

***OHPA Port of Fernandina  
10-Year Strategic Master Plan  
Update***



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Update*

Ocean Highway and Port Authority (OHPA)

Nassau County, FL

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## 1. Executive Summary

This Port of Fernandina (“the Port”) 10-Year Strategic Master Plan Update (“Master Plan” or “the Plan”) has been developed by the Ocean Highway and Port Authority of Nassau County (“OHPA”) in consultation with RS&H, Inc. (“RS&H” or “Consultant”). This Master Plan expands on previous efforts while incorporating the ever changing physical and market conditions that impact the Port of Fernandina. Stakeholder and public engagement were prioritized throughout development of the Master Plan so that it would be more consistent with the community vision, while still identifying possible improvements to current Port infrastructure and operations.

Through close interaction with OHPA, the Stakeholder Committee, and the public, the Consultant team developed a series of local considerations that guided the development and recommendations of this report. Those considerations are included in **Section 2. Background**.

OHPA’s mission statement and vision were reviewed by the Consultant team and a list of Master Plan Goal Statements and Objectives were developed that are detailed in **Section 3**.

**Introduction.** The state and local requirements that impact Port planning, and OHPA’s willingness to abide by these requirements, were also described in this section.

The Consultant team completed a thorough literature review of numerous reports and resources to assess shipping and economic trends on a global and national level to understand how these industry trends may impact the Port of Fernandina. A complete assessment of trends, issues, and challenges in the international cargo industry was also completed and the results summarized in **Section 4. Assessment of Global Trends and Conditions**. The following list of considerations was developed to ensure adaptability so that the Port of Fernandina can continue moving goods efficiently and sustainably in a domestic and global marketplace:

- Strengthen partnerships and improve coordination among stakeholders.
- Implement natural disaster policies to increase preparedness, address immediate impacts, and recover from disruptions.
- Conduct asset management inventories of infrastructure to assess needed modifications for sea level rise.
- Monitor critical environmental information for projecting storm surges.
- Establish long-term goals to diversify energy sources for freight transportation services.
- Develop platform for data sharing between stakeholders to increase visibility.
- Optimize port infrastructure and modernize facilities.

- Provide comprehensive workforce development and training opportunities for a pipeline of skilled employees.
- Adopt innovative technology to improve operational processes.
- Consider cyber security measures to mitigate the risk of cyber threats and attacks.
- Focus on retention of existing customers, service enhancements, and optimization of existing relationships.
- Emphasize safety and efficiency over increased volumes.

In **Section 5. State and Regional Requirements** the applicable regulations, programs, and planning documents were studied to ensure this Master Plan update incorporated relevant federal, state, regional, and local studies. A comprehensive review of OHPA's Charter and current Operating Agreement were completed and the impacts on the Master Plan are discussed. The key takeaway from review of OHPA's Charter is the combination of the extensive list of authorized projects and activities, broad jurisdiction, and the ability to finance projects, provides OHPA with significant value and leveraging opportunities to support the economic development interests in Nassau County.

Understanding the importance of a robust public engagement effort for this Master Plan update, the Consultant team put together a tailored approach that included the development of an 11-member Stakeholder Committee representing organizations throughout Nassau County, two Public Open Houses, and multiple workshops with OHPA and City of Fernandina Beach Commissioners. Ideas and suggestions of the planning team were vetted through the stakeholders and at the Public Open Houses for feedback and were either incorporated into the Plan or removed from consideration depending on the results. The full scope and results of the public outreach efforts are described in **Section 6. Stakeholder and Public Engagement**.

The existing conditions, challenges, and opportunities for OHPA and the Port of Fernandina are spelled out in **Section 7. Port Existing Conditions, Challenges, and Opportunities**. The Port property consists of approximately 23 acres bordered by residential, commercial, and industrial development. The existing wharf is 1,200 ft long and provides two berths dredged to a depth of 40'. The federal channel is maintained to a depth of 36' and there is a turning basin adjacent to the Port with a width of 1,000 ft. The terminal area contains various transit sheds and equipment for loading, unloading, and storing cargo. The covered storage area is just over 200,000 gross sf and the open yard storage within the terminal footprint is approximately nine acres.

The Port is located in a sensitive location in close proximity to the built environment and natural features typically adjacent to similar port facilities. There is a conservation easement in place on the north side of the Port property and the Fernandina Beach Historic District abuts the terminal

facility to the east and south. These items contribute to the physical and environmental barriers faced by the Port. But with these challenges and constraints, come opportunities for the Port of Fernandina including economic development and infrastructure improvements.

The economic development ideas and economic impacts are laid out in this section by Consultant team member Martin Associates. Market conditions will have a significant and often rapid impact on typical port-related activities and, as such, the market areas and considerations for the future will be reliant on the identified market conditions within this document. This Master Plan acts as a framework for planned improvements and is intended to give OHPA and the Terminal Operator flexibility as market conditions change.

This report shows the economic impact of the Port of Fernandina is significant. In 2021 there were nearly 600 direct, induced, and indirect jobs associated with the Port. The 236 direct job holders received \$15.2 million in direct wage and salary income, for average earnings of \$64,269 per direct employee – more than 20% above the local average. In total, \$55.3 million of personal income and local consumption was supported by Port of Fernandina operations. Additionally, the total economic value of the marine cargo, vessel, and logistics activity at the Port is estimated at \$73.3 million.

The economic development potential leads to opportunities to improve infrastructure within the Port property as well as throughout Nassau County to allow cargo to move seamlessly around the area. There are several port facility improvements, intermodal facilities, and inland development locations identified to improve connectivity and access to support anticipated growth in the region. Potential expansion of the rail network in Northeast Florida could have significant positive impacts for both the Port and County moving forward.

Intergovernmental coordination is a key aspect to maintain trust and success at the local level. OHPA is committed to fostering positive working relationships with City, County, and State agencies. Moving forward, OHPA's efforts will take into consideration regional master planning efforts and, to the extent feasible, provide input into these planning processes. OHPA will continue to look for opportunities to partner with the Florida Department of Transportation on grant funding opportunities for the mutual benefit of OHPA and local residents.

The final recommendations of this Master Plan update are included in **Section 8**.

**Recommendations** and are summarized below:

- 8.1 Capital Improvement Plan – OHPA will work with the Terminal Operator to develop a rolling 5-year Capital Improvement Plan going forward.
- 8.2 Designation of Port District Roads – Certain roads near the Port will be designated as Port District Roads pursuant to F.S. 320.525 to help ensure that Port operations are conducted in the safest manner possible.



- 8.3 Identification of Additional Revenue Generating Opportunities – Recommended options for OHPA to create additional revenue streams.
- 8.4 Identification of Space for CBP Operations – OHPA will prioritize identifying a solution for US Customs and Border Protection (CBP) that meets CBP standards to continue their operations in Fernandina.
- 8.5 Additional Onsite Cargo Storage – OHPA and the Terminal Operator will develop additional improvements to the terminal infrastructure to help capture some of the market opportunities identified in the Plan.
- 8.6 Offsite Freight Operations – Sites owned by OHPA, the Terminal Operator, or outside parties have been identified as potential offsite freight operations and inland port opportunities that could help funnel some cargo to rail transport and reduce truck traffic.
- 8.7 Harbor Management – The St. John’s Harbor Pilots will include the Amelia Harbor in their six-month matrix for channel soundings to help identify areas of the river that may need dredge management.
- 8.8 Resiliency and Environmental Considerations – A detailed sustainability and resiliency study is recommended for the area in and around the Port.
- 8.9 Sustainability and Green Initiatives – Several possible green initiatives that have case studies that match up well with the Port of Fernandina are highlighted.

## 2. Background

The Ocean Highway and Port Authority Port of Fernandina 10-Year Strategic Master Plan Update has been developed to meet the state and local requirements of port master plan development as outlined within the 2022 Florida Statutes (Title XXII, Chapter 311.14), and the City of Fernandina Beach Comprehensive Master Plan Port Sub Element (5P). A description of how the Master Plan addresses state statute and local policy have been included within the Introduction section below. For those city policies which are operational a series of statements describing OHPA's willingness to address have been included in bullets below.

This Master Plan expands upon previous efforts, and reviewed the changing physical and market conditions within the region which could have significant impact on port activities and the community. From June 2022 through January 2023 the Master Plan Consultant engaged with members of the public and with local stakeholders to identify local priorities and opportunities for a unified vision of the area.

- Stakeholder Meetings were held June 6, 2022, and November 30, 2022
- Master Plan workshops were conducted on October 18, 2022 (OHPA Commissioners) and January 11, 2023 (City and OHPA Commissions jointly)
- Public Meetings were held July 28, 2022, and January 26, 2023

Stakeholder and public engagement throughout the process allowed the Master Plan to be more consistent with the community vision, while still identifying and pursuing possible improvements to current Port operations.

In addition to coordination with stakeholders and the public, OHPA continued coordination with the Port's new Terminal Operator (Operator, or Terminal Operator). Building upon this coordination, a series of considerations have been developed within this Master Plan depicting planned future conditions and efforts for the Port of Fernandina (the Port). These have been highlighted below and explained throughout the document.

- OHPA will not expand the Port of Fernandina's current footprint beyond its current boundaries.
- OHPA will not pursue efforts to deepen the Federal Channel beyond its current depth to accommodate larger vessels.
- Primary access to the Port will remain along Dade St. OHPA will not pursue alternative access roads such as Escambia St.
- OHPA will reinvest in its existing terminal facilities to ensure their long-term use.

- OHPA will identify and secure resources to protect the Terminal from future flooding.
- OHPA will work with US Customs and Border Protection to meet its facility requirements.
- OHPA will focus the Port of Fernandina on continuing to grow its breakbulk cargo, including the construction of additional covered storage facilities, while maintaining its container service to Bermuda. OHPA will also work with the Terminal Operator to explore other cargo segments that represent opportunities for growth and diversification. OHPA will require the Operator to prepare a material safety, handling and transportation plan for review and approval by the OHPA Board prior to initiating any new service.
- OHPA will work with private landowners and the City of Fernandina Beach to improve the Front Street corridor while helping to protect the working waterfront, which may include potential public/private and public/public partnerships. Grant, bond, and other funding strategies may also be considered.
- OHPA will continue its commitment to open communication with the City, County, and its residents and businesses.
- OHPA will continue to coordinate with all economic development entities in Nassau County and Southeast Georgia, to create opportunities for future job growth for the benefit of Nassau County.
- OHPA will work with its Terminal Operator to pursue opportunities to expand its inland port facility activity in order to increase the productivity and efficiency of the Port of Fernandina.
- OHPA will prioritize marine highway opportunities to reduce traffic impacts and to benefit the adjoining mill operations.
- OHPA will prioritize opportunities to utilize rail for the transport of cargo to and from the Port of Fernandina.
- OHPA will invest in technology enhancements for public meetings, record keeping, and engagement with, and dissemination of information to, the public.
- OHPA will work to resolve disputes with local governments and agencies where they exist.
- OHPA will look for opportunities in Nassau County to use its revenue bonding capabilities to finance or refinance works, undertakings, improvements, facilities, or projects throughout the County.

### 3. Introduction

The Port of Fernandina, which is owned by the Ocean Highway and Port Authority (OHPA) of Nassau County and operated by a third-party Terminal Operator, is a rail-served, natural deep-water port on the Atlantic Coast. The Port is on the Amelia River and is in the City of Fernandina Beach in Northeast Florida. The Port property consists of approximately 23 acres including 1,200 linear feet of berth space, outdoor yard storage and three primary transit sheds. The Port handles a variety of breakbulk cargoes, including paper and forest products, steel, aluminum, chemicals, and machinery, as well as dry bulk commodities and containers.

The OHPA Port of Fernandina 10-Year Strategic Master Plan provides a framework to guide the future development of operations and land use decisions of the Port. This plan offers a range of insights and recommendations to optimize the performance of operations and facilities for the Port in the years ahead. In the midst of a transformational period in the global maritime industry, this plan will present a roadmap for the future of the Port that is adaptable, holistic, and innovative. The content of the plan will focus on the following main features:

- Trends and conditions at the global and local levels have been considered to understand how the movement of goods at the Port may be impacted into the future.
- Identification of Regional and State regulations and requirements which may guide the future use of the facility.
- Coordination with industry stakeholders and members of the public.
- Identification of the existing conditions as well as opportunities for improvement.

As part of the planning process, the Consultant team worked with OHPA to review OHPA's mission statement, vision, and develop goals and objectives for this Master Plan update. These statements are provided in the following sections.

#### 3.1. OHPA Mission Statement

The current mission statement of OHPA is:

"The Ocean Highway and Port Authority was created in 1941 and authorized to carry out public purposes to benefit to the citizens of the County of Nassau and the State of Florida. (Ch 21418,S12.Sp. Acts 1941)"

This will remain the mission statement of OHPA.

### 3.2. OHPA Vision

It is recommended that OHPA adopt the following vision to help guide organizational decisions going forward:

“The vision of the Ocean Highway and Port Authority is to serve as a primary public facilitator of sustainable economic activity in Nassau County by developing and operating port and other facilities in support of local and regional businesses for the benefit of the citizens of Nassau County and the State of Florida.”

### 3.3. Master Plan Goal Statements and Objectives

The following goals and objectives for the master plan have been developed through coordination with OHPA and the Stakeholders Committee:

- 1) To ensure that port and OHPA operations are conducted in the safest manner possible.
  - a. Objective 1.1. Adopt a zero-tolerance policy for illegal substance use.
  - b. Objective 1.2. Adopt a goal of zero accidents on the terminal.
- 2) To restore the Port of Fernandina’s cargo volume (as measured in short tons) to 2010-2011 level throughput within 5 years.
  - a. Objective 2.1. Reach 600,000 tons of overall cargo by 2025.
- 3) To maintain a diversified mix of cargo segments and trade lanes.
  - a. Objective 3.1. Optimize existing cargo segments including container and breakbulk, while providing a renewed focus on additional cargo opportunities identified in the market analysis.
- 4) To improve the level of communication and cooperation between OHPA and the City of Fernandina Beach, including its businesses and residents.
  - a. Objective 4.1. Meet regularly with City staff and elected officials.
  - b. Objective 4.2. Continue regular outreach to the residents including maintaining the website interface for residents to register comments, issues, or complaints.
  - c. Objective 4.3. Look for opportunities to partner with the City of Fernandina Beach on initiatives that create a stronger economic base, improve resiliency, and enhance the quality of life in Fernandina Beach.
  - d. Objective 4.4. Continue to work with Keep Nassau Beautiful and other stakeholders by maintaining the Port’s property and the surrounding neighborhood.

- 5) To take necessary steps to ensure the resilience of its port infrastructure and improve sustainability of its facilities and operations.
  - a. Objective 5.1. Conduct a resiliency and sustainability study for the terminal and surrounding areas.
  - b. Objective 5.2. Coordinate with Terminal Operator to ensure port operations are conducted with resilience and sustainable practices in mind when possible.
  - c. Objective 5.3. Pursue opportunities to incorporate more green initiatives into terminal operations.
- 6) To consider any negative externalities that its operations may have on its neighbors and to implement mitigative measures to eliminate or minimize those impacts.
  - a. Objective 6.1. Coordinate with the Terminal Operator to reduce Port operational impacts to the surrounding neighborhood to the extent feasible.
- 7) To continue to explore the feasibility of implementing short sea shipping to other south Atlantic seaports.
  - a. Objective 7.1. Work with the Terminal Operator, WestRock, and Rayonier Advanced Materials to evaluate the feasibility of short-sea-shipping of containerized products from the mills.
- 8) To seek opportunities to leverage its activities and powers to assist the City of Fernandina Beach, Towns of Hilliard and Callahan, and Nassau County to achieve their quality-of-life and resiliency goals and objectives.
  - a. Objective 8.1. Maintain regular communication with all local and regional governmental entities and offer OHPA assistance where appropriate.
- 9) To partner with Nassau County Economic Development Board, JAXUSA Partnership, Nassau County Chamber of Commerce, Camden County Joint Development Authority, and other economic and trade related organizations through active participation to promote the growth of sustainable jobs and economic activity for the businesses and residents of Nassau County.
  - a. Objective 9.1. Increase economic development opportunities for OHPA through participation and support with regional economic development organizations.
  - b. Objective 9.2. Facilitate economic development opportunities throughout Nassau County by utilizing its authority to issue conduit financing for capital improvements.

- 10) To develop working relationships with the Florida Department of Transportation, North Florida Transportation Planning Organization, and CSX Transportation to leverage their planning and financial resources to identify and promote transportation improvements that will improve the competitiveness of Nassau County for economic development.
  - a. Objective 10.1. Maintain active involvement with the North Florida Transportation Planning Organization and its Technical Coordinating Committee.
- 11) To support the US Customs and Border Protection's (USCBP) operations at the Port of Fernandina and help ensure USCBP continues to serve the Port into the future.
  - a. Objective 11.1. Find a permanent office space solution that meets USCBP standards to ensure long-term viability of USCBP operations in Fernandina.
- 12) To support sustainable and resilient waterfront redevelopment and a working waterfront in the area along Front St just south of the terminal.
  - a. Objective 12.1. Be a catalyst for waterfront development along Front St to activate a working waterfront to connect downtown Fernandina to the Port District.
  - b. Objective 12.2. Support or pursue appropriate grant opportunities to improve resiliency of the Fernandina waterfront and port infrastructure.
- 13) To ensure and improve OHPA's continued service to the Community in furtherance of its charter purposes for the benefit of the Citizens of Nassau County and the State of Florida.
  - a. Objective 13.1. Find permanent office space solution that meets OHPA's current and future needs to ensure OHPA's long-term operations in Nassau County.
  - b. Objective 13.2. Establish and improve processes and written procedures that keep apace of current best practices, that further OHPA's public service to the community, and meet or exceed statutory requirements to support the OHPA commissioners, staff and contractors in their respective duties and functions.
  - c. Objective 13.3. Make appropriate enduring investments in technology, training, and resources in support of and in furtherance of this goal.

### State Statutes Regarding Seaport Planning

This plan has been developed to describe the current conditions and next steps for the Port over a 10-year plan as required within the 2022 Florida Statutes (Title XXII, Chapter 311.14) as described below.<sup>1</sup>

- A. Regulatory, Physical, and Environmental Barriers in **Section 7.2**
- B. Economic Development Component within **Section 7.3**
- C. Infrastructure Opportunities and Development Component in **Section 7.5**
- D. Intermodal Transportation Facilities Component in **Section 7.6**
- E. Intergovernmental Coordination Component in **Section 7.7**

### City of Fernandina Beach Comprehensive Plan Port Element

The OHPA and the Port Operator agree to the objectives and policies established within the 2030 Comprehensive Plan Goal 5P – Ocean Highway & Port Authority, Port of Fernandina Facilities Element as amended in July 2022. It should be noted that Policy 5P.04.03 requiring the Port to eliminate queueing of arriving truck traffic outside the Port gate is problematic to fully enforce due to the ebb and flow nature of port operations. The Terminal Operator is investigating solutions to resolve this issue to the extent feasible including further education of the truck drivers approaching the Port and potential offsite operations. It is also a recommendation of the Master Plan for the Terminal Operator to explore the use of gate scheduling software to help alleviate this concern and to measure and monitor the issue for improvement.

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<sup>1</sup> [http://www.leg.state.fl.us/statutes/index.cfm?App\\_mode=Display\\_Statute&Search\\_String=&URL=0300-0399/0311/Sections/0311.14.html](http://www.leg.state.fl.us/statutes/index.cfm?App_mode=Display_Statute&Search_String=&URL=0300-0399/0311/Sections/0311.14.html)



## 4. Assessment of Global Trends and Conditions

### 4.1. Literature Review

#### 4.1.1. Introduction

Several sources were reviewed to assess shipping and economic trends at the global and national level and to understand how these industry trends may impact the Port of Fernandina. These sources are summarized in **Table 1** and discussed in more detail below. This literature review was used to identify the national and global trends discussed in **Section 4.2**. The findings in these reports have important implications for seaports and can guide strategic seaport planning.

TABLE 1: SUMMARY OF LITERATURE REVIEW

Source	Agency / Author	Year	Topic / Key Trend
2022 Port Performance Freight Statistics Program: Annual Report	U.S. Department of Transportation, Bureau of Transportation Statistics	2022	Performance measures for largest U.S. ports
Review of Maritime Transport	United Nations Conference on Trade and Development	2021	Global trends affecting maritime trade
The Impact of the COVID-19 Pandemic on Freight Transportation Services and U.S. Merchandise Imports	U.S. International Trade Commission	2021	COVID-19 disruptions on activities related to maritime shipping and air freight
Global Port Trends 2030: The Future Port Landscape	Deloitte	2020	Trends expected to affect ports in the next decade
The Future of Port Automation	McKinsey & Co.	2018	Port automation challenges and opportunities
Container Ship Size and Port Relocation	International Transport Forum	2018	Impacts of increasing ship sizes and port location choice
National Port Strategy Assessment: Reducing Air Pollution and Greenhouse Gases at U.S. Ports	U.S. Environmental Protection Agency	2016	Impacts of port-related emissions on public health and environment
The Critical Infrastructure Gap: U.S. Port Facilities and Cyber Vulnerabilities	Brookings Institute	2013	Cybersecurity at U.S. ports
Potential Impacts of Climate Change on U.S. Transportation	National Research Council, Transportation Research Board	2008	Consequences of climate change on U.S. transportation infrastructure and operations

#### **4.1.2. U.S. Department of Transportation, Bureau of Transportation Statistics, 2022 Port Performance Freight Statistics Program: Annual Report (Washington, DC: 2022)**

The Port Performance Statistics Program provides nationally consistent performance measures on capacity and throughput for the nation's largest tonnage, container, and dry bulk ports. Maritime ports in the United States move more international cargo by weight and value than any other U.S. mode of transportation. Waterborne activity moves 40 percent of freight value and 70 percent of tonnage. In 2020, vessels moved \$1.5 trillion, \$0.2 trillion less than 2019. Of the \$1.5 trillion in U.S. and international trade transported by vessel and handled by the nation's ports in 2020, containerized cargo comprised about \$1 trillion and was responsible for most consumer goods imported into the United States. The top 25 tonnage ports handled a total of 1,744 million tons of cargo in 2020. Between January 2021 and October 2021, the monthly U.S. international freight value transported by vessel increased by about 22.6 percent from \$139 billion to \$170 billion.

According to the report, natural disasters continue to disrupt port operations and damage critical infrastructure. In 2020, nearly every port along the Gulf and South Atlantic coasts endured closures and disruptions due to hurricanes and tropical storms, causing \$41.1 billion in total damage. The year of 2020 was a record-breaking storm season. There were 30 named storms, of which 14 became hurricanes. An average hurricane season produces 12 named storms and 6 hurricanes.

#### **4.1.3. United Nations Conference on Trade and Development (UNCTAD), Review of Maritime Transport (2021)**

Maritime transport defied the COVID-19 disruption with volumes falling less dramatically than expected and rebounding by the end of 2020. Over the past two decades, compound annual growth in maritime trade has been 2.0 percent, slightly less than the 2.4 percent expected by the UNCTAD. Since 2020, pandemic-induced restrictions in logistics operations have led to equipment shortages, less reliable services, congestion, and longer dwell times. The COVID-19 pandemic also triggered an unprecedented global crew-change crisis (shipping ports closed and cargo carriers prohibited shore leave for their crews), and the recovery of the maritime trade industry has been hindered by supply-chain bottlenecks. Into 2021, global maritime trade began to recover, but supply was less elastic and constrained by COVID-19 related shocks, which has led to a significant increase in container freight rates. These elevated costs are a burden for smaller shippers who may be less able to absorb additional expenses. Freight rates are expected to remain high and will also have a sizable impact on consumer prices.

#### **4.1.4. U.S. International Trade Commission, The Impact of the COVID-19 Pandemic on Freight Transportation Services and U.S. Merchandise Imports (2021)**

In the first half of 2020, the volume of U.S. maritime container imports declined by seven percent, but there was a large increase in container imports in the second half of 2020 largely due to a sharp rise in trade with China. U.S. exports of port services rose 3.5 percent year-over-year in the second half of 2020. Container shipping firms canceled over 1,000 sailings in the first six months of 2020, but reductions stabilized by the end of the year. Maritime freight rates also rose substantially in the second half of 2020 as trade recovered and began to outpace shipping capacity due to increased economic activity and rising consumer demand. The unexpected recovery in demand shocked the distribution system and led to major supply chain disruptions. In June 2020, shipping costs began to increase due to recovering consumer demand.

In 2020, high COVID-19 infection rates had a negative impact on port operations, decreasing the amount of cargo that could be transported through seaports. Ports experienced bottlenecks with delayed loading and offloading, and inland transportation systems (rail and truck) faced labor shortages that further delayed the movement of goods and increased costs. The International Labour Organization estimated that 800,000 seafarers were unable to work on their vessels in 2020.

#### **4.1.5. Deloitte, Global Port Trends 2030: The Future Port Landscape (April 2020)**

In the coming years, the maritime industry will be affected by demographic, technological, and sustainability drivers including population growth, urbanization, political and economic shifts, innovative products and processes, global temperature increases, and environmental regulations. The Global Trends 2030 report identified eight specific trends that are expected to influence ports over the next decade:

1. Urban growth and limited space for expansion of port facilities may lead to a greater focus on innovating and increasing the space efficiency of ports.
2. Shifting international trade policies may alter global import and export patterns and may result in increasing costs.
3. A growing middle-class population in Asia may lead to increases in demand for goods in Asia and may shift supply chains toward countries where low-cost labor is available.
4. Technological solutions and innovations may lead to more automated, digitalized, and connected port operations, which could increase productivity but may also increase cyber security risk.
5. Opportunities in niche markets such as dry bulk, passengers, or offshore supply may increase due to changing global trade patterns.

6. The increasing size of vessels is unlikely to continue, which may lead to the emergence of new product chains focused on sustainability and energy efficiency.
7. Ports that make investments in socially and environmentally sustainable operations may gain a competitive advantage.
8. Increasing global temperatures and changing supply chain patterns may shift global trade routes.

#### **4.1.6. McKinsey & Company, The Future of Port Automation (2018)**

According to McKinsey & Co.'s report, the port industry has been much slower to adopt automation than similar industries such as mining and warehousing. Through careful planning and management, automation efforts can decrease port operating expenses by 25-55 percent and increase productivity by 10-25 percent. Additional benefits from automation include safer working conditions, fewer human-related disruptions, and more predictable performance. However, some of the challenges associated with automation include a high upfront investment, shortage of high-skilled labor, insufficient data, siloed operations, and issues with handling exceptions. Estimates suggest that \$10 billion has been invested in port automation projects worldwide, and projections show that this level of spending is likely to accelerate in the future. McKinsey & Co. suggests that port automation could be valued at \$1.5 billion annually for an average port community if the process is implemented strategically.

#### **4.1.7. International Transport Forum, Container Ship Size and Port Relocation (2018)**

Over the past few decades, container ship sizes have grown in order to increase cost savings from decreasing unit costs associated with larger ships. The largest vessels today have carrying capacities of 20,000 twenty-foot equivalent units (TEUs) with lengths of 400 meters and widths of 60 meters. Mega-ships are defined as ships with capacity of over 18,000 TEUs. With wider and deeper drafts, large ships therefore need deeper and wider channels as well as container cranes with more outreach. Additionally, mega-ships require larger call sizes because greater cargo volumes are handled each time a ship is in port. The challenge of supporting larger ships is likely to continue, as most new ships delivered into the market are expected to be mega-ships.

#### **4.1.8. U.S. EPA, National Port Strategy Assessment: Reducing Air Pollution and Greenhouse Gases at U.S. Ports (2016)**

The U.S. Environmental Protection Agency developed an assessment to examine current and future emissions in port areas and to explore the potential of a range of strategies for reducing emissions. Maritime shipping is generally the most fuel-efficient means of freight transport, and as global populations continue to grow, consumer demand for goods will grow and require additional freight transportation services. Increased demand and rising energy prices have led to a greater need for more sustainable logistics practices.

#### **4.1.9. Brookings Institute, The Critical Infrastructure Gap: U.S. Port Facilities and Cyber Vulnerabilities (2013)**

This report explores the state of cybersecurity awareness and culture in selected U.S. port facilities. Ports rely on networked computer and control systems and are therefore vulnerable to cyber threats and attacks. The maritime industry, however, has historically paid little attention to the security level of these networks. Port facilities are vital to the U.S. economy and are designated as Critical Infrastructure (CIKR), so the potential consequences of a cyberattack could be severe and would likely lead to major disruptions in the flow of goods throughout the national and global economy.

#### **4.1.10. National Research Council, Potential Impacts of Climate Change on US Transportation: TRB Special Report 290 (2008)**

Due to climate change, coastal ports will be impacted by increased intense precipitation and sea level rise, which could result in more frequent delays and interruption of services. These changes can lead to higher tides and storm surges. Sea level rise is an important consideration for seaport structures and may change the navigability of shipping channels. Some channels may become more accessible due to sea level rise, but other channels may be lost due to land subsidence and the disappearance of barrier islands. Ocean and coastal shipping accounts for approximately 10 percent of global transport energy consumption and approximately four percent of U.S. transport energy consumption. Estimates suggest that newer, more efficient vessels can reduce fuel and CO<sub>2</sub> emissions by 5-30 percent.

### **4.2. Assessment of Trends, Issues, and Challenges**

#### **4.2.1. Overview**

Maritime ports in the United States move more international cargo by weight and value than any other mode of transportation.<sup>2</sup> A review of global and national trends among ports and port operations has identified the following national and global trends: COVID-19 pandemic disruptions, supply chain disruptions, climate resilience, alternative energy sources, vessel size, and innovative technology (**Figure 1**). Of these global and national trends, supply chain disruptions and climate-related impacts continue to be the leading causes of concern for ports. Alternative energy sources, vessel size, and innovative technologies are additional areas of interest or potential concern.

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<sup>2</sup> U.S. DOT, Bureau of Transportation Statistics, 2022 Port Performance Freight Statistics Program

FIGURE 1: INDUSTRY TRENDS, ISSUES, AND CHALLENGES



#### 4.2.2. COVID-19 Pandemic

In early 2020, the COVID-19 pandemic led to canceled routes, delays, congestion, less reliable services, and equipment and worker shortages, causing major disruptions in global maritime shipping and freight services. However, shipping volumes fell less dramatically than expected and rebounded by the end of 2020.<sup>3</sup> In the first half of 2020, the volume of U.S. maritime container imports decreased by seven percent compared to the same period in 2019, but increased by 9.5 percent in the second half of 2020, compared to the same period in 2019.<sup>4</sup> Approximately 1,000 container shipping sailings were canceled in 2020, but these reductions stabilized by the end of the year.

The pandemic triggered a global maritime personnel crisis as port operators and container shipping firms had to adopt new sanitary procedures and quarantines to reduce the threat of transmission. High COVID-19 rates also had a negative impact on port operations, further decreasing the amount of cargo that could be transported. As a result, ports experienced major bottlenecks with delayed offloading and loading. Inland transportation systems (rail and truck) faced additional labor shortages that contributed to delays and made last-mile vulnerabilities more visible.

<sup>3</sup> UNCTAD, Review of Maritime Transport (2021)

<sup>4</sup> U.S. International Trade Commission, The Impact of the COVID-19 Pandemic on Freight Transportation Services and U.S. Merchandise Imports (2021)



China's strict zero-COVID policy has led to several instances of full seaport operations closure. The Ningbo-Zhoushan Port- the third busiest in the world in terms of container traffic- was partially closed for 14 days in after several confirmed cases of COVID-19 in August 2021.<sup>5</sup>

#### 4.2.3. Supply Chain Disruptions

The ongoing supply chain crisis has contributed to rising costs of raw materials and shipping containers, which impacts manufacturers and the general public. Bottlenecks have led to long delays for shipments and significantly slowed average shipping times. As trade recovered in the second half of 2020 due to increased economic activity and consumer demand, maritime freight rates began to rise substantially.<sup>6</sup> Elevated costs can be a burden for smaller shippers who may be less able to absorb additional expenses and they can have a major impact on consumer prices. Supply chain disruption may continue well into 2022 and possibly 2023, leading companies to revisit their just-in-time inventory levels.

#### 4.2.4. Climate Resilience

Due to their locations along coasts, ports are especially susceptible to the impacts of climate change, such as rising sea levels, storm surges, higher tides, wind, and flooding. Sea level rise may change the navigability of shipping channels, making some channels more accessible, while also making some channels disappear due to land subsidence and the disappearance of barrier islands.<sup>7</sup> In 2020, nearly every port along the U.S. Gulf and South Atlantic coast endured closures and disruptions due to hurricanes and tropical storms, causing \$41.1 billion in total damages.<sup>8</sup> Enhancing the climate resilience of ports is critical for reducing economic losses that may arise from direct damage to infrastructure or operational disruptions. Globally, ports continue to invest in mitigating associated risks through planning, environmental studies, and modeling of potential scenarios and their impact on operations. In addition, port authorities have also accelerated their capital investment in hardening port facilities and essential infrastructure against future threats from the impacts of climate change.

<sup>5</sup> <https://edition.cnn.com/2021/08/25/business/ningbo-port-meishan-covid-china-intl-hnk/index.html>

<sup>6</sup> U.S International Trade Commission, The Impact of the COVID-19 Pandemic on Freight Transportation Services and U.S. Merchandise Imports (2021)

<sup>7</sup> National Research Council (2008). Potential impacts of climate change on US transportation. TRB Special Report 290.

<sup>8</sup> U.S. DOT, Bureau of Transportation Statistics, 2022 Port Performance Freight Statistics Program





Hurricane Irma, a Category 4 hurricane covered the entire state of Florida in 2017, causing a complete shutdown or reduced operations for nearly all of Florida's seaports.<sup>9,10</sup>

#### 4.2.5. Alternative Energy Sources

Waterborne transportation, including ocean shipping and coastal shipping, accounts for 4 percent of U.S. transport energy use and 10 percent of global transport energy use, as almost all commercial vessels are powered by diesel.<sup>11</sup> As global populations grow and consumer demand continues to increase, the use of alternative and renewable energy sources such as compressed natural gas, propane, and solar energy could lead to major improvements in the efficiency of port operations and surrounding air quality. The role of maritime transport in addressing environmental sustainability goals is increasingly important and is closely being followed as newer regulations may impact operations and cleaner fuel alternatives become available.

#### 4.2.6. Vessel Size

Over the last decade, container ships have grown steadily in size, and many ships now carry more than 20,000 TEU.<sup>12</sup> Generally, container ships have increased in size to reap cost savings from decreasing unit costs associated with larger ships. This trend has important implications for the shipping industry and planning of ports. To accommodate larger vessels, ports continue to invest in dredging, maritime access, port infrastructure, and equipment. Larger ships also need larger turning basins, longer quays, and container cranes with more outreach, which can require substantial investments by ports. In response to the industry trend toward larger ships, most container ports are looking to deepen and widen their waterways. Deepening efforts at ports around the United States will continue to be a significant factor in shaping access to global trade and markets around the world.

<sup>9</sup> <https://insight.factset.com/assessing-the-effects-of-hurricane-irma-with-shipping-data>

<sup>10</sup> Photo retrieved from [https://www.joc.com/port-news/us-ports/southeast-us-ports-shuttering-irma-barrels-down\\_20170907.html](https://www.joc.com/port-news/us-ports/southeast-us-ports-shuttering-irma-barrels-down_20170907.html)

<sup>11</sup> National Research Council (2008). Potential impacts of climate change on US transportation. TRB Special Report 290.

