attachments 12 and 13.**

The additional information noted in Attachments 12 and 13 was distributed to the County review agencies for consideration. Planning Council staff has confirmed that the review agencies' initial comments remain unchanged, and no further comments have been issued.

**SECTION IV**  
**AMENDMENT REPORT**  
**PROPOSED AMENDMENT PCNRM 24-3**

**PLANNING COUNCIL STAFF ANALYSIS AND RECOMMENDATION**

The subject application is for the removal of approximately 3.5 acres of the overall 21.0-acre ESL Site 97 / Map Label 136, and is a natural area and is surrounded by natural areas with the exception of an existing warehouse to the west. This site has been depicted on the Environmentally Sensitive Lands Map (Map) of the BrowardNext – Broward County Land Use Plan (BCLUP) Natural Resource Map Series since its initial adoption in 1989.

Planning Council staff and County review agencies find that the amendment site has a predominance of native, mature red and black mangroves which provide nursery, roosting, foraging and refuge habitat for many species. The site is also hydrologically and tidally connected to the surrounding mangrove wetlands and the Dania Cut-off Canal. In addition, the site is located entirely within an area prioritized for resilience planning consideration, as indicated on the Priority Planning Area for Sea Level Rise Map, and is therefore, prone to flooding and saltwater intrusion.

Planning Council staff analysis of the BCLUP Highlighted Regional Issues, Climate Change Resilience Vision and World-Class Natural Resource Protection and Enhancement Vision sets the foundation for the recognition of the unique natural resources found in Broward County. The following Strategies should be considered in the planning analysis:

1. Strategy CCR-2: Increase the resilience of our community to the effects of climate change.
  - a. Implementation strategies include: In coordination with municipalities, adopting land use regulations to limit development and redevelopment in areas particularly vulnerable to flooding due to sea level rise, stormwater inundation, and other impacts of climate change.
2. Strategy EP-3: Preserve and protect Broward County's natural environment through County and local environmental regulatory programs and well-planned patterns of growth and development.
  - a. Implementation strategies include: Acquire, protect, preserve and enhance Local Areas of Particular Concern.

In addition to the referenced Strategies, Planning Council staff finds that although the property is privately held and controlled, the Policies and Recommended Practices included in **Attachment 6** are applicable and should be considered in the examination of the proposed amendment.



**PLANNING COUNCIL STAFF ANALYSIS AND RECOMMENDATION (continued)**

The applicant has indicated that the overall impact to the surrounding 160 acres of wetlands will be minimal due to the preservation and enhancement of 1.29 acres of mangrove habitat/wetlands to allow hydrological flow to continue through the area. The project's stormwater management plan will be sufficient to meet all water quality and quantity requirements, including sea level rise projections. Further, a mitigation credit from the Everglades Mitigation Bank (EMB) will be purchased and will provide regional ecological value and result in a significantly higher value habitat than the subject site.

Planning Council staff is unable to support the proposed amendment based on the aforementioned review agency comments and due to concerns regarding sea level rise, stormwater management and the protection of natural resources, including wetlands and mangroves, consistent with several BCLUP Policies.

**SECTION V**  
**AMENDMENT REPORT**  
**PROPOSED AMENDMENT PCNRM 24-3**

**ATTACHMENTS**

1. Applicant's Rationale with Project and Preliminary Environmental Assessment Summaries
2. Correspondence from Ana M. Garcia, ICMA-CM, City Manager, City of Dania Beach, to Deanne Von Stetina, AICP, Assistant Executive Director, Broward County Planning Council, dated May 21, 2024
3. Broward County Urban Planning Division Report of February 14, 2024
4. Broward County Resilient Environment Department Report of February 23, 2024
5. Broward County Environmental Permitting Division Report of February 27, 2024
6. BrowardNext - Broward County Land Use Plan Highlighted Regional Issues, Policies, Implementation Requirements and Procedures, and Recommended Practices Relevant to Proposed Amendment
7. Applicant Response Regarding Broward County Urban Planning Division Comments
8. Applicant Response Regarding Broward County Resilient Environment Department Comments
9. Applicant Response Regarding Broward County Resilient Environment Department Comments
10. Updated Broward County Environmental Permitting Division Report of August 6, 2024
11. Updated Broward County Resilient Environment Department Report of August 13, 2024
12. Applicant Response Regarding Updated Broward County Resilient Environment Department Comments
13. Applicant Response Regarding Updated Broward County Resilient Environment Department Comments

# ATTACHMENT 1



**NSU Port Parcel  
Broward County Planning Council Application for  
Amendments to the Environmentally Sensitive Lands Map  
TCG Project No. 14-0080.002**

## 1. TRANSMITTAL INFORMATION

- A. Letter from applicant, agent or property owner requesting that the Planning Council process an amendment to the Environmentally Sensitive Lands Map of the Broward County Land Use Plan.

**Response: Agent's Letter is the first page of this Application**

- B. Letter from municipal mayor or manager indicating the local government's position on the proposed amendment to be provided no later than 21 days prior to the first Planning Council scheduled public hearing.

**Response: Letter from Dania Beach Mayor will be provided in advance of the first Planning Council Public Hearing**

- C. Name, title, address, telephone number and e-mail address of the municipal contact person.

**Corinne Lajoie, AICP, Community Development Director  
City of Dania Beach  
100 W. Dania Beach Blvd.  
Dania Beach, FL 33004**

## 2. APPLICANT INFORMATION

- A. Name, title, address, telephone number and e-mail address of the applicant.

**Port 1850 LLC  
Shlomo Melloul, Managing Member  
67 N Federal Highway  
Dania Beach, FL 33304  
[shlomo@bananasplitusa.com](mailto:shlomo@bananasplitusa.com)**

- B. Name, title, address, telephone number and e-mail address of the agent.

**Edwin J. Stacker, Esq.  
Shutts & Bowen LLP  
201 East Las Olas Blvd., Suite 2200  
Fort Lauderdale, FL 33301  
Tel: (954) 847-3839  
[estacker@shutts.com](mailto:estacker@shutts.com)**



- C. Name, title, address, telephone number and e-mail address of the property owner.

**Port 1850 LLC**  
**Shlomo Melloul, Managing Member**  
**67 N Federal Highway**  
**Dania Beach, FL 33304**  
[\*\*shlomo@bananasplitusa.com\*\*](mailto:shlomo@bananasplitusa.com)

- D. Applicant's rationale for the amendment.

**Rationale: The proposed project consists of the construction of a commercial warehouse in Broward County in close proximity to Port Everglades to fill a need for the operation of the Port. The feasibility of the project depends on the proximity to the Port, proximity to major highways (i.e. I-595 and I-95), parcel size, parcel availability/acquisition costs, and city zoning and setback requirements. There are limited undeveloped parcels that meet the criteria needed to ensure a feasible and viable project. Approximately 3.47 acres of the site is located within the LAPC designation and approximately 4.21 acres of mangrove wetlands exist on site. Of the total 4.21 acres, 1.29 acres will be preserved on site. The wetlands preserved on site will be located on the eastern portion of the parcel to conserve the hydrologic connection to the surrounding wetlands on the undeveloped parcels. The wetlands preserved on site will also be enhanced through the removal of invasive/nonnative species and will be placed under a conservation easement. In addition to the preservation and enhancement of wetlands on site, a credit purchase from the Everglades Mitigation Bank will be made. The existing wetland has been degraded and the habitat value is rapidly diminishing because of the invasion of exotic vegetation and the deterioration caused by the industrial development in the surrounding area. In addition, similar parcels containing contiguous forested wetlands, as opposed to isolated depressional wetlands, are not common within the New River drainage basin. Given the relative lack of privately-owned parcels with existing mangrove wetlands onsite, impacts to small, isolated wetlands on subject sites would not result in a large loss of wetland acreage within the ecosystem. The wetlands located onsite provide little function to the watershed due to the poor quality of the wetlands. The purchase of credits from the offsite permitted Everglades Mitigation Bank will offset any existing wetland function and will not result in any adverse cumulative impacts within the New River drainage basin.**

### 3. AMENDMENT SITE DESCRIPTION

- A. Concise written description of the general boundaries and gross acreage (as defined by the BCLUP) of the proposed amendment.

**Response:** The proposed NSU Port Parcel project consists of the construction of a commercial warehouse with required parking, drainage and associated infrastructure. The project site consists of a 5.11-acre vacant property located east of NE 7th Avenue and west of an existing Florida Power and Light transmission easement in Dania Beach, Broward County, Florida, more specifically identified as Broward County Folio No. 5042-26-00-0021. The parcel is 662.69' long by 335.96' wide and is surrounded by undeveloped parcels to the north, east, and south, which are owned by Broward County, having been purchased in 1997 – 1998, and commercial properties to the west. The majority of the property consists of mangrove wetlands on the east side of the property with a fringe of disturbed uplands on the west side. Local Area of Particular Concern Site 97 runs directly through the center of the site, encompassing a portion of the mangrove wetlands on site and surface waters. LAPC Site 97 included approximately 3.47 acres of the subject site (310' wide by 335.96' long).

- B. Original sealed survey, including legal description. (Digital scans are not acceptable.)

**Signed and sealed Survey is attached as Exhibit “A”**

- C. Aerial photograph.

**Please see attached location map attached as composite Exhibit “B”**

- D. Recorded plat(s), if applicable.

**Response: The Property is un-platted**

### 4. EXISTING AND PROPOSED USES

- A. Existing use of amendment site and adjacent areas. Provide cross-sections of the existing conditions on the subject site.

**Response:** The existing Subject Site is an undeveloped parcel. The adjacent parcels to the north, east, and south are also undeveloped. The subject site is zoned IG (General Industrial) through the City of Dania Beach and has a land use of vacant industrial through Broward County. The adjacent parcel to the west is a commercial property that is zoned IRO (Industrial-Research-Office) through the City of Dania

**Beach and has a land use of warehousing, distribution terminals, trucking terminals, van & storage warehousing through Broward County. Please see composite Exhibit "C".**

- B. Proposed use of the amendment site including proposed square footage for each non-residential use and/or dwelling unit count. Provide draft cross-sections of post-development conditions on the subject site.

**Response: The proposed use of the subject site is commercial warehouse. The commercial warehouse will consist of a 62,340 sq. ft. building with associated parking. Approximately 1.29 acres of wetlands on site will be preserved and placed under a conservation easement. Please see attached plan set with aerial and cross sectional views of existing and proposed conditions. Please see composite Exhibit "C".**

#### 5. LAPC CATEGORIES

Indicate if the amendment site contains resources or characteristics of Local Areas of Particular Concern (LAPC) as described in the Implementation Requirements and Procedures section of the Broward County Land Use Plan.

##### A. Marine Resources

Coastal areas of unique, scarce, fragile, or vulnerable natural habitat, physical features and scenic importance, or; coastal areas of high natural productivity or essential habitat for fish, wildlife, and the various trophic levels in the food web critical to their well-being, or; coastal areas of substantial recreational value and/or potential, or; areas needed to protect, maintain, or replenish coastal flood plains, coral and other reefs, beaches, offshore sand deposits and mangrove stands.

**Response: The Subject Site does not have resources that are unique, scarce, fragile or vulnerable. The 5.11 acre site contains 4.21 acres of mangrove wetland with a fringe of disturbed uplands on the west side. The dominant species on site were red and black mangroves and also consisted of non-native species such as Brazilian pepper, earleaf acacia and Australian pine. The interior of the site displays some evidence of previous alteration, and the site is surrounded by commercial parcels.**

##### B. Natural Landforms and Features

A geological, hydrological, or physiographical feature confined to a small area of Broward County and considered quite rare locally or regionally, or; a representative natural ecosystem and/or its units existing in a few isolated locations, but extirpated from most of the county.



**Response:** No locally or regionally rare geological, hydrological, or physiological features are present on site. Overall, the majority of existing mangrove wetlands within Broward County are located east of US-1 within the center of the County, primarily within Broward County's West Lake Park and John U. Lloyd State Park. Additional smaller contiguous areas of existing mangroves are located within Port Everglades, Broward County's Deerfield Island Park, the Bonnet House, Hugh Taylor Birch State Park and the City of Hollywood's Holland Park. Remaining areas of mangroves consist primarily of small mangrove fringes present along existing canals and channelized waterways, including those within South Florida Water Management District right-of-way. These mangrove areas are typically under various forms of site protection, either as conservation easements or within designated park boundaries. Thus, the site is not considered rare locally or regionally. The loss of this low quality, degraded wetland would result in an insignificant loss of wetland function to Broward County.

C. Native Vegetation Communities

(a) A Local Area of Particular Concern (Native Vegetative Communities Category) is an area which shows a predominance of native vegetation associated with one or more of the following ecological communities: Beach and Dune Community; Coastal Strand Forest Community; Mangrove Community (Saltwater Swamp); Scrub Community; Pine Flatwoods Community; High Hammock Community; Low Hammock Community; Cypress Wetland Community (Freshwater Swamp); Ever-glades Community (Freshwater Marsh).

**Response:** While mangroves are present within the site, the mangroves observed appeared stressed, most likely due to the existing elevations and previous alteration of the site. In addition, exotic Brazilian pepper, Australian Pine, and earleaf acacia are present which make this a low-quality mangrove wetland.

(b) In addition, a Local Area of Particular Concern (Native Vegetative Communities Category) must satisfy at least three of the following criteria:

i. Uniqueness - The site contains a significant sample of rare or endangered species, or, the site is among a small number of sites in Broward County representing a particular ecological community.

**Response:** The site was surveyed for the potential presence of listed species and/or listed species habitat. Due to the

developed surroundings, existing vegetative conditions, and use of the eastern portion of the site, the subject area does not provide for roosting or forage habitat by listed species, and any use by such species would likely be only transient in nature. The site is not a highly productive coastal tideland as a low amount of tidal inundation occurs. The site is not used for scientific study or research on wildlife.

ii. Diversity - A significant sample of two or more ecological communities are contained within the site.

**Response: Only one ecological community is present, a mangrove wetland.**

iii. Low Level of Exotic Invasion - The degree and nature of exotic invasion on the site is such that it can be easily managed or mitigated.

**Response: Brazilian pepper, Australian pine, and earleaf acacia are scattered throughout the site and cannot be easily maintained.**

iv. Potential for Protection -Ownership patterns, development status and other factors make the resources of a site likely to be successfully protected.

**Response: The adjacent properties to the west are continually being developed into commercial properties. The site and the surrounding area are not likely to be protected in the future due to continuing development.**

v. Geography - The site has proximity to other resources which would heighten its value as a LAPC (e.g., other ESLs, public parks, waterfront).

**Response: Commercial development exists adjacent to the west of the site. Wetlands exist to the north, east, and south and are part of parcels that consist of FP&L transmission lines. In addition, Port Everglades and the Fort Lauderdale/Hollywood International Airport are located in the immediate surrounding area.**

#### D. Wildlife

Existing wildlife refuges, reserves, and sanctuaries, or; known habitats of rare, threatened, or endangered species or species of special concern, or; major wildlife intensive use areas such as well-developed hammock communities, highly productive coastal tidelands, and mangroves, or; areas used for scientific study and research on wildlife.

**Response: The site was surveyed for the potential presence of listed species and/or listed species habitat. Due to the developed surroundings, existing vegetative conditions, and use of the eastern portion of the site, the subject area does not provide for roosting or forage habitat by listed species, and any use by such species would likely be only transient in nature.**

#### E. Economic Resources

Existing ports, marinas, piers, energy resources, and artificial reefs, or; areas noted for specific study and research concerning economic development.

**Response: Port Everglades and the Fort Lauderdale/Hollywood International Airport are present in the immediate vicinity of the subject site. No known specific study or research is being conducted concerning the site and economic development.**

#### F. Cultural Resources

Sites designated on the National Register of Historic Places or on the Florida Master Site File, or; sites related to the general development of the local area, region, or State, or; buildings which are significant examples of the architectural design of their period, or; sites associated with the life/lives of important person(s), or social, political, cultural, or economic movements or with historical events, or; archaeological sites which have yielded useful information on the area's past.

**Response: No cultural resources are present. The site is not designated on the National Register of Historic Places or on the Florida Master Site File. The Department of Historical Resources reviewed the site as part of the U.S. Army Corps permit process.**



## 6. ENVIRONMENTAL ANALYSIS

- A. An environmental analysis must be provided to determine the proposed amendment's environmental impacts both on-site and to adjacent properties.

**Response: Please see attached Cumulative Impact Analysis – see attached Exhibit “D”.**

- B. A proposed mitigation strategy which identifies measures to avoid and/or minimize any potential risks as indicated by the environmental analysis.

**Response: Please see attached Mitigation Plan – see attached Exhibit “E”.**

- C. Broward County Environmental Resource License – provide information including the permit number and status of any license related to the proposed amendment site.

**Response: An application for an Environmental Resource License has been submitted and is being processed under application no. DF20-1121**

- D. Federal and/or State Environmental Permits – provide information including the permit number and status of any license related to the proposed amendment site.

**Response: Broward County is processing the State Environmental Resource Permit application since the proposed project is located within Broward County's FDEP delegation area. An application for a State 404 Individual Permit application has been submitted and is being processed under application no. 06-0396518-002-SFI.**

- E. Surface Water Management Plan - indicate if a Plan has been approved by, or an application submitted to, the South Florida Water Management District (SFWMD) and/or any independent drainage district, for the amendment site. Provide information including the permit number and status of any license related to the proposed amendment site.

**Response: Stormwater Plans have not yet been submitted to SFWMD or Broward County.**

- F. Identify the drainage district and drainage systems serving the amendment site, including any planned drainage improvements, including year, funding sources and other relevant information.

**Response: SFWMD and Broward County are the stormwater jurisdictions, but there is no special drainage district.**

- G. Identify the management of storm water retention on-site, as well as the extent to which the amendment site provided storm water retention to surrounding properties and how potential run-off will be mitigated throughout the affected area.

**Response: The stormwater management design for this project consists of 12 drainage wells and 1,790 LF of exfiltration trench to meet water quality and quantity requirements. A pre vs post-development analysis for the 25-year, 3-day storm event will show the post-development discharge does not exceed the pre-development discharge. The 100-year, 3-day storm event will not exceed the Broward County 100-year flood plain of 6.50 NAVD.**

## 7. ANALYSIS OF NATURAL AND HISTORIC RESOURCES

Indicate if the site contains, is located adjacent to or has the potential to impact any of the natural and historic resource(s) listed below, and if so, how they will be protected or mitigated.

- A. Wetlands – describe whether the amendment will impact existing wetlands, lakes or aquifer recharge areas. If so, describe what management practices will be used to protect or mitigate the area's natural features.

**Response: Approximately 4.21 acres of mangrove wetlands exist on site. Of the total 4.21 acres, 2.92 acres of wetlands will be impacted and 1.29 acres will be preserved on site. The wetlands preserved on site will be located on the eastern portion of the parcel to conserve the hydrologic connection to the surrounding wetlands on the undeveloped parcels to the north, east, and south. The wetlands preserved on site will also be enhanced through the removal of invasive/nonnative species and will be placed under a conservation easement.**

- B. Soils – describe whether the amendment will require the alteration of soil conditions or topography. If so, describe what management practices will be used to protect or mitigate the area's natural features.

**Response: Filling of the site will be required. During construction, erosion control devices will be installed and maintained such as silt fences to prevent erosion into adjacent wetlands and other surface waters. In addition, retaining walls will be installed on site between the proposed development and adjacent wetlands to serve as a buffer.**

- C. “Endangered species,” “threatened species,” “species of special concern” or “commercially exploited” as per the Florida Fish and Wildlife Conservation Commission (fauna), the U.S. Fish and Wildlife Service (flora and fauna), or the Florida Department of Agriculture and Consumer Services (fauna). If yes, identify the species and show the habitat location on a map.

**Response:** The project site is located within the Urban Bat Consultation Area for the Florida Bonneted Bat (*Eumops floridanus*). Utilization of the USFWS Consultation Key for the Florida Bonneted Bat requires a Limited Roost Survey which will be conducted and submitted to FWC.

The Eastern Indigo Snake prefer high ground with well-drained sandy soils. They typically inhabit gopher tortoise burrows which also prefer well-drained, sandy soils such as pine sandhills, scrub, pine flatwoods, dry prairies, and coastal dunes. The project proposes impacts to saltwater wetlands which do not consist of sandy soils that Eastern Indigo Snakes inhabit. The proposed project will also use the USFWS most current guidance for Standard Protection Measures for the Eastern Indigo Snake and will impact less than 25 acres of eastern indigo snake habitat. Utilization of the USFWS Consultation Key for the Eastern Indigo Snake results in a Not Likely to Adversely Affect (NLAA) determination.

- D. Tree Canopy and Ground Cover, including plants listed in the Regulated Plant Index for protection by the Florida Department of Agriculture and Consumer Services. If yes, identify the species and show the location on a map.

**Response:** Please see attached Tree Inventory Report by RES which determined that there were a total of sixty-three (63) trees within the upland area. All but one tree were species designated as Category I invasives by FLEPPC: Australian pine (*Casuarina equisetifolia*), Brazilian peppertree (*Schinus terebinthifolia*), carrotwood (*Cupaniopsis anacardioides*), and earleaf acacia (*Acacia auriculiformis*). One native, non-invasive tree was identified: Sea grape (*Coccoloba uvifera*). See attached Exhibit “F”.

- E. Priority Planning Area – indicate whether the amendment is located within a priority planning area. If yes, address Broward County Land Use Plan Policy 2.21.1 regarding sea level rise.

**Response:** The Subject Site is located within a Priority Planning Area. See attached Exhibit “G”.

**POLICY 2.21.1 requires the implementation of “safeguards” relating to future flood risk and sea level rise, and through the permitting process the site will be mitigated by required measures as briefly described in the existing and proposed conditions discussion and as illustrated in the Exhibit referenced in paragraph 4 A and B.**

- F. Flood Zone Area per the Federal Emergency Management Agency’s Flood Insurance Rate Map.

**Response: Please see attached FEMA Flood Map. The subject site is located within Zone AE. See attached Exhibit “H”.**

- G. Wellfields – indicate whether the amendment is located within a wellfield protection zone of influence as defined by Broward County Code, Chapter 27, Article 13 “Wellfield Protection.” If so, specify the affected zone and any provisions which will be made to protect the wellfield.

**Response: The Subject Site is not located within a Wellfield Protection Zone of Influence.**

- H. Historic sites or districts on the National Register of Historic Places or locally designated historic sites.

**Response: The Subject Site has not be designated as a historic site.**

- I. Archaeological sites listed on the Florida Master Site File.

**Response: The site has not been listed as an Archeological site.**

- J. Local Parks – indicate if the amendment site is utilized to meet the municipal “community parks” requirement, as defined by the Broward County Land Use Plan. If yes, indicate whether the municipality will continue to meet the “community parks” acreage requirement based on its projected build-out population.

**Response: The Subject Site has not been utilized to meet the municipal “Community Parks” requirement.**

- K. Beach Access – indicate if the amendment site fronts the ocean or would impact access to public beaches. If so, describe how public beach access will be addressed.

**Response: The subject site is not located adjacent to the ocean and will not impact access to public beaches.**



- L. Hurricane Evacuation - indicate if the amendment site is located in a hurricane evacuation zone as identified by the Broward County Emergency Management Division. If yes, provide a hurricane evacuation analysis based on the proposed use of the amendment site, considering the number of permanent and seasonal residential dwelling units requiring evacuation, availability of hurricane shelter spaces, and evacuation routes and clearance times.

**Response: The Subject Site is included within the Plan B Hurricane Evacuation Zone. See attached Exhibit "I".**

8. INTERGOVERNMENTAL COORDINATION

Indicate whether the proposed amendment site is adjacent to other local governments.

**Response: The Subject Site is bounded on the East by the City of Hollywood.**

9. PUBLIC OUTREACH

Describe how the applicant and/or local government notified and coordinated with adjacent property owners, master associations, homeowner associations, etc.

**Response: The Florida Department of Environmental Protection will send out a public notice to the adjacent neighbors as part of the State 404 Individual Permit application review.**

10. DESCRIBE CONSISTENCY WITH HIGHLIGHTED REGIONAL ISSUES AND POLICIES OF THE BROWARD COUNTY LAND USE PLAN

POLICY 2.1.1 Broward County shall maintain a balanced Land Use Plan to implement a regional vision including the provision of essential public services and facilities, as well as enhanced sustainability and livability.

**Response: The 5.11 acre site is designated Industrial on the effective Land Use Plan, and is zoned General Industrial (IG) pursuant to the City's Code, which permits uses that are compatible with the existing industrial uses to the west. Since the site is surrounded, on the north, east and south, by vacant lands acquired by Broward County in 1997-98, which lands are unlikely to be developed in the future, this parcel is the eastern-most parcel in Dania Beach in the vicinity which is designated for much-needed industrial development necessary to support the needs of the Port-related activities. The Amendment, if adopted, will enable the development of this site in accordance with safeguards that will result in the provision of additional warehouse use together with an enhancement to the remaining ecological system.**

POLICY 2.1.2 The land use categories depicted on the Broward County Land Use Plan Map are intended to protect established residential areas and encourage economic development and redevelopment.

**Response: The proposed Amendment to remove the LAPC designation will facilitate the future warehouse use of this site in an area intended for economic development and the use is compatible with the non-residential uses to the west.**

POLICY 2.3.1 Local governments shall employ their local land use plans, zoning ordinances and land development codes to establish differing intensities of commerce development compatible with adjacent and surrounding land uses, including but not limited to lands designated “Commercial,” “Industrial” or similar designations by the local land use plan.

POLICY 2.3.2 Local governments shall employ their local land use plans and development regulations to establish appropriate intensity standards for non-residential future land use categories compatible with adjacent existing and future land uses.

**Response: The proposed Amendment is consistent with the Policies set out above, inasmuch as with the elimination of the LAPC designation, the City and various environmental agencies will be able to work with the Owner to assure minimal quality development and yet preserve a currently-deteriorating environment that presently exists on site.**

#### PORT

POLICY 2.7.1 Port Everglades shall be developed in a manner which is sensitive to marine and other natural resources, consistent with the goals, objectives and policies of the Port Everglades Master Plan.

POLICY 2.7.2 The Broward County Planning Council shall coordinate with the Port Everglades Department, the Broward County Environmental Protection and Growth Management Department and the Cities of Fort Lauderdale, Dania Beach and Hollywood to ensure compatibility between the Port Everglades Master/Vision Plan, the Broward County Land Use Plan and local land use plans. AIRPORT POLICY 2.8.1 Existing airports and lands committed for airport use shall be designated under the

**Response: The proximity of this site to both Port Everglades development, as well as to quality preserved lands under County control to the north, east and south, enables the County to approve the removal of the LAPC designation, without compromising, and, in fact, preserving the intent of the Policies set out above.**

#### ENVIRONMENTALLY SENSITIVE LANDS

POLICY 2.23.1 Natural resources that have been found to comply with the definition of Local Areas of Particular Concern have been identified on a Map of Local Areas of Particular Concern within the Future Broward County Land Use Map Series.

POLICY 2.23.2 Local Areas of Particular Concern are declared to be environmentally sensitive lands and upon adoption of this plan shall be subject to the provisions of the Broward County Land Development Code regarding environmentally sensitive lands.

POLICY 2.23.3 Broward County shall implement strategies for the protection of Local Areas of Particular Concern and other environmentally sensitive lands such as: acquisition by public or private organizations; establishment of a County trust fund for acquisition; adoption of innovative land development regulations; conservation easements; transfer of development rights; deed restrictions; and restrictive covenants.

POLICY 2.23.4 By 2019, Broward County shall work with Broward's municipalities and interested stakeholders to study and recommend incentives to preserve designated environmentally sensitive lands that are privately controlled.

**Response: The removal of the LAPC designation (3.47 acres on a 5.11 acre site) is consistent with the overall Environmentally Sensitive Lands Policies prescribed in Broward Next. The County, numerous years ago, identified lands to be designated, and this parcel, unlike significant acreage contiguous to the north, east and south, was not acquired by the County for preservation purposes. Without getting into the rationale for that decision approximately 36 years ago, approving this amendment will now enable the Owner to proceed with limited development of the site, while preserving approximately 1.29 acres of wetlands on site that will be enhanced through the removal of invasive and non-native species. As discussed in the Application, the quality of the wetlands on this site has continued to deteriorate, and with the adoption of this Amendment, the public interests are furthered through allowing minimal development while preserving and enhancing the remaining wetlands on site.**

#### 11. ADDITIONAL SUPPORT DOCUMENTS

- A. Other support documents or summary of support documents on which the proposed amendment is based.

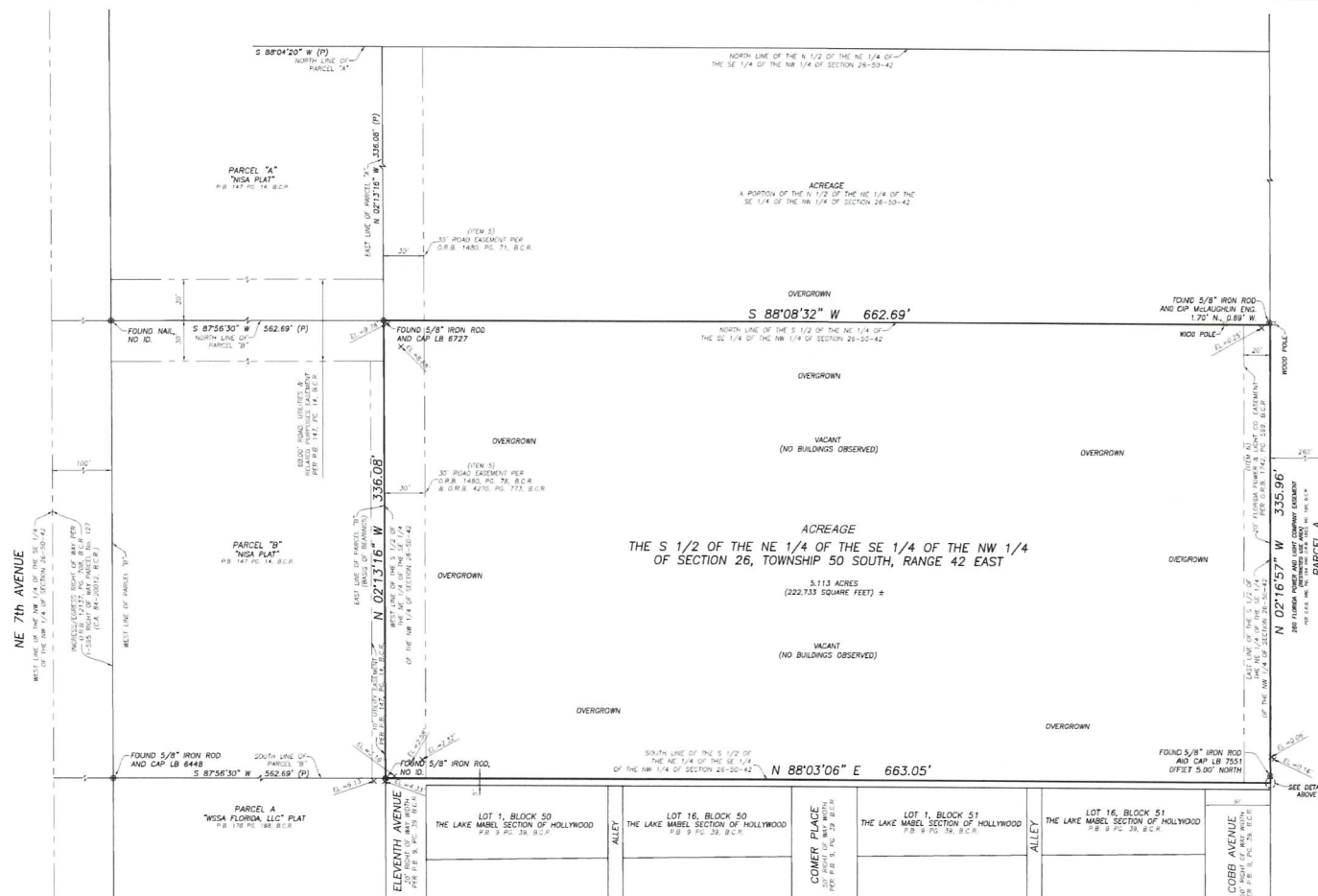
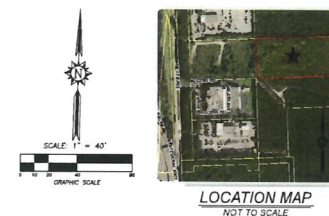
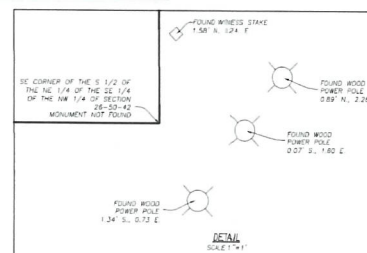
**Response: Additional support documents may be submitted by the Applicant prior to any Public Hearing.**

- B. Any proposed voluntary mitigation or draft agreements.

**Response: The Mitigation Plan is attached and referenced in paragraph 6, Environmental Analysis.**

LEGEND:

B.C.R.	BROWARD COUNTY RECORDS
L.B.	LICENSED BUSINESS
I.D.	IDENTIFICATION
O.R.B.	OFFICIAL RECORDS BOOK
(C)	CALCULATED
(R)	DEFOTES BEARING AND DISTANCE BASED ON RECORD INFORMATION
(P)	DEFOTES INFORMATION BASED ON PLATS OF RECORD
P.B.	PLAT BOOK
PC	PAGE
E	CENTERLINE
W	VIEW
L	BREAK IN LINE SCALE
S	SURFACE ELEVATION
N.A.S.	NORTH AMERICAN VERTICAL DATUM OF 1988



**LEGAL DESCRIPTION:**

THE S 1/2 OF THE NE 1/4 OF THE S/E 1/4 OF THE NW 1/4 OF SECTION 26, TOWNSHIP 50 SOUTH, RANGE 42 EAST, TOGETHER WITH AN EASEMENT FOR ROAD PURPOSES OVER THE WEST 30 FEET OF THE N 1/2 OF THE NE 1/4 OF THE S/E 1/4 OF THE NW 1/4 OF SECTION 26, TOWNSHIP 50 SOUTH, RANGE 42 EAST, SAID LANDS LYING, BEING AND SITUATE IN BROWARD COUNTY, FLORIDA.

**SURVEY NOTES:**

- [illegible]

THIS SURVEY IS CERTIFIED TO:  
PORT 1850 LLC, A FLORIDA LIMITED LIABILITY COMPANY.

SURVEYOR'S CERTIFICATE:

THIS IS TO CERTIFY THAT THIS TOPOGRAPHIC SURVEY WAS MADE UNDER MY RESPONSIBLE CHARGE AND IS ACCURATE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

Digitally signed by  
Javier De La Rocha  
Date: 2020.03.20  
10:01:27 -04'00'

JAVIER DE LA ROCHA  
PROFESSIONAL SURVEYOR AND MAPPER NO. 6080  
STATE OF FLORIDA  
ECS LAND SURVEYORS, INC. L.B. 7551

TELEPHONE NO. 561-314-0769 FAX NO. 561-314-0770

### SKETCH OF TOPOGRAPHIC SURVEY

CLIENT PORT 1850, LLC  
DATE 08/29/19  
DRAWN BY JEC  
CHECKED BY JDL  
LAST FIELD DATE 08/29

ECS1133  
TASK 3





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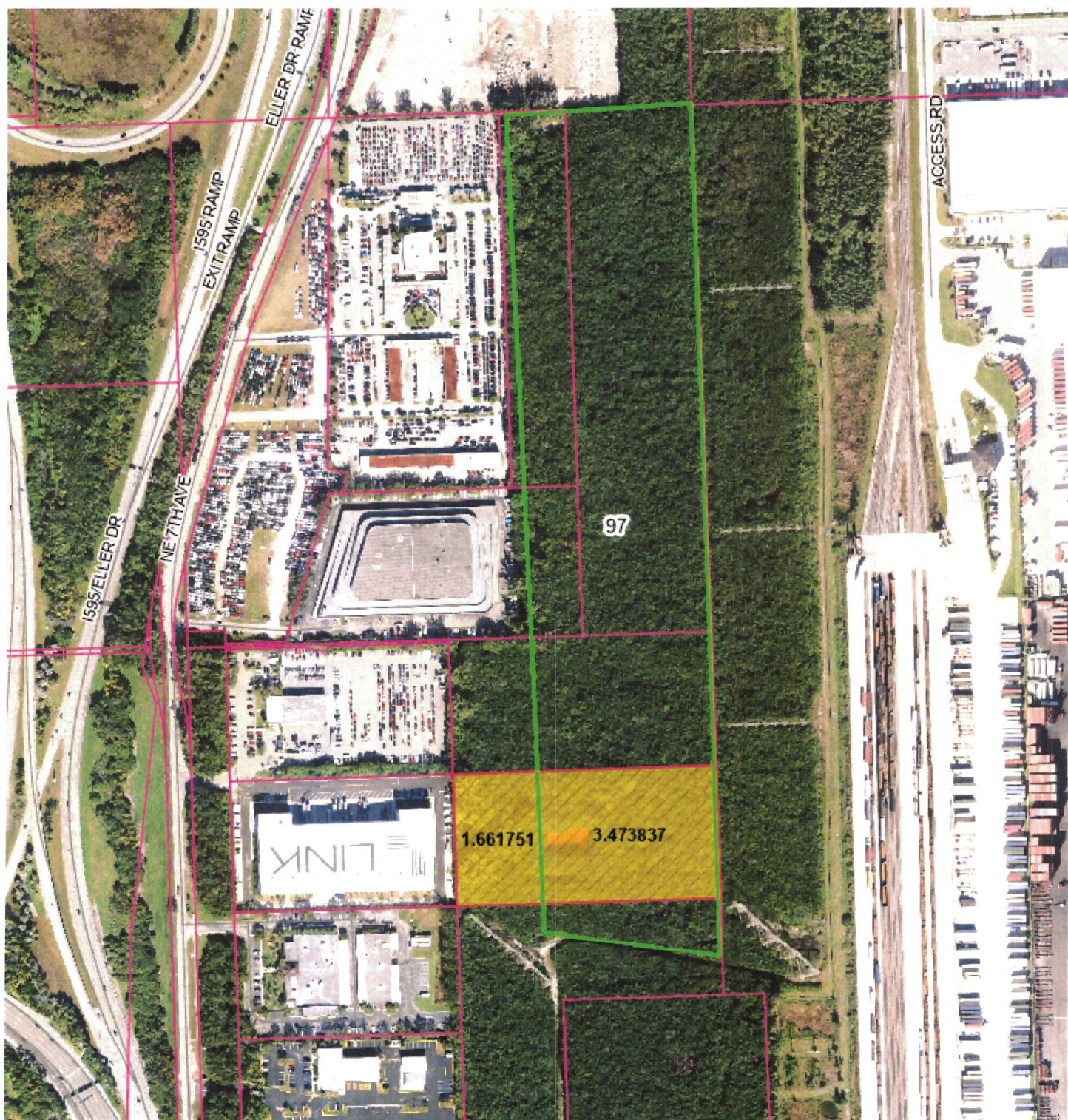
**NSU PORT PARCEL**  
 PREPARED FOR:  
**SHLOMO MELLOUL**

FIGURE 1 - LOCATION MAP

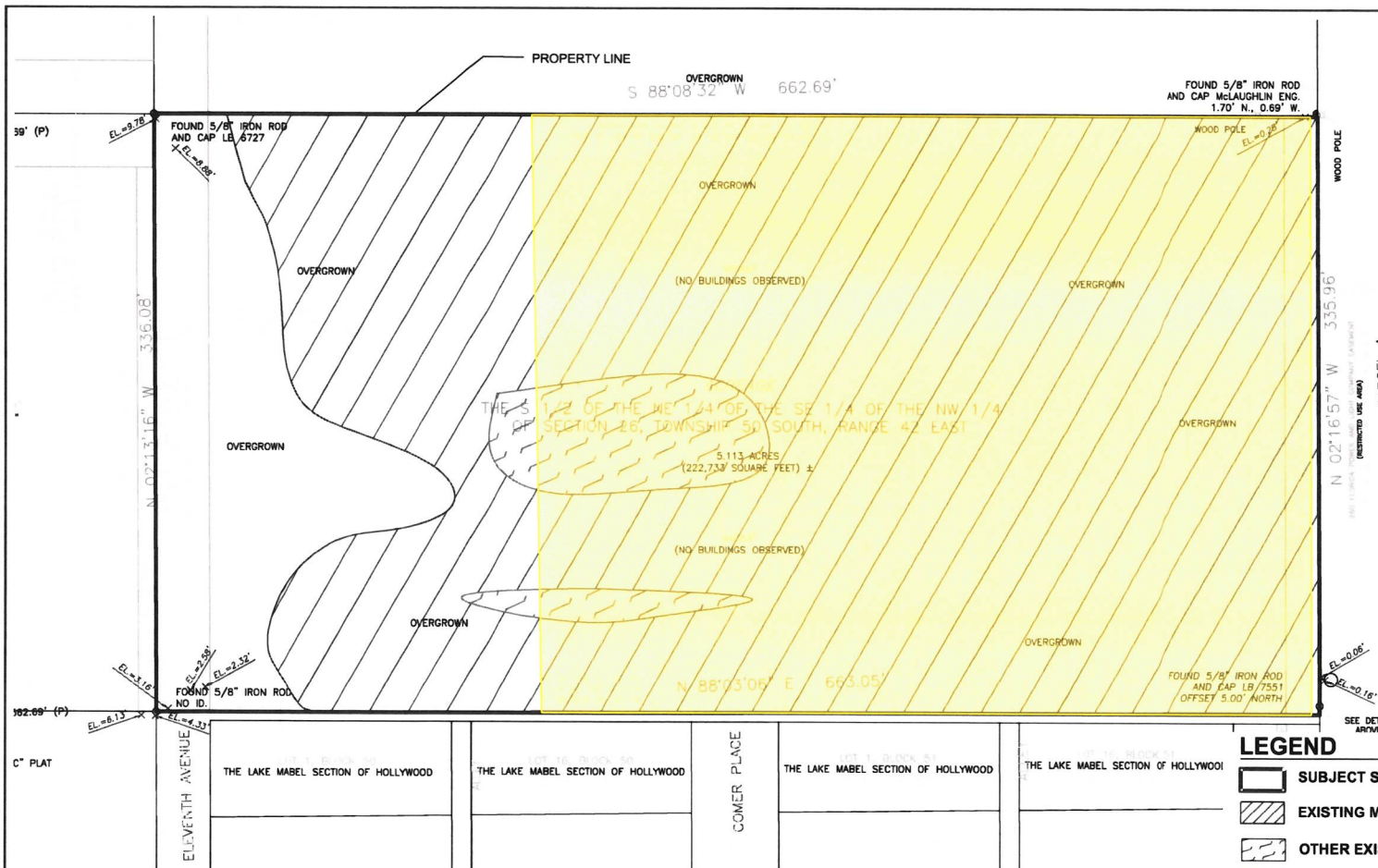
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Proj No.: 14-0080.002		

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# LEGEND

- SUBJECT SITE (± 5.11 ac)
- EXISTING MANGROVE WETLAND (± 4.21 ac)
- OTHER EXISTING SURFACE WATERS (± 0.26 ac)
- APPROXIMATE BOUNDARY OF LAPC AREA #97 (± 3.4 ac)

## NOTES:

1. BOUNDARY AND TOPOGRAPHIC SURVEY PROVIDED BY ECS LAND SURVEYORS, INC. SURVEY CONDUCTED 3-20-2020. ELEVATIONS IN NAVD.
2. EXISTING WETLANDS PREVIOUSLY DELINEATED BY TCG 9-13-19

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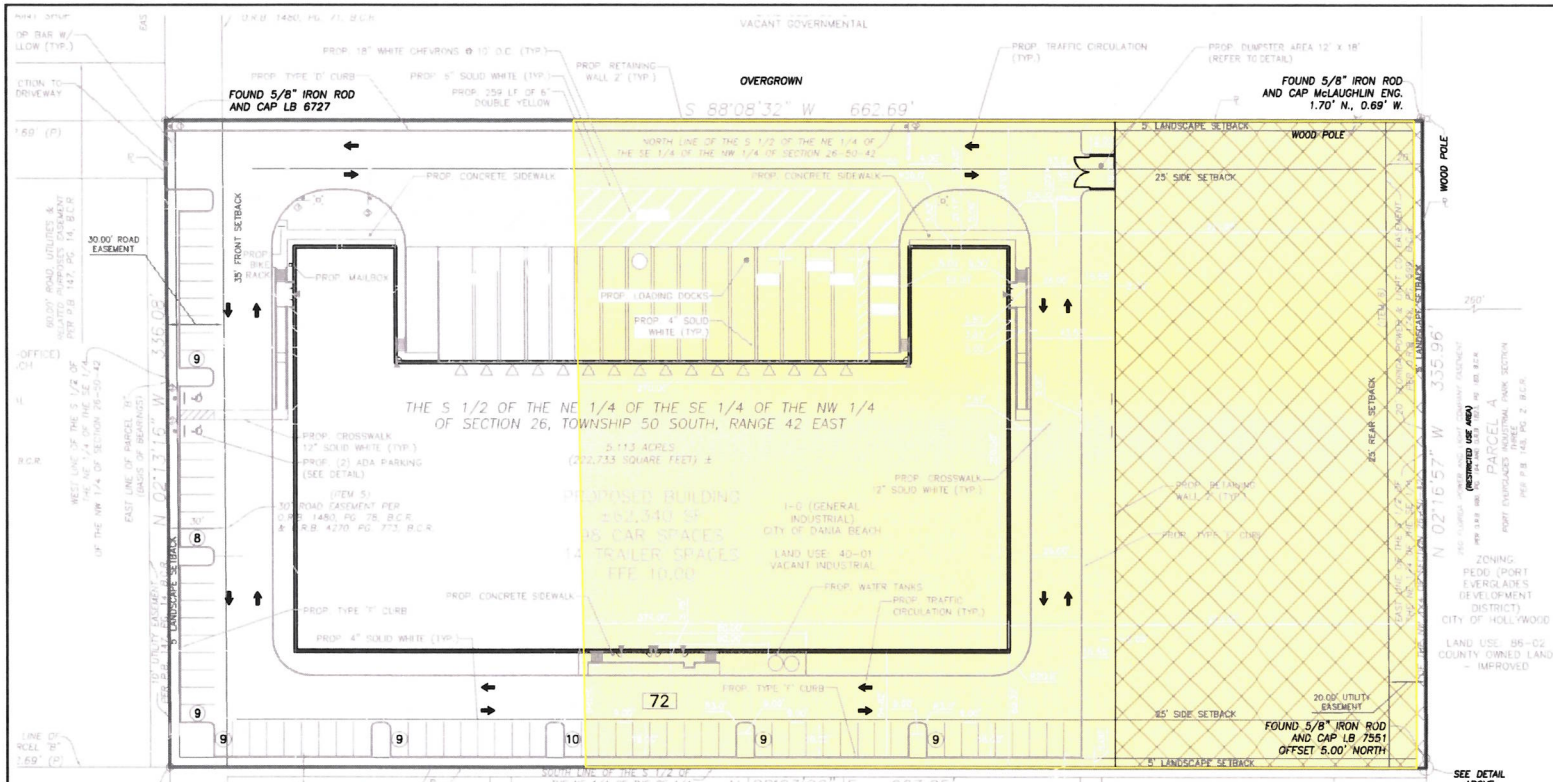
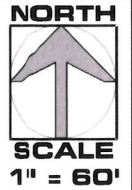
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- Mitigation Design & Monitoring
- T&E Species Surveys
- Tree Surveys/Appraisals

## NSU PORT PARCEL

PREPARED FOR:  
SHLOMO MELLOUL

## LAPC EXHIBIT

Date: 2/2/2024	Sheet : 1	of : 2
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#### LEGEND

- SUBJECT SITE (± 5.11 ac)
- WETLANDS TO BE PRESERVED (± 1.29 ac)
- APPROXIMATE BOUNDARY OF LAPC AREA #97 (± 3.4 ac)

#### NOTES:

1. SITE PLAN PROVIDED BY LANGAN ENGINEERING.
2. BOUNDARY AND TOPOGRAPHIC SURVEY PROVIDED BY ECS LAND SURVEYORS, INC. SURVEY CONDUCTED 3-20-2020. ELEVATIONS IN NAVD.
3. EXISTING WETLANDS PREVIOUSLY DELINEATED BY TCG 9-13-19

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## NSU PORT PARCEL

PREPARED FOR:  
SHLOMO MELLOUL

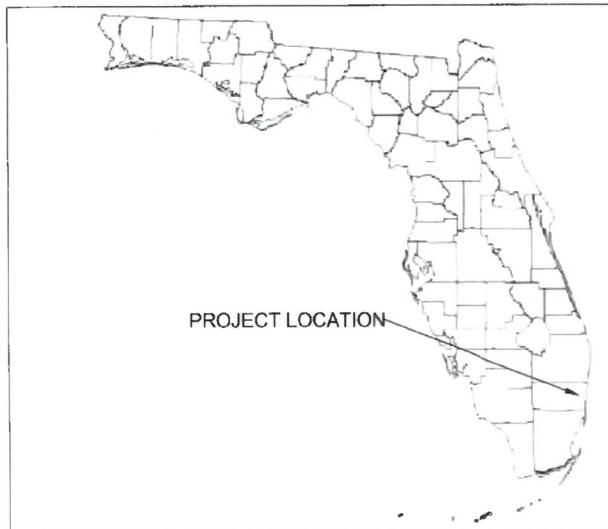
#### LAPC EXHIBIT

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4 B

# NSU PORT PARCEL CITY OF DANIA BEACH PLAN SET



LOCATION MAP (N.T.S.)

## DRAWING INDEX

SHEET 1: COVER

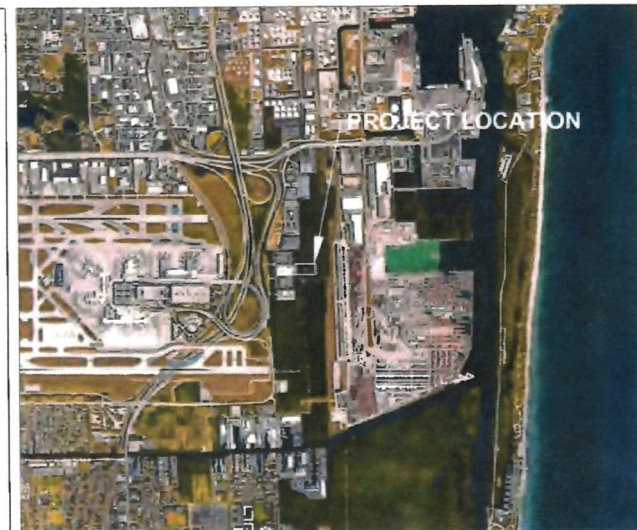
SHEET 2: EXISTING  
CONDITIONS

SHEET 3: DREDGE/FILL  
PLAN

SHEET 4: PROPOSED  
CONDITIONS

SHEET 5: SECTION A

SHEET 6: SECTION B



VICINITY AERIAL (N.T.S.)