<sup>12</sup> International Transport Forum, Container Ship Size and Port Relocation (2018)





Dredging at the Port of Savannah was completed in March 2022. The project involved deepening a 40-mile stretch of the Savannah River between the port and the Atlantic Ocean so larger and heavier vessels could enter the port and navigate without having to wait for tides. The Savannah Harbor Expansion Project is designed to permit 16,000+ TEU vessels.<sup>13</sup>

The deepening of the Port of Jacksonville was completed in May 2022. The project involved deepening the first 11 miles of Jacksonville harbor to 47 feet. The port is poised to set a new container volume record of more than 1.4 million TEUs in 2022.<sup>14</sup>

#### 4.2.7. Innovative Technology

Innovative technologies are being applied to all aspects of the supply chain and are continuously changing freight and logistics patterns. The adoption of automated container terminal technology by container terminal operators could lead to increases in productivity, cost reduction, and enhanced environmental sustainability.<sup>15</sup> Among other innovative technology solutions are advanced analytics, on-board sensors, connected vehicles, advanced robotics in warehousing, and blockchain. However, many of these technologies also require additional investment in IT solutions and staff, may not be supported by standards, or may not yet be mature enough for widespread adoption. With increasing digitalization of port operations and facilities, operators will have to address cybersecurity challenges to limit the increasing risk of potential disruptions from cyber threats and attacks.<sup>16</sup>



The \$1.5 billion Long Beach Container Terminal and Middle Harbor Project was completed in 2021. The project is one of the most technologically advanced in the world, with remotely run electric cranes and a computer-controlled stacking system.<sup>17</sup>

#### 4.2.8. State of the Practice

To address current trends and challenges facing ports and the maritime trade industry, effective planning can guide the development and management of a port's land, infrastructure, and operations. Ports are integral to local communities and regional supply chains, and they must be

<sup>13</sup> <https://maritime-executive.com/article/savannah-dredging-completed-as-next-step-in-port-expansion>

<sup>14</sup> <https://news.wjct.org/first-coast/2022-05-23/jaxport-celebrates-completion-of-harbor-deepening-project>

<sup>15</sup> McKinsey & Company, The Future of Port Automation (November 2018)

<sup>16</sup> Foreign Policy at Brookings, The Critical Infrastructure Gap: US Port Facilities and Cyber Vulnerabilities (2013)

<sup>17</sup> <https://gcaptain.com/port-of-long-beach-completes-new-3-3-million-teu-capacity-container-terminal/>

resilient and able to withstand a range of potential future disruptions. The following list offers considerations to ensure adaptability so that the Port of Fernandina can continue moving goods efficiently and sustainably in a domestic and global marketplace:

- Strengthen partnerships and improve coordination among stakeholders.
- Implement natural disaster policies to increase preparedness, address immediate impacts, and recover from disruptions.
- Conduct asset management inventories of infrastructure to assess needed modifications for sea level rise.
- Monitor critical environmental information for projecting storm surges.
- Establish long-term goals to diversify energy sources for freight transportation services.
- Develop platform for data sharing between stakeholders to increase visibility.
- Optimize port infrastructure and modernize facilities.
- Provide comprehensive workforce development and training opportunities for a pipeline of skilled employees.
- Adopt innovative technology to improve operational processes.
- Consider cyber security measures to mitigate the risk of cyber threats and attacks.
- Focus on retention of existing customers, service enhancements, and optimization of existing relationships.
- Emphasize safety and efficiency over increased volumes.

## 5. State and Regional Requirements

### 5.1. Relevant Regulations, Programs, and Planning Documents

#### 5.1.1. Regulations and Programs

While ports are catalysts for economic development, port operations and activities can produce adverse impacts on the environment and public health. Several regulations, agencies, and programs have been introduced to not only ensure the health and safety of those living and working in and around the port, but also to improve the environmental performance of ports. Agencies at various levels – federal, state, and local – are empowered to create and enforce rules and develop programs which can have a direct impact on the daily operations of a port facility.

Federal regulations and programs that apply to ports are summarized in **Table 2**. These regulations and programs have national implications on water, air, and ecosystem quality.

TABLE 2: FEDERAL REGULATIONS AND PROGRAMS

Federal Regulation / Program	Agency	Overview
Clean Air Act <sup>18</sup>	U.S. EPA	Provides for the protection and improvement of the nation's air quality and the stratospheric ozone layer
Clean Water Act <sup>19</sup>	U.S. EPA/U.S. Army Corps of Engineers	Provides for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters
Coastal Zone Management Act <sup>20</sup>	NOAA	Provides for the management of the nation's coastal resources
Diesel Emissions Reduction Act <sup>21</sup>	U.S. EPA	Created a program that awards clean diesel grants to eligible applicants, including port authorities
Endangered Species Act <sup>22</sup>	U.S. FWS/NOAA Fisheries	Provides for the conservation of endangered species and the ecosystems they inhabit

<sup>18</sup> <https://www.epa.gov/clean-air-act-overview>

<sup>19</sup> <https://www.epa.gov/laws-regulations/summary-clean-water-act>

<sup>20</sup> <https://coast.noaa.gov/czm/act/>

<sup>21</sup> <https://www.epa.gov/dera>

<sup>22</sup> <https://www.fws.gov/law/endangered-species-act>

Federal Regulation / Program	Agency	Overview
EPA Ports Initiative <sup>23</sup>	U.S. EPA	Initiative to improve environmental performance and increase economic prosperity of ports. The initiative includes ongoing actions related to funding, technical resources, collaboration, coordination, and communications
EPA SmartWay Program <sup>24</sup>	U.S. EPA	Program that helps companies advance supply chain sustainability by measuring, benchmarking, and improving freight transportation efficiency
Maritime Transportation Security Act of 2002 <sup>25</sup>	U.S. Coast Guard	Provides provisions for the maritime industry to which vessels and port facilities must adhere to increase the security of the nation's seaports
National Environmental Policy Act <sup>26</sup>	U.S. EPA	Provides for the federal government to assess the environmental effects of proposed action prior to making decisions
Resource Conservation & Recovery Act <sup>27</sup>	U.S. EPA	Provides for control over the generation, transportation, treatment, storage, and disposal of hazardous waste
National Historic Preservation Act <sup>28</sup>	U.S. National Park Service	Preserves historic and archeological sites; relevant the Port of Fernandina, which is in proximity to historic sites or districts on the National Register of Historic Places

State regulations and programs that apply to ports are summarized in **Table 3**. These regulations and programs affect water and air quality, natural resources, and transportation efficiency in the State of Florida.

<sup>23</sup> <https://www.epa.gov/ports-initiative>

<sup>24</sup> <https://www.epa.gov/smartway>

<sup>25</sup> <https://www.congress.gov/107/plaws/publ295/PLAW-107publ295.pdf>

<sup>26</sup> <https://www.epa.gov/nepa/what-national-environmental-policy-act>

<sup>27</sup> <https://www.epa.gov/rcra>

<sup>28</sup> <https://www.achp.gov/sites/default/files/2018-06/nhpa.pdf>

TABLE 3: STATE REGULATIONS AND PROGRAMS

State Regulation / Program	Agency	Overview
Florida Air and Water Pollution Control Act <sup>29</sup>	Florida Department of Environmental Protection (FDEP)	Required FDEP to adopt a comprehensive program for the prevention, abatement, and control of pollution of the air and waters of Florida, develop and approve plans to provide for air and water quality control and pollution abatement, and exercise general supervision of the administration and enforcement of the laws, rules, and regulations related to air and water pollution in Florida
Florida Aquatic Preserve Act	FDEP	In 1975, this was enacted to protect designated waters across the state for the preservation of their biological and scientific values. The Fort Clinch State Park Aquatic Preserve is just north of the Port, denoting a protected waterway.
Florida's Clean Water Act Section 404 Permit Program <sup>30</sup>	U.S. EPA Region 4	In 2020, U.S. EPA granted Florida approval to implement a CWA Section 404 program, formally transferring permitting authority to the state
Florida Environmental Reorganization Act of 1993 <sup>31</sup>	FDEP	Created the FDEP to protect, conserve, and manage Florida's natural resources and enforce the state's environmental laws
Florida Pollutant Discharge Prevention and Control Act <sup>32</sup>	FDEP/Florida Fish and Wildlife Conservation Commission (FFWCC)	Addresses the threats of spills and discharges to Florida jurisdictional waters
Florida Water Resources Act of 1972 <sup>33</sup>	FDEP	Created regional water management districts to develop water-supply plans and manage permit programs that regulate water withdrawals and alterations of surface water flows
Florida Seaport Transportation and	Florida Department of Transportation (FDOT)	Requires each port to develop a Strategic Plan. Established the Florida Ports Council to prepare the Florida Seaport Mission Plan, adopt rules for

<sup>29</sup> <https://edis.ifas.ufl.edu/publication/FE607>

<sup>30</sup> [www.epa.gov/fl/floridas-clean-water-act-ss404-permit-program](https://www.epa.gov/fl/floridas-clean-water-act-ss404-permit-program)

<sup>31</sup> <https://edis.ifas.ufl.edu/publication/FE593>

<sup>32</sup> <https://edis.ifas.ufl.edu/publication/FE585>

<sup>33</sup> <https://edis.ifas.ufl.edu/publication/FE1043>

State Regulation / Program	Agency	Overview
Economic Development (FSTED) Bill <sup>34</sup>		evaluating projects, and review and approve/disapprove eligible projects for funding. Established the FSTED program to fund approved port transportation or port facilities projects on a 50-50 matching basis
Intermodal Development Program <sup>35</sup>	FDOT	Provides for major capital investments in fixed-guideway transportation systems, access to seaports, airports and other transportation terminals, providing for the construction of intermodal or multimodal terminals; and to facilitate the intermodal or multimodal movement of people and goods
Intermodal Logistics Center Infrastructure Support Program <sup>36</sup>	FDOT	Provides funds for roads, rail facilities, or other means for the conveyance or shipment of goods through a seaport. The program requires a local match (the department shall provide up to 50% of project costs for eligible projects)
Seaport Investment Program <sup>37</sup>	FDOT	Program where FDOT sets aside \$10 million to fund seaport projects identified in the adopted work program
Strategic Port Investment Initiative <sup>38</sup>	FDOT	Initiative where FDOT works with deepwater ports to develop, maintain, and fund a priority list of strategic investment projects

Local regulations that apply to the Port of Fernandina are summarized in **Table 4**. These regulations guide development activity in the City of Fernandina Beach.

<sup>34</sup> <https://www.flsenate.gov/Session/Bill/2022/907/Analyses/h0907z.TIE.PDF>

<sup>35</sup> [http://www.leg.state.fl.us/Statutes/index.cfm?App\\_mode=Display\\_Statute&Search\\_String=&URL=0300-0399/0341/Sections/0341.053.html](http://www.leg.state.fl.us/Statutes/index.cfm?App_mode=Display_Statute&Search_String=&URL=0300-0399/0341/Sections/0341.053.html)

<sup>36</sup> [http://www.leg.state.fl.us/Statutes/index.cfm?App\\_mode=Display\\_Statute&Search\\_String=&URL=0300-0399/0311/Sections/0311.101.html](http://www.leg.state.fl.us/Statutes/index.cfm?App_mode=Display_Statute&Search_String=&URL=0300-0399/0311/Sections/0311.101.html)

<sup>37</sup> [http://www.leg.state.fl.us/Statutes/index.cfm?App\\_mode=Display\\_Statute&Search\\_String=&URL=0300-0399/0339/Sections/0339.0801.html](http://www.leg.state.fl.us/Statutes/index.cfm?App_mode=Display_Statute&Search_String=&URL=0300-0399/0339/Sections/0339.0801.html)

<sup>38</sup> [http://www.leg.state.fl.us/Statutes/index.cfm?App\\_mode=Display\\_Statute&Search\\_String=&URL=0300-0399/0311/Sections/0311.10.html](http://www.leg.state.fl.us/Statutes/index.cfm?App_mode=Display_Statute&Search_String=&URL=0300-0399/0311/Sections/0311.10.html)

TABLE 4: LOCAL REGULATIONS AND PROGRAMS

Local Regulation	Agency	Overview
Land Development Code <sup>39</sup>	City of Fernandina Beach	Contains regulations for the development and use of property including zoning, subdivisions, and other related land use activity
Stormwater Ordinance <sup>40</sup>	City of Fernandina Beach	Helps manage stormwater impacts by reducing the quantity of stormwater runoff generated, improving the quality of stormwater as it leaves a site, and increasing onsite stormwater infiltration
Floodplain Management Ordinance <sup>41</sup>	City of Fernandina Beach	Establishes minimum requirements to safeguard the public health, safety, and general welfare and to minimize public and private losses due to flooding through regulation of development in flood hazard areas

## 5.2. Planning Documents

Many planning efforts have also been recently completed that identify needs or provide recommendations relevant to freight mobility and seaports in Florida. These plans are listed in **Tables 5-7** and summarized in the following sections.

### 5.2.1. Statewide Plans and Studies

Several statewide plans relevant to the movement of freight and the seaport have been completed, many in the past two years. These plans and studies provide direction at the state-level for decisions related to the growth and development of transportation, freight, and seaports systems in the coming years. A list of the statewide plans is included in **Table 5** and a plan summary is included below.

<sup>39</sup> <https://www.fbfl.us/80/Land-Development-Code>

<sup>40</sup> <http://fbfl.us/DocumentCenter/View/12874/Stormwater-Ordinance-2012-23?bidId=>

<sup>41</sup> [https://library.municode.com/fl/fernandina\\_beach/codes/code\\_of\\_ordinances?nodeId=PTIICOOR\\_CH22BUBURE\\_ARTVFLMA](https://library.municode.com/fl/fernandina_beach/codes/code_of_ordinances?nodeId=PTIICOOR_CH22BUBURE_ARTVFLMA)

TABLE 5: RELEVANT STATEWIDE PLANS AND STUDIES

State Plan / Study	Year	Agency
Florida Trade & Logistics 2030 Study <sup>42</sup>	2022	Florida Chamber Foundation
Strategic Intermodal System (SIS) Policy Plan <sup>43</sup>	2022	FDOT
Seaport Mission Plan <sup>44</sup>	2021	Florida Seaport Transportation and Economic Development (FSTED) Council
Florida Transportation Plan (FTP) <sup>45</sup>	2020	FDOT
Florida Freight Mobility and Trade Plan <sup>46</sup>	2020	FDOT
Florida Waterways System Plan <sup>47</sup>	2016	FDOT
Florida Seaport System Plan <sup>48</sup>	2015	FDOT

### Florida Trade & Logistics 2030 Study

The *Florida Trade & Logistics 2030 Study* highlights the importance of trade, logistics, export-oriented manufacturing, and rural economic development in making Florida a top 10 global economy by 2030. The study's recommendations are built around six key strategies, one of which is continuing to strengthen trade gateways and corridors. The study also measures progress toward goals set in previous series of the study through established indicators. According to the study, both seaport freight volume and value increased between 2012 and 2019.

### Strategic Intermodal System (SIS) Policy Plan

The SIS is the state's highest priority for transportation capacity investments and a primary focus for implementing the Florida Transportation Plan (FTP), the state's long-range transportation vision and policy plan. The SIS Policy Plan establishes the policy framework for planning and managing the SIS network. It describes objectives, cross-cutting policy areas, focus areas, and

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<sup>42</sup> <https://www.flchamber.com/fltl2030>

<sup>43</sup> <https://www.fdot.gov/planning/sis/default.shtm>

<sup>44</sup> <https://flaports.org/success-story/fsted-seaport-mission-plan/>

<sup>45</sup> <http://www.floridatransportationplan.com/>

<sup>46</sup> <https://www.fdot.gov/rail/plandev/freight-mobility-and-trade-plan>

<sup>47</sup> [https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/content/seaport/pdfs/2015-florida-waterways-system-plan\\_final2ddb1ae4913848b9b4286a1756682d39.pdf?sfvrsn=eef92f25\\_0](https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/content/seaport/pdfs/2015-florida-waterways-system-plan_final2ddb1ae4913848b9b4286a1756682d39.pdf?sfvrsn=eef92f25_0)

<sup>48</sup> [https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/content/seaport/pdfs/2015-florida-seaport-system-plan\\_final.pdf?sfvrsn=cb2f6c64\\_0](https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/content/seaport/pdfs/2015-florida-seaport-system-plan_final.pdf?sfvrsn=cb2f6c64_0)



strategies to guide FDOT and transportation partners statewide in accomplishing the vision and goals of the SIS. The Port of Fernandina is part of the SIS with a designation of Strategic Growth Seaport.

### **Seaport Mission Plan**

The Seaport Mission Plan is a plan required by law that is updated annually to provide a record of the overall health, capabilities, and trends of Florida Seaports. In addition to summarizing the state of port operations overall, the plan includes individual profiles for each port. The profile for the Port of Fernandina describes goals and objectives, current or planned investments, and accomplishments.

### **Florida Transportation Plan**

The Florida Transportation Plan (FTP) provides a vision for Florida's future and guides the transportation decision making process. It includes goals, objectives, progress indicators, and strategies related to safety and security, infrastructure, mobility, transportation choices, economic competitiveness, quality places, and environment and energy. Seaports are included in the decision-making process.

### **Florida Freight Mobility & Trade Plan**

The Freight Mobility & Trade Plan (FMTP) is a comprehensive plan that identifies freight transportation facilities critical to the state's economic growth and guides multimodal freight investments in the state. FDOT is required to develop this plan to receive funding under the National Highway Freight Program and the plan must address the state's freight planning activities and investments. The plan shows how seaports fit into the larger multimodal freight network and uses performance measures (like seaport tonnage) to inform the project prioritization process. It also shows freight-focused projects critical to plan objectives in the Adopted Work Program (AWP). The plan notes almost \$60 million for 10 seaport expansion projects.

### **Florida Waterways System Plan**

This plan analyses the overall system, conditions, challenges, and trends facing Florida's waterways and uses the results to develop a plan for the waterways system. The plan identifies key issues and hindrances facing Florida's waterways and provides guidance for monitoring and facilitating the maintenance and improvement of the waterways. The Port of Fernandina is a notable facility within the Fernandina Harbor.

### **Florida Seaport System Plan**

This plan provides specific policy guidance for development, enhancement, and preservation of Florida's seaport system. It provides an overview of the Florida Seaport System including individual seaport profiles, compares seaport metrics, discusses trade trends and the

opportunities and challenges facing Florida seaports, notes funding opportunities, and highlights the strategies and focus areas that frame seaport priorities and support programs.

### 5.2.2. Regional Plans and Studies

Relevant regional plans and studies are listed in **Table 6** and summarized below. These plans and studies set the priorities and strategies for growth in northeast Florida and enable coordination across multiple counties.

TABLE 6: RELEVANT REGIONAL PLANS AND STUDIES

Regional Plan / Study	Year	Agency
Strategic Beach Management Plan (SBMP) for the Northeast Atlantic Coast Region <sup>49</sup>	2020	FDEP
North Florida Transportation Planning Organization 2045 LRTP <sup>50</sup>	2019	North Florida Transportation Planning Organization (TPO)
Northeast Florida Freight Movement Study	2018	FDOT
North Florida TPO ITS Applications Analysis for Nassau County Final Report <sup>51</sup>	2018	North Florida TPO

#### Strategic Beach Management Plan (SBMP) for the Northeast Atlantic Coast Region

The SBMP identifies strategies for inlets and critically eroded beaches in the region, which includes the St. Marys River Entrance and Fernandina Beach in proximity to the Port of Fernandina.

#### North Florida Transportation Planning Organization 2045 Long Range Transportation Plan (LRTP)

The LRTP is the blueprint to maintain and enhance the regional transportation system in the North Florida TPO planning area. The plan includes several goals, objectives, and measures relevant to the maritime industry. It also discusses a committed (now completed) project to widen SR 200 (SR A1A) and a project in the Needs Plan to reconstruct 14<sup>th</sup> St from Sadler Road to A1A/200/Atlantic Avenue.

<sup>49</sup> [https://floridadep.gov/sites/default/files/SBMP-NortheastAtlanticCoastRegion\\_1.pdf](https://floridadep.gov/sites/default/files/SBMP-NortheastAtlanticCoastRegion_1.pdf)

<sup>50</sup> <https://northfloridatpo.com/planning/lrtp>

<sup>51</sup> <https://northfloridatpo.com/uploads/Studies/SR-200-Nassau-County-ITS-Study.pdf>

### Northeast Florida Freight Movement Study

The Northeast Florida Freight Movement Study was the first districtwide comprehensive review and analysis of freight infrastructure and operational issues. The study identified critical freight transportation challenges, outlined opportunities for improvement, and highlighted the importance of freight to the economy and quality of life in Northeast Florida. The plan includes a framework (policies, programs, and projects) for addressing freight needs in Northeast Florida. The framework includes the Port of Fernandina, which is one of two deepwater ports in Northeast Florida.

### North Florida TPO Organization ITS Applications Analysis for Nassau County Final Report

The report analyzed and provided short-term and long-term recommendations for future ITS applications and features to be considered along SR 200 in Nassau County. SR 200 is the most direct roadway route to the City of Fernandina Beach from the mainland.

#### 5.2.3. Local Plans and Studies

Relevant local plans and studies are listed in **Table 7** and summarized below. These plans and studies set the priorities and strategies for growth, development, and mobility in the City of Fernandina Beach and Nassau County.

TABLE 7: RELEVANT LOCAL PLANS AND STUDIES

Local Plan/Study	Year	Agency
City of Fernandina Beach Vision 2045 Plan <sup>52</sup>	Underway	City of Fernandina Beach
City of Fernandina Beach 2030 Comprehensive Plan <sup>53</sup>	2017	City of Fernandina Beach
City of Fernandina Beach Stormwater Master Plan Update <sup>54</sup>	2016	City of Fernandina Beach
Port of Fernandina Truck Circulation Study <sup>55</sup>	2015	North Florida TPO
Nassau County 2030 Comprehensive Plan <sup>56</sup>	2012*	Nassau County

*\*According to the Nassau County Planning Department (July 2022), there have been 15 text amendments to the Comprehensive Plan since it was adopted. There are no plans to update the plan or any plan elements at this time.*

<sup>52</sup> <https://fl-fernandinabeach2.civicplus.com/1032/Vision-2045>

<sup>53</sup> <http://fbfl.us/81/Comprehensive-Plan>

<sup>54</sup> <http://fbfl.us/DocumentCenter/View/16430/COFB-2016-Stormwater-Master-Plan-Update-Final-Report?bidId=>

<sup>55</sup> Included within Appendix 3.

<sup>56</sup> <https://www.nassaucountyfl.com/769/2030-Comprehensive-Plan-FLUM>

### City of Fernandina Beach Vision 2045 Plan

The Vision 2045 Plan establishes a vision for the City. The plan is organized into five themes and includes goals to support each of the themes. The plan discusses how the City is already supporting the goals and includes projects and recommendations to accomplish each of the goals with associated timelines for implementation. Ultimately the mission is to implement changes and updates to the Comprehensive Plan and Land Development Code, establish key partnerships, expand public outreach, and support capital investment to achieve the established vision.

### City of Fernandina Beach 2030 Comprehensive Plan

*The 2030 Comprehensive Plan* establishes the City's long-term development goals, objectives, and policies and guides decisions related to land use changes, capital improvement programs, and the rate, timing, and location of future growth in Fernandina Beach.

### City of Fernandina Beach Stormwater Master Plan Update

The Stormwater Master Plan Update proposes improvements for nine areas in the city prone to flooding. One area prone to flooding, Area 5, is just south of the Port of Fernandina on Broome and Alachua Streets between the Amelia River and N 6th St.

### Port of Fernandina Truck Circulation Study

This study evaluated traffic and truck volumes and level of service on roads and intersections in proximity to the Port of Fernandina. Key findings included that the majority of truck traffic uses 8<sup>th</sup> St to access the Port and the truck traffic generated by the Port is minimal when compared to other industrial sites in the area.

### Nassau County 2030 Comprehensive Plan

This plan establishes the policies and priorities for the future physical, economic, and social development of Nassau County. With a horizon year of 2030, this planning effort coordinated with local jurisdictions to create policies and land use recommendations that will shape the community into the future.

## 5.3. OHPA's Charter and Operating Agreements

### 5.3.1. OHPA Charter Review – Impacts on Port Master Plan

The Ocean Highway and Port Authority (OHPA) of Nassau County was created pursuant to a State Charter written and approved in 1941, which was ultimately amended and reenacted in 2005.

The OHPA Charter provides significant powers including:

- To acquire real property by Grant, purchase, gift, condemnation, or exchange.
- To improve, maintain, sell, lease, convey, exchange, or otherwise dispose of any interest or estate.
- To layout, construct, condemn, purchase, own, acquire, add to, extend, enlarge, maintain, conduct, operate, build, equip, manage, furnish, replace, enlarge, improve, lease, sell, regulate, finance, control, repair and establish.
- Office and Administrative Buildings, wharves, docks, slips, channels, jetties, piers, quays, terminals, sidings, shipyards, marine railways, terminal facilities, harbors, ports, waterways, moles, canals, cold storage plants, terminal icing plants, refrigerating plants, precooling plants, locks, tidal basins, trainways, cableways, anchorage areas, depots, warehouses, industrial parks, industrial and manufacturing plants, commercial, business, residential, mercantile, and other related projects, motels, conveyors, appliances for economical handling, storage and transportation of freight and the handling of passenger traffic, and all other harbor improvements and facilities that by resolution of the board of commissioners may determine to be necessary.
- To perform all customary services, including the handling, weighing, measuring, regulation, control, inspection, and reconditioning of all commodities and cargoes received or shipped through any port or harbor within the jurisdiction of the Authority.
- To improve and develop Fernandina Harbor and all navigable and non-navigable waters within the County of Nassau, to create and improve for harbor purposes any waterways within or adjacent to the County, to regulate and control all such waters and all natural or artificial waterways within the County, to straighten, widen, deepen and otherwise improve any and all waters, watercourses, inlets, bays, lakes or streams, whether navigable or not located within the County; to construct inlets and turning basins and to dredge and deepen any natural or artificial waterways within the County. To apply for permission from the Government of the United States of America to create, improve, regulate and control all such waters and natural and artificial waterways within the County and to construct and maintain such canals, slips, turning basins, and channels upon such terms and conditions as may be required by the United States of America; and to enact, adopt, and establish, by resolution, rules and regulations for the complete exercise of jurisdiction and control over all waters and any port within the jurisdiction of the Authority.

- To make any and all applications required by the Treasury Department and other departments or agencies of the United States Government to establish a Free Port or area for the reception from foreign countries or articles of commerce and the handling, processing, and delivery thereof into foreign commerce free from the payment of customs duties and to establish within the County one or more bonded warehouses.
- To fix, rates of wharfage, storage, and port and terminal charges and rates and charges for the use of all improvements, port, or harbor facilities located within the County and owned or operated by the Authority.
- To layout, construct, condemn, purchase, own, acquire, add to, maintain, conduct, operate, build, equip, manage, replace, enlarge, improve, regulate, control, repair and establish, roads, ferries, either separately or as part of roads, streets, alleys, parks, boulevards, viaducts, tunnels, causeways, bridges and other transportation facilities within Nassau County, extending beyond Nassau County, or extending to or into the State of Georgia, and charging of tolls and fees for the services and facilities.
- To layout, construct, condemn, purchase, own, acquire, add to, maintain, conduct, operate, build, equip, manage, replace enlarge, improve, regulate, repair and establish, hotels, radio stations, and any and all recreational facilities, including yacht basins, docks, piers, wharves, fishing piers, public beaches, beach casinos, cabanas, pavilions, entertainment and eating places, swimming pools, bath houses, stadiums, athletic fields, parks, concert halls, auditoriums, golf courses, playgrounds, parking lots, gardens, conservatories
- To layout, construct, condemn, purchase, own, acquire, add to, maintain, conduct, operate, build, equip, manage, extend, replace, enlarge, improve, regulate, control, and repair public utility services, including electricity, gas, water, sewer, and local transportation within and without Nassau County or in Baker County or Duval County and to use the streets, roads, avenues, and other public places in connection therewith.

In addition, the Authority shall constitute a “state public body” within the meaning and application of the Housing Cooperation Law and is authorized and empowered to perform and carry out all duties, functions, and purposes of the Housing Cooperation Law.

Of particular benefit is OHPA’s authority to issue negotiable revenue bonds or revenue certificates to finance or refinance the works, undertakings, improvements, or facilities described above.

The combination of the extensive list of authorized projects and activities, broad jurisdiction, and the ability to finance projects, provides the Ocean Highway and Port Authority with significant value and leveraging opportunities to support the economic development interests in Nassau County.

### 5.3.2. Operating Agreement Review

The Ocean Highway and Port Authority (OHPA) entered into an Operating Agreement with Nassau Terminals, LLC (Nassau Terminals). The Operating Agreement became effective on October 19, 2018. The Agreement has an initial term of 10 years, followed by two, 12-year renewals (First Right of Refusal). A full copy of the Operating Agreement is attached to this document as **Appendix 1**.

On July 14, 2022, Transportation Infrastructure Partners, a joint venture between Ridgewood Infrastructure, LLC and Savage Services, acquired Nassau Terminals and became the new manager and operator of the Port of Fernandina.<sup>57</sup>

Nassau Terminals, as Operator, is charged with providing the necessary labor, machinery, and equipment to accomplish cargo handling and warehousing functions in the Port. The Operator is also charged with the ordinary and routine repairs and maintenance to the port facilities and equipment owned by OHPA. According to the Agreement, OHPA is responsible for maintaining a minimum water depth of 38' Mean Low Water alongside the berths. This obligation is dependent on a funding source being identified and secured.

The Operator and OHPA are directed to work together to determine certain capital improvements to the Facility including establishing a rolling 5-year Capital Improvement Plan.

The Operator is also charged with advertising and soliciting shipping business through the Port.

This is an Operating Agreement for cargo handling and warehousing and is not a Lease.

As part of the Agreement, the Operator assumed responsibility for OHPA's outstanding debt. In return for this assumption, a revenue sharing model was developed to allow the Operator to recapture this expense. This model provides for all revenue that is collected by the Operator, including Dockage and Wharfage Fees to be the property of the Operator. The Operator is required to make certain payments to OHPA over the course of the Agreement, in addition to the debt service on the previous debt.

The Operator contributes a base amount of \$251,675 annually (paid on a quarterly basis) to OHPA to be used for OHPA's operating budget. This amount is adjusted annually by the CPI and

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<sup>57</sup> <https://ridgewoodinfrastructure.com/ridgewood-infrastructure-and-savage-acquire-worldwide-terminals-fernandina-a-critical-link-in-the-port-supply-chain-infrastructure/>

continues throughout the term of the Agreement. In addition, the Operator was required to contribute \$50,000 annually to OHPA in each of the first two years of the Agreement to cover OHPA's responsibility to the City of Fernandina Beach associated with its Development of Regional Impact (DRI). Throughout the term of the Agreement, the Operator is also required to contribute \$5,000 per month to a Capital Improvement and Maintenance Reserve Fund.

In addition to the above fees, the Operator will pay a Facility Use Fee based on the amount of cargo tonnage that is handled at the Port. The Fee is based on a sliding scale that descends with increasing volumes. The initial fee is \$1.50 per short ton of containerized and breakbulk cargo up to 549,999 short tons per year, \$1.25 per short ton for tonnage between 550,000 and 649,999 tons per year, and finally \$1.00 per short ton for all tonnage above 650,000 tons annually. The fee per ton is adjusted annually based on CPI. For bulk and general cargo, the rate is \$.91 per short ton, regardless of volume.

For the first 6 years of the Agreement, the Operator retains 100% of the Facility Use Fees that are generated. Beginning in Year 7 (October 2024) the Operator begins contributing a portion of the Facility Use Fee to OHPA to be used initially to fund the Capital Improvement and Maintenance Reserve Fund (CIMR). Once the CIMR Fund has a balance of \$1,000,000, OHPA may then use the Facility Use Fees at its own discretion. For years 7-9 (October 2024-October 2026), the Operator will direct 25% of the Facility Use Fees to the CIMR and will retain the other 75%. In years 10-12 (October 2027-October 2029), the Operator will direct 50% of the Facility Use Fees to the CIMR, while retaining the other 50%. From Year 13 (October 2030) on, OHPA will receive 100% of the Facility Use Fees.

Based on this Agreement, it is in OHPA's best interest to build up the CIMR as quickly as possible and to focus on growing the containerized and breakbulk tonnage (volume) through the Port.



## 6. Stakeholder and Public Coordination

### 6.1. Stakeholder Committee

A Stakeholder Committee was formed at the beginning of the master planning process. The OHPA Commissioners selected the 11 participants of the Committee who included key members of the community, local government representatives, customers of the Port, and others with a vested interest in OHPA activities and the Port of Fernandina. The full Stakeholder Committee is listed below in **Table 8**.

TABLE 8: STAKEHOLDER COMMITTEE

Name	Company/Affiliation
Jack Knocke	Common Sense Fernandina Beach
Sherri Mitchell	Nassau County Economic Development Board
John Martin	Nassau County Board of Commissioners
Len Kreger	Fernandina Beach City Commission
Charles Higginbotham	WestRock
Tammi Kosack	Fernandina Beach Historic District Council
Victoria Robas	Fernandina Beach Planning Advisory Board
Charlie Gressman	Nassau County Planning & Zoning
Scott Bleicken, LCDR	Fernandina Beach Citizen
Danny Fullwood	Ocean Highway and Port Authority
Butch Gilbert	Nassau Terminals (Terminal Operator)

Two separate Stakeholder Committee meetings were held throughout the master planning process to gather input and feedback from committee members and answer questions. Both meetings took place at the OHPA offices located within the Nassau County Tax Collector's office at 86130 License Rd., Fernandina Beach, FL 32034. Stakeholder Meeting #1 took place on Wednesday, June 8, 2022, and Stakeholder Meeting #2 took place on Wednesday, November 30, 2022.

### 6.2. Technical Subcommittee

The Technical Subcommittee consisted of representatives from the consultant team and OHPA. The subcommittee met bi-weekly throughout the development of the master plan to discuss technical details and analysis over the course of the study. The subcommittee worked together to prepare the master plan report as well as the stakeholder and public outreach meetings.

### 6.3. Public Engagement

The Consultant team fully understands the importance of having a robust, comprehensive public engagement effort for any planning process, but particularly for the Port of Fernandina Strategic Master Plan. As such, the Consultant developed a customized approach for the public outreach for this project.

As mentioned in **Section 6.1**, a Stakeholder Committee was comprised of key members of the community, local government representatives, customers of the Port, and others with a vested interest in OHPA activities and the Port of Fernandina. Feedback and input gathered during the two Stakeholder meetings has been incorporated into the Master Plan.

On top of the two Stakeholder meetings, the project team held meetings with other prominent community organizations and local government agencies including Fernandina Beach City Manager's Office, Fernandina Beach Planning Department, Fernandina Beach City Attorney's Office, US Customs and Border Protection, Fernandina Beach Main St, St. Johns Bar Pilot Association and Fernandina Beach Pilot LLC, and Fernandina Beach City Commission.

In addition, Master Plan Workshops were held with the OHPA Commissioners on Tuesday, October 18, 2022, and jointly with the OHPA Commissioners and City of Fernandina Beach Commissioners on January 11, 2023 to discuss the goals and objectives of the plan, to review the main findings of the Consultant team's due diligence, and to coordinate any updates or changes needed prior to the final report.

The Consultant team also planned and hosted two public open houses in which the community was invited to attend and provide input for consideration of the planning team. The initial public open house, held on July 28, 2022, at Fernandina Beach City Hall, provided an opportunity for members of the public to ask questions, express thoughts and concerns regarding the Port and master planning process, and allowed the project team to listen to the community and gather feedback. The comments received from Public Open House #1 are summarized below:

- Concern regarding expansion beyond the current footprint or development of nearby vacant lots.
- Concern regarding intrusion into the historic district.
- Desire for an offsite staging or queuing area for trucks.
- Concern about the number of trucks queuing on Dade St.
- Concern regarding construction of an alternate entrance along Escambia St, impacts to the salt marsh, and displacement of roosting habitat for endangered birds.
- Concern for diminished quality of life by Port activities.

- Concern with vulnerability to storm surge, flooding, and sea level rise.
- General concerns regarding noise, idling trucks, speeding trucks, trash, etc.
- How best to leverage the unique role of a small port in a small, historic community that values its quality of life.

The second public open house, held on January 26, 2023, at the Peck Center allowed the community to preview the Master Plan recommendations and provide feedback and input. The primary item of concern from the community proved to be the recommendation to include small cruise ship operations into the Master Plan. After careful consideration of the pros and cons and further discussion amongst OHPA, the Consultant team, and additional feedback from the community, OHPA decided to remove cruise ship operations from the Master Plan. Other comments received from Public Open House #2 are summarized below:

- Support for additional rail opportunities and inland ports to minimize trucks where possible.
- Concern over the storage of hazardous bulk materials at the Port.
- Appreciation for the new Terminal Operator's cleanup efforts along Dade St.
- Positive comments related to eliminating expansion outside of current Port footprint and the possibility of the sale of empty residential parcels.

## 7. Port Existing Conditions, Challenges, and Opportunities

### 7.1. Existing Conditions

#### 7.1.1. Port of Fernandina Inventory

The existing facilities and equipment within the Port of Fernandina are outlined within this section. Port operational infrastructure and equipment will be identified and quantified, beginning within the overall port boundaries and the equipment used to transfer freight.