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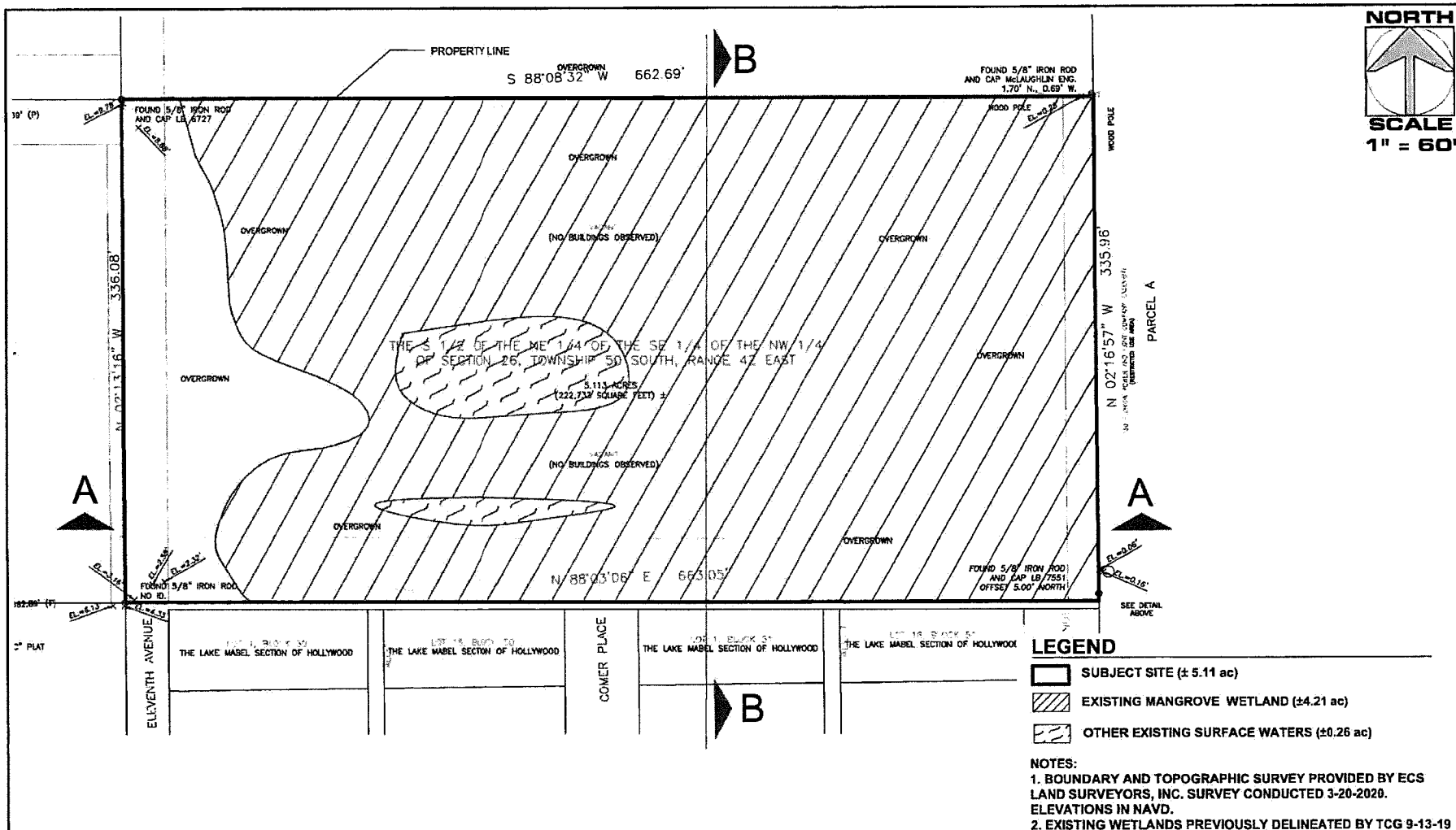
## NSU PORT PARCEL

PREPARED FOR:  
SHLOMO MELLOUL

COVER

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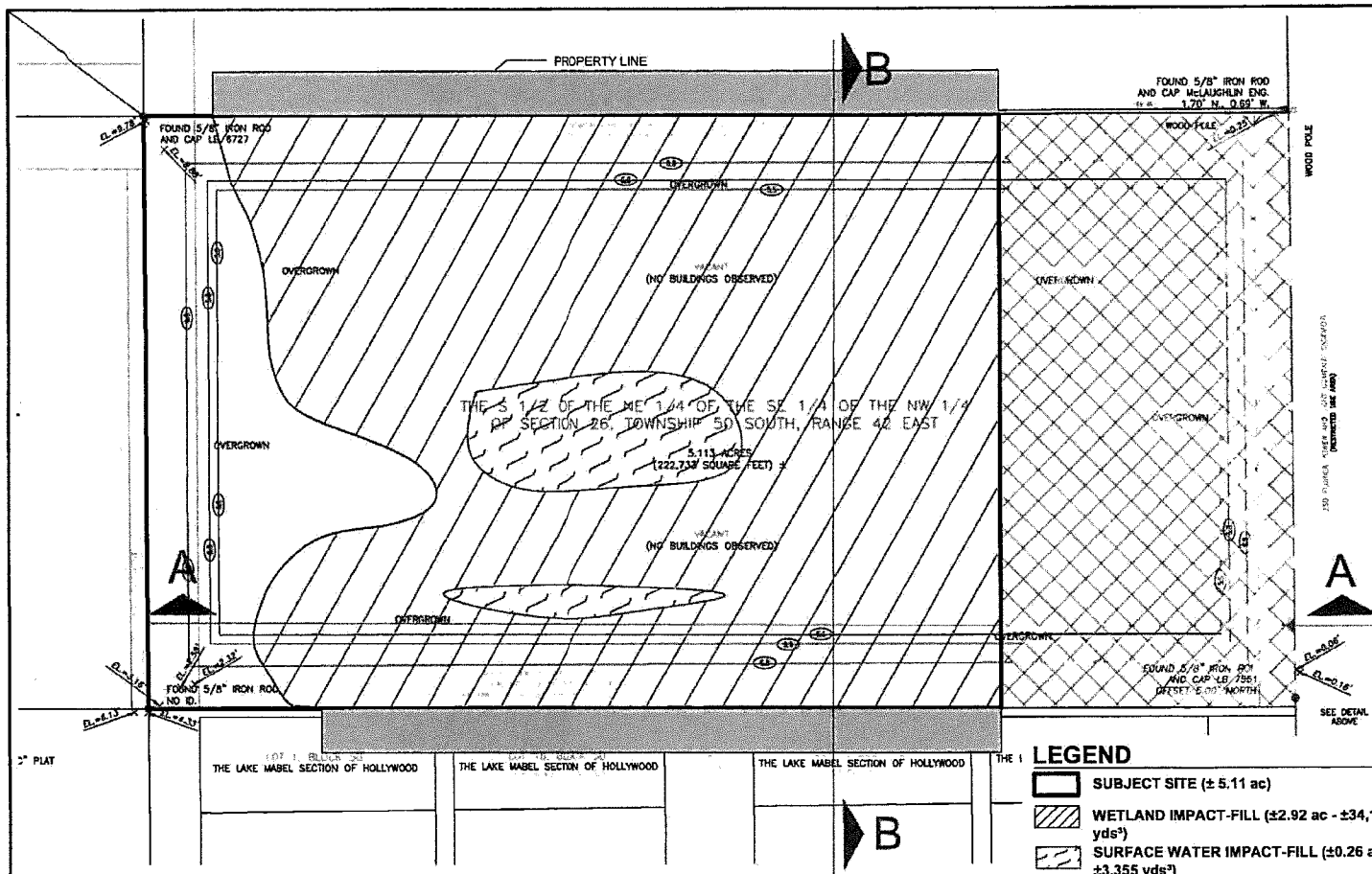
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PREPARED FOR:  
SHLOMO MELLOUL

# EXISTING CONDITIONS

Date: 7/12/2023	Sheet: 2	of: 6
Proj No.: 14-0080.002		



# LEGEND

- SUBJECT SITE (± 5.11 ac)
- WETLAND IMPACT-FILL (±2.92 ac - ±34,120 yds<sup>3</sup>)
- SURFACE WATER IMPACT-FILL (±0.26 ac - ±3,355 yds<sup>3</sup>)
- WETLANDS TO BE PRESERVED (± 1.29 ac)
- PROPOSED SECONDARY IMPACTS (± 0.49 ac)

**NOTES:**  
 1. BOUNDARY AND TOPOGRAPHIC SURVEY PROVIDED BY ECS LAND SURVEYORS, INC. SURVEY CONDUCTED 3-20-2020. ELEVATIONS IN NAVD.  
 2. EXISTING WETLANDS PREVIOUSLY DELINEATED BY TCG 9-13-19  
 3. FILL QUANTITY (yds<sup>3</sup>) ESTIMATE FOR PERMIT PURPOSES ONLY

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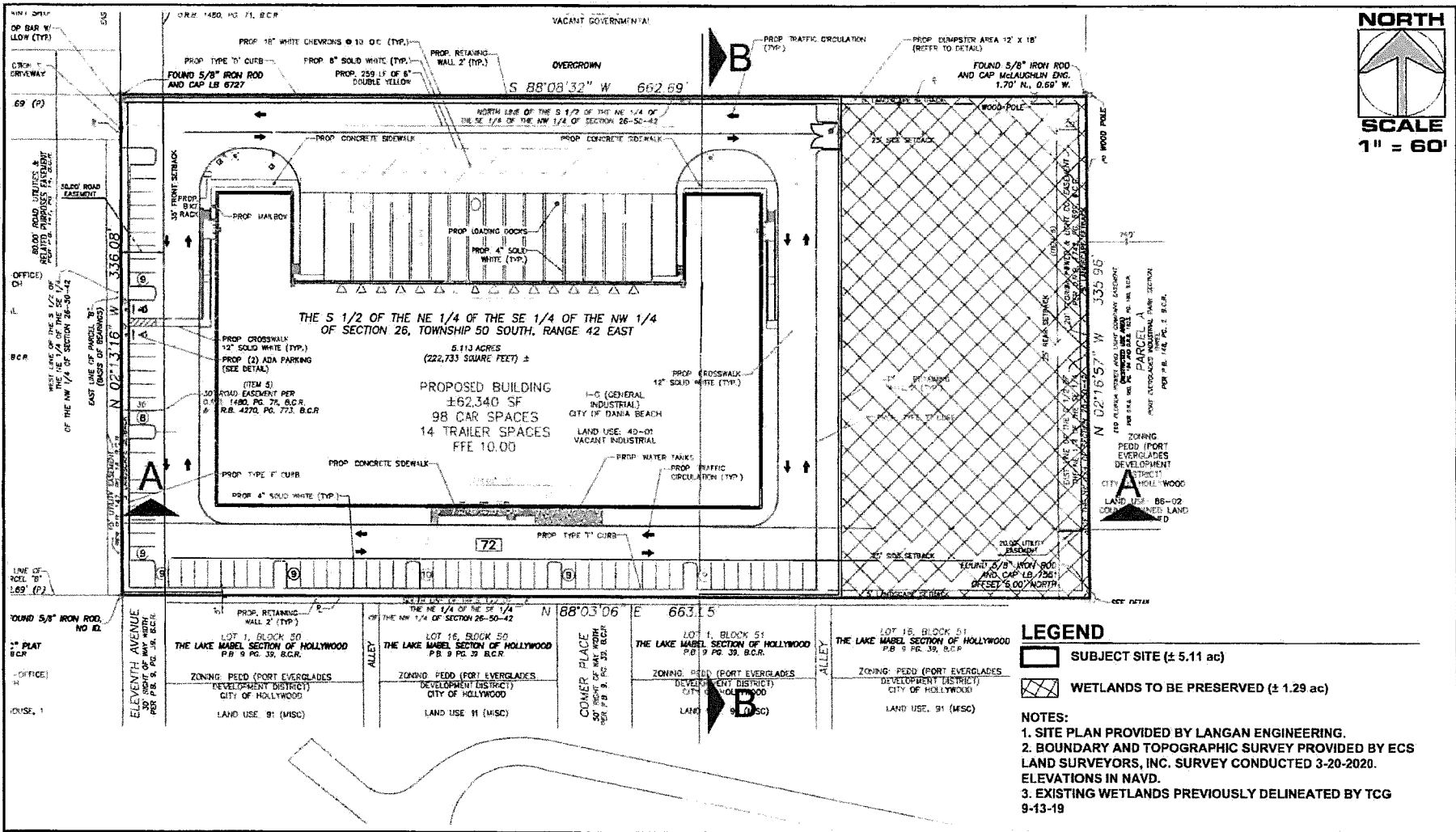
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- Tree Surveys/Appraisals

## NSU PORT PARCEL

PREPARED FOR:  
 SHLOMO MELLOUL

### DREDGE & FILL PLAN

Date: 7/12/2023	Sheet: 3	of: 6
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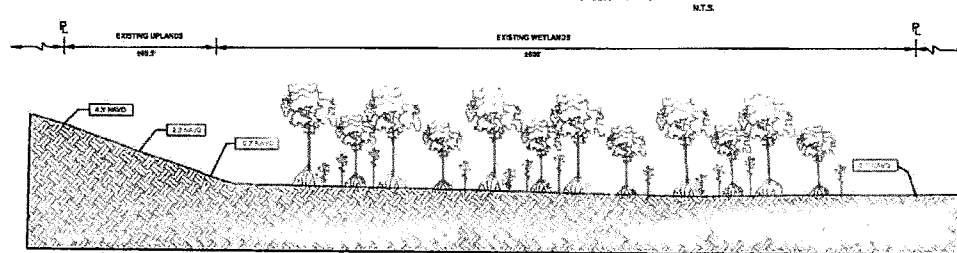
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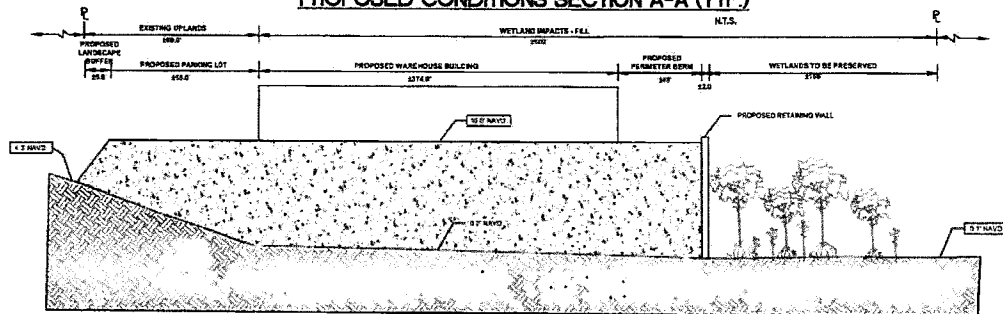
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PROPOSED CONDITIONS		
Date: 7/12/2023	Sheet: 4	of: 6
Proj No.: 14-0080.002		

### EXISTING CONDITIONS SECTION A-A (TYP.)



### PROPOSED CONDITIONS SECTION A-A (TYP.)



### LEGEND

- EXISTING SUBSTRATE
- WETLAND IMPACT-FILL ( $\pm 34,120$  yds<sup>3</sup>)

\*NOTE FILL QUANTITY (yds<sup>3</sup>) ESTIMATE FOR PERMIT PURPOSES ONLY

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### NSU PORT PARCEL

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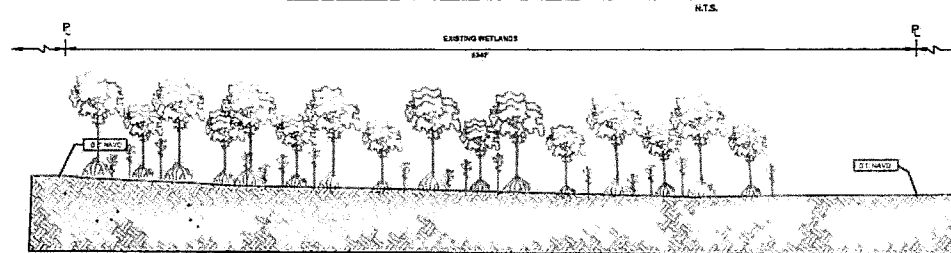
### SECTION A

Date:  
7/12/2023  
Proj No.:  
14-0080.002

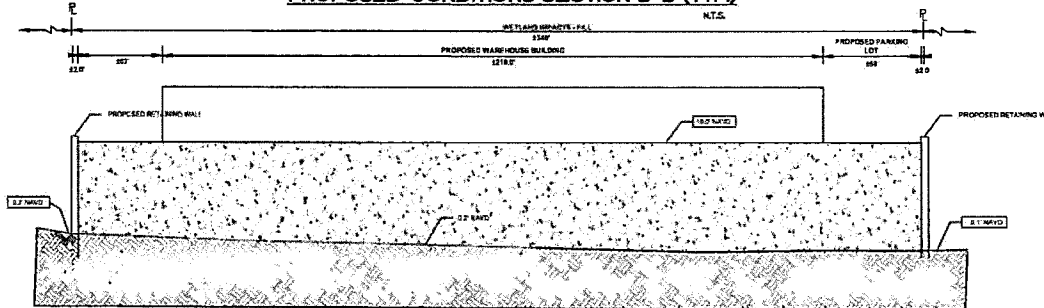
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**5**

of:  
**6**

### EXISTING CONDITIONS SECTION B-B (TYP.)



### PROPOSED CONDITIONS SECTION B-B (TYP.)



### LEGEND

- EXISTING SUBSTRATE
  - WETLAND IMPACT-FILL (±34,120 yds³)
- \*NOTE FILL QUANTITY (yds³) ESTIMATE FOR PERMIT PURPOSES ONLY

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## NSU PORT PARCEL

PREPARED FOR:  
 SHLOMO MELLOUL

### SECTION B

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Proj No.:	14-0080.002				





## **CUMULATIVE IMPACT ANALYSIS**

**FOR**

**NSU PORT PROPERTY**

**BCEPGMD ERL APPLICATION NO. DF20-1121**

**404 APPLICATION NO. 06-396518-001-SFI**

**TCG Project No. 14-0080.002**

Prepared for

Shlomo Melloul

August 2023

Prepared by

The Chappell Group, Inc.

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## **Table of Contents**

- I. Site Description
- II. Wetland Impacts
- III. Wildlife Utilization
- IV. New River Drainage Basin
- V. Mitigation
- VI. Conclusion

## **Appendices**

Location Map	Figure 1
Data Analysis Map	Figure 2
Everglades Mitigation Bank Service Area	Appendix A

## I. SITE DESCRIPTION

Since the mitigation for the proposed project is not located within the same basin as the wetland impacts, a cumulative impact analysis was conducted of the disturbed mangrove wetlands within the New River Basin pursuant to Rule 10.2.8 of Volume I of the Basis of Review. The analysis was conducted on the existing  $\pm 5.11$ -acre parcel located east of NE 7th Avenue and west of an existing Florida Power and Light transmission easement in Dania Beach, Broward County, Florida (Figure 1). The site was investigated to identify native vegetative communities, determine viability of indigent habitats, and note the presence or absence of threatened or endangered species as listed by the U.S. Fish and Wildlife Service, Florida Game and Fresh Water Commission (FGFWCFC), and the Florida Department of Agriculture.

The subject site is bordered on the north and south by undeveloped parcels, on the east by an existing FPL transmission easement, and on the west by commercially developed areas and roads. While no topographic survey data was available, elevations on-site appeared to average 1-2' below the surrounding developments.

The project site consists mainly of mangrove wetlands with a fringe of disturbed uplands on the west side. Observed vegetation onsite consisted mainly of mangroves with scattered non-native canopy species and groundcovers common to disturbed wetlands and transitional habitats. The dominant species on site were red mangrove (*Rhizophora mangle*) and black mangrove (*Avicennia germinans*). Non-native canopy species present onsite included Brazilian pepper (*Schinus terebinthifolius*), earleaf acacia (*Acacia auriculiformis*) and Australian pine (*Casuarina equisetifolia*). The wetland area contains obligate wetland vegetation and hydric soils with standing water, serving as evidence of wetland hydrology. The interior of the site displays some evidence of previous alteration, with two (2) small open water areas and channelized ditches in the center and western half of the site. Excavated material from these areas is present onsite, with a few linear and curvilinear areas existing at elevations 6-8" above the surroundings. These areas contain transitional and upland vegetation, primarily *C. equisetifolia*, but exist at wetland elevations with wetland soil characteristics.

Overall, based on the observed site conditions, including a review of vegetation and soils onsite, it was determined that the project site consisted mainly of jurisdictional wetlands, with minimal upland areas of disturbed soils and scattered fill along the perimeter of the site. Soils observed during the determination reflected the soils were mainly consistent with Pennsuco silty clay loam, as well as partially Perrine silty clay loam.





**SUBJECT SITE**

S FEDERAL HIGHWAY

TERMINAL DRIVE

ACCESS ROAD

NE 7TH AVENUE

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**NSU PORT PROPERTY**

PREPARED FOR:  
**SHLOMO MELLOUL**

FIGURE 1 - LOCATION MAP

Date: 11/2/2021	Sheet: <b>1</b>	of: <b>1</b>
Proj No.: 14-0080.002		



The property contained  $\pm 4.21$  acres of jurisdictional mangrove wetlands and  $\pm 0.26$  acres of surface waters that were confirmed by the South Florida Water Management District and Broward County Environmental Protection & Growth Management Department. The applicant is proposing to preserve and enhance  $\pm 1.29$  acres of mangrove wetlands and the filling of  $\pm 2.92$  acres of mangrove wetlands with approximately 34,120 cubic yards of fill to create one (1) commercial warehouse with associated parking and infrastructure. Based on the WATER scores, the applicant is proposed to purchase 1.24 credits from the Everglades Mitigation Bank (EMB) to offset direct impacts to 2.92 acres of existing wetlands in addition to the preservation of 1.3 acres of wetlands on site.

## **II. WETLAND IMPACTS**

The proposed project will directly impact 2.92 acres of mangrove wetlands located in the New River drainage basin. The existing wetland contains minimal desirable hydrophytic, overstory, shrub canopy, and ground cover. Hydrological conditions on site depend on the amount of precipitation and the elevation of the groundwater. Conditions were elevated by direct visual observation of surface inundation, soil saturation, and nearby water bodies. The proposed project will not adversely affect the navigation or flow of water or cause erosion or shoaling.

This project is consistent with the existing land use requirements of Broward County and the appropriate municipality and will minimize cumulative impacts within the New River drainage basin. It is our opinion that adverse cumulative impacts will not likely result from the filling of the onsite poor-quality wetland.

## **III. WILDLIFE UTILIZATION**

Several informal surveys of rare, threatened, endangered or species of special concern as listed by the Florida Department of Agriculture, The Florida Fish and Wildlife Conservation Commission (FFWCC), and the U.S. Fish and Wildlife Service (USFWS) have been conducted on this property and no wildlife was observed. Based on previous studies of animal population within these communities, the following is a list of probable animal species that could occur on the site:



**Table 1. State and Federally Listed Species that could occur on the subject property.**

		Protected Species	
Common Name	Scientific Name	State	Federal
<b>Reptiles</b>			
Southern ringneck snake	<i>Diadophis punctatus</i>	T	n/a
Eastern indigo snake	<i>Drymarchon corais couperi</i>	T	T
Green anole	<i>Anolis carolinensis</i>	n/a	n/a
<b>Birds</b>			
Bald eagle	<i>Haliaeetus leucocephalus</i>	T	T
wood stork	<i>Mycteria americana</i>	T	E
little blue heron	<i>Egretta caerulea</i>	SSC	n/a
snowy egret	<i>Egretta thula</i>	SSC	n/a
tricolored heron	<i>Egretta tricolor</i>	SSC	n/a
Red-cockaded woodpecker	<i>Picoides borealis</i>	T	E
<b>Mammals</b>			
Nine banded armadillo	<i>Dasypus novemcinctus</i>	n/a	n/a
<b>Amphibian</b>			
Gopher frog	<i>Rana capito</i>	SSC	n/a

E = Endangered  
T = Threatened

SSC = Species of Special Concern  
n/a = Not Listed

From the list of state and federally protected species, no wildlife, rare, threatened, or endangered or species of special concern were observed on the property. The habitat value is rapidly diminishing due to extensive invasion of exotic vegetation and the deterioration caused by development in the surrounding area. In addition, a Florida Bonneted Bat (*Eumops floridanus*) survey was conducted, and it was determined that the site does not provide habitat for the species.

The proposed project of impacting 2.92 acres of mangrove wetlands and preserving and enhancing 1.29 acres of mangrove wetlands will convert existing, low-quality wetlands to a high-quality mangrove wetland that more closely resembles saltwater marsh habitat. In addition, offsite mitigation in the EMB (Appendix A) will provide one large, viable ecosystem-oriented restoration project, which is clearly the superior alternative. The size of the Bank provides an opportunity to restore and manage a significant portion of the natural ecosystem within this area. It will also provide an important buffer and habitat link to existing and proposed conservation lands.

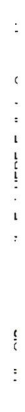
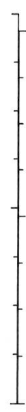
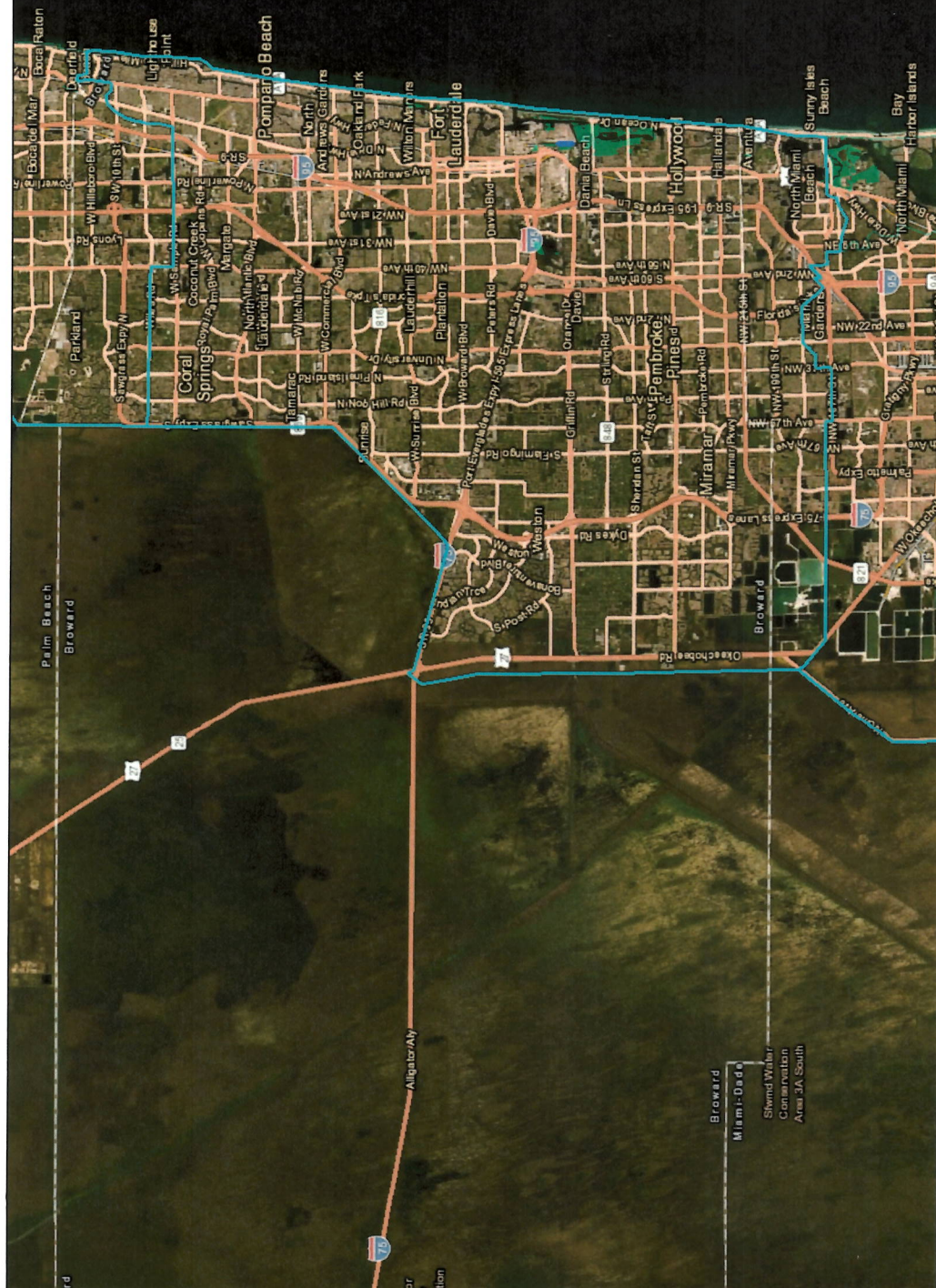
#### IV. NEW RIVER DRAINAGE BASIN

As the proposed project is located within the New River drainage basin and the applicant is proposing to offset proposed impacts with the purchase of mitigation

credits from the Everglades Mitigation Bank (EMB), which is located in the Lower Everglades drainage basin, the applicant must demonstrate that no cumulative impacts will occur within the New River drainage basin. The most recent GIS data defining habitat types throughout the New River drainage basin was acquired using the Florida Department of Environmental Protection's (FDEP) web-based mapping service known as Map Direct. The GIS data on mangrove habitat and the drainage basins was provided by South Florida Water Management District (SFWMD Land Use Land Cover layer) and FDEP (Florida Water Management (WMD) Cumulative Impact Basins layer). All data analysis was restricted to the New River drainage basin and all mangrove wetlands were identified using the Land Cover Land Use layer (Figure 2). Those wetlands identified as 612 mangrove cover type covers were included in the data analysis. Mangrove wetlands were then categorized as "protected" or "at-risk". Wetlands were categorized as "protected" if they were owned by agencies at the federal, state, county, or local level or were previously placed under a conservation easement. Wetlands were categorized as at risk if they were privately owned or were not placed under a conservation easement. The data analysis to determine if a wetland was protected or at-risk involved permit research through the Broward County Environmental Protection and Growth Management Department and SFWMD. In addition, the FL-SOLARIS/CLEAR Conservation Easements and FL-SOLARIS/CLEAR Conservation Owned Lands layers on Map Direct were utilized.

The New River drainage basin comprises 409.8 square miles (262,272-acres) and approximately 30 municipalities. According to the SFWMD GIS database, there were approximately 1,569.92-acres of mangrove wetlands within the New River Drainage Basin. The majority were located east of Interstate-95 and were located within existing state and county level parks and under conservation easements. Approximately 1,446.15 acres are publicly owned and/or protected under conservation easements. Approximately 123.77 acres are at risk (privately owned), see Table 2 and 3 below. The onsite mangrove wetlands exhibit very little of the positive, preferred attributes of a high-quality wetland due to the amount of exotic plants and isolated nature. The loss of these low quality, isolated, degraded wetlands would result in an insignificant loss of wetland function to the entire New River watershed.





**Table 2.**

Mangrove Areas in New River Drainage Basin				
Area (sq yd)	Area (ac)	Status (ac)		Category
		Protected	At-risk	
144528.4316	29.86	29.86	0.00	Protected
526357.5078	108.75	108.75	0.00	Protected
357998.9434	73.97	73.97	0.00	Protected
22501.92578	4.65	4.65	0.00	Protected
255498.9395	52.79	52.79	0.00	Protected
175009.4727	36.16	0.00	36.16	At-risk
76622.33594	15.83	15.83	0.00	Protected
232136.498	47.96	47.96	0.00	Protected
1882123.646	388.87	388.87	0.00	Protected
350803.7441	72.48	72.48	0.00	Protected
276350.9238	57.10	57.10	0.00	Protected
1477478.689	305.26	305.26	0.00	Protected
136141.3516	28.13	0.00	28.13	At-risk
44657.69727	9.23	0.00	9.23	At-risk
76571.41016	15.82	0.00	15.82	At-risk
47016.71094	9.71	9.71	0.00	Protected
9764.439453	2.02	2.02	0.00	Protected
124721.082	25.77	25.77	0.00	Protected
30729.87695	6.35	6.35	0.00	Protected
71178.76172	14.71	14.71	0.00	Protected
59741.6582	12.34	12.34	0.00	Protected
181023.7891	37.40	37.40	0.00	Protected
39176.50195	8.09	8.09	0.00	Protected
57986.30273	11.98	0.00	11.98	At-risk
108689.2656	22.46	0.00	22.46	At-risk
219942.2891	45.44	45.44	0.00	Protected
46701.0293	9.65	9.65	0.00	Protected
74705.86719	15.44	15.44	0.00	Protected
32077.9707	6.63	6.63	0.00	Protected
35755.68945	7.39	7.39	0.00	Protected
234606.459	48.47	48.47	0.00	Protected
55054.58398	11.37	11.37	0.00	Protected
41564.61133	8.59	8.59	0.00	Protected
93195.6	19.26	19.26	0.00	Protected
<b>7598414.006</b>	<b>1569.92</b>	<b>1446.15</b>	<b>123.77</b>	-



**Table 3.**

<b>Description</b>	<b>Area (acres)</b>	<b>% of Total</b>
Total mangrove wetlands in New River drainage basin	1,569.92	100%
All protected mangrove wetlands in New River drainage basin	1,446.15	92.1%
All at-risk mangrove wetlands in New River drainage basin	123.77	7.9%
NSU Port Property	2.92	2.36% of at-risk wetlands (0.19% of total wetlands in basin)

Any attempt to preserve this area would not accomplish the restoration of the East Everglades habitat that existed before the area was degraded by the invasion of exotic vegetation and the drainage. The applicant has established a site plan that accomplishes the project purpose and the offsite mitigation proposed will not result in a cumulative impact to the New River drainage basin.

## **V. MITIGATION**

To compensate for wetland impacts, the applicant proposes to purchase 1.23 credits from the EMB, which will significantly improve the regional benefits of natural wetland functions throughout South Florida. The EMB is not located within the same drainage basin as the proposed project; however, it is located in the approved District service area (Appendix A). Use of the EMB to offset wetland impacts within the New River drainage basin has been approved previously by the District and will offset any potential impacts caused by the proposed project. In addition, the existing mangrove wetland on site is of poor quality as it consists of invasive/exotic species and is isolated in nature. The purchase of credits from the EMB will result in a significantly higher value habitat than the habitat located at the subject site. The EMB also provides regional ecological value and substantially higher ecological value than the mangroves/wetlands proposed to be impacted. EMB is located between Everglades National Park and Biscayne Bay National Park, which provides a wildlife corridor that allows wildlife to roam between parks. EMB also undergoes continual restoration and enhancement projects to include hydrologic improvements and vegetation management to provide long term benefits to wildlife. Therefore, the proposed project includes mitigation for



unavoidable impacts at an approved mitigation bank and will not result in adverse impacts to water quality, habitat, hydrology or listed species.

## **VI. CONCLUSION**

Overall, the proposed activity considered with past, present, and future activities would not result in violations of water quality standards or have significant adverse impacts to functions of wetlands or surface waters within the same watershed.

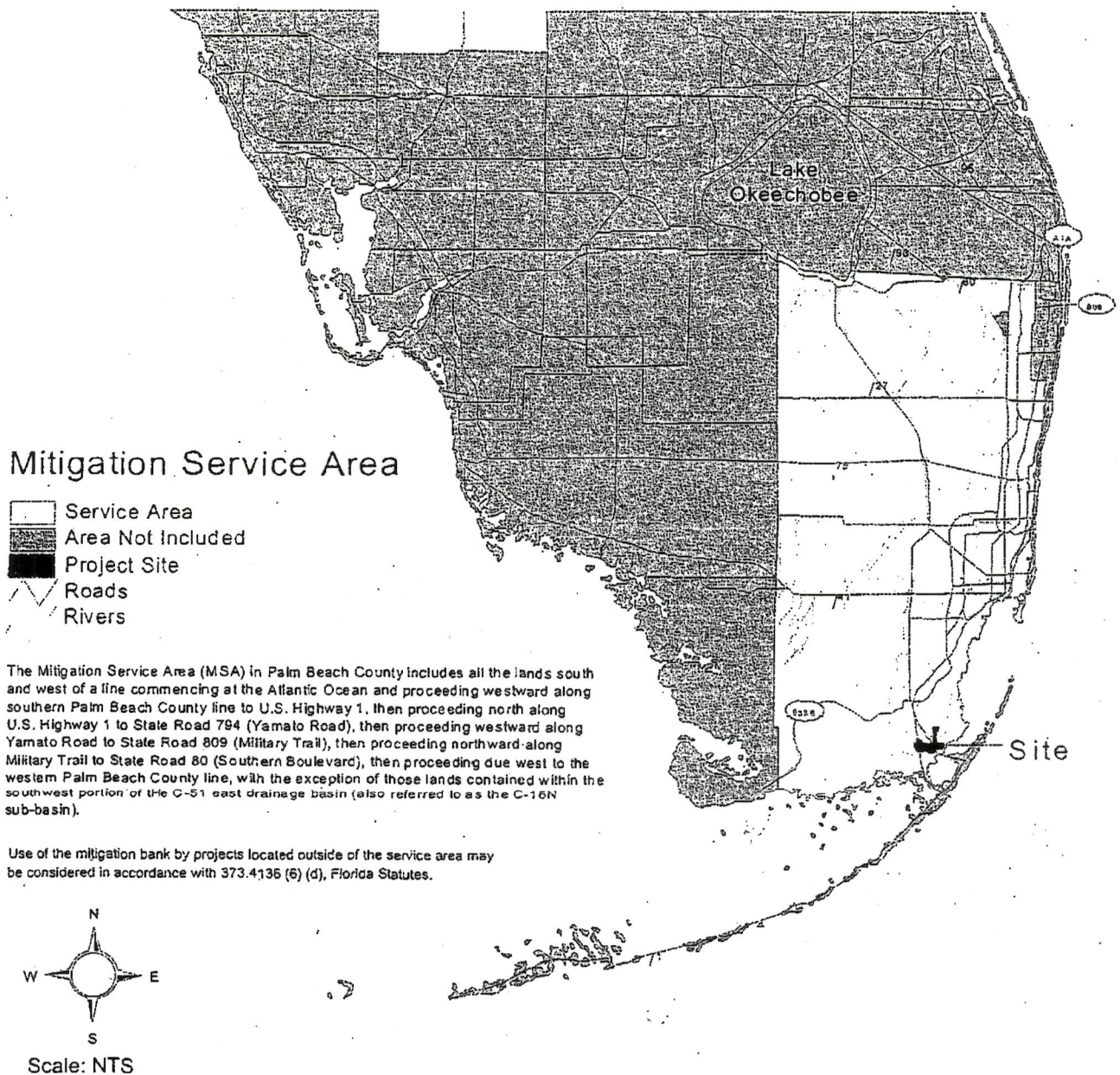
The analysis identified mangrove wetlands in the basin that were not protected by land use restrictions or dedicated as public land as "at risk." The proposed project impacts approximately 70% of the onsite wetlands. In the event that all projects moving forward would impact the same amount of remaining wetlands (123.77 acres left in New River drainage basin unaccounted for), this would equal 86.6 acres that would be removed from the basin. Therefore, only 5% (86.6 acres of 1,569.92 acres) of the entire basin would be impacted which is a negligible amount and is not considered a cumulative impact considering wetlands preserved/protected accounted for 92.1% of all wetlands in the basin. Based on the analysis, if all "at risk" wetlands within the basin were impacted and all mitigation was conducted outside the basin, a loss of 7.9% of wetland acreage in the basin would occur. However, in this project, the wetlands are already highly degraded which results in a minimal ecological functional loss. In addition, this is a conservative estimate as many small patches of mangroves located in residential canal systems were not included due to limitations in GIS mapping. The at-risk mangrove wetlands is also most likely significantly over-estimated due to existing regulations in place that prohibit the development of mangroves and the justification required to do so.

The existing wetland has been degraded and the habitat value is rapidly diminishing because of the invasion of exotic vegetation and the deterioration caused by the industrial development in the surrounding area. In addition, similar parcels containing contiguous forested wetlands, as opposed to isolated depressional wetlands, are not common within the New River drainage basin. Given the relative lack of privately-owned parcels with existing mangrove wetlands onsite, impacts to small, isolated wetlands on subject sites would not result in a large loss of wetland acreage within the drainage basin. No portion of the property appeared to be environmentally sensitive, and the hydrologic regime is inadequate due to its isolated nature. From the list of state and federally protected species, no wildlife, rare, threatened, or endangered species or species of special concern were observed on the property. The wetlands located onsite provide little function to the watershed due to the poor quality of the wetlands. The purchase of credits from the offsite permitted EMB will offset any existing wetland function and will not result in any adverse cumulative impacts to the New River drainage basin.

## APPENDIX A



Figure 2  
MITIGATION SERVICE AREA



Prepared By:  
Cotleur & Hearing, Inc.

In association with:  
Macvicar, Federico & Lamb, Inc. and  
LBFH INC

08/27/03

**EVERGLADES**  
MITIGATIONBANK



Approved by FDEP: Project #0193232-055





**NSU Port Parcel  
Mitigation Plan  
TCG Project No. 14-0080.002**

The proposed NSU Port Parcel project consists of the construction of a commercial warehouse on a 5.11-acre parcel located east of NE 7<sup>th</sup> Avenue and west of an existing Florida Power and Light transmission easement in Dania Beach, Broward County, Florida. The parcel is more specifically identified as Broward County Folio No. 5042-26-00-0021. The project site consists mainly of mangrove wetlands with a fringe of disturbed uplands on the west side. Elevations reflect the uplands at elevations between 2.0-4.0' NAVD, and wetlands at and below an approximate elevation of 0.2' NAVD. There are approximately  $\pm 4.21$  acres of mangroves and  $\pm 0.26$  acres of surface waters on site. The existing wetland onsite was delineated by The Chappell Group staff, on September 13, 2019.

The uplands consist of non-native canopy species including Brazilian pepper (*Schinus terebinthifolius*), earleaf acacia (*Acacia auriculiformis*) and Australian pine (*Casuarina equisetifolia*). The wetland area contains obligate wetland vegetation and hydric soils with standing water, serving as evidence of wetland hydrology. The interior of the site displays some evidence of previous alteration, with two (2) small open water areas and channelized ditches in the center and western half of the site. Excavated material from these areas is present onsite, with a few linear and curvilinear areas existing at elevations 6-8" above the surroundings. These areas contain transitional and upland vegetation, primarily Australian pine, but exist at wetland elevations with wetland soil characteristics. Due to the nature and location of the wetlands, complete avoidance is not a viable alternative as the project would not be a financially feasible development.

During the course of regulatory review, the original proposed site plan was reduced in scope from 4.2 acres to 2.92 acres to avoid impacts to an additional 1.29 acres of wetlands. As such, the proposed onsite mitigation plan includes the enhancement and preservation of approximately 31% of the wetlands onsite. Remaining impacts not offset by the onsite preservation will be mitigated through the purchase of credits at an approved mitigation bank. To assess the quality of the existing wetlands, a WATER analysis was conducted to compare the overall existing and proposed post-project function of each. See the summary tables below and the attached WATER worksheets. A summary table is included below.

## Existing Wetlands

Existing Conditions – 2.92-acre mangrove wetland

	<b>Impact W-1 (2.92 ac)</b>
Cumulative Score	32
Maximum Possible Score	54
WATER = Cumulative Score/Maximum Possible Score	0.59
Credit Determination SSE (1.04)x WATER x Impact Acreage	1.792
Total Credits = 1.79	

Functional Loss: 1.79

## Secondary Impacts

Existing Conditions – 850 ln. ft. of adjacent property x 25' buffer = 0.49-acres secondary impacts

	<b>Impact W-2 (0.49 ac)</b>
Cumulative Score	32
Maximum Possible Score	54
WATER = Cumulative Score/Maximum Possible Score	0.59
Credit Determination SSE (1.04)x WATER x Impact Acreage	0.301
Total Credits = 0.30	

Functional Loss: 0.30

## Preservation and Enhancement (1.29 acres)

Existing Conditions – 1.29-acre mangrove wetland

	<b>Impact W-3 (1.29 ac)</b>
Cumulative Score	34
Maximum Possible Score	54
WATER = Cumulative Score/Maximum Possible Score	0.63
Credit Determination SSE (1.04)x WATER x Impact Acreage	0.845
Total Credits = 0.85	

Functional Gain = 0.85

$$\text{FL-FG} = (1.79+0.30)-0.85 = 1.24 \text{ Remaining FL}$$

Therefore, the purchase of 1.24 credits from the Everglades Mitigation Bank is proposed to offset the unavoidable direct impacts to 2.92 acres of existing wetlands in addition to the preservation and enhancement of 1.29 acres of wetlands. Each of the required mitigation plan components required are addressed below:

1. **Objectives:** The proposed onsite mitigation component will be designed to maximize the opportunity to avoid and minimize potential impacts to jurisdictional wetlands present onsite. The proposed mitigation area is located within the largest contiguous wetland area present onsite and will include the enhancement by removal of exotic species and the preservation by a conservation easement of approximately 1.29 acres of saltwater wetlands. The preservation and enhancement will result in a high-quality wetland system that is common within Broward County and the surrounding watershed. The proposed mitigation system will address all project-related saltwater wetland impacts onsite in a manner that relies more heavily on preservation and will also address the Broward County goal of maintaining a reasonable percentage of wetland function within the county limits.
2. **Site Selection:** The proposed preservation and enhancement area is situated in the eastern portion of the subject site and is bordered by undeveloped lots to the north, south, east, and west.

The applicant is only requesting that the preservation and enhancement portion of the mitigation requirements be approved as permittee-responsible onsite mitigation. All remaining mitigation requirements are proposed through the use of an approved mitigation bank servicing the impact area. Onsite mitigation through the proposed preservation and enhancement of existing wetlands would be environmentally preferable within the existing watershed rather than taking all mitigation to an approved mitigation bank.

3. **Site Protection Instrument:** The project site is privately owned and will be operated long term in conjunction with the commercial development. Additionally, the preserved and enhanced area of wetlands will be perpetually preserved under a joint conservation easement.
4. **Baseline Information:** Existing site conditions, including detailed soil analyses, vegetative cover, WATER analyses and jurisdictional wetland boundaries have been documented and verified by the project consultant and regulatory agencies, with valid wetland determinations currently in place. Existing conditions, including hydrology, soils and vegetative cover will be used as baseline comparisons for the proposed onsite mitigation component.



5. **Determination of Credits:** Upon final agency approval of the previously submitted WATER analyses utilized to identify mitigation requirements, all project related impacts not addressed through the onsite mitigation component will be addressed through credit purchase at an approved mitigation bank servicing the impact area. Credit determination will be conducted through the permitted assessment methodology, the WATER analysis as approved for the Everglades Mitigation Bank.
6. **Mitigation Work Plan:** The proposed onsite mitigation component will consist of the enhancement and preservation of 1.29 acres of existing wetland. The proposed mitigation area will be maintained via the removal of exotic species and continued monitoring and maintenance. The mitigation area will continue to be directly connected to the existing wetland system, allowing for natural recruitment of flora and fauna. The mitigation area will be monitored and maintained in accordance with the Mitigation & Monitoring Plan submitted for the project to include measurable success criteria, vegetation control and monitoring protocols.
7. **Maintenance Plan:** The mitigation area will be monitored and maintained in accordance with the Mitigation & Monitoring Plan submitted for the project. The Monitoring & Maintenance Plan includes multiple components associated with the species removal and long-term adaptive management of the mitigation area. The plan includes measurable success criteria, vegetation control, data collection, monitoring frequency and reporting protocols.
8. **Performance Standards:** The mitigation area will be monitored and maintained in accordance with the Mitigation & Monitoring Plan submitted for the project. Every annual monitoring event will involve assessing the current vegetative assemblage and total percent coverage of species by utilizing transects. Species coverage within each sub-habitat type within the mitigation area will be assessed using random quadrats. Meandering transects will also be performed along the perimeter of the area for supplemental observations and to ensure complete coverage. Therefore, measurable success criteria will include maintaining exotic/nuisance vegetation at 2 percent or less during the annual monitoring events.
9. **Monitoring Requirements:** The mitigation area will be monitored and maintained in accordance with the Mitigation & Monitoring Plan submitted for the project. Monitoring will include a Time-Zero report conducted upon grading and planting, followed by annual monitoring for a period of five (5) years. A total of six (6) reports (annual and time zero) will be submitted to the DEP, and BCEPGMD.

- 10. Long-term Management Plan:** The onsite mitigation area will be monitored for a period of five (5) years and maintained in perpetuity by the permittee.
- 11. Adaptive Management Plan:** The proposed monitoring plan for the onsite mitigation area includes adaptive management procedures for the monitoring and maintenance requirements, including data analysis, and additional monitoring effort.



  
34 East Pine Street  
Orlando, FL 32801

**Corporate Headquarters**  
6575 West Loop South, Suite 300  
Bellaire, TX 77401  
Main: 713.520.5400

September 26, 2023

Shlomo Melloul  
Banana Split USA Inc  
67 N. Federal Highway  
Dania Beach, FL 33004

**Subject: Tree Inventory Report  
Port 1850 LLC  
1850 NE 7<sup>th</sup> Avenue  
Dania Beach, FL 33004  
RES Number PRJ109838**

Dear Mr. Melloul:

HGS, LLC dba RES Environmental Operating Company (RES) is pleased to submit this Tree Inventory Report. This report presents the canopy data of assessed trees based on the the tree inventory completed on September 6, 2023. This assessment was prepared in general accordance with our proposal number PRJ109838, dated August 31, 2023.

We appreciate the opportunity to perform these services for you. Please contact us at (954) 484-8500 if you have any questions.

Sincerely,

**HGS, LLC dba RES Environmental Operating Company**



Larsen McBride  
Scientist III  
[lmcbride@res.us](mailto:lmcbride@res.us)



Mark Clark  
Science Technical Lead  
[maclark@res.us](mailto:maclark@res.us)





## Table of Contents

<b>1.0 Project Background .....</b>	<b>1</b>
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<b>3.0 Results .....</b>	<b>1</b>
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## 1.0 Project Background

Port 1850, LLC (Port 1850) requested a tree inventory and arborist report for the upland trees at 1850 NE 7<sup>th</sup> Avenue, Dania Beach, FL (the Site) (**Figure 1** and **Figure 2**). Port 1850 is proposing to remove all trees at the Site. RES was engaged to perform a tree inventory and prepare a report.

### 1.1 Tree Removal Mitigation Requirements

A tree removal permit is required to remove any tree located within the City limits except where Section 830-60 of the City's code defines trees exempt from tree removal permitting. Mitigation requirements for non-specimen trees proposed for removal are to be calculated based upon Section 825-100 of the City's code. These mitigation guidelines are as follows:

- For non-specimen trees: mitigate for total canopy area in square feet (plus a 50% weighing factor) of trees to be removed.
- For invasive trees (trees that are listed as a Category I in the most recent version of the Florida Exotic Pest Plant Council's (FLEPPC) Invasive Species List): mitigate for 25% of the total canopy area in square feet of trees to be removed.
- For dead trees: install one replacement tree for each dead tree removed.

The number of replacement trees required to offset the total canopy lost for non-specimen and invasive trees is variable and dependent upon the size and type of replacement trees proposed as outlined in Section 825-100 of the City's code. Replacement trees to be installed to satisfy the mitigation requirement should be determined by a Landscape Architect. A minimum of five species of replacement trees must be utilized if more than 50 individual trees are to be removed.

The City of Dania Beach groups tree species into 4 distinct categories according to their characteristics. If a native, non-invasive tree species is removed, replacement trees must be grouped into the same category as the tree which was removed. A list of replacement tree species by category can be found in the Dania Beach Landscape Technical Manual. Category I invasives cannot be collected, cultivated, or transported without a permit in Florida, and as such cannot be used as replacement trees per City of Dania Beach code. In lieu of planting replacement trees, property owners or the licensee can pay a replacement fee into the City of Dania Beach Tree Preservation Trust Fund.

## 2.0 Methodology

A RES International Society of Arboriculture (ISA) certified arborist conducted a tree inventory to locate, identify, measure, and assess the canopies of non-exempt trees at the Site according to the mitigation provisions of the City of Dania Beach, tree protection ordinance.

A tree is defined as any living, self-supporting, gymnosperm (conifer) or dicotyledonous (broadleaf) woody perennial plant which has a DBH of no less than two and one-half (2½) inches and normally grows to an overall height of no less than fifteen (15) feet in southeast Florida. Specimen trees are hardwoods, conifers and palms with a DBH of 18 inches or greater. Tree canopy is the upper portion of the tree consisting of limbs, branches, and leaves. Section 825-100 of the City of Dania Beach code specifies that all trees removed and not relocated under a General License for tree removal shall be replaced so that there is no loss of tree canopy coverage upon maturity of the replacement trees. Trees listed as invasive by the FLEPPC are an exception: Invasive trees must be replaced with an adequate number of trees to replace 25% of the removed canopy.

The field visit was conducted September 6, 2023. The weather conditions were sunny with temperatures in the low-90s. Non-exempt trees were individually located and numbered. A sub-meter differential global positioning system (GPS) unit (Trimble Geo 7X) was used to record tree locations. Trees were identified and measured according to the ISA standards with an arborist diameter tape at approximately 4.5 feet above ground (DBH). Additional data collected included height and crown spread of subject trees. Trees indicative of the conditions at the Site were photographed, and relevant field notes were collected.

## 3.0 Results

A total of 63 non-exempt trees were inventoried. All but one tree were species designated as Category I invasives by FLEPPC: Australian pine (*Casuarina equisetifolia*), Brazilian peppertree (*Schinus terebinthifolia*), carrotwood (*Cupaniopsis*



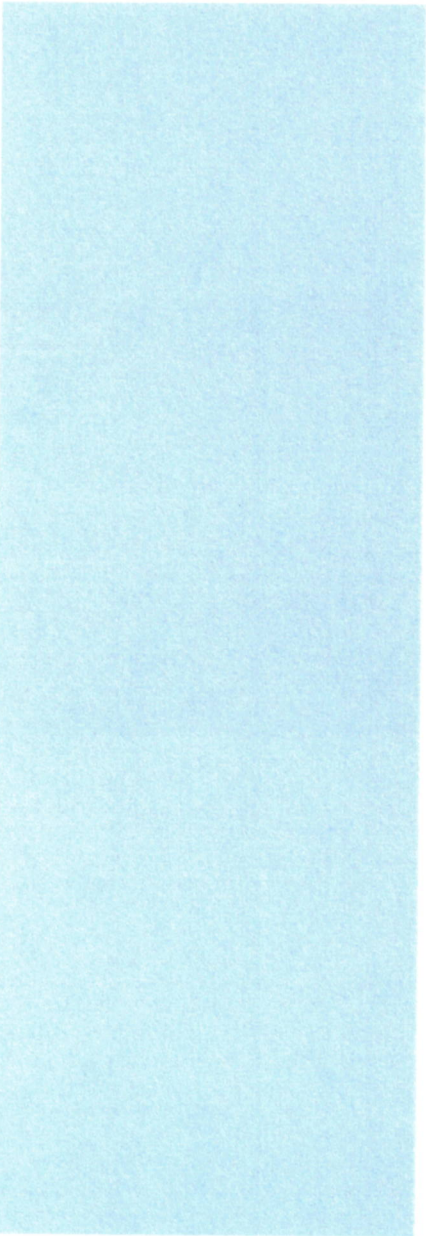
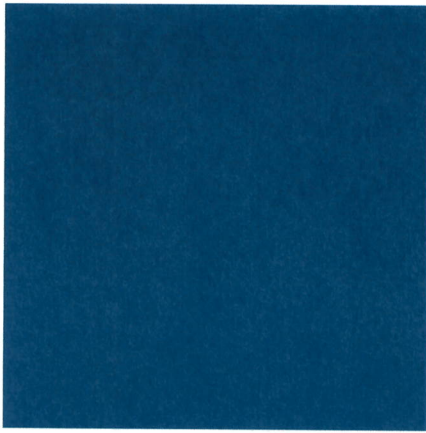
*anacardioides*), and earleaf acacia (*Acacia auriculiformis*). One native, non-invasive tree was identified: Sea grape (*Coccoloba uvifera*). Dania Beach code specifies sea grapes as a Category 1 tree, meaning that its replacement tree must be a Category 1 tree species that is a minimum of 12 feet in height and 5.5 inches in caliper at the time of planting. The property owner or licensee is responsible for replacing 100% of the canopy of this tree. In total, 7,971 ft<sup>2</sup> of tree canopy must be mitigated – 7,853 ft<sup>2</sup> for the 62 invasive species and 118 ft<sup>2</sup> for the native, non-invasive species. An estimated 17 replacement trees must be planted – 1 for the native species and 16 for the invasive species.

A list of trees and characteristics from this inventory is provided in **Table 1** and tree locations are depicted in **Figure 2**. Photographs of trees are provided in **Appendix A**.

## 4.0 Summary

RES was engaged to conduct a tree inventory at 1850 NE 7<sup>th</sup> Avenue, Dania Beach, FL. The survey area consisted of trees located along the western edge of the parcel. A total of 63 non-exempt trees were inventoried. Sixty-two trees were Category I Invasive Species as specified by FLEPPC. Therefore, 25% of the canopy removed must be replaced per Section 825-100 of City of Dania Beach code. One tree was a native Category 1 tree, and therefore 100% of its canopy must be replaced. A total of 17 replacement trees must be planted to replace 7,971 ft<sup>2</sup> of canopy.

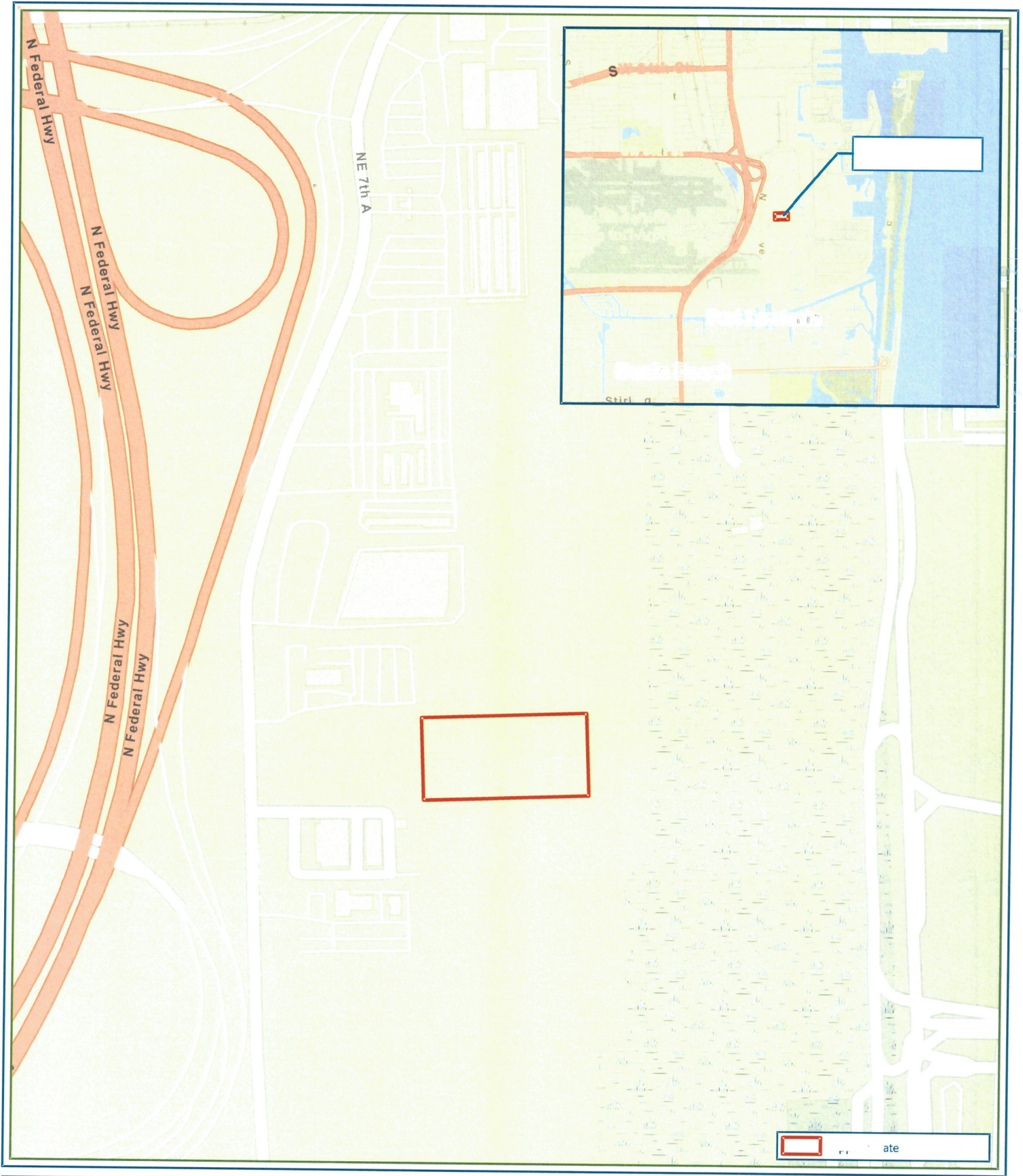




## Figures

Figure 1 – Location Map

Figure 2 – Tree Inventory

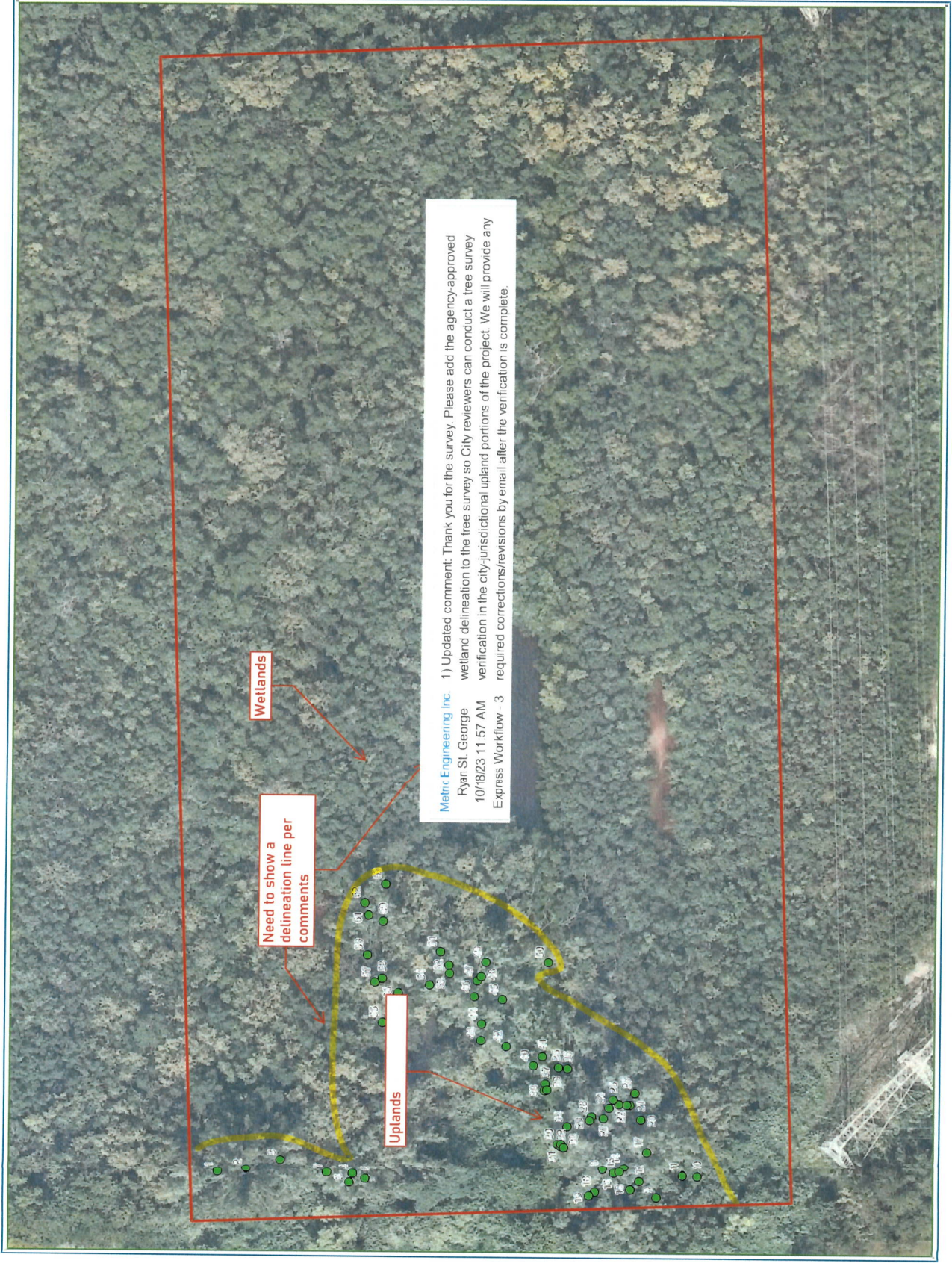




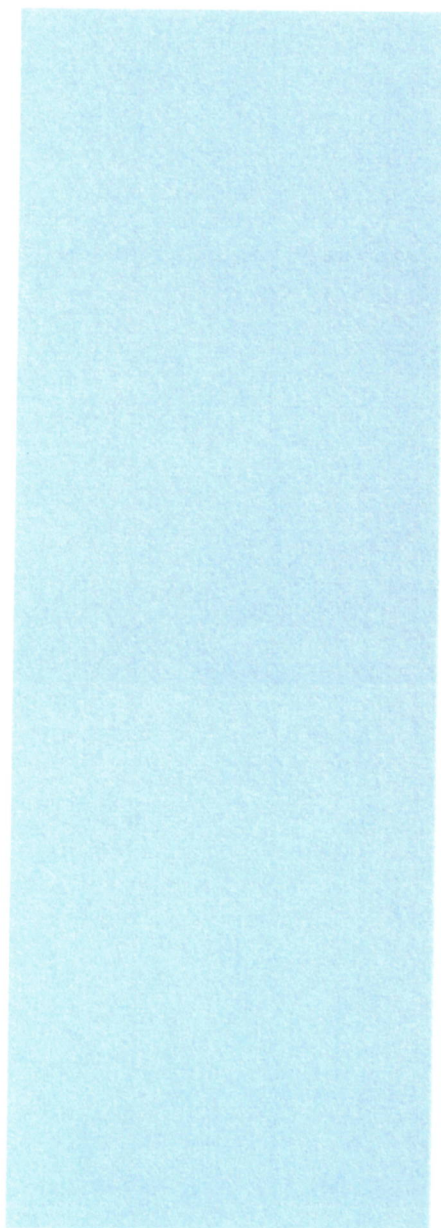
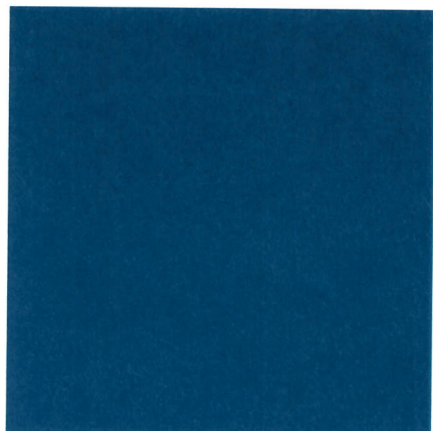


Boundaries depicted on this map have not been surveyed and are for project assessment purposes only. This information is not to be used as final legal boundaries.

NAD 1983 2011 9







## **Table 1 / Tree Data Table**

Table 1: Tree Data Table

Tree Number	Tree Species		DBH (inches)	Multi Trunk (Y/N)	Height (feet)	Spread (feet)	Canopy Area (square feet)	Non-FLEPPC Cat I Trees Replacement Canopy (square feet)	FLEPPC Cat I Trees Replacement Canopy (square feet)
	Common Name	Scientific Name							
1	Australian Pine	Casuarina equisetifolia	25	Yes	28	40	1256		314
2	Australian Pine	Casuarina equisetifolia	40	No	80	60	2826		707
3	Australian Pine	Casuarina equisetifolia	16	No	40	40	1256		314
4	Australian Pine	Casuarina equisetifolia	17	No	42	36	1017		254
5	Carrotwood	Cupaniopsis anacardioides	3	No	15	5	20		5
6	Carrotwood	Cupaniopsis anacardioides	2.5	Yes	9	5	20		5
7	Carrotwood	Cupaniopsis anacardioides	3	No	18	7	38		10
8	Brazilian Pepper	Schinus terebinthifolia	5	No	12	5	20		5
9	Earleaf Acacia	Acacia auriculiformis	5	No	21	11	95		24
10	Brazilian Pepper	Schinus terebinthifolia	11	No	22	30	707		177
11	Brazilian Pepper	Schinus terebinthifolia	8	No	17	24	452		113
12	Brazilian Pepper	Schinus terebinthifolia	16	Yes	16	10	79		20
13	Brazilian Pepper	Schinus terebinthifolia	6	No	24	20	314		79
14	Australian Pine	Casuarina equisetifolia	18	No	75	30	707		177
15	Australian Pine	Casuarina equisetifolia	17	No	75	30	707		177
16	Brazilian Pepper	Schinus terebinthifolia	7	No	25	25	491		123
17	Australian Pine	Casuarina equisetifolia	17	No	75	30	707		177
18	Brazilian Pepper	Schinus terebinthifolia	4	No	11	12	113		28
19	Brazilian Pepper	Schinus terebinthifolia	5	No	6	5	20		5
20	Brazilian Pepper	Schinus terebinthifolia	10	No	45	27	572		143
21	Australian Pine	Casuarina equisetifolia	13	No	54	21	346		87
22	Brazilian Pepper	Schinus terebinthifolia	10	Yes	36	36	1017		254
23	Brazilian Pepper	Schinus terebinthifolia	12	No	60	33	855		214
24	Australian Pine	Casuarina equisetifolia	10	No	45	21	346		87
25	Australian Pine	Casuarina equisetifolia	12	No	60	36	1017		254
26	Brazilian Pepper	Schinus terebinthifolia	13	No	18	18	254		64
27	Australian Pine	Casuarina equisetifolia	12	No	66	20	314		79
28	Australian Pine	Casuarina equisetifolia	15	No	50	30	707		177
29	Brazilian Pepper	Schinus terebinthifolia	8	No	18	25	491		123
30	Australian Pine	Casuarina equisetifolia	13	No	40	36	1017		254
31	Brazilian Pepper	Schinus terebinthifolia	24	No	21	36	1017		254
32	Australian Pine	Casuarina equisetifolia	10	No	63	36	1017		254
33	Australian Pine	Casuarina equisetifolia	18	No	75	25	491		123
34	Brazilian Pepper	Schinus terebinthifolia	5	No	21	21	346		87
35	Australian Pine	Casuarina equisetifolia	8	No	40	25	491		123
36	Australian Pine	Casuarina equisetifolia	10	No	58	21	346		87
37	Australian Pine	Casuarina equisetifolia	11	No	48	25	491		123
38	Brazilian Pepper	Schinus terebinthifolia	14	Yes	30	21	346		87
39	Australian Pine	Casuarina equisetifolia	12	No	63	36	1017		254
40	Australian Pine	Casuarina equisetifolia	7	No	36	15	177		44
41	Australian Pine	Casuarina equisetifolia	9	No	45	18	254		64
42	Australian Pine	Casuarina equisetifolia	11	No	45	15	177		44
43	Australian Pine	Casuarina equisetifolia	16	No	45	27	572		143
44	Sea Grape	Coccoloba uvifera	5	No	15	10	79	79	
45	Australian Pine	Casuarina equisetifolia	14	No	36	39	1194		298
46	Australian Pine	Casuarina equisetifolia	12	No	36	15	177		44
47	Australian Pine	Casuarina equisetifolia	11	No	36	30	707		177
48	Australian Pine	Casuarina equisetifolia	11	No	33	30	707		177
49	Australian Pine	Casuarina equisetifolia	10	No	25	15	177		44
50	Australian Pine	Casuarina equisetifolia	14	No	45	21	346		87
51	Australian Pine	Casuarina equisetifolia	8	No	35	12	113		28
52	Australian Pine	Casuarina equisetifolia	9	No	42	12	113		28

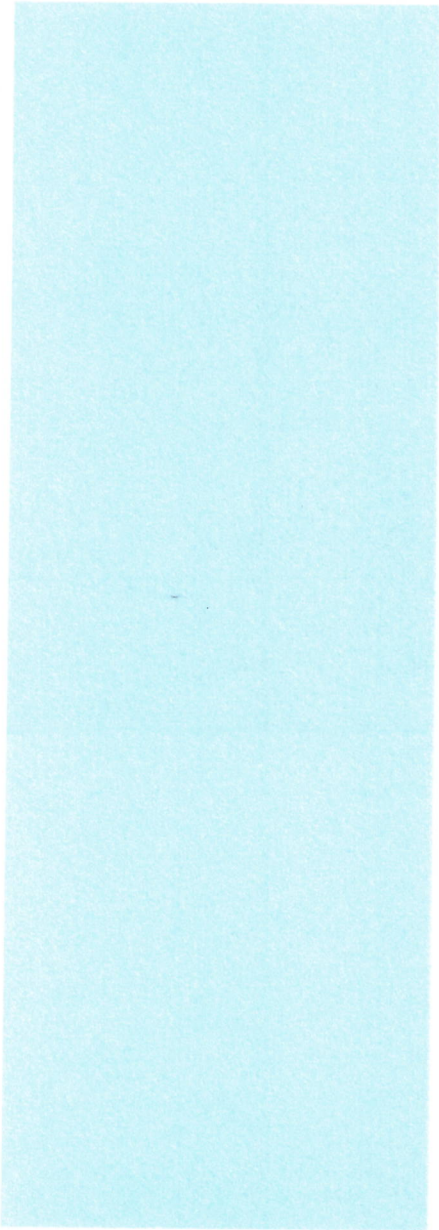
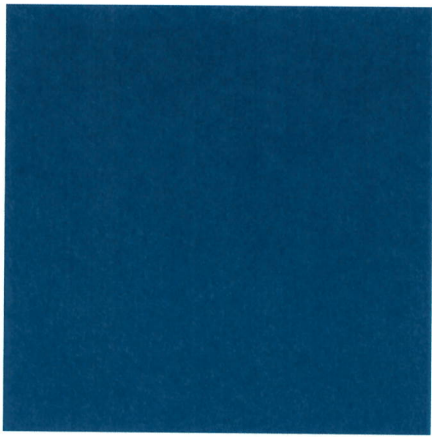
Table 1: Tree Data Table

Tree Number	Tree Species		DBH (inches)	Multi Trunk (Y/N)	Height (feet)	Spread (feet)	Canopy Area (square feet)	Non-FLEPPC Cat I Trees Replacement Canopy (square feet)	FLEPPC Cat I Trees Replacement Canopy (square feet)
	Common Name	Scientific Name							
53	Australian Pine	Casuarina equisetifolia	9	No	36	21	346		87
54	Australian Pine	Casuarina equisetifolia	15	No	54	15	177		44
55	Australian Pine	Casuarina equisetifolia	17	No	42	25	491		123
56	Australian Pine	Casuarina equisetifolia	4	No	15	15	177		44
57	Australian Pine	Casuarina equisetifolia	7	No	21	21	346		87
58	Australian Pine	Casuarina equisetifolia	7	No	33	15	177		44
59	Australian Pine	Casuarina equisetifolia	5	No	15	15	177		44
60	Australian Pine	Casuarina equisetifolia	14	No	65	18	254		64
61	Australian Pine	Casuarina equisetifolia	17	No	45	30	707		177
62	Australian Pine	Casuarina equisetifolia	16	No	55	18	254		64
63	Australian Pine	Casuarina equisetifolia	12	No	36	18	254		64

Total Additional Non-Specimen Canopy to be Mitigated (sq. ft.):	79
Total Canopy to be Mitigated (non FLEPPC Trees) w/50% multiplier (sq. ft.):	118
Total Number of Category 1B Mitigation Trees (12-ft.) Required:	1

Total FLEPPC Cat 1 Canopy to be removed (sq. ft.):	31413
Total FLEPPC Cat 1 Canopy to be Mitigated (sq. ft.):	7853
Total Number of Category 1B Mitigation Trees (12-ft.) Required:	16





## **Appendix A / Photo Documentation Log**

## Photo Documentation Log



Photo 1 – View of tree number 44, a sea grape (*Coccoloba uvifera*), facing west.

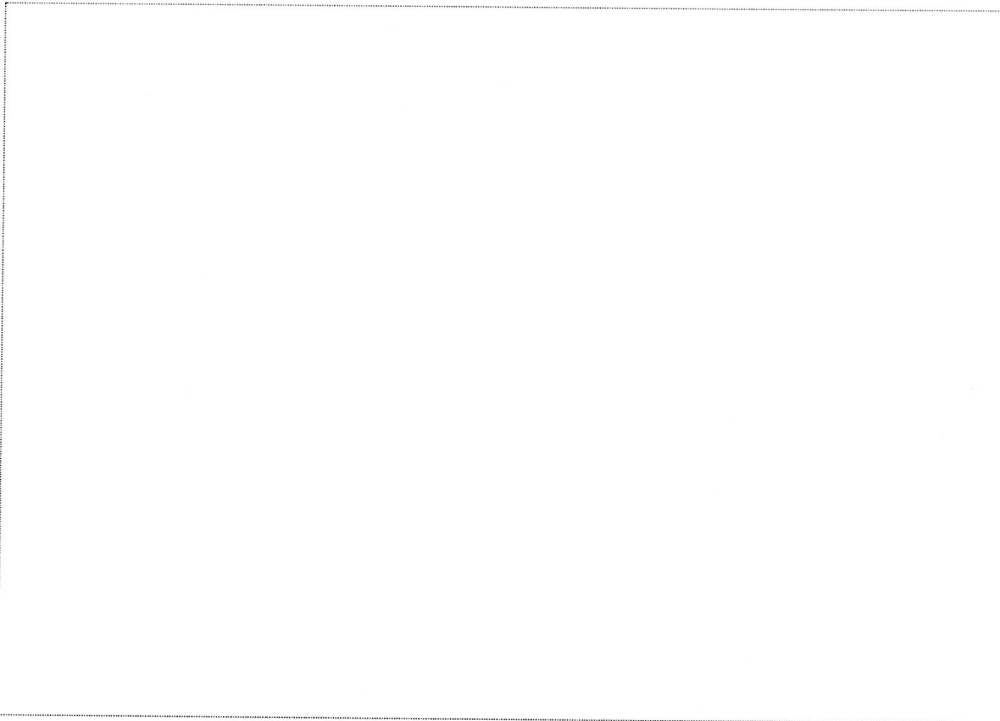


Photo 2 – View of the Site, facing south.



## Photo Documentation Log



Photo 3 – View of the Site, facing west.



Photo 4 - View of the Site, facing east.





## Photo Documentation Log

Photo 5 – View of the Site, facing north.



Photo 6 – View of the Site, facing west.





## Photo Documentation Log



Photo 7 – View of tree number 9, an earleaf acacia (*Acacia auriculiformis*), facing east.

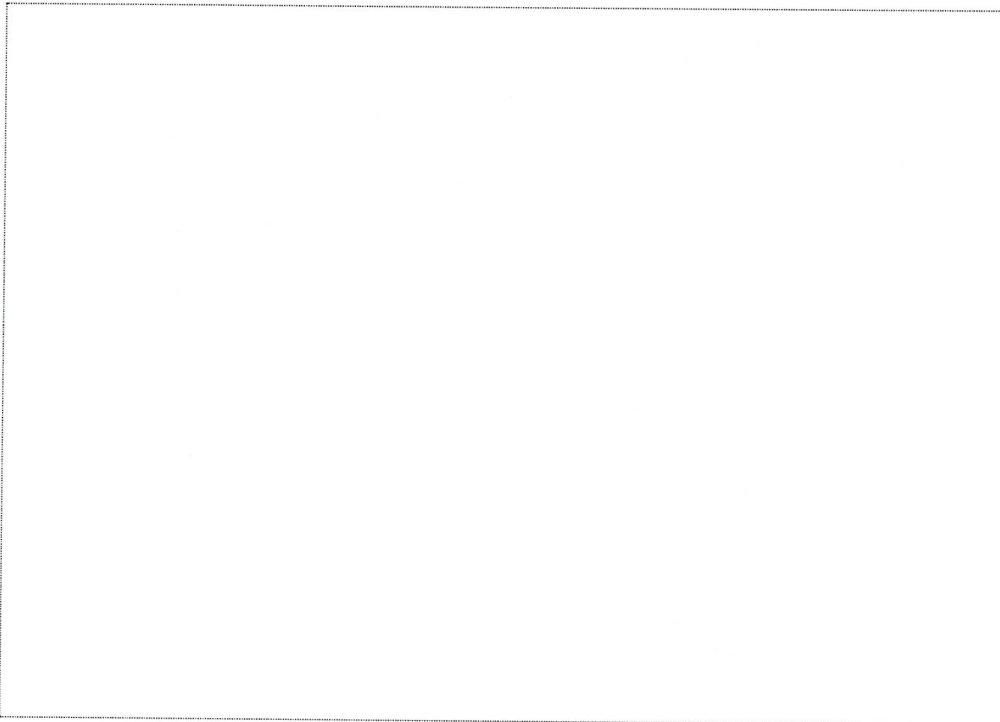


Photo 8 - View of tree number 10, a Brazilian pepper (*Schinus terebinthifolia*), facing north.





## Photo Documentation Log

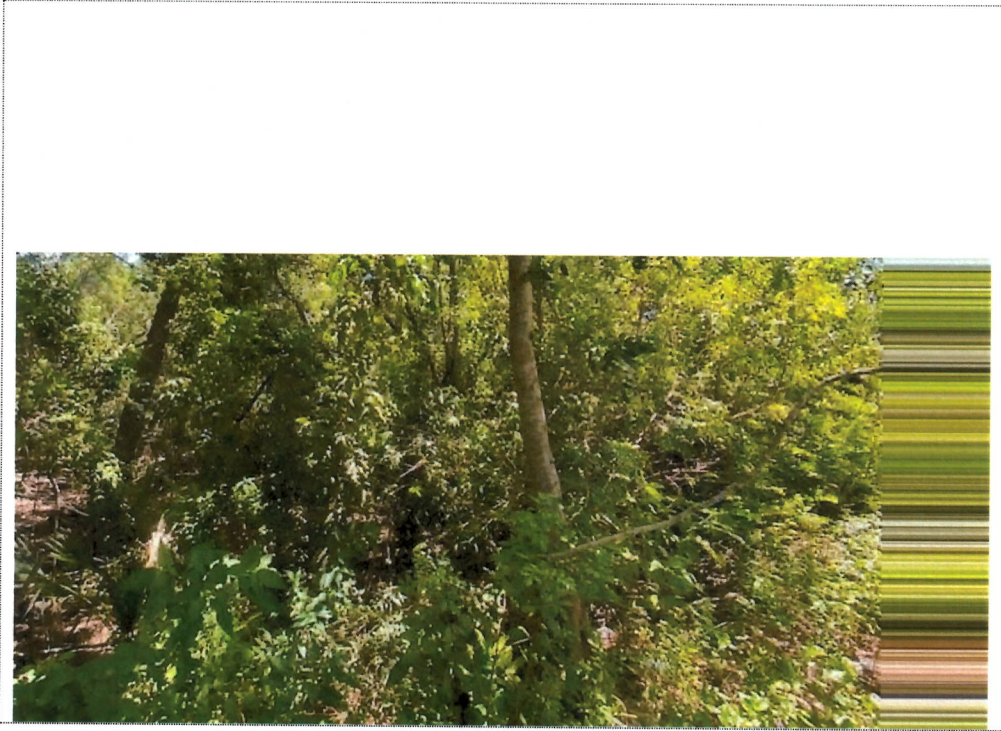


Photo 9 – View of the Site, facing north.



Photo 10 – View of tree number 7, a  
carrotwood (*Cupaniopsis  
anacardioides*), facing south.





## Photo Documentation Log



Photo 11– View of trees number 1, 2, and 3, all Australian pines (*Casuarina equisetifolia*), facing east.

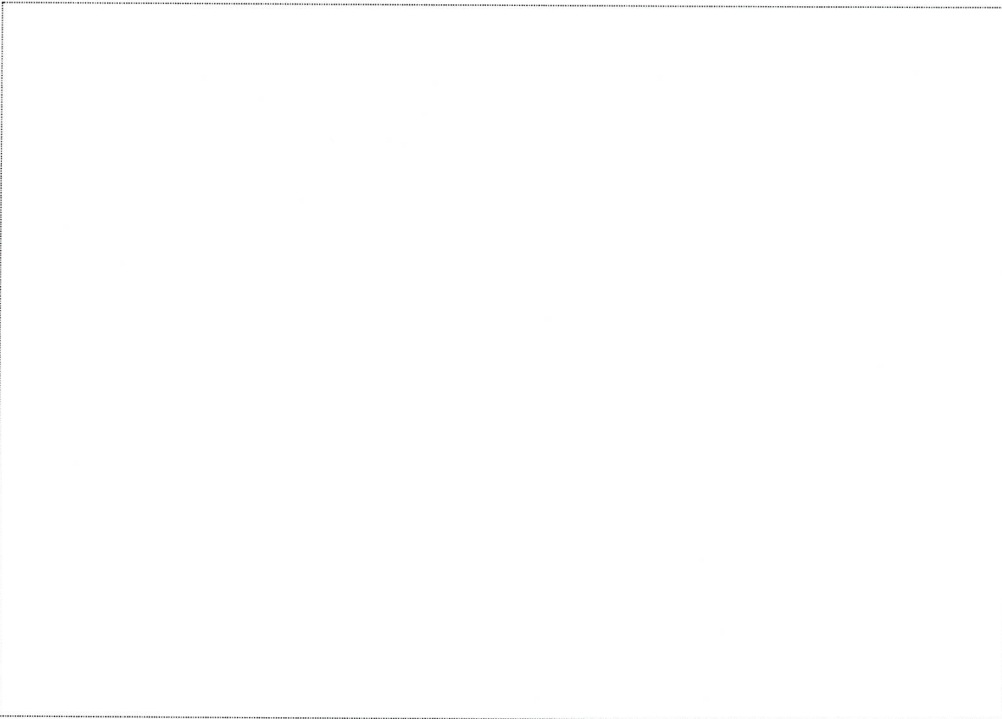
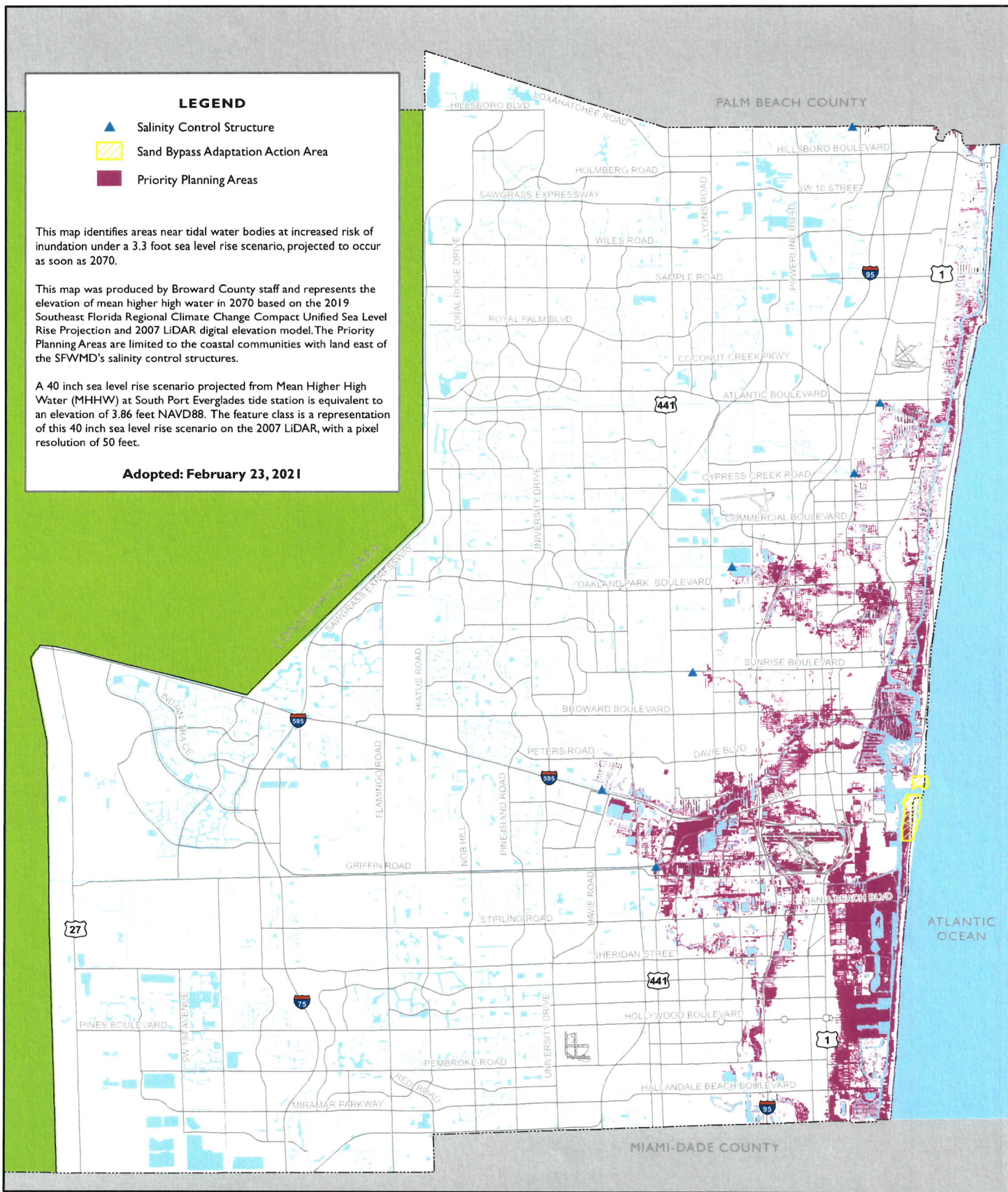


Photo 12 – View of the Site, facing southeast.

# BROWARD COUNTY LAND USE PLAN NATURAL RESOURCE MAP SERIES



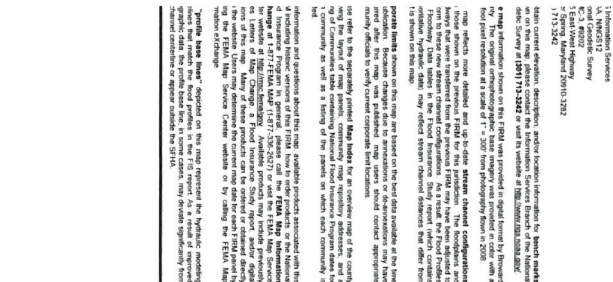
### SOURCES

Broward County Environmental Planning and Community Resilience Division, Broward County Planning Council

This is a generalized map. This map should not be used to determine parcel boundaries or limits of depicted items. Please contact the Broward County Planning Council office at 954.357.6695 regarding questions pertaining to parcel boundaries or limits.





[illegible][illegible]

**FIRM**

**FLOOD INSURANCE RATE MA-**

**BROWARD COUNTY, FLORIDA**

**AND INCORPORATED ARE:**

**PAGE 989 OF 751**

**USE MAP INDEX FOR FIRM PANEL CAN**

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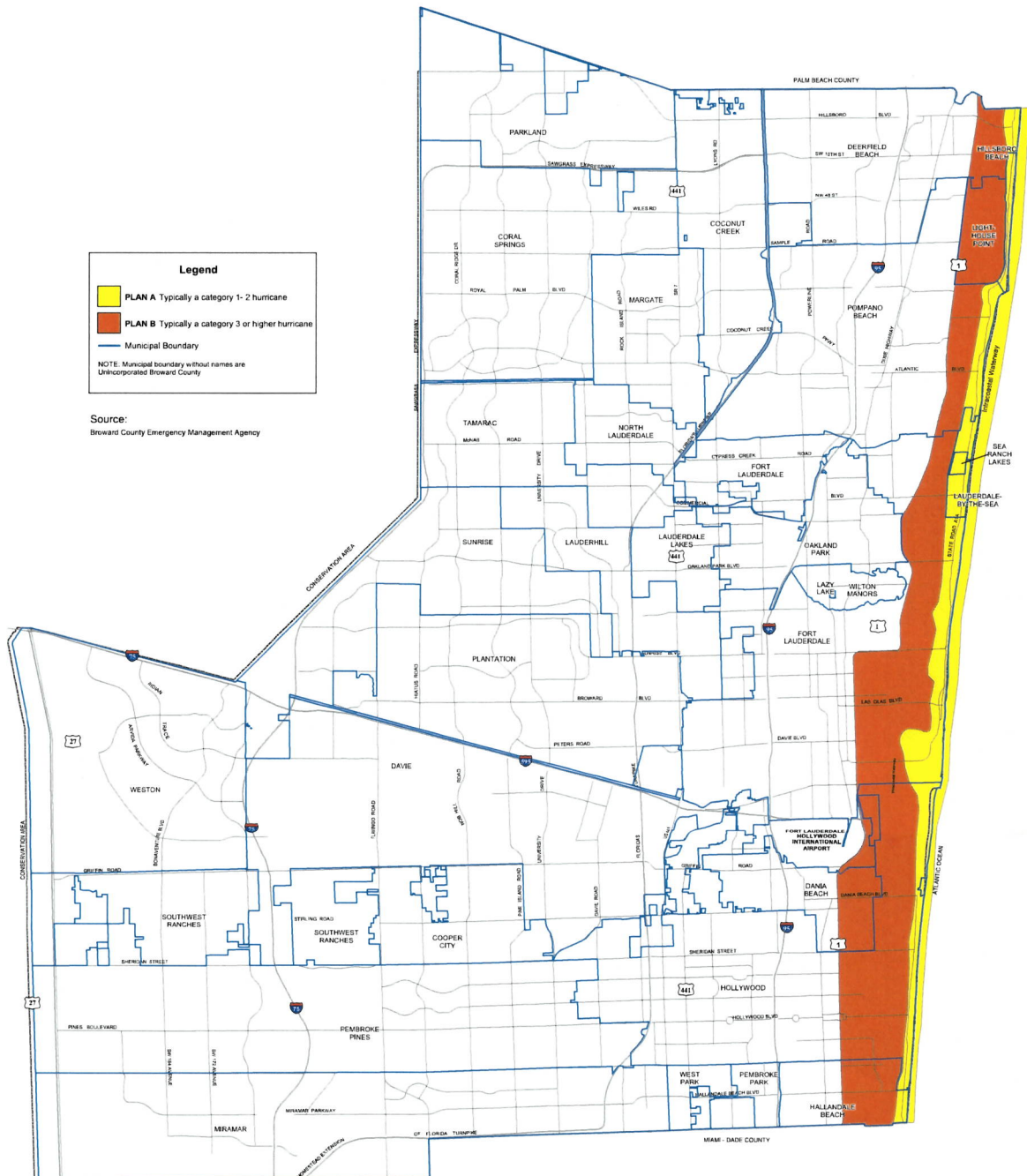
**AUGUST TW,**

Federal Emergency Management Agency



# BROWARD COUNTY LAND USE PLAN

## Natural Resource Map Series Eastern Broward County: Hurricane Evacuation Zones



**Note:**  
Those persons located in low lying areas or beside tidal bodies of waters should seek shelter elsewhere if conditions warrant.  
All mobile home residents must evacuate in PLAN A or PLAN B, in addition, mobile home residents may be ordered to evacuate if tropical storm conditions warrant.



NOT TO SCALE

This is a generalized map. This map should not be used to determine parcel boundaries or limits of depicted items. Please contact the Broward County Planning Council office regarding questions pertaining to parcel boundaries or limits.

## ATTACHMENT 2



May 21, 2024



Deanne D. Von Stetina  
Assistant Executive Director  
Broward County Planning Council  
Broward County Governmental Center  
115 S. Andrews Avenue, Room #307  
Ft. Lauderdale, FL 33301

Re: Proposed Map Amendment for Local Area of Particular Concern (LAPC) Site #97

Dear Ms. Von Stetina:

The City of Dania Beach has no objection to the Applicant's Local Area of Particular Concern (LAPC) Map Amendment, assuming the Applicant obtains all required environmental permits from the appropriate agencies.

Sincerely,

Ana M. Garcia, ICMA-CM  
City Manager

Attachments: NSU Industrial Civil Site Plan Set  
Location Map

cc: Eleanor Norena, CFM  
Community Development Director

Corinne Lajoie, AICP  
Community Development Deputy Director

**NSU INDUSTRIAL  
CIVIL SITE PLAN SET  
1850 NE 7TH AVENUE  
DANIA BEACH, FLORIDA 33004  
SECTION 26, TOWNSHIP 50S RANGE 42E**

FOLIO NUMBER: 5042-26-00-0021



**LOCATION SKETCH  
SCALE 1' = 250'**

INDEX OF SHEETS CIVIL SHEETS BY LANGAN	
SHEET NO.	DESCRIPTION
C-100	COVER SHEET
C-200	GENERAL NOTES AND SPECIFICATIONS
C-300	SITE PLAN
C-400	GRADING AND DRAINAGE PLAN
C-401	TYPICAL CROSS SECTIONS
C-500	PRELIMINARY UTILITY PLAN
C-600	PAVEMENT PLAN
C-700	GARBAGE TRUCK CIRCULATION PLAN
C-701	FIRE TRUCK CIRCULATION PLAN
C-800	SOIL EROSION AND SEDIMENT CONTROL
C-900	SITE DETAILS
C-901 - C-902	WATER AND SEWER DETAILS

The following items are not reviewed or accepted by Broward County:  
1. Broward County Traffic Engineering Division's review does not include a review and acceptance of the project's design or operation. These items are to be reviewed and approved by the City Engineer.  
2. Broward County Traffic Engineering Division does not review and approve, or inspect and accept the following items for maintenance: pavement markings on or adjacent to paver bricks, painted asphalt, stamped asphalt or pavement markings made of paver bricks, raised intersections and related markings and signing, un-warranted mid-block crosswalks and related markings and signing, un-warranted crosswalks and related markings and signing, painted/decorative crosswalks, raised crosswalks and related markings and signing, Advanced Warning pavement markings for Speed Tables, Blinker Signs, Rectangular Rapid Flasher Beacons and related markings and signing, on-street parking and related markings and signing, In-road lighting and related markings and signing, green bike lanes, flexible delineators, decorative signs and decorative sign posts, planters, on-site pavement markings and signing, off-site pavement markings and signing in right-of-way that is not dedicated for public use, sidewalk work or asphalt work.  
3. The City Engineer is responsible for the review and approval of the design and operation of the project, and for the inspection and acceptance of the following items that will be maintained by the City: pavement markings on or adjacent to paver bricks, painted asphalt, stamped asphalt or pavement markings made of paver bricks, pavement markings on or adjacent to painted asphalt, raised intersections and related markings and signing, un-warranted mid-block crosswalks and related markings and signing, un-warranted crosswalks and related markings and signing, painted/decorative crosswalks, raised crosswalks and related markings and signing, Advanced Warning pavement markings for Speed Tables, Blinker Signs, Rectangular Rapid Flasher Beacons and related markings and signing, on-street parking and related markings and signing, In-road lighting and related markings and signing, green bike lanes, flexible delineators, decorative signs and decorative sign posts, planters, on-site pavement markings and signing, off-site pavement markings and signing in right-of-way that is not dedicated for public use, sidewalk work and asphalt work.  
4. All traffic control devices maintained by Broward County, that are removed or damaged by construction, shall be replaced by contractor using current Broward County Traffic Engineering Division Standards.

**LEGAL DESCRIPTION**

THE S ½ OF THE NE ¼ OF THE S/E ¼ OF THE NW ¼ OF SECTION 26, TOWNSHIP 50 SOUTH, RANGE 42 EAST, TOGETHER WITH AN EASEMENT FOR ROAD PURPOSES OVER THE WEST 30 FEET OF THE N ½ OF THE NE ¼ OF THE S/E ¼ OF THE NW ¼ OF SECTION 26, TOWNSHIP 50 SOUTH, RANGE 42 EAST, SAID LANDS LYING, BEING AND SITUATED IN BROWARD COUNTY, FLORIDA.

9/22/23	DRC Review 2	2
10/21/22	DRC Review 1	1
Date	Description	No.
Revisions		
		
SIGNATURE DATE SIGNED		
MICHAEL CARR PROFESSIONAL ENGINEER FL Lic. No. 72424		
<b>LANGAN</b> Langan Engineering and Environmental Services, Inc. 110 East Broward Boulevard, Suite 1500 Fort Lauderdale, FL 33301 T: 954.320.2100 F: 954.320.2101 www.langan.com FL CERTIFICATE OF AUTHORIZATION NO. 00089016B172LBR108		
Project <b>NSU INDUSTRIAL 1850 NE 7TH AVENUE</b>		
CITY OF DANIA BEACH BROWARD COUNTY FLORIDA		
Drawing Title <b>COVER SHEET</b>		
Project No. 330111401	Drawing No. <b>C-100</b>	
Date OCTOBER 2023		
Drawn By NDM		
Checked By MPC		



Call 811 or visit [sunshine811.com](http://sunshine811.com) two full business days before digging to have buried facilities located and marked.

Check positive response codes before you dig!



Project No. JJ0111401

1. THESE PLANS REPRESENT THE OVERALL SITE WORK IMPROVEMENTS REQUIRED FOR PROJECT CONSTRUCTION. THE CONTRACTOR SHALL FURNISH, INSTALL, TEST AND COMPLETE ALL WORK NECESSARY TO THE SATISFACTION OF THE ENGINEER AND OWNER IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR MEANS AND METHODS OF CONSTRUCTION; AS SUCH, THESE PLANS DO NOT COMPLETELY REPRESENT, NOR ARE THEY INTENDED TO REPRESENT, ALL SPECIFIC INSTRUCTIONS REQUIRED FOR SITE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONSTRUCT ALL IMPROVEMENTS DEPICTED ON THESE PLANS IN ACCORDANCE WITH ALL APPLICABLE RULES, REGULATIONS AND ORDINANCES.