#### 7.1.2. Port Location, Features, and Static Infrastructure

The Port of Fernandina is located on the northwestern side of Amelia Island in NE Florida. The facility is located within the City of Fernandina Beach along the Amelia River approximately two miles from the Atlantic Ocean, in Nassau County. The Port property consists of approximately 23 acres which is bordered by development patterns including residential, industrial, and commercial on all sides apart from the wharf. The Port's existing infrastructure, nearby conservation easement, and historic district boundaries have been identified within **Figure 2** while **Figure 3** indicates the wetland and waterbody features within a quarter mile of the terminal area, the nearest evacuation routes and the flood zones in the area. The historic and environmental features methodologies and sources are further reviewed in **Section 7.2** of the Master Plan.

#### Wharf and Berthing Space Conditions

The existing wharf is pile and cap concrete spanning 1,200 ft with a width ranging between 70 and 115 feet in width. This facility provides two berths with a channel depth of -36 ft mean low water (MLW) and berth dredged to 40' + 2'. The wharf is 12 ft above the MLW. Tides in this area are typically within the 6ft range.

#### Channel/Navigation Features

The federal channel adjacent to the Port is maintained at a depth of -36-foot MLW with a 400-foot width per the 1994 allocation of funds for the harbor deepening.

The Kings Bay Entrance Channel (KBEC) is located just to the north which services the US Navy operations at the Kings Bay Naval Submarine Base. The KBEC channel is maintained at -51-foot MLW with a width of 500 feet.

In addition to the two larger channels described above, the Intracoastal Waterway (ICW) weaves through the area, however, it is not maintained at the depths and widths of the two channels described above. The ICW is maintained at a depth of -12 feet MLW and a width ranging between 90 and 150 feet.



FIGURE 2: PORT STUDY AREA AND FACILITIES

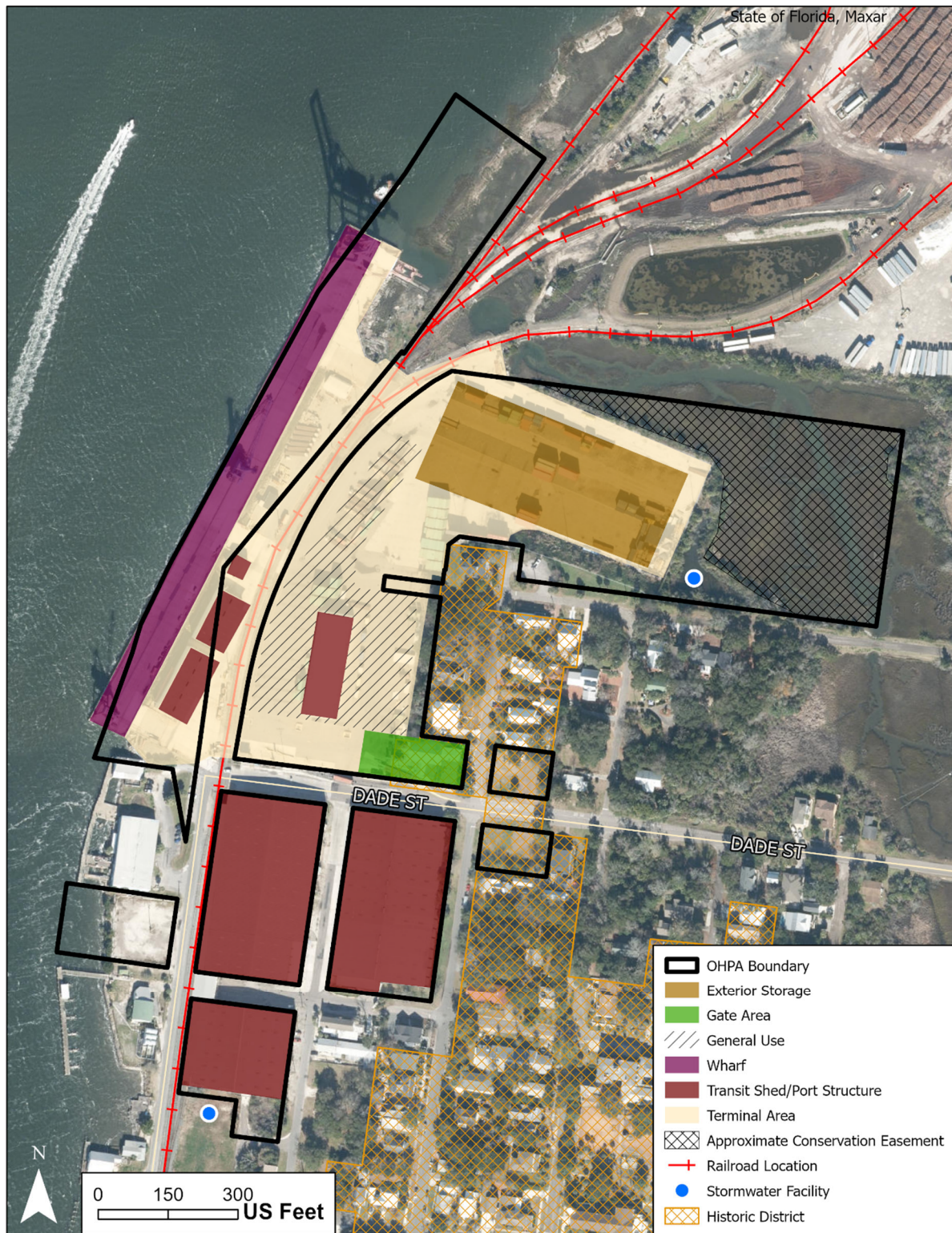
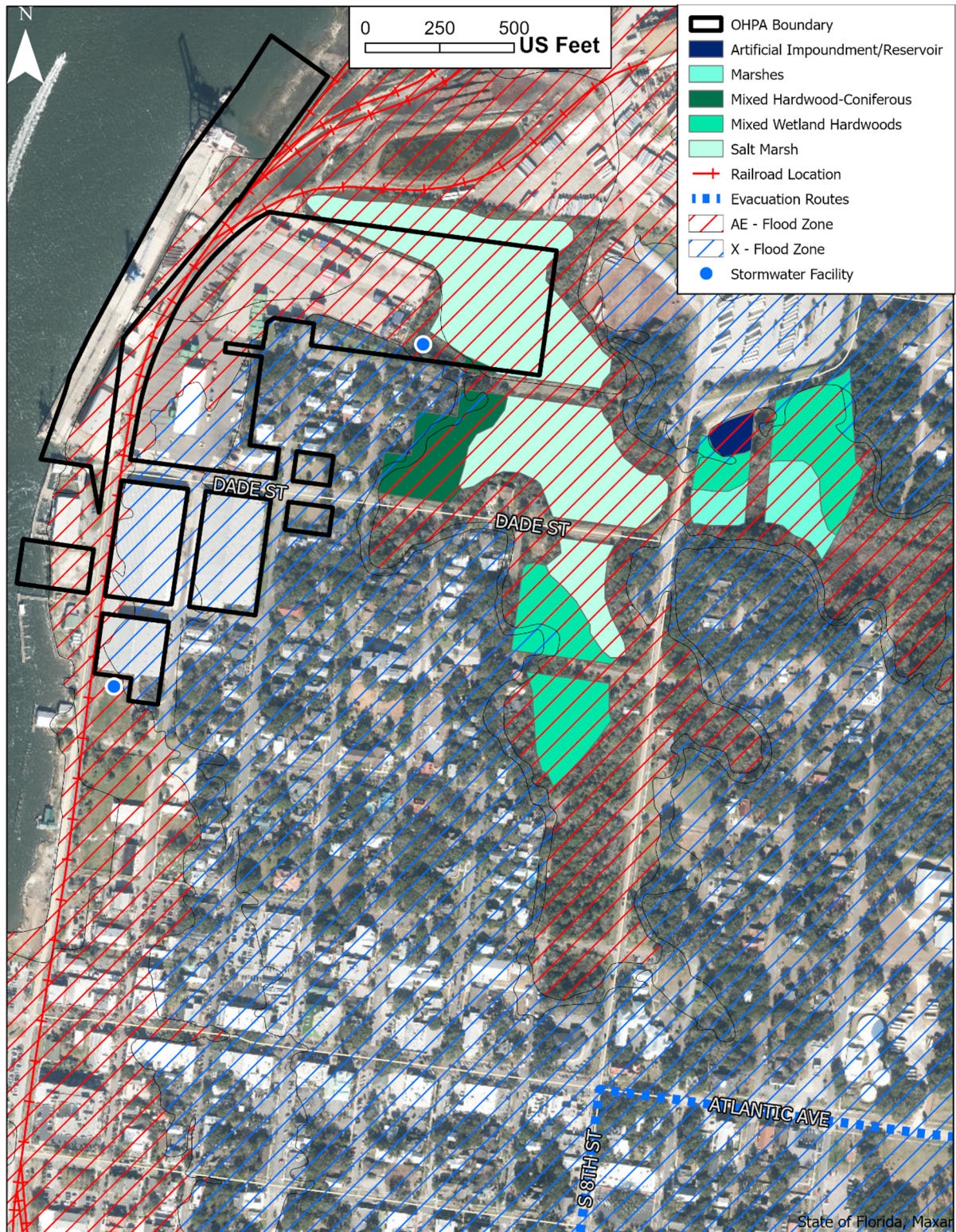




FIGURE 3: NEARBY WETLANDS, WATERBODIES, AND FLOODZONES



### Turning Basin Capacity

The turning basin is maintained at -36-foot MLW with a width of 1,000 feet.

### Vessel Limitation

Based on the environmental and developed port infrastructure, vessels which could utilize the Port are likely limited to those which draft less than 36ft. These vessels range below 700ft with container ships typically averaging less than 2,500 twenty-foot equivalent units (TEU) and general cargo ships between 10,000 and 45,000 dead weight tonnage.

#### 7.1.3. Transit Sheds and Storage

### Port Equipment/Buildings

**Table 9** contains a list of the Port's buildings and major equipment.

TABLE 9: PORT BUILDINGS AND MAJOR EQUIPMENT

Building/Equipment Type	Amount of Equipment in Service
Transit Shed (Cargo Storage)	3
Transit Shed (Open)	2
Fabric Warehouse	1
Terminal Emergency Generator	1
Port Security Building	1
Marine Building	1
Fort Clinch Tugboat	1
Clyde "Whirley" Crane	1
Liebherr Rail-Mounted Gantry Container Crane	2
Liebherr Mobile Harbour Crane	1
Frontend Bucket Loader	1
Top Loader/ Container Stacker	3
Lift Trucks (varied capacity, 3,000 to 52,000 lbs.)	30
Yard Spotter/ Ottawa Tractor	20
Flatbed Trailer	11
Container Chassis	6
Paper Pusher	4
Maintenance Service Truck	4
Mobile Welding Machine	1
Fuel Truck (3,200 gallon)	1
Man-Lift	1
Rail Siding	1,600 feet
In-ground Truck Scale (Dade St)	2
Short Line Rail	Connection to CSX mainline
Bromma Spreader	1

Source: OHPA Strategic Master Plan, 2014; Worldwide Terminals Fernandina Feasibility and Market Study, 2019; OHPA Equipment Inventory Maintenance Report, 2021; modified by RS&H

### Transit Sheds

The port manages three main transit sheds, located outside of the secured port facility, containing over 201,000 gross square feet of weather sensitive cargos. Two of the transit sheds are approximately 80,000 square feet while the third is approximately 40,000 square feet.



Collectively, the transit sheds maintain an average height of 22 feet. Additionally, the transit sheds provide four truck docks for loading and unloading. There are several other covered storage sheds, with approximately 20,000 square feet used to store equipment and miscellaneous weather sensitive breakbulk cargoes such as steel coils. The transit sheds appear to be well maintained and in generally good functional condition. The transit shed space is fire protected.

A more detailed analysis of the transit sheds and their use is outlined in **Table 10** and **Table 11** below.

TABLE 10: FOREST PRODUCT STORAGE

Forest Products								
	Transit Shed 1		Transit Shed 2		Transit Shed 3		Total	
Gross Transit Shed Area	82,000	gross sf	77,000	gross sf	42,000	gross sf	201,000	gross sf
Net Transit Shed Area (assume 75% of gross area)	61,500	net sf	57,750	net sf	31,500	net sf	150,750	net sf
Floor Strength	0.36	tons/sf	0.36	tons/sf	0.36	tons/sf	0.36	tons/sf
Average Dwell Time	33	days	33	days	33	days	33	days
Average Cycles per Year	11	turns	11	turns	11	turns	11	turns
Maximum Storage Density (Kraft Board)	0.28	tons/sf	0.28	tons/sf	0.28	tons/sf	0.28	tons/sf
Maximum Static Capacity	14,700	tons/sf	14,700	tons/sf	8,400	tons/sf	37,800	tons/sf
Peak Annual Throughput							231,866	tons

Source: OHPA Strategic Master Plan, 2014; modified by RS&H

TABLE 11: CAPACITY SENSITIVITY

Transit Shed Storage Capacity Sensitivity	
Dwell Time (days)	Turns per Year
15	41
30	12
45	8

Source: OHPA Strategic Master Plan, 2014; modified by RS&H

## Outdoor Storage

In addition to the indoor transit shed storage described above, the Port also maintains approximately nine acres of exterior storage. Of these nine acres, 4-5 acres are typically used for breakbulk and containerized cargo while the remaining 3-4 acres are specifically set aside for container storage.

Note: Portions of the terminal experience significant flooding during high tides. This flooding can reduce the effective storage and working area of the Port.

Pavement strength averages ½ ton per square foot.

## Open Yard Storage

The Port maintains approximately nine acres of outside storage with roughly three to four acres reserved for container storage. The Port has plans to develop a new covered storage facility, which would reduce the overall outdoor storage capacity. However, this facility has not yet been constructed and as such **Table 12** and **Table 13** present estimates of the storage capacities and throughput of the open yard area.

TABLE 12: STORAGE YARD CAPACITY

Yard Storage Capacity						
	Steel		Other Breakbulk			
	Yard		Yard		Total	
Gross Open Storage Area	1.8	gross ac	1.8	gross ac	3.6	gross ac
Net Open Storage Area (assume 75% of gross area)	1.4	net ac	1.4	net ac	2.7	net ac
Steel storage Rate	0.25	tons/sf	0.25	tons/sf	0.25	tons/sf
Average Dwell Time	30	days	30	days	30	days
Average Cycles per Year	12	turns	12	turns	12	turns
Maximum Static Capacity	15,246	tons	15,246	tons	30,492	tons
Max Throughput Capacity	182,952	tons	182,952	tons	365,904	tons

Source: OHPA Strategic Master Plan, 2014; modified by RS&H

TABLE 13: CONTAINER YARD THROUGHPUT CAPACITY

Container Yard Throughput Assumptions		
Distribution of Containers	Percentage	Dwell Times (days)
Empties (TEUs)	40%	12
Import/Export (TEUs)	60%	12
Reefers (TEUs)	Included	12
Percent of 40-ft Boxes	50%	
Results		
Static Storage Capacity	850-1100 TEUS In container yard	
Total Annual Storage Capacity (TEUs)	30,000 - 35,000 In container yard	
Total Annual Storage Capacity (Boxes/year)	20,000 - 23,300 In container yard	
Peak Annual Throughput (in TEUs) (2010)	32,113	

Source: OHPA Strategic Master Plan, 2014; modified by RS&H

### Chassis and Chassis Storage

Chassis are generally stored onsite at the terminal; however, these could be moved offsite to improve the storage capabilities within the terminal area.

### Rail Storage

The Port does not currently manage long-term storage space for rail cars; however, the Port generally receives 1 train a day and is able to load 11 rail cars at a time.

### Stormwater Facilities

The Port has two permitted stormwater facilities which are identified in **Figure 2** and **Figure 3**. The terminal Stormwater Pollution Prevention Plan (SWPPP) is included in **Appendix 2**.

## 7.2. Regulatory, Physical, and Environmental Barriers

The Port is in a sensitive location in close proximity to the built environment and the natural features typically adjacent to similar port facilities. This section discusses the conditions and barriers as well as the necessary actions for the Port to undertake to overcome identified barriers. Specific improvements to the Port and planned improvements have been identified within the Recommendations section of the document.

### 7.2.1. Barriers, Challenges and Constraints

#### Regulatory Policy and Physical Restrictions

Due to its location the Port is subject to development policies set forth by the City of Fernandina Beach (principally Ordinance 2021-29), the Community Redevelopment Area (CRA) and the

adjacent Historic District. The Port has parcels both adjacent to and within the CRA and Historic Districts, subjecting them to further requirements of viewshed, building height, and access. These limitations discourage the expansion of the terminal area into adjacent properties.

The majority of the Port's property is under use; however, the proposed industrial developments located near Callahan (e.g., the Crawford Diamond Development) and along the US 17 corridor offer opportunities for expansion of operations inland and not directly at the Port terminal facility. Use of these external properties may allow the Port to expand or modify operations without encroaching into the protected adjacent properties. Coordination with these inland locations is highlighted further within the Recommendations section.

### Vessel Constraints

The berth is generally limited to regional/coastal vessels (described below in **Table 14**), and it is anticipated that this size of vessel will meet the Port's future needs.

TABLE 14: COASTAL VESSEL SPECIFICATIONS

Vessel Specifications			
Vessel Type	Capacity (TEUs)	LOA	Draft
Coastal	900 – 2,000	345 – 640 ft	23 – 36 ft

Source: OHPA Strategic Master Plan, 2014; modified by RS&H

### Storage Constraints

Inefficiencies related to the design of structures and limited loading areas can lead to delay and reduce growth potential. In general, several large on-island industries bypass the Port by sending trucks and trains to other nearby port facilities such as Jacksonville and Savannah in order to efficiently move their goods. The general constraints at the facility are as follows:

- Limited availability of ocean shipping routes for containerized freight.
- Existing port facilities and equipment lead to the dwell time for KLB to be 30-45 days.
- Currently, the transit sheds are limited to four operating truck loading/unloading bays.
- Currently, there is only space for 11 railcars to be loaded and unloaded.
- Current port access is limited to one truck at a time, leading to increased congestion along the Dade St entrance and truck lane area.
- A truck lane is located on the northern edge of Dade St, but it is very limited.
- During the COVID-19 pandemic, the Port placed limitations on imported forest products (primarily plywood and building supplies) due to storage limitations; these storage limitations may also impact other freight materials in the future.

The Terminal Operator will consider these limitations and will work to reduce their impact on the overall operations of the Port moving forward. The Operator will prioritize and target freight with available shipping routes to reduce limitations being experienced by containerized freight. Additionally, the Operator will coordinate with off-terminal locations to improve storage and transfer rates of freight to alleviate the current limitations at the terminal. The use of off-terminal facilities may improve the operational status of the Port by providing additional storage and intermodal connections between ship, truck, and rail. Coordination and possible use of these offsite locations is further explained within the Recommendations section.

### Environmental Constraints

In addition to the general usage constraint that the Port is experiencing, there are several environmental factors that directly influence the facility.

#### Flooding

Under current conditions and during large tides, the terminal regularly experiences approximately five acres of flooding within the working area. These flooding events limit operations and storage capabilities. The port has identified this issue and has proposed the development of additional or improved bulkheads to reduce and prevent future flooding. Additional study of this issue is warranted to reduce impacts to future Port operations.

#### Wetlands

The Port is located adjacent to wetland areas, which limits the feasibility and desirability of expansion projects. Any expansion into these areas would require additional coordination with environmental agencies and would likely increase timelines and costs significantly. The City of Fernandina Beach has a zero-wetland impact policy.

The City of Fernandina Beach Land Development Code 3.03.03 and 3.03.04 includes the following provisions regarding development within and around wetlands<sup>58</sup>:

- A. Wetlands shall be preserved in their natural state. No fill shall be placed in a wetland, and the wetland shall not be altered.
- B. Buffering requirements for development adjacent to wetlands or natural water bodies:
  - 1. All new development and redevelopment adjacent to jurisdictional wetlands or surface water bodies shall be required to provide a buffer zone of native vegetation at least twenty-five (25) feet wide around wetlands and fifty (50) feet from natural water bodies to prevent erosion, retard runoff, and provide areas for habitat. All new construction that is a water dependent or water related use

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<sup>58</sup> [http://fbfl.us/DocumentCenter/View/16366/CHAPTER-3\\_April-2022?bidId=](http://fbfl.us/DocumentCenter/View/16366/CHAPTER-3_April-2022?bidId=)

within the CRA and I-W zoning is exempt from the required buffers established by this Section; and

2. This setback shall be required for any development, except docks or piers which have received a permit from the Florida DEP, SJRWMD, or the USACOE and are compliant with standards found in Section 3.01.03 FERNANDINA BEACH LAND DEVELOPMENT CODE ENVIRONMENTAL AND RESOURCE PROTECTION CHAPTER 3 Ordinance 2006-14 (as amended) 3-10 Adopted September 5, 2006, Revised 02-22-2022
- C. Permitted activities within areas designated by the City, FDEP, SJRWMD, or the USACOE as wetlands protection zones or wetland transition areas:
1. Potentially allowable uses adjacent to wetlands protection zones or wetland transition areas are those principal and accessory uses included in the Conservation land use category on the FLUM provided that installation does not involve grading, fill, dredging, or draining, and provided that such structures are constructed on pilings so as to permit the unobstructed flow of water and light and preserve the natural contour of the wetlands. All pilings shall be driven into place; no jetting of pilings shall be allowed.
  2. Developing an area that no longer conforms to the determination of the SJRWMD as wetlands, except former wetlands that have been filled or altered in violation of any rule, regulation, statute, or this LDC. The developer shall demonstrate that the water regime has been permanently altered, either legally or naturally, in a manner so as to preclude the area from maintaining surface water or hydroperiodicity necessary to sustain wetlands structure and function. Adequate proof shall include statements from federal or State agencies having jurisdiction as well as technical evidence from registered hydraulics engineers or other certified experts.
  3. Development of a wetlands stormwater discharge facility or treatment wetlands in accordance with State permits received under currently relevant sections of the F.A.C.

#### **3.03.04 Design Requirements**

- A. All new development and redevelopment adjacent to jurisdictional wetlands, wetland protection zones and wetland transition areas shall be designed, constructed, maintained, and undertaken in a way that minimizes the adverse impacts on the functions of the affected environmentally sensitive zone.

- B. In addition to any standards required by federal, State, or local agencies and any other section within this LDC, the following standards shall apply to uses found to be permissible in or adjacent to wetlands:
1. The use shall allow the movement of aquatic life requiring shallow water;
  2. Existing flood channel capacity shall be maintained;
  3. Stable shoreline embankments shall be ensured on unstable shorelines where water depths are inadequate, to eliminate the need for offshore or foreshore channel construction dredging, maintenance dredging, spoil disposal, filling, beach feeding, and other river, lake, and channel maintenance activities;
  4. Uses in areas where there is inadequate water mixing and flushing shall be eliminated or stringently limited as provided in Section 3.03.00;
  5. Uses shall be prevented in areas which have been identified as hazardous due to high winds or flooding;
  6. Access roads, parking lots, and similar structures shall be limited to locations on properly zoned uplands;
  7. Any wetlands shown on the site plan to remain undisturbed that become damaged during construction shall be completely restored. Complete restoration means that the restored area shall function equivalently to the wetland prior to damage;
  8. Accessory uses shall be limited to those which are water dependent; and
  9. Fill shall not be placed in waters or wetlands to create usable land space.

Any future improvements which would be impacted by these regulations will be coordinated with the appropriate regulating agency. At this time, the Port is not anticipating impacts to properties adjacent to the existing terminal area.

### Dredging/Channel/Navigational Features

Dredging and maintenance of the channel is a significant factor when considering shipping vessel sizes that can access the Port. The regional freight market conditions further discussed within **Section 7.3** indicate that the existing coastal/regional vessel size will continue to meet the needs of the Port. At this time, OHPA has no plans to pursue efforts to deepen the Federal Channel beyond its current depth to accommodate larger vessels.

### Trucking Considerations

The Port has identified that its current limitations of warehousing, rail, and cargo movements (limited available shipping services/routes) lead to local businesses shipping much of their freight north to the Port of Savannah, Port of Charleston or south to the Port of Jacksonville. This leads to significant mileage put on trucks causing congestion and emissions that could

otherwise be reduced. Coordination with on-island industries and their freight related needs should be considered into the future. A combination of additional off-terminal warehousing and modification of scheduling (truck, rail, and ship) with the potential coordination of intermodal transfer centers may allow the Port to better serve the latent demand from these industries. The Terminal Operator should also explore the use of gate scheduling software to assist in reducing truck queuing and better scheduling arriving trucks.

### **7.2.2. Environmental Contamination**

Projects that require excavation, fill, dewatering, acquiring new property, and demolition or renovation of existing structures may be considered in the future. These activities have the potential to encounter contamination (if present) during construction. Identifying and evaluating potential contamination impacts early in the project development process can protect human health, the environment, project budget and schedule during construction. This evaluation involved a site reconnaissance, an environmental database review, and obtaining information from the Florida Department of Environmental Management (FDEP).

#### **Environmental Data Collection**

As part of this evaluation, a computerized database search was requested from Environmental Data Resources, Inc. (EDR). The environmental database search included the entire Port property and a maximum radius of 1 mile.

A site reconnaissance was performed in December 2021, for the purpose of observing signs of possible contamination sources such as odors, spills, stains, excavations, storage areas, drains, and the presence of stressed vegetation. The site reconnaissance was performed within the Port boundaries and for properties adjacent to the Port.

Specialized search engines such as FDEP's Document Management System (OCULUS), Information Portal, Map Direct, and Contaminator Locator Map, were used to identify regulated facilities within the area. OCULUS is used by FDEP to store and organize regulatory documents. OCULUS and the Information Portal were used in this evaluation to obtain regulatory information regarding Storage Tanks, Hazardous Waste, Solid Waste, Waste Cleanup, Inspection Reports, Enforcement Actions, Contamination Records, and Environmental Monitoring Records.

#### **Recognized Environmental Conditions at the Port**

According to the EDR report, the site (173 Dade St) is classified as an "Old Dump." A 1993 CERCLA Site Inspection Report, obtained from FDEP Map Direct, indicates the presence of onsite subsurface soil and sediment impacts from Polycyclic Aromatic Hydrocarbons (PAH), Metals, and Pesticides. The report recommended further assessment. However, no documents are available for review after 1994 to indicate the exact location or extent of contamination. EDR and FDEP Map Direct also indicated the site is closed with no groundwater monitoring.



The FDEP Map Direct and EDR report indicate the site has one in-service 600-gallon diesel fuel AST and one in-service, 1,000-gallon vehicular diesel AST. The site reconnaissance did not observe evidence of accidental releases.

The EDR report indicated the Port is a small quantity generator of hazardous waste. This generator status is most likely from the use of degreasers in the Maintenance Shop. No violations were documented. FDEP Map Direct also indicates the site is in a Compliance and Enforcement Tracking program for Hazardous Facilities. No violations were documented in the database.

According to the EDR report, 15 gallons of hydraulic oil spilled at the site (312 N 2nd St). No additional information was available for review.

According to the EDR Report, the Customs House (403 N 3rd St) reported "some" thermometers broke inside a container resulting in a Mercury spill within the container. The spill was remediated, and no additional action was necessary.

The western portion of the Port has a north-south rail corridor. The site reconnaissance identified some surface staining and stressed vegetation. No monitoring wells or other environmental concerns were noted along the rail corridor. No records specific to the rail line were discovered in FDEP OCULUS, or internet search databases.

Rail corridors are at substantial risk for soil and/or groundwater contamination. This risk derives from the potential for unreported spills associated with historical and ongoing use in transporting freight, as well as rail industry maintenance practices. The US Environmental Protection Agency (USEPA) considers rail fields, which include rail tracks and railroad rights-of-way, as a subset of brownfield properties. EPA states that "residual contamination including herbicides, petroleum products and byproducts, metals, and creosote, is often present as a result of the former railroad operations and associated industrial activities" (USEPA August 2005).

In many cases, rail corridors through urban areas connect or previously connected to loading / unloading areas at adjacent industrial sites with a spur. USEPA notes that railway yards may consist of any combination of track and switching areas, engine maintenance buildings, engine fueling areas, bulk and container storage and transfer stations, and storage areas for materials used in track and engine maintenance. USEPA also notes that, "virtually any type of chemical contamination could be present because of the variety of chemicals used at and transported through railroad yards" (BTSC July 2017).

The Customs House was not accessed or inspected during the site reconnaissance. Based on the age of the building, there is a potential Asbestos and Lead based paint may exist in building materials.

### Plan of Action at the Port

According to the records review and site reconnaissance, there is a potential that construction activities may encounter contamination. Projects executed within the Port boundaries that involve subsurface construction, such as excavation and dewatering, should assess soil and groundwater quality during the project's design phase. The assessment should be performed within the project footprint. Sampling methodology is dependent upon areal extent and expected construction depth. Soil and groundwater sampling locations should be positioned such that they represent materials generated from subsurface construction. Analytical parameters selected should fully characterize the environmental media such that a preliminary waste determination can be made. The results of the assessment will be incorporated into the design documents. The project design will assist the construction contractor by establishing requirements for worker health and safety, protecting the environment, and complying with environmental regulations. Implementing these environmental requirements during the construction phase will limit the Port's risks while protecting the project's budget and schedule.

Raising the ground surface elevation of the northwest section of the terminal will involve bringing clean fill onto the Port and managing new stormwater pathways. To ensure clean fill is used for the project, the project design should require a qualified inspector to determine if environmental concerns exist by requesting an environmental certification or analytical results for fill material. If environmental testing has not been completed, the project design should require testing to ensure that environmental contaminants are not being brought onto the Port during the fill operation. The Port should approve the fill source prior to bringing and using fill for this project. Raising the elevation will change existing storm water flow pathways. New pathways should include designed storm water collection and conveyance systems.

Hazardous building materials such as Asbestos and Lead based paint may exist in the Customs House building. Converting the building for an alternative use may require demolition or renovation. To determine if hazardous building materials exist, a Hazardous Materials Survey (HMS) should be performed during the project's design phase. The results of the HMS will be incorporated into the design documents which will assist the construction contractor in managing worker health and safety, protecting the environment, and complying with environmental regulations.

### Recognized Environmental Conditions at Adjacent Properties

The property located at 219 N Front St adjacent to one of the Port's Transit Sheds was formerly operated as the Florida Petroleum Corporation and most recently as the Walthall Oil Company. This property contained approximately 42 aboveground storage tanks (ASTs) and associated piping and dispensers. The registered tanks were installed between 1983 and 2000. According to regulatory records, these tanks contained various petroleum fuels and lubricants. There were

three small buildings located on the property which held administrative offices and storage for smaller petroleum containers including drums. These petroleum products were loaded into trucks for delivery using pumps and dispensers.

A review of available documentation through the FDEP OCULUS database indicates there were multiple spills of petroleum products at this property under previous site ownership. These documented releases occurred in 1992, 1999, and 2000. Additionally, leaking seals were repaired at the property. There are no records indicating soil or groundwater contamination assessments occurred. A Limited Closure Report for ASTs was completed in October 2018. The report indicated all ASTs were removed. During the site reconnaissance, the property was undeveloped with all ASTs, piping, dispensers, and buildings having been removed.

The WestRock Company is located adjacent to the north of the Port at 600 N 8th St. According to the EDR report and FDEP's OCULUS database, there are numerous environmental records documenting environmental conditions and active remediation efforts at the property. It is unlikely that environmental conditions have migrated onto the Port due to the Amelia River and the tidal creek (a hydrologic barrier) separating the Port and WestRock.

No environmental conditions were discovered along Escambia St between N 8th St and N 4th St.

### Plan of Action at Adjacent Properties

Due to the potential for hazardous substances in the vicinity of the Port, any expansion of the Port facilities would require a Phase I Environmental Site Assessment (ESA) should be performed, to the ASTM standard, prior to purchasing or improving the property. The results of the Phase I ESA may recommend a Phase II ESA to investigate soil and groundwater quality at the property. The findings of the Phase II ESA can assist the Port in acquiring this property. The results will also assist the Port during the design phase of the project by establishing requirements for worker health and safety, protecting the environment, and complying with environmental regulations. Additionally, the Port would comply with the city and county on their code of ordinances to ensure compliance. However, at this time, the Port is not anticipating significant growth beyond the existing terminal area for adjacent properties.

### 7.2.3. Historic, Cultural, and Natural Resources

As part of the Port of Fernandina Master Plan, a review of existing historic, cultural, and natural resources (wetlands and other surface waters, protected species and habitat, and essential fish habitat) within the vicinity of the Port property was performed. The purpose of the environmental resources review is to inventory existing historic, cultural, and natural resources to determine potential environmental constraints for future Port projects. The following sections cover the data collection methodology, existing environmental features, and identification of

potential environmental constraints by future Port projects and recommendations for resolving these constraints.

### Methodology

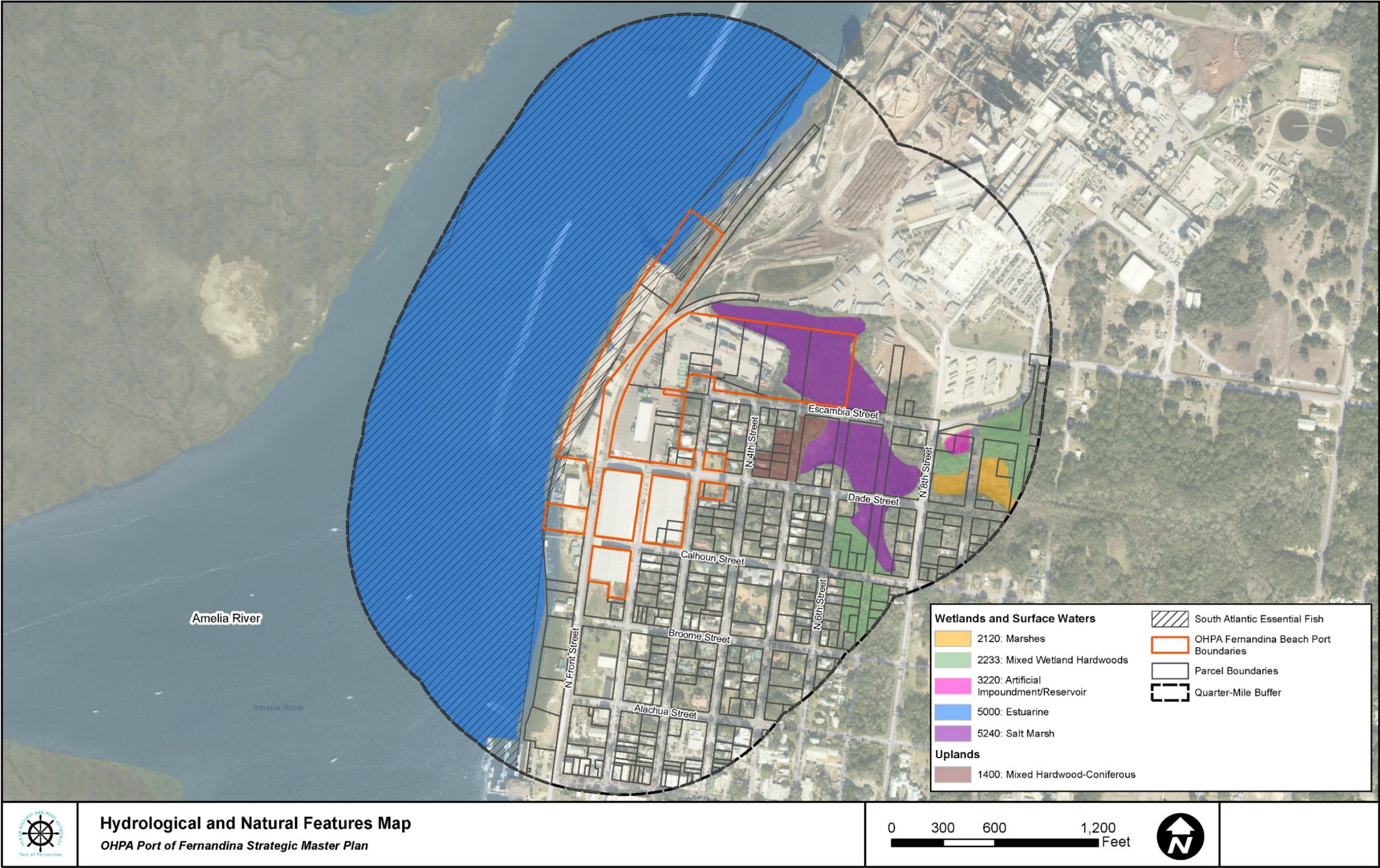
Existing historic, cultural, and natural resources features were compiled from geographical information systems (GIS) database layers and conducting a desktop field review of the Port property. Available online resources from United State Fish and Wildlife Service (USFWS), Florida Fish and Wildlife Conservation Commission (FWC), National Oceanic and Atmospheric Administration (NOAA), Florida Natural Areas Inventory (FNAI), St. Johns River Water Management District (SJRWMD), and Florida Department of Environmental Protection (FDEP) were utilized to identify wetlands and other surface waters, protected species and habitat, and essential fish habitat within the vicinity of the Port property. The Bureau of Archaeological Research and Florida Department of Historic Resources (FDHR) were the primary online resources used to identify cultural and historic resources within the vicinity of the Port property. A quarter mile buffer surrounding the Port property was used for environmental screening and defines the project area. Environmental features are subject to change over time. Therefore, the most up-to-date data should be used in any future updates or analysis. In-person environmental field reviews were not conducted for natural resources (i.e., species surveys, benthic surveys, and wetland delineations) or cultural and historic resources but are anticipated to be performed during the design and permitting phase of future Port projects.