- [illegible]

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

- CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS AND SPECIFICATIONS FOR ACTUAL LOCATIONS OF ALL UTILITY ENTRANCES TO INCLUDE SANITARY SEWER LATERALS, DOMESTIC AND FIRE PROTECTION WATER SERVICE, ELECTRICAL, TELEPHONE AND GAS SERVICE. CONTRACTOR SHALL COORDINATE INSTALLATION OF UTILITIES IN ORDER TO AVOID CONFLICTS AND TO ACHIEVE PROPER DEPTHS ARE ACHIEVED AS WELL AS COORDINATING WITH THE UTILITY COMPANIES AS TO LOCATION AND SCHEDULING OF CONNECTIONS TO THEIR FACILITIES.
3. STORM DRAINAGE PIPING TO UTILIZE WATER TIGHT JOINTS.
4. SEE DETAIL SHEETS FOR ALL PROPOSED STRUCTURE DETAILS.
5. ALL STORM SENSORS AND STRUCTURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH STATE OF FLORIDA, DEPARTMENT OF TRANSPORTATION STANDARDS OF ROADWAY CONSTRUCTION DETAILS.
6. MINIMUM DEPTH OF COVER FOR ALL STORM SENSE PIPES IS SEVEN (7") INCHES MEASURED FROM BOTTOM OF BASE, UNLESS SHOWN OTHERWISE.
7. EXCAVATED MATERIAL CONTAINING CONCRETE ROCK OR STONE GREATER THAN SIX (6") INCHES IN LARGEST DIMENSION IS UNACCEPTABLE FOR FILL WITHIN THE PROPOSED BUILDING AND PAVING AREAS.
8. ALL SITEWORK AND EARTHWORK OPERATIONS CONDUCTED ON THE SITE TO BE PERFORMED IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEERING REPORT PREPARED BY THE OWNER'S GEOTECHNICAL ENGINEER RECOMMENDATIONS IN THE GEOTECHNICAL REPORT THAT EXCEED THE INFORMATION IN THIS DRAWING SET SHALL TAKE PRECEDENCE OVER THE INFORMATION IN THIS DRAWING SET.
9. COMPACTION CRITERIA FOR FILL PLACED IN THE FOLLOWING AREAS SHALL MEET OR EXCEED THE FOLLOWING MINIMUM PERCENTAGE OF MAXIMUM MODIFIED PROCTOR DRY DENSITY AS DETERMINED BY ASTM D-1557 USED ON REPRESENTATIVE SOIL SAMPLES, UNLESS MORE STRINGENT CRITERIA GIVEN ELSEWHERE:
  10. ALL FILL SHALL BE PLACED AT A MINIMUM CONTENT WITHIN THREE PERCENT OF ITS MODIFIED PROCTOR (ASTM D 1557) DETERMINED OPTIMUM MOISTURE IN LEVEL. MAXIMUM DRY DENSITY SHOULD EXCEED 120 PCBS PER CUBIC YARD. EACH LIFT SHOULD BE THOROUGHLY AND UNIFORMLY COMPACTED TO 95 PERCENT OF THE ASTM D 1557 MAXIMUM DRY DENSITY. SUBGRADE SHALL RECEIVE 98 PERCENT OF THE ASTM D-1600 MAXIMUM DRY DENSITY. SUBGRADE MATERIALS SHOULD BE DOWNTON TO AN EQUIVALENT RELATIVE COMPACTION. SUBGRADE SOILS RECEIVING FLEXIBLE PAVING SHOULD BE UNIFORMLY COMPACTED TO 98 PERCENT OF THE LBIRTS TO 1-80 MAXIMUM DRY DENSITY.
11. PAYMENT: CRUSHED AGGREGATE FOR THE BASE COURSE SHOULD MEET THE REQUIREMENTS OF SECTIONS 911 OR 913A OF THE FLORIDA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION." THE BASE MATERIALS SHOULD HAVE A LIME/ROCK PERCENT RATIO (LIRB) OF 10% OR GREATER. CRUSHED AGGREGATE SHOULD NOT BE LESS THAN 98 PERCENT OF THE ASTM D-1600 MAXIMUM DRY DENSITY. SUBGRADE MATERIALS SHOULD BE DOWNTON TO AN EQUIVALENT RELATIVE COMPACTION. SUBGRADE SOILS RECEIVING FLEXIBLE PAVING SHOULD BE UNIFORMLY COMPACTED TO 98 PERCENT OF THE LBIRTS TO 1-80 MAXIMUM DRY DENSITY.
12. PROTECT SUBGRADE FROM EXCESSIVE WHEEL LOADING DURING CONSTRUCTION, INCLUDING CONCRETE TRUCKS AND DUMP TRUCKS.
13. REMOVE AREAS OF FINISHED SUBGRADE FOUND TO HAVE INSUFFICIENT COMPACTION DENSITY TO A DEPTH NECESSARY AND REPLACE IN A MANNER THAT WILL COMPLY WITH COMPACTION REQUIREMENTS BY USE OF MATERIAL, EQUAL TO OR BETTER THAN BEST SUBGRADE MATERIAL ON SITE. SURFACE OF SUBGRADE AFTER COMPACTION SHALL BE HARD, UNIFORM, SMOOTH, STABLE AND TRUE TO GRADE AND CROSS-SECTION.
14. GRADE ALL AREAS WHERE FINISHED GRADE ELEVATIONS OR CONTOURS ARE INDICATED ON DRAWINGS, OTHER THAN PAVED AREAS AND BUILDINGS, INCLUDING EXCAVATED AREAS, AND ALL TRANSITION AREAS. FINISHED GRADE ELEVATIONS AND GRADINGS SHALL BE UNIFORM AND SMOOTH, FREE FROM ROCK, DEBRIS, OR IRREGULAR SURFACE CHANGES. FINISHED SUBGRADE SURFACE SHALL NOT BE MORE THAN 0.10 FEET ABOVE OR BELOW ESTABLISHED FINISHED SUBGRADE ELEVATIONS, AND ALL CRACKS AND SURFACES SHALL VARY UNIFORMITY BETWEEN ESTABLISHED ELEVATIONS. FINISH DITCHES SHALL BE GRADED TO ALLOW FOR PROPER DRAINAGE WITHOUT PONDING AND IN A MANNER THAT WILL MINIMIZE DRAINAGE POTENTIAL.
15. BUILDING AREA SUBGRADE PAD SHALL BE THAT PORTION OF THE SITE DIRECTLY BENEATH AND TEN FEET (10') BEYOND THE BUILDING AND APPURTENANCES INCLUDING THE LIMITS OF ANY FUTURE BUILDING EXPANSION AREAS AS SHOWN ON THE SITE/PLN DRAWINGS OR AS SPECIFIED IN THE GEOTECHNICAL REPORT.
16. DITCH DEPTH REQUIREMENTS MEASURED FROM FINISHED GRADE OR PAVED SURFACE SHALL MEET THE FOLLOWING REQUIREMENTS OR APPLICABLE CODES AND ORDINANCES:
  - A. WATER MAINS: 30 INCHES TO TOP OF PIPE BARREL.
  - B. SANITARY SEWER: ELEVATIONS AND GRADES AS INDICATED ON DRAWINGS.
  - C. STORM SENSE: DEPTHS, ELEVATIONS, AND GRADES AS SHOWN ON DRAWINGS.
  - D. ELECTRICAL: CONDUITS: 24 INCHES MINIMUM TO TOP OF CONDUIT OR AS REQUIRED BY NEC 300-3, SEC 710-36 CODES, OR THE LOCAL UTILITY COMPANY REQUIREMENTS, WHICHEVER IS DEEPER.
  - E. TV CONDUITS: 18 INCHES MINIMUM TO TOP OF CONDUIT OR AS REQUIRED BY THE LOCAL UTILITY COMPANY, WHICHEVER IS DEEPER.
17. TELEPHONE CONDUITS: 18 INCHES MINIMUM TO TOP OF CONDUIT OR AS REQUIRED BY THE LOCAL UTILITY COMPANY, WHICHEVER IS DEEPER.
18. GAS MAINS AND SERVICE: 30 INCHES MINIMUM TO TOP OF PIPE, OR AS REQUIRED BY THE LOCAL UTILITY COMPANY, WHICHEVER IS DEEPER.
19. ALL CONCRETE, UNLESS OTHERWISE NOTED OR SPECIFIED BY REGULATORY AUTHORITIES, SHALL BE 3000 PSI.
20. FINISHED GRADE ELEVATIONS SHALL NOT DEVIATE FROM THE PROPOSED ELEVATIONS SHOWN ON THE GRADING AND DRAINAGE PLANS BY MORE THAN 0.10 FEET.
21. DESIGN REQUIRES ALL MANHOLE LIFT HOLES AND GRADE ADJUSTMENT RINGS BE SEALED WITH NON-SHRINKING MORTAR. ALL INLET AND OUTLET PIPES MUST BE JOINED TO THE MANHOLE WITH A GASKETED FLEXIBLE TIGHT CONNECTION OR ANOTHER WATER TIGHT CONNECTION ARRANGEMENT THAT ALLOWS DIFFERENTIAL SETTLEMENT OF THE PIPE AND MANHOLE WALL.
22. ALL MANHOLE INSPECTION AND TESTING FOR WATERPROOFING OR DAMAGE PRIOR TO PLACING INTO SERVICE ARE SPECIFIED BY CITY INSPECTOR. ALL AIR TESTING, IF

A. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE CITY OF DANIA BEACH PUBLIC WORKS DEPARTMENT, BROWARD COUNTY, AND ALL OTHER APPLICABLE LOCAL, STATE AND NATIONAL CODES.

- B. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT ALL CONSTRUCTION SHALL BE DONE IN A SAFE MANNER AND IN STRICT COMPLIANCE WITH ALL THE REQUIREMENTS OF THE FEDERAL OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 OR LATEST EDITION, AND ALL STATE AND LOCAL SAFETY AND HEALTH REGULATIONS.
- C. ALL ELEVATIONS SHOWN ON THE CONSTRUCTION DRAWINGS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D.), UNLESS OTHERWISE NOTED.
- D. EXISTING TOPOGRAPHIC AND CADASTRAL INFORMATION SHOWN ON THESE DRAWINGS ARE BASED ON THE BOUNDARY AND TOPOGRAPHY SURVEY PROVIDED BY ECS LAND SURVEYORS, INC. DATED 03/20/2019.

A. THE INFORMATION PROVIDED IN THESE PLANS IS TO ASSIST THE CONTRACTOR IN ASSESSING THE NATURE AND EXTENT OF THE CONDITIONS WHICH MAY BE ENCOUNTERED DURING THE COURSE OF THE WORK. ALL CONTRACTORS ARE DIRECTED, PRIOR TO BIDDING, TO CONDUCT ANY INVESTIGATIONS THEY DEEM NECESSARY TO ARRIVE AT THEIR OWN CONCLUSIONS REGARDING THE ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED AND UPON WHICH THEIR BIDS WILL BE BASED.

- G. UPON THE RECEIPT OF THE "NOTICE TO PROCEED", THE CONTRACTOR SHALL CONTACT THE ENGINEER OF RECORD AND ARRANGE A PRECONSTRUCTION CONFERENCE TO DISCUSS THE PROJECT WITH ALL PERTINENT AGENCIES, INCLUDING ANY UTILITY OWNERS AND THE ENGINEER OF RECORD.
- H. THE CONTRACTOR SHALL CONTACT "SUNSHINE ONE-CALL-OF FLORIDA" BY CALLING 800-967-4343 AT LEAST 48 HOURS BEFORE ANY EXCAVATION OR OTHER CONSTRUCTION IN ORDER TO PROVIDE FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES.
- I. THE CONTRACTORS SHALL COORDINATE WITH UTILITIES TO ARRANGE FOR RELOCATION AND TEMPORARY SUPPORT OF UTILITY FEATURES, ETC. AS NECESSARY TO COMPLETE THE PROJECT, IF APPLICABLE.
- J. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND PROTECT ANY AND ALL EXISTING UTILITIES ON THIS PROJECT.
- K. THE CONTRACTOR SHALL SECURE ALL UTILITY EASEMENTS (IF REQUIRED) TO BE SECURED PRIOR TO CONSTRUCTION.
- L. LOCATIONS, ELEVATIONS, AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES, AND OBSTACLES SHOWN ON THE PLANS OR THE DRAWINGS WERE OBTAINED FROM THE BEST INFORMATION AVAILABLE AT THE TIME PLANS WERE PREPARED BUT DO NOT PURPORT TO REPRESENT AN ABSOLUTE CORRECTNESS. THEREFORE, THE CONTRACTOR SHALL VERIFY THE PROJECT AREA WHERE WERE INSTALLED AND CONSTRUCTED AFTER THE PREPARATION OF THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACCURACY OF THE DATA SHOWN OR FOR ANY FACILITIES NOT SHOWN. THE CONTRACTOR SHALL VERIFY, PRIOR TO CONSTRUCTION, THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES (WHETHER SHOWN ON THE PLANS OR NOT) AFFECTING THE WORK.
- M. IF, UPON EXCAVATING, EXISTING CONDITIONS ARE FOUND TO BE IN CONFLICT WITH THE PLANS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF RECORD SO THAT APPROPRIATE MEASURES CAN BE TAKEN TO RESOLVE THE DISCREPANCY.
- N. ALL ROAD CROSSINGS ARE TO BE OPEN AT ALL TIMES UNLESS OTHERWISE NOTED ON THE DRAWINGS.

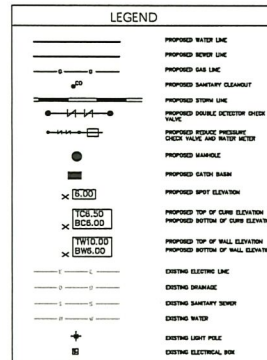
A. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD AS WELL AS ANY OTHER GOVERNMENTAL AGENCIES HAVING JURISDICTION AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION.

- B. THE CONTRACTOR SHALL GIVE THE ENGINEER OF RECORD AT LEAST 48 HOURS ADVANCE NOTICE OF, AND THE ENGINEER OF RECORD MUST BE PRESENT TO WITNESS, THE FOLLOWING:
1. PRESSURE TESTING OF THE WATER DISTRIBUTION SYSTEM.
  2. EXFILTRATION TEST OF THE SANITARY SEWAGE SYSTEM.
  3. FINAL INSPECTION OF THE WATER, SEWER, PAVING, GRADING AND DRAINAGE.
- C. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT ALL APPLICABLE REGULATORY AGENCIES FOR INSPECTION REQUIREMENTS.

A. PRIOR TO THEIR CONSTRUCTION OR INSTALLATION, SHOP DRAWINGS SHALL BE SUBMITTED TO AND APPROVED BY THE ENGINEER OF RECORD FOR THE FOLLOWING ITEMS: WATER MAIN FITTINGS, VALVES, PIPES, CATCH BASIN, STORM MANHOLES AND ALL OTHER DRAINAGE STRUCTURES, DRAINAGE PIPE, BALLAST ROCK, EXFILTRATION TRENCH, FILTER FABRIC, AND TRAFFIC PAINT. IN ADDITION, SOME CITIES, COUNTIES, STATES, AND/OR NATIONAL REGULATORY AGENCIES REQUIRE THEIR OWN INDIVIDUAL REVIEW AND APPROVAL. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN ALL OTHER AGENCY SHOP DRAWING APPROVALS, IF REQUIRED.

A. TEMPORARY FACILITIES:

1. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE FOR OR SUPPLY THE FOLLOWING MATERIALS AND EQUIPMENT:
- A. WATER AND ELECTRICITY.
  - B. CONSTRUCTION.
2. THE CONTRACTOR SHALL MAINTAIN AT LEAST ONE ACCESS ENTRANCE TO ALL COMMERCIAL PROPERTIES AT ALL TIMES, IF APPLICABLE.
3. THE CONTRACTOR SHALL MAINTAIN A CLEAR PATH FOR ALL SURFACE WATER, DRAINAGE STRUCTURES AND OTHERS DURING ALL PHASES OF CONSTRUCTION, IF APPLICABLE.
- B. TRAFFIC REGULATION:
1. THE CONTRACTOR SHALL PROVIDE ALL WARNING SIGNALS, SIGNS, LIGHTS AND BARRICADES AS NECESSARY FOR THE MAINTENANCE OF TRAFFIC WITHIN PUBLIC RIGHT-OF-WAYS IN ACCORDANCE WITH THE M.U.L.C.G. AND BROWARD COUNTY ORDINANCES AND PLANS.
2. ALL OPEN TRENCHES AND HOLES ADJACENT TO ROADWAYS OR WALKWAYS SHALL BE PROPERLY MARKED AND BARRICADED TO ASSURE THE SAFETY OF BOTH VEHICULAR AND PEDESTRIAN TRAFFIC.
3. NO TRENCHES OR HOLES NEAR WALKWAYS, IN ROADWAYS OR THEIR SHOULDERS ARE TO BE LEFT OPEN DURING NIGHTTIME HOURS WITHOUT EXPRESS PERMISSION FROM THE CITY ENGINEER.



I. CLEANING UP:

- [illegible]

A. EARTHWORK AND COMPACTION SHALL BE PERFORMED IN ACCORDANCE WITH BROWARD COUNTY ENGINEERING AND PUBLIC WORKS DEPARTMENT STANDARDS.

- B. CONTRACTOR WILL REPLACE IN KIND ANY CONCRETE/PAVEMENT DAMAGED DURING THE PLACEMENT OF CURB AND GUTTER/SIDEWALK ALONG ELLER DRIVE.

A. GENERAL:

2. ALL UNDERGROUND UTILITIES SHALL BE COMPLETED PRIOR TO CONSTRUCTION OF THE PROPOSED ROADWORK.
3. ALL EXISTING PAVEMENT, CUT OR DAMAGED BY CONSTRUCTION SHALL BE PROPERLY RESTORED AT THE CONTRACTOR'S EXPENSE.
4. ALL ROAD CROSSINGS ARE OPEN CUT UNLESS OTHERWISE NOTED ON THE DRAWINGS.
5. WHERE ANY PROPOSED PAVEMENT IS TO BE CONNECTED TO EXISTING PAVEMENT, THE EXISTING EDGE OF PAVEMENT SHALL BE SAW CUT.
6. PAVEMENT REPAIRS SHALL BE AS PER BROWARD COUNTY ENGINEERING AND PUBLIC WORKS DEPARTMENT STANDARDS.

1. ALL WORKS UNIFORM TO THE APPLICABLE BROWARD COUNTY ENGINEERING AND PUBLIC WORKS DEPARTMENT STANDARDS.
2. STREET NAME SIGNS SHALL BE ERRECTED PER BROWARD COUNTY ENGINEERING AND PUBLIC WORKS DEPARTMENT STANDARDS.

1. DENSITY TESTS SHALL BE TAKEN BY AN INDEPENDENT TESTING LABORATORY

2. BROWARD COUNTY INSPECTORS REQUIRE 72 HOUR NOTICE.

9/22/23	DRC Review 2	2
10/21/22	DRC Review 1	1
Date	Description	No.

Revisions

Professional Engineer Seal: The seal is circular with a red border. Inside the border, the text "STATE OF FLORIDA" is at the top and "PROFESSIONAL ENGINEER" is at the bottom. In the center, there is a five-pointed star.

SIGNATURE MICHAEL CARR DATE SIGNED 11/1/01  
PROFESSIONAL ENGINEER FL. Lic. No. 72424

**LANGAN**  
Langan Engineering and  
Environmental Services, Inc.  
110 East Broward Boulevard, Suite 1500  
Fort Lauderdale, FL 33301  
T: 954.320.2100 F: 954.320.2101 [www.langan.com](http://www.langan.com)  
FL CERTIFICATE OF AUTHORIZATION NO. 000088101.081726.08108

Project	
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NSU INDUSTRIAL  
1850 NE 7TH AVENUE

CITY OF DANIA BEACH  
BROWARD COUNTY FLORIDA

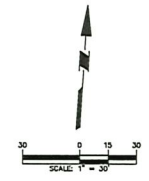
Drawing Title
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### GENERAL NOTES AND SPECIFICATIONS

Project No. 330111401	Drawing No.  C-200
Date OCTOBER 2023	
Drawn By NOM	
Checked By MPC	





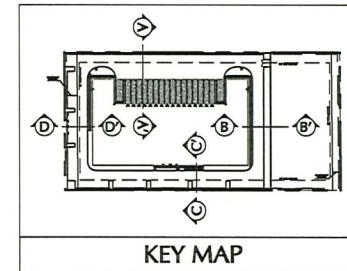
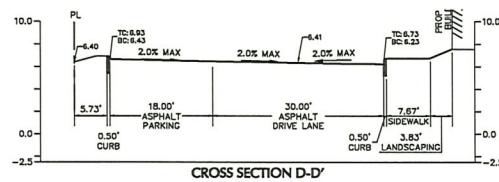
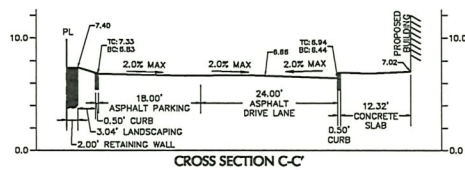
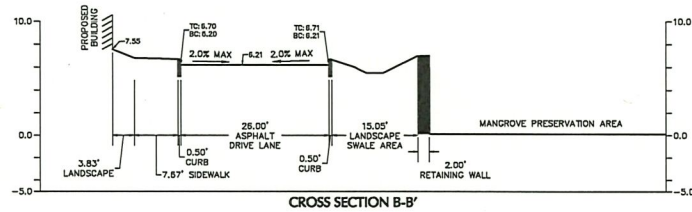
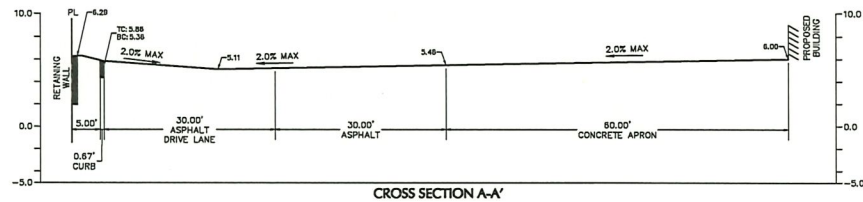


20.00' UTILITY  
EASEMENT

Product No. 130111/01

1000





9/22/23	DRC Review 2	2
10/21/22	DRC Review 1	1
Date	Description	No.

Revisions



SIGNATURE: MICHAEL CARR  
PROFESSIONAL ENGINEER FL Lic. No. 72424

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FL CERTIFICATE OF AUTHORIZATION NO. 0000801681702L81818

Project

**NSU INDUSTRIAL**  
**1850 NE 7TH AVENUE**

CITY OF DANIA BEACH

BROWARD COUNTY FLORIDA

Drawing Title

**TYPICAL**  
**CROSS-SECTIONS**

Project No. 330111401

Date OCTOBER 2023

Drawn By NCM

Checked By MPC

Drawing No. C-401

WATER/SEWER SEPARATION NOTES, IN ACCORDANCE WITH RULE 62-555.314 F.A.C.:

1. NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST SIX FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY- OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY-TYPE SANITARY SEWERS SHALL BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER.

2. NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED PRESSURE-TYPE SANITARY SEWER, WASTEWATER OR STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST 12 INCHES ABOVE OR BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.

ALLOWABLE LEAKAGE FORMULA,  
PER ANSI/AWWA STANDARDS:  
 $Q = L \times D \times \sqrt{P / 148,000}$

NOTES:  
- ELEVATIONS REFERENCE  
DATUM: NAVD 1988  
- MINIMUM COVER OF PVC  
SEWER MAINS SHALL BE 36"  
- MINIMUM COVER OF DIP SEWER  
MAINS SHALL BE 30"

### CONFLICT NOTE TABLE

<p>GRADE 6.01</p> <p>MIN. 24" COVER</p> <p>1 PROP. 18" HOPE STORM TOP 3.50 BOP 2.00</p> <p>MIN. 6" CLEARANCE</p> <p>PROP. 8" PVC SANITARY TOP -2.49 BOP -1.18</p>	<p>GRADE 5.53</p> <p>MIN. 24" COVER</p> <p>2 PROP. 18" HOPE STORM TOP 3.50 BOP 2.00</p> <p>MIN. 6" CLEARANCE</p> <p>PROP. 2" PVC WATER TOP 1.00 BOP 0.53</p>	<p>GRADE 5.47</p> <p>MIN. 24" COVER</p> <p>3 PROP. 18" HOPE STORM TOP 3.50 BOP 2.00</p> <p>MIN. 6" CLEARANCE</p> <p>PROP. 8" DIP FIRE TOP 1.00 BOP 0.50</p>
<p>GRADE 5.41</p> <p>MIN. 24" COVER</p> <p>4 PROP. 18" HOPE STORM TOP 3.50 BOP 2.00</p> <p>MIN. 6" CLEARANCE</p> <p>PROP. 8" DIP FIRE TOP 1.00 BOP 0.50</p>	<p>GRADE 5.44</p> <p>MIN. 24" COVER</p> <p>5 PROP. 18" HOPE STORM TOP 3.50 BOP 2.00</p> <p>MIN. 6" CLEARANCE</p> <p>PROP. 8" DIP FIRE TOP 1.00 BOP 0.50</p>	

NOTE: UTILITY LOCATIONS ARE APPROXIMATED BASED ON BEST AVAILABLE DATA. CONTRACTOR TO FIELD VERIFY LOCATIONS OF EXISTING UTILITIES AND NOTIFY OWNER IF ANY ADJUSTMENTS ARE NEEDED PRIOR TO CONSTRUCTION.

### PROJECTION OF WATER, SEWER & SOLID WASTE DEMAND

82,340 SF INDUSTRIAL WAREHOUSE

WATER & SEWER DEMAND PROJECTION:

0.1 GPD/SF (PER BROWARD COUNTY 27-201)

82,340 SF x 0.1 GPD/SF = 8,234 GPD

\*TOTAL WATER DEMAND = 8,234 GPD

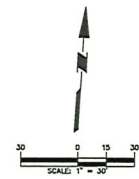
\*TOTAL SEWER DEMAND = 8,234 GPD

SOLID WASTE DEMAND PROJECTION:

2 LBS/100 SF/DAY (PER DANIA BEACH 805-80)

82,340 SF x 2LBS/100 SF/DAY = 1,246.8 LBS/DAY

\*TOTAL SOLID WASTE DEMAND = 1,246.8 LBS/DAY



### LEGEND

	PROPOSED WATER LINE
	PROPOSED SEWER LINE
	PROPOSED GAS LINE
	PROPOSED STORM LINE
	PROPOSED MANHOLE
	PROPOSED CATCH BASIN
	PROPOSED FIRE HYDRANT
	EXISTING SANITARY SEWER
	EXISTING WATER

9/22/23	DRC Review 2	2
10/21/22	DRC Review 1	1
Date	Description	No.

### Revisions



SIGNATURE: MICHAEL CARR  
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FL CERTIFICATE OF AUTHORIZATION NO. 00008015B172L8B19

Project

**NSU INDUSTRIAL**  
**1850 NE 7TH AVENUE**

CITY OF DANIA BEACH  
BROWARD COUNTY FLORIDA

Drawing Title

**PRELIMINARY**  
**UTILITY PLAN**

Project No. 330111401

Drawing No. C-500

Date OCTOBER 2023

Drawn By NCM

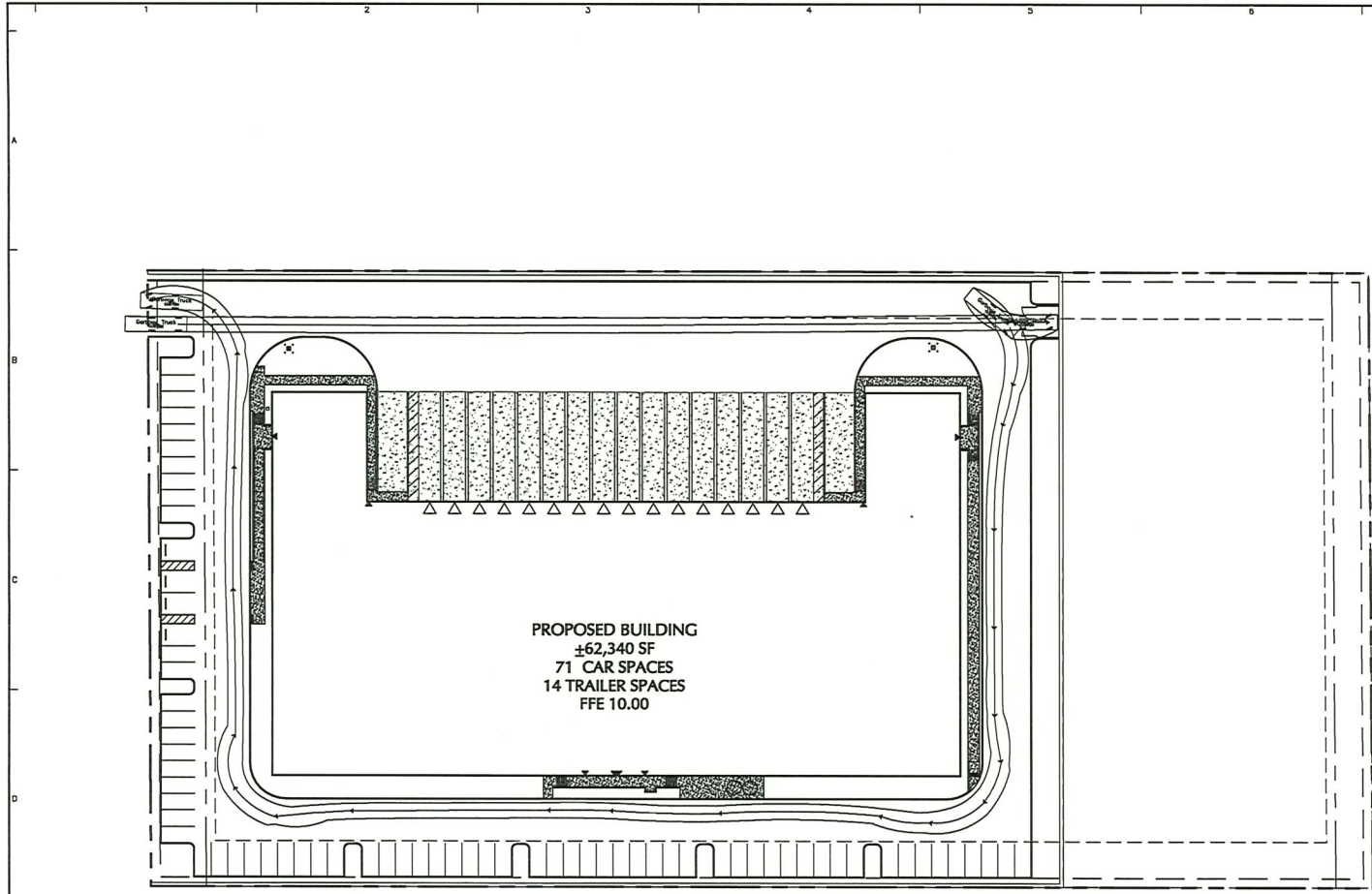
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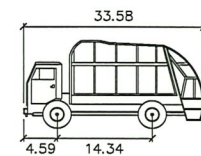
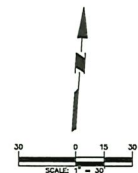


Project No. 330111401



PROPOSED BUILDING  
±62,340 SF  
71 CAR SPACES  
14 TRAILER SPACES  
FFE 10.00

GARBAGE TRUCK MOVEMENT INGRESS & EGRESS



Garbage Truck

	feet
Width	: 8.20
Track	: 7.84
Lock to Lock Time	: 6.0
Steering Angle	: 41.8

9/22/23	DRC Review 2	2
10/21/22	DRC Review 1	1
Date	Description	No.

Revisions

**LANGAN**  
Langan Engineering and  
Environmental Services, Inc.  
110 East Broward Boulevard, Suite 1500  
Fort Lauderdale, FL 33301  
T: 954.320.2100 F: 954.320.2101 www.langan.com  
FL CERTIFICATE OF AUTHORIZATION NO. 00088801381720LB118

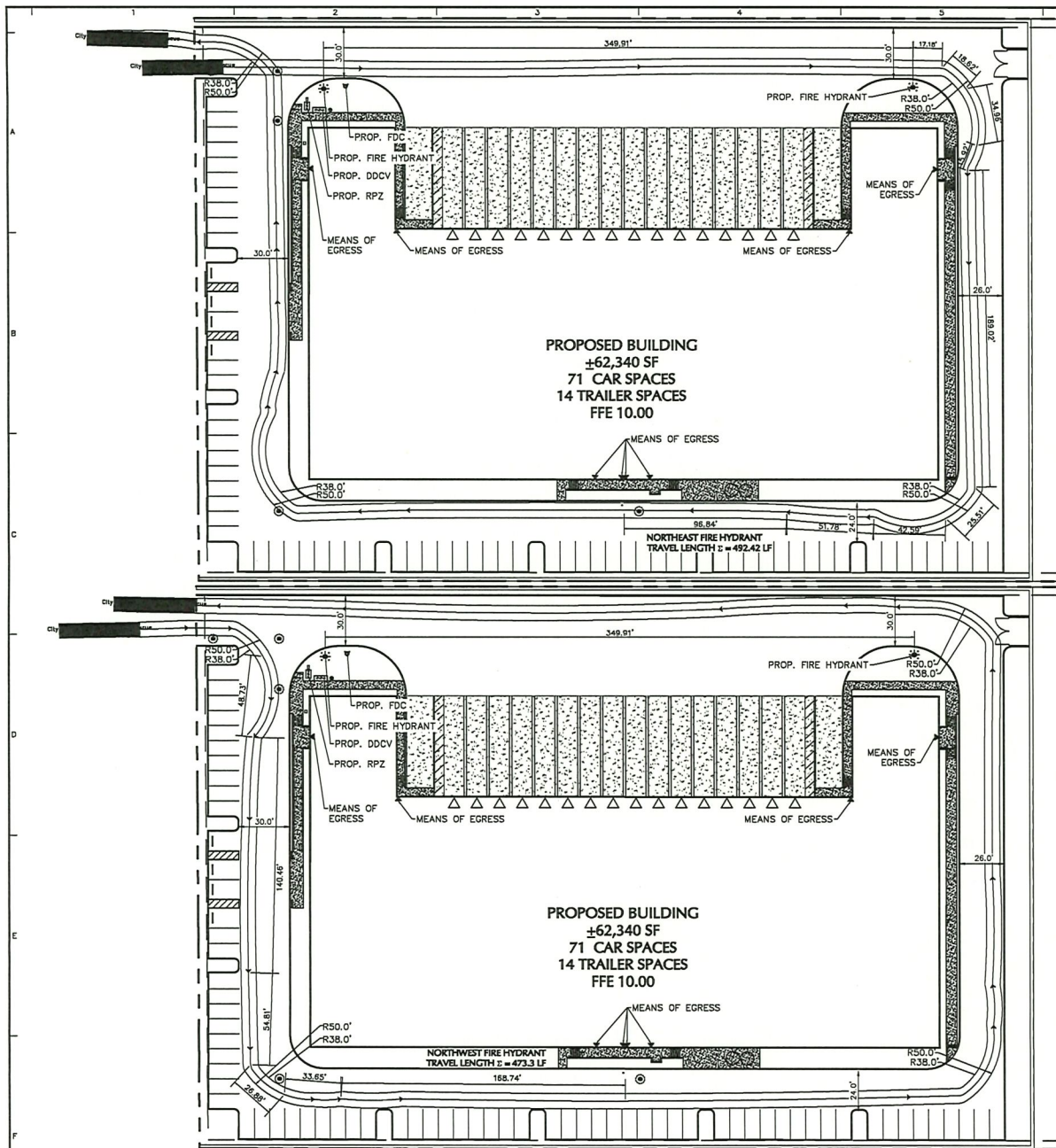
SIGNATURE: MICHAEL CARR  
PROFESSIONAL ENGINEER FL Lic. No. 72424

DATE SIGNED: 9/22/23

FLA. REG. NO. 72424  
STATE OF FLORIDA  
PROFESSIONAL ENGINEER

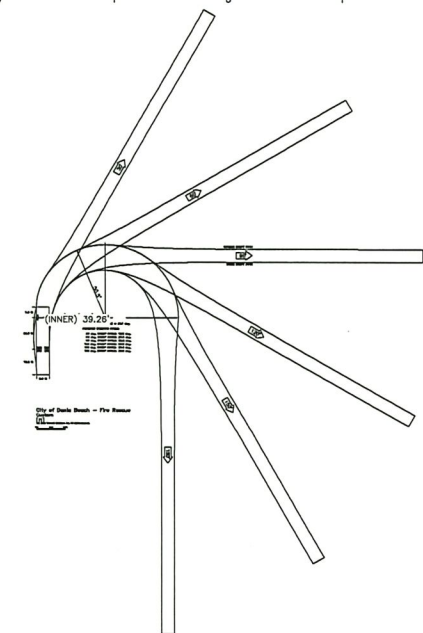
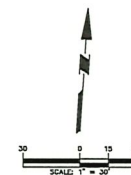
Project  
**NSU INDUSTRIAL**  
**1850 NE 7TH AVENUE**  
**CITY OF DANIA BEACH**  
**BROWARD COUNTY FLORIDA**  
Drawing Title  
**GARBAGE TRUCK**  
**CIRCULATION**  
**PLAN**

Project No. <b>330111401</b>	Drawing No. <b>C-700</b>
Date <b>OCTOBER 2023</b>	
Drawn By <b>DIC</b>	
Checked By <b>MPC</b>	



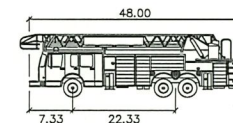
# FIRE TRUCK MOVEMENT INGRESS & EGRESS EAST PATH

# FIRE TRUCK MOVEMENT INGRESS & EGRESS SOUTH PATH



## NOTES:

- ALL PAVED FIRE DEPARTMENT ACCESS ROADS SHALL BE CAPABLE OF SUPPORTING 32 TONS.
- NO PARKING SIGNAGE OR CURB MARKING WILL BE REQUIRED FOR FIRE DEPARTMENT ACCESS ROADS AND LANES, FOR ALL ROAD WIDTHS LESS THAN 38' WIDE.
- ROAD WIDTHS BETWEEN 28'-33', PARKING WILL BE RESTRICTED TO ONE SIDE.
- ROAD WIDTHS LESS THAN 28', PARKING WILL BE RESTRICTED ON BOTH SIDES OF THE ROAD.
- A TWO-WAY RADIO COMMUNICATIONS ENHANCEMENT SYSTEM (BI-DIRECTIONAL AMPLIFIER -BDA) FOR PUBLIC SAFETY RADIOS MAY BE REQUIRED. THE DETERMINATION WILL BE SUBJECT TO THE RADIO SIGNAL PROPAGATION AND A DIGITAL AUDIO QUALITY (DAQ) TEST.

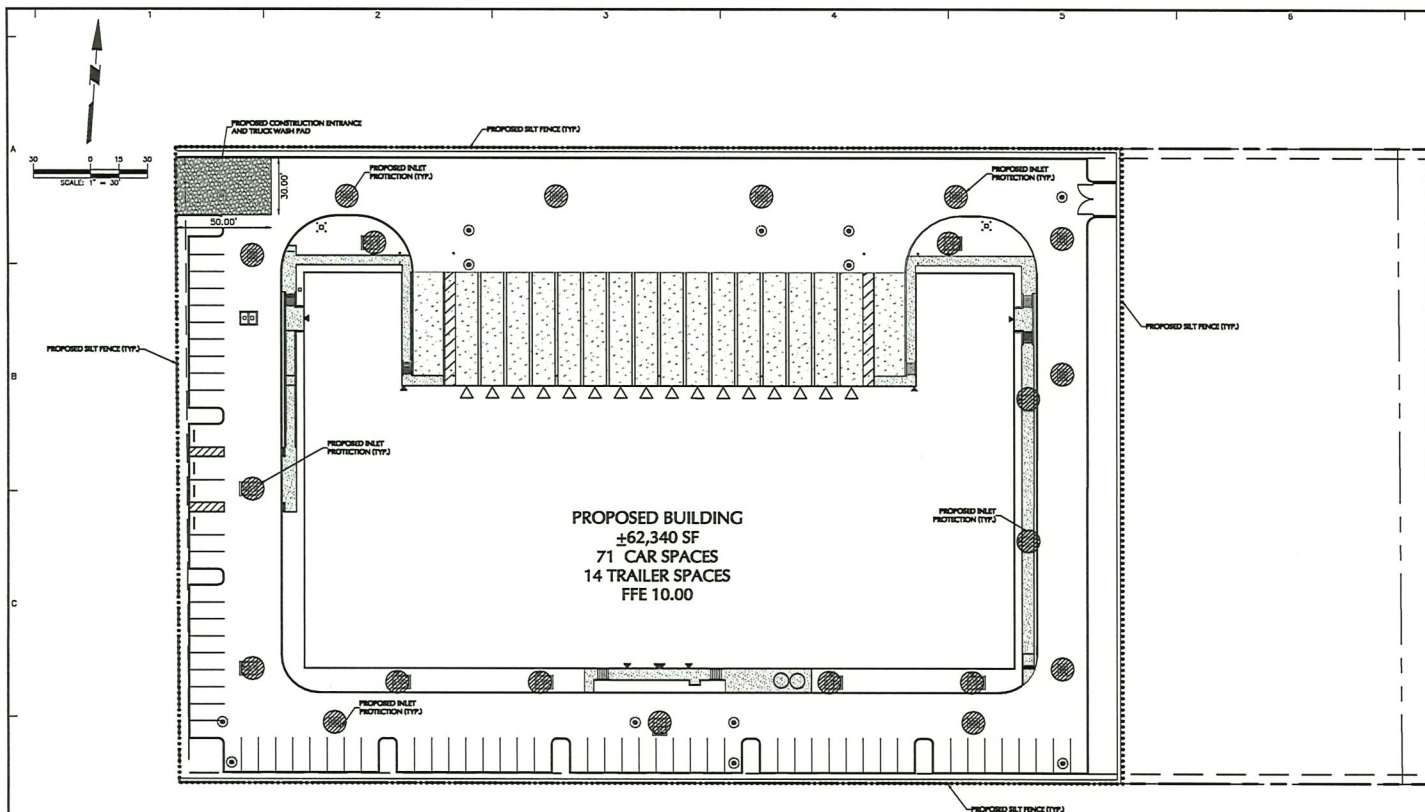


City of Dania Beach - Fire Rescue

Width : 9.00 feet  
Track : 9.00  
Lock to Lock Time : 6.0  
Steering Angle : 31.7

9/22/23	DRC Review 2	2
10/21/22	DRC Review 1	1
Date	Description	No.
Revisions		
<b>LANGAN</b> Langan Engineering and Environmental Services, Inc. 110 East Broward Boulevard, Suite 1500 Fort Lauderdale, FL 33301 T: 954.320.2100 F: 954.320.2101 www.langan.com FL CERTIFICATE OF AUTHORIZATION NO. 00069016.00172LBR108		
Project		
<b>NSU INDUSTRIAL</b> <b>1850 NE 7TH AVENUE</b>		
CITY OF DANIA BEACH FLORIDA		
Drawing Title		
<b>FIRE TRUCK CIRCULATION PLAN</b>		
Project No.	Drawing No.	
330111401	C-701	
Date	OCTOBER 2023	
Drawn By	NOM	
Checked By	MPC	





# EROSION AND SEDIMENT CONTROL NOTES:

1. THE CONTRACTOR SHALL INSTALL AND MAINTAIN SILT FENCE, IN ACCORDANCE WITH FLORIDA STORMWATER EROSION AND SEDIMENTATION CONTROL MANUAL AROUND THE PERIMETER OF ALL EARTH DISTURBANCES. SILT FENCES SHALL REMAIN IN PLACE UNTIL PERMANENT STABILIZATION OF DISTURBED AREAS IS COMPLETED.
2. THE CONTRACTOR SHALL SEED AND MULCH OR SOO SWALES, POND, AND/OR GREEN AREAS IMMEDIATELY AFTER COMPLETION OF THESE AREAS ARE COMPLETED.
3. THE CONTRACTOR SHALL PROVIDE SILTATION REDUCTION DEVICES FOR THE DISCHARGE FROM ANY DEWATERING PROCESS SO THAT DIRECT DISCHARGE DOES NOT OCCUR.
4. THE CONTRACTOR SHALL CHECK ALL EROSION AND SILTATION CONTROL DEVICES WEEKLY AND/OR WITHIN 24 HOURS OF STORM EVENT THAT PRECIPITATES 1/4 INCH OR GREATER AND REPAIR OR REPLACE THEM AS REQUIRED. SILT FENCES SHALL REMAIN IN PLACE UNTIL PERMANENT STABILIZATION OF DISTURBED AREAS IS COMPLETED.
5. THE REQUIREMENTS LISTED ON THIS DOCUMENT SHALL BE CONSIDERED MINIMUM REQUIREMENTS AND THE CONTRACTOR SHALL USE WHATEVER METHODS DEEMED NECESSARY TO PREVENT EROSION AND SILTATION AS MAY BE REQUIRED FROM THE PROJECT, AND APPROVED BY THE AUTHORITIES HAVING JURISDICTION.
6. THE CONTRACTOR SHALL CONTROL ALL DUST ORIGINATING ON THE PROJECT BY WATERING OR OTHER METHODS AS APPROVED BY THE OWNER AND ENGINEER OF RECORD.
7. ALL PRACTICABLE AND NECESSARY EFFORT, INCLUDING BUT NOT LIMITED TO THE USE OF STAKED HAY BALES OR STAKED SILT SCREEN BARRIERS, SHALL BE TAKEN DURING CONSTRUCTION TO CONTROL AND PREVENT EROSION AND TRANSPORT OF SEDIMENT MATERIAL TO SURFACE WATER CONVEYANCE DITCHES, INLETS, SURFACE DRAIN, WETLANDS AND LAKE AREAS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RESTORATION EFFORTS THAT MAY BE REQUIRED TO MITIGATE EROSION OR SEDIMENTATION EFFECTS OCCURRING DURING THE WORK.
8. TEMPORARY SILTATION CONTROL BARRIERS (E.G. SILT FENCE) SHALL BE INSTALLED WHERE EARTH DISTURBANCES ARE WITHIN 100 FEET OF SURFACE WATER CONVEYANCE SYSTEMS AND WETLANDS.
9. IT IS RECOMMENDED THAT THE CONTRACTOR MARK OUT THE LANDWARD SIDE OF WETLAND / BUFFERS TO PREVENT UNINTENTIONAL WETLAND BUFFER IMPACTS DURING CONSTRUCTION.
10. PERIODIC INSPECTION AND MAINTENANCE OF ALL SEDIMENT CONTROL STRUCTURES AND DEVICES MUST BE PROVIDED TO ENSURE INTENDED PURPOSE IS ACCOMPLISHED. THE CONTRACTOR SHALL BE CONTINUALLY RESPONSIBLE FOR ALL SEDIMENT LEAVING THE PROPERTY. SEDIMENT CONTROL MEASURES SHALL BE IN WORKING CONDITION AT THE END OF EACH WORKDAY.
11. ALL EROSION CONTROL DEVICES SHALL FOLLOW STANDARD AND DETAILS IN THE CURRENT FLORIDA STORMWATER EROSION AND SEDIMENTATION CONTROL MANUAL.
12. ON SLOPES OR DITCHES WHICH ARE TOO STEEP FOR THE USE OF GRASSING, SUITABLE EROSION PROTECTION SHALL BE PROVIDED BY EROSION CONTROL PAVEMENT, ADEQUATE FOR PERMANENT PROTECTION. IN NO CASE SHALL ANY AREA WHICH IS SUBJECT TO DETRIMENTAL EROSION BE ACCEPTABLE UNLESS SUCH PROTECTION IS PROVIDED.
13. CONTRACTOR SHALL IMPLEMENT THE CONSTRUCTION ENTRANCE POLLUTION PREVENTION FEATURES WHEREVER AN ENTRANCE TO THE SITE IS UTILIZED FOR CONSTRUCTION.

9/22/23	DRC Review 2	2
10/21/22	DRC Review 1	1
Date	Description	No.

## Revisions



SIGNATURE: MICHAEL CARR  
DATE SIGNED: 9/22/23  
PROFESSIONAL ENGINEER FL Lic. No. 72424

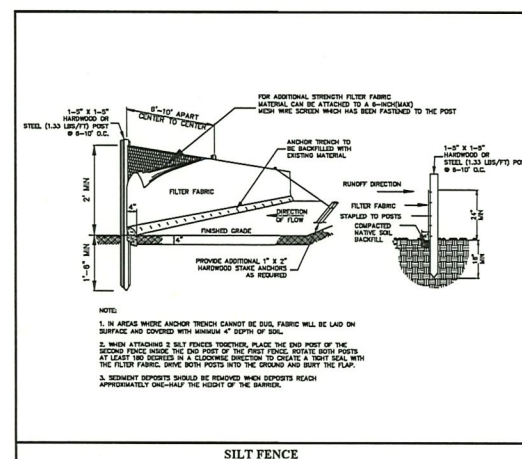
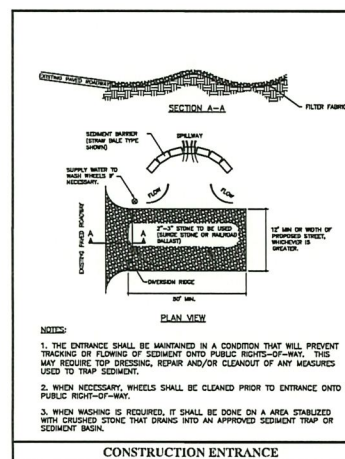
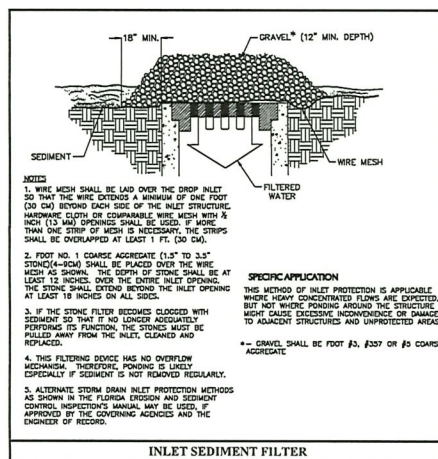
**LANGAN**  
Langan Engineering and  
Environmental Services, Inc.  
110 East Broward Boulevard, Suite 1500  
Fort Lauderdale, FL 33301  
T: 954.320.2100 F: 954.320.2101 www.langan.com  
FL CERTIFICATE OF AUTHORIZATION NO. 00008401881702L81818

Project:  
**NSU INDUSTRIAL**  
**1850 NE 7TH AVENUE**

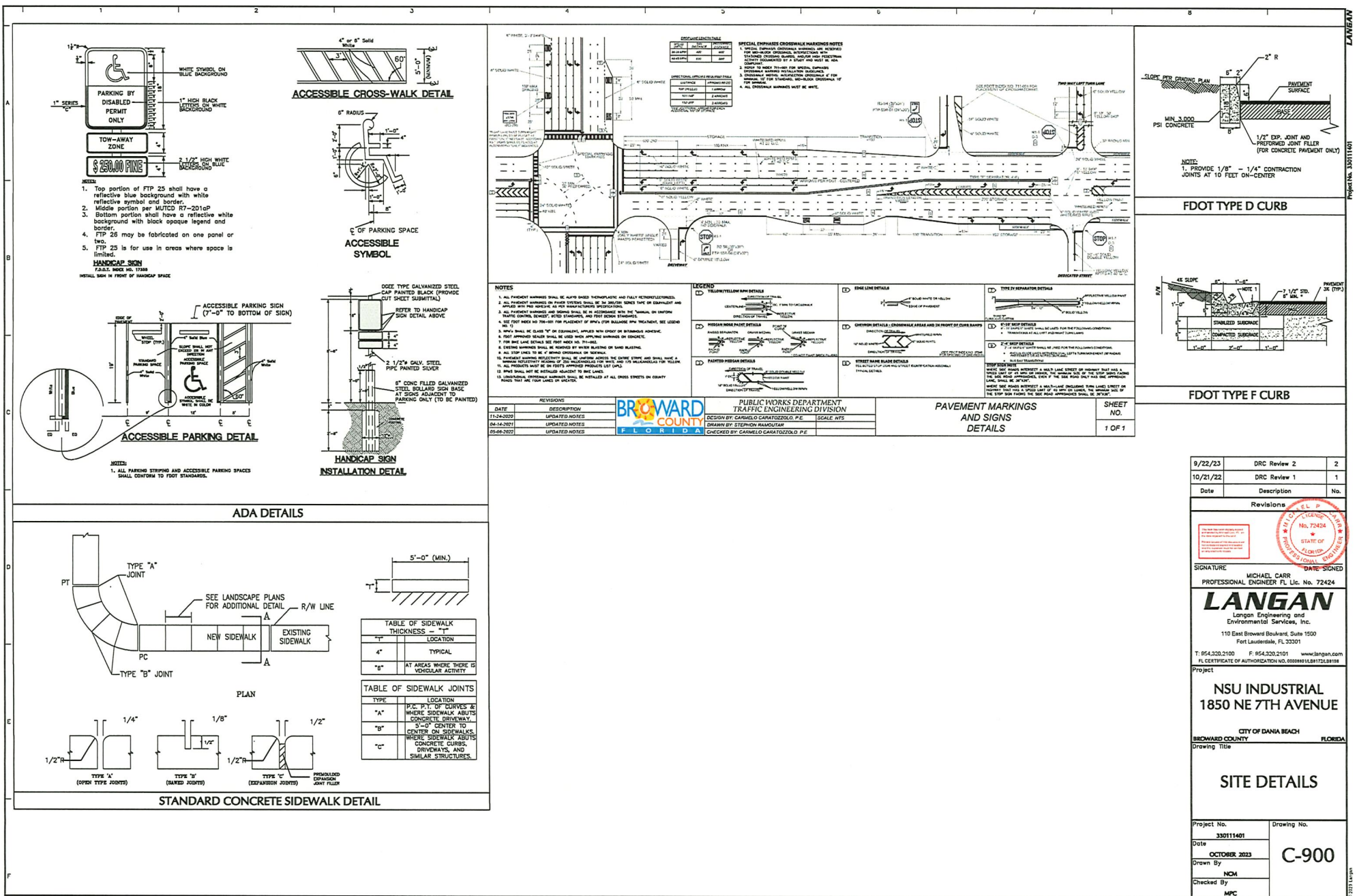
CITY OF DANIA BEACH  
BROWARD COUNTY FLORIDA

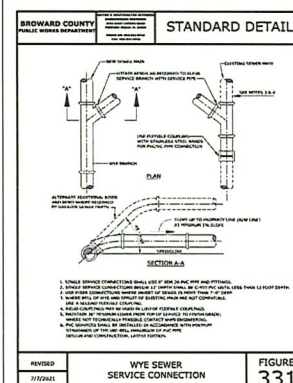
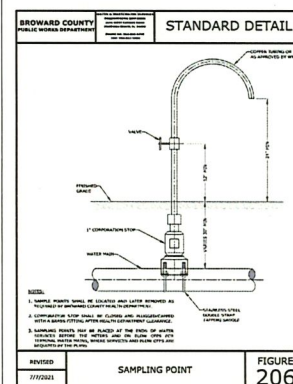
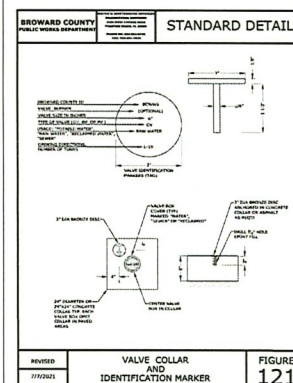
Drawing Title:  
**SOIL EROSION AND  
SEDIMENT  
CONTROL PLAN**

Project No. <b>330111401</b>	Drawing No. <b>C-800</b>
Date <b>OCTOBER 2023</b>	
Drawn By <b>VE</b>	
Checked By <b>MPC</b>	



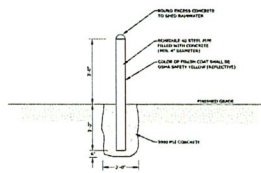






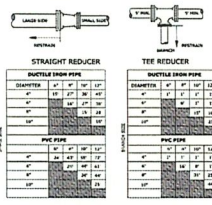


# **BROWARD COUNTY** PUBLIC WORKS DEPARTMENT STANDARD DETAIL



REVISED	BOLLARD	FIGURE
11/2001		194

# **BROWARD COUNTY** PUBLIC WORKS DEPARTMENT STANDARD DETAIL



REVISED	RESTRAINED JOINT REQUIREMENTS REDUCING FITTINGS	FIGURE
11/2001		112

## **WATER AND SEWER NOTES:**

- ALL ELEVATIONS ON THE PLANS ARE BASED ON THE NATIONAL AMERICAN VERTICAL DATUM (NAVD 1988) UNLESS OTHERWISE NOTED ON THE PLANS.
- ALL LABOR AND MATERIALS UNDER THIS PROJECT SHALL BE IN STRICT ACCORDANCE WITH THE REQUIREMENTS OF THE CITY OF DANIA BEACH UTILITY DEPARTMENT AND BROWARD COUNTY WATER & WASTEWATER SERVICE DEPARTMENT STANDARDS AND SPECIFICATIONS.
- THE LOCATION OF THE EXISTING UTILITIES SHOWN ON THE DRAWINGS ARE BASED UPON THE MOST RELIABLE INFORMATION AVAILABLE TO THE ENGINEER AND ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF THE UTILITIES LOCATED IN THE AREA OF THE PROPOSED WORK PRIOR TO COMMENCING CONSTRUCTION, (I.E. UNDERGROUND ELECTRIC, TELEPHONE, WATER, ETC.). THE ENGINEER TAKES NO RESPONSIBILITY FOR THE ACCURACY OF THE LOCATION OF ALL EXISTING UTILITIES OR FOR THOSE NOT SHOWN ON THE DRAWINGS.
- DEPTH OF COVER**
  - MINIMUM WATER COVER SHALL BE 36 INCHES FOR PVC AND 30 INCHES FOR DIP.
  - MINIMUM SERVICE LINE COVER SHALL BE 24 INCHES AND SLEEVED UNDER PAVED AREAS WITH SCHEDULE 40 PVC CONDUIT. SLEEVE IS TO BE PLUGGED WITH ELASTOMERIC CAULK AND LOCATED IN SAND BEDDING.
- ALL WATER MAINS, FIRE HYDRANTS, AND SERVICES LINES SHALL BE CHLORINATED IN ACCORDANCE WITH ANSI/AWWA C-851-05 STANDARD. THE CONTRACTOR SHALL CONTACT LOCAL HEALTH DEPARTMENT AND REQUEST BACTERIOLOGICAL SAMPLES BE OBTAINED WITH COPIES BEING FORWARDED TO THE ENGINEER.
- MAXIMUM DISTANCE BETWEEN SAMPLING POINTS SHALL BE AS FOLLOWS OR AS INDICATED BY THE BROWARD COUNTY HEALTH DEPARTMENT:
  - TRANSMISSION MAINS: EVERY 1,200 FT.
  - BRANCH MAINS: EVERY 1,000 FT.
  - INSULATED MAINS: < 1,000 FT. - 2 SAMPLE POINTS  
> 1,000 FT. - 3 SAMPLE POINTS
- EVERY FIRE HYDRANT
- ALL WATER MAINS AND SEWER FORCE MAINS SHALL BE HYDROSTATICALLY TESTED IN ACCORDANCE WITH ANSI/AWWA C-800-05 STANDARD, OR LATEST REVISION, TEST PRESSURE 150 PSI FOR MINIMUM 2 HOURS, AND APPLYING THE FOLLOWING FORMULA:  
 $(LD \cdot VP) / 148,000$   
 $Q$  = LEAKAGE IN GALLONS PER HOUR  
 $L$  = LENGTH OF PIPE IN FEET  
 $D$  = DIAMETER OF PIPE IN INCHES  
 $P$  = AVERAGE TEST PRESSURE IN POUNDS PER SQUARE INCH  
 MAXIMUM LENGTH OF PIPE SECTION SHALL BE 2000 FEET.  
 RE-PLUMING OF WATER MAIN DURING PRESSURE TEST IS NOT ALLOWED.
- ALL PIPE DENTED "ABANDON, PLUG AND CROUT" SHALL BE EMPLOYED, FLUSHED OUT AND COMPLETE FILLED WITH GROUT.
- COUNTY TO BE ADVISED IN WRITING 48 HOURS PRIOR TO THE FOLLOWING ACTIVITIES:
  - NET CONNECTIONS
  - PRESSURE TESTS
  - FILLING/FLUSHING
  - CHLORINATION
  - BACTERIOLOGICAL SAMPLES
- THE FULL DEPTH OF ALL EXISTING ORGANIC AND DELETERIOUS MATERIAL WITHIN THE RIGHT-OF-WAY AND UTILITY/DRAINAGE EASEMENTS SHALL BE REMOVED. NO MATERIAL OF FOOT CLASS A-5, A-7 OR A-8 SHALL BE ALLOWED.
- IN THE EVENT UNSUITABLE MATERIAL IS ENCOUNTERED AT THE DEPTH OF THE PROPOSED WATER MAIN AND SEWER FACILITIES, THE CONTRACTOR SHALL CONTACT THE ENGINEER OF RECORD FOR PROPER DIRECTION PRIOR TO CONTINUANCE OF CONSTRUCTION.
- ALL CONSTRUCTION SHALL BE DONE IN A SAFE MANNER, SPECIFICALLY THE RULES AND REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), AND CHAPTER 90-86 (CS/85 2826) THE FLORIDA TRENCH SAFETY ACT SHALL BE STRICTLY ENFORCED.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE FOR OR SUPPLY TEMPORARY WATER SERVICE, SANITARY FACILITIES AND ELECTRICITY TO HIS EMPLOYEES AND SUBCONTRACTORS FOR THEIR USE DURING CONSTRUCTION.
- MAINTENANCE OF TRAFFIC IN THE PUBLIC RIGHT-OF-WAYS SHALL BE IN ACCORDANCE WITH THE CITY OF DANIA BEACH'S PUBLIC WORKS DEPARTMENT AND/OR BROWARD COUNTY PUBLIC WORKS DEPARTMENT STANDARDS AND SPECIFICATIONS.
- DUCTILE IRON PIPE (DIP) IS REQUIRED IT SHALL CONFIRM TO ANSI/AWWA C151/A21.51. MINIMUM THICKNESS CLASS SHALL BE CLASS 51 DUCTILE IRON, OR PRESSURE CLASS 350 MAY BE SUBSTITUTED. PUSH-ON JOINTS SHALL CONFORM TO ANSI/AWWA C111/A21.11. CASSETS SHALL BE NEOPRENE. THE LINING SHALL BE CEMENT MORTAR AND GROUTING SHALL BE EITHER COAL TAR EPOXY OR ASPHALT SHALL BE APPLIED.
- POLYETHYLENE WRAP SHALL BE INSTALLED WHERE REQUIRED. ALL WATER MAINS 12" OR ABOVE MUST BE DIP.
- PIPE, FITTINGS AND APPURTENANCES IN METER VAULTS SHALL BE FLANGED. ALL FLANGED DUCTILE IRON PIPE SHALL BE CLASS 83.
- WHERE POLYVINYL CHLORIDE PIPE (PVC) IS REQUIRED, IT SHALL BE A DIVISION RATIO OF 18 (10-18) WITH CAST IRON PIPE. 0.8" SHALL CONFORM TO ANSI/AWWA C-900-97 FOR 8 TO 12 INCHES AND ANSI/AWWA C-905-97 FOR 14 INCHES AND LARGER. WATER MAIN PVC SHALL BE IMPREGNATED WITH BLUE PIGMENT.
- ALL PIPE INSTALLATIONS SHALL COMPLY WITH THE COLOR CODING REQUIREMENTS OF CHAPTER 82-555.320(2)(b)(3), F.A.C.
- ALL MECHANICAL JOINTS SHALL BE RESTRAINED IN ACCORDANCE WITH THE PLANS, SPECIFICATIONS AND IN COMPLIANCE WITH AWWA STANDARDS. ALL FITTINGS AND PIPE JOINTS REQUIRING TO BE RESTRAINED SHALL USE MEGALUG RESTRAINER.
- WHERE AN EXISTING WATER OR FORCE MAIN REQUIRES DEFLECTION TO CONNECT WITH OR PASS BY PROPOSED PIPE, THE AMOUNT OF DEFLECTION PER PIPE JOINT SHALL CONCUR WITH THE STANDARD UTILITY CROSSING DETAIL. THE LENGTH OF EXISTING PIPE TO BE DEFLECTED SHALL BE APPROVED BY THE ENGINEER.
- ALL VALVE BOXES AND MANHOLE RIMS SHALL BE SET TO MATCH PROPOSED GRADES AS PER THE PAVING AND DRAINAGE PLANS PREPARED BY SCHWEIBER-SHISKIN & ASSOCIATES, INC.
- ALL NEW GRAVITY SEWER MAINS INSTALLED SHALL NOT EXFILTRATE AT A RATE IN EXCESS OF 50 GALLONS PER DAY PER INCH DIAMETER PER MILE OF PIPE.

## **WATER AND SEWER SEPARATION NOTES:**

- SANITARY SEWERS AND FORCE MAINS SHOULD CROSS UNDER WATER MAINS WHENEVER POSSIBLE. SANITARY SEWERS AND FORCE MAINS CROSSING WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18 INCHES BETWEEN THE INVERT OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE WHENEVER POSSIBLE. WHERE SANITARY SEWERS OR FORCE MAIN MUST CROSS A WATER MAIN WITH LESS THAN 18 INCHES VERTICAL DISTANCE, THE GRAVITY SEWER MUST BE SDR28 PVC AND THE WATER MAIN MUST BE OF DUCTILE IRON PIPE (DIP) AT THE CROSSING. SUFFICIENT LENGTHS OF PVC & DIP MUST BE USED TO PROVIDE A MINIMUM SEPARATION OF 10 FEET BETWEEN TWO JOINTS. ALL JOINTS ON THE WATER MAIN WITHIN 30 FEET OF THE CROSSING MUST BE MECHANICALLY RESTRAINED. A MINIMUM VERTICAL CLEARANCE OF 12 INCHES MUST BE MAINTAINED AT ALL CROSSINGS. MAINTAIN 18" MINIMUM VERTICAL SEPARATION BETWEEN WATER MAINS AND FORCE MAINS.
- A MINIMUM 10 FOOT HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN ANY TYPE OF SEWER AND WATER MAIN PARALLEL INSTALLATIONS WHENEVER POSSIBLE. IN CASES WHERE IT IS NOT POSSIBLE TO MAINTAIN A 10 FOOT HORIZONTAL SEPARATION, THE WATER MAIN MUST BE LAID IN A SEPARATE TRENCH OR ON AN UNDISTURBED EARTH SHELVE LOCATED ON ONE SIDE OF THE SEWER OR FORCE MAIN AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER. WHERE IT IS NOT POSSIBLE TO MAINTAIN A VERTICAL DISTANCE OF 18 INCHES IN PARALLEL INSTALLATIONS, THE WATER MAIN SHALL BE CONSTRUCTED OF DIP AND THE GRAVITY SANITARY SEWER SHALL BE CONSTRUCTED OF SDR28 PVC WITH A MINIMUM VERTICAL DISTANCE OF 12 INCHES. THE WATER MAIN SHOULD ALWAYS BE ABOVE THE SEWER. JOINTS ON THE WATER MAIN SHALL BE LOCATED AS FAR APART AS POSSIBLE FROM JOINTS ON THE SEWER OR FORCE MAIN (STAGGERED JOINTS). THE MINIMUM VERTICAL SEPARATION BETWEEN A WATER MAIN AND A FORCE MAIN SHALL BE 18".
- ALL DIP SHALL BE CLASS 51 OR HIGHER. ADEQUATE PROTECTIVE MEASURES AGAINST CORROSION SHALL BE USED AS DETERMINED BY THE DESIGN.

## **BROWARD COUNTY WWS NOTES:**

- ALL CONSTRUCTION AND MATERIALS SHALL COMPLY WITH BROWARD COUNTY WATER AND WASTEWATER SERVICES (WWS) "MINIMUM DESIGN AND CONSTRUCTION STANDARDS" AND APPLICABLE LOCAL AND NATIONAL CODES.
- MINIMUM REQUIREMENTS FOR PRODUCTS USED IN BROWARD COUNTY DISTRIBUTION AND COLLECTION SYSTEMS ARE DEFINED IN "PRODUCT SPECIFICATION SHEETS" FOR ALL WATER & WASTEWATER "MINIMUM DESIGN AND CONSTRUCTION STANDARDS" AND "PRODUCT SPECIFICATION SHEETS" REFER TO: WWW.BROWARD.ORG/WATERSERVICES/PAGES/MINIMUMDESIGNANDCONSTRUCTIONSTANDARDS.ASPX
- WHENEVER A MATERIAL, ARTICLE OR PIECE OF EQUIPMENT IS IDENTIFIED IN THE PROJECT MANUAL, INCLUDING DRAWINGS (PLANS) AND SPECIFICATIONS BY REFERENCE TO MANUFACTURER'S OR SERVICE INFORMATION, IT IS INTENDED MERELY TO ESTABLISH A STANDARD, AND UNLESS IT IS FOLLOWED BY WORDS INDICATING THAT NO SUBSTITUTION IS PERMITTED, ANY MATERIAL, ARTICLE OR EQUIPMENT OF OTHER MANUFACTURERS AND VENDORS WHICH WILL PERFORM OR SERVE THE REQUIREMENTS OF THE GENERAL DESIGN WILL BE CONSIDERED EQUALLY ACCEPTABLE, PROVIDED THE MATERIAL, ARTICLE OR EQUIPMENT SO PROPOSED IS IN THE OPINION OF THE WWS, EQUAL IN SUBSTANCE, QUALITY AND FUNCTION. REFER TO PRODUCT SPECIFICATION SHEETS AT WWW.BROWARD.ORG/WATERSERVICES/PAGES/MINIMUMDESIGNANDCONSTRUCTIONSTANDARDS.ASPX
- THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS TO COMPLETE THE WORK AS SPECIFIED.
- COMPLIANCE TO "TRENCH SAFETY ACT" IS REQUIRED FOR ALL EXCAVATIONS IN EXCESS OF 5 FEET DEEP. CONTRACTOR SHALL COMPLY WITH THE U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATIONS STANDARDS OSHA 29 CFR 1910.146, "PERMIT-REQUIRED CONFINED SPACES" AND OSHA 29 CFR 1926.1201, "SAFETY HEALTH REGULATIONS FOR CONSTRUCTION."
- PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL NOTIFY:  
SUNSHINE STATE 1 CALL ..... 811  
BOWNS NETWORK ..... (854)-831-0838  
BOWNS INSPECTOR ..... (854)-831-0801
- ALL VALVES ARE TO BE TAGGED, STATING TYPE OF VALVE AND NUMBER OF TURNS TO OPERATE. IF THE VALVE IS BURIED, A BRASS PLATE WILL BE CAST IN THE CONCRETE APRON AROUND THE VALVE COVER. IF THE VALVE IS LOCATED IN A PIT, THE TAG SHALL BE HUNG FROM THE VALVE WITH A PLASTIC STRAP.
- ALL VALVE BOXES SHALL HAVE LOCKING LIDS.
- DUCTILE IRON PIPE AND FITTINGS SHALL CONFORM TO BOWNS PRODUCT SPECIFICATION SHEETS.
- ALL JOINTS SHALL RESTRAINED IN ACCORDANCE WITH THE PLANS, SPECIFICATIONS AND IN COMPLIANCE WITH AWWA STANDARDS.
- COMPLETE "AS-BUILT" INFORMATION RELATIVE TO VALVE FITTING, LOCATION OF PIPE AND THE LIKE, SHALL BE ACCURATELY RECORDED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER PRIOR TO FINAL ACCEPTANCE OF THE WORK. ALL ELEVATIONS SHALL BE TAKEN BY AN INDEPENDENT REGISTERED LAND SURVEYOR OR PROFESSIONAL SURVEYOR AND MAPPER AND INCLUDED IN THE "AS-BUILT" INFORMATION FURNISHED BY THE CONTRACTOR. FINAL APPROVAL OF THE PROJECT IS SUBJECT TO THE FINAL REVIEW AND APPROVAL OF THE "AS-BUILT" INFORMATION FURNISHED TO THE REGULATORY AGENCIES AND WWS.
- ALL ELEVATIONS SHOWN ON THE CONSTRUCTION DRAWINGS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988, (N.A.V.D. 88), HORIZONTAL DATUM NAD83 (HARN) FLORIDA EAST (0901) - US FOOT, UNLESS OTHERWISE NOTED.

9/22/23	DRC Review 2	2
10/21/22	DRC Review 1	1

Date	Description	No.
------	-------------	-----

## **Revisions**



SIGNATURE: MICHAEL CARR  
PROFESSIONAL ENGINEER FL Lic. No. 72424

**LANGAN**  
Langan Engineering and  
Environmental Services, Inc.  
110 East Broward Boulevard, Suite 1500  
Fort Lauderdale, FL 33301  
T: 954.320.2100 F: 954.320.2101 www.langan.com  
FL CERTIFICATE OF AUTHORIZATION NO. 68088615LMT2LB819

Project: NSU INDUSTRIAL  
1850 NE 7TH AVENUE

CITY OF DANIA BEACH  
FLORIDA

Drawing Title: WATER AND SEWER  
DETAILS

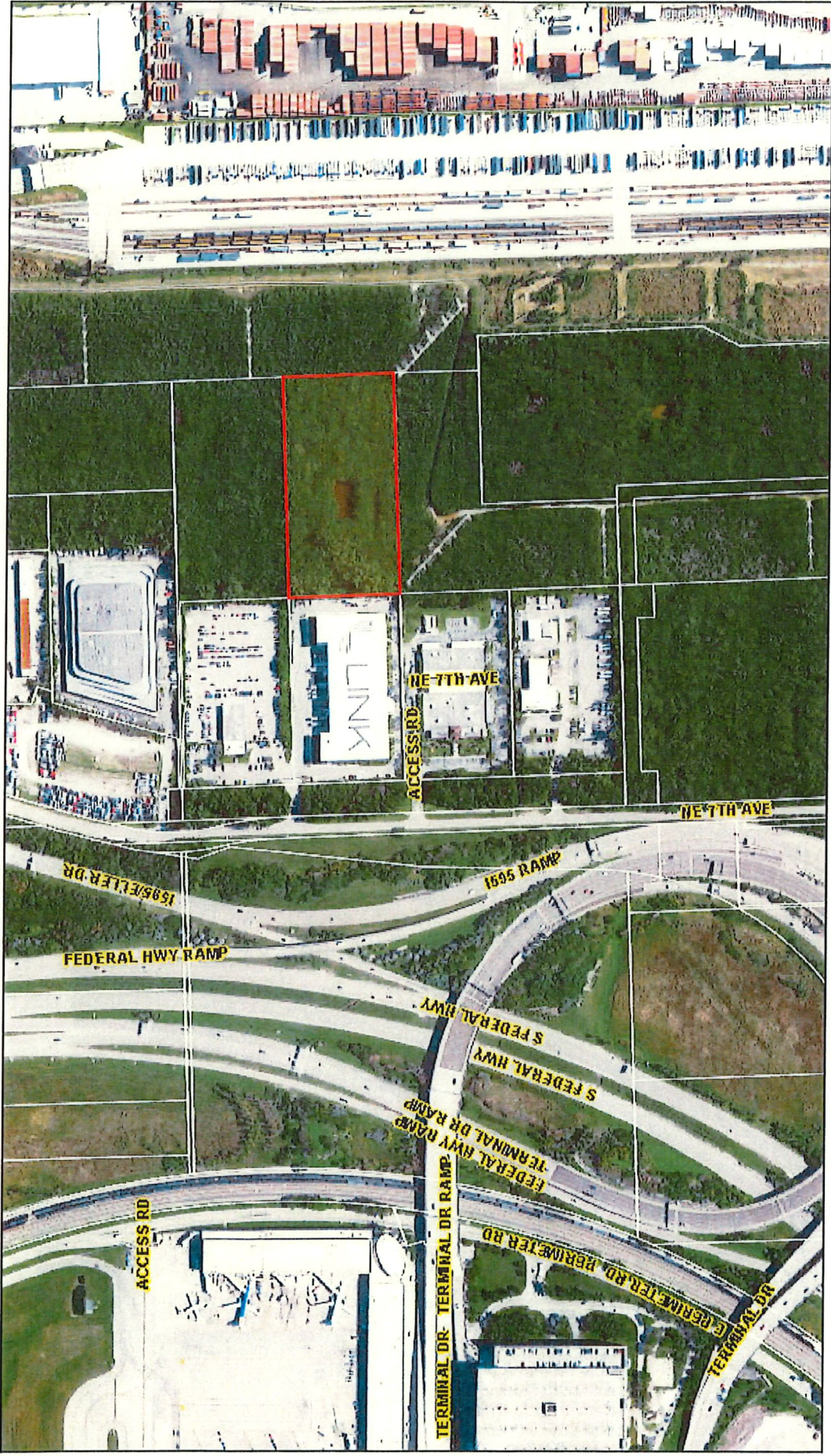
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Drawing No. C-902

Date: OCTOBER 2023  
Drawn By: NCM  
Checked By: MPC

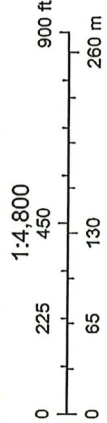


Property Id: 504226000021

\*\*Please see map disclaimer



May 20, 2024





## ATTACHMENT 3



Resilient Environment Department  
**URBAN PLANNING DIVISION**

1 N. University Drive, Box 102 | Plantation, FL 33324 | 954-357-6634 | Fax 954-357-6521



**TO:** David Vanlandingham, Director  
Environmental Permitting Division

**FROM:** Josie P. Sesodia, AICP, Director  
Urban Planning Division

Josie P.  
Sesodia

Digitally signed by Josie  
P. Sesodia  
Date: 2024.02.14  
15:23:49 -05'00'

**DATE:** February 14, 2024

**SUBJECT:** ESL Map Amendment PCNRM 24-3

The Urban Planning Division (UPD) has reviewed the above-referenced request to remove a portion (approximately 3.47 acres) from a Local Area of Particular Concern (LAPC) Map #136 / Site #97 (2/27/89) (approximately 21 acres) from the Environmentally Sensitive Lands (ESL) map of the Broward County Natural Resource Map Series (NRMS) of the Broward County Land Use Plan (BCLUP). This site has also been designated and a Natural Resource Area (NRA). The Applicant proposes to eventually build a commercial warehouse (consisting of a 62,340 sq. ft. building with associated parking). The subject site is located within the City of Dania Beach, east of the Fort Lauderdale-Hollywood International Airport and west of Port Everglades.

The Application states that the entire site consists of approximately 5.1 acres of which 4.21 acres are wetlands. A portion of the wetlands (1.29 acres) are proposed to be preserved in conservation onsite, on the eastern portion of the property. The Applicant proposes to mitigate wetland impacts through a credit purchase from the Everglades Mitigation Bank. This mitigation bank is located in southern part of Miami-Dade County. The Application states that the dominant species on the subject site are red and black mangroves. The Application also states that the site is "surrounded" by commercial properties, which are located mainly east and west of the LAPC.

Most of the properties within LAPC #97 and #98, the large wetland area north of the Dania Cut Off Canal, west of Port Everglades, are owned by the Board of County Commissioners, with the exception of the subject site and a portion of the "Pegasus Plat" north of, but not abutting, the subject site. The Pegasus Plat has been partially developed on the western side, next to NE 7<sup>th</sup> Avenue (currently known as the Bridge Point development) and has remaining unused development rights. An undeveloped portion of the Pegasus Plat also lies in LAPC #97. The future of this property could be potentially affected by the removal of the subject site from LAPC designation and NRA designation.

### ***Current Property and Natural Resources Map Series Designations***

- Folio #: 5042-26-00-0021
- Future Land Use (BCLUP): Commerce
- Future Land Use (Dania Beach): Employment Center (EC)
- Zoning (Dania Beach): IG (General Industrial)
- Local Area of Particular Concern and Natural Resource Area on the Environmental Sensitive Lands Map: part of #136; Site #97
- This property has not yet been platted.

### ***Staff Analysis***

The UPD staff evaluated the site based upon adopted Comprehensive Plan documents and policies:

- Broward County Land Use Plan: Policies 2.23.1, 2.23.2, 2.23.3, and 2.23.4 which address Local Areas of Particular Concern and Policy 2.21.5 addresses sea level rise and Environmentally Sensitive Land. Per Policy 2.21.5, the site would require adequate storm water management and drainage facilities, particularly since the site is currently designated as a wetland and close to the Dania Cut-Off canal. Additionally reviewed, the Implementation Requirements and Procedures Section - #7. Criteria and Procedures for Environmentally Sensitive Lands and Local Areas of Particular Concern.
- Broward County Climate Change and Coastal Elements, CC3.10 (wetlands), Objective CC4 (Green Infrastructure Solutions) and Policy CC4.9; Objective CM2 and Policy CM2.2, Objective CM6 – Peril of Flood and related policies.
- Broward County Conservation Element, Objective C6 (Environmentally Sensitive Natural Resources) and related policies, and Objective C8 (Protected wetland Resources) and related policies;
- Broward County Water Management Element, Policy WM2.13, WM3.9 and WM3.15;
- Broward County Code of Ordinances:
  - Chapter 5, Broward County Land Development Code:
    - Section 182.8 (a) Consideration of Impact on Environmentally Sensitive Lands and Archaeological Resources.
    - Article XII, Section 5-281 provides for the Board of County Commissioners to making a finding that a proposed Natural Resource Area is populated by native vegetation associated with one of nine ecological communities to add a Natural Resource Area site; and Section 5-283 (5) regulates clearing activities within lands designated as local area of particular concern.
  - Chapter 27 Local Area of Particular Concern
    - Section 27-67(d) - Land development, provides for the RED to coordinate Environmentally Sensitive Lands environmental impact report.
  - Chapter 27, Article XI – Aquatic and Wetland Resource Protection.
  - Chapter 27, Article XIV – Tree Preservation and Abuse Ordinance.
  - Chapter 27, Section 27-407.-Municipal certification (d)(3), regarding the County retaining authority to enforce tree protection provisions in Article XIV-Tree Preservation, regarding lands including the LAPC, NRA and ESL.
- Broward County Administrative Code
  - Chapter 27, Part XIII, Section 27.57- Natural Resource Areas.
- Broward County Commission Action(s):
  - **LAPC Approval**: 2/27/1989 –the Commission approve staff's recommendation to designate Site No. 97 as an LAPC (pg. 14 of Commission Minutes).
  - **NRA Approval**: 2/27/1989 - the Commission approve Site No. 97 as an NRA consistent with the LAPC designation (pg. 42 of Commission Minutes).



### ***Staff Findings***

The Applicant states that the unique wetland conditions, which justified inclusion of the property on the ESL map, are no longer applicable. LAPC #97 along with #98 to the south are currently part of a continuous stretch of wetlands that begin just south of Eller Drive and run southward ending at the Dania Cut-Off canal, just west of Port Everglades and the Stranahan River/Intercoastal waterway.

1. **The County is required by policy to continue reviewing and protecting designated LAPCs and wetland areas, and encouraging practices that optimize co-benefits of habitat restoration.** The following Broward County Comprehensive Plan Elements apply, including Climate Change-Objective CC4 and related policies, Conservation-Objective C6 and related policies, and Water Management:
  - a. Policy C6.1 states that the County shall continue to maintain a Map of County Commission Designated properties of ecological concern to include those areas designated as LAPC, NRAs, ESLs, UWAs, and those land on the Urban Wilderness Inventory.
  - b. Policy C6.7 states that the County shall continue to maintain and implement regulations that protect and preserve trees, including those in areas of native vegetative communities, and promote the use of native vegetation.
  - c. Policy C6.9 states that Broward County shall assess the vulnerability of specific species, habitats, landscapes, and ecosystem functions that may be sensitive to climate change and develop coping strategies and contingency plans for their adaptation, such as identifying habitats that may be viable during climate disturbances and could potentially serve to give refuge to and sustain at-risk species.
  - d. Objective CC4 – Utilize Green Infrastructure Solutions for Maximum Co-benefits -- Understand the value of ecosystem services to our community and expand green infrastructure to optimize the co-benefits of habitat restoration, coastal buffers, wetland mitigation, urban reforestation, natural night skies, and local food production, in order to create a healthy, enjoyable, and climate resilient environment.
  - e. Policy WM3.9 states that Broward County will protect the water storage and water quality enhancement functions of wetlands, floodplains, and aquifer recharge areas through acquisition, enforcement of rules, and the application of best land and water management practices.
2. **Protected designations have not changed in the past 35+ years.** Since 1989, before the adjacent land was developed, several environmental protection designations have been placed on the property by the County Commission, including LAPC and NRA and to date none have been removed.
3. **The site is identified as a wetland and flood prone area requiring water quality protections.** The subject property is reflected in both the County's Eastern Wetlands Map (LUP Natural Resource Map Series) and the Flood Prone Areas Map, indicating that it may be prone to flooding and/or the impacts of sea level rise. Any development will be required to demonstrate that it can be served by adequate storm water management and drainage facilities, not adversely affect groundwater quality or environmentally sensitive lands, and not increase saltwater intrusion or area-wide flooding, (BCLUP Policy 2.21.5.) Comprehensive Plan policies also focus on protecting wetlands and water quality CC3.10, C8.2, C8.9, C8.10, WM2.13, WM3.9, and WM3.15.

4. **Removal of the LAPC designation is not supported.** Based the Implementation Requirements and Procedures of the BC LUP, Section #7. "Criteria and Procedures for Environmentally Sensitive Lands and Local Areas of Particular Concern," ***the subject property appears to continue to be a wetland and continues to be consistent with LAPC criteria.***
5. **Removal of LAPC designation would likely result in the request for removal of other private properties located within ESL #97, as well as impact the resiliency of the coastal wetland system where it is located.**

#### ***Staff Recommendations***

Since the inception of the Broward County Comprehensive Plan (1989), LAPC #97, which includes the subject site, has consistently been identified as a wetland and environmentally sensitive site. Based on the above findings, Urban Planning Division staff sees **no justification for changing ELS designations, including its LAPC designation.** Removing LAPC designation could affect similarly situated properties within LAPC #97, thus reducing the natural protections and drainage provided to surrounding properties by this system of wetlands.

If the LAPC designation is removed, then subsequent development should demonstrate that it can be served by adequate storm water management and drainage facilities, not adversely affect groundwater quality or environmentally sensitive lands, and not increase saltwater intrusion or area-wide flooding, per BCLUP Policy 2.21.5. Furthermore, to the highest extent possible, tree canopy and native trees should be preserved onsite and green infrastructure solutions/infrastructure should be considered to optimize environmental impact mitigation, per Chapter 27, Article XIV- Tree Preservation and Abuse Ordinance. Any remaining wetlands should be actively managed by maintaining sustainable water levels and removing invasive species, as proposed in the Application, which should include a wetland maintenance plan.

Please note that per BCLUP Policy 2.23.2, "Local Areas of Particular Concern are declared to be environmentally sensitive lands and upon adoption of this plan shall be subject to the provisions of the Broward County Land Development Code regarding environmentally sensitive lands." Therefore, if development is proposed on the subject site, the application will be subject to the requirements of Chapter 5, Article IX.-Broward County Land Development Code, Division 2.-Development Review Requirements, Section 182.8 (a) Consideration of Impact on Environmentally Sensitive Lands and Archaeological Resources.

Additionally, since the subject site is also a designated Natural Resource Area and designated environmentally sensitive lands with natural forests are considered Natural Forest Communities, site clearing, wetland impacts and land development are subject to the following County codes:

- Chapter 27, Article XI – Aquatic and Wetland Resource Protection.
- Chapter 5, Article XII – Natural Resource Areas
- Chapter 27, Article XIV – Tree Preservation and Abuse Ordinance - Section 27-411 – Natural Forest Communities

cc/ec: Carlos Adorisio, Assistant Director, Environmental Permitting Division  
Heather Cuniff, Section Supervisor, Urban Planning Division  
Sara Forelle, Senior Planner, Urban Planning Division

## ATTACHMENT 4



### RESILIENT ENVIRONMENT DEPARTMENT

115 S. Andrews Avenue, Room 329 • Fort Lauderdale, Florida 33301 • 954-357-6613 • FAX 954-357-8655

**To:** Ms. Barbara Blake-Boy, Executive Director, Broward County Planning Council

**From:** Dr. Jennifer Jurado, Chief Resilience Officer, and Deputy Director

S.S.

**Date:** 2/23/2024

**Re:** Review of PCNRM 24-3 (Site 97 on ESL Map)

---

The Broward County Resilient Environment Department / Resilience Unit through the Broward County Natural Resources Division (NRD) seeks to provide comment regarding the review of PCNRM 24-3 known as Site 97 on the Environmentally Sensitive Lands Map. The resilience review has determined that the site is located entirely within an area prioritized for resilience planning consideration, as indicated on the Priority Planning Areas for Sea Level Rise Map. Therefore, BCLUP Policies 2.21.1, 2.21.5, and 2.21.6 apply in the review of this application.

The Priority Planning Areas for Sea Level Rise Map identifies areas that are at increased risk of flooding due to, or exacerbated by, sea level rise by the year 2070. In review of land use plan amendments and requests for amendments to the Environmentally Sensitive Land Map, the County requires the applicant to demonstrate that the project will not increase saltwater intrusion or areawide flooding, not adversely affect groundwater quality or environmentally sensitive lands, and that subsequent development will be served by adequate stormwater management and drainage facilities.

The County also strongly discourages those amendments which would place additional residential and non-residential development at risk of flooding from sea level rise. The County will take into consideration sea level rise and flood protection mitigation strategies and requirements included within the city's local comprehensive plans and/or development regulations, or improvements committed to by the applicant which would mitigate or enhance flood protection and adaptation from rising sea levels.

The current application does not provide sufficient level of detail to evaluate how risk from sea level rise will be mitigated, how areawide flooding will be minimized, or how water quality will not be adversely affected. The Resilient Environment Department / Resilience Unit requests that these points be addressed thoroughly.

The Resilient Environment Department / Resilience Unit notes the applicability of Future Conditions Map Series (Plate WM 2.1 – Future Conditions Average Wet Season Groundwater Elevation Map, and Plate WM 13.1 – Future Conditions 100-Year Flood Elevation Map), and their use as required by Broward County Code of Ordinances for permitting and design of the proposed site, relevant to the review. Resilient Environment Department / Resilience Unit also requests applicant to review the height of all seawalls, banks, and berms to be consistent with Chapter 39, Article XXV – Resiliency Standards for Flood Protection of the Broward County Code of Ordinances.

In addition, BCLUP Policy 2.21.6 requires Broward County to support the goals of the Broward County Climate Change Action Plan (CCAP) and the Southeast Florida Regional Climate Action Plan (RCAP) as

**Broward County Board of County Commissioners**

Mark D. Bogen • Lamar P. Fisher • Beam Furr • Steve Geller • Robert McKinzie • Nan H. Rich • Hazelle P. Rogers • Tim Ryan • Michael Udine  
[www.broward.org](http://www.broward.org)



approved by the Broward County Board of County Commissioners. Accordingly, CCAP Actions and RCAP Recommendations and Strategies shall also be considered in the resilience review. The applicant is specifically encouraged to consider CCAP - Healthy Community Actions 26 and 30, and Natural Systems Action 98 and RCAP Recommendations and Strategies pertaining to natural system/wetland/coastal/urban green space conservation and protections, including: NS 4.1, NS 5.1, NS 5.3, NS 12.3, NS-13, NS-15, and ST 5.1.



Resilient Environment Department

**ENVIRONMENTAL PERMITTING DIVISION**

1 North University Drive, Mailbox 201, Plantation, Florida 33324 • 954-519-1483 • FAX 954-519-1412

**ATTACHMENT 5**

**MEMORANDUM**

**TO:** David Vanlandingham, Director  
Environmental Permitting Division (EPD)

**THROUGH:** Carlos Adoriso, Assistant Director, EPD

**FROM:** Linda Sunderland, Environmental Program Supervisor, EPD

**DATE:** February 27, 2024

**SUBJECT:** Environmentally Sensitive Lands (ESL) Map Amendment  
Environmentally Sensitive Lands Site / LAPC #97



The Environmental Permitting Division (EPD) has been asked by the Broward County Planning Council to provide comments related to a request submitted by Shutts & Bowen LLP to amend the County's Environmentally Sensitive Land (ESL) Map and remove the Local Areas of Particular Concern (LAPC) designation for a portion of LAPC Site #97 (Site). The Site was designated as a LAPC on March 19, 1981, and contains the following folios: 504226380030, 504226000022, 504226000021 and portions of 504226380010, 504223220010 and 504225030140. The Site is located south of Eller Drive, east of NE 7<sup>th</sup> Avenue, and north of the Dania Cut-off Canal Road (Folio # 504226000021) in the City of Dania Beach.

**EPD Permitting Status**

On May 20, 2022, EPD received a County Environmental Resource License application (DF22-1121) proposing impacts to 4.1 acres of wetlands on parcel 504226000021 for a commercial development. The applicant is proposing mitigation through the purchase of credits at the Everglades Mitigation Bank in Homestead, Florida. A State Environmental Resource Permit application was received on January 5, 2023. Multiple requests for additional information have been sent to the applicant. The application was submitted by Shlomo Melloul, Managing Member of Port 1850, LLC, as the owner of the property.

The applications remain under review pending 1) submittal of application fees, 2) submittal and review of a Surface Water Management application and associated fees, 3) status of the LAPC designation, 4) wetland avoidance, minimization, and mitigation technical issues, 6) identification of cumulative impacts, 7) evaluation of impacts to tidal flow/flushing, and 8) submittal of draft Conservation Easement documents.

A County Surface Water Management License application has not been received as of the date of this Memorandum.

**EPD Comments Regarding LAPC Designation**

Shutts & Bowen LLP's request to the Broward County Planning Council is to amend the ESL map, removing the LAPC designation from a significant portion (4.1 acres) of the approximate 5.113-acre site of mangrove wetlands for a commercial development on folio # 504226000021.

The following section details the criteria for LAPC designation, the applicant's evaluation of the Site, and EPD's comments and observations:

- A. **Criterion:** Marine Resources - Coastal areas of unique, scarce, fragile, or vulnerable natural habitat, physical features and scenic importance, or; coastal areas of high natural productivity or essential habitat for fish, wildlife,

and the various trophic levels in the food web critical to their well-being, or; coastal areas of substantial recreational value and/or potential, or; areas needed to protect, maintain, or replenish coastal flood plains, coral and other reefs, beaches, offshore sand deposits and mangrove stands.

**Applicant:** The Subject Site does not have resources that are unique, scarce, fragile or vulnerable. The 5.11-acre Site contains 4.21 acres of mangrove wetland with a fringe of disturbed uplands on the west side. The dominant species on site were red and black mangroves and consisted of non-native species such as Brazilian pepper, earleaf acacia and Australian pine. The interior of the Site displays some evidence of previous alteration, and the Site is surrounded by commercial parcels.

**Staff comments:** The Site meets the above criteria as “coastal areas of high natural productivity or essential habitat for fish, wildlife, and the various trophic levels in the food web critical to their well-being”. The Site is contiguous with approximately 160 acres of red and black mangroves and provides habitat and food web support.

- B. **Criterion:** Natural Landforms and Features - A geological, hydrological, or physiographical feature confined to a small area of Broward County and considered quite rare locally or regionally, or; a representative natural ecosystem and/or its units existing in a few isolated locations, but extirpated from most of the county.

**Applicant:** No locally or regionally rare geological, hydrological, or physiological features are present on site. Overall, the majority of existing mangrove wetlands within Broward County are located east of US-1 within the center of the County, primarily within Broward County’s West Lake Park and John U. Lloyd State Park. Additional smaller contiguous areas of existing mangroves are located within Port Everglades, Broward County’s Deerfield Island Park, the Bonnet House, Hugh Taylor Birch State Park and the City of Hollywood’s Holland Park. Remaining areas of mangroves consist primarily of small mangrove fringes present along existing canals and channelized waterways, including those within South Florida Water Management District right-of-way. These mangrove areas are typically under various forms of site protection, either as conservation easements or within designated park boundaries. Thus, the site is not considered rare locally or regionally. The loss of this low quality, degraded wetland would result in an insignificant loss of wetland function to Broward County.

**Staff comments:** Mangroves are limited to the eastern edge of Broward County in areas of tidal influence and are therefore a very small percentage of the overall county habitat. This Site is not a “low quality, degraded wetland”. Impacts to small parcels of mangrove wetlands does have a cumulative impact to the overall coverage of mangroves in the County. The Site meets the criteria above as a natural ecosystem and physiographical feature confined to a small area of the County.

- C. **Criterion:** Native Vegetative Communities

(a) A Local Area of Particular Concern (Native Vegetative Communities Category) is an area which shows a predominance of native vegetation associated with one or more of the following ecological communities: Beach and Dune Community; Coastal Strand Forest Community; Mangrove Community (Saltwater Swamp); Scrub Community; Pine Flatwoods Community; High Hammock Community; Low Hammock Community; Cypress Wetland Community (Freshwater Swamp); Ever-glades Community (Freshwater Marsh).

**Applicant:** While mangroves are present within the site, the mangroves observed appeared stressed, most likely due to the existing elevations and previous alteration of the site. In addition, exotic Brazilian pepper, Australian Pine, and earleaf acacia are present which make this a low-quality mangrove wetland.

**Staff comments:** Mangroves on site are mature red and black mangroves. The only documented alteration of the Site was the created of two small surface water bodies, between 1955 and 1963 during the installation of the FPL transmission lines, which was conducted prior to County licensing regulations. The exotics mentioned are



limited to the western upland edge of the Site. The Site meets the criterion above with a predominance of native vegetation associated with a mangrove community.

(b) In addition, a Local Area of Particular Concern (Native Vegetative Communities Category) must satisfy **at least three** of the following criterion:

**i. Uniqueness** - The site contains a significant sample of rare or endangered species, or, the site is among a small number of sites in Broward County representing a particular ecological community.

**Applicant:** The site was surveyed for the potential presence of listed species and/or listed species habitat. Due to the developed surroundings, existing vegetative conditions, and use of the eastern portion of the site, the subject area does not provide for roosting or forage habitat by listed species, and any use by such species would likely be only transient in nature. The site is not a highly productive coastal tideland as a low amount of tidal inundation occurs. The site is not used for scientific study or research on wildlife.

**Staff comments:** The Site meets the criteria above as there are a small number mangrove parcels in relation to the overall county size. This Site was inspected on February 16, 2024, and was found to contain a 15-20' wide fringe of exotic vegetation on the western edge. The remaining area contains approximately a 95% canopy of mature red and black mangroves. The Site is tidally flushed. Some anthropogenic impacts of trash were noted. The area provides nursery habitat for many species fishes, and foraging habitat for crustaceans, invertebrates, reptiles, and birds. Mangroves contribute to the overall health of an ecosystem by providing habitat, trapping and cycling of nutrients and organics. Mangroves also provide food for many species from the algae that grows on the roots. Extensive areas of mangroves are a unique and very limited resource in Broward County. This Site is situated within approximately 160 acres of undeveloped land, mostly mangroves.

**ii. Diversity** - A significant sample of two or more ecological communities are contained within the site.

**Applicant:** Only one ecological community is present, a mangrove wetland.

**Staff comments:** The Site provides two habitats, the upland western edge and the mangrove wetlands, therefore, the Site meets the criteria above.

**iii. Low Level of Exotic Invasion** - The degree and nature of exotic invasion on the site is such that it can be easily managed or mitigated.

**Applicant:** Brazilian pepper, Australian pine, and earleaf acacia are scattered throughout the site and cannot be easily maintained.

**Staff comments:** Exotics are limited to the western upland edge of the Site and can be treated or removed. The remainder of the Site is mature red and black mangroves. Ground coverage includes mangrove saplings and black mangrove pneumatophores. The Site meets the criteria above.

**iv. Potential for Protection** - Ownership patterns, development status and other factors make the resources of a site likely to be successfully protected.

**Applicant:** The adjacent properties to the west are continually being developed into commercial properties. The Site and the surrounding area are not likely to be protected in the future due to continuing development.

**Staff comments:** The Site abuts mangrove wetlands which are owned by Broward County and a FPL transmission line easement. Development impacts are low for those parcels. The Site is hydrologically connected tidally connected to the Dania Cut-off Canal to the south and contiguous to adjacent mangrove wetlands. All stormwater runoff entering the site is pretreated. The area is tidally flushed daily. The Site meets the criteria above.

**v. Geography** - The site has proximity to other resources which would heighten its value as a LAPC (e.g., other ESLs, public parks, waterfront).

**Applicant:** Commercial development exists adjacent to the west of the site. Wetlands exist to the north, east, and south and are part of parcels that consist of FP&L transmission lines. In addition, Port Everglades and the Fort Lauderdale / Hollywood International Airport are in the immediate surrounding area.

**Staff comments:** This Site is a portion of approximately 160 acres of mangrove wetlands. It is also tidally connected to the Dania Cut-off canal, and by extension to West Lake Park. The Site meets the criteria above.

- D. **Criterion:** Wildlife - Existing wildlife refuges, reserves, and sanctuaries, or; known habitats of rare, threatened, or endangered species or species of special concern, or; major wildlife intensive use areas such as well-developed hammock communities, highly productive coastal tidelands, and mangroves, or; areas used for scientific study and research on wildlife.