### Existing Environmental Features

The following sections document the wetlands and other surface waters, protected species and habitat, and essential fish habitat within the project area. These natural resources within the Port of Fernandina project area are shown in **Figure 4**.



FIGURE 4: HYDROLOGICAL AND NATURAL FEATURES MAP





## Wetlands and Other Surface Waters

Wetlands and other surface waters are protected under Section 404 of the Clean Water Act (CWA) which regulates discharge of dredged or fill material into Waters of the United States (WOTUS), Section 10 of the Rivers and Harbors Act of 1899 which prohibits unauthorized obstruction or alteration of any navigable WOTUS, and Executive Order 11990 (Protection of Wetlands) which established policy to "avoid to the extent possible the long and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative". At the state level, activities in wetlands and other surface waters are regulated by the FDEP. Due to the project area abutting the Amelia River, which is a navigable Waterway, the project is within waters retained by the USACOE for Section 404 (CWA) and Section 10 (Rivers and Harbors Act) permitting. Additionally, the project is under jurisdiction of FDEP for state ERP permitting.

A desktop review was performed to identify wetlands and other surface waters within the Port of Fernandina project area. Salt marsh wetlands exist within Port property and are hydrologically connected to the Amelia River. The Amelia River is classified as other surface waters but wetlands such as salt marsh occur intermittently along the shoreline, especially at the north end of the Port property. Submerged aquatic vegetation (SAV) such as seagrasses could also be present within the Amelia River but limits of SAV cannot be determined without an in-water survey. Mixed wetlands hardwoods, marshes, and cultural lacustrine (stormwater pond) are located within the project area but beyond the Port of Fernandina property. All wetlands and other surface waters within the project area should be considered tidal due to their proximity and hydrological connection to the Amelia River.

**Table 15** lists the wetlands and other surface waters found within the project area and **Figure 4** shows the locations of the wetlands and surface waters within the project area. Wetlands and surface waters are described based on FNAI cooperative land cover (CLC) data.

TABLE 15: WETLANDS AND OTHER SURFACE WATERS WITHIN THE PROJECT AREA

System Type	CLC	Acreage within Project Area	Comment
Wetland	5240 - Salt Marsh	12.10	Within Port Property north of Escambia St
Wetland	2233 - Mixed Wetlands Hardwoods	5.84	Not within Port Property, within project area
Wetland	2120 - Marshes	1.60	Not within Port Property, within project area
Other Surface Water	5000 - Estuarine	112.41	Within Port Property, Amelia River
Other Surface Water	3200 - Cultural Lacustrine	0.37	Stormwater pond, not within Port Property, within project area

*Note: Project Area = A quarter mile buffer distance surrounding the Port property*

*Source: FNAI CLC data (2022)*

#### **Wetland: 5240 – Salt Marsh**

Salt marsh wetlands are located within the northeast portions of the Port of Fernandina property. The salt marsh system is hydrologically connected to the Amelia River through culverts at the northern end of Port property under the Terminal rail access. The marsh system also appears to be hydrologically connected via culverts under Escambia St and Dade St where it is generally located east of Port property and west of N 8th St. Additionally, an approximately 4.06-acre area of the salt marsh wetland located north of Escambia St within Port property is a designated Conservation Easement (Florida Department of Environmental Regulation, Permit Number 451730689 - November 9, 1990) as shown in **Figure 4**. The purpose of this Conservation Easement is to assure that this wetland area will be retained and maintained forever in the natural vegetative and hydrologic condition existing at the time of the execution of the Conservation Easement.

#### **Wetland: 2233 - Mixed Wetlands Hardwoods**

The salt marsh system transitions to a mixed wetland hardwoods system south of Dade St between N 6th St and N 8th St. Mixed wetlands hardwood wetlands are also found east of 8th St and south of Escambia St. These systems are not within Port property but are within the project area.

#### **Wetland: 2120 – Marsh**

The freshwater marsh system is located east of N 8th St and south of Escambia St. This system is not within Port property but is within the project area.

**Other Surface Water: 5000 - Estuarine**

The Amelia River is the largest waterbody in the project area and is classified as other surface waters. There are likely wetlands such as salt marsh that occur intermittently along the shoreline, especially at the north end of the Port property. A wetland delineation would be required to determine any existing wetlands along the Amelia River shoreline within Port property.

**Other Surface Water: 3200 - Cultural Lacustrine**

Cultural lacustrine is another surface water that has been either created, maintained, or modified by human influence. One cultural lacustrine other surface water is located east of 8th St and south of Escambia St and serves as a stormwater pond associated to surrounding roads and industrial land uses. This system is not within Port property but is within the project area.

**Protected Species and Habitat**

Federally listed, threatened, and endangered species are protected under the Endangered Species Act (ESA) of 1973, Bald and Golden Eagle Protection Act (BGEPA), and Migratory Bird Treaty Act (MBTA), and Marine Mammal Protection Act. State species are protected under various Florida Administrative Codes (FAC). Species are classified by the Federal ESA and the State of Florida using the following designations: Federally Endangered (FE); Federally Threatened (FT); State-Threatened (ST); or Candidate (C).

Based on the desktop review, protected species and habitat have the potential to occur within the Port of Fernandina project area. Usable habitat by protected species within the Port of Fernandina project area includes the Amelia River and surrounding wetlands (salt marsh) and are discussed as “Wetlands and Other Surface Waters”. Additionally, based on FNAI CLC data, upland habitat including 1400 – Mixed Hardwood Coniferous is found within and to the east of Port property which could be utilized by protected species as shown in **Figure 4**.

Protected species and habitat occurring within the project area are under jurisdiction of USFWS, National Marine Fisheries (NMFS), and/or FWC. Based on the results of the desktop review, **Table 16** lists the federally and state listed wildlife with the potential to occur in the Port of Fernandina project area along with their corresponding federal and state listing status and the regulatory agency that the species fall under jurisdiction of. Twelve federally protected species and three state listed species have the potential to occur in the project area. Critical habitat for the West Indian manatee occurs within the Amelia River in the project area.



TABLE 16: FEDERALLY AND STATE LISTED SPECIES POTENTIALLY OCCURRING WITHIN THE PROJECT AREA

Scientific Name	Common Name	Federal Status	State Status	Agency Jurisdiction
Mammals				
Trichechus manatus	West Indian Manatee	FT	FT	USFWS*
Eubalaena glacialis	North Atlantic Right Whale	FE	FE	USFWS**
Reptiles				
Eretmochelys imbricata	Hawksbill Sea Turtle	FE	FE	USFWS & NMFS***
Dermochelys coriacea	Leatherback Sea Turtle	FE	FE	USFWS & NMFS***
Chelonia mydas	Green Sea Turtle	FE	FE	USFWS & NMFS***
Lepidochelys kempii	Kemp's Ridley Sea Turtle	FE	FE	USFWS & NMFS***
Caretta caretta	Loggerhead Sea Turtle	FE	FE	USFWS & NMFS***
Drymarchon couperi	Eastern indigo snake	FT	FT	USFWS
Gopherus polyphemus	Gopher tortoise	---	ST	FWC
Birds				
Egretta caerulea	Little Blue Heron	---	ST	FWC
Egretta tricolor	Tricolored Heron	---	ST	FWC
Mycteria americana	Wood stork	FT	FT	USFWS
Fish				
Acipenser oxyrinchus oxyrinchis	Atlantic Sturgeon	FE	FE	NMFS
Acipenser brevirostrum	Shortnose Sturgeon	FE	FE	NMFS
Pristis pectinata	Smalltooth Sawfish	FE	FE	NMFS

Note: Federally Endangered (FE); Federally Threatened (FT); or State-Threatened (ST)

Source: USFWS, NMFS, FWC, and Florida Natural Areas Inventory (FNAI) data (2022)

\*Port of Fernandina is within Designated Critical Habitat for the West Indian Manatee

\*\*Ship speed restrictions (50 CFR 224.105) in effect in Amelia River to protect North Atlantic Right Whales

\*\*\*USFWS has jurisdiction over nesting sea turtles and NMFS has jurisdiction over swimming sea turtles

## Essential Fish Habitat

The NMFS is responsible for the stewardship of the nation's living marine resources and their habitats. Their authority comes from the Magnuson-Stevens Fishery Conservation and Management Act (MSA), as amended. The MSA established eight Fishery Management Councils (FMC) across the country. These Councils are tasked with creating and amending Fishery Management Plans. The proposed project is located within the South Atlantic FMC. In 1996, amendments to the MSA established a mandate to identify and protect important marine and anadromous fisheries habitats. Those amendments required the FMC to describe and identify, minimize impacts to and encourage the conservation and enhancement of EFH. EFH is defined as "those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity" (16 U.S.C. 1802 sec. 3(10)) for a healthy ecosystem. The MSA also requires the FMC to identify specific habitat types as Habitat Areas of Particular Concern (HAPC) within EFH that provide important ecological functions, rarity, or may be particularly vulnerable to anthropogenic degradation. HAPC's are subsets of EFH that are rare, particularly susceptible to human-induced degradation, especially ecologically important, or located in an environmentally stressed area.

Based on a review of the NMFS EFH Mapper, the Amelia River is a Coastal Inlet which is designated as a HAPC. Since the tidal salt marsh wetlands within the Port project area are hydrologically connected to the Amelia River, they will likely be designated as EFH. **Table 17** lists species managed by the South Atlantic FMC and Highly Migratory Atlantic Species that occur in the Amelia River in the Port of Fernandina project area. The life stage that the species would occur within the project area is also listed.

TABLE 17: SOUTH ATLANTIC FMC MANAGED SPECIES AND HIGHLY MIGRATORY ATLANTIC SPECIES OCCURRING WITHIN THE PROJECT AREA

Species	Life Stage
South Atlantic FMC Managed Species	
Snapper Grouper	Adult, Juvenile, Sub-Adult, Neonate, Post Larval
Spiny Lobster	Adult, Juvenile, Sub-Adult, Neonate, Post Larval
Highly Migratory Atlantic Species	
Bonnethead Shark	Neonate, Juvenile, Adult
Bull Shark	Juvenile, Adult
Spinner Shark	Neonate
Scalloped Hammerhead Shark	Neonate
Tiger Shark	Juvenile, Adult
Blacktip Shark	Neonate, Juvenile, Adult
Blacknose Shark	Juvenile, Adult

Source: NOAA EFH Mapper (2022)

### Cultural and Historic Resources

Cultural and historic resources are regulated under the federal National Historic Preservation Act (NHPA) of 1966, 36 Code of Federal Regulations (CFR) Part 800 (Protection of Historic Properties), and Florida Historical Resources Act (FHRA), Chapter 267, Florida Statutes (F.S.). Cultural and historic resources consist of historically significant features including historic sites, buildings, structures, archaeological resources and sites, and historic districts that are generally 50 years of age or older. Through the NHPA, certain cultural and historic resources can be determined as eligible for listing on the National Register of Historic Places (NRHP) if they possess historic significance and integrity.

The regulatory agencies for the Port of Fernandina project area include the FDHR, the State Historic Preservation Office (SHPO), and the City of Fernandina Beach Historic District Council (HDC). A desktop review was performed to determine cultural and historic resources within the Port of Fernandina project area.

Based on the results of the desktop review, no archaeological sites were identified. A SHPO Resource Group, previously recorded historic structures, and structures 50 years of age or older

are located within the Port of Fernandina project area (**Figure 5**). The National Register–eligible Fernandina Beach Historic District is a SHPO Resource Group found within the project area. This Resource Group is outside of Port of Fernandina property, roughly one block to the southeast. One hundred ninety-three historic structures were identified within the project area as shown in **Figure 5**. Of these 193 structures, two (Palace Saloon; 117 Centre St and Villa Las Palmas; 315 Alachua St) were found to be eligible for NRHP listing but have not been evaluated by SHPO. Six of the 193 historic structures are within Port of Fernandina property as shown in **Table 18**. The site ID and name correspond to the ID and name of the structure as recorded at the Florida Master Site File (FMSF). Five of the six structures have been documented as destroyed in the FMSF.

TABLE 18: HISTORIC STRUCTURES WITHIN PORT OF FERNANDINA PROPERTY

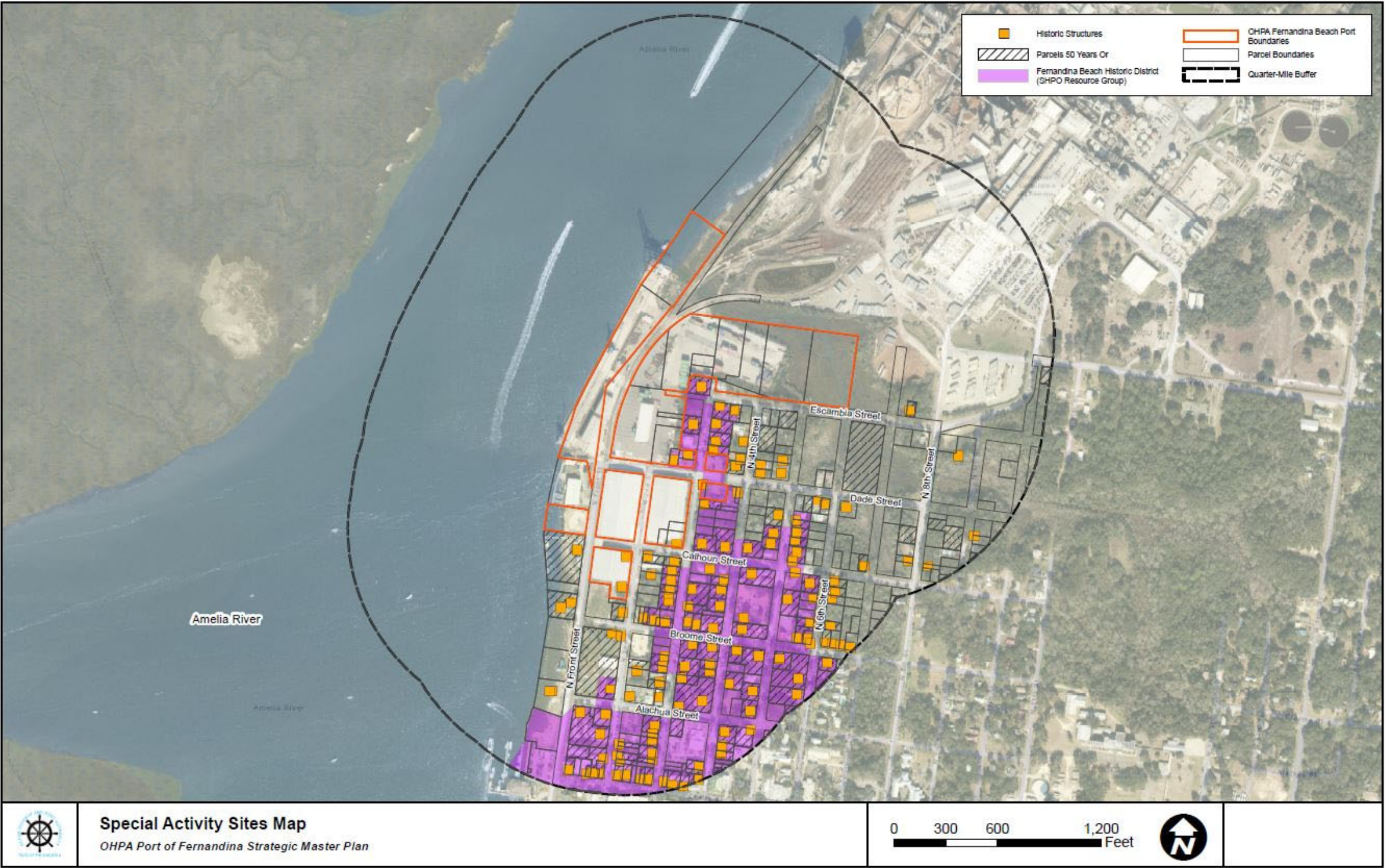
Site ID	Site Name / Address	Comment
NA00675	209 Dade St	Destroyed
NA00245	223 N 2nd St	Destroyed
NA00247	231 N 2nd St	Destroyed
NA00264	301 N 2nd St	Destroyed
NA00267	332 N 2nd St	Destroyed
NA00269	403 N 2nd St	Ineligible for listing based on surveyor evaluation; Not evaluated by SHPO

Source: Bureau of Archaeological Research (2022)

One hundred sixty-two parcels within the Port of Fernandina project area contain structures 50 years of age or older (actual date before May 1972) as shown in **Figure 5**. Structures 50 years of age or older have the potential to be an unrecorded historic resource. Of these 162 parcels, two are within Port of Fernandina property (Parcel ID. 00-00-31-1800-0006-0271; 403 N 3rd St and Parcel ID. 00-00-31-1800-0018-00200; 412 N 3rd St). Identification of structures 50 years of age or older is based on a desktop review and not a detailed review of each property record or field review. Therefore, the structure 50 years of age or older may no longer exist on the parcel. Additionally, an updated parcel review should be completed prior to Port projects to identify if any new structures have reached 50 years of age or older.



FIGURE 5: SPECIAL ACTIVITY SITES MAP



## Potential Environmental Constraints and Recommendations

The Port of Fernandina's location adjacent to the Amelia River and within culturally rich Nassau County present potential environmental constraints for future Port infrastructure projects. The following sections document potential environmental constraints for natural resources and cultural and historic resources within the Port of Fernandina project area. Each potential environmental constraint includes as appropriate a discussion of the general project types that could be affected by the environmental constraint, required agency coordination, permitting, avoidance and minimization measures, and mitigation. Specific environmental constraints are project dependent and will need to be further evaluated during the project's design phase.

### Work within the Amelia River and/or Wetlands

The Port of Fernandina is within and adjacent to the Amelia River and wetlands (salt marsh). Any potential projects occurring within the Amelia River or wetlands including building additional structures and facilities, roadway improvements, and drainage would require assessment of impacts to wetlands and other surface waters, protected species and their habitat, and EFH. Work within the Amelia River and/or wetlands within the project area would require comprehensive permitting with federal and state environmental regulatory agencies.

The open waters portion of the Amelia River are classified as OSW but wetlands such as salt marsh occur intermittently along the shoreline, especially at the north end of the Port property. SAV could also be present in the Amelia River. Additionally, salt marsh wetlands are within northeastern Port of Fernandina property. Approximately 4.06-acre area of the salt marsh wetland is a designated Conservation Easement that prohibits development such as the construction of buildings and roads. Formal delineations should be conducted prior to any potential work within the Amelia River and wetlands including SAV and salt marshes. Impacts to wetlands and OSWs should be avoided and minimized. Avoidance and minimization measures could include utilization of existing structures and minimal pile use. If impacts to tidal estuarine wetlands and/or the Amelia River occur, permitting through the USACOE, SJRWMD, and FDEP would be required. Since the Amelia River is deemed a Navigable Waterway and adjacent wetlands are tidal, Section 404 and Section 10 wetland permitting would be under jurisdiction of the USACOE. Section 404 or Section 10 permitting would require a National Environmental Policy Act (NEPA) analysis. The USACOE would likely be the lead agency for the NEPA analysis. If dredging is proposed within the Amelia River, coordination with the United State Coast Guard (USCG) will be required to determine if a USCG permit is warranted. Additionally, a FDEP ERP and FDEP NPDES (if more than one acre of ground disturbing activities occurs) would be required. At the time of this report, the North Florida Saltwater Marsh Mitigation Bank has available estuarine intertidal mitigation credits that could be purchased to offset unavoidable impacts to estuarine wetlands and/or OSWs.



The entirety of the Amelia River is EFH and serves as potential habitat for multiple protected species such as the West Indian manatee, five species of sea turtles, smalltooth sawfish, Atlantic and Shortnose sturgeon, and wading birds. Protected species surveys including benthic surveys for EFH should be conducted prior to any potential work within the Amelia River and wetlands. Impacts to protected species and their habitat and EFH should be avoided and minimized. To minimize potential impacts, the NMFS Sea Turtle and Smalltooth Sawfish Construction Conditions and FWC Standard Manatee Conditions for In-Water Work would likely be required for any in-water construction activities due to these species' potential presence near Port of Fernandina in the project area. Avoidance and minimization measures for EFH could include relocating benthic resources such as coral prior to construction of a project and constructing a potential project from land as opposed to using construction barges and work boats which would eliminate or reduce impacts to benthic communities (temporary shading, turbidity from propeller churning, bottom scouring from spuds or anchors, and accidental spills). Coordination with USFWS, NMFS, and FWC would be required for any potential Port projects occurring within the Amelia River. If EFH impacts are anticipated, a project specific conceptual mitigation plan would need to be prepared in close coordination with NMFS.

### **Work within Cultural and Historic Resources including Historic Buildings and Historic Districts**

The National Register-eligible Fernandina Beach Historic District (SHPO Resource Group), 142 historic structures, and 125 parcels with structures 50 years of age or older are within the Port of Fernandina project area. Any potential impacts to these cultural and historic resources including building improvements and new structures and facilities would require a cultural evaluation to confirm or determine National Register eligibility by a cultural resource professional. An area of potential effect (APE), which includes the area which the project may directly or indirectly cause alteration in the character or use of the historic property, is established for each potential project to determine impacts. The appropriate level of cultural evaluation is dependent on the type of potential Port project and proximity to cultural and historic resources. The results of the cultural evaluation would need to be coordinated with the SHPO (for federal projects) or FDHR (for state projects) and the City of Fernandina Beach NHPA Certified Local government. If the cultural evaluation finds that there are no cultural or historic resources within the project area or that none are eligible for listing in the National Register, and SHPO concurs with this finding, the cultural evaluation would be complete.

If impacts to a National Register-eligible Resource occur, a Section 106 case study would be required to evaluate the potential for an adverse effect to the National Register-eligible Resource. According to 36 CFR part 800 Protection of Historic Properties, an adverse effect is found when "an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that

would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative." Adverse impacts to National Register-eligible Resources such as the Fernandina Beach historic District should be avoided and minimized. Measures to minimize impacts should be developed on a project-by-project basis in coordination with the SHPO and City of Fernandina Beach NHPA Certified Local government.

### Work within Uplands

Uplands including mixed hardwood-coniferous that could serve as potential habitat for protected species are present east of Port property. These uplands could serve as potential habitat for the federally threatened Eastern indigo snake and the state threatened gopher tortoise and therefore impacts to these uplands may require coordination with USFWS and FWC. A species survey by an Authorized Gopher Tortoise Agent would be required to identify the presence or absence of gopher tortoise burrows. To minimize potential impacts, the USFWS Standard Protection Measures for the Eastern indigo snake would likely be required for construction activities in uplands.

#### 7.2.4. Sustainability Priorities

The Port of Fernandina contributes economic growth and direct and indirect employment to Fernandina and North Florida. At the same time, maritime shipping is an environmentally efficient mode of transport. Ports around the world are increasingly focused on sustainability as a means of optimizing the environmental, social, and economic performance of their operations.

Sustainability initiatives may take the form of measures to reduce a port's effect on air and water quality, noise, greenhouse gas emissions and habitats. The Port of Tacoma, located in Washington, prioritizes rebuilding natural habitats by removing barriers for fish passage in a nearby creek. Increasing waterflow and access for fish improves the hydrology in the area and the natural aquatic processes. Also, the Port of Seattle and the Port of Brisbane have taken steps to prevent ocean acidification and sediment pollution. By addressing the sediment runoff at the source with native plants and other measures, the nearby marine and terrestrial ecosystems are improved.

Ports may also focus on enhancing their relationship with stakeholders, including the communities in which they operate. The Port of Amsterdam, for example, prioritizes the quality of life of their community by monitoring dust levels at five different locations and reducing sound pollution through soundproofing insulation. Small changes to the infrastructure can have a dramatic change on the quality of life of nearby residents. Also, the Port of Houston gathered



stakeholders and members of the local community to give feedback in sustainability action teams. With their ideas and expertise, the Port created a list of initiatives that are critical for the survival and prosperity of the local businesses and communities.

Finally, ports can emphasize cost avoidance or reduction through resource efficiency initiatives or risk management programs. The Port of Rotterdam, for example, is not protected by a flood defense system and is in danger of future flooding due to sea level rise. Though floods may be inevitable, the Port of Rotterdam is limiting the threat by preemptively mapping out the probabilities and consequences of floods.

The construction projects included in this Master Plan present several opportunities for integrating sustainability into OHPA operations, summarized below.

### **Feedback from Local Stakeholders**

Before any construction takes place, local stakeholders and community members should be given the opportunity to voice their opinions and concerns. Gathering and considering feedback from the local community is essential because it ensures the plan will be equitable and successful. Locals are often the most knowledgeable about the environmental issues and potential drawbacks in their communities. Their knowledge is a valuable resource which allows construction and development to be effective.

Discussing potential impacts with the local community ensures construction will run as smoothly as possible. Additionally, several changes are aimed at helping the local community. For example, the Customs House may be converted to an alternative use. Listening to the public and using their feedback for planning and construction ensures the plans are the most effective at their intended purpose.

### **Sustainable Materials**

Recycling materials from existing features or structures is the most cost effective and environmentally friendly way to source materials for a new build. If new materials are necessary for a project, priority should be given to materials that are sustainably procured or recycled.

### **Energy Efficiency and Improved Air Quality**

Before a project begins, energy efficient systems, including clean fuels and renewable energy technologies should be considered. Energy efficiency often reduces the energy costs. When considering a new project, energy efficiency should be considered for the construction and operations as well as the design.

Any new construction can be analyzed to ensure optimum energy efficiency. If it is feasible, the building can rely on renewable energy like rooftop solar panels. It is more cost effective to implement these changes at the beginning of a building's life. However, changes can still be

made to existing facilities on the terminal. For example, LED lights throughout the Port or conducting energy audits on existing buildings reduces energy usage and energy costs.

Shore power infrastructure, which would allow vessels docked at the Port to plug into the local electricity grid to power auxiliary systems, should also be considered. Shore power can, in the right application, effectively reduce ship pollutant emissions and the availability of shore power is increasing throughout ports around the world. There can be significant obstacles to shore power installation including upfront capital costs as well as ensuring the local power grid has sufficient power to supply the system<sup>59</sup>. The Environmental Protection Agency has recently released the 2022 update to the Shore Power Technology Assessment at U.S. Ports. The assessment includes case studies, valuable lessons learned, and an emissions calculator that can help determine if shore power is feasible for a given application.

The installation of shore power infrastructure would also open the door for conversion of terminal cargo handling equipment from diesel to hybrid diesel-electric or all-electric power. All-electric equipment can significantly reduce air pollution at ports.

### Protecting and Enhancing Natural Environments

All new development should strive to protect, or in some cases enhance, natural environments. Specifically, soil, water, local wildlife, and native plants should be considered when planning nearby construction which could impact their ability to survive.

In addition, OHPA and the Terminal Operator should consider greening the perimeter of the port facility where possible by planting native trees and shrubs that would serve as a barrier to reduce the effect of noise and air particulates to the surrounding neighborhood, while also helping to beautify the area.

### Assess Climate Change Impacts

Any new construction planned should first examine potential climate change impacts to determine vulnerabilities. Climate change is projected to cause changes in temperature, humidity, natural disaster frequency and intensity, and sea-level rise. For infrastructure projects intended to last decades or centuries, these threats must be accounted for to ensure their ability to withstand them.

Given the sea-level rise and temperature increase projected for Florida in the coming decades, the Port of Fernandina can adequately prepare for these threats by planning in advance. The Port of Fernandina's proximity to the Amelia River also poses future problems regarding flooding and sea-level rise. In **Section 4.2.4. Climate Resilience**, it is made clear that unfortunate

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<sup>59</sup> <https://www.epa.gov/ports-initiative/shore-power-technology-assessment-us-ports>

but undeniable impacts of climate change are already being felt. Building roads and structures to withstand the projected impacts is cost effective and ensures the infrastructure is well equipped to sustain a multitude of problems. The Port can also develop a Port-wide Climate Action Plan to prepare for climate change.

### Noise

Noise pollution, during construction and regular activities, negatively impacts marine life as well as the quality of life of surrounding communities. Specifically, aquatic animals suffer from low-frequency underwater noise. For the surrounding community, loud noise can cause hearing problems, sleep disruptions, and other issues that reduce the quality of life.

The project team should assess every project before beginning construction. Changing construction times to limit noise and vibrations increases the quality of life for the nearby community. To protect the aquatic ecosystems, projects directly located on the water should be assessed. If low-frequency noise can be avoided or reduced, the project team should adjust their construction plans to protect local aquatic animals.

### Stormwater Runoff

Stormwater runoff can negatively impact fish habitats and nearby soil. Fertilizers, sediments, and excess nutrients increase the acidification of the water which inhibits the growth and survival of aquatic plants and animals. Stormwater runoff also reduces the nutrients in the soil and may have negative impacts on any nearby crops or plants.

The project team can reduce stormwater runoff by planting vegetation in areas that are undeveloped. Specifically, if a new transit shed is constructed, any unvegetated areas should be filled with bushes or trees to reduce loose soil from contributing to the stormwater runoff. Additionally, raising the elevation of the Northwest section of the Terminal may disrupt the nearby water systems. The project team must always consider the soil disruption caused by construction and take steps to reduce stormwater runoff.

### Waste Management

During the construction process and normal port activities, waste must be properly disposed of to ensure the health and safety of the surrounding community and aquatic life. In addition to water contamination, improper waste management negatively impacts the efficiency of port operations. Increasing recycling and composting programs at the Port is an additional way to properly manage waste and old materials. Waste management techniques must be planned before any construction takes place.

The Port of Fernandina team can use many different techniques during construction. Repurposing old materials is an efficient way to sustainably reduce waste and material

consumption. If any materials cannot be reused or recycled, they must be properly disposed of off the Port to protect the local ecosystems.

The Port of Fernandina should continue their existing efforts of recycling materials accumulated from shipping and warehouse activities by expanding recycling options and locations. Any new structures created should include facilities for waste disposal and recycling.

### **Envision Certification**

The Envision certification administered by the Institute of Sustainable Infrastructure provides the Port a way to demonstrate their commitment to sustainability. The process of achieving an Envision certification for the suite of Master Plan projects, or individual projects, guides and validates OHPA's integration of sustainability into its development. Further, when the project team considers future sustainability concerns and plans, the long-term viability of the project is increased through resiliency and preparedness.

The envision framework gives points to projects which implement sustainable practices. Specifically, there are 5 categories: Quality of Life, Leadership, Resource Allocation, Natural World, and Climate and Resilience. These five categories have a total of 64 credits. During planning, design and construction of Master Plan projects, the Port of Fernandina can record their sustainability priorities and the actions they took to listen to stakeholders, reuse materials, consider climate impacts, and many other sustainability considerations prioritized by Envision. Stimulating economic prosperity, minimizing noise pollution, and enhancing functional habitats are just some of the additional credits a project can get points for. If 20% of the applicable points are achieved, the project is recognized as a "Verified" Envision project. If 30% is achieved, the project is a "Silver" Envision project. If 40% of the applicable points are achieved, the project is a "Gold" Envision project. And, if 50% is achieved, the project is labeled as a "Platinum" project.

## **7.3. Economic Development Component**

### **7.3.1. Port of Fernandina Market Analysis**

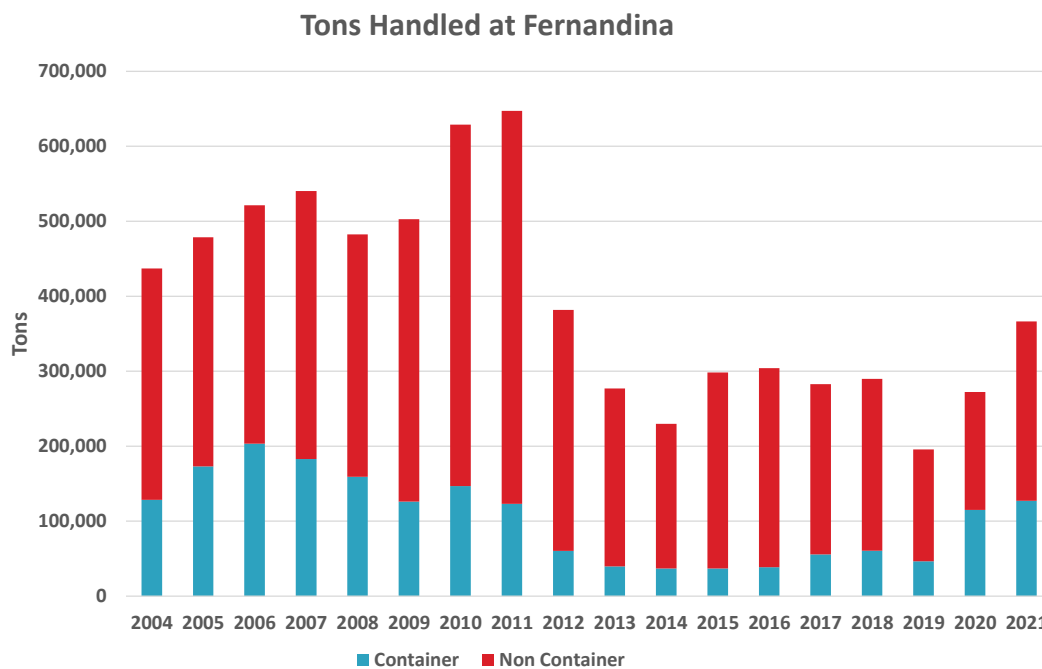
The purpose of this section is to describe the cargo market in which the Port of Fernandina competes. The section examines the historical and current markets, identifies potential markets in which the Port could participate, quantifies the near-term potential, and provides preliminary implications regarding facility needs.

#### **Historical and Current Markets in Which Port of Fernandina Competes**

Since 2004, cargo tonnage moving by water at the Port of Fernandina has displayed a strong growth period between 2004 and 2011, reaching a record level in 2011. Waterborne cargo plummeted from 2011 through 2014, rebounded between 2015 and 2018, and grew significantly

between 2019 and 2021. The decline in 2012 was due in part to the reduction in steel being provided for the Panama Canal expansion project through the Port and the discontinuation of Seaboard and Schuyler services. As shown in **Figure 6**, non-containerized cargo, primarily breakbulk cargo, has dominated the volume of cargo handled at the Port. The significant growth in cargo from 2019 reflects the change in terminal operating companies in 2018, as Nassau Terminals, LLC (a subsidiary of Kinder Morgan) was acquired by Worldwide Terminals Fernandina and began to focus on the forest products cargoes.