**Applicant:** The Site was surveyed for the potential presence of listed species and/or listed species habitat. Due to the developed surroundings, existing vegetative conditions, and use of the eastern portion of the site, the subject area does not provide for roosting or forage habitat by listed species, and any use by such species would likely be only transient in nature.

**Staff comments:** The Site is contiguous to approximately 160 acres of mangrove habitat which provides roosting, foraging, refuge for many species. The Site meets the criteria above.

- E. **Criterion:** Economic Resources - Existing ports, marinas, piers, energy resources, and artificial reefs, or; areas noted for specific study and research concerning economic development.

**Applicant:** Port Everglades and the Fort Lauderdale/Hollywood International Airport are present in the immediate vicinity of the subject site. No known specific study or research is being conducted concerning the site and economic development.

**Staff comments:** The Site is not an economic resource or currently an area of known specific study.

- F. **Criterion:** Cultural Resources - Sites designated on the National Register of Historic Places or on the Florida Master Site File, or; sites related to the general development of the local area, region, or State, or; buildings which are significant examples of the architectural design of their period, or; sites associated with the life/lives of important person(s), or social, political, cultural, or economic movements or with historical events, or; archaeological sites which have yielded useful information on the area's past.

**Applicant:** No cultural resources are present. The site is not designated on the National Register of Historic Places or on the Florida Master Site File. The Department of Historical Resources reviewed the site as part of the U.S. Army Corps permit process.

**Staff comment:** No known cultural resources are present.

**EPD Staff Recommendation**

Based upon EPD's research and direct observations, the Site continues to meet the criteria for LAPC designation. Development of this site will have negative impacts to the adjacent mangrove area since the development would create a dam, limiting tidal flow / flushing to the northern wetlands. Retaining walls will have to be constructed, and the construction and footprint may impact additional wetlands.

Expansive mangrove wetlands habitat is a limited resource in Broward County with areas constantly under threat from development. There are few sites of this size remaining, and this Site provides habitat for a variety of species. There is a cumulative impact to overall mangrove wetland resources from projects proposing impacts.

Based on the information above, EPD must object to the proposed removal of the LAPC designation and amendment of the ESL map.

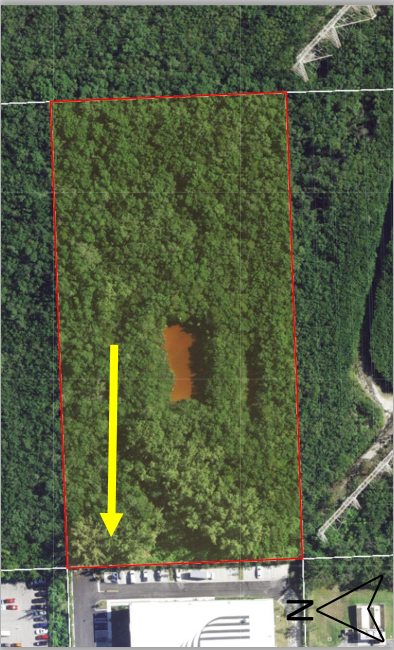
Enclosure: EPD Inspection Report dated February 16, 2024



**History:** Request to remove the referenced site from Environmentally Sensitive Lands Site LAPC #97 designation as part of ERL application DF22-1121 which proposes impacts to 4.1ac of wetlands for commercial development and proposes mitigation through credits at Everglades Mitigation Bank.

**Issues:** Staff assessed quality of mangrove wetland

**Observation(s):** Mangrove density is high.



Description	Note over 95% canopy coverage of healthy red and black mangroves approximately 20 feet east from western property line. Location is near western edge of wetland delineation line.
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Description	Note 85% ground coverage of black mangrove pnuematophores.
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Description	Note natural recruitment of mangrove saplings.
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## Environmental Permitting Division - Site Inspection Report

Facility/Site Name:

Dania Mangrove Parcel LAPC#97

Address:

Access Rd Dania Beach

Folio No.:

504226000021

Date Inspected:

February 16, 2024

License No.:

DF22-1121

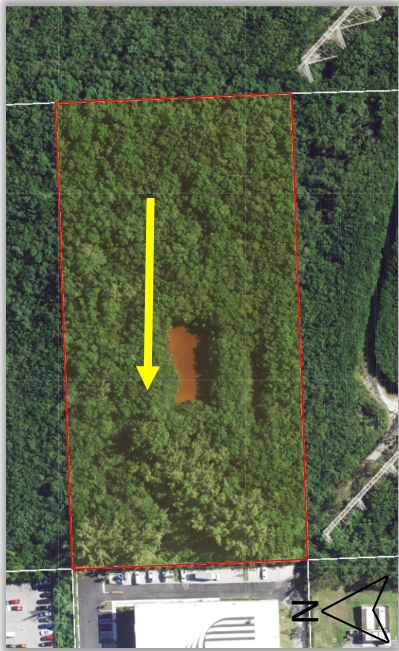
Inspector(s):

M. Decker, K. Scheffer

**History:** Request to remove the referenced site from Environmentally Sensitive Lands Site LAPC #97 designation as part of ERL application DF22-1121 which proposes impacts to 4.1ac of wetlands for commercial development and proposes mitigation through credits at Everglades Mitigation Bank.

**Issues:** Staff assessed quality of mangrove wetland

**Observation(s):** Mangrove species are healthy and providing habitat.



Description

Note healthy red mangroves over 24 feet tall.

Description

Note red mangrove prop root ground coverage over 85%.





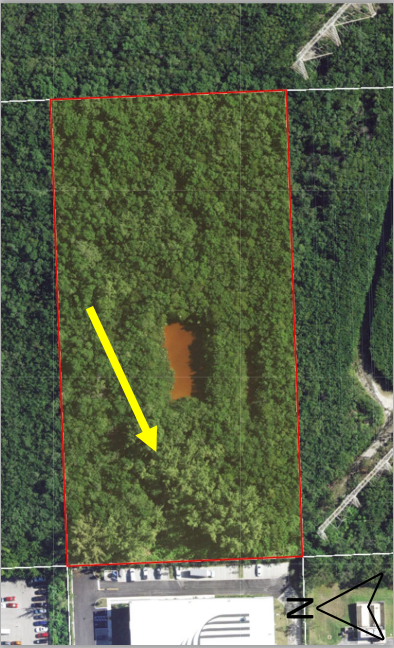
**History:** Request to remove the referenced site from Environmentally Sensitive Lands Site LAPC #97 designation as part of ERL application DF22-1121 which proposes impacts to 4.1ac of wetlands for commercial development and proposes mitigation through credits at Everglades Mitigation Bank.

**Issues:** Staff assessed quality of mangrove wetland

**Observation(s):** Mangroves maintain quality in presence of invasives

Description	Note aerial view of canopy maintains 75% mangrove species on Australian pine "island" where invasives were observed.
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Description	Note red mangroves encroaching into Australian pine "island".
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## **ATTACHMENT 6**

### **BROWARDNEXT-BROWARD COUNTY LAND USE PLAN HIGHLIGHTED REGIONAL ISSUES, POLICIES, IMPLEMENTATION REQUIREMENTS AND PROCEDURES, AND RECOMMENDED PRACTICES IDENTIFIED IN THE CONSIDERATION OF PCNRM 24-3**

#### **BCLUP SECTION 1: HIGHLIGHTED REGIONAL ISSUES**

##### **CLIMATE CHANGE RESILIENCE VISION**

Strategy CCR-2: Increase the resilience of our community to the effects of climate change.

Implementation strategies include: In coordination with municipalities, adopting land use regulations to limit development and redevelopment in areas particularly vulnerable to flooding due to sea level rise, stormwater inundation, and other impacts of climate change.

##### **WORLD-CLASS NATURAL RESOURCE PROTECTION & ENHANCEMENT VISION**

Strategy EP-3: Preserve and protect Broward County's natural environment through County and local environmental regulatory programs and well-planned patterns of growth and development.

Implementation strategies include: Acquire, protect, preserve and enhance Local Areas of Particular Concern.

#### **BCLUP SECTION 2: POLICIES**

##### **CLIMATE RESILIENCY, ADAPTATION ACTION AREAS AND PRIORITY PLANNING AREAS**

**POLICY 2.21.1** Broward County shall evaluate plan amendments within Priority Planning Areas for Sea Level Rise and strongly discourage those amendments which would place additional residential and non-residential development at risk of flooding from sea level rise. In review of such amendments, the County shall consider: a. Sea level rise/flood protection mitigation strategies and requirements included within local comprehensive plans and/or development regulations; or b. Flood protection improvements committed to by amendment applicants, which would mitigate or enhance flood protection and adaptation from rising sea levels.

**POLICY 2.21.5** Broward County shall, prior to approving land use plan amendments in the areas prone to flooding and/or the impacts of sea level rise, as identified on the Flood Plains, Flood Prone Areas, and Coastal High Hazard Areas Map and the Priority Planning Areas for Sea Level Rise Map, respectively, determine that the subsequent development will be served by adequate storm water management and drainage facilities, not adversely affect groundwater quality or environmentally sensitive lands and not increase saltwater intrusion or area-wide flooding.

**POLICY 2.21.6** Broward County shall support the goals and will, to the maximum extent feasible, implement, in coordination with affected stakeholders, the recommended actions of the Broward County Climate Change Action Plan and the Southeast Florida Regional Climate Action Plan as approved by the Broward County Climate Change Task Force and the Broward County Board of County Commissioners.

### **WETLANDS**

**POLICY 2.22.2** Broward County and its local governments shall consider the impacts of land use plan amendments on wetland resources and minimize those impacts to the maximum extent practicable.

### **ENVIRONMENTALLY SENSITIVE LANDS**

**POLICY 2.23.1** Natural resources that have been found to comply with the definition of Local Areas of Particular Concern have been identified on a Map of Local Areas of Particular Concern within the Future Broward County Land Use Map Series.

**POLICY 2.23.2** Local Areas of Particular Concern are declared to be environmentally sensitive lands and upon adoption of this plan shall be subject to the provisions of the Broward County Land Development Code regarding environmentally sensitive lands.

**POLICY 2.23.3** Broward County shall implement strategies for the protection of Local Areas of Particular Concern and other environmentally sensitive lands such as: acquisition by public or private organizations; establishment of a County trust fund for acquisition; adoption of innovative land development regulations; conservation easements; transfer of development rights; deed restrictions; and restrictive covenants.

**POLICY 2.23.4** By 2019, Broward County shall work with Broward's municipalities and interested stakeholders to study and recommend incentives to preserve designated environmentally sensitive lands that are privately controlled.

## **BCLUP SECTION 2: IMPLEMENTATION REQUIREMENTS AND PROCEDURES**

### **7. CRITERIA AND PROCEDURES FOR ENVIRONMENTALLY SENSITIVE LANDS AND LOCAL AREAS OF PARTICULAR CONCERN**

#### **g. Local Areas of Particular Concern**

Local Areas of Particular Concern (LAPCs) may be designated in six categories according to the types of resources present. Unless otherwise indicated, LAPCs must have one or more of the characteristics for the respective category.

1. Marine Resource Category  
Coastal areas of unique, scarce, fragile, or vulnerable natural habitat, physical features and scenic importance, or; coastal areas of high natural productivity or essential habitat for fish, wildlife, and the various trophic levels in the food web critical to their well-being, or; coastal areas of substantial recreational value and/or potential, or; areas needed to protect, maintain, or replenish coastal flood plains, coral and other reefs, beaches, offshore sand deposits and mangrove stands.
2. Natural Landforms and Features Category  
A geological, hydrological, or physiographical feature confined to a small area of Broward County and considered quite rare locally or regionally, or; a representative natural ecosystem and/or its units existing in a few isolated locations, but extirpated from most of the county.
3. Native Vegetative Communities Category
  - (a) A Local Area of Particular Concern (Native Vegetative Communities Category) is an area which shows a predominance of native vegetation associated with one or more of the following ecological communities: Beach and Dune Community; Coastal Strand Forest Community; Mangrove Community (Saltwater Swamp); Scrub Community; Pine Flatwoods Community; High Hammock Community; Low Hammock Community; Cypress Wetland Community (Freshwater Swamp); Everglades Community (Freshwater Marsh).
  - (b) In addition, a Local Area of Particular Concern (Native Vegetative Communities Category) must satisfy at least three of the following criteria:
    - i. Uniqueness - The site contains a significant sample of rare or endangered species, or, the site is among a small number of sites in Broward County representing a particular ecological community.
    - ii. Diversity - A significant sample of two or more ecological communities are contained within the site.
    - iii. Low Level of Exotic Invasion - The degree and nature of exotic invasion on the site is such that it can be easily managed or mitigated.
    - iv. Potential for Protection -Ownership patterns, development status and other factors make the resources of a site likely to be successfully protected.
    - v. Geography - The site has proximity to other resources which would heighten its value as a LAPC (e.g., other ESLs, public parks, waterfront).



4. Wildlife Category

Existing wildlife refuges, reserves, and sanctuaries, or; known habitats of rare, threatened, or endangered species or species of special concern, or; major wildlife intensive use areas such as well-developed hammock communities, highly productive coastal tidelands, and mangroves, or; areas used for scientific study and research on wildlife.

5. Economic Resource Category

Existing ports, marinas, piers, energy resources, and artificial reefs, or; areas noted for specific study and research concerning economic development.

6. Cultural Resource Category

Sites designated on the National Register of Historic Places or on the Florida Master Site File, or; sites related to the general development of the local area, region, or State, or; buildings which are significant examples of the architectural design of their period, or; sites associated with the life/lives of important person(s), or social, political, cultural, or economic movements or with historical events, or; archaeological sites which have yielded useful information on the area's past.

## **BCLUP SECTION 3: RECOMMENDED PRACTICES**

### **ENVIRONMENTAL**

**POLICY 3.3.6** Promote the acquisition, retention and management of unique natural areas in order to preserve their environmental, recreational and other public benefits.

**POLICY 3.3.9** Discourage activities in the vicinity of Local Areas of Particular Concern which would have a detrimental impact upon such areas.

**POLICY 3.3.10** Encourage local governments to protect natural resources through the implementation of land development regulations and procedures that promote the acquisition, retention and management of such areas.

## ATTACHMENT 7



July 23, 2024

Josie P. Sesodia  
AICP, Director  
Urban Planning Division  
1 N University Drive, Box 102  
Plantation, FL 33324



**RE: NSU Port Parcel**  
**TCG Project No. 14-0080.002**  
**ERL No. DF20-1121**

Dear Mrs. Sesodia:

The Chappell Group, Inc. (TCG) is in receipt of comments dated February 14, 2024, regarding the above referenced project and provides the following response(s) to your requests. Your comments related to the proposed project are noted followed a response in **bold**:

1. The County is required by policy to continue reviewing and protecting designated LAPCs and wetland areas, and encouraging practices that optimize co-benefits of habitat restoration. The following Broward County Comprehensive Plan Elements apply, including Climate Change-Objective CC4 and related policies, Conservation-Objective C6 and related policies, and Water Management:
  - a. Policy C6.1 states that the County shall continue to maintain a Map of County Commission Designated properties of ecological concern to include those areas designated as LAPC, NRAs, ESLs, UWAs, and those land on the Urban Wilderness Inventory.
  - b. Policy C6.7 states that the County shall continue to maintain and implement regulations that protect and preserve trees, including those in areas of native vegetative communities, and promote the use of native vegetation.

**Response: Within the upland portion of the subject site, there is a total of sixty-three (63) trees in which sixty-two (62) of these trees are exotic including Australian pine (*Casuarina equisetifolia*), Brazilian peppertree (*Schinus terebinthifolia*), carrotwood (*Cupaniopsis anacardioides*), and earleaf acacia (*Acacia auriculiformis*). One native, non-invasive tree was identified as sea grape (*Coccoloba uvifera*). The proposed project consists of the removal of exotic vegetation and the existing exotic trees will be replaced with native trees according to the City of Dania Beach's tree removal requirements.**

- c. Policy C6.9 states that Broward County shall assess the vulnerability of specific species, habitats, landscapes, and ecosystem functions that may be sensitive to climate change and develop coping strategies and contingency plans for their adaptation, such as identifying habitats that may be viable during climate disturbances and could potentially serve to give refuge to and sustain at-risk species.

**Response: A cumulative impact analysis was prepared and accepted by the environmental agencies which demonstrate that a cumulative impact to the New River Basin (Broward County) would not occur, and thus, a mitigation credit purchase from Everglades Mitigation Bank would fully offset the impacts of the proposed project. In addition, the migration of species as environmental conditions change will not be altered as the surrounding parcels such as the conservation easement at Port Everglades to the east, West Lake Park/Anne Kolb Nature Center to the south, and Snyder Park to the west provide a larger area for nesting and foraging of migratory species.**

- d. Objective CC4 – Utilize Green Infrastructure Solutions for Maximum Co-benefits -- Understand the value of ecosystem services to our community and expand green infrastructure to optimize the co-benefits of habitat restoration, coastal buffers, wetland mitigation, urban reforestation, natural night skies, and local food production, in order to create a healthy, enjoyable, and climate resilient environment.

**Response: The proposed project involves wetland mitigation in the form of enhancing and preserving 1.29 acres of wetlands on site and in the form of a credit purchase from the Everglades Mitigation Bank (EMB). The purchase of credits from the EMB will result in a significantly higher value habitat than the habitat located at the subject site. The EMB also provides regional ecological value and substantially higher ecological value than the mangroves/wetlands proposed to be impacted. EMB is located between Everglades National Park and Biscayne Bay National Park, which provides a wildlife corridor that allows wildlife to roam between parks. EMB also undergoes continual restoration and enhancement projects to include hydrologic improvements and vegetation management to provide long term benefits to wildlife.**

- e. Policy WM3.9 states that Broward County will protect the water storage and water quality enhancement functions of wetlands, floodplains, and aquifer recharge areas through acquisition, enforcement of rules, and the application of best land and water management practices.

**Response: Please see attached letter from Langan.**



2. Protected designations have not changed in the past 35+ years. Since 1989, before the adjacent land was developed, several environmental protection designations have been placed on the property by the County Commission, including LAPC and NRA and to date none have been removed.
3. The site is identified as a wetland and flood prone area requiring water quality protections. The subject property is reflected in both the County's Eastern Wetlands Map (LUP Natural Resource Map Series) and the Flood Prone Areas Map, indicating that it may be prone to flooding and/or the impacts of sea level rise. Any development will be required to demonstrate that it can be served by adequate storm water management and drainage facilities, not adversely affect groundwater quality or environmentally sensitive lands, and not increase saltwater intrusion or area-wide flooding, (BCLUP Policy 2.21.5.) Comprehensive Plan policies also focus on protecting wetlands and water quality CC3.10, C8.2, C8.9, C8.10, WM2.13, WM3.9, and WM3.15.

**Response: Please see attached letter from Langan.**

4. Removal of the LAPC designation is not supported. Based on the Implementation Requirements and Procedures of the BC LUP, Section #7. "Criteria and Procedures for Environmentally Sensitive Lands and Local Areas of Particular Concern," *the subject property appears to continue to be a wetland and continues to be consistent with LAPC criteria.*

**Response: The subject property will remain a wetland on 1.29 acres of the eastern portion of the site. The wetlands will be encumbered by a Conservation Easement.**

5. Removal of LAPC designation would likely result in the request for removal of other private properties located within ESL #97, as well as impact the resiliency of the coastal wetland system where it is located.

**Response: Approximately 1.29 acres of wetlands will remain on site. The wetlands to remain on site are located on the eastern portion of the site to allow hydrologic connection to the existing wetlands surrounding the property to the north, east, and south. The 1.29 acres of wetlands to be preserved on site will be placed under a Conservation Easement. The majority of the other properties within ESL #97 are not privately owned and are owned by the Broward County Board of County Commissioners. The few other properties located within ESL #97 that are privately owned have been partially developed with wetlands on site encumbered by a Conservation Easement, which is similar in nature to this request.**

Since the inception of the Broward County Comprehensive Plan (1989), LAPC #97, which includes the subject site, has consistently been identified as a wetland and environmentally sensitive site. Based on the above findings, Urban Planning Division staff sees no justification for changing ELS designations, including its LAPC designation. Removing LAPC designation could affect similarly situated properties within LAPC #97, thus reducing the natural protections and drainage provided to surrounding properties by this system of wetlands.

**Response: As mentioned above, the 1.29 acres of wetlands to be preserved on site will be placed under a Conservation Easement. The majority of the other properties within ESL #97 are not privately owned and are owned by the Broward County Board of County Commissioners. The few other properties located within ESL #97 that are privately owned have been partially developed with wetlands on site encumbered by a Conservation Easement, which is similar in nature to this request.**

If the LAPC designation is removed, then subsequent development should demonstrate that it can be served by adequate storm water management and drainage facilities, not adversely affect groundwater quality or environmentally sensitive lands, and not increase saltwater intrusion or area-wide flooding, per BCLUP Policy 2.21.5. Furthermore, to the highest extent possible, tree canopy and native trees should be preserved onsite and green infrastructure solutions/infrastructure should be considered to optimize environmental impact mitigation, per Chapter 27, Article XIV- Tree Preservation and Abuse Ordinance. Any remaining wetlands should be actively managed by maintaining sustainable water levels and removing invasive species, as proposed in the Application, which should include a wetland maintenance plan.

**Response: Please see attached letter from Langan.**

Please note that per BCLUP Policy 2.23.2, "Local Areas of Particular Concern are declared to be environmentally sensitive lands and upon adoption of this plan shall be subject to the provisions of the Broward County Land Development Code regarding environmentally sensitive lands." Therefore, if development is proposed on the subject site, the application will be subject to the requirements of Chapter 5, Article IX.- Broward County Land Development Code, Division 2.-Development Review Requirements, Section 182.8 (a) Consideration of Impact on Environmentally Sensitive Lands and Archaeological Resources.

Additionally, since the subject site is also a designated Natural Resource Area and designated environmentally sensitive lands with natural forests are considered Natural Forest Communities, site clearing, wetland impacts and land development are subject to the following County codes:

- Chapter 27, Article XI – Aquatic and Wetland Resource Protection.
- Chapter 5, Article XII – Natural Resource Areas

- Chapter 27, Article XIV – Tree Preservation and Abuse Ordinance - Section 27-411 – Natural Forest Communities

**Response:** An application has been submitted to the Resilient Environment Department and is being processed under application no. DF20-1121. A Tree Removal license will also be applied for. A tree survey has been performed which identified a total of sixty-three (63) trees in which sixty-two (62) of these trees are exotic including Australian pine (*Casuarina equisetifolia*), Brazilian peppertree (*Schinus terebinthifolia*), carrotwood (*Cupaniopsis anacardioides*), and earleaf acacia (*Acacia auriculiformis*). One native, non-invasive, tree was identified as sea grape (*Coccoloba uvifera*). The proposed project consists of the removal of exotic vegetation and the existing exotic trees will be replaced with native trees according to the City of Dania Beach's tree removal requirements.

If you have any further questions or comments, please feel free to contact my office at (954) 782-1908 or via email at [jena@thechappellgroup.com](mailto:jena@thechappellgroup.com).

Sincerely,  
**THE CHAPPELL GROUP, INC.**

A handwritten signature in cursive script that reads "Jena Robbins".

Jena Robbins  
Project Manager





## **CUMULATIVE IMPACT ANALYSIS**

**FOR**

**NSU PORT PROPERTY**

**BCEPGMD ERL APPLICATION NO. DF20-1121**

**404 APPLICATION NO. 06-396518-001-SFI**

**TCG Project No. 14-0080.002**

Prepared for

Shlomo Melloul

August 2023

Prepared by

The Chappell Group, Inc.

714 East McNab Road

Pompano Beach, FL 33060

(954) 782-1908

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- V. Mitigation
- VI. Conclusion

## **Appendices**

Location Map	Figure 1
Data Analysis Map	Figure 2
Everglades Mitigation Bank Service Area	Appendix A

## I. SITE DESCRIPTION

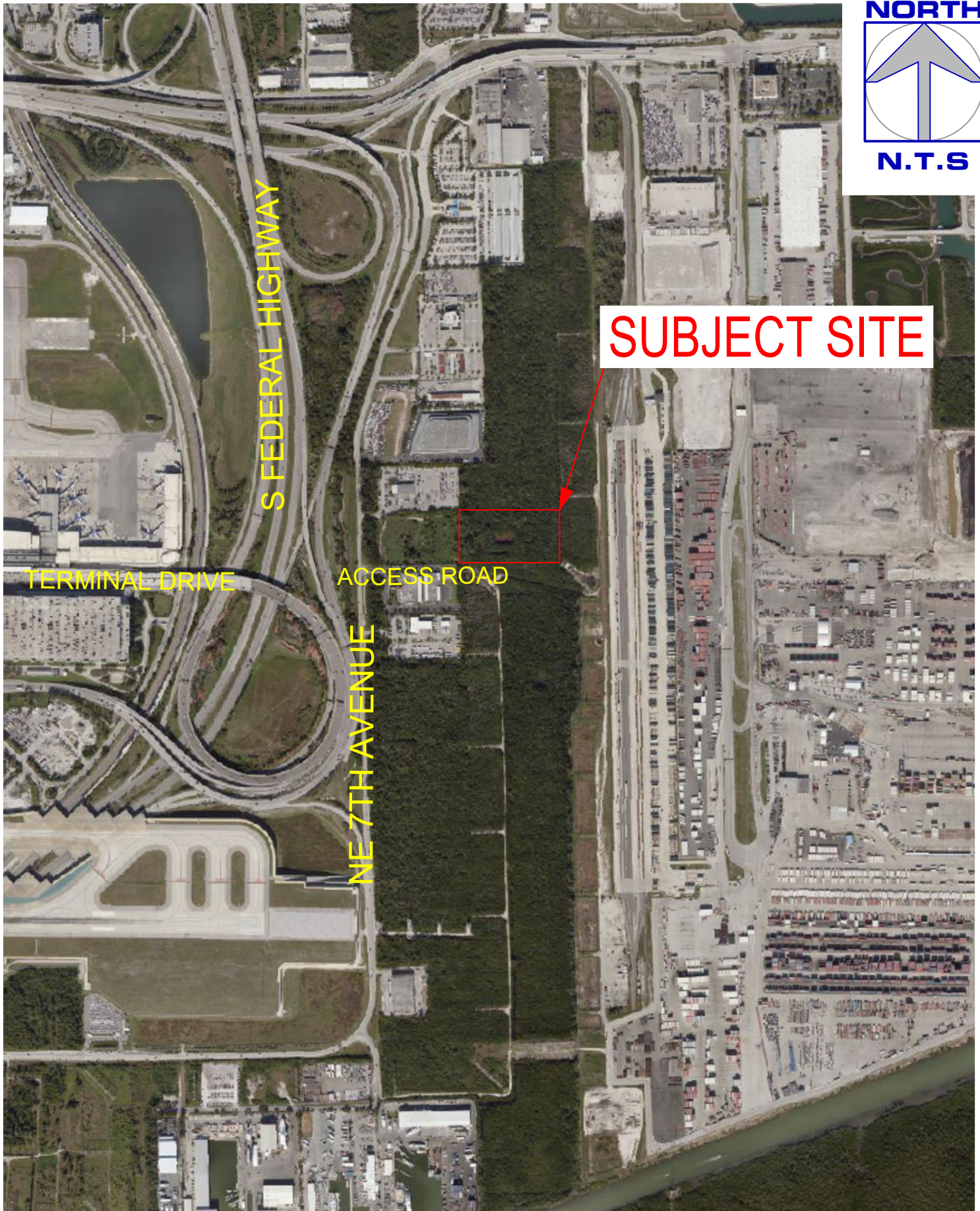
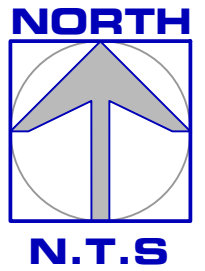
Since the mitigation for the proposed project is not located within the same basin as the wetland impacts, a cumulative impact analysis was conducted of the disturbed mangrove wetlands within the New River Basin pursuant to Rule 10.2.8 of Volume I of the Basis of Review. The analysis was conducted on the existing  $\pm 5.11$ -acre parcel located east of NE 7th Avenue and west of an existing Florida Power and Light transmission easement in Dania Beach, Broward County, Florida (Figure 1). The site was investigated to identify native vegetative communities, determine viability of indigent habitats, and note the presence or absence of threatened or endangered species as listed by the U.S. Fish and Wildlife Service, Florida Game and Fresh Water Commission (FGFWCFC), and the Florida Department of Agriculture.

The subject site is bordered on the north and south by undeveloped parcels, on the east by an existing FPL transmission easement, and on the west by commercially developed areas and roads. While no topographic survey data was available, elevations on-site appeared to average 1-2' below the surrounding developments.

The project site consists mainly of mangrove wetlands with a fringe of disturbed uplands on the west side. Observed vegetation onsite consisted mainly of mangroves with scattered non-native canopy species and groundcovers common to disturbed wetlands and transitional habitats. The dominant species on site were red mangrove (*Rhizophora mangle*) and black mangrove (*Avicennia germinans*). Non-native canopy species present onsite included Brazilian pepper (*Schinus terebinthifolius*), earleaf acacia (*Acacia auriculiformis*) and Australian pine (*Casuarina equisetifolia*). The wetland area contains obligate wetland vegetation and hydric soils with standing water, serving as evidence of wetland hydrology. The interior of the site displays some evidence of previous alteration, with two (2) small open water areas and channelized ditches in the center and western half of the site. Excavated material from these areas is present onsite, with a few linear and curvilinear areas existing at elevations 6-8" above the surroundings. These areas contain transitional and upland vegetation, primarily *C. equisetifolia*, but exist at wetland elevations with wetland soil characteristics.

Overall, based on the observed site conditions, including a review of vegetation and soils onsite, it was determined that the project site consisted mainly of jurisdictional wetlands, with minimal upland areas of disturbed soils and scattered fill along the perimeter of the site. Soils observed during the determination reflected the soils were mainly consistent with Pennsuco silty clay loam, as well as partially Perrine silty clay loam.







The property contained  $\pm 4.21$  acres of jurisdictional mangrove wetlands and  $\pm 0.26$  acres of surface waters that were confirmed by the South Florida Water Management District and Broward County Environmental Protection & Growth Management Department. The applicant is proposing to preserve and enhance  $\pm 1.29$  acres of mangrove wetlands and the filling of  $\pm 2.92$  acres of mangrove wetlands with approximately 34,120 cubic yards of fill to create one (1) commercial warehouse with associated parking and infrastructure. Based on the WATER scores, the applicant is proposed to purchase 1.24 credits from the Everglades Mitigation Bank (EMB) to offset direct impacts to 2.92 acres of existing wetlands in addition to the preservation of 1.29 acres of wetlands on site.

## **II. WETLAND IMPACTS**

The proposed project will directly impact 2.92 acres of mangrove wetlands located in the New River drainage basin. The existing wetland contains minimal desirable hydrophytic, overstory, shrub canopy, and ground cover. Hydrological conditions on site depend on the amount of precipitation and the elevation of the groundwater. Conditions were elevated by direct visual observation of surface inundation, soil saturation, and nearby water bodies. The proposed project will not adversely affect the navigation or flow of water or cause erosion or shoaling.

This project is consistent with the existing land use requirements of Broward County and the appropriate municipality and will minimize cumulative impacts within the New River drainage basin. It is our opinion that adverse cumulative impacts will not likely result from the filling of the onsite poor-quality wetland.

## **III. WILDLIFE UTILIZATION**

Several informal surveys of rare, threatened, endangered or species of special concern as listed by the Florida Department of Agriculture, The Florida Fish and Wildlife Conservation Commission (FWCC), and the U.S. Fish and Wildlife Service (USFWS) have been conducted on this property and no wildlife was observed. Based on previous studies of animal population within these communities, the following is a list of probable animal species that could occur on the site:

Table 1. State and Federally Listed Species that could occur on the subject property.		Protected Species	
Common Name	Scientific Name	State	Federal
<b>Reptiles</b>			
Southern ringneck snake	<i>Diadophis punctatus</i>	T	n/a
Eastern indigo snake	<i>Drymarchon corais couperi</i>	T	T
Green anole	<i>Anolis carolinensis</i>	n/a	n/a
<b>Birds</b>			
Bald eagle	<i>Haliaeetus leucocephalus</i>	T	T
wood stork	<i>Mycteria americana</i>	T	E
little blue heron	<i>Egretta caerulea</i>	SSC	n/a
snowy egret	<i>Egretta thula</i>	SSC	n/a
tricolored heron	<i>Egretta tricolor</i>	SSC	n/a
Red-cockaded woodpecker	<i>Picoides borealis</i>	T	E
<b>Mammals</b>			
Nine banded armadillo	<i>Dasypus novemcinctus</i>	n/a	n/a
<b>Amphibian</b>			
Gopher frog	<i>Rana capito</i>	SSC	n/a

E = Endangered  
T = Threatened

SSC = Species of Special Concern  
n/a = Not Listed

From the list of state and federally protected species, no wildlife, rare, threatened, or endangered or species of special concern were observed on the property. The habitat value is rapidly diminishing due to extensive invasion of exotic vegetation and the deterioration caused by development in the surrounding area. In addition, a Florida Bonneted Bat (*Eumops floridanus*) survey was conducted, and it was determined that the site does not provide habitat for the species.

The proposed project of impacting 2.92 acres of mangrove wetlands and preserving and enhancing 1.29 acres of mangrove wetlands will convert existing, low-quality wetlands to a high-quality mangrove wetland that more closely resembles saltwater marsh habitat. In addition, offsite mitigation in the EMB (Appendix A) will provide one large, viable ecosystem-oriented restoration project, which is clearly the superior alternative. The size of the Bank provides an opportunity to restore and manage a significant portion of the natural ecosystem within this area. It will also provide an important buffer and habitat link to existing and proposed conservation lands.

#### IV. NEW RIVER DRAINAGE BASIN

As the proposed project is located within the New River drainage basin and the applicant is proposing to offset proposed impacts with the purchase of mitigation

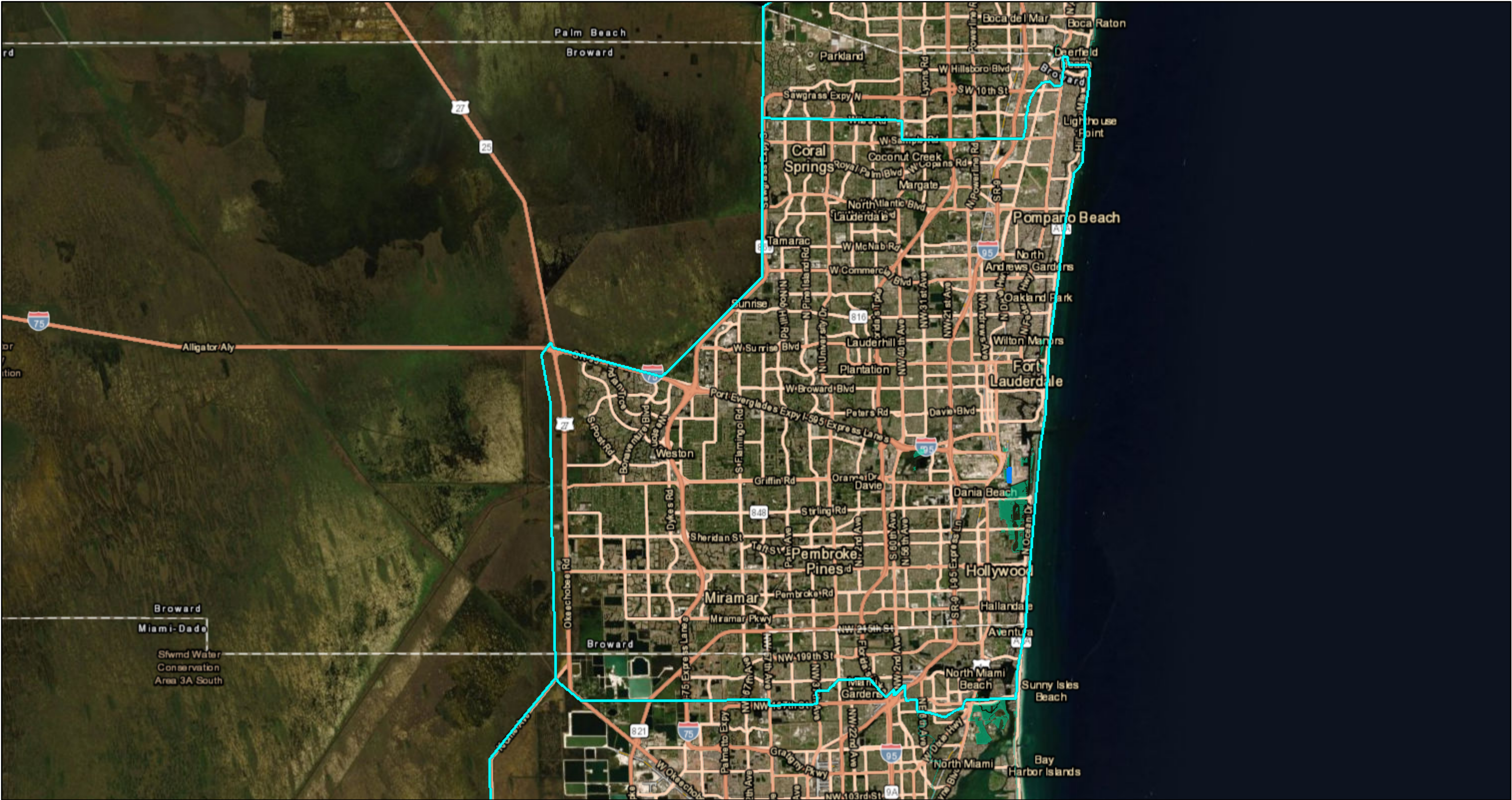


credits from the Everglades Mitigation Bank (EMB), which is located in the Lower Everglades drainage basin, the applicant must demonstrate that no cumulative impacts will occur within the New River drainage basin. The most recent GIS data defining habitat types throughout the New River drainage basin was acquired using the Florida Department of Environmental Protection's (FDEP) web-based mapping service known as Map Direct. The GIS data on mangrove habitat and the drainage basins was provided by South Florida Water Management District (SFWMD Land Use Land Cover layer) and FDEP (Florida Water Management (WMD) Cumulative Impact Basins layer). All data analysis was restricted to the New River drainage basin and all mangrove wetlands were identified using the Land Cover Land Use layer (Figure 2). Those wetlands identified as 612 mangrove cover type covers were included in the data analysis. Mangrove wetlands were then categorized as "protected" or "at-risk". Wetlands were categorized as "protected" if they were owned by agencies at the federal, state, county, or local level or were previously placed under a conservation easement. Wetlands were categorized as at risk if they were privately owned or were not placed under a conservation easement. The data analysis to determine if a wetland was protected or at-risk involved permit research through the Broward County Environmental Protection and Growth Management Department and SFWMD. In addition, the FL-SOLARIS/CLEAR Conservation Easements and FL-SOLARIS/CLEAR Conservation Owned Lands layers on Map Direct were utilized.

The New River drainage basin comprises 409.8 square miles (262,272-acres) and approximately 30 municipalities. According to the SFWMD GIS database, there were approximately 1,569.92-acres of mangrove wetlands within the New River Drainage Basin. The majority were located east of Interstate-95 and were located within existing state and county level parks and under conservation easements. Approximately 1,446.15 acres are publicly owned and/or protected under conservation easements. Approximately 123.77 acres are at risk (privately owned), see Table 2 and 3 below. The onsite mangrove wetlands exhibit very little of the positive, preferred attributes of a high-quality wetland due to the amount of exotic plants and isolated nature. The loss of these low quality, isolated, degraded wetlands would result in an insignificant loss of wetland function to the entire New River watershed.



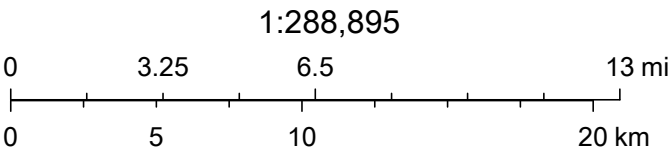
# GIS Map



December 28, 2021  
SFWMD\_LCLU\_2014\_2016

Wetlands

Water Management District (WMD) Cumulative Impact Basins  
SFWMD



WRM, DEAR, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, Esri, HERE, Earthstar Geographics



**Table 2.**

Mangrove Areas in New River Drainage Basin				
Area (sq yd)	Area (ac)	Status (ac)		Category
		Protected	At-risk	
144528.4316	29.86	29.86	0.00	Protected
526357.5078	108.75	108.75	0.00	Protected
357998.9434	73.97	73.97	0.00	Protected
22501.92578	4.65	4.65	0.00	Protected
255498.9395	52.79	52.79	0.00	Protected
175009.4727	36.16	0.00	36.16	At-risk
76622.33594	15.83	15.83	0.00	Protected
232136.498	47.96	47.96	0.00	Protected
1882123.646	388.87	388.87	0.00	Protected
350803.7441	72.48	72.48	0.00	Protected
276350.9238	57.10	57.10	0.00	Protected
1477478.689	305.26	305.26	0.00	Protected
136141.3516	28.13	0.00	28.13	At-risk
44657.69727	9.23	0.00	9.23	At-risk
76571.41016	15.82	0.00	15.82	At-risk
47016.71094	9.71	9.71	0.00	Protected
9764.439453	2.02	2.02	0.00	Protected
124721.082	25.77	25.77	0.00	Protected
30729.87695	6.35	6.35	0.00	Protected
71178.76172	14.71	14.71	0.00	Protected
59741.6582	12.34	12.34	0.00	Protected
181023.7891	37.40	37.40	0.00	Protected
39176.50195	8.09	8.09	0.00	Protected
57986.30273	11.98	0.00	11.98	At-risk
108689.2656	22.46	0.00	22.46	At-risk
219942.2891	45.44	45.44	0.00	Protected
46701.0293	9.65	9.65	0.00	Protected
74705.86719	15.44	15.44	0.00	Protected
32077.9707	6.63	6.63	0.00	Protected
35755.68945	7.39	7.39	0.00	Protected
234606.459	48.47	48.47	0.00	Protected
55054.58398	11.37	11.37	0.00	Protected
41564.61133	8.59	8.59	0.00	Protected
93195.6	19.26	19.26	0.00	Protected
<b>7598414.006</b>	<b>1569.92</b>	<b>1446.15</b>	<b>123.77</b>	-



**Table 3.**

<b>Description</b>	<b>Area (acres)</b>	<b>% of Total</b>
Total mangrove wetlands in New River drainage basin	1,569.92	100%
All protected mangrove wetlands in New River drainage basin	1,446.15	92.1%
All at-risk mangrove wetlands in New River drainage basin	123.77	7.9%
NSU Port Property	2.92	2.36% of at-risk wetlands (0.19% of total wetlands in basin)

Any attempt to preserve this area would not accomplish the restoration of the East Everglades habitat that existed before the area was degraded by the invasion of exotic vegetation and the drainage. The applicant has established a site plan that accomplishes the project purpose and the offsite mitigation proposed will not result in a cumulative impact to the New River drainage basin.

## **V. MITIGATION**

To compensate for wetland impacts, the applicant proposes to purchase 1.23 credits from the EMB, which will significantly improve the regional benefits of natural wetland functions throughout South Florida. The EMB is not located within the same drainage basin as the proposed project; however, it is located in the approved District service area (Appendix A). Use of the EMB to offset wetland impacts within the New River drainage basin has been approved previously by the District and will offset any potential impacts caused by the proposed project. In addition, the existing mangrove wetland on site is of poor quality as it consists of invasive/exotic species and is isolated in nature. The purchase of credits from the EMB will result in a significantly higher value habitat than the habitat located at the subject site. The EMB also provides regional ecological value and substantially higher ecological value than the mangroves/wetlands proposed to be impacted. EMB is located between Everglades National Park and Biscayne Bay National Park, which provides a wildlife corridor that allows wildlife to roam between parks. EMB also undergoes continual restoration and enhancement projects to include hydrologic improvements and vegetation management to provide long term benefits to wildlife. Therefore, the proposed project includes mitigation for

unavoidable impacts at an approved mitigation bank and will not result in adverse impacts to water quality, habitat, hydrology or listed species.

## **VI. CONCLUSION**

Overall, the proposed activity considered with past, present, and future activities would not result in violations of water quality standards or have significant adverse impacts to functions of wetlands or surface waters within the same watershed.

The analysis identified mangrove wetlands in the basin that were not protected by land use restrictions or dedicated as public land as “at risk.” The proposed project impacts approximately 70% of the onsite wetlands. In the event that all projects moving forward would impact the same amount of remaining wetlands (123.77 acres left in New River drainage basin unaccounted for), this would equal 86.6 acres that would be removed from the basin. Therefore, only 5% (86.6 acres of 1,569.92 acres) of the entire basin would be impacted which is a negligible amount and is not considered a cumulative impact considering wetlands preserved/protected accounted for 92.1% of all wetlands in the basin. Based on the analysis, if all “at risk” wetlands within the basin were impacted and all mitigation was conducted outside the basin, a loss of 7.9% of wetland acreage in the basin would occur. However, in this project, the wetlands are already highly degraded which results in a minimal ecological functional loss. In addition, this is a conservative estimate as many small patches of mangroves located in residential canal systems were not included due to limitations in GIS mapping. The at-risk mangrove wetlands is also most likely significantly over-estimated due to existing regulations in place that prohibit the development of mangroves and the justification required to do so.

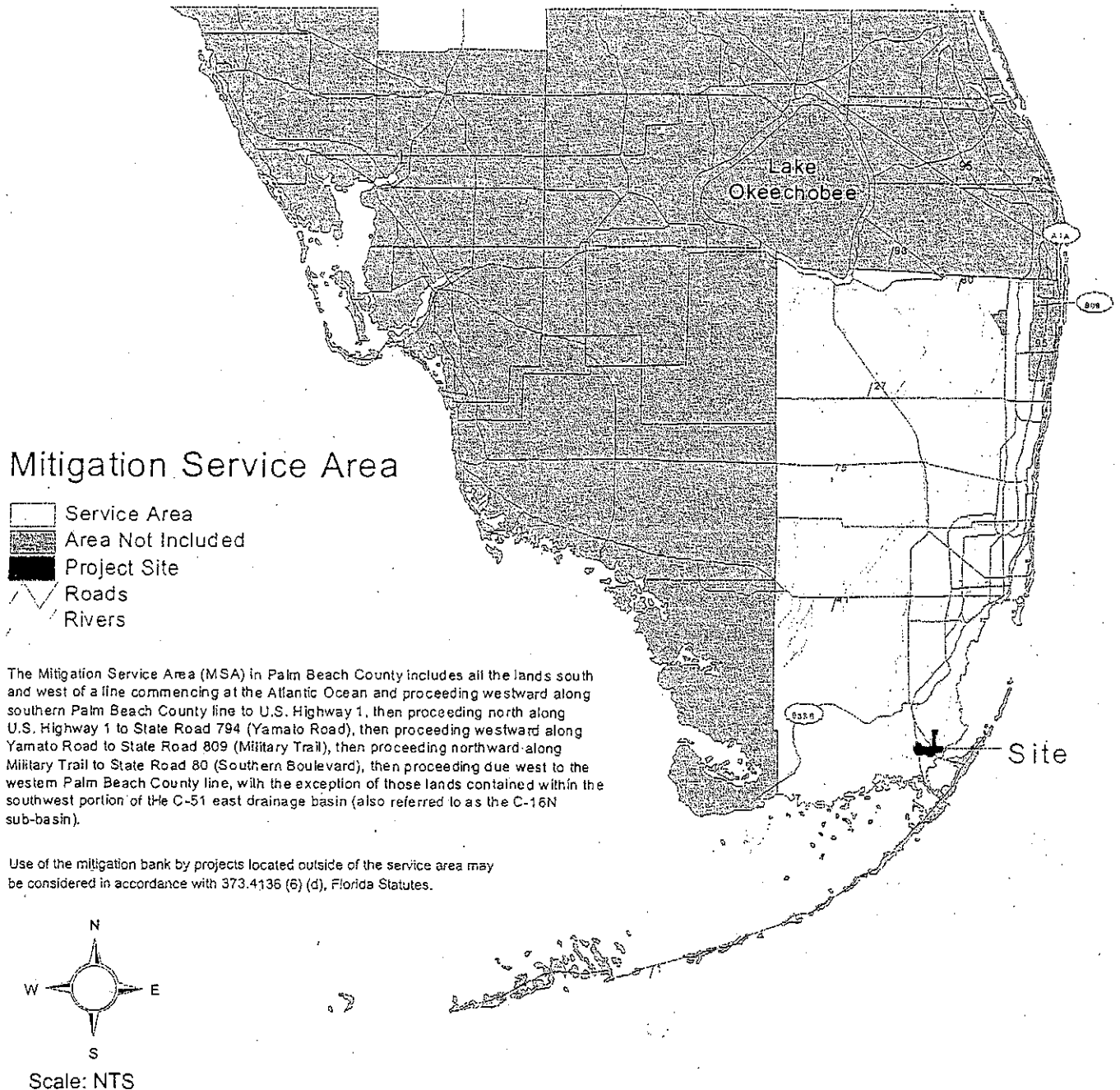
The existing wetland has been degraded and the habitat value is rapidly diminishing because of the invasion of exotic vegetation and the deterioration caused by the industrial development in the surrounding area. In addition, similar parcels containing contiguous forested wetlands, as opposed to isolated depressional wetlands, are not common within the New River drainage basin. Given the relative lack of privately-owned parcels with existing mangrove wetlands onsite, impacts to small, isolated wetlands on subject sites would not result in a large loss of wetland acreage within the drainage basin. No portion of the property appeared to be environmentally sensitive, and the hydrologic regime is inadequate due to its isolated nature. From the list of state and federally protected species, no wildlife, rare, threatened, or endangered species or species of special concern were observed on the property. The wetlands located onsite provide little function to the watershed due to the poor quality of the wetlands. The purchase of credits from the offsite permitted EMB will offset any existing wetland function and will not result in any adverse cumulative impacts to the New River drainage basin.

## APPENDIX A





Figure 2  
MITIGATION SERVICE AREA



Prepared By:  
Cotleur & Hearing, Inc.

In association with:  
Macvicar, Federico & Lamb, Inc. and  
LBFH INC

08/27/03

EVERGLADES  
MITIGATIONBANK



## ATTACHMENT 8



July 23, 2024

Dr. Jennifer Jurado  
Chief Resilience Officer and Deputy Director  
115 S. Andrews Avenue, Room 329  
Fort Lauderdale, FL 33301



**RE: NSU Port Parcel**  
**TCG Project No. 14-0080.002**  
**ERL No. DF20-1121**

Dear Dr. Jurado:

The Chappell Group, Inc. (TCG) is in receipt of comments dated February 23, 2024, from Dr. Jennifer Jurado, Chief Resilience Officer and Deputy Director, regarding the above referenced project and provides the following response(s) to your requests. Your comments related to the proposed project are noted followed a response in **bold**:

1. The Priority Planning Areas for Sea Level Rise Map identifies areas that are at increased risk of flooding due to, or exacerbated by, sea level rise by the year 2070. In review of land use plan amendments and requests for amendments to the Environmentally Sensitive Land Map, the County requires the applicant to demonstrate that the project will not increase saltwater intrusion or areawide floating, not adversely affect groundwater quality or environmentally sensitive lands, and that subsequent development will be served by adequate stormwater management and drainage facilities.