FIGURE 6: HISTORICAL WATERBORNE CARGO HANDLED AT THE PORT OF FERNANDINA

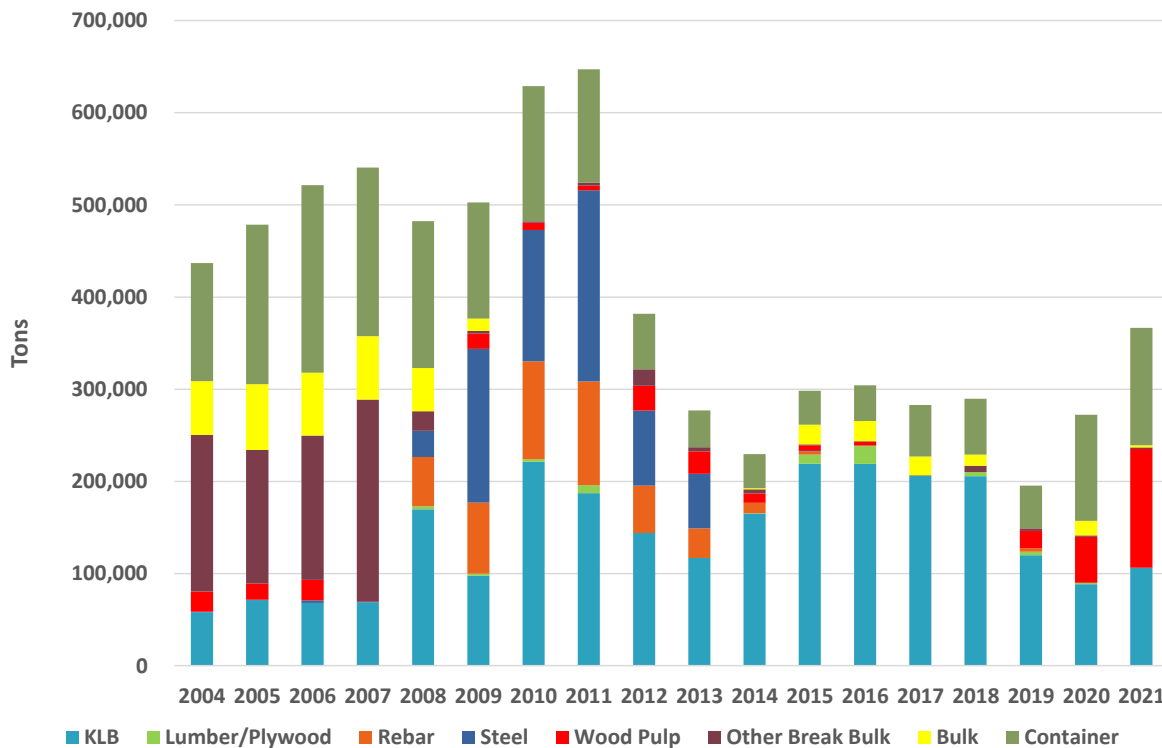


Source: Nassau Terminals/Port of Fernandina Vessel Records

**Figure 7** shows the changes in the composition of the non-containerized cargo that moved and currently moves via the Port of Fernandina.<sup>60</sup>

<sup>60</sup> It is critical to emphasize that current public sources of waterborne cargo handled at the Port appear to have significant reporting errors in that cargoes are misclassified as well as under reported. These data sources include the U.S. Bureau of Census/USA Trade OnLine and the Standard and Poor's Piers data base. Both data sources have been notified. Due to these reporting errors, Martin Associates reviewed the actual vessel load and discharge data handled at the Port since 2004, to develop the Fernandina cargo data base and to ensure validity of the reported data.

FIGURE 7: HISTORICAL CARGO BY COMMODITY TYPE HANDLED AT THE PORT OF FERNANDINA



Source: Nassau Terminals/Port of Fernandina Vessel Records

In the early 2000's, breakbulk cargo was not broken out specifically on the vessel records with the exception of wood pulp. The bulk cargo represents imported oats that the Port handled in 2004-2008, while the balance of the cargo was containerized cargo handled by Seaboard Marine, Schuyler Lines and Somers Isles Shipping. Schuyler Lines stopped service in 2009, with Seaboard Marine discontinuing service between 2010 and 2012 as various services were discontinued and consolidated in Miami with a smaller service via Savannah as well. Somers Isles continues to call the Port of Fernandina with direct container service to Bermuda. The Somers Isles service includes the direct delivery of marine containers from consolidation warehouses in a 30–50-mile radius, as well as the delivery of cargo by consignees that is then loaded into marine containers at the Port. This reload operation accounts for about 25% of the containers loaded on each Somers Isles vessel call. In addition, some cargo arrives at the Port for loading onto flat racks, which are then loaded onto a Somers Isles vessel. Typically, the vessel discharges loads and discharges about 240 twenty-foot containers from Bermuda per vessel call.

The growth in tonnage reaching a record level in 2011 was due to steel products and steel rebar handled via the Port, primarily to serve the construction activity associated with the expansion of the Panama Canal. With the completion of the construction activity associated with the Panama Canal expansion, the steel and rebar export activity contracted sharply, and KLB exports became

the dominant breakbulk export cargo. Between 2013 and 2019, KLB exports dominated the cargo activity at the Port. The rebound of cargo activity started in 2019, as Nassau Terminals began diversifying the breakbulk cargo operations with imported pulp, as well as plywood/lumber. Containerized cargo also increased in 2020 and 2021, which reflects the fact that during the pandemic, well documented backlogs and congestion at key container ports increased, such as at the ports of Savannah and Charleston, and numerous beneficial cargo owners began chartering smaller container ships (at the initial stages of the pandemic) to avoid the congestion at the key container ports. As the congestion is lessening, combined with the rapidly increasing charter costs as well as scarcity of smaller container vessels for charter, this level of containerized cargo is not likely sustainable at the Port.

The decline in KLB at the Port as identified within **Figure 8** reflects two factors. With the increase in e-commerce during the pandemic, the domestic demand for KLB increased dramatically, and further the majority of KLB now exported via the South Atlantic Ports move in containers on scheduled liner services calling the Ports of Savannah and Jacksonville.<sup>61</sup> The local KLB producers utilize the services of the Terminal Operator and the off-dock warehouses operated by Nassau Terminals to stuff containers, that are then transported to container ports such as Savannah.

In contrast, the growth in pulp imports reflects the overall growth in breakbulk pulp imports in the U.S., which is used in the production of tissues and sanitary products. The majority of pulp imports at the Port of Fernandina is imported from Northern Europe, while other ports in the South Atlantic are handling pulp imports from Brazil. Eventually about 80% of the pulp moves from the terminal by rail to pulp consumers such as Proctor & Gamble and Georgia Pacific.

Plywood imports have increased substantially in 2022, and are used in regional construction activities, which grew significantly during the Pandemic. This cargo typically is stored in the Port's on-terminal warehouses and distributed by truck.

Data is available by month for the first 5 months of 2022, and based on annualization of the 5 months of data, lumber/plywood volume is projected to reach 100,000 tons by the end of 2022, while pulp imports (assuming no diversion from other South Atlantic ports which is the subject of the following sections of the report), are projected to reach 190,000-200,000 tons, reflecting the growth in the pulp imported from Northern Europe as well as a new account from Brazil. The KLB exports are expected to remain constant through 2022, for about 100,000 tons of annual export throughput.

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<sup>61</sup> The scheduled liner services call marine terminals operated by the International Longshoremen's Association, and these carriers are bound by the "Master Contract Agreement" between the ILA and USMX, which contractually binds terminals to use ILA labor to handle containerized and RoRo cargo on vessels that are signatories to the Coastwise Master Contract.

The pulp and plywood imports require covered storage, as does the KLB export tonnage, and warehouse space is at a premium at literally all ports in the United States. Based on a static storage capacity of 10,000 tons of forest products per 80,000 sf of warehouse space and a monthly turn of inventory in the warehouses, the 300,000-320,000 tons of pulp and plywood plus the 100,000 tons of KLB export tonnage handled by the current customer base at the Port of Fernandina will require a minimum of about 280,000 sf of warehouse capacity. Currently the Port has 220,000 sf of permanent warehouse capacity and an additional 18,000 sf of capacity provided by a fabric warehouse. This suggests that the immediate demand for warehouse capacity at the Port cannot not be supplied by the existing Port warehouse infrastructure on terminal.

The following section focuses on potential new markets/customers that the Port could attract, but terminal warehouse capacity is an immediate issue just to handle the current cargo throughput.

### **7.3.2. Potential Cargo Markets**

This section identifies the regional markets in which the Port of Fernandina competes, and further identifies market potential for the Port.

#### **Regional Market Overview**

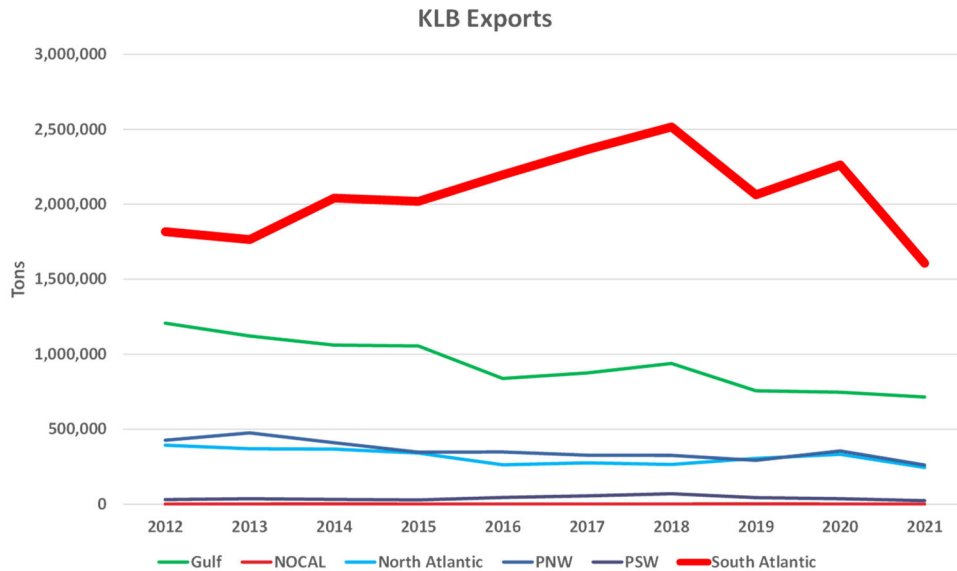
The regional markets for the key cargoes now handled at the Port of Fernandina are evaluated in this section, focusing on KLB exports, breakbulk imports, and lumber/plywood imports.

#### **KLB Market Overview**

With respect to the KLB export market, the South Atlantic is the leading port range for KLB exports, followed by exports from the Gulf Coast port range, reflecting the concentration of KLB production facilities in the Southeastern United States and the Gulf Coast regions. Since 2018, KLB exports from all regions have been in decline, with the sharpest decline from the South Atlantic port region. This decline reflects the increased domestic demand for KLB during the pandemic following the growth in e-commerce and packaging. This decline was also apparent at the Port of Fernandina.



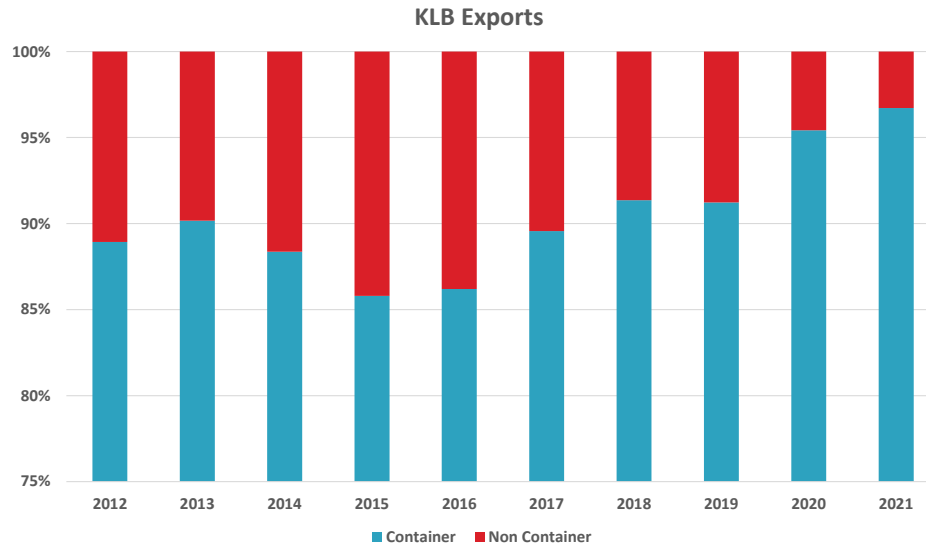
FIGURE 8: KLB EXPORTS



Source: USA Trade OnLine

In addition to the overall decline in KLB exports since 2018, the share of KLB exports moving via containers rather than breakbulk cargo has been increasing, which is also evident at the Port of Fernandina, as breakbulk exports have been declining as noted. The share of KLB exports moving via containers is shown in **Figure 9**. The service provided by the Port's Terminal Operator whereby the KLB produced in Fernandina is loaded into containers to move by ship or rail from the Port of Fernandina to a South Atlantic container port such as Savannah or Charleston for export via a container service is the key to support the local KLB manufacturing operations.

FIGURE 9: SHARE OF KLB EXPORTS BY AT SOUTH ATLANTIC PORTS - CONTAINER VS. BREAKBULK



Source: PIERS

As **Figure 10** shows, Savannah is the dominant South Atlantic port handling the export KLB, followed by Charleston.

FIGURE 10: KEY SOUTH ATLANTIC PORTS HANDLING KLB EXPORTS

Select South Atlantic Ports	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Savannah, GA (Port)	1,286,360	1,281,662	1,520,782	1,394,528	1,615,660	1,765,829	1,924,454	1,588,889	1,821,444	1,262,231
Charleston, SC (Port)	430,041	373,596	417,967	470,002	439,013	458,387	427,685	361,198	330,419	251,405
Fernandina, FL (Port)	28,225	55,451	36,870	95,836	85,512	79,773	87,713	28,796	19,464	49,411
Jacksonville, FL (Port)	21,782	23,456	32,542	25,724	29,662	28,432	39,786	28,157	37,304	20,774
Miami, FL (Port)	7,510	6,600	7,945	5,016	5,622	7,498	8,951	12,252	12,594	9,674
Port Everglades, FL (Port)	4,361	3,986	5,389	5,856	5,436	7,951	8,670	28,493	25,673	9,614
West Palm Beach, FL (Port)	290	1,028	989	712	463	118	108	330	278	263
Brunswick, GA (Port)	17,774	10,777	9,439	17,805	11,689	13,499	16,141	13,902	8,202	
South Atlantic Total	1,816,595	1,764,217	2,040,420	2,018,803	2,196,591	2,364,375	2,516,039	2,063,080	2,262,434	1,605,880

U.S. Census, USA Trade OnLine

The key destinations for the export KLB via the South Atlantic port range is Asia (China, Southeast and Southwest Asia, followed by the Mediterranean region, West Coast of South America, and Northern Europe, as shown in **Figure 11**.

FIGURE 11: DESTINATIONS OF SOUTH ATLANTIC KLB EXPORTS

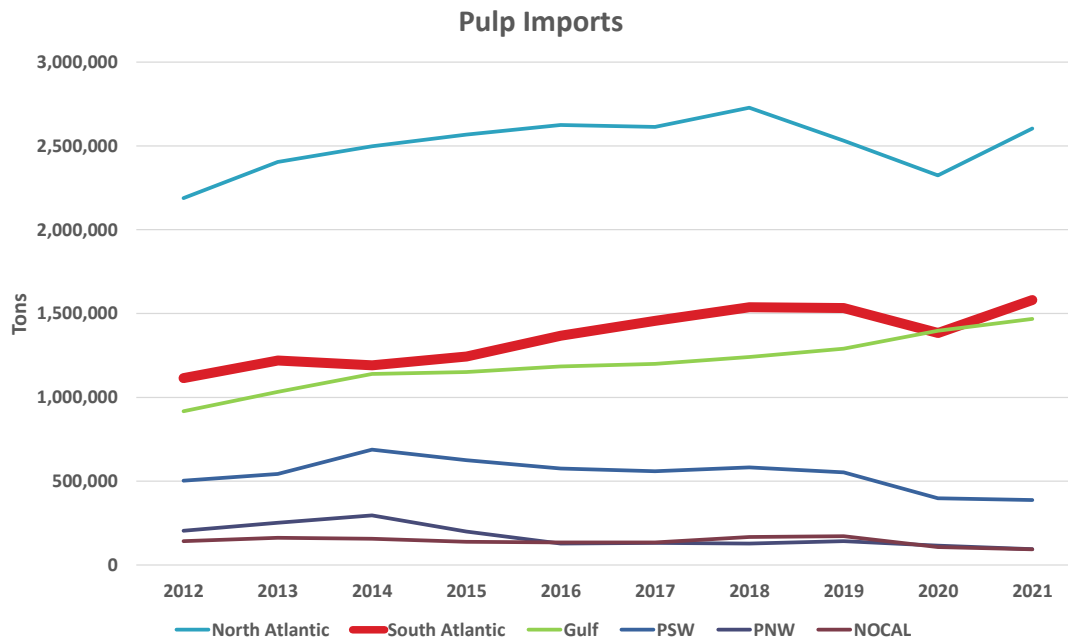
Trade Lane	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Mediterranean	691,067	609,828	715,136	657,137	699,201	711,561	636,004	536,129	542,503	383,889
China	238,026	270,282	302,408	304,509	345,612	431,418	580,016	427,685	614,831	361,425
South America WC	153,404	187,514	166,817	207,169	295,862	354,664	427,300	302,098	373,270	302,047
North Europe	181,975	151,130	160,858	170,723	162,647	181,750	179,142	173,528	120,695	123,174
SE Asia	134,251	145,109	134,336	146,342	162,885	176,730	196,565	157,300	164,513	91,788
SW Asia	61,553	56,816	74,345	81,502	107,462	112,642	104,600	110,763	107,361	70,102
Japan/Korea	50,767	46,978	61,349	66,910	68,390	70,250	80,141	61,577	55,571	63,109
Africa	106,595	119,075	160,584	114,635	104,100	127,293	122,522	90,424	79,013	61,571
Caribbean	26,378	21,728	50,862	68,876	62,156	61,134	63,083	67,211	54,124	58,583
Middle East	104,738	76,108	110,382	118,642	113,127	77,900	64,783	83,541	78,024	37,658
South America EC	47,117	46,483	56,633	52,792	41,609	35,135	41,472	37,063	51,462	31,067
Central America	16,140	19,685	39,255	25,381	29,494	20,610	17,873	13,423	17,468	19,394
Australia/NZ	4,112	11,486	5,302	3,127	2,995	2,616	2,378	2,263	3,598	2,073
Canada	474	1,232	1,953	1,059	1,032	673	48			
All Other		763	200		20		111	75		
Grand Total	1,816,595	1,764,217	2,040,420	2,018,803	2,196,591	2,364,375	2,516,039	2,063,080	2,262,434	1,605,880

*U.S. Census, USA Trade OnLine*

### Imported Pulp Market Overview

With respect to the imported pulp market, **Figure 12** shows that the North Atlantic Port Range leads in terms of pulp imports followed by the South Atlantic and Gulf Coast port ranges. Philadelphia and Baltimore handle the majority of the pulp imports on the North Atlantic, while Jacksonville and Savannah are the key pulp import ports in the South Atlantic. Mobile, Beaumont and Port Arthur are the key pulp import ports on the Gulf Coast. Overall, pulp imports have shown an increasing trend, driven primarily by population growth, as the imports are used in paper products and sanitary products, which are typically recession proof consumer goods. The rapid growth in pulp imports at Fernandina reflects the overall growth of pulp imports nationwide as well as via the South Atlantic ports, and the aggressive marketing by Nassau Terminals.

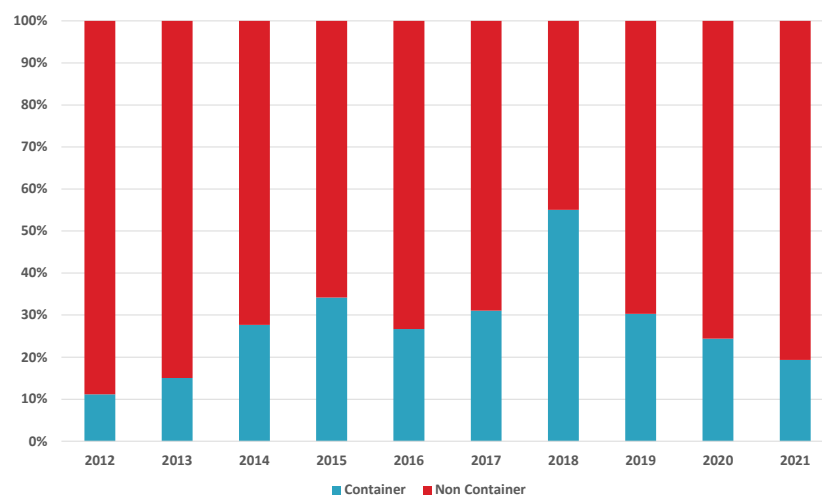
FIGURE 12: PULP IMPORTS BY U.S. PORT RANGE



Source: U.S. Census, USA Trade Online

As shown in **Figure 13**, the majority of imported pulp into the South Atlantic ports is non containerized and is therefore a key breakbulk cargo that can be handled at the Port of Fernandina.

FIGURE 13: SHARE OF PULP IMPARTS AT SOUTH ATLANTIC PORTS - CONTAINER VS. NON-CONTAINER (BREAKBULK)



Source: Piers

Jacksonville and Savannah are the key importers of breakbulk pulp in the South Atlantic region, as shown in the following **Figure 14**.

FIGURE 14: BREAKBULK PULP IMPORTS BY SOUTH ATLANTIC PORT (TONS)

PORT	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
JACKSONVILLE	324,148	379,369	303,396	280,171	204,137	151,835	52,759	253,058	353,548	330,657
SAVANNAH	30,978	51,897	82,136	99,427	159,772	162,087	249,823	232,892	302,727	288,061
FERNANDINA BCH	1,962	3,308	3,562	2,757			8	8,138	28,091	91,413
PT CANAVERAL				6,614	6,614	8,046		3,355	36,043	58,829
PT EVERGLADES	327	1,029	8,135	11,452	23,686	20,431	14,966	15,735	18,203	15,958
W PALM BCH	892	359	451	1,659	1,680	47	124	726	1,535	436
Grand Total	358,308	435,963	397,680	402,080	395,890	342,446	317,679	513,906	740,147	785,355

Source: Piers

Brazil, followed by Northern Europe are the key sources of pulp imports into the South Atlantic ports, as shown in **Figure 15**.

FIGURE 15: SOURCE OF BREAKBULK PULP IMPORTS INTO THE SOUTH ATLANTIC REGION (TONS)

TRADE LANE	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
E C SO. AMERICA	322,316	383,140	347,874	331,370	320,741	267,870	190,628	415,439	549,299	524,953
NO EUROPE	3,824	3,882	4,863	9,520	12,178	8,686	1,597	4,201	74,088	161,790
CANADA	15,778	16,829	10,601	13,692	6,832	7,151	71,099	51,712	59,962	40,227
CARIBBEAN	12,943	27,284	28,277	32,156	17,090	24,150	13,823	18,253	33,541	33,899
NE ASIA	696	1,534	2,515	3,113	4,642	5,078	5,049	5,797	9,153	7,948
OTHER	709	1,611	2,185	3,475	2,477	1,359	95	3,813	7,064	5,601
CENTRAL AMERICA	1,250	322	30	1,152	9,074	26,513	25,317	7,647	4,826	5,121
W C SO. AMERICA	380	69	953	6,705	21,520	872	9,617	5,563	1,047	4,080
MED	266	934	161	668	127	159	60	1,178	471	704
SE ASIA	34	253	5	154	985	573	343	168	395	699
INDIAN SUB-CONTINENT	41	54	19	56	164	25	33	104	157	240
OCEANIA	71	51	75						130	92
AFRICA									1	
MIDDLE EAST			122	19	61	9	19	31	13	
Grand Total	358,308	435,963	397,680	402,080	395,890	342,446	317,679	513,906	740,147	785,355

Source: Piers

### Import Lumber Market Overview

Lumber and plywood imports have shown very strong growth at the South Atlantic ports, having nearly tripled over the past 9 years, as shown in **Figure 16**. However, Fernandina Beach has not participated in this market until recently, beginning in late 2021 and growing strongly during the first 5 months of 2022. While Savannah has led the South Atlantic ports in lumber imports since 2012, Port Canaveral has shown unprecedented growth during this period.

FIGURE 16: LUMBER/PLYWOOD IMPORTS AT SOUTH ATLANTIC PORTS (TONS)

PORT	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
SAVANNAH	307,019	332,269	471,903	494,875	553,808	657,257	834,558	681,254	580,354	639,831
PT CANAVERAL	4,237	8,311	5,615	13,144	27,328	121,160	185,073	229,215	330,220	515,168
PT EVERGLADES	101,470	124,946	156,539	177,419	287,397	347,300	319,939	290,200	279,621	287,338
JACKSONVILLE	111,029	123,869	147,538	179,511	206,505	256,423	262,648	239,477	222,519	227,088
W PALM BCH	6,431	6,101	6,595	6,529	7,283	8,104	11,014	9,108	5,579	7,243
FERNANDNA BCH			25	4	1		2,360	1,224	1,758	70
Grand Total	530,186	595,497	788,216	871,482	1,082,322	1,390,244	1,615,592	1,450,477	1,420,051	1,676,738

Source: Piers

For import lumber at the South Atlantic ports, Brazil is a key source of both lumber and plywood, and Asia is the key source for imported plywood.

FIGURE 17 :SOURCES OF IMPORT LUMBER/PLYWOOD AT SOUTH ATLANTIC PORTS (TONS)

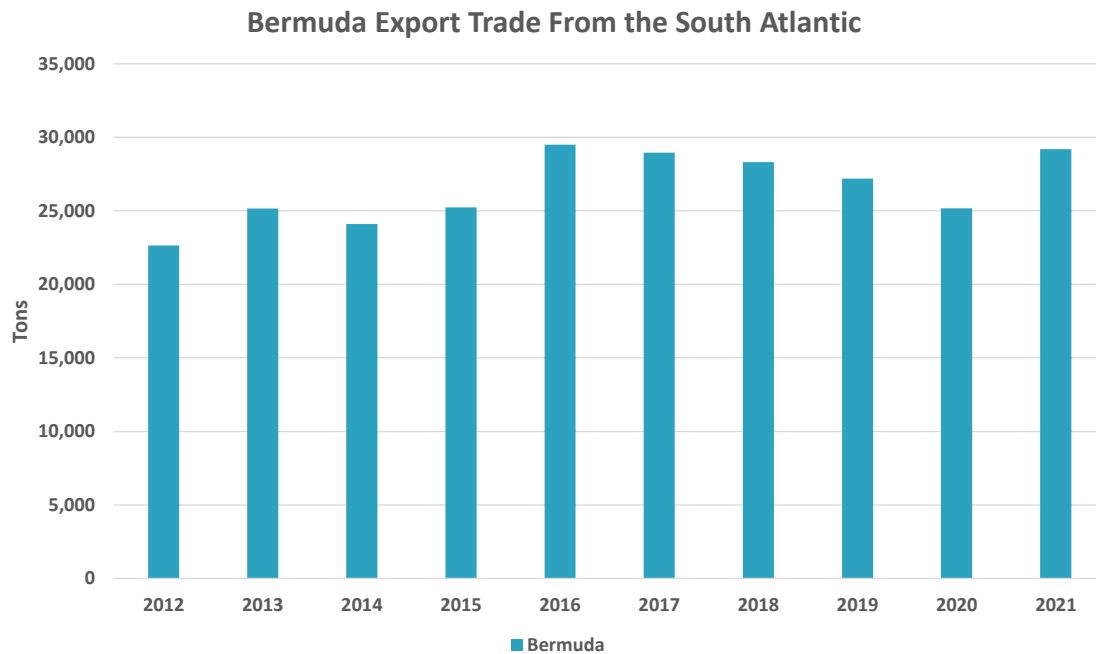
TRADE LANE	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
NO EUROPE	43,875	49,790	62,942	93,465	141,317	357,797	427,743	439,172	524,241	646,721
E C SO. AMERICA	64,477	103,451	112,106	138,274	242,271	292,075	294,285	313,027	344,600	295,245
NE ASIA	178,136	193,317	327,707	348,329	357,488	360,679	510,963	348,748	178,616	180,711
CARIBBEAN	62,950	78,691	74,030	68,158	80,177	71,130	82,124	115,971	124,469	143,043
SE ASIA	19,984	20,910	33,169	29,219	35,590	44,399	61,047	61,424	63,433	129,161
MED	19,580	24,457	20,108	21,937	22,372	21,642	19,258	18,749	24,677	104,017
CENTRAL AMERICA	40,527	43,790	58,883	47,680	56,116	117,188	86,966	45,592	62,681	67,860
OTHER	35,267	27,868	38,470	54,267	53,953	44,323	46,400	35,162	28,180	44,400
W C SO. AMERICA	44,096	39,384	52,418	50,186	49,181	42,555	62,499	52,778	50,334	37,397
INDIAN SUB-CONTINENT	4,927	4,538	3,941	7,902	12,277	15,733	13,571	12,926	10,132	21,015
MIDDLE EAST	609	686	741	263	2,271	3,377	2,549	4,232	5,387	2,470
CANADA	2,189	864	2,672	6,844	21,044	13,657	6,815	1,208	1,252	2,242
OCEANA	13,230	7,674	983	4,958	8,262	5,689	1,338	971	1,417	1,600
AFRICA	338	78	47				34	519	631	857
Grand Total	530,186	595,497	788,216	871,482	1,082,322	1,390,244	1,615,592	1,450,477	1,420,051	1,676,738

Source: Piers

### Bermuda/Caribbean, Central American Market Overview

Finally, with respect to the Bermuda container market served via the South Atlantic ports, this market has been very stable over time, as demonstrated in **Figure 18**, and provides a stable container service for the Port since 1986.

FIGURE 18: CONTAINERIZED EXPORTS TO BERMUDA FROM SOUTH ATLANTIC PORTS



Source: *PIERS*

While the Bermuda market has not shown significant growth, other Caribbean markets have shown growth and could represent a potential for the Port of Fernandina. The majority of containerized trade with the Caribbean and Central America (excluding Puerto Rico) is served by multiple carriers calling Port Everglades, Seaboard Marine serving Miami, and Tropical serving West Palm Beach. Imports from Mexico have shown strong growth into Port Manatee (via World Direct) and have grown by more than 3-fold since 2018. With respect to the Puerto Rican market, which requires service by U.S. Flag this trade is dominated by JAXPORT.

The Mexican market represents a strong growth potential for water service, reflected by the fact that more than 1 million tons of Mexican cargo moves by truck into Florida, based on data provided by the U.S. Department of Transportation, Bureau of Transportation Statistics, and shown in **Figure 19**. Currently, about 1 million tons are trucked into Florida from Mexico, representing about 185,000 loaded and empty TEUs. An additional 2 million tons are trucked into Georgia.

FIGURE 19: IMPORTS FROM MEXICO BY STATE, MODE, AND TYPE OF CARGO

IMPORTS FROM MEXICO (weight in short tons)									
	Machinery	Plastics	Vehicles	Computer Equipment	Perishables	Beverages	Furniture	Other	Subtotal
<b>Illinois</b>									
Rail		105,275	31,437	58,327		4,508,253		255,691	4,703,292
Truck	118,204	307,713	155,333	265,606	109,457	813,783		1,057,415	2,827,511
<b>Ohio</b>									
Rail	64,583	30,759	109,238	81,890				102,041	286,470
Truck	87,109	65,838	239,382	262,629	60,079		44,373	435,447	1,194,857
<b>West Virginia</b>									
Rail		131						2,972	131
Truck	1,355	544	538	9,158				5,336	11,595
<b>Virginia</b>									
Rail	28		1,725	75				4,770	1,828
Truck	12,852	7,728	37,249	14,950	54,059			77,331	126,838
<b>Pennsylvania</b>									
Rail	2,631	1,898		32,784				77,045	37,313
Truck	130,169	88,960	143,092	70,108				529,664	432,329
<b>South Carolina</b>									
Rail	46	1,617		6,571				33,656	8,234
Truck	64,162	15,949	111,284	74,656			39,486	172,218	305,537
<b>Tennessee</b>									
Rail	1,175	15,981	289,660	7,529			345	38,871	314,690
Truck	84,095	41,335	158,183	230,187			47,529	302,806	561,329
<b>North Carolina</b>									
Rail	8,672	89,819	5,328	14,462			2,677	17,786	120,958
Truck	191,817	129,230	125,135	154,471			14,264	232,612	614,917
<b>New York</b>									
Rail		1,587	1,306	2,992				32,001	5,885
Truck	21,371	32,126		22,034	126,749	25,274	25,563	219,075	253,117
<b>New Jersey</b>									
Rail	7,416	21,072		25,567		46,985		386,260	101,040
Truck	70,973			47,516	159,315	106,017	42,771	436,454	426,592
<b>Maryland</b>									
Rail	2,516		3	22,513				20,440	25,032
Truck	12,710	3,430	5,806	32,925	27,434		2,988	45,060	85,293
<b>Kentucky</b>									
Rail	4,133	16,799	8,209	38,213				110,054	67,354
Truck	54,215	28,875	176,663	221,804		72,530	70,760	167,110	624,847
<b>Indiana</b>									
Rail	2,398	2,555	10,684	22,548		312		17,843	38,497
Truck	69,210	35,398	108,176	169,210		16,488		248,291	398,482
<b>Georgia</b>									
Rail	5,422	6,430		26,767				42,943	38,619
Truck	289,270		98,998	202,820		596,915	89,865	686,317	1,277,868
<b>Florida</b>									
Rail	2,649	15,809	294	24,538				58,140	43,290
Truck	53,242	21,692	92,348	74,727	436,257	97,562	27,612	217,428	803,440
<b>Alabama</b>									
Rail	188							36,013	188
Truck	86,618	28,891	159,141	46,765			46,772	187,594	368,187
<b>Mississippi</b>									
Rail		44		2,935				162,847	2,979
Truck	31,634	5,832	39,556	88,413			12,424	77,793	177,859
<b>Arkansas</b>									
Rail		892			3,323	642	8	96,951	4,865
Truck	27,023		12,974	13,387	19,380	13,755	12,362	60,990	98,881
<b>Missouri</b>									
Rail	1,408	1,810		6,642		4,475		83,253	14,335
Truck	180,146	16,520	76,895	150,875				334,442	424,436
<b>Louisiana</b>									
Rail		257		43				1,616	1,916
Truck	6,579	2,355	6,091	13,966	2,569		15,349	34,666	46,909

Source: USDOT, Bureau of Transportation Statistics

While the Mexican market offers significant potential for a water service into Florida and Georgia, the location of the Port of Fernandina is not ideal compared to Florida Gulf Coast ports and South Florida ports.

## Bulk Cargo Market Opportunities

In July 2022, Nassau Terminals was acquired by Transportation Infrastructure Partners, a joint venture between Savage Services and Ridgewood Infrastructure. Savage Services has a long history in handling bulk cargoes, most recently at the Port of Wilmington, NC, and through discussions with Martin Associates has identified the potential to handle specific dry bulk cargoes through the Port of Fernandina. Aggregates and fertilizer have been identified as potential markets of interest.

The aggregates market consists of numerous dry bulk commodities including limestone, granite, pebbles, sand, Portland cement, stone, etc. As shown in **Figure 20**, the aggregates import market has been dominated by Tampa, Port Manatee, Jacksonville, Port Everglades, and Port



Canaveral. Aggregates imports have shown strong growth at the Ports of Tampa, Manatee, and Everglades, reflecting the increased demand for aggregates to support commercial and residential construction activity in Florida over the past decade. Aggregate imports at the Port of Jacksonville have not shown the same level of growth, reflecting capacity constraints. The growth in aggregate imports also reflects the reduction in the supply of domestic limestone from Florida quarries.

FIGURE 20: IMPORTED STONE AND AGGREGATES AT SOUTH ATLANTIC AND FLORIDA PORTS

Ports	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	CAGR
Tampa, FL (Port)	1,844,909	1,777,978	2,138,812	2,164,416	2,652,833	2,909,968	3,033,612	3,264,970	4,120,115	4,211,332	4,642,884	4,836,113	9.16%
Port Manatee, FL (Port)	300,645	242,400	265,707	371,680	372,990	317,617	499,893	1,040,945	1,161,467	1,423,832	1,151,914	1,783,031	17.57%
Jacksonville, FL (Port)	1,453,252	1,295,969	1,094,287	1,297,338	1,442,210	1,177,920	1,461,139	1,376,902	1,961,838	2,137,305	1,862,561	1,627,824	1.04%
Port Everglades, FL (Port)	162,018	279,484	367,993	185,208	645,244	556,033	568,498	578,015	707,710	690,162	748,502	990,485	17.89%
Port Canaveral, FL (Port)	399,408	384,703	324,763	507,337	601,846	603,414	532,689	738,410	968,782	901,167	784,925	865,624	7.28%
Charleston, SC (Port)	433,670	240,828	648,262	613,516	483,831	580,471	1,470,126	2,866,297	647,553	527,271	791,956	611,089	3.17%
Wilmington, NC (Port)	98,991	102,093	158,592	71,411	84,690	78,128	67,606	111,891	305,133	318,655	516,815	338,006	11.81%
Pensacola, FL (Port)	105,815	59,872	120,134	59,698	59,019	68,948	68,940	101,010	33,854	72,801	64,180	197,295	5.83%
Panama City, FL (Port)	72,867	36,565	111,383	75,833	94,224	72,970		36,114	79,712	114,684	112,047	75,737	0.35%
Beaufort-Morehead City, NC (Port)	101,658	89,866	196,297	290,566	225,817	15,485	47,394	0	2,461	33,086	54,163	46,305	-6.90%
West Palm Beach, FL (Port)	45,584		4,000			57		0	1,742		33,000	37,134	-1.85%
Miami, FL (Port)	24	23	51	76	147	39	104	147	1	27,276	360	173	19.88%
Grand Total	5,018,840	4,509,781	5,430,280	5,637,079	6,662,852	6,381,050	7,750,000	10,114,702	9,990,367	10,457,571	10,763,307	11,408,817	7.75%

Source: *Us Census, USA Trade OnLine*

Currently the Lake Belt Area in Northwest Miami-Dade County, which consists of 89 sq. miles, and produces nearly 60 million tons of limestone annually, supplies nearly one-half of the Florida demand for limestone. The Lake Belt Region has the state's highest-quality limestone able to produce aggregates that meet state DOT and federal highway and aggregate specifications for cement, concrete, concrete products and asphalt, which are needed to build roads, bridges, runways, schools, homes, hospitals, office buildings and public facilities<sup>62</sup>. Based on interviews with the key limestone users in cement production, the reserves of limestone are being drawn down, and will need to be augmented by increased imports of limestone for use in cement production to serve the South Florida construction industry. Based on "Limerock Production and Demand"<sup>63</sup> about 9 tons of limestone per capita are consumed per year. As the population grows, so does the demand for limestone. Based on the population projections for the state of Florida, by 2045, an additional 6.5 million new residents will move into the state. Based on the 9 tons of limestone, this population growth will support the demand for about 59 million tons of limestone over the next 28 years, or about 2.2 million tons per year of limestone demand for the entire state. Based on the assumption that the Lake Belt Region supplies about 50% of the limestone to the state, and further that supplies are being drawn down, there will be an increasing need for imported limestone. Estimates by industry have put this level at between 2 to 4 million tons per year of imported limestone.

<sup>62</sup> Florida Limerock & Aggregates, South Florida Mining Industry, and White Rocks Quarries, June 2006.

<sup>63</sup> [www.leegov.com/dcd/Documents/Planning/DRGR/FinalReport/](http://www.leegov.com/dcd/Documents/Planning/DRGR/FinalReport/)

Given the growth in population within the state of Florida and the resulting continued growth in commercial and residential development, there appears to be an opportunity to handle a minimum of about 200,000 tons of imported aggregate rock. The stone and aggregates would likely be discharged from the vessels directly into trucks and transported to an off-dock location for storage and eventual use in the Northeastern Florida construction market. Population is projected to grow be nearly 2% annually through 2030 in Nassau County, and by 1.3% annually in Duval County.<sup>64</sup>

Imported fertilizer represents the second potential dry bulk opportunity. With increasing population in Florida, as well as the increased demand for in-state agricultural production, the demand for fertilizer is likely to continue to grow. A review of current fertilizer imports, as shown in **Figure 21**, at the South Atlantic and Florida Gulf Coast indicates that the Port of Wilmington, NC has been the dominant port in this range handling imported fertilizer. However, the strongest growth in fertilizer imports has been at Port Canaveral, which recorded a doubling of the fertilizer imports between 2020 and 2021. Tampa has also shown growth in fertilizer imports at Florida ports. While Tampa remains as a leading fertilizer export port in Florida, exports of fertilizer from this port declined from 4.9 million tons in 2011 to about 2.6 million tons in 2021, reflecting the contraction of domestic phosphatic fertilizer production in the Tampa region. Interviews with the current Port of Fernandina Terminal Operator indicated that the potential for 200,000-300,000 tons of fertilizer into the Port exists. To handle this fertilizer volume, it would be necessary to develop on-terminal covered storage at the Port, for storage prior to load out to truck and rail.

Although it has been identified as a market opportunity, the Terminal Operator does not currently have plans to pursue the transport of fertilizer at the Port. Also, OHPA has stated its opposition to fertilizer and aggregate imports due to the potential negative impacts to the surrounding community and historic district.

FIGURE 21: IMPORTED FERTILIZER AT SOUTH ATLANTIC AND FLORIDA PORTS

Port	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	CAGR
Wilmington, NC (Port)	665,590	782,465	861,428	719,435	758,428	750,118	595,682	520,000	601,429	658,064	554,095	753,606	1.14%
Tampa, FL (Port)	166,387	197,405	257,013	274,461	223,464	211,835	160,383	161,464	238,218	269,570	243,837	251,886	3.84%
Savannah, GA (Port)	125,374	177,119	125,213	123,391	192,950	161,095	120,600	132,298	117,588	127,083	139,613	128,816	0.25%
Charleston, SC (Port)	68,385	42,094	34,794	36,793	36,340	58,369	27,063	38,010	65,647	39,720	42,024	61,502	-0.96%
Port Canaveral, FL (Port)	3,370	16,209	29,301	8,180	9,226	15,996	36,248	6,810	13,684	20,613	16,387	50,259	27.85%
Beaufort-Morehead City, NC (Port)	32,371	47,979	19,800	15,106	29,013	31,274	39,659	26,135	16,966	54,440	38,620	46,118	3.27%
Port Manatee, FL (Port)	27,710	62,428	74,119	28,248	22,002	37,852	78,291	49,016	70,777	32,595	37,628	34,015	1.88%
Brunswick, GA (Port)	56,115	90,623	108,990	111,075	105,640	69,472	58,274	80,611	66,735	82,257	21,564	30,681	-5.34%
Jacksonville, FL (Port)	9,861	14,276	8,900	12,070	5,501	9,907	10,111	34,434	16,202	25,415	26,183	18,162	5.71%

Source: US Census, USA Trade OnLine

<sup>64</sup> Population and Projections from Office of Economic and Demographic Research, State of Florida, 2022

In the following section potential cargo market opportunities for the Port of Fernandina are summarized.

### **7.3.3. Potential Cargo Opportunities for the Port of Fernandina**

The review of historical markets handled at the Port, as well as the performance of the regional breakbulk markets revealed several key immediate potential opportunities for the Port of Fernandina. These potential cargo opportunities are the ability to attract additional breakbulk pulp and lumber/plywood customers. At this time, the current vessel sizes operating out of the Port will continue to meet the needs and identified opportunities. It is unlikely that the Port will need to substantially improve the facility to accommodate larger vessels in the near future.

#### **Potential Pulp Cargo**

The Georgia Ports Authority has recently announced the conversion of Ocean Terminal at the Port of Savannah from a breakbulk terminal, where the breakbulk pulp and lumber are now handled, to a container terminal. As a result, the current breakbulk pulp and lumber volume now moving via this terminal will likely be dislocated and will be “looking” for a new terminal. The success that Nassau Terminals has had in attracting the breakbulk pulp and plywood cargo, and the contacts that the Terminal Operator has developed with the importers and the ocean carriers places the Port of Fernandina in a relatively strong position to capture this market. A review of Piers data indicates that about 165,000-200,000 tons of breakbulk pulp was handled at Ocean Terminal, primarily imported by CMPC from Brazil. Greig Star Shipping (G2 Ocean) is the carrier handling this pulp from Brazil, and direct marketing to G2 Ocean and to CMPC by Nassau Terminals will be needed to secure this market opportunity. The fact that the Port of Fernandina has direct rail service to the key importers of the pulp provides further rationale for the Port to secure this business. In addition, lumber from Brazil is also handled at the Ocean Terminal, and will also be dislocated as the terminal is transitioned to a container terminal, providing additional tonnage potential at Fernandina Beach.

#### **Potential Lumber and Plywood Cargo**

The lumber/plywood market also presents a strong opportunity for the Port of Fernandina, as demonstrated by its current success in attracting new lumber/plywood business at the end of 2021 and continuing through the first 5 months of 2022. With the lumber/plywood business expanding more than 3-fold over the last decade, and accelerating since 2020, warehouse capacity at current ports handling the lumber and plywood is very constrained. Using the Piers data base, the lumber handled at Port Canaveral is controlled by KP Wood, followed by Binderholz Timber, QP Timber and Mercer Timber Products, mostly moving from Northern Europe, and to a lesser extent Brazil. Greig Star (G2 Ocean) and Saga Lines are the key carriers

moving about 60% the lumber into Port Canaveral. Establishing regular calls by these carriers at the Port of Fernandina is critical to grow the lumber/plywood business. Key destinations for this lumber/plywood are the large home improvement distribution centers located in Tampa and Locust Grove, GA for Home Depot and Kissimmee, FL and Valdosta, GA for Lowes. In addition, plywood imported from Brazil via containers at the Port of Jacksonville is now moved to the Port of Fernandina for further shipment to Bermuda for construction activity. These 40-foot containers imported via Jacksonville are stripped at the Port of Fernandina, and then reloaded into 20-foot containers for shipment via Somers Isles. Direct import of such plywood in breakbulk form at the Port of Fernandina would eliminate the drayage cost from Jacksonville and further minimize the stripping charges at the Port of Fernandina for customers in Bermuda.

A review of the ocean carriers serving the breakbulk forest products business reveals the importance of attracting additional services from G2 Ocean and Saga Lines, as these carriers are calling the other key breakbulk ports and will be key in bringing additional cargo to the Port of Fernandina. **Figure 22** shows the key breakbulk forest products carriers that call the South Atlantic Ports, and the relatively small volume of cargo handled by Greig Star (G2 Ocean) and Saga Lines at Fernandina Beach underscores the need to attract these carriers.

FIGURE 22: BREAKBULK SERVICE BY CARRIER AT SOUTH ATLANTIC PORTS

Year	2021		
Shipping Method	Non Container		
Sum of STONS			
SHIPPING LINE & PORT	E	I	Grand Total
GRIEG STAR SHPG		449,792	449,792
FERNANDNA BCH		5,897	5,897
JACKSONVILLE		75,094	75,094
PT CANAVERAL		168,955	168,955
PT EVERGLADES		5,912	5,912
SAVANNAH		193,933	193,933
SAGA FOREST CARRIERS INTL		424,979	424,979
FERNANDNA BCH		11,217	11,217
JACKSONVILLE		212,585	212,585
PT CANAVERAL		186,598	186,598
SAVANNAH		14,579	14,579
SEATRADE GROUP N V	11,441	265	11,706
FERNANDNA BCH	11,441		11,441
PT CANAVERAL		265	265
SOMERS ISLES SHIPPING LTD	5,353	52	5,405
FERNANDNA BCH	5,353	52	5,405
WAGENBORG SHPG BV		119,075	119,075
FERNANDNA BCH		96,190	96,190
JACKSONVILLE		3,584	3,584
PT CANAVERAL		10,257	10,257
SAVANNAH		9,044	9,044
<b>Grand Total</b>	<b>16,794</b>	<b>994,162</b>	<b>1,010,956</b>

Source: Piers

Based on interviews with the ocean carriers of interest, as well as a review of the Piers data regarding pulp and lumber/plywood moving via other ports, and in particular via Ocean Terminals at Savannah, the near-term potential forest products market, in addition to the cargo now moving via Nassau Terminals is estimated at 240,000 tons of pulp and lumber now handled at Savannah's Ocean Terminal, or about 12,000 tons of new cargo per month. This does not include any additional new lumber/plywood accounts now moving via Port Canaveral due to limited warehouse space at that port.

As discussed in the first section of this chapter, the current forest products handled at the Port of Fernandina are projected to reach about 420,000 tons by the end of 2022:

- The current lumber and plywood moving via the Port is projected to reach 100,000 tons by end of year.

- Pulp is projected to reach 190,000-200,000 tons by end of 2022, driven by growth of the current customer base.
- KLB expected to remain stable at about 100,000 -120,000 tons.

With the potential to capture an additional 240,000 tons of pulp and plywood due to the phasing of the Ocean Terminal in Savannah from a breakbulk terminal to a container terminal, total breakbulk forest products tonnage could reach 660,000 tons per year in the near future. This does not include the warehouse space now used to handle the stuffing of containers now moved via Somers Isles Shipping Ltd. Using 80,000 sf required for static storage of 10,000 tons of forest product, and a monthly turnover of cargo in the warehouse (30-day dwell time), this requires about 400,000 sf to 450,000 sf of total warehouse space. The Port currently has warehouse capacity of about 240,000 sf including the fabric warehouse. Therefore, to capture the potential market, an additional 200,000 sf of warehouse space will be required. If the turn of the warehoused cargo can be reduced to even 15 days, then less storage capacity will be required.

### Potential Dry Bulk Cargo

Imported stone and aggregates has been identified by the Terminal Operator as a potential market for the Port of Fernandina, and this is substantiated by the limited supply of aggregates/stone from in-state quarries, combined with the growth in commercial and residential construction and in—state highway construction and maintenance. A market of a minimum of 200,000 tons of stone and aggregates has been identified.

Similarly, the growth in population in the State, along with the growth in agricultural production and the contraction of the phosphatic fertilizer production in the Tampa region, results in a potential demand for imported fertilizer. Currently, fertilizer imports are small at Florida ports, and the Port of Fernandina could provide a key port for imported fertilizer to serve not only northeastern and central Florida, but Georgia and South Carolina as well. This market is estimated at 200,000-300,000 tons annually and would require the development of on-dock storage at the Florida ports.

At publication of this report, the Terminal Operator has no plans to pursue the transport of fertilizer at the Port. Additionally, OHPA has expressed its opposition to the handling of fertilizer and aggregates due to the potential negative impacts to the surrounding community.

### Marine Highway Corridor M-95

The Port is located along the marine highway corridor M-95 as designated by USDOT's America's Marine Highway Program. Through this designation, the M-95 can be leveraged to relieve congestion on roadway and rail freight traveling in the eastern US. Additionally, this designation opens federal funding opportunities for projects that may directly benefit port

operations. The Port was given access to the M-95 and federal funds were acquired for the improvement of the Port to facilitate barge traffic between Fernandina and Charleston.<sup>65</sup> Access to the M-95 and the development of the barge service would help reduce congestion on roadway and rail corridors while also increasing opportunity for Port growth.

### New Cargo Market Service Coordination

Prior to initiating any new cargo market service into the Port of Fernandina, whether described in this document or not, OHPA should require the Terminal Operator to provide notification of the new service and to submit material handling, transport, and safety plans for the new cargo. Additionally, OHPA should require the Terminal Operator refrain from transporting cargo of particular hazard as identified in 33 CFR Part 126.3.<sup>66</sup>

## 7.4. Economic Impact Component

The Port of Fernandina, which is operated by Nassau Terminals handles containerized cargo primarily destined for Bermuda, export Kraft Liner Board (KLB), imported pulp, and imported lumber and plywood. In total, the Port handled 239,000 tons of breakbulk cargo (of which 54% was imported pulp and 45% export KLB) and 11,685 container moves. This cargo moved on tonnage moved on 82 vessels calling the Port's marine terminal. In addition to providing export and import services, Nassau Terminals also serves the local forest products industry by providing container consolidation services. The Port also plays a critical role in providing export and import vessel services and logistics to services to key manufacturing industries including WestRock that produces KLB for use in corrugated packaging, Rayonier Advanced Materials which produces high purity cellulose fibers used in technology products, and LignoTech, a manufacturer of lignin-based biopolymers, which are renewable, wood-based alternatives to fossil-based chemicals and polymers used in a broad range of industries.

The cargo moving via the Port has a far-reaching impact on the local and regional economies and is not just limited to activity at the marine terminal. The imported cargo is used by local and regional manufacturers of tissues and sanitary products, while the export KLB is produced locally as well as throughout the Southeastern U.S. The growing volume of plywood and lumber imports is used locally in the construction industry, while the logistics services provided by Nassau Terminals supports the more than 4,000 jobs associated with the key manufacturers located in and around Fernandina Beach.

The purpose of this economic impact analysis is to quantify the impact of the Port of Fernandina and the operations of Nassau Terminals. As demonstrated, the impact is not just limited to the

<sup>65</sup> <https://fernandinaobserver.com/general/port-of-fernandina-one-of-nine-marine-hwy-projects-designations/>

<sup>66</sup> <https://www.ecfr.gov/current/title-33/chapter-I/subchapter-L/part-126/section-126.3>



loading and off-loading of the vessels. The local production of exports and consumption of imports creates jobs, income, revenue, and taxes at every stage of the logistics supply chain. To measure the economic impacts of the Port operations, the study employs methodology and definitions that have been used by Martin Associates to measure the economic impacts of seaport activity at more than 500 ports in the United States and Canada. It is to be emphasized that only measurable impacts are included in this study. In order to ensure defensibility, the Martin Associates approach to economic impact analysis is based on data developed through detailed interviews with Nassau Terminals, the maritime service providers, and the local manufacturers for which the Port provides logistics services. Specific re-spending models have been developed for the Fernandina Beach area to reflect the unique economic and consumer profiles of the regional economy.

This study focuses on impacts generated during calendar year 2021. Impacts are estimated in terms of jobs, personal earnings, business revenue, and state and local taxes. In addition to the baseline impact estimates, a proprietary computer model specific to the Port operations has been developed that can be used in evaluating various master plan investments, as well as to evaluate the sensitivity of impacts to changes in tonnage, commodity mix, inland origins/destinations of commodities and mode of surface transportation.

#### **7.4.1. Impact Definitions**

The impacts are measured in terms of:

- Jobs [direct, induced, indirect and related users]
- Personal income
- Business revenue
- State and local taxes

Each impact measurement is described below:

- **Direct, Induced, and Indirect jobs - Direct jobs** are those that would not exist if activity at the Port's cargo facilities were to cease. Direct jobs created by maritime cargo activity at the Port's terminals are those jobs with the firms directly providing cargo handling and vessel services, including trucking companies, terminal operators/ stevedores, freight forwarders and customhouse brokers, vessel agents, warehouse operations, marine construction/maintenance operations and tug and pilot services.
- It is to be emphasized that these are classified as directly generated in the sense that these jobs would experience near-term dislocation if the Port facilities were closed. These jobs are, for the most part, local jobs.

- **Induced jobs** are jobs created in the Fernandina Beach region by the purchases of goods and services by those individuals directly employed by each of the directly dependent lines of business. These jobs are based on the local purchase patterns of Florida residents. The induced jobs are jobs with grocery stores, restaurants, health care providers, retail stores, local housing/construction industry, and transportation services, as well as with wholesalers providing the goods to the retailers.
- **Indirect jobs** are created throughout the region as the result of purchases for goods and services by the firms directly impacted by Port of Fernandina operations, including the tenants, terminal operator and the firms providing services to cargo and vessel operations. The indirect jobs are measured based on actual local purchase patterns of the directly dependent firms, and occur with such industries as utilities, office supplies, contract service providers, maintenance and repair, and construction.
- **Related shipper/consignee (related user) jobs** with firms using the cargo terminals to ship and receive cargo, as well as the logistic services provided by Nassau Terminals. These jobs are not entirely dependent upon the Port activity but reflect the importance of the Port in supporting the local firms. While the facilities and services provided in the seaport are a crucial part of the infrastructure allowing these jobs to exist, they would not necessarily be immediately displaced if marine cargo activities were to cease.
- **Personal income impact** consists of wages and salaries received by those directly employed by Port activity and includes a re-spending impact which measures the personal consumption activity within the state of Florida by those directly employed as the result of Port of Fernandina cargo, vessel, and logistics support activity. Indirect personal income measures the wages and salaries received by those indirectly employed.
- **Business revenue** consists of total business receipts by firms providing services in support of the Port's cargo, vessels service and logistics services. **Local purchases for goods and services** made by the directly impacted firms are also measured. These local purchases by the dependent firms create indirect impacts.
- **State and local taxes** include taxes paid by individuals as well as firms dependent upon Port of Fernandina.

#### 7.4.2. Methodology

##### Data Collection

The impacts Port of Fernandina presented in this report were estimated based on interviews with 14 firms in the local area that provide vessel, cargo and logistics support and also use the

Port and services of Nassau Terminals. The direct impacts are measured at the firm level of detail and aggregated to develop the impacts for Port of Fernandina.

### Direct Impacts

The results of these interviews were then used to develop the baseline direct job, revenue, and income impacts for the cargo activity and for the economic sectors and job categories associated with each activity.

This baseline survey data was also used to develop operational models that can be used to update the impacts of the marine cargo activity on an annual basis and to evaluate the impacts of changes in:

- Marine cargo tonnage, by commodity.
- Modal distribution of cargo (what percent of the inland transportation of a commodity is truck versus rail), as well as the geographical distribution of each commodity.
- Number of vessel calls and size of vessel.
- The operational models will be used to evaluate alternative facilities, expansion projects and new construction, as recommended as part of the OHPA master plan.

### Induced Impacts

Induced impacts are those generated by the purchases of the individuals employed as a result of cargo activity. For example, a portion of the personal earnings received by those directly employed due to activity at the seaport is used for purchases of goods and services, both in-state, as well as out-of-state. These purchases, in turn, create additional jobs in the state of Florida, which are classified as induced. To estimate these induced jobs, a personal earnings multiplier for the state of Florida was developed from data provided by the Bureau of Economic Analysis, Regional Input-Output Modeling System. This income multiplier is used to estimate the total personal earnings generated in the state. A portion of this total personal earnings impact is next allocated to specific local purchases (as determined from regional consumption data for the south, as developed from the U.S. Bureau of Labor Statistics, Consumer Expenditure Survey. These purchases are next converted into retail and wholesale-induced jobs in the regional economy.

### Indirect Impacts

Indirect jobs are generated in the local economy as the result of purchases by firms that are directly dependent upon activity at Port of Fernandina. These purchases are for goods such as office supplies and equipment, maintenance and repair services, raw materials, communications and utilities, transportation services and other professional services. To estimate the indirect

economic impact, local purchases, by type of purchase, were collected from the firms interviewed. These local purchases were then combined with employment to sales ratios in local supplying industries, developed from U.S. Bureau of Economic Analysis, Regional Input-Output Modeling System for the state of Florida. These jobs to sales ratios capture the numerous spending rounds associated with the supply of goods and services. Special care has been exercised to avoid double counting the indirect impacts, and to specifically include only the expenditures by the directly dependent firms that are, in fact, local.

### Related Impacts

Related impacts measure the jobs with shippers and consignees moving cargo through the marine terminals, and for which Nassau Terminals provides logistics services. ***Related jobs are not dependent upon the port marine terminals to the same extent as are the direct, induced, and indirect jobs. It is the demand for the final products which creates the demand for employment with these shippers/consignees and manufacturers, not the use of the Port's terminal, and therefore these firms can and do use other ports.*** However, the jobs held with related users, such as manufacturing as well as wholesale and retail distribution, throughout the unaffected areas of the state will continue to operate. Related impacts for the Port facilities are based on interviews with the local manufacturers as well as a previous impact analysis conducted by two of the key manufacturers located in Fernandina Beach for which Nassau Terminals provides logistics services as well as handling of export and import cargo for these manufacturers.<sup>67</sup>

### Tax Impacts

The tax impacts include state and local taxes collected from all sources, both personal and business taxes. State and local tax burdens (developed by the Tax Foundation and the U.S. Bureau of Census, State and Local Government Finances for the state of Florida) are applied to the total direct, induced, and indirect income and business revenue impacts to estimate total state and local taxes generated by Port activity.

#### 7.4.3. Summary of Results

**Figure 23** provides a summary of the economic impact analysis of Port of Fernandina.

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<sup>67</sup> Fernandina's Manufacturing; Building our Economy; Rayonier Advanced Materials and WestRock; Creating Jobs and Opportunities for Our Community

FIGURE 23: 2021 ECONOMIC IMPACTS OF PORT OF FERNANDINA

Port of Fernandina 2021	
<b>JOBS</b>	
DIRECT	236
INDUCED	242
INDIRECT	<u>121</u>
<b>TOTAL JOBS</b>	<b>599</b>
<b>PERSONAL INCOME (\$1,000)</b>	
DIRECT	\$15,146
INDUCED/RESPENDING	\$36,103
INDIRECT	<u>\$4,046</u>
<b>TOTAL PERSONAL INCOME</b>	<b>\$55,295</b>
<b>BUSINESS REVENUE (\$1,000)</b>	<b>\$37,221</b>
<b>LOCAL PURCHASES (\$1,000)</b>	<b>\$7,873</b>
<b>STATE &amp; LOCAL TAXES (\$1,000)</b>	<b>\$4,345</b>

In 2021, Port of Fernandina created 599 jobs in the state of Florida. Of these jobs, 236 jobs are directly created by port activities, while another 242 induced jobs are generated within the state as the result of local purchases made by those directly employed due to Port activity. In addition, there are 121 indirect jobs supported in the Florida area as the result of \$7.9 million of local purchases by directly dependent firms.

The 236 direct job holders received \$15.2 million of direct wage and salary income, for average earnings of \$64,269 per direct employee. This compares to an average local wage of \$51,910.<sup>68</sup> As a result of local purchases with this \$15.2 million of direct wages and salaries, an additional \$36.1 million of re-spending and local consumption expenditures were created in the state of Florida. It is this re-spending impact that supported the 242 induced jobs.<sup>69</sup> The indirect job

<sup>68</sup> U.S. Bureau of Labor Statistics, May 2022 State Occupational Employment and Wage Estimates, Jacksonville, FL.

<sup>69</sup> The induced income impact also includes local consumption expenditures and should not be divided by induced jobs to estimate the average salary per induced job. This re-spending throughout the region is estimated using a regional personal earnings multiplier, which reflects the percentage of purchases by directly employed individuals that are made within the state. Hence, the average salary would be overestimated as only a percentage of purchases are used to pay wages.

holders received \$4.1 million in personal income. In total, \$55.3 million of personal income and local consumption was supported by Port of Fernandina operations.

Local businesses received \$37.2 million of sales revenue from providing services to the ocean cargo and logistics support activity. This does not include the value of the cargo moving via the Port.

As a result of the cargo activity at the Port, a total of \$4.4 million of state and local tax revenue was generated. Of this, \$1.4 million was generated at the state level while the balance was collected at the local level.

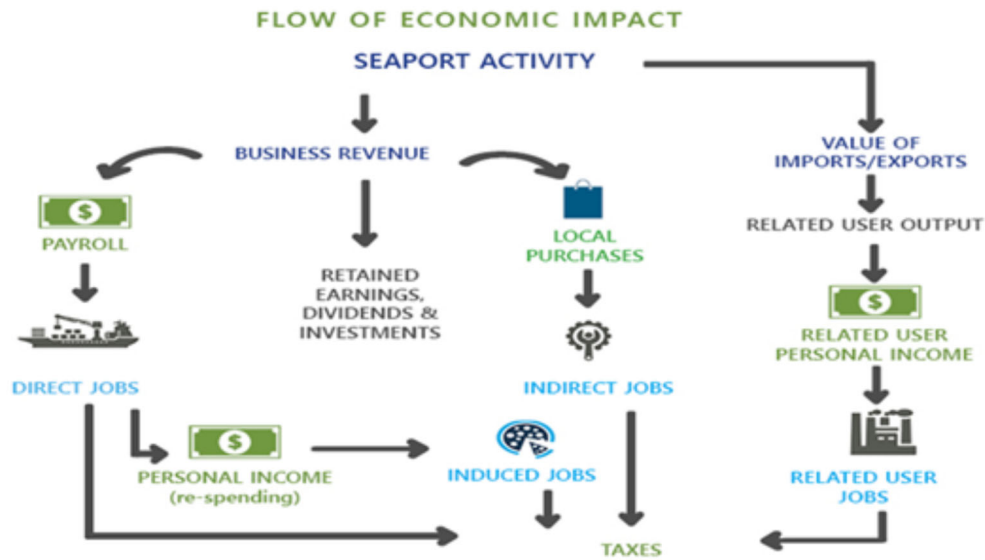
The total economic value of the marine cargo, vessel and logistics activity at the Port of Fernandina is estimated at \$73.3 million. The total economic value consists of monetary measures that are independent of each other and combining these measures does not result in double counting of the impacts. This includes the \$37.2 million of direct business revenue received from businesses providing cargo and vessel services at the Port and moving the cargo to and from inland destinations and origins and the \$36.1 million of re-spending and local personal consumption impact.

In addition to the direct, induced, and indirect impacts generated by the Port of Fernandina, the Port supported the key wood pulp and paper manufacturing operations in Fernandina Beach, as noted previously. Based on an earlier impact study conducted by the key manufacturers that the Port supports in both export/import activity as well as logistics services, it is estimated that the Port supported industries supported 4,034 jobs and \$1.2 billion of local economic activity in Fernandina Beach. Including the impacts generated by the Port of Fernandina, the Port, and the industries it supports account for more than 4,600 jobs annually in Fernandina Beach, with an economic contribution of nearly \$1.3 billion.

#### 7.4.4. Economic Impacts of Maritime Cargo Activity

Waterborne cargo activity at a seaport contributes to the local and regional economy by generating business revenue to local and national firms providing vessel and cargo handling services at the marine terminals. These firms, in turn, provide employment and income to individuals, and pay taxes to state and local governments. **Figure 24** shows how activity at marine terminals generates impacts throughout the local, state, and national economies. As this figure indicates, the impact of a seaport on a local, state, or national economy cannot be reduced to a single number, but instead, the seaport activity creates several impacts. These are the revenue impact, employment impact, personal income impact and tax impact. These impacts are non-additive. For example, the income impact is a part of the revenue impact and adding these impacts together would result in double counting. **Figure 24** shows graphically how activity at Port of Fernandina's marine terminals generate the four impacts.

FIGURE 24: FLOW OF ECONOMIC IMPACTS GENERATED BY MARINE ACTIVITY



At the outset, activity at the Port generates business revenue for firms which provide services. This business revenue impact is dispersed throughout the economy in several ways. It is used to hire people to provide the services, to purchase goods and services, and to make federal, state, and local tax payments. The remainder is used to pay stock-holders, retire debt, make investments, or is held as retained earnings. It is to be emphasized that the only portions of the revenue impact that can be definitely identified as remaining in the local economy are those portions paid out in salaries to local employees, for local purchases by individuals and businesses directly dependent on the seaport, in contributions to state and local taxes, and in operating payments to Port of Fernandina.

The employment impact of seaport activity consists of four levels of job impacts: direct, induced, indirect, and related users.<sup>70</sup> The definitions of each of the four levels is provided above in

#### Section 5.4.1.

The personal earnings impact is the measure of employee wages and salaries (excluding benefits) received by individuals directly employed due to seaport activity. Re-spending of these earnings throughout the regional economy for purchases of goods and services is also estimated. This, in turn, generates additional jobs -- the induced employment impact. This re-spending throughout the region is estimated using a regional personal earnings multiplier,

<sup>70</sup> The related jobs, income, value of output and taxes should not be used when evaluating the incremental economic impacts of specific port projects or the impacts of changes in cargo volume. These related impacts are net of the direct, induced, and indirect impacts generated by port activity.



which reflects the percentage of purchases by individuals that are made within the state of Florida. The re-spending effect varies by region -- a larger re-spending effect occurs in regions that produce a relatively large proportion of the goods and services consumed by residents, while lower re-spending effects are associated with regions that import a relatively large share of consumer goods and services (since personal earnings "leak out" of the region for these out-of-regional purchases). The direct earnings are a measure of the local impact since they are received by those directly employed by seaport activity.

Tax impacts are payments to the state and local governments by firms and by individuals whose jobs are directly dependent upon and supported (induced jobs) by activity at the marine terminals.

#### **7.4.5. Economic Impact Structure**

Economic impacts are created throughout various business sectors of the state and local economies. Specifically, the economic sectors below are impacted as a result of activity at Port of Fernandina. These are the:

- Surface Transportation Sector
- Maritime Services Sector
- Related Shipper/Consignees
- Ocean Highway and Port Authority (OHPA)

Within each sector, various participants are involved. Separate impacts are estimated for each of the participants. A discussion of each of the economic impact sectors is provided below, including a description of the major participants in each sector.

#### **Surface Transportation Sector**

The surface transportation sector consists of both the railroad and trucking industries. The trucking firms and railroads are responsible for moving the various cargoes between the seaport terminal and the inland origins and destinations.

#### **Maritime Services Sector**

This sector consists of numerous firms and participants performing functions related to the following maritime services:

- Maritime Cargo Transportation
- Vessel Operations
- Cargo Handling

- Government Agencies

A brief description of the major participants in each of these four categories is provided below:

### **Maritime Cargo Transportation**

Participants in this category are involved in arranging inland and water transportation for export or import freight. The freight forwarder/customs broker is the major participant in this category. The freight forwarder/customs broker arranges for the freight to be delivered between the terminals and inland destinations, as well as the ocean transportation. This function performed by freight forwarders and customhouse brokers is most prevalent for containerized and general cargo commodities.

### **Vessel Operations**

This category consists of several participants. The steamship agents provide a number of services for the vessel as soon as it enters the Port. The agents arrange for medical and dental care of the crew, for ship supplies as well as payment of various expenses including port charges (where applicable). The agents are also responsible for vessel documentation. In addition to the steamship agents arranging for vessel services, those providing the services include:

- Chandlers - supply the vessels with ship supplies (food, clothing, nautical equipment, etc.).
- Towing firms - provide the tug service to guide the vessel to and from port.
- Vessel and barge crewmembers – those individuals aboard the vessels and barges to and from port.
- Pilots - assist in navigating the vessels through the Amelia River.
- Bunkering firms - provide fuel to the vessels.
- Marine surveyors - inspect the vessels and the cargo.
- Shipyards/marine construction firms - provide repairs (either emergency or scheduled) and seasonal lay-ups as well as marine pier construction and dredging.

### **Cargo Handling**

This category involves the physical handling of the cargo at the terminals between the land and the vessel. Included in this category are the following participants:

Longshoremen & dockworkers - include unionized members, as well as those dockworkers with no union affiliation that are involved in the loading/unloading of cargo from the vessels and barges, as well as handling the cargo prior to loading and after unloading. With respect to

Fernandina beach, the loading and off-loading of the vessels, as well as the warehousing activity are provided by the employees of Nassau Terminals.

Stevedoring firms - manage the vessel cargo-handling activities, and are provided by Nassau Terminals

Cargo terminal operators - provide services to operate the maritime terminals, track cargo movement and provide security where cargo is loaded and off-loaded, and are provided by Nassau Terminals at the Port of Fernandina

Warehouse operators - store cargo after discharge or prior to loading and consolidate cargo units into shipment lots. In many cases the freight forwarders and consolidators are also involved in warehousing activity. Nassau Terminals provide on terminal as well as off-terminal warehousing and consolidation activities.

### **Government Agencies**

This service sector involves federal, state, and local government agencies that perform services related to cargo handling and vessel operations at the Port. Department of Homeland Security (DHS), which includes (but is not limited to) US Customs and Border Protection (CBP), US Immigration and Customs Enforcement (ICE) and U.S. Coast Guard, U.S. Department of Labor, U.S. Department of Agriculture, and the U.S. Army Corps of Engineers, are involved.

### **Related Shipper/Consignees**

Related jobs consist of jobs with related manufacturers shipping and receiving cargo through the Port's terminal, as well as receiving logistics services by Nassau Terminals.

### **Ocean Highway and Port Authority**

The Ocean Highway and Port Authority (OHPA) includes full-time staff as well as a portion of the commissioners time involved in overseeing port activity.

#### **7.4.6. Commodities Included In The Analysis**

A major use of an economic impact analysis is to provide a tool for port development planning. As a port grows, available land and other resources for port facilities become scarce, and decisions must be made as to how to develop the land and utilize the resources in the most efficient manner. Various types of facility configurations are associated with different commodities. For example, containers, automobiles, and roll-on/roll-off cargo require a large amount of paved, open storage space, while certain types of breakbulk cargoes such as lumber and plywood may require covered storage. Perishable commodities require temperature-controlled warehouses, and some dry bulk cargo requires covered storage and special dust removing equipment, while tank farms are needed to store liquid bulk cargo.