**Response: Please see attached letter from Langan.**

2. The County also strongly discourages those amendments which would place additional residential and non-residential development at risk of flooding from sea level rise. The county will take into consideration sea level rise and flood protection mitigation strategies and requirements included within the city's local comprehensive plans and/or development regulations, or improvements committed to by the applicant which would mitigate or enhance flood protection and adaptation from rising sea levels.

**Response: Please see attached letter from Langan.**

3. The current application does not provide sufficient level of detail to evaluate how risk from sea level rise will be mitigated, how areawide flooding will be minimized, or how water quality will not be adversely affected. The Resilient Environment Department/Resilience Unit requests that these points be addressed thoroughly.

**Response: Please see attached letter from Langan.**

4. The Resilient Environment Department notes the applicability of Future Conditions Map Series and their use as required by Broward County Code of Ordinances for permitting and design of the proposed site. The Resilient Environment Department/Resilience Unit requests applicant to review the height of all seawalls, banks, and berms to be consistent with Chapter 39, Article XXV – Resiliency Standards for Flood Protection of the Broward County Code of Ordinances.

**Response: The proposed retaining wall will be consistent with Chapter 39, Article XXV.**

5. In addition, BCLUP Policy 2.21.6 requires Broward County to support the goals of the Broward County Climate Change Action Plan and Southeast Florida Regional Climate Action Plan as approved by the BCBCC. CCAP Actions and RCAP Recommendations and Strategies shall also be considered in the resilience review. The applicant is specifically encouraged to consider CCAP – Healthy Community Actions 26 and 30, and Natural Systems Action 98 and RCAP Recommendations and Strategies pertaining to natural system/wetland/coastal/urban green space conservation and protections, including: NS 4.1, NS 5.1, NS 5.3, NS 12.3, NS-13, NS-15, and ST 5.1.

**Response: Healthy Community Action #26 requires the enhancement of the urban tree canopy to protect walkers, transit riders and bicyclists from heat and pollution. This action item does not pertain to this project as this project does not involve public parks or transit. In addition, Healthy Community Action #30 involves the reduction of urban heat island effect (increase urban tree canopy to at least 40% county wide and Natural Systems Action 98 involves increasing natural area ecosystem resilience through regional wildland fire management, exotics removal, and the expansion of short-hydroperiod wetlands. Within the upland portion of the subject site, there is a total of sixty-three (63) trees in which sixty-two (62) of these trees are exotic including Australian pine (*Casuarina equisetifolia*), Brazilian peppertree (*Schinus terebinthifolia*), carrotwood (*Cupaniopsis anacardioides*), and earleaf acacia (*Acacia auriculiformis*). One native, non-invasive tree was identified as sea grape (*Coccoloba uvifera*). The proposed project consists of the removal of exotic vegetation and the existing exotic trees will be replaced with native trees according to the City of Dania Beach's tree removal requirements.**

**The majority of recommendations provided within the Southeast Regional Climate Action Plan are to be implemented by Academic**



**Institution, Local Governments, Non-Profit Organization, Regional Agencies, and Financial Institutions. These do not apply to the private sector and would not be applicable to this project.**

**In addition, the removal of 69% of the existing mangroves and canopy on site will not impact the overall urban tree canopy and habitat diversity of the surrounding area. A cumulative impact analysis was prepared and accepted by the environmental agencies which demonstrate that a cumulative impact to the New River Basin (Broward County) would not occur, and thus, a mitigation credit purchase from Everglades Mitigation Bank would fully offset the impacts of the proposed project. In addition, the migration of species as environmental conditions change will not be altered as the surrounding parcels such as the conservation easement at Port Everglades to the east, West Lake Park/Anne Kolb Nature Center to the south, and Snyder Park to the west provide a larger area for nesting and foraging of migratory species.**

If you have any further questions or comments, please feel free to contact my office at (954) 782-1908 or via email at [jena@thechappellgroup.com](mailto:jena@thechappellgroup.com).

Sincerely,  
**THE CHAPPELL GROUP, INC.**

A handwritten signature in cursive script that reads "Jena Robbins".

Jena Robbins  
Project Manager

25 June 2023

Jena Robbins  
Chappell Group  
714 East McNab Road  
Pompano Beach, FL 33060

**Re: Drainage Summary  
NSU Port Parcel  
Dania Beach, Florida  
Langan Project No.: 330111401**

Dear Jena:

Please allow this letter and stormwater calculations to address the stormwater related comments from Broward County on the LAPC designation removal.

The proposed development will retain the 25 year storm through a network of drainage wells, exfiltration trench and retention areas. These systems will introduce a groundwater mound during rain events to area that will reduce the impact of salt water intrusion in the immediate area. Currently stormwater will fall onto the property and immediately enter the wetland system which is a brackish water body. Creating this fresh water mound during rain event will be beneficial to saltwater intrusion.

The stormwater system will protect the area from flooding since it retains the 25 year storm event onsite removing a runoff volume from the overall watershed. The system also provides the required water quality treatment through exfiltration trench and retention areas. No runoff is discharged to the surface water bodies with the proposed design. The system is considers future sea level rise as it is design in accordance with Broward County's future high water table maps.

Sincerely,

**Langan Engineering and Environmental Services, LLC**



Michael Carr, PE, LEED AP  
Associate Principal

Enclosure(s): Stormwater Calculations

FBPE Registry No. 6601

\\langan.com\data\FTL\data4\330111401\Project Data\Correspondence\2024-06-25 Stormwater Summary.docx

# Langan Engineering and Environmental Services

110 E Broward Blvd., Suite 1500  
Fort Lauderdale, FL 33301  
(954)-320-2100

Date:	June 20, 2024
Project Name:	NSU Industrial
Project Number:	330111401
Prepared By:	NCM

## SURFACE WATER MANAGEMENT CALCULATIONS (S.F.W.M.D. CRITERIA)

### I. GIVEN:

#### A. ACREAGE: \* Excluding areas draining directly to drainage wells and mangrove preservation area

1	Swale Bottom Area =	0.020 ac.	861	SF			
2	Swale Bank Area =	0.026 ac.	1,153	SF			
3	Pavement Low Loading Area =	0.939 ac.	40,887	SF	62,649	1.438 ac.	Impervious
4	Pavement High=	0.500 ac.	21,762	SF	14,627	0.336 ac.	Pervious
5	N/A				77,276	1.774 ac.	Total
6	Green (Landscape)=	0.290 ac.	12,613	SF			
7	N/A	0.000 ac.					
8	N/A	0.000 ac.		SF			
						1.29 ac.	Mangrove Preservation Area (Excluded)
						2.05 ac.	Total Contributing to Drainage Wells
6	Total =	1.77 ac.				5.11 ac.	TOTAL



**B. OTHER:**

1. The current zoning on the property is I-G

**II. DESIGN CRITERIA:**

**A. WATER QUALITY CRITERIA:**

Quality standards shall be provided during a 3 year, 1 hour storm event for one of the following three combinations:

1. If a wet detention system, then whichever is the greater of the following:
  - a. The first inch of runoff from the entire project site.
  - b. The amount of 2.5 inches times the percent impervious for the project site.
2. If a dry detention system, then 75% of the volume required for the wet detention system.
3. If a retention system, then 50% of the volume required.

Also, the following shall apply:

4. If the property is zoned "Commercial", at least 0.5 inches of retention or dry detention pre-treatment will be required.
5. Any detention system shall be designed to discharge no more than 0.5 inches of the detained volume per day.

**B. WATER QUANTITY CRITERIA:**

**1. DESIGN EVENTS AND RAINFALL AMOUNTS:**

- a. Design Event for Quality:  
Frequency: 5 year  
Duration: 1 hour  
Amount: 3.25 inches
- b. Design Event for Minimum Road Elevation (if not specified by Local District Criteria):  
Frequency: 5 year  
Duration: 1 day  
Amount: 8.50 inches
- c. Design Event for Minimum Discharge Elevation:  
Frequency: 25 year  
Duration: 3 day  
Amount: 14.00 inches
- d. Design Event for Minimum Finish Floor Elevation:  
Frequency: 100 year  
Duration: 3 day  
Amount: 17.00 inches

**2. ADDITIONAL DESIGN INFORMATION:**

- a. Design Water / Control Elevation: 2.00 NAVD  
(Note: Proposed minimum road elevation must be at least 2 feet above the wet season water table or control elevation.)
- b. Drainage Basin / Canal Number: N.A.
- c. Receiving System Regulated Stage Elevation: N.A. NAVD
- d. Design Storm Allowable Discharge: 0.00 cfs.
- e. Time of Concentration: N.A. hour
- f. Minimum Discharge:  
Residential projects shall have systems with the calculated ability to discharge by surface flow or subsurface percolation at least 3/8 inch per day.

### III. COMPUTATIONS:

#### A. WATER QUALITY COMPUTATIONS:

1. Compute the first inch of runoff from the entire developed project site:
 
$$= 1.00 \text{ inch} \times 1.774 \text{ acres} \times (1 \text{ foot} / 12 \text{ inches})$$

$$= \underline{\underline{0.148 \text{ ac-ft for the first inch of runoff}}}$$
2. Compute 2.5 inches times the percent impervious for the developed project site:
  - a. Site area for water quality pervious / impervious calculations only:
 
$$= \text{Total Project} - (\text{Lake Area} + \text{Buildings})$$

$$= 1.774 \text{ acres} - (0.020 \text{ acres} + 0.000 \text{ acres})$$

$$= \underline{\underline{1.754 \text{ acres of site area for water quality calculations}}}$$
  - b. Impervious area for water quality pervious / impervious calculations only:
 
$$= \text{Site area for water quality} - \text{Pervious area}$$

$$= 1.754 \text{ acres} - 0.290 \text{ acres}$$

$$= \underline{\underline{1.465 \text{ acres of impervious area for water quality calculations}}}$$
  - c. Percentage of impervious area for water quality:
 
$$= \text{Impervious area for water quality} / \text{Site area for water quality} \times 100\%$$

$$= 1.465 \text{ acres} / 1.754 \text{ acres} \times 100\%$$

$$= \underline{\underline{83.49 \% \text{ Impervious}}}$$
  - d. For 2.5 inches times the percentage of impervious area:
 
$$= 2.5 \text{ inches} \times 83.49 \%$$

$$= \underline{\underline{2.087 \text{ inches to be treated}}}$$
  - e. Compute volume required for quality detention:
 
$$= \text{Inches to be treated} \times (\text{Total Site Area} - \text{Lake Area})$$

$$= 2.087 \text{ inches} \times (1.774 \text{ acres} - 0.020 \text{ acres}) \times (1 \text{ foot} / 12 \text{ inches})$$

$$= \underline{\underline{0.305 \text{ ac-ft required for detention storage}}}$$
3. The first inch of runoff from the entire developed site = 0.148 ac-ft  
 2.5 inches times the percentage of impervious area = 0.305 ac-ft  

**The volume of 0.305 ac-ft controls**
4. If the project is zoned "Commercial" or if the project were discharging directly to a sensitive receiving body and is more than 40% impervious, 0.5 inches of dry detention pre-treatment must be provided:
 
$$= 0.5 \text{ inches} \times (\text{Total Site Area} - \text{Lake Area})$$

$$= 0.5 \text{ inches} \times (1.774 \text{ acres} - 0.020 \text{ acres}) \times (1 \text{ foot} / 12 \text{ inches})$$

$$= \underline{\underline{0.073 \text{ ac-ft required for pre-treatment}}}$$
5. Compute credit for using one of the following systems:
  - a. Wet detention volume to be provided:
 
$$= \text{Total required detention} - \text{Pre-treatment}$$

$$= 0.305 \text{ ac-ft} - 0.073 \text{ ac-ft}$$

$$= \underline{\underline{0.232 \text{ ac-ft of volume required for wet detention}}}$$
  - b. Dry detention volume to be provided ( 75% of the total required detention volume ):
 
$$= \text{Total required detention volume} \times 75\%$$

$$= 0.305 \text{ ac-ft} \times 75\%$$

$$= \underline{\underline{0.229 \text{ ac-ft of volume required for dry detention}}}$$
  - c. Dry retention volume to be provided ( 50% of the total required detention volume ):
 
$$= \text{Total required detention volume} \times 50\%$$

$$= 0.305 \text{ ac-ft} \times 50\%$$

$$= \underline{\underline{0.153 \text{ ac-ft of volume required for dry retention}}}$$

#### B.

#### SUMMARY OF WATER QUALITY COMPUTATIONS:

Item:	Description:	Quantity
A.1	First inch of runoff from entire project site =	0.148 ac-ft
A.2	2.5 inches times percent impervious =	0.305 ac-ft
A.3	Volume to be treated =	0.305 ac-ft
A.4	Pre-treatment required for commercial site =	0.073 ac-ft
A.5.a	Wet detention volume required =	0.232 ac-ft
A.5.b	Dry detention volume required =	0.229 ac-ft
A.5.c	Dry retention volume required =	0.153 ac-ft
A.5.d	Exfiltration trench volume required =	0.305 ac-ft

C.

STAGE ELEVATION INFORMATION:

Item:	Description:	S type	Length ft.	Area ac.	Low ft.	High ft.	I %	C %	Total Area %
1	Swale Bottom Area =	V		0.020	5.50	5.50	0	50	1.11
2	Swale Bank Area =	L		0.026	5.50	6.00	0	50	1.49
3	N/A	V							0.00
4	Pavement Low Loading Area =	L		0.939	5.00	6.00	100	100	52.91
5	N/A	V							0.00
6	Pavement High=	L		0.500	5.20	6.50	100	100	28.16
7	Green (Landscape)=	L		0.290	5.80	7.00	0	50	16.32
8	N/A	L							0.00
9	N/A	L							0.00
10	N/A	L							0.00
11	N/A	V							0.00
E	Seepage and Evapotranspiration								
<b>Total:</b>				<b>1.774</b>	<b>5.00</b>	<b>7.00</b>	<b>81.07</b>	<b>90.54</b>	<b>100.0</b>

\* Abbreviations: S = Storage; ( V = Vertical Storage & L = Linear Storage )  
I = Impervious  
C = Compaction; ( Use the following compaction factors: 0%, 50%, 100% )  
T = Exfiltration Trench



D. SCS CURVE NUMBER AND SOIL STORAGE CALCULATIONS:

1. Soil Moisture Storage Table:

Existing Soil Type: **2 FLATWOODS**

Depth to Water Table ft.	Cumulative Water Storage ( Pre-Dev. ) in.	Compacted Water Storage ( Post 50% ) in.	Compacted Water Storage ( Post 100% ) in.
1	0.76	0.67	0.57
2	2.50	2.19	1.88
3	5.40	4.73	4.05
4	9.00	7.88	6.75

2. Available Soil Storage Calculation:

Item:	Description:	Ave. Elev. ft.	S in.	P Area acres	Volume Stored ac-in
1	Swale Bottom Area =	5.50	6.30	0.020	0.12
2	Swale Bank Area =	5.75	7.09	0.026	0.19
3	N/A	0.00	0.00	0.000	0.00
4	Pavement Low Loading Area =	5.50	5.40	0.000	0.00
5	N/A	0.00	0.00	0.000	0.00
6	Pavement High=	5.85	6.35	0.000	0.00
7	Green (Landscape)=	6.40	7.88	0.290	2.28
8	N/A	0.00	0.00	0.000	0.00
9	N/A	0.00	0.00	0.000	0.00
10	N/A	0.00	0.00	0.000	0.00
11	N/A	0.00	0.00	0.000	0.00
<b>Total:</b>		<b>6.30</b>	<b>33.01</b>	<b>0.336</b>	<b>2.59</b>

\* Abbreviations: S = Soil Storage  
P = Pervious

3. Moisture Storage Calculation ( S ):

= Available soil storage / Total Site Area  
= 2.59 ac-in / 1.774 acres  
= **1.46 inches**

4. SCS Curve Number Calculation ( CN ):

= 1000 / ( S + 10 )  
= 1000 / ( 1.461 + 10 )  
= **87**

E. SURFACE STORAGE CALCULATIONS:

1. Stage vs. Storage Calculations:

Stage ft.	STORAGE ( ac-ft )												
	Item:	1 ac-ft	2 ac-ft	3 ac-ft	4 ac-ft	5 ac-ft	6 ac-ft	7 ac-ft	8 ac-ft	9 ac-ft	10 ac-ft	E ac-ft	Total ac-ft
2.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47	0.47
3.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47	0.47
3.50		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47	0.47
4.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47	0.47
4.50		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47	0.47
5.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47	0.47
5.50		0.00	0.00	0.00	0.12	0.00	0.02	0.00	0.00	0.00	0.00	0.47	0.60
6.00		0.01	0.01	0.00	0.47	0.00	0.12	0.00	0.00	0.00	0.00	0.47	1.08
6.50		0.02	0.02	0.00	0.94	0.00	0.32	0.06	0.00	0.00	0.00	0.47	1.83
7.00		0.03	0.03	0.00	1.41	0.00	0.57	0.17	0.00	0.00	0.00	0.47	2.69
7.50		0.04	0.05	0.00	1.88	0.00	0.82	0.32	0.00	0.00	0.00	0.47	3.58
8.00		0.05	0.06	0.00	2.35	0.00	1.07	0.46	0.00	0.00	0.00	0.47	4.46
8.50		0.06	0.07	0.00	2.82	0.00	1.32	0.61	0.00	0.00	0.00	0.47	5.35
9.00		0.07	0.09	0.00	3.29	0.00	1.57	0.75	0.00	0.00	0.00	0.47	6.24
9.50		0.08	0.10	0.00	3.75	0.00	1.82	0.90	0.00	0.00	0.00	0.47	7.12
10.00		0.09	0.11	0.00	4.22	0.00	2.07	1.04	0.00	0.00	0.00	0.47	8.01
10.50		0.10	0.13	0.00	4.69	0.00	2.32	1.19	0.00	0.00	0.00	0.47	8.90
11.00		0.11	0.14	0.00	5.16	0.00	2.57	1.33	0.00	0.00	0.00	0.47	9.78
11.50		0.12	0.15	0.00	5.63	0.00	2.82	1.48	0.00	0.00	0.00	0.47	10.67
12.00		0.13	0.17	0.00	6.10	0.00	3.07	1.62	0.00	0.00	0.00	0.47	11.56

\* Abbreviations: E = Exfiltration Trench

E. MINIMUM BUILDING FINISH FLOOR ELEVATION CALCULATIONS (ZERO DISCHARGE):

1. The rainfall amount for the 100-Year, 3-Day storm event:  
= **17.00 in.**
2. Compute inches of runoff, Q:  
=  $(P - (0.2 S))^2 / (P + (0.8 X S))$   
=  $(17.00 \text{ in.} - (0.2 \times 1.46 \text{ in.}))^2 / (17.00 \text{ in.} + (0.8 \times 1.46 \text{ in.}))$   
= **15.36 inches of runoff**
3. Compute volume of runoff:  
= (Inches of Runoff) X (Project Area)  
= 15.36 inches X 1.774 acres X (1 foot / 12 inches)  
= **2.27 ac-ft of storage required (zero discharge)**
4. From the stage vs storage curve, **2.27** ac-ft corresponds to elevation **6.76** NAVD

G. MINIMUM DISCHARGE ELEVATION CALCULATIONS (ZERO DISCHARGE):

1. The rainfall amount for the 25-Year, 3-Day storm event:  
= **14.00 in.**
2. Compute inches of runoff, Q:  
=  $(P - (0.2 S))^2 / (P + (0.8 X S))$   
=  $(14.00 \text{ in.} - (0.2 \times 1.46 \text{ in.}))^2 / (14.00 \text{ in.} + (0.8 \times 1.46 \text{ in.}))$   
= **12.39 inches of runoff**
3. Compute volume of runoff:  
= (Inches of Runoff) X (Project Area)  
= 12.39 inches X 1.774 acres X (1 foot / 12 inches)  
= **1.83 ac-ft of storage required (zero discharge)**
4. From the stage vs storage curve, **1.83** ac-ft corresponds to elevation **6.50** NAVD

H. MINIMUM ROAD CROWN ELEVATION CALCULATIONS (ZERO DISCHARGE):

1. The rainfall amount for the 10-Year, 1-Day storm event:  
= **8.50 in.**
2. Compute inches of runoff, Q:  
=  $(P - (0.2 S))^2 / (P + (0.8 X S))$   
=  $(8.50 \text{ in.} - (0.2 \times 1.46 \text{ in.}))^2 / (8.50 \text{ in.} + (0.8 \times 1.46 \text{ in.}))$   
= **6.97 inches of runoff**
3. Compute volume of runoff:  
= (Inches of Runoff) X (Project Area)  
= 6.97 inches X 1.774 acres X (1 foot / 12 inches)  
= **1.03 ac-ft of storage required (zero discharge)**
4. From the stage vs storage curve, **1.03** ac-ft corresponds to elevation **5.94** NAVD



PROPOSED DEVELOPMENT WEIGHTED C-VALUE		
DA-01-Building		
Impervious Area (Ac)	Pervious Area (Ac)	Weighted C-Value
C = 0.9	C = 0.3	
1.431		0.9

DA-02 - West Parking Lot		
Horizontal Surfaces		
Impervious Area (Ac)	Pervious Area (Ac)	Weighted C-Value
C = 0.9	C = 0.3	
0.310	0.091	0.76

DA-03 - South Entrance		
Horizontal Surfaces		
Impervious Area (Ac)	Pervious Area (Ac)	Weighted C-Value
C = 0.9	C = 0.3	
0.172	0.046	0.77

TOTALS CONTRIBUTING TO DRAINAGE WELLS		
Impervious Area (Ac)	Pervious Area (Ac)	Total Area (Ac)
1.913	0.138	2.051

Discharge Rate of Wells(DR) CFS/FT-Head

200 GPM/FT-Head

0.45 CFS/FT-Head

PROPOSED CONDITION RUNOFF CALCULATIONS

Drainage Area	Storm Event	Weighted C-Value -C	Intensity - I ("/hr)	Area - A (Ac)	Runoff (Q) - Q=C*I*A (CFS)	Lowest Rim Elevation (ft)	Available Head (H) ft	Well Discharge Rate (CFS)	Number of Wells Required	Wells Provided
DA-01	25-YR Storm	0.90	7.3	1.43	9.40	6.21	2.71	1.21	7.79	8.00
DA-02	25-YR Storm	0.76	7.3	0.40	2.23	5.20	1.70	0.76	2.94	3.00
DA-03	25-YR Storm	0.76	7.3	0.22	1.21	6.00	2.50	1.11	1.09	1.00

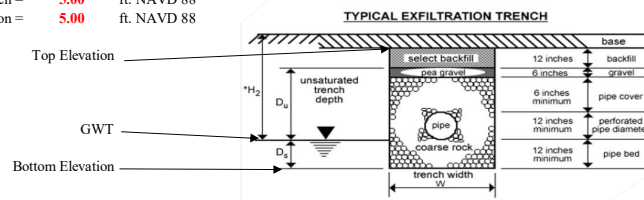
- Notes
1. Discharge Rate (DR) is assumed to be 200 GPM-FT Head Per Well based onwest adjacent site drainage well rates
  2. Peak Runoff Rate is the Stormwater Runoff (Q) - Discharge Rate of Existing Wells (DR)\*Available Head (H).
  3. The available head is the height between the rim of the lowest structures connected to the drainage area network and the top of the well casing (3.5').

Wells Required 11.96  
Wells Provided 12

Site Calculation for NSU Industrial - 5 year  
11850 NE 7th Avenue, Dania Beach, FL

**WATER QUALITY CALCULATIONS**

Total Site Area = 5.11 acres. **Note: Building Area and Portion of Parking lot discharging directly to Drainage Wells. Mangrove Preservation Area is NOT included**  
Total Drainage Area = 1.72 acres.  
Impervious Area = 1.43 acres. (C = 0.90 )  
Pervious Area = 0.29 acres. (C = 0.30 )  
Lowest Grnd. Elev. for Prop. Exfil. Trench = 5.00 ft. NAVD 88  
Lowest Existing Grate Elevation = 5.00 ft. NAVD 88



**Proposed Exfiltration Trench:**

Top Elevation = 4.50 ft. NAVD 88  
GWT = 2.00 ft. NAVD 88  
Pipe Diameter = 18 inches  
Inv. Elevation = 2.00 ft. NAVD 88  
Bottom Elevation = -5.50 ft. NAVD 88  
Width = 8.00 feet.  
Weir Elevation = 4.50 ft. NAVD 88

**Existing Exfiltration Trench:**

Top Elevation = n/a ft. NAVD 88  
GWT = n/a ft. NAVD 88  
Pipe Diameter = n/a inches  
Inv. Elevation = n/a ft. NAVD 88  
Bottom Elevation = n/a ft. NAVD 88  
Width = n/a feet.  
Length = n/a feet.  
Assumed Usage = 0 percent

Weighted  $k = 5.00E-05$  cfs/sf-ft of head. Based on nearby perc rates, similar conditions near Port  
Safety Factor = 2  
DESIGN STORM FREQUENCY (YEARS): 5  
MINIMUM TIME OF CONCENTRATION (MINUTES): 10.00

## BASIN DESIGN INFORMATION per DERM

TOTAL DRAINAGE AREA =	<b>0.696</b>	hectares or	<b>1.719</b>	acres.
TOTAL IMPERVIOUS DRAINAGE AREA =	<b>0.578</b>	hectares or	<b>1.429</b>	acres.
IMPERVIOUS RUNOFF COEFFICIENT =	<b>0.90</b>			
TOTAL PERVIOUS DRAINAGE AREA =	<b>0.117</b>	hectares or	<b>0.290</b>	acres.
PERVIOUS RUNOFF COEFFICIENT =	<b>0.30</b>			
SUB-BASIN DRAINAGE AREA =	<b>0.696</b>	hectares or	<b>1.719</b>	acres.
SUB-BASIN IMPERVIOUS DRAINAGE AREA =	<b>0.578</b>	hectares or	<b>1.429</b>	acres.
IMPERVIOUS RUNOFF COEFFICIENT =	<b>0.90</b>			
SUB-BASIN PERVIOUS DRAINAGE AREA =	<b>0.117</b>	hectares or	<b>0.290</b>	acres.
PERVIOUS RUNOFF COEFFICIENT =	<b>0.30</b>			
SUB-BASIN TIME OF CONCENTRATION =	<b>10.00</b>	minutes		
DESIGN STORM FREQUENCY =	<b>5</b>	years		
SUB-BASIN TIME OF CONCENTRATION =	<b>10.00</b>	minutes		
SUB-BASIN TIME FOR FIRST INCH OF RUNOFF =	<b>12.95</b>	minutes		
REQUIRED WATER QUALITY TREATMENT TIME =	<b>22.95</b>	minutes		

## WATER QUALITY CALCULATIONS

Water Quality Based on 1" Over the Entire Drainage Area =	<b>0.14</b>	ac-ft
Water Quality Based on 2.5" Over the Impervious Area =	<b>0.30</b>	ac-ft

**TREATMENT VOLUME REQUIRED (Greater of the two above):**

<b>Vtrmt =</b>	<b>12,971 cu. ft.</b>
<b>Vtrmt =</b>	<b>0.30 ac.-ft.</b>



## TYPICAL EXFILTRATION TRENCH DESIGN by SFWMD

$$L = SF \times [(\%WQ)(\text{Volume WQ}) + \text{Volume Additional}] / [k \times (2 \times H2 \times Du - Du^2 + 2 \times H2 \times Ds) + (1.39 \times 10^{-4}) \times (W \times Du)]$$

Volume = Treatment Volume WQ + Volume Additional - Capacity of Exist. Trench (ac-in)

k = Weighted Hyd. Conductivity (cfs/sf - ft)

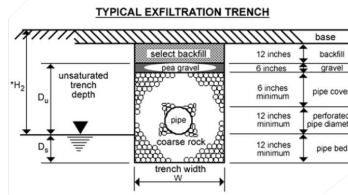
H2 = Depth to the Water Table (ft)

W = Trench width (ft)

Du = Non-Saturated Trench Depth (ft)

Ds = Saturated Trench Depth (ft)

SF = Safety Factor



% WQ=	<b>100%</b>			
Capacity of Exist. Exfil. Trench =	<b>0.000</b>	ha-m or	<b>0.000</b>	ac.-ft.
Treatment Volume WQ =	<b>0.037</b>	ha-m or	<b>0.30</b>	ac.-ft.
=	<b>3.573</b>	ac-in.		
Volume Additional =	<b>2.065</b>	ac-in.	<b>0.17</b>	ac.-ft.
Volume=	<b>5.638</b>	ac-in.	<b>0.47</b>	ac.-ft.
k =	<b>5.00E-05</b>	cfs/sf-ft		
H2 =	<b>3.00</b>	ft.		
W =	<b>8.00</b>	ft.		
Du =	<b>2.50</b>	ft.		
Ds =	<b>7.50</b>	ft.		
SF =	<b>2.00</b>			

(Drainage Area \* 3.28 (5-year, 1-hour Rainfall)) - Treatment Volume  
ADD TO SWM CALCS STORAGE

Max Volume for Exfil. **3.57** ac-in

**L Required = 1,307 feet**

For Water Quality Treatment

**PROVIDED LENGTH = 1,327 feet**

## ATTACHMENT 9



July 23, 2024

Ms. Linda Sunderland  
Environmental Program Supervisor  
Broward County Resilient Environment Department  
1 N University Drive, Mailbox 201  
Plantation, Florida 33324

**RE: NSU Port Parcel**  
**TCG Project No. 14-0080.002**  
**ERL No. DF20-1121**



Dear Ms. Sunderland:

The Chappell Group, Inc. (TCG) is in receipt of comments dated February 27, 2024, regarding the above referenced project and provides the following response(s) to your requests. Your comments related to the proposed project are noted followed a response in **bold**:

1. The ERL and ERP applications remain under review pending 1) submittal of application fees, 2) submittal and review of a Surface Water Management application and associated fees, 3) status of the LAPC designation, 4) wetland avoidance, minimization, and mitigation technical issues, 6) identification of cumulative impacts, 7) evaluation of impacts to tidal flow/flushing, and 8) submittal of draft Conservation Easement documents.
2. A County Surface Water Management License application has not been received as of the date of this Memorandum.

Comments:

Shutts & Bowen LLP's request to the Broward County Planning Council is to amend the ESL map, removing the LAPC designation from a significant portion (4.1 acres) of the approximate 5.113-acre site of mangrove wetlands for a commercial development on folio # 504226000021.

The following section details the criteria for LAPC designation, the applicant's evaluation of the Site, and EPD's comments and observations:

1. **Criterion:** Marine Resources - Coastal areas of unique, scarce, fragile, or vulnerable natural habitat, physical features and scenic importance, or; coastal areas of high natural productivity or essential habitat for fish, wildlife, and the various trophic levels in the food web critical to their well-being, or; coastal areas of substantial recreational value and/or potential, or; areas needed to protect, maintain, or replenish coastal flood plains, coral and other reefs, beaches, offshore sand deposits and mangrove stands.

**Applicant:** The Subject Site does not have resources that are unique, scarce, fragile or vulnerable. The 5.11-acre Site contains 4.21 acres of mangrove wetland with a fringe of disturbed uplands on the west side. The dominant species on site were red and black mangroves and consisted of non-native species such as Brazilian pepper, earleaf acacia and Australian pine. The interior of the Site displays some evidence of previous alteration, and the Site is surrounded by commercial parcels.

**Staff comments:** The Site meets the above criteria as “coastal areas of high natural productivity or essential habitat for fish, wildlife, and the various trophic levels in the food web critical to their well-being”. The Site is contiguous with approximately 160 acres of red and black mangroves and provides habitat and food web support.

**Response: Mangrove habitat is not a unique habitat in southeast Florida. Of the 4.21 acres of mangrove habitat, approximately 1.29 acres will remain and be placed under a conservation easement. The 1.29 acres of mangrove habitat to remain will be located on the eastern portion of the site which will remain contiguous with the approximately 160 acres of red and black mangroves on adjacent properties that are owned by the Broward County Board of County Commissioners.**

2. **Criterion:** Natural Landforms and Features - A geological, hydrological, or physiographical feature confined to a small area of Broward County and considered quite rare locally or regionally, or; a representative natural ecosystem and/or its units existing in a few isolated locations, but extirpated from most of the county.

**Applicant:** No locally or regionally rare geological, hydrological, or physiological features are present on site. Overall, the majority of existing mangrove wetlands within Broward County are located east of US-1 within the center of the County, primarily within Broward County’s West Lake Park and John U. Lloyd State Park. Additional smaller contiguous areas of existing mangroves are located within Port Everglades, Broward County’s Deerfield Island Park, the Bonnet House, Hugh Taylor Birch State Park and the City of Hollywood’s Holland Park. Remaining areas of mangroves consist primarily of small mangrove fringes present along existing canals and channelized waterways, including those within South Florida Water Management District right-of-way. These mangrove areas are typically under various forms of site protection, either as conservation easements or within designated park boundaries. Thus, the site is not considered rare locally or regionally. The loss of this low quality, degraded wetland would result in an insignificant loss of wetland function to Broward County.



**Staff comments:** Mangroves are limited to the eastern edge of Broward County in areas of tidal influence and are therefore a very small percentage of the overall county habitat. This Site is not a “low quality, degraded wetland”. Impacts to small parcels of mangrove wetlands does have a cumulative impact to the overall coverage of mangroves in the County. The Site meets the criteria above as a natural ecosystem and physiographical feature confined to a small area of the County.

**Response:** Of the 4.21 acres of mangrove wetlands on site, 1.29 acres will remain, be enhanced, and be placed under a conservation easement. The other 2.92 acres will be filled for the development of a warehouse facility. Therefore 30% of the mangrove wetlands on site will not be impacted. The 70% of mangrove wetland impacts does not constitute a cumulative impact to mangrove wetlands within the New River drainage basin. Please see attached cumulative impact analysis. The site consists of exotic/nuisance species and appears to be previously altered as the western portion of the site was previously impacted with fill and the lake was excavated. In addition, this parcel is located directly adjacent to high intensity warehouse facilities and the majority of remaining mangrove wetlands within Broward County are protected as they are owned by agencies at the federal, state, county, or local level or were previously placed under conservation easements.

3. **Criterion:** Native Vegetative Communities

A Local Area of Particular Concern (Native Vegetative Communities Category) is an area which shows a predominance of native vegetation associated with one or more of the following ecological communities: Beach and Dune Community; Coastal Strand Forest Community; Mangrove Community (Saltwater Swamp); Scrub Community; Pine Flatwoods Community; High Hammock Community; Low Hammock Community; Cypress Wetland Community (Freshwater Swamp); Everglades Community (Freshwater Marsh).

**Applicant:** While mangroves are present within the site, the mangroves observed appeared stressed, most likely due to the existing elevations and previous alteration of the site. In addition, exotic Brazilian pepper, Australian Pine, and earleaf acacia are present which make this a low-quality mangrove wetland.

**Staff comments:** Mangroves on site are mature red and black mangroves. The only documented alteration of the Site was the created of two small surface water bodies, between 1955 and 1963 during the installation of the FPL transmission lines, which was conducted prior to County licensing regulations. The exotics mentioned are limited to the western upland edge of the Site. The Site meets the criterion above with a predominance of native vegetation associated with a mangrove community.

**Response: The Site does have a native vegetative community. As previously stated, it also consists of nonnative/exotic species and is surrounded by commercial/industrial developments as well.**

(b) In addition, a Local Area of Particular Concern (Native Vegetative Communities Category) must satisfy **at least three** of the following criterion:

- i. **Uniqueness** - The site contains a significant sample of rare or endangered species, or, the site is among a small number of sites in Broward County representing a particular ecological community.

**Applicant:** The site was surveyed for the potential presence of listed species and/or listed species habitat. Due to the developed surroundings, existing vegetative conditions, and use of the eastern portion of the site, the subject area does not provide for roosting or forage habitat by listed species, and any use by such species would likely be only transient in nature. The site is not a highly productive coastal tideland as a low amount of tidal inundation occurs. The site is not used for scientific study or research on wildlife.

**Staff comments:** The Site meets the criteria above as there are a small number mangrove parcels in relation to the overall county size. This Site was inspected on February 16, 2024, and was found to contain a 15-20' wide fringe of exotic vegetation on the western edge. The remaining area contains approximately a 95% canopy of mature red and black mangroves. The Site is tidally flushed. Some anthropogenic impacts of trash were noted. The area provides nursery habitat for many species fishes, and foraging habitat for crustaceans, invertebrates, reptiles, and birds. Mangroves contribute to the overall health of an ecosystem by providing habitat, trapping and cycling of nutrients and organics. Mangroves also provide food for many species from the algae that grows on the roots. Extensive areas of mangroves are a unique and very limited resource in Broward County. This Site is situated within approximately 160 acres of undeveloped land, mostly mangroves.

**Response: The exotic vegetation on the western edge ranges from 40-170' wide. This site is not unique as the western portion of the property was previously impacted with fill and the lake was excavated. The parcel is also located directly adjacent to high intensity warehouse facilities.**

- ii. **Diversity** - A significant sample of two or more ecological communities are contained within the site.

**Applicant:** Only one ecological community is present, a mangrove wetland.

**Staff comments:** The Site provides two habitats, the upland western edge and the mangrove wetlands, therefore, the Site meets the criteria above.

- iii. **Low Level of Exotic Invasion** - The degree and nature of exotic invasion on the site is such that it can be easily managed or mitigated.

**Applicant:** Brazilian pepper, Australian pine, and earleaf acacia are scattered throughout the site and cannot be easily maintained.

**Staff comments:** Exotics are limited to the western upland edge of the Site and can be treated or removed. The remainder of the Site is mature red and black mangroves. Ground coverage includes mangrove saplings and black mangrove pneumatophores. The Site meets the criteria above.

**Response:** Exotics are also scattered within the mangrove wetland area and cannot be easily maintained.

- iv. **Potential for Protection** - Ownership patterns, development status and other factors make the resources of a site likely to be successfully protected.

**Applicant:** The adjacent properties to the west are continually being developed into commercial properties. The Site and the surrounding area are not likely to be protected in the future due to continuing development.

**Staff comments:** The Site abuts mangrove wetlands which are owned by Broward County and a FPL transmission line easement. Development impacts are low for those parcels. The Site is hydrologically connected tidally connected to the Dania Cut-off Canal to the south and contiguous to adjacent mangrove wetlands. All stormwater runoff entering the site is pretreated. The area is tidally flushed daily. The Site meets the criteria above.

**Response:** The adjacent sites to the north, south, and east are owned by Broward County and are protected. Similar to the subject site, the adjacent sites to the north and west are privately owned and have been developed into commercial and industrial properties. The wetlands that are proposed to remain on the eastern portion of the site will continue to be tidally connected to



**the Dania Cut-off Canal and contiguous to the adjacent mangrove wetlands.**

- v. **Geography** - The site has proximity to other resources which would heighten its value as a LAPC (e.g., other ESLs, public parks, waterfront).

**Applicant:** Commercial development exists adjacent to the west of the site. Wetlands exist to the north, east, and south and are part of parcels that consist of FP&L transmission lines. In addition, Port Everglades and the Fort Lauderdale / Hollywood International Airport are in the immediate surrounding area.

**Staff comments:** This Site is a portion of approximately 160 acres of mangrove wetlands. It is also tidally connected to the Dania Cut-off canal, and by extension to West Lake Park. The Site meets the criteria above.

**Response:** The 160 acres of mangrove wetlands are owned by Broward County. The subject site is a privately owned parcel also adjacent to other privately owned commercial and industrial properties. The subject site is also zoned Industrial General through the City of Dania Beach which is consistent with the other industrial properties in the vicinity.

4. **Criterion:** Wildlife - Existing wildlife refuges, reserves, and sanctuaries, or; known habitats of rare, threatened, or endangered species or species of special concern, or; major wildlife intensive use areas such as well-developed hammock communities, highly productive coastal tidelands, and mangroves, or; areas used for scientific study and research on wildlife.

**Applicant:** The Site was surveyed for the potential presence of listed species and/or listed species habitat. Due to the developed surroundings, existing vegetative conditions, and use of the eastern portion of the site, the subject area does not provide for roosting or forage habitat by listed species, and any use by such species would likely be only transient in nature.

**Staff comments:** The Site is contiguous to approximately 160 acres of mangrove habitat which provides roosting, foraging, and refuge for many species. The Site meets the criteria above.

**Response:** The subject site consisting of 4.21 acres of wetland habitat is minimal to the overall 160 acres of mangrove habitat that is owned by Broward County and under a conservation easement.

5. **Criterion:** Economic Resources - Existing ports, marinas, piers, energy resources, and artificial reefs, or; areas noted for specific study and research concerning economic development.

**Applicant:** Port Everglades and the Fort Lauderdale/Hollywood International Airport are present in the immediate vicinity of the subject site. No known specific study or research is being conducted concerning the site and economic development.

**Staff comments:** The Site is not an economic resource or currently an area of known specific study.

6. **Criterion:** Cultural Resources - Sites designated on the National Register of Historic Places or on the Florida Master Site File, or; sites related to the general development of the local area, region, or State, or; buildings which are significant examples of the architectural design of their period, or; sites associated with the life/lives of important person(s), or social, political, cultural, or economic movements or with historical events, or; archaeological sites which have yielded useful information on the area's past.

**Applicant:** No cultural resources are present. The site is not designated on the National Register of Historic Places or on the Florida Master Site File. The Department of Historical Resources reviewed the site as part of the U.S. Army Corps permit process.

**Staff comment:** No known cultural resources are present.

Based upon EPD's research and direct observations, the Site continues to meet the criteria for LAPC designation. Development of this site will have negative impacts to the adjacent mangrove area since the development would create a dam, limiting tidal flow / flushing to the northern wetlands. Retaining walls will have to be constructed, and the construction and footprint may impact additional wetlands.

Expansive mangrove wetlands habitat is a limited resource in Broward County with areas constantly under threat from development. There are few sites of this size remaining, and this Site provides habitat for a variety of species. There is a cumulative impact to overall mangrove wetland resources from projects proposing impacts.

**Response:** Of the 4.21 acres of mangrove wetlands on site, 1.29 acres will remain, be enhanced, and be placed under a conservation easement. The other 2.92 acres will be filled for the development of a warehouse facility. The wetland impacts will also be offset through the purchase of credits from the Everglades Mitigation Bank which will result in a significantly higher value habitat than the habitat located at the subject site. The EMB also provides regional ecological value and substantially higher ecological value than the mangroves/wetlands

proposed to be impacted. EMB is located between Everglades National Park and Biscayne Bay National Park, which provides a wildlife corridor that allows wildlife to roam between parks. EMB also undergoes continual restoration and enhancement projects to include hydrologic improvements and vegetation management to provide long term benefits to wildlife.

In addition, the impact to 70% of the mangrove wetlands onsite does not constitute a cumulative impact to mangrove wetlands within the New River drainage basin. Please see attached cumulative impact analysis. The site consists of exotic/nuisance species and appears to be previously altered. In addition, the majority of remaining mangrove wetlands within Broward County are protected as they are owned by agencies at the federal, state, county, or local level or were previously placed under conservation easements. Considering a 70% impact to the “at-risk” wetlands that are not owned by agencies or currently under a conservation easements,

If you have any further questions or comments, please feel free to contact my office at (954) 782-1908 or via email at [jena@thechappellgroup.com](mailto:jena@thechappellgroup.com).

Sincerely,  
**THE CHAPPELL GROUP, INC.**

A handwritten signature in cursive script that reads "Jena Robbins".

Jena Robbins  
Project Manager



## ATTACHMENT 10



Resilient Environment Department

### ENVIRONMENTAL PERMITTING DIVISION

1 North University Drive, Mailbox 201, Plantation, Florida 33324 • 954-519-1483 • FAX 954-519-1412

## MEMORANDUM

**TO:** David Vanlandingham, Director  
Environmental Permitting Division (EPD)

**THROUGH:** Carlos Adorisio, P.E., Deputy Director

**FROM:** Linda Sunderland, EPD *LS*  
Environmental Program Supervisor



**DATE:** August 6, 2024

**SUBJECT:** Environmentally Sensitive Lands (ESL) Map Amendment  
Environmentally Sensitive Lands Site / LAPC #97

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The Environmental Permitting Division (ERP) has received and reviewed the response from The Chappell Group (TCG) (including the Cumulative Impact Analysis and stormwater calculations from Langan Engineering and Environmental Services, LLC (Langan)) to previous comments provided to the Planning Council.

The response from TCG represents the site as 1) a poor quality and highly degraded isolated wetland, 2) reliant on rainfall and groundwater for hydrology, 3) with habitat value rapidly diminishing because of exotic vegetation. 4) having no wildlife and 5) development of the site will have no negative or cumulative impacts.

EPD has visited the site several times recently and has prepared the attached visual presentation with 9 slides to help illustrate our below responses to the TCG analysis.

1. The western edge of the site does have an upland buffer with some exotic vegetation and there are also a few higher elevation points in the mangrove area that are remnant of the excavation of the borrow pit / lake excavation (Slide 8). The exotic vegetation is limited in area and could be easily removed or treated. The remainder of the site (Slides 9 & 10) is a mature, highly functional mangrove ecosystem with red and black mangrove trees 20+ feet tall with no exotics noted during EPD inspection. The site is not isolated. It is contiguous to approximately 160 acres of red and black mangroves (Slide 3).
2. The site is tidally connected to the Dania Cut Off Canal to the south (Slide 3) and therefore is flushed by daily tide changes. All stormwater entering the site is pretreated and therefore there are no negative impacts from the adjacent developed areas. As noted above, only a small portion of the site along the western edge of the site contains exotic vegetation which can be easily treated.

MEMORANDUM  
Linda Sunderland, EPD  
August 6, 2024

3. During EPD staff visits, wildlife usage has been noted on the site (Slide 6), including birds, fish, crustaceans, reptiles and mammals. The site is a highly mature mangrove habitat with trees 20+ feet tall, an extensive aerial coverage of red mangrove roots, open water and protected waters (Slide 9 & 10). The site is contiguous to approximately 160 acres of mangrove habitat which provides roosting, foraging, and refuge for many species, including fish that later in life migrate to deeper waters offshore. Slide 2 lists mangrove ecosystem benefits.
4. The stormwater calculations provided by Langan only discusses stormwater management for the proposed site. It does not discuss or provide modeling data to show potential impacts to the surrounding mangroves by having tidal flow partially dammed (Slide 7).

Development of this site will have 1) permanent impacts to 2.92 acres of mature, highly functional mangrove wetlands, 2) negative impacts to the adjacent mangrove area since the development through the creation of a partial dam limits tidal flow / flushing to the northern wetlands, and 3) additional wetland impacts outside of the project footprint due to construction including the retaining walls (Slide 4).

Expansive mangrove wetlands habitat (Slide 8) is a limited resource in Broward County with areas constantly under threat from development. If this site and the other privately held sites nearby are developed, approximately 20 acres of mangroves will be lost. There are few sites of this size remaining and therefore, it has significant potential to provide habitat for a variety of species. There is a cumulative impact to overall mangrove wetland resources from projects proposing impacts (Slide 5).

At this time, based on our previous review provided to the Planning Council and the information above, we strongly believe the site continues to meet the criteria for a LAPC and do not have reasonable assurances that the project as proposed will meet the criteria issuance of a County Environmental Resource License, County Stormwater Management License or State FDEP Environmental Resource Permit. All three approvals would be issued by ERP under a delegation agreement with FDEP.

Enclosure: PDF of PowerPoint Presentation

# Comments on ESL Map Amendment for LAPC Site #97



LAPC #97 2/16/2024

Natural Resources Program  
Environmental Permitting Division  
Resilient Environment Department





## Why are Mangroves Important?

- Mangroves provide function and value to the coastlines they inhabit
  - Shoreline stabilization
    - Storm/erosion protection
  - Ecosystem support
    - Nursery habitat (birds, fish, invertebrates)
  - Commercial fisheries
    - Mangroves support sea grass and coral reef ecosystems that fisheries rely on
  - Trap pollutants
    - Stormwater runoff: nutrients, chemicals, etc.

4/23/2015



## Why are Mangroves Important?

- Decrease sedimentation on coral reefs and sea grasses, when mangroves are present
  - Better habitat = better fish
  - Shelter and food for development stages of fisheries
  - Beaches and coral reefs are a multi-billion dollar industry
- Mangroves are a natural barrier versus man-made seawalls and rip-rap

4/23/2015



## Why are Mangroves Important?

### Florida Fishery Economics

- \$24 billion marine industry
- \$14.6 billion fishing industry
- \$53 billion tourist industry: beaches & coral reefs
- Shorter mangroves contribute less to fisheries
- In 1975 \$ values (worth 4.5x today):
  - a 5 ft. red mangrove contributed \$144/ac/yr
  - a 35 ft. red mangrove contributed \$ 6,514/ac/yr
- Recreational fishing activity creates ~54,000 Florida jobs & \$5.4 billion



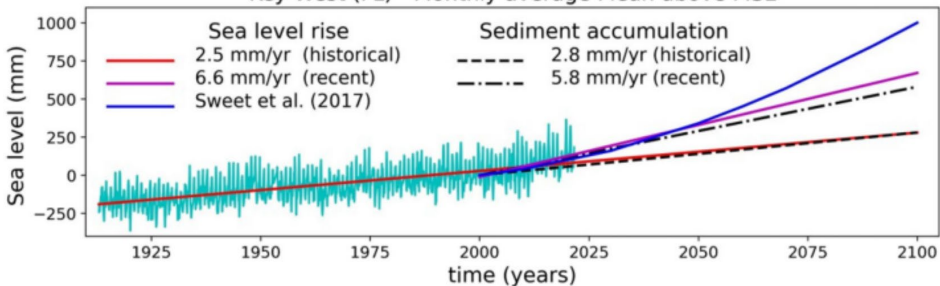
Painting by Monica Gutierrez-Quarto, Mangrove Action Project

Florida Fishery Economics  
<http://myfwc.com/conservation/value/saltwater-fishing/> (2010 values)

4/23/2015

24

Key West (FL) - Monthly average Mean above MSL



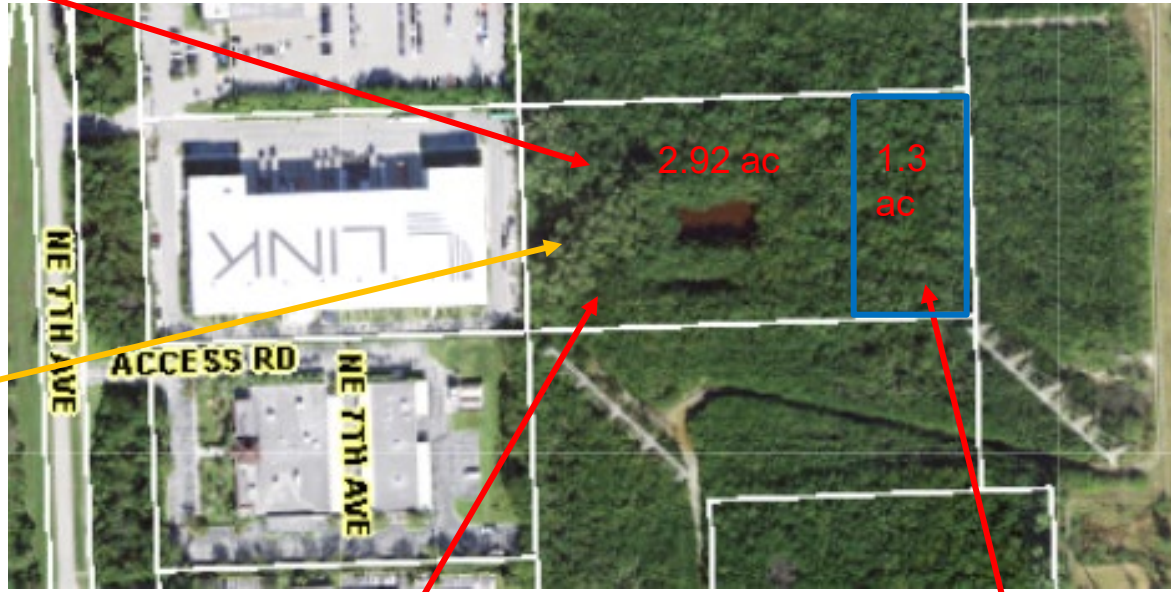
Mangrove loss  
with sea level rise

Parkinson, Randall W., and Shimon Wdowinski. "Accelerating sea-level rise and the fate of mangrove plant communities in South Florida, USA." *Geomorphology* 412 (2022): 108329.

Location



Dania Cut Off Canal



Proposed development area

Proposed CE area

The site is contiguous to approximately 160 acres of mangrove habitat which provides roosting, foraging, refuge for many species





-





## Potential Cumulative Impacts

Future impacts to privately owned parcels would create significant cumulative impacts to the mangrove ecosystem.

Privately owned

Subject site



## Wildlife Usage

EPD staff observed birds, reptiles, crustaceans, and a mammal skull onsite.

Wildlife usage is representative of a high-quality Wetland.



Photo: Crab holes, M. Decker, 5/22/2020



Photo: Mammal skull,  
K. Scheffer 2/16/2024



## Legend

- Vulnerable Mangroves
- Subject Site
- Impact
- Conservation Easement

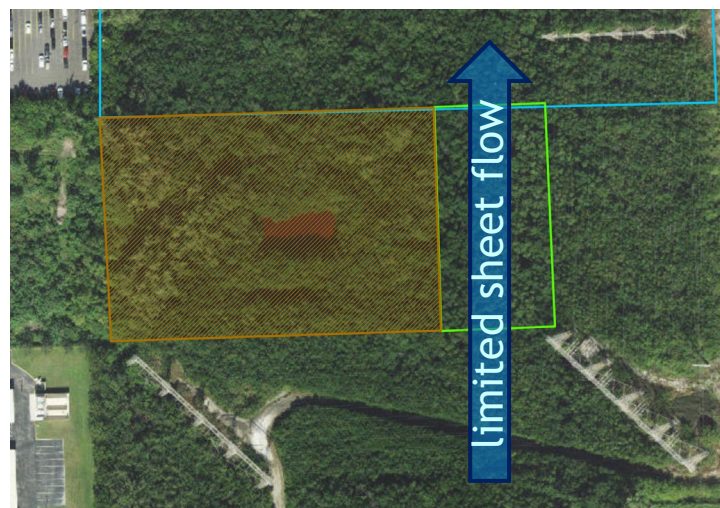


## Hydrology Concerns

- Proposed impacts create a dam effect for tidal flushing to 40 ac of mangrove habitat to the north.
- Langan's letter only addresses stormwater management concerns and lacks calculations/discussion regarding restriction of tidal flow.



existing conditions



proposed impacts

## Legend

- Vulnerable Mangroves
- Subject Site
- Impact
- Conservation Easement





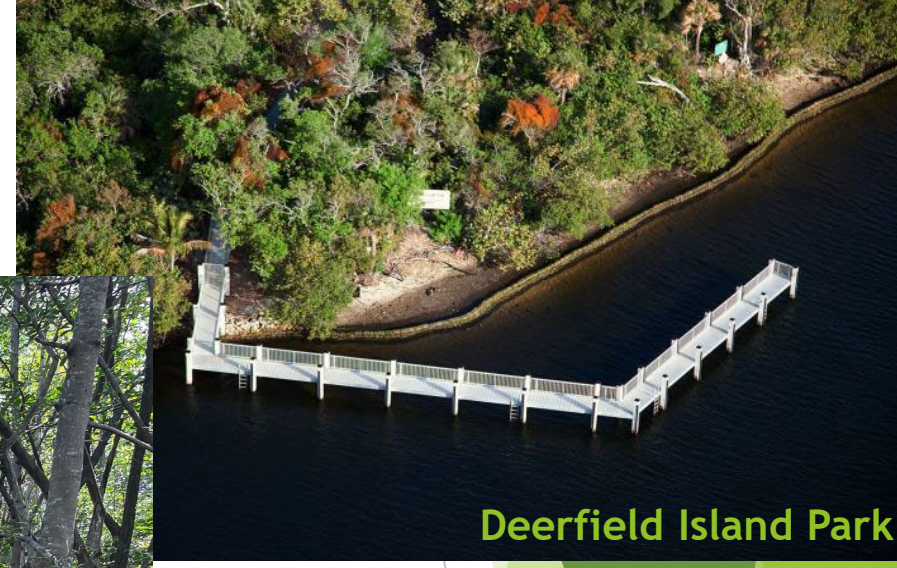
Project site showing upland and wetland areas.





# Subject site is of comparable quality to state/local parks in Broward

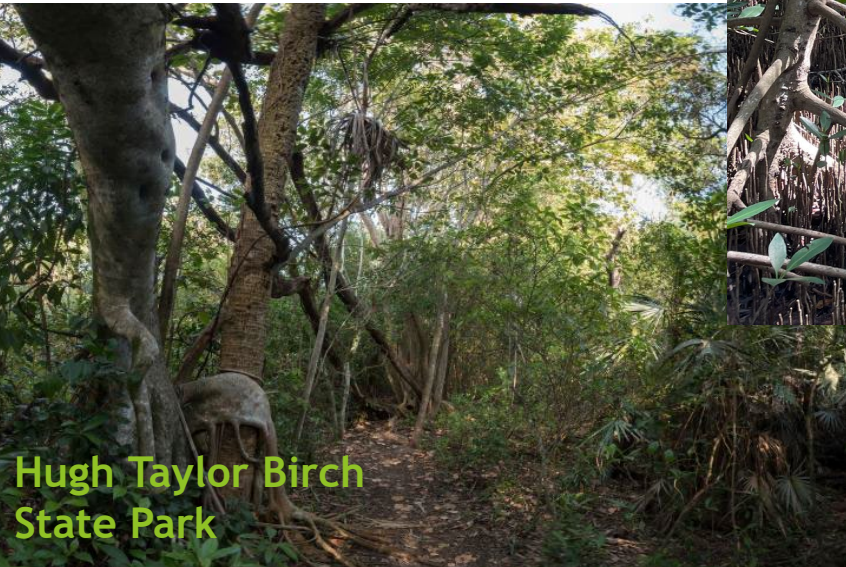
Dr. Von D. Mizell-Eula  
Johnson State Park



Deerfield Island Park



Subject Site  
(Extensive mangrove habitat)  
Photo taken: 2/16/2024



Hugh Taylor Birch  
State Park



West Lake Park



Subject Site: LAPC 97  
Photo: 2/16/2024

## High Quality Mangrove Wetland

- Tall healthy red mangroves (>20')
- Established red mangroves (Prop root ground coverage >85%)
- No exotics were noted during inspections





## ATTACHMENT 11



### RESILIENT ENVIRONMENT DEPARTMENT

115 S. Andrews Avenue, Room 329 • Fort Lauderdale, Florida 33301 • 954-357-6613 • FAX 954-357-8655

**To:** Ms. Barbara Blake-Boy, Executive Director, Broward County Planning Council

**From:** Dr. Jennifer Jurado, Chief Resilience Officer, and Deputy Director *J.J.*

**Date:** 8/13/2024

**Re:** Response to Applicant for Review of PCNRM 24-3 (Site 97 on ESL Map)

---

The Broward County Resilient Environment Department / Resilience Unit provided comment regarding land use plan amendment (LUPA) application for PCNRM 24-3 known as Site 97 on the Environmentally Sensitive Lands Map on February 23, 2024. The Department comments noted that the site is located entirely within an area prioritized for resilience planning consideration, as indicated on the Priority Planning Areas for Sea Level Rise Map. Therefore, BCLUP Policies 2.21.1, 2.21.5, and 2.21.6 apply in the review of this application.

Specifically, **POLICY 2.21.5** states that "Broward County shall, prior to approving land use plan amendments in the areas prone to flooding and/or the impacts of sea level rise, as identified on the Flood Plains, Flood Prone Areas, and Coastal High Hazard Areas Map and the Priority Planning Areas for Sea Level Rise Map, respectively, determine that the subsequent development will be served by adequate storm water management and drainage facilities, not adversely affect groundwater quality or environmentally sensitive lands and not increase saltwater intrusion or area-wide flooding."

The Resilience Unit places emphasis on the reference to the required determination that the development will not adversely affect environmentally sensitive lands and that the site be served by adequate stormwater management and drainage facilities.

The Resilience Unit further notes that the groundwater conditions in the vicinity of this site are substantially influenced by sea level rise, with the 2024 Future Conditions Groundwater map showing a predicted 2.5' increase in the groundwater table relative to historic conditions. It is not clear whether the applicant utilized data from the 2024 Map Update (effective July 1, 2024) in its evaluation of future conditions hydrology.

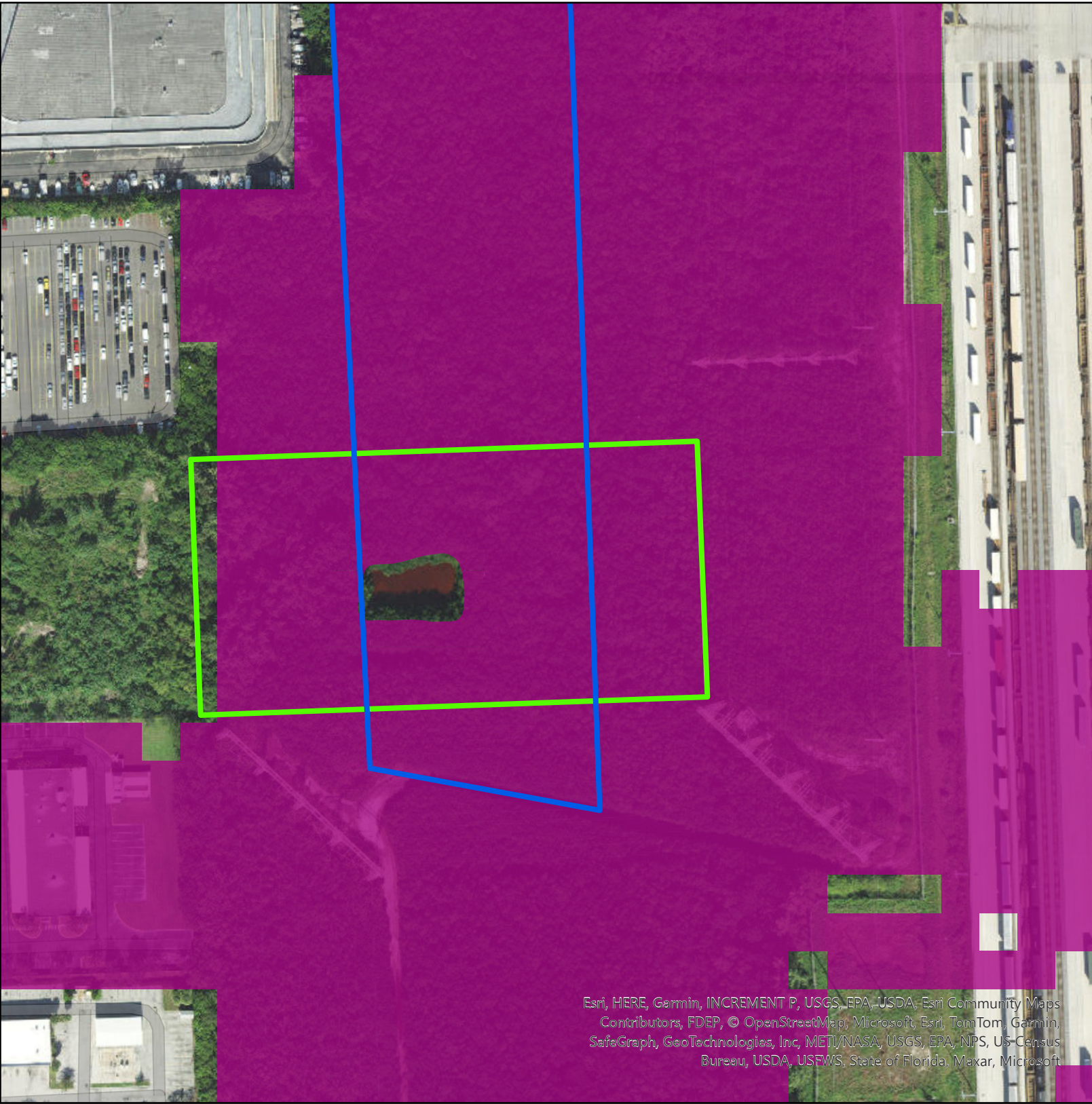
While the Resilience Unit appreciates the response of the applicant to the agency review comments, these responses have not fully addressed these resilience priorities. Staff finds the proposed land use amendment would not only further development in an area substantially challenged by the predicted rise in groundwater table with sea level, but at the expense of high quality, unique Environmentally Sensitive Lands both directly and indirectly impacted by proposed development activities, inconsistent with Policy 2.21.5.

Therefore, the Resilience Unit recommends denial of the proposed amendment as it does not comply with Policy 2.21.6 of the Broward County Land Use Plan.

Broward County Board of County Commissioners

Mark D. Bogen • Lamar P. Fisher • Beam Furr • **Steve Geller** • Robert McKinzie • Nan H. Rich • Hazelle P. Rogers • Tim Ryan • Michael Udine  
[www.broward.org](http://www.broward.org)

Broward County Land Use Plan  
Proposed Amendment  
PCNRM 24-3\_ESL



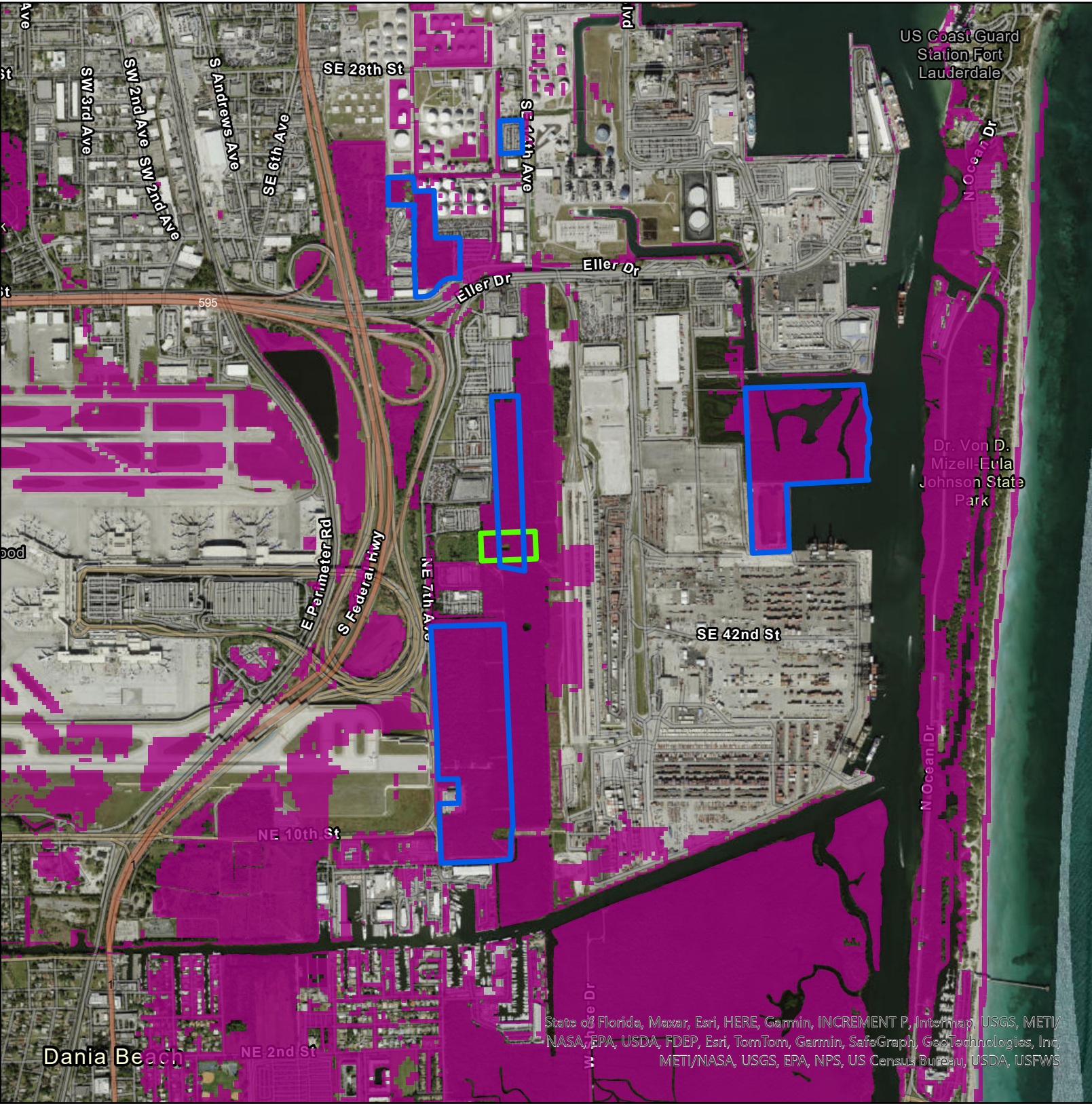
0 0.03 0.05 Miles

ESL

- Proposed Land Use Plan Amendment
- Priority Planning Areas for Sea Level Rise near tidal water bodies at an increased risk of inundation under a 40 inch sea level rise scenario projected to occur by 2070 (PCNRM 24-3\_ESL is located inside of a Priority Planning Area)



Broward County Land Use Plan  
Proposed Amendment  
PCNRM 24-3\_ESL



0 0.23 0.45 Miles



Proposed Land Use Plan Amendment



Priority Planning Areas for Sea Level Rise near tidal water bodies at an increased risk of inundation under a 40 inch sea level rise scenario projected to occur by 2070 (PCNRM 24-3\_ESL is located inside of a Priority Planning Area)

ESL



## ATTACHMENT 12



March 24, 2025

Dr. Jennifer Jurado  
Chief Resilience Officer and Deputy Director  
115 S. Andrews Avenue, Room 329  
Fort Lauderdale, FL 33301



**RE: NSU Port Parcel**  
**TCG Project No. 14-0080.002**  
**ERL No. DF20-1121**

Dear Dr. Jurado:

The Chappell Group, Inc. (TCG) is in receipt of comments dated August 13<sup>th</sup>, 2024, from Dr. Jennifer Jurado, Chief Resilience Officer and Deputy Director, regarding the above referenced project and provides the following response(s) to your requests. Your comments related to the proposed project are noted followed a response in **bold**:

1. The Broward County Resilient Environment Department/ Resilience Unit provided comment regarding land use plan amendment (LUPA) application for PCNRM 24-3 known as Site 97 on the Environmentally Sensitive Lands Map on February 23, 2024. The Department comments noted that the site is located entirely within an area prioritized for resilience planning consideration, as indicated on the Priority Planning Areas for Sea Level Rise Map. Therefore, BCLUP Policies 2.21.1, 2.21.5, and 2.21.6 apply in the review of this application.

**Response: The majority of the recommendations outlined in the Southeast Regional Climate Action Plan are intended for implementation by academic institutions, local governments, non-profit organizations, regional agencies, and financial institutions. As such, these recommendations are not applicable to the private sector and do not pertain to this project.**

**Furthermore, the removal of approximately 69% of the existing mangrove and canopy cover on-site will not significantly impact the overall urban tree canopy or habitat diversity within the surrounding area. A cumulative impact analysis, which has been reviewed and accepted by the relevant environmental agencies, confirms that the proposed project will not result in a cumulative impact on the New River Basin in Broward County. To fully offset the environmental effects of the project, mitigation credits will be purchased from the Everglades Mitigation Bank. Additionally, the natural migration patterns of species in response to changing environmental conditions will not be disrupted, as the surrounding conservation areas—including the easement at Port Everglades to the east, West Lake Park/Anne**

**Kolb Nature Center to the south, and Snyder Park to the west—provide ample space for nesting and foraging of migratory species.**

Specifically, POLICY 2.21.5 states that "Broward County shall, prior to approving land use plan amendments in the areas prone to flooding and/or the impacts of sea level rise, as identified on the Flood Plains, Flood Prone Areas, and Coastal High Hazard Areas Map and the Priority Planning Areas for Sea Level Rise Map, respectively, determine that the subsequent development will be served by adequate storm water management and drainage facilities, not adversely affect groundwater quality or environmentally sensitive lands and not increase saltwater intrusion or area-wide flooding."

**Response: Please see attached letter from Langan.**

2. The Resilience Unit places emphasis on the reference to the required determination that the development will not adversely affect environmentally sensitive lands and that the site be served by adequate stormwater management and drainage facilities.

**Response: The proposed development will not have an adverse impact on environmentally sensitive lands, as confirmed by an accepted cumulative impact analysis. Any effects on mangrove and canopy cover will be fully offset through mitigation credits from the Everglades Mitigation Bank. Additionally, surrounding conservation areas provide ample habitat, ensuring no disruption to species migration or foraging patterns.**

**Please see attached letter from Langan regarding adequate stormwater management and drainage facilities.**

3. The Resilience Unit further notes that the groundwater conditions in the vicinity of this site are substantially influenced by sea level rise, with the 2024 Future Conditions Groundwater map showing a predicted 2.5' increase in the groundwater table relative to historic conditions. It is not clear whether the applicant utilized data from the 2024 Map Update (effective July 1, 2024) in its evaluation of future conditions hydrology.

**Response: Please see attached letter from Langan.**

4. While the Resilience Unit appreciates the response of the applicant to the agency review comments, these responses have not fully addressed these resilience priorities. Staff finds the proposed land use amendment would not only further development in an area substantially challenged by the predicted rise in groundwater table with sea level, but at the expense of high quality, unique Environmentally Sensitive Lands both directly and indirectly impacted by proposed development activities, inconsistent with Policy 2.21.5.

**Response:** The parcel is located adjacent to high-intensity warehouse facilities, and most remaining mangrove wetlands in Broward County are already protected through federal, state, county, or local ownership or conservation easements. While mangrove habitat is ecologically valuable, it is not unique to Southeast Florida, and this particular site consists of previously altered land with a presence of exotic and nuisance species, reducing its ecological function.

**Of the 4.21 acres of mangrove habitat on-site, only 2.92 acres (1.8% of the approximate 160 acres) will be impacted, and approximately 1.29 acres will be preserved under a conservation easement, ensuring some habitat retention. To fully offset the proposed impacts, mitigation credits will be purchased from the Everglades Mitigation Bank, which provides significantly higher ecological value than the existing site. This mitigation approach not only complies with environmental regulations but also enhances regional ecological resilience by improving wetland function in a more strategic and sustainable location.**

**Additionally, surrounding protected areas—including the conservation easement at Port Everglades, West Lake Park/Anne Kolb Nature Center, and Snyder Park—will continue to support biodiversity, habitat connectivity, and species migration. Given these factors, the project aligns with regional resilience efforts by balancing development needs with responsible ecological management.**

Therefore, the Resilience Unit recommends denial of the proposed amendment as it does not comply with Policy 2.21.6 of the Broward County Land Use Plan.

If you have any further questions or comments, please feel free to contact my office at (954) 782-1908 or via email at [gabe@thechappellgroup.com](mailto:gabe@thechappellgroup.com).

Sincerely,  
**THE CHAPPELL GROUP, INC.**

A handwritten signature in cursive script that reads "Gabe Detina".

Gabe Detina  
Project Biologist



17 December 2024  
*Revised 21 March 2025*

City of Dania Beach, Florida  
Department of Community Development  
Planning and Zoning Division  
100 W Dania Beach Boulevard  
Dania Beach, FL 33004



**Re: Proposed Drainage Systems and Methods Statement  
NSU Industrial  
1850 NE 7<sup>th</sup> Avenue, Dania Beach, FL 33004  
Langan Project No.: 330111401**

To whom it may concern:

The stormwater management design for this project will consist of drainage wells and exfiltration trench to meet water quality and quantity requirements. Water quality will be provided for the amount of 2.5 inches times the percent impervious area for the project site. Water quantity will be provided for the following design storms.

The 10-year, 1-day storm event will be analyzed for the parking area elevations. The perimeter berm around the site will also be set above the elevation in which the 25-year, 3-day storm event stages for the site. The site does not have any existing permits; therefore, an existing condition analysis will be performed utilizing ICPR to calculate total discharge from the site. A pre vs post-development analysis will be performed for the 25-year, 72-hour storm event in order to ensure the post-development discharge does not exceed the pre-development discharge. The 100-year, 3-day storm event will be analyzed to show the finish floor elevation of the proposed building is protected from the peak stage of this storm event in a zero discharge scenario. The generated stage shall also not exceed the BCPED 100-year flood plain of 6.50 NAVD.

The water table elevation was obtained from the Broward County Groundwater Table Elevation Map and its elevation is 2.5 NAVD. The drainage wells average capacity found in the area will be assumed for the design capacity of 200 gpm/ft-head.

### ***Design Considerations for Sea Level Rise***

The stormwater management system has been design to account for sea level rise within the area. To address this concern the stormwater drainage wells have been revised to a pressurized well system. Therefore, the wells will be able to generate the head required due to potential sea level rise to maintain the discharge rate required to retain the 25-year 72-hour storm event and protect the structure from flooding.

### ***Design Considerations for Salt Water Intrusion***

The storm runoff volume will be infiltrated into the shallow aquifer by the proposed exfiltration trench or into a deeper aquifer by the proposed drainage wells. These systems do not increase the saltwater intrusion as we are directly inputting stormwater runoff into the aquifer to help reduce the impacts of saltwater intrusion.

### ***Design Considerations for Nearby Sensitive Lands***

The proposed stormwater management system was analyzed to estimate the potential mounding of the system due to the proposed exfiltration trench. The analysis was conducted on the 5 Year and 25 Year storm event. The analysis indicates that the groundwater mound caused by the proposed exfiltration trench will be less than 0.1 feet at the property line which shows no impacts to the neighboring areas. Therefore, the mounding caused by the proposed exfiltration trench is negligible.

### ***Tidal Flow Restrictions***

Based on aerial images the site is already cut-off from tidally influenced water bodies via overland flow. This area is cut-off to the from the tidally influenced canal to the south by an access road and FPL infrastructure. There is a culvert through this area, however, the flow through the culvert will restrict the tidal flow to this area more than the reduced horizontal area caused by the project. The remaining horizontal flow area to the north will be approximately 400 feet, which will equate to a significantly higher flow than capacity of the culvert further to the south. Therefore, the proposed project will not negatively impact the potential tidal flow in this area. See the attached figures.

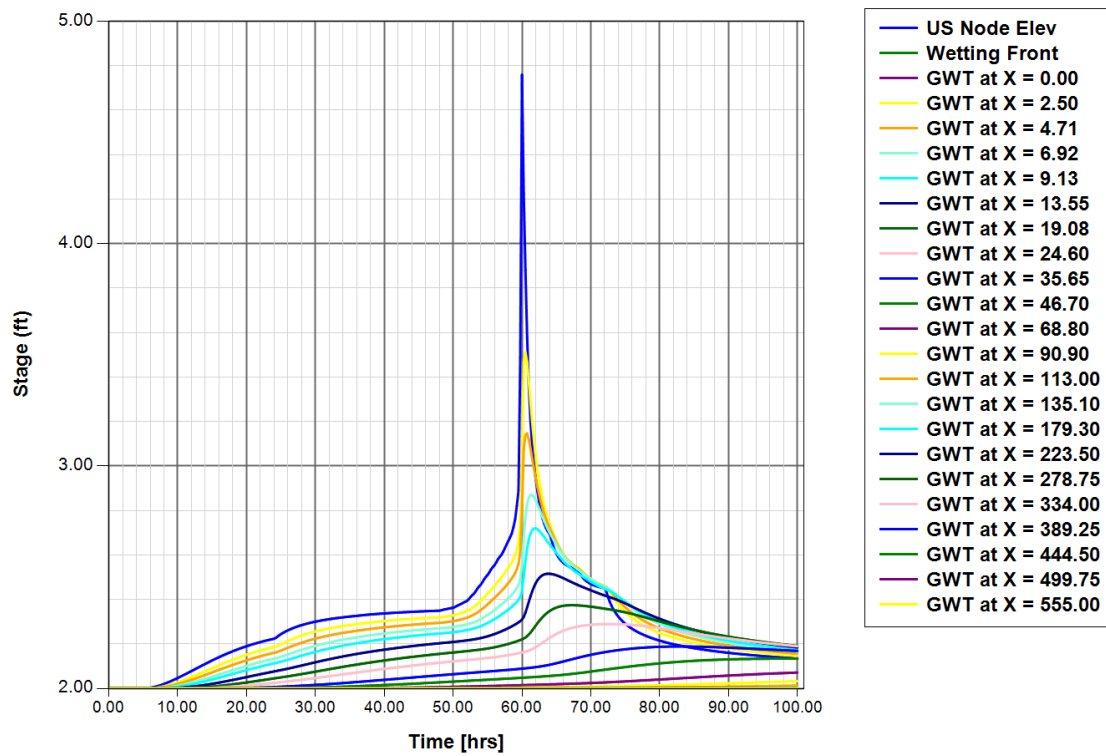
Sincerely,  
**Langan Engineering and Environmental Services, LLC.**



Michael P. Carr, PE, LEED AP  
Professional Engineer License No. 72424  
Associate Principal

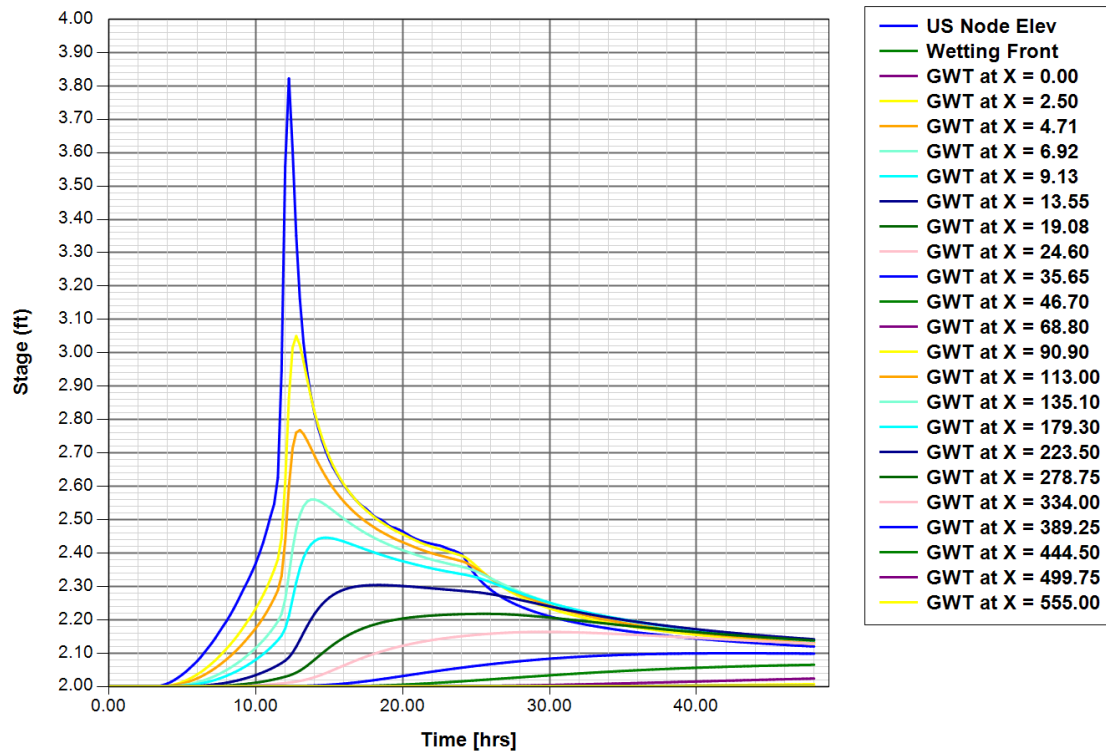
Attachments: Mounding Analysis Graphs  
Paving, Grading and Drainage Plans  
Tidal Flow Figures

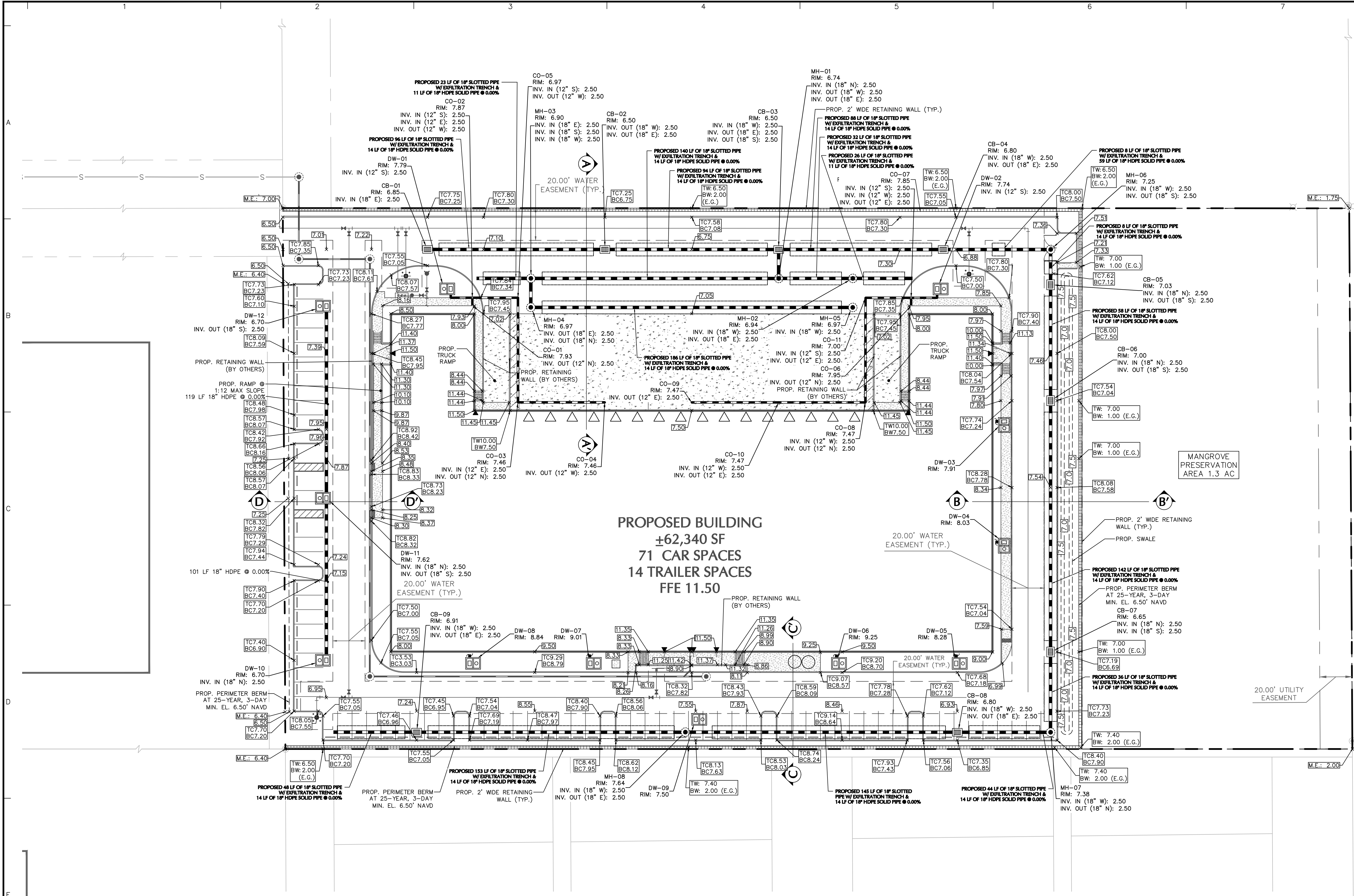
Perc Link: Exfiltration Trench (Sim: 25 year) [Scenario1]





Perc Link: Exfiltration Trench (Sim: 5 year) [Scenario1]





NOTES:  
A. ALL DRAINAGE WELLS ARE TO HAVE PUMPS AND TO BE PRESSURIZED.

10/25/23	DRC Review 4	4
10/20/23	DRC Review 3	3
9/22/23	DRC Review 2	2
10/21/22	DRC Review 1	1
Date	Description	No.

Revisions

SIGNATURE \_\_\_\_\_ DATE SIGNED \_\_\_\_\_  
MICHAEL CARR  
PROFESSIONAL ENGINEER FL Lic. No. 72424

**LANGAN**  
Langan Engineering and  
Environmental Services, LLC  
110 East Broward Boulevard, Suite 1500  
Fort Lauderdale, FL 33301

T: 954.320.2100 F: 954.320.2101 www.langan.com  
FL CERTIFICATE OF AUTHORIZATION NO. 00006601/LB8172/LB8198

Project

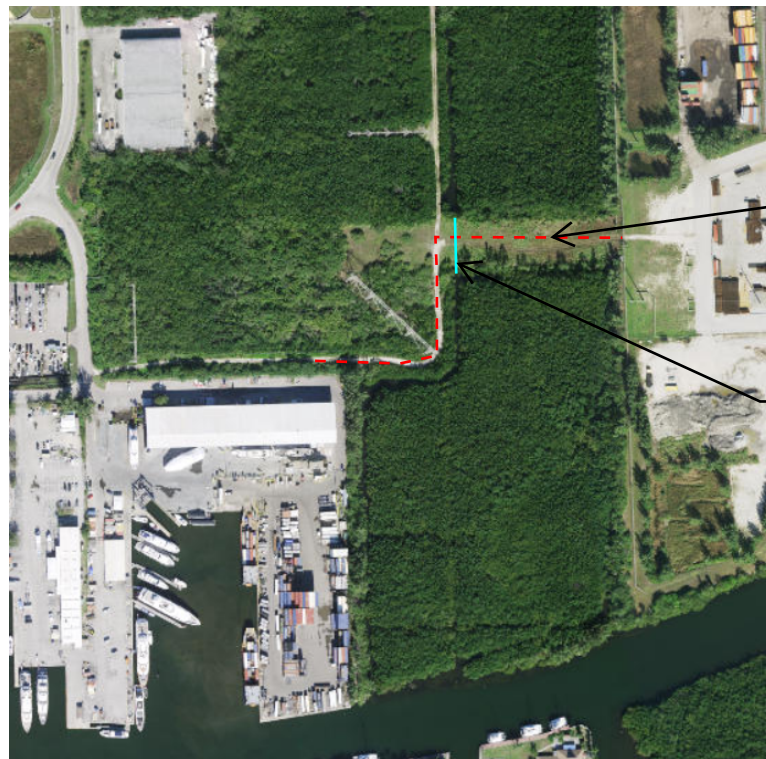
**NSU INDUSTRIAL**  
**1850 NE 7TH AVENUE**

CITY OF DANIA BEACH  
**BROWARD COUNTY** **FLORIDA**  
Drawing Title

**GRADING AND  
DRAINAGE PLAN**

Project No. <b>330111401</b>	Drawing No. <b>C-400</b>
Date <b>MARCH 2024</b>	
Drawn By <b>NCM</b>	
Checked By <b>MPC</b>	

Figure - 1 Existing Flow Restriction



Raised elevation  
cut-off from southern  
canal

Culvert will restrict  
flow to area and is the  
controlling factor

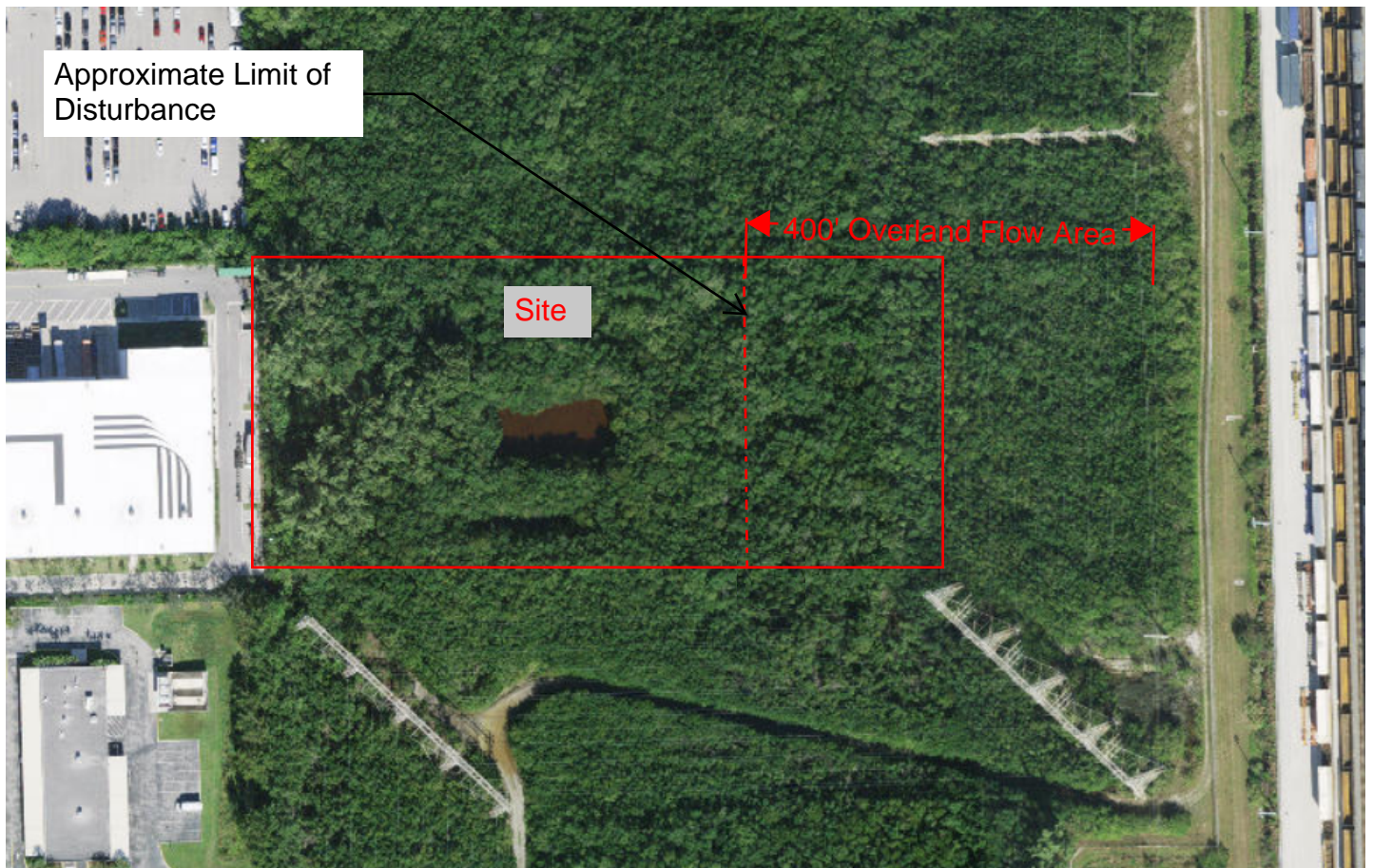
Figure - 1 Existing Flow Restrictions



Existing surrounding  
development cuts off  
any direct tidal  
connection



Figure - 3 Existing Flow



## ATTACHMENT 13



March 24, 2025

Ms. Linda Sunderland  
Environmental Program Supervisor  
Broward County Resilient Environment Department  
1 N University Drive, Mailbox 201  
Plantation, Florida 33324

RE: **NSU Port Parcel**  
**TCG Project No. 14-0080.002**  
**ERL No. DF20-1121**



Dear Ms. Sunderland:

The Chappell Group, Inc. (TCG) is in receipt of comments dated August 6<sup>th</sup>, 2024, regarding the above referenced project and provides the following response(s) to your requests. Your comments related to the proposed project are noted followed a response in **bold**:

The Environmental Permitting Division (ERP) has received and reviewed the response from The Chappell Group (TCG) (including the Cumulative Impact Analysis and stormwater calculations from Langan Engineering and Environmental Services, LLC (Langan)) to previous comments provided to the Planning Council.

The response from TCG represents the site as 1) a poor quality and highly degraded isolated wetland, 2) reliant on rainfall and groundwater for hydrology, 3) with habitat value rapidly diminishing because of exotic vegetation. 4) having no wildlife and 5) development of the site will have no negative or cumulative impacts.

EPD has visited the site several times recently and has prepared the attached visual presentation with 9 slides to help illustrate our below responses to the TCG analysis.

1. The western edge of the site does have an upland buffer with some exotic vegetation and there are also a few higher elevation points in the mangrove area that are remnant of the excavation of the borrow pit / lake excavation (Slide 8). The exotic vegetation is limited in area and could be easily removed or treated. The remainder of the site (Slides 9 & 10) is a mature, highly functional mangrove ecosystem with red and black mangrove trees 20+ feet tall with no exotics noted during EPD inspection. The site is not isolated. It is contiguous to approximately 160 acres of red and black mangroves (Slide 3).

**Response: The site was previously a tomato farm and exhibits features of an altered wetland with varying elevations. Although native species are present, exotic Brazilian pepper, Australian Pine, and earleaf acacia are present**

which indicates a lower quality wetland. The overall impact to the ecosystem is minimal due to the 1.29 acres to remain and be enhanced which will increase function of the wetland and increase roosting, foraging, and refuge.

2. The site is tidally connected to the Dania Cut Off Canal to the south (Slide 3) and therefore is flushed by daily tide changes. All stormwater entering the site is pretreated and therefore there are no negative impacts from the adjacent developed areas. As noted above, only a small portion of the site along the western edge of the site contains exotic vegetation which can be easily treated.

**Response:** The FPL easement road cuts off much of the tidal connection to the Dania Cut Off Canal. The area north of the easement road is only connected hydrologically by high tides higher than average such as king tides. Since the only hydrological connection occurs during higher-than-average tides, such as king tides, it suggests that regular tidal fluctuations are not enough to allow significant water exchange. The stormwater management for the proposed construction of the NSU Port Parcel will be sufficient and cause no negative impacts like the adjacent developed areas. The exotic vegetation on the western edge ranges from 40-170' wide. This site is not unique as the western portion of the property was previously impacted with fill and the lake was excavated. In addition, the adjacent sites to the north, south, and east are owned by Broward County and are protected. The wetlands that are proposed to remain on the eastern portion of the site will continue to be tidally connected during king tides to the Dania Cut-off Canal and contiguous to the adjacent mangrove wetlands.

3. During EPD staff visits, wildlife usage has been noted on the site (Slide 6), including birds, fish, crustaceans, reptiles and mammals. The site is a highly mature mangrove habitat with trees 20+ feet tall, an extensive aerial coverage of red mangrove roots, open water and protected waters (Slide 9 & 10). The site is contiguous to approximately 160 acres of mangrove habitat which provides roosting, foraging, and refuge for many species, including fish that later in life migrate to deeper waters offshore. Slide 2 lists mangrove ecosystem benefits.

**Response:** The subject site consisting of 4.21 acres of wetland habitat is minimal to the overall 160 acres of mangrove habitat that is owned by Broward County and under a conservation easement. Only 2.92 acres will be impacted (1.8%). In addition, 1.29 acres will remain, be enhanced, and be placed under a conservation easement. The purchase of credits from Everglades Mitigation Bank will offset remaining impacts, which provides significantly higher ecological value than the existing site. This mitigation approach not only complies with environmental regulations but also enhances regional ecological resilience by improving wetland function in a more strategic and sustainable location.



4. The stormwater calculations provided by Langan only discusses stormwater management for the proposed site. It does not discuss or provide modeling data to show potential impacts to the surrounding mangroves by having tidal flow partially dammed (Slide 7).

**Response: Please see the attached letter from Langan.**

5. Development of this site will have 1) permanent impacts to 2.92 acres of mature, highly functional mangrove wetlands, 2) negative impacts to the adjacent mangrove area since the development through the creation of a partial dam limits tidal flow / flushing to the northern wetlands, and 3) additional wetland impacts outside of the project footprint due to construction including the retaining walls (Slide 4).

**Response: The 2.92 acres of impacted wetland habitat represent a small fraction (1.8%) of the approximately 160 acres of mangrove habitat owned by Broward County and protected under a conservation easement. The mitigation plan, which includes the purchase of credits from the Everglades Mitigation Bank, ensures a net ecological benefit by offsetting impacts with wetlands of significantly higher functional value than those currently on-site. Tidal flow and flushing to the northern wetlands will remain largely unaffected, as a substantial portion of the area will be preserved, allowing for continued water movement. Any secondary impacts associated with construction, including the installation of retaining walls, have been accounted for in the attached mitigation plan, ensuring that environmental effects are minimized and properly managed.**

6. Expansive mangrove wetlands habitat (Slide 8) is a limited resource in Broward County with areas constantly under threat from development. If this site and the other privately held sites nearby are developed, approximately 20 acres of mangroves will be lost. There are few sites of this size remaining and therefore, it has significant potential to provide habitat for a variety of species. There is a cumulative impact to overall mangrove wetland resources from projects proposing impacts (Slide 5).

**Response: The majority of the 160 acres of mangrove habitat is already protected, as they are owned by federal, state, county, or local agencies or placed under conservation easements. The proposed project impacts only 2.92 acres, a small fraction (1.8%) of the approximately 160 acres of mangrove habitat within the county's conservation network. While the concern for cumulative impacts is noted, the mitigation plan ensures no net loss of ecological function. Credits purchased from the Everglades Mitigation Bank will enhance wetland quality at a regional level, providing higher-value habitat than what currently exists on-site. Additionally, large protected areas nearby will continue to support diverse species and**



**maintain ecological integrity, ensuring long-term habitat availability despite localized development.**

At this time, based on our previous review provided to the Planning Council and the information above, we strongly believe the site continues to meet the criteria for a LAPC and do not have reasonable assurances that the project as proposed will meet the criteria issuance of a County Environmental Resource License, County Stormwater Management License or State FDEP Environmental Resource Permit. All three approvals would be issued by ERP under a delegation agreement with FDEP.

If you have any further questions or comments, please feel free to contact my office at (954) 782-1908 or via email at [gabe@thechappellgroup.com](mailto:gabe@thechappellgroup.com).

Sincerely,  
**THE CHAPPELL GROUP, INC.**

*Gabe Detina*

Gabe Detina  
Project Biologist