An understanding of the commodity's relative economic value in terms of employment and income to the local community, the cost of providing the facilities, and the relative demand for the different commodities is essential in making future port development plans. Because of this need for understanding relative commodity impacts, economic impacts are estimated for the following commodities handled at the Port of Fernandina:

- Containers
- Pulp
- KLB
- Lumber/Plywood

In addition, the impacts of logistics services provided to the local manufacturers are included in the analysis, which involves the stuffing of containerized cargo with locally manufactured product for movement to JAXPORT and Savannah for loading on regularly scheduled container lines calling these ports.

#### **7.4.7. Maritime Cargo Employment Impacts**

The employment generated by maritime cargo activity at Port of Fernandina is estimated.

- First, the total employment that is in some way related to the activities at cargo terminals is estimated from the interview process of 14 terminals, tenants, and service providers and 2021 data obtained by the Port of Fernandina and the OHPA.
- The direct job impact is estimated by detailed job category, i.e., trucking, stevedores, steamship lines, steamship agents, chandlers, surveyors, etc.
- The direct job impact is estimated for each of the key commodities/commodity groups.
- Induced and indirect jobs are estimated.

It is estimated that 599 jobs are directly supported by, or related to, port activities at the Port of Fernandina cargo terminals. Of the 599 jobs:

- 236 jobs are directly generated by activities at the cargo and vessel activity and logistics support operations, terminal and if such activities should cease, these jobs would be discontinued over the short-term.
- 242 jobs (induced jobs) are supported by the local purchases of the 236 individuals directly generated by port activity at the cargo terminals. An additional 121 indirect jobs were supported by \$7.9 million of purchases in the local and regional economy by firms providing direct cargo handling and vessel and barge services.

- 4,034 jobs are related to the Port of Fernandina either from shipping and receiving cargo or from the additional logistics services provided to the local pulp and paper manufacturing facilities.<sup>71</sup>

### Direct Maritime Cargo Job Impacts

In 2021, 236 full-time jobs were directly created.<sup>72</sup> In this section the jobs are analyzed in terms of:

- Distribution by job category
- Distribution by commodity group

These distributions are developed in more detail below.

#### Job Impacts by Category

**Figure 25** presents the distribution of the 236 direct jobs by type of job. The figure indicates that terminal operations create the largest direct jobs impact, followed by the logistics support services and warehousing.

FIGURE 25: DIRECT CARGO EMPLOYMENT IMPACTS BY SECTOR AND JOB CATEGORY\*

SECTOR	DIRECT JOBS
SURFACE TRANSPORTATION	
Rail	3
Truck	42
MARITIME SERVICES	
Terminal	77
Towing/Pilots	5
Agents	9
Maritime Services/Freight Forwarders/Consolidators	28
Warehousing/Logistics Support	64
Marine Construction/Dredging	3
PORT AUTHORITY	5
<b>TOTAL</b>	<b>236</b>

<sup>71</sup> Fernandina's Manufacturing; Building our Economy; Rayonier Advanced Materials and WestRock; Creating Jobs and Opportunities for Our Community

<sup>72</sup> Jobs are measured in terms of full-time worker equivalents. If a worker is employed only 50 percent of the time by activity at a Port cargo terminal, then this worker is counted as .5 jobs.

### Direct Job Impacts by Commodity

Most of the 236 jobs considered to be generated by port activity can be associated with the handling of specific commodities or commodity groups. Certain employment categories such as government employees, OHPA employees, ship chandlers and marine construction cannot be identified with a specific commodity. As a result, employment in these groups (which totaled 27) was not allocated to commodity groups. **Figure 26** presents the relative employment impacts in terms of commodity groups.

FIGURE 26: DISTRIBUTION OF DIRECT CARGO JOB IMPACT BY COMMODITY

COMMODITY	DIRECT JOBS
CONTAINER	48
PULP	33
KLB	35
LUMBER/PLYWOOD	11
LOGISTICS SUPPORT	81
NOT ALLOCATED	<u>27</u>
TOTAL	236

*Totals may not add due to rounding*

### Induced Jobs

The 236 directly employed individuals received wages and salaries, a part of which was used to purchase local goods and services such as food, housing, clothing, transportation services, etc. As a result of these local purchases, 242 induced jobs in the regional economy were supported. The majority of the induced jobs are with local and regional private sector social services, business services, educational services and state and local government agencies, followed by jobs in the food and restaurant sector, and then jobs in the construction and home furnishings sector.

### Indirect Jobs

In addition to the induced jobs generated by the purchases by directly employed individuals, the firms providing the direct services and employing the 236 direct job holders make local purchases for goods and services. These local purchases by the dependent firms generate additional local jobs - indirect jobs. Based on interviews with the cargo-related firms, these firms made \$7.9 million of local and in-state purchases. These direct local purchases created an additional 121 indirect jobs in the local economy.

### Related User (Shipper/Consignee) Jobs

In addition to the direct, induced, and indirect jobs, an estimate of jobs related to cargo moving via the Port is based on the above referenced impact study prepared by the two major manufacturing operations in Fernandina that use the Port for export and import as well as logistics services. was developed. Based on the previous impact report, 4,034 jobs are generated by these manufacturers that are supported by the Port of Fernandina.

#### 7.4.8. Total Economic Value And Business Revenue Impacts

The total economic value of the marine cargo, vessel activity and logistics operations at the Port of Fernandina is estimated at \$73.3 million. This includes the \$37.2 million of direct business revenue received from businesses providing cargo and vessel services at the Port and moving the cargo to and from inland destinations and origins, and the \$36.1 million of re-spending and local personal consumption impact.

### Direct Business Revenue of Provisioning Services

The balance of the discussion focuses on the \$37.2 million of direct business revenue generated from the provision of services to the cargo, vessels and barges handled at the Port's marine terminals.

**Figure 27** shows the distribution of this revenue impact by category and economic sector. Trucking receives the largest value of direct revenue, followed by terminal operations, rail, and maritime services operations.

FIGURE 27: REVENUE IMPACT BY CATEGORY AND ECONOMIC SECTOR

SECTOR	REVENUE (\$1,000)
SURFACE TRANSPORTATION	
Rail	\$6,893
Truck	\$11,819
MARITIME SERVICES	
Terminal	\$7,195
Towing/Pilots	\$2,108
Agents	\$235
Maritime Services/Freight Forwarders/Consolidators	\$6,187
Warehousing/Logistics Support	\$1,561
Marine Construction/Dredging	\$944
PORT AUTHORITY	\$280
<b>TOTAL</b>	<b>\$37,221</b>

*Totals may not add due to rounding*



#### 7.4.9. Personal Earnings Impact

The income impact is estimated by multiplying the average annual earnings (excluding benefits) of each port participant, i.e., truckers, steamship agents, pilots, towing firm employees, terminal employees, warehousemen, etc., by the corresponding number of direct jobs in each category. The individual annual earnings in each category multiplied by the corresponding job impact resulted in \$15.2 million in direct personal wage and salary earnings. It is important to emphasize that the average annual earnings of a Port-dependent job are about \$64,269, compared to the average local annual income of \$51,910. These relatively high paying jobs will have a much greater economic impact in the local economy through stimulating induced jobs than will a job paying lower wages.

The impact of the re-spending of this direct income for local purchases is estimated using a personal earnings multiplier. The personal earnings multiplier is based on data supplied by the Bureau of Economic Analysis (BEA), Regional Input-Output Modeling System (RIMS II). The BEA estimates that for every one dollar earned by direct employees generated by activity at the cargo terminals, an additional \$2.38 of personal income and consumption expenditures would be created as a result of re-spending the income for purchases of goods and services produced locally. Hence, a personal earnings multiplier of 3.38 was used to estimate the total income, re-spending and local consumption impact of \$55.3 million, inclusive of the re-spending effect. This additional re-spending of the direct income generated the 242 induced job impacts.

The 121 indirect job holders earned \$4.1 million in indirect wages and salaries.

#### 7.4.10. Tax Impacts

State and local tax impacts are based on corporate and per employee tax burdens which are developed at the county, local and state jurisdictional levels. These tax per employee burdens are essentially tax indices that are used to allocate total taxes at each level of government to economic activity generated by the cargo terminals. To estimate the tax indices, a corporate tax burden and total taxes received at each governmental level in Florida were developed from the Tax Foundation, which reports total state and local taxes from all sources as a percentage of total personal income. In addition, data from the U.S. Census, State and Local Government Finances was used.

Cargo activity supporting direct, induced, and indirect impacts generated \$4.4 million of state, county, and local taxes. The state of Florida receives approximately 32% of the tax revenues, while the local governments received 68%<sup>73</sup> of the tax impact as illustrated in **Figure 28**.

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<sup>73</sup> "State and Local Government Finances by Level of Government and by State," U.S. Census Bureau, October 2021

FIGURE 28: DISTRIBUTION OF STATE AND LOCAL TAX REVENUE\*

TAXES BY CATEGORY (\$1,000)	STATE	LOCAL	TOTAL
DIRECT, INDUCED, & INDIRECT	\$1,390	\$2,955	\$4,345

*Totals may not add due to rounding*

## 7.5. Infrastructure Opportunities and Development

### 7.5.1. Port Opportunities

#### Northeast Florida Location

The Port is located adjacent to the Florida/Georgia Border with access to nearby interstates and rail lines allowing for national access. This locational benefit allows for near direct access to I-95 and subsequently I-10 which are major freight corridors for both Florida and the nation. Similarly, access to major rail lines is achieved through the short line railroad which bisects the Port property. Regional rail studies and planned improvements are anticipated to improve the Port's connection with these facilities. The following are a series of benefits provided by its location:

- Northeast Florida is located at the junction of both east/west and north/south interstate roadways and rail lines.
  - Domestic distribution to the southeast and rest of Florida is common by truck and rail.
- The Foreign Trade Zone is administered by JAXPORT and can be activated anywhere in Nassau County.
- The Port is conveniently positioned between the Ports of Savannah and Jacksonville which increases the ability of Fernandina to offer relief of potential congestion issues of smaller vessels once Savannah and JAXPORT facilities begin serving large Post-Panamax vessels.

This location also increases the Port's ability to coordinate with other nearby Port facilities. Both the Port of Jacksonville (JAXPORT) and Port of Brunswick are located in proximity to the Port, highlighting opportunities for improved connections and development within the southeast. Further to the north, the Port of Savannah (one of the nation's largest ports) is located within a 2.5 to 3-hour drive, and the Port of Charleston is approximately 4.5 hours away. Nearby industries have often utilized these nearby ports due to their available shipping services, highlighting an opportunity for the Port to serve their needs and reduce longer distance traveled by truck and rail. Industries are also exploring short-sea shipping opportunities which

could ease congestion in the truck and rail modes. The Port has partnered with the Maritime Administration (MARAD) via a grant program to facilitate the acquisition of materials and equipment for the possible implementation of container on barge services in the future.

### Port Entrance

This review of the Port has identified that the existing entrance to the Port facility, though functional for the Port, has created some issues and concerns for the residents in the vicinity. Through the planning process, the consultant team identified an alternative access option where ingress to the Port would be along Escambia St and egress would be out on Dade St. This scenario would potentially improve traffic flow for the terminal and reduce the concerns raised regarding truck queuing along Dade St. This scenario was brought forward for discussion during Public Open House #1; however, due to the expected effort needed to bring Escambia St up to standards for truck traffic, significant community concern, and environmental impact considerations, the planning team is not recommending any further study on an entrance on Escambia St. It is the recommendation of the planning team that the truck ingress/egress to the Port remain along Dade St and the Terminal Operator work closely with the trucking community to educate drivers on the proper protocols for entering and exiting the terminal and taking proper truck routes in and out of the downtown area. It is also recommended that the Terminal Operator further explore the use offsite storage operations and gate scheduling software systems to help reduce truck queuing at the gate area.

### Inland Development

Given the limited space for development at and adjacent to the Port facility, officials have indicated a desire to promote industrial and freight intermodal developments inland of the Port. Several industrial sites have been identified which are likely to provide supporting infrastructure for the improvement of freight movement in the region. The industrial areas are anticipated to leverage some of the following features:

- Improved access to Class I rail providers.
- Possible site for the development of intermodal yards and other distribution and warehousing opportunities.
- Near direct access to US routes and improved access to I-95 and I-10.

Additionally, there are smaller development opportunities which may be pursued which could have a significant benefit to the operations of the Port. There has been increased industry and warehousing opportunities within the Yulee Area. Similarly, this renewed interest in industrial and warehousing will increase the opportunity of the Port to expand its services. Some of the areas identified for development are as follows:

- Continued development of the SR 200/SR A1A Corridor.

- Continued development along the US 17 Corridor.

The Port may partner with these developments to improve its regional efficiency and storage capabilities through partnerships. Some likely considerations with these developments are as follows:

- Coordination with the properties for truck drayage and movement of goods.
- Improved/increased access to major rail lines and roadway networks to improve regional movement.
- Increased storage capabilities to reduce the impact of geographic and environmental constraints at the Port.

Additional information regarding some of the identified inland opportunities have been included within the Recommendations section.

### Adjacent and Nearby Development

In addition to the potential for improved regional connectivity associated with inland developments, the Port may be able to benefit from local industry. Both WestRock (to the north) and Rayonier Advanced Materials (to the south) each share the same short line railroad that services the Port and moving forward the Terminal Operator will engage with these businesses if partnership opportunities are identified. These major businesses benefit from this direct connection, in addition to the ability for short range or drayage truck trips as needed. As these businesses continue to grow, it is anticipated that the movement of goods and supplies requiring use of the port facilities will increase. Both of these major industries make frequent use of barges, trucks, and rail services to meet their needs.

Though not a freight airport, the Fernandina Beach Municipal Airport (FBMA) is located approximately four miles to the south. It is not anticipated that that FBMA will grow to support significant freight movements in the near future; thereby, highlighting the Port's necessity in the area.

#### 7.5.2. Port Facility Improvements

Several opportunities for improvement have been identified at the Port facility. These proposed improvements would increase the Port's capability to process goods through increases in storage and loading/unloading capacities. These opportunities range from the development of improved storage space and increasing the truck/rail loading areas. Opportunities for improvement at the Port which will help it attain a strategic advantage over its competitors are summarized as follows:

- Consider the development of additional covered storage and rail loading space.

- Construct bulkheads and elevate portions of the yard to reduce existing and future flooding concerns.
- Complete and incorporate the newly developed Capital Improvement Plan.

Additional details on these improvements can be found in the Recommendations section.

## **7.6. Intermodal Transportation Facilities**

The identification of transportation facilities within this document has been organized into two main categories. The first category is On and Nearby the Port and the second is Regional and Statewide Networks.

The features on and near the Port can be generally categorized as those transportation networks located on Amelia Island, and those located within the Port facility. Factors influencing the nearby downtown area and other major industrial providers are likely to have an impact on travel related to the Port.

The features contributing to regional and statewide travel can be generally categorized along the SR 200/SR A1A and US 17 corridors west of the Amelia River and the area surrounding the Crawford Diamond Industrial Park. This industrial park has been identified for focused development within Nassau County and as an area to facilitate intermodal transfers benefiting the Port.

The section also identifies roadway bottlenecks and safety considerations that impact transportation to and from the Port and throughout Nassau County.

### **7.6.1. On and Nearby the Port**

The area closest to and within the Port is characterized by three main transportation methods as described below:

- Shipping and waterborne goods
- Roadways
- Railroad access

Each of these transportation methods contribute to the movement of people and goods throughout Nassau County and the greater region.

### **Shipping and Waterborne Goods**

The Port facility is a significant resource in the region, importing and exporting goods via the Amelia River and the Atlantic Ocean. Typically, the largest vessels in this area will be calling at the Port facility or barges servicing the nearby industries; however, there are many other uses and considerations.

The nearby area is frequented by fishing vessels and personal watercraft both traveling through the area and making use of the nearby docks. Another consideration for future development is a ferry system with passenger travel to Georgia. These uses have a significant impact on water-based movement in the area.

### Roadways

The Port is located just north of the Fernandina Beach Downtown area and is ingrained within the grid street system. In this area, east/west streets are generally given names while the majority of north/south streets are given numbers. Front St is the exception to the rule, due to its location directly adjacent to the Amelia River. **Table 19** identifies the closest roadways to the Port.

TABLE 19: NEARBY/ADJACENT ROADWAYS

Road Direction	Road Name
East/west Roadways	Escambia St
	Dade St (Main Port Entrance)
	Calhoun St
	Broome St
North/south Roadways	Front St
	N 2 <sup>nd</sup> St
	N 3 <sup>rd</sup> St
	N 4 <sup>th</sup> St

Truck traffic servicing the Port primarily utilize SR 200/SR A1A for regional travel to the port area which then adopts the name 8<sup>th</sup> St. North 8<sup>th</sup> St is used to access the Port's main entrance along Dade St creating the primary routes for truck traffic within the region. With the Port located on northern Amelia Island, access to the mainland is most directly served via the SR 200/SR A1A bridge (The Buccaneer Trail). Using this described route, truck traffic is approximately 12 miles from US 17, and roughly 15 miles from I-95.

The Port is able to access regional and national networks with the connections to I-95. The I-95 corridor extends along the eastern US seaboard making connections to several east/west interstates. Using I-95, freight trucks are able to quickly access I-10 to the south and subsequently I-75 to the west. Traveling northward, the next interstate is I-16 in the Savannah area though several east/west US and State routes are available in the area as well.

Other considerations within the roadway network, including roadway volume and freight use, roadway congestion, truck parking, and bicycle and pedestrian facilities, are described below.

### Roadway Volumes and Freight Use

As described above, the area is serviced by several major roadways which are vital for both passenger and freight movement through the region. As identified within **Table 20** and **Figure 29**, the area north of Centre St has significant freight volumes in comparison to the overall number of vehicles using the corridors. The vehicle and truck volumes are presented as Annual Average Daily Traffic (AADT). Given that the freight volumes along Front and Dade Streets (120 AADT) are significantly lower than the truck traffic along N 8<sup>th</sup> St and Franklin St (1,311 AADT) it can be assumed that the majority of truck traffic in this area is generated through the activities of nearby industrial development.

TABLE 20: 2020 ROADWAY VOLUMES AND TRUCK PERCENTAGE

Roadway Name	AADT	Truck AADT	Truck %
Front St and Dade St	650	120	18.5%
N 8 <sup>th</sup> Steet (north of Centre St) and Franklin St	3,100	1,311	42.3%
SR 200/SR A1A east of N 8 <sup>th</sup> St	5,000	310	6.2%
S 8 <sup>th</sup> St south of Centre St	10,500	651	6.2%

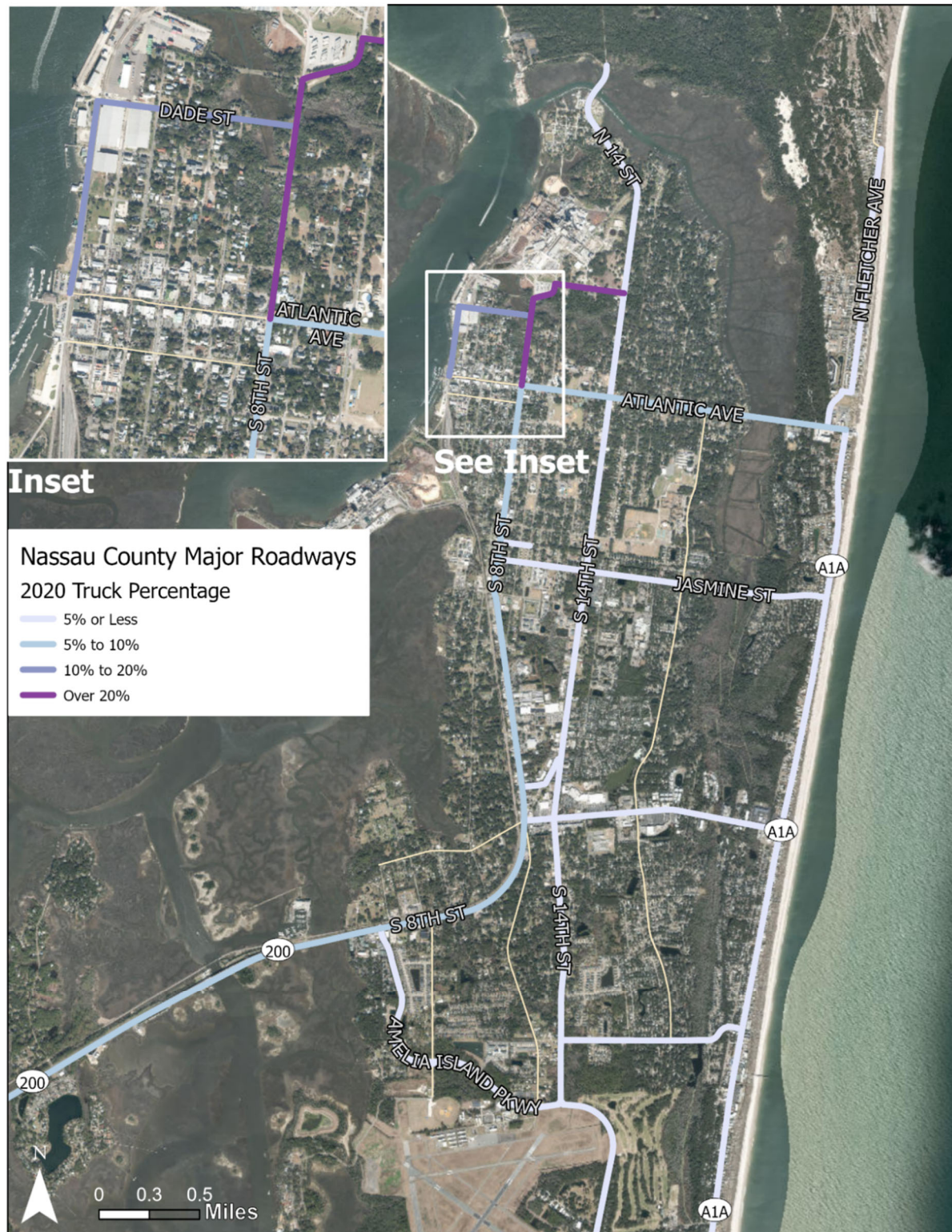
Source: FDOT, modified by RS&H

Typically, the Port services between 20 to 40 trucks per day. As described above, the majority of freight related traffic on the local roadway network is not directly related to Port activities. If it is assumed that all of the truck traffic using Front St and Dade St is associated with the Port, this would only account for approximately 1/10<sup>th</sup> (10%) of the estimated truck movements along N 8<sup>th</sup> St and Franklin St.

In addition, the North Florida Transportation Planning Organization conducted a truck circulation study in 2015 to further understand the movement of commercial vehicles related to the Port of Fernandina. The outcome of this study found that the Port accounted for 4% (approximately 90 trucks at the time) of the total truck traffic within the study area and that the



FIGURE 29: AMELIA ISLAND PERCENT OF TRUCK TRAVEL BY VOLUME



Source: FDOT, modified by RS&H

majority of truck movement is resulting from nearby industrial land uses. The study indicated that the Port's impact on the traffic operations were not likely adversely impacting the traffic operations in the area further highlighting that the 2020 traffic conditions identified above are similar to the conditions in 2015. The study has been included within **Appendix 3**.

This data shows the Port is not the major contributor to freight related traffic within the area. Nevertheless, the area immediately adjacent to the Port does occasionally experience congestion related to Port activities. Due to the unpredictable nature of port operations and the difficulty of scheduling exact arrival and departure periods, trucks at times can queue along Dade St waiting to get through the single lane gate. Also, at busy operational times such as the arrival of a vessel on dock, terminal equipment moving in and around the transit sheds can lead to perceived congestion in the area. These matters are the result of a seaport in full operation and are nearly impossible to eliminate entirely. Several suggestions to help reduce the impact of Port related truck volumes to the surrounding neighborhood have been provided in **Section 5.2.1**. The continued pursuit of inland port opportunities and the use of rail over trucks as identified in **Section 5.6.2** could help provide further relief.

### **Roadway Congestion**

To further understand the congestion conditions in the area, the Long Range Transportation Plan (LRTP) developed by the North Florida Transportation Planning Organization was reviewed<sup>74</sup>. The LRTP 2045 Needs Plan projected congestion levels out to the 2045 year for Nassau County and indicated that very few roadways were anticipated to experience significant congestion. The Downtown areas and those roadways closest to the Port are not anticipated to have measurable congestion during the time frame, while the closest area of moderate congestion appears to be the Amelia Island Pkwy adjacent to the airport. Interstate 95, US 17 and SR A1A/200 are also expected to experience moderate congestion; however, these values are not directly related to Port activities. The low congestion projections present a positive outlook for the continued movement of vehicles throughout the region.

### **Truck Parking**

In addition to the truck staging located within the port area, a truck lane is located just outside of the Port along the northern side of Dade St between the N 3<sup>rd</sup> St and N 5<sup>th</sup> St blocks. This lane is intended to allow trucks to pull out of the travel way so local traffic can pass the trucks while they gain entry to the terminal area. There is an additional parking and staging area located north of Escambia St; however, this facility is owned and operated by WestRock and is not currently available for Port related uses.

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<sup>74</sup> <https://northfloridatpo.com/uploads/Studies/Lrtp/The-Needs-Plan-Development-Technical-Report.pdf>

### Bicycle and Pedestrian Facilities

Though bicycle and pedestrian movements will not directly impact the functions of the Port, considerations for their use in the area can impact truck and rail systems. Bicycle and pedestrian activity possess significant safety concerns due to the movement of heavy equipment and trucks in the area. As such, facilities are generally not present in the area closest to the Port with the exception of a small segment of sidewalk along Dade St (between N Front St and N 3<sup>rd</sup> St) and a segment at the intersection of N 2<sup>nd</sup> St and Calhoun St. Apart from these two locations, there are no bicycle and pedestrian accommodations adjacent to the Port area. Though few accommodations exist, pedestrians and bicyclists are common within the area closest to the Port due to the proximity of residential development.

To improve safety in the area the Port is coordinating with FDOT to install a signalized rail crossing at the intersection with Dade St and Front St. Additionally, the Port is working to identify the roadways as Port District roadways with applicable signage to boost awareness of the activities in the area. These two actions are anticipated to increase safety for transportation users nearby.

Located just to the south of the Port, the downtown area of Fernandina Beach has a significant sidewalk network located on the blocks adjacent to Centre St. The downtown area is a tourist center, which may lead to increased congestion during peak seasons.

### Railroad Access

Railroad access is provided directly into the Port via the First Coast Railroad (FCRD), which then continues northward through the Port to the WestRock plant. FCRD tracks run parallel to Front St on its eastern side from the WestRock Plant south toward Front Street's terminus at the Rayonier Advanced Materials facility. South of the Ash St intersection a rail car storage area (Gum St Rail Yard) is located just east of the main line from Ash St to Gum St. From this location the rail corridor generally follows along the western and northern side of SR 200/SR A1A until its connection with the CSX main line located adjacent to US 17. **Figure 30** depicts the railroad location in the vicinity of the Port.

The Port will continue coordination with the railroad operator to ensure continued service and the pursuit of possible improvements.

The Port is coordinating with FDOT on the improvement of the at-grade rail crossing at the intersection of N Front St and Dade St. This crossing will have a full signal and crossing to warn road users of moving trains. This will be a significant improvement over the existing condition where the crossing has limited sight distance and in its current state is only marked by cross buck signage. It is anticipated that this will benefit both Port users and residents traveling in the area.



Additionally, the Terminal Operator and OHPA have identified space within the terminal area which may allow for an additional rail spur. Though the implementation of this rail spur and subsequent storage/loading area are in the conceptual stage, a description of the site and possible location have been included within the Recommendations section of this report. The Port is currently able to load/unload 11 railcars at a time within the terminal and the rail lines through the Port also serve WestRock to the north. This shared rail line highlights the need for continued coordination. Data for the movement of rail through the Port is as follows in **Table 21**.

TABLE 21: RAIL ACTIVITY AT THE PORT

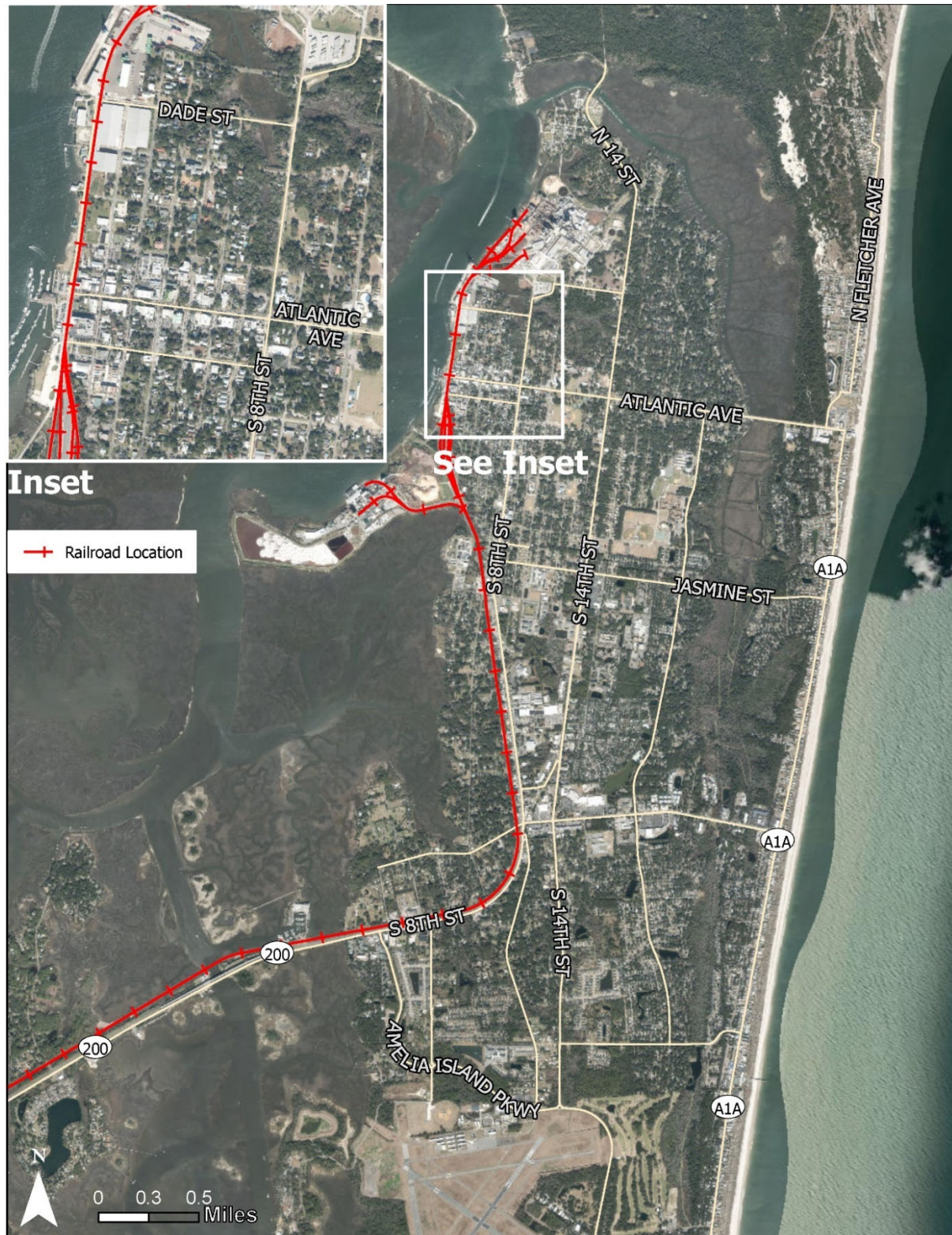
Criteria	Quantity
Number of trains	1 per day
Demand for rail cars	2,000-4,000 yearly (6-11 daily)
Rail car loading area	11 rail cars

*Source: OHPA Strategic Master Plan, 2014; USDOT Crossing Inventory Data, 2022*

The US 17 corridor represents the closest north/south connection for rail accessing the Port; however, the northern leg terminates north of Kingsland, GA. And the southern leg travels to the intermodal centers within Jacksonville, FL. Long distance rail leaving Amelia Island must first travel southwest to the central area of Jacksonville to a series of intermodal yards managed by both CSX and Norfolk Southern. These intermodal and transfer yards are required to make connections with the national rail networks but can add several days to freight traffic.

Through separate planning efforts, the North Florida Transportation Planning Organization (TPO) has identified potential connections and routes which would enhance the rail network that connects to the Port. OHPA is already well positioned through its active involvement in the TPO's Technical Coordinating Committee to stay at the forefront of any rail development activities in the Northeast Florida region. The North Florida Transportation Planning Organization Future Rail Corridors Study has been included within **Appendix 4**.

FIGURE 30: RAILROAD LOCATION



Source: Florida Geographic Data Library, modified by RS&H

### 7.6.2. Regional and Statewide Networks

One of the most significant features of a seaport is the ability to transport goods to inland providers. Major access points to these inland areas are identified within this section and can be generally categorized within the roadway network, railroad network, or multimodal services and inland ports. In addition to the existing transportation network, Nassau County is expecting continued industrial development towards the western side of the county.

#### Roadway Network

With its location on Amelia Island, the Port's access to major roadways is most directly provided by SR 200/SR A1A. This roadway serves as the Port's most direct connector to the mainland and provides direct access to I-95. This connection allows the Port to have access to nearby states via I-95 and several US routes throughout the County. Significant portions of this corridor have recently been widened and improved to better serve the region. As part of this analysis, the major roadway volumes have been gathered and further reviewed to determine the percent of trucks using the corridors.

#### Countywide Roadway Truck Percentages

The truck percentages have been gathered at the county level to increase the understanding of freight movement in the area. Generally, the highest freight volumes are located along known freight routes, making connections to both I-95 and I-10 to the south. Using this information, the following trends have been identified and depicted within **Figure 31**:

- Over 20% Truck Volumes
  - I-95
  - US 301 South of River Road
- Between 10% and 20% Truck Volumes
  - SR 200 west of US 17
  - US 1/Kings Road north of River Road

#### Recent FDOT Projects

FDOT recently completed the widening of a nearly five-mile stretch of State Road A1A (SR 200) between Rubin Davis Lane and O'Neill Scott Road. With this widening completed, a significant portion of SR 200 west of the Amelia River is now six lanes instead of the previous four. In addition to this widening, FDOT has recently completed the development of a diverging diamond interchange at the intersection of I-95 and SR A1A/200. This interchange should help improve the safety and efficiency of the network in this area. Though not directly related to the Port, the widening of this roadway will improve port and general freight access to I-95 and other regional roadways in the area.

### Evacuation Routes

Due to the risk of Hurricane landfall in the area, the Florida Division of emergency management maintains a series of evacuation routes with the intent of moving populations inland from the coastal areas. Closest to the Port, the following roadways have been identified as evacuation routes and are depicted within **Figure 32**.<sup>75</sup>

- SR 200
- SR A1A
- CR 105A

### Railroad Network

Nassau County is benefited through a network of both short line and Class 1 railroads allowing for the movement of goods throughout the Southeast and beyond. The Port and other Amelia Island Industries utilize the short line rail to make connections with the Class 1 rail lines closest to US 17.

**Source:** Florida Geographic Data Library, modified by RS&H

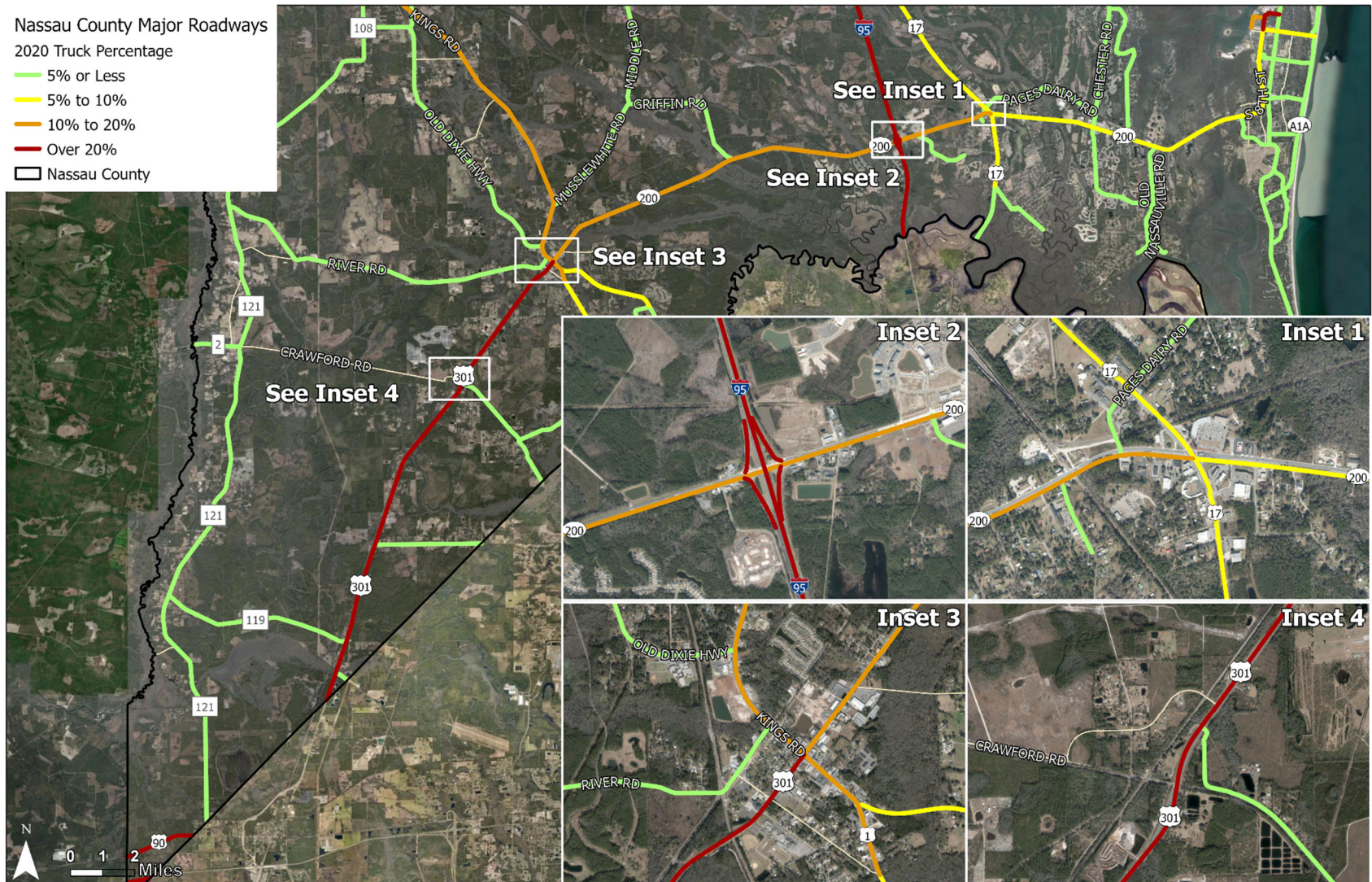
**Figure 33** depicts the location of railroads across the County. Long distance rail movement from Amelia Island is typically managed within the intermodal and transfer yards located in Jacksonville. The closest rail line which travels north terminates just north of Kingsland GA, and the southern routes lead into central Jacksonville. The facilities in Jacksonville are required to access the national rail network and allow for more long-distance rail freight movement.

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<sup>75</sup> [https://maps.floridadisaster.org/county/EVAC\\_NASSAU.pdf](https://maps.floridadisaster.org/county/EVAC_NASSAU.pdf)



FIGURE 31: COUNTYWIDE PERCENT OF TRUCK TRAVEL BY VOLUME



Source: FDOT, modified by RS&H



FIGURE 32: EVACUATION ROUTES



Source: Florida Geographic Data Library, modified by RS&H



FIGURE 33: COUNTYWIDE RAILROAD LOCATIONS



Source: Florida Geographic Data Library, modified by RS&H

## Multimodal Services and Inland Ports

A developing trend in port and freight management is the implementation of inland port facilities. These inland port facilities act as multimodal centers which typically aid industry through the transition of goods between rail and trucks. The inland ports utilize expansive areas away from dense development for the efficient transition of goods through the modes. From the seaport these goods typically travel by rail to the inland port where the goods are loaded onto trucks or onto additional trains. The inverse is then conducted for exports leaving the seaport. Inland ports reduce the strain of freight movement on the local roadway networks by using rail more effectively, while increasing the overall efficiency of freight through connections with major roadways.

Nassau County has been promoting industrial and freight related developments within its more western interior. OHPA understands that extensive freight development will not be possible on or adjacent to the Port of Fernandina. Nearby land uses, environmental features, and general limitations of development on the island have led OHPA to consider additional industrial and freight development inland. Several of these opportunities are described below.

### Crawford Diamond

Crawford Diamond is located south of Callahan along US 301 which provides near direct access to both I-95 and I-10 and access to two Class 1 railroads (**Figure 34<sup>76</sup>**). The site totals over 1,800 acres with up to 10.5 million square feet of allowable heavy industrial uses. Its location with access to both I-95 and I-10 and rail provide an excellent opportunity for the development of inland port activities. Currently, a large solar farm has recently been developed in the area and additional developments have been considered which could support the Port and potentially allow for intermodal transfers between truck and rail freight. Once fully developed an intermodal facility located nearby would greatly benefit the Port's ability to efficiently move goods throughout the region. Furthermore, continued industrial development in and around Crawford Diamond and a fully developed intermodal facility could be a catalyst to implement rail improvements for the region.

FIGURE 34: CRAWFORD DIAMOND SITE



<sup>76</sup> <https://nassauflorida.com/site-selection/crawford-diamond/>



Additionally, the State of Florida has recently approved a portion of the Job Growth Grant Fund to help fund the implementation of water and sewer utilities in the area. This grant will help improve the marketability of a project that is anticipated to increase job opportunities in the area.<sup>77</sup> Regardless of its lack of direct rail connectivity to the Port, the development of this area is likely to have a significant impact on Nassau County.

### **Wildlight Commerce Park**

The Wildlight Commerce Park (**Figure 35**<sup>78</sup>) is a planned industrial development in East Nassau County near the intersection of SR 200/A1A and US 17 and relatively close to I-95. Wildlight Commerce Park is part of the East Nassau County Planning Area (ENCPA), a planned development with office, retail, industrial, and residential uses. The area totals 131 gross inland acres, with over 90 acres of net usable space, and can facilitate 1.3 million square feet of industrial warehouse manufacturing space. The property is served by two rail lines, CSX (Class I) and First Coast Railroad (Class III), which are connected to the rail service that provides access to the Port. The direct rail access to this area opens the opportunity for inland port activities through the creation of a multimodal transfer center or the import/export of goods produced from this location. Use of this (or nearby) property with similar rail access would help reduce the overall need for truck movement from the Port and reduce future congestion concerns related to commercial vehicles.

FIGURE 35: WILDLIGHT COMMERCE PARK



### **Nassau Tradeplex**

The Nassau Tradeplex is an industrial complex located along SR 200 between Yulee and the Amelia River. OHPA was involved with the acquisition of the land on which the Nassau Tradeplex now sits, which has led to numerous businesses coming to Nassau County. The site is adjacent to a rail line that directly serves the Port of Fernandina and could provide potential opportunities for industrial development and inland port activities.

<sup>77</sup> <https://www.jaxdailyrecord.com/article/desantis-announces-dollar4-million-for-water-plant-in-nassau-county>

<sup>78</sup> <https://www.nassauflorida.com/site-selection/wildlight-commerce-park/>

**Alberdi Industrial Park**

The Alberdi Industrial Park is located along the west side of US 17 about 1.5 miles south of SR 200. The privately owned facility has over 350,000 sf available warehouse space and currently houses Portside Paper, a division of River Valley Paper. Nassau Terminals also leases a portion of the facility, although it does not currently have any operations in the building. The location is adjacent to the CSX line that directly services the Port of Fernandina.

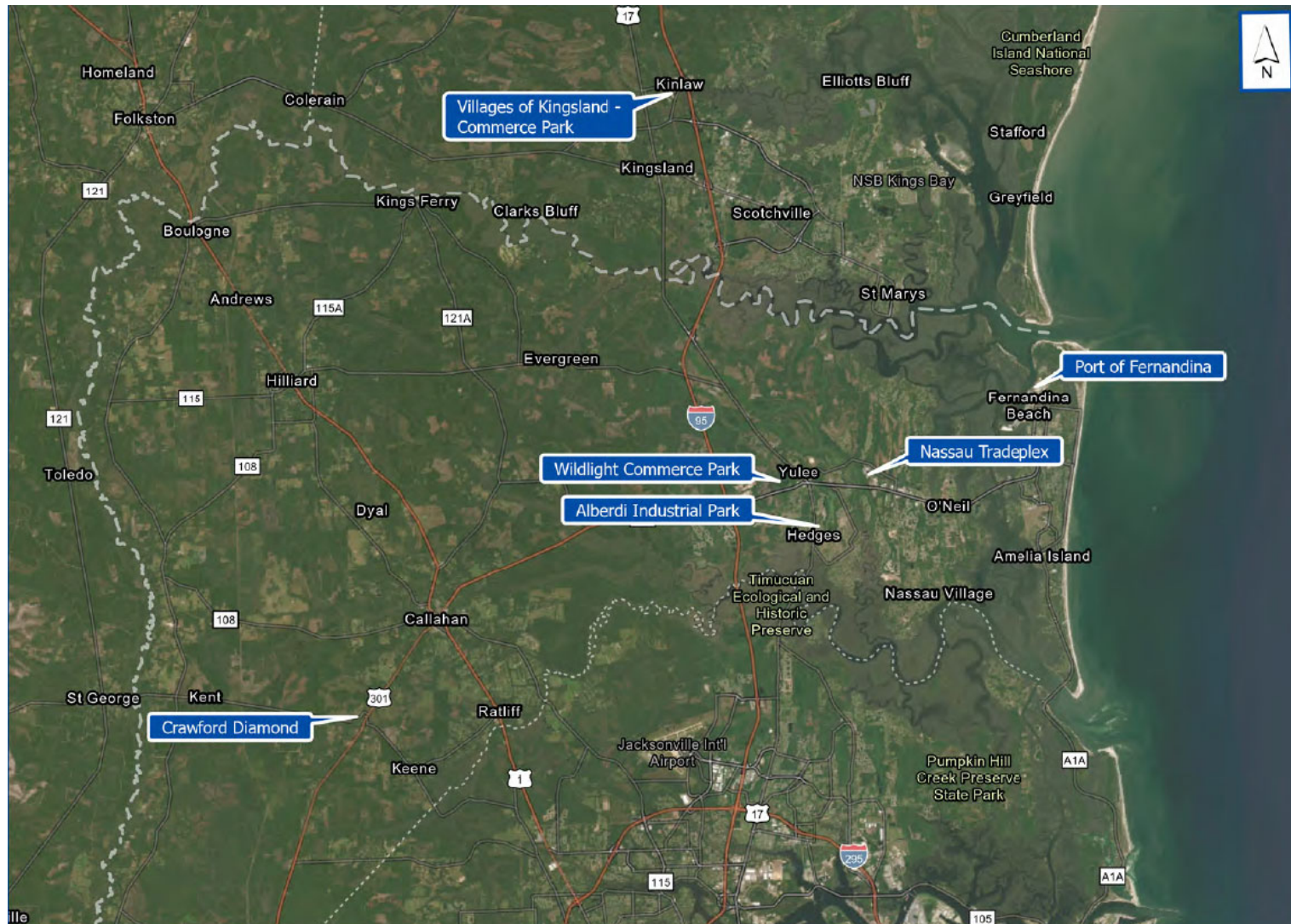
**Villages of Kingsland – Commerce Park**

Located along US 17 in Camden County, GA, the Villages of Kingsland offer another opportunity for partnership with increasing freight development in the region. The site is targeting transportation and logistics development with direct access to US 17, an adjacent rail line and access to I-95 roughly 1 mile away. Similar to the developments within Nassau County, future growth in this area has the potential to benefit the Port if coordination is pursued.

This property is advantageously located along a rail line with near direct access to the Port. Both the development of inland port facilities and import/export development could be facilitated at this location with the intent of reducing the commercial vehicle traffic near the Port.

**Figure 36** shows the location of the facilities described in this section in relation to the Port of Fernandina.

FIGURE 36: LOCATIONS OF POTENTIAL INLAND PORT AND MULTIMODAL SERVICES SITES IN RELATION TO PORT OF FERNANDINA



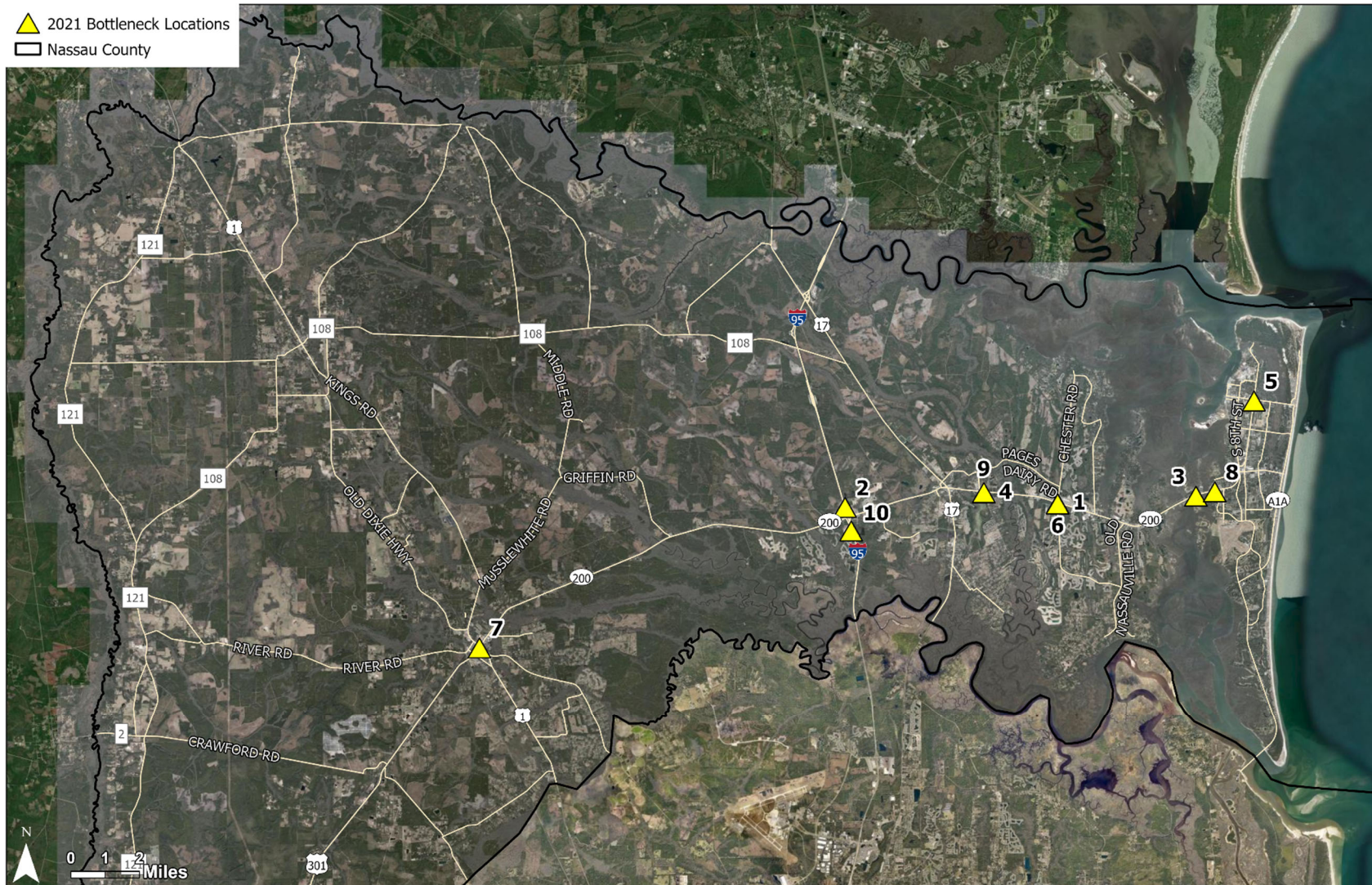


### 7.6.3. Roadway Bottlenecks

Using the National Performance Management Research Data Set (NPMRDS), the top 10 roadway bottlenecks have been identified throughout Nassau County for the 2021 year. All of the top 10 bottleneck locations are located along the SR 200 corridor with seven being on the mainland and three on Amelia Island. The majority of the SR 200 corridor on the mainland has been widened to six-lanes which is anticipated to reduce future congestion along the corridor; however, space is much more limited on Amelia Island and this corridor ranges between two (closer to downtown Fernandina) and four lanes. Several of the bottleneck locations were identified at the same intersections or interchanges, these indicate bottlenecks impacting different legs of the route and/or different travel directions.

Though these bottleneck locations are not directly due to the Port or its activities, roadway congestion can have significant impacts on the efficiency of the Port's truck transportation. Given that each of the top ten bottleneck locations are along the major corridor for truck movement inland, it is anticipated that this will continue to have a significant impact on the movement of freight by truck in the region. **Figure 37** depicts the top 10 bottleneck locations across the County.

FIGURE 37: TOP 10 ROADWAY BOTTLENECKS (OVER 2021 YEAR)



Source: NPMRDS, 2021, modified by RS&H

#### 7.6.4. Roadway Safety Considerations

As part of this analysis, the reported vehicular crashes between 2016 and 2020 are reviewed to determine trends and areas of concern. This analysis has been subdivided into three areas of review:

- Countywide
- Amelia Island
- SR 200/A1A Corridor

Each of these sub areas have been described below.

#### Countywide

This analysis began with a review of the crash locations and hotspots throughout the County and within the areas of interest to this analysis. Overall, the County experienced 4,698 crashes over the five-year period with 15.7% of the crashes related to a commercial vehicle. The majority of commercial vehicle crashes in the County were located along SR 200/A1A and I-95, highlighting their standing as freight corridors with significant freight movement. The key crash features within this area are shown in **Table 22** and **Figure 38**.

TABLE 22: COUNTYWIDE CRASHES (2016-2020)

Crash Type	Number of Crashes	Percent of Total
Fatal	79	1.7%
Injury	1,999	42.6%
Property Damage Only	2,620	55.8%
Commercial Vehicle Related	738	15.7%
Total	4,698	-

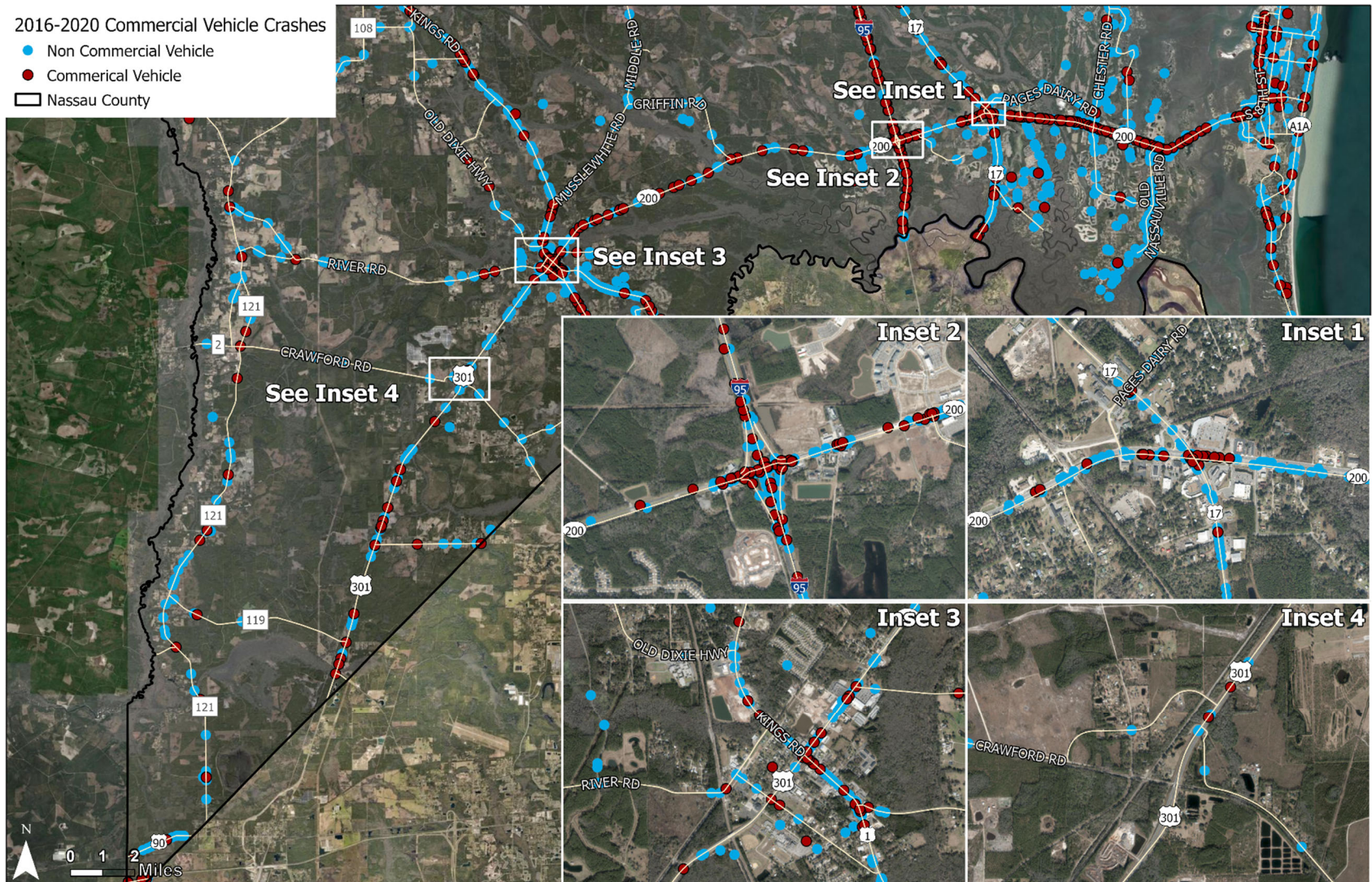
Source: FDOT

At this scale, several locations were identified with higher densities of crashes over the 5-year period. These areas are generally located at the confluence of major roadways or within urban areas of increased development leading to more significant vehicle movements. The higher crash density areas are as follows and depicted within **Figure 39**:

- I-95 and SR 200/A1A interchange area (prior to the diverging diamond upgrade)
- Callahan Area
- Yulee Area
- SR 200/A1A East of Yulee



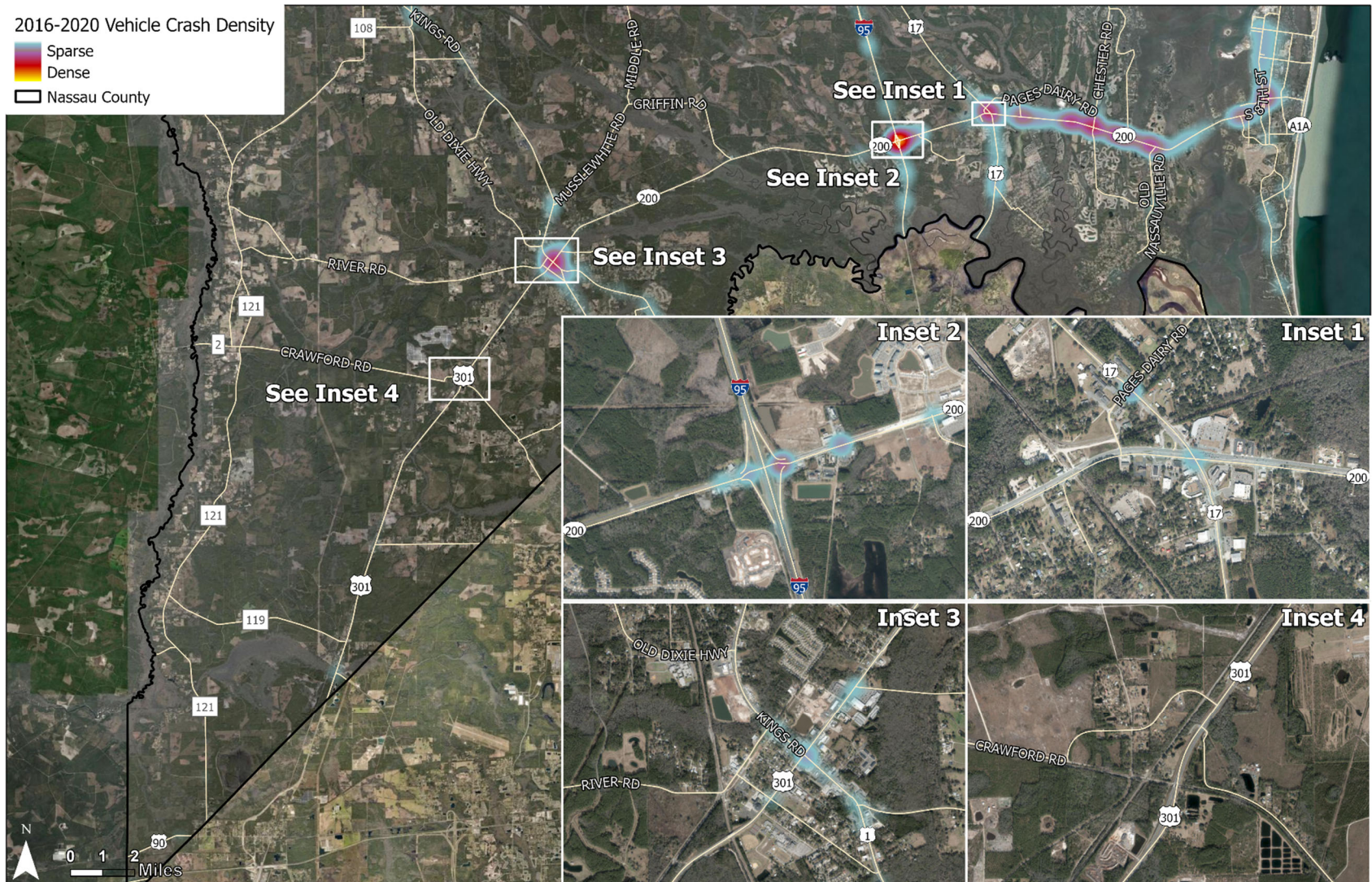
FIGURE 38: COUNTYWIDE CRASH LOCATIONS



Source: FDOT, modified by RS&H



FIGURE 39: COUNTYWIDE CRASH DENSITY



Source: FDOT, modified by RS&H

## Amelia Island

To focus this analysis on the area surrounding the Port, the crashes experienced on Amelia Island for the same five-year period were also reviewed. Over this period, 765 crashes were reported, with 12% being related to commercial vehicles. The island experiences a lower percentage of commercial vehicle crashes than the County; however, these crashes are also largely gathered along the SR 200/A1A corridor. **Table 23** and **Figure 40** depict this crash information.

TABLE 23: AMELIA ISLAND CRASHES (2016-2020)

Crash Subtype	Number of Crashes	Percent of Total
Fatal	8	1.0%
Injury	357	46.7%
Property Damage Only	400	52.3%
Commercial Vehicle Related	92	12.0%
Total	765	-

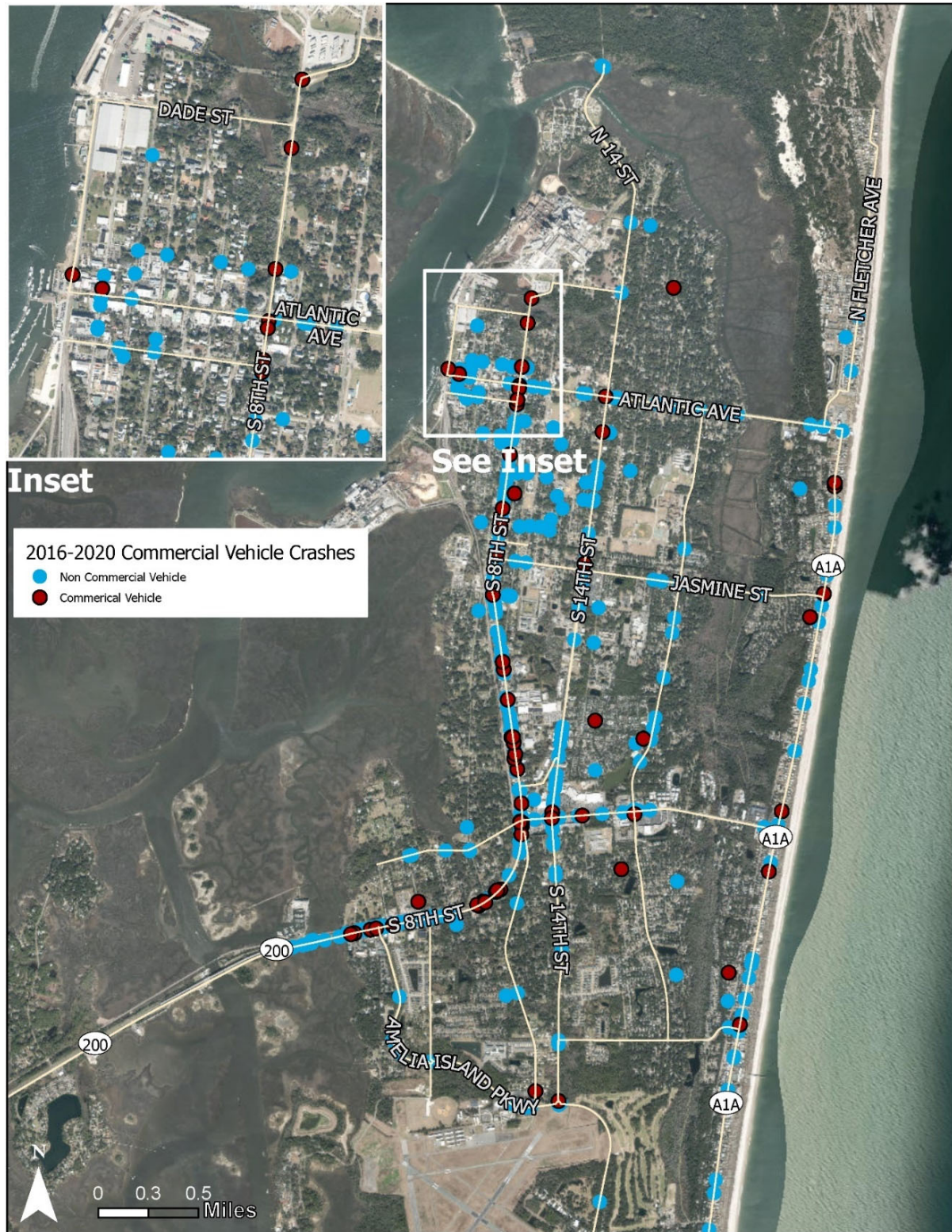
Source: FDOT

When considering the crashes on Amelia Island, the higher density areas are generally grouped along the island's major corridors. The areas closest to the Port and the downtown area are not experiencing significant crash densities in the area. Most significantly, the SR 200/A1A corridor has a higher density of crashes with several locations exhibiting higher densities. Along SR 200/A1A, Amelia Island Parkway and Sadler Road intersections exhibit a higher density of crashes than other areas of the island.

**Figure 41** depicts the crash densities on Amelia Island.



FIGURE 40: AMELIA ISLAND CRASH LOCATIONS



Source: FDOT, modified by RS&H



FIGURE 41: AMELIA ISLAND CRASH DENSITY



Source: FDOT, modified by RS&H

### SR 200/A1A Corridor

The SR 200/A1A Corridor from the Port area to the Crawford Diamond Industrial site was reviewed individually to understand safety conditions of the route that may be prioritized for future Port activities. Along this corridor, 2,159 crashes were reported over the five-year period with 17.5% being related to commercial vehicles. This is slightly higher than the countywide average; however, due to this corridor's role as a freight corridor it is expected that more trucks will be using the roadway and therefore potentially involved in crashes. The crash data is depicted within **Table 24** and **Figure 42**:

TABLE 24: SR 200/A1A CORRIDOR CRASHES (2016-2020)

Crash Subtype	Number of Crashes	Percent of Total
Fatal	18	0.8%
Injury	864	40.0%
Property Damage Only	1,277	59.1%
Commercial Vehicle Related	378	17.5%
Total	2,159	-

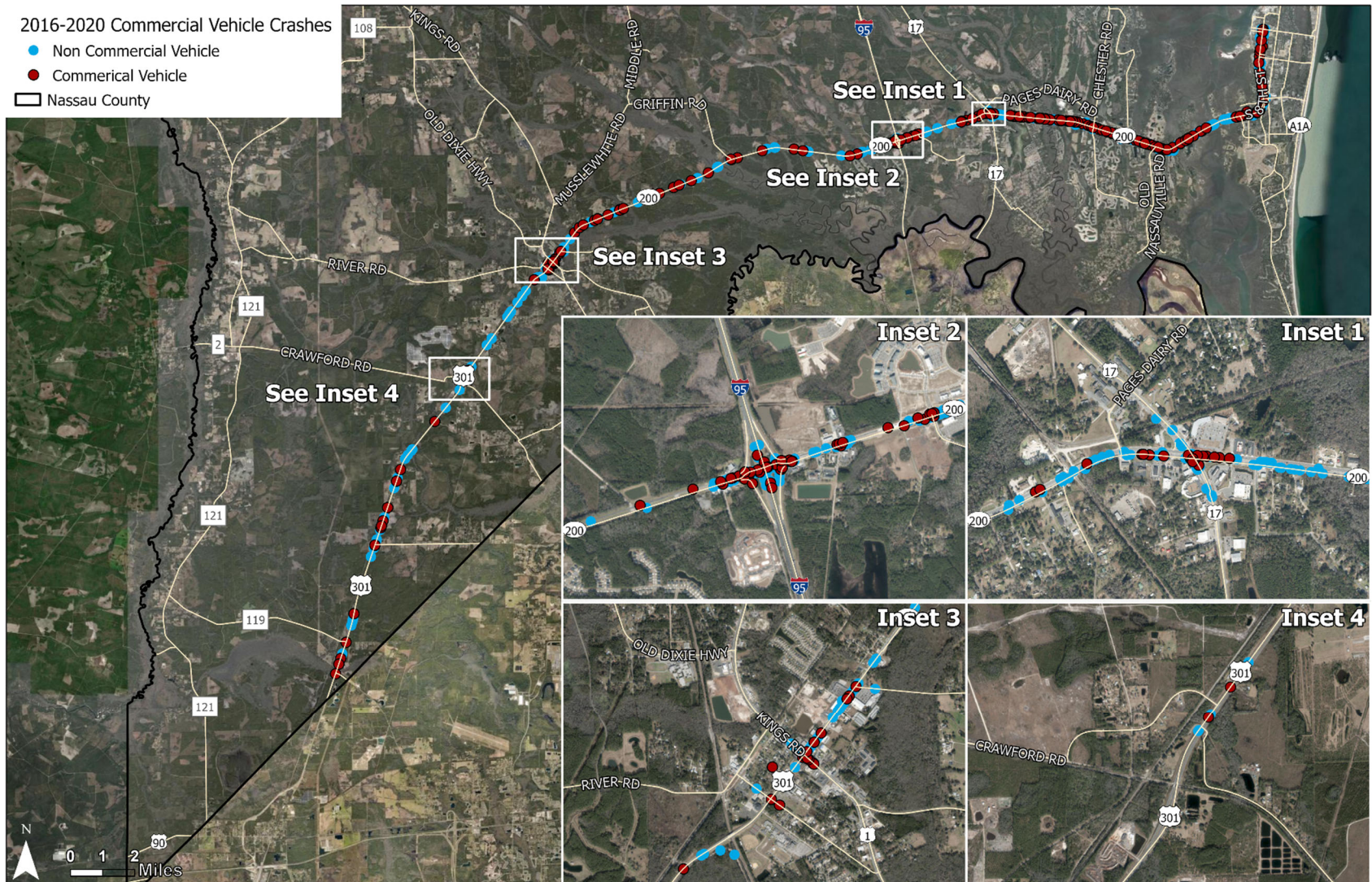
Source: FDOT

Similar to the crash densities discussed above, the primary areas of higher density are located within more urban areas and at major intersections. Generally, there is significant overlap along this corridor and the County level crash data due to SR 200/A1A being one of the County's major roadways. Along this corridor, the following areas described below and within **Figure 43** exhibited higher crash densities:

- I-95 and SR 200/A1A interchange area (prior to the diverging diamond upgrade)
- Callahan Area
- SR 200/A1A East of Yulee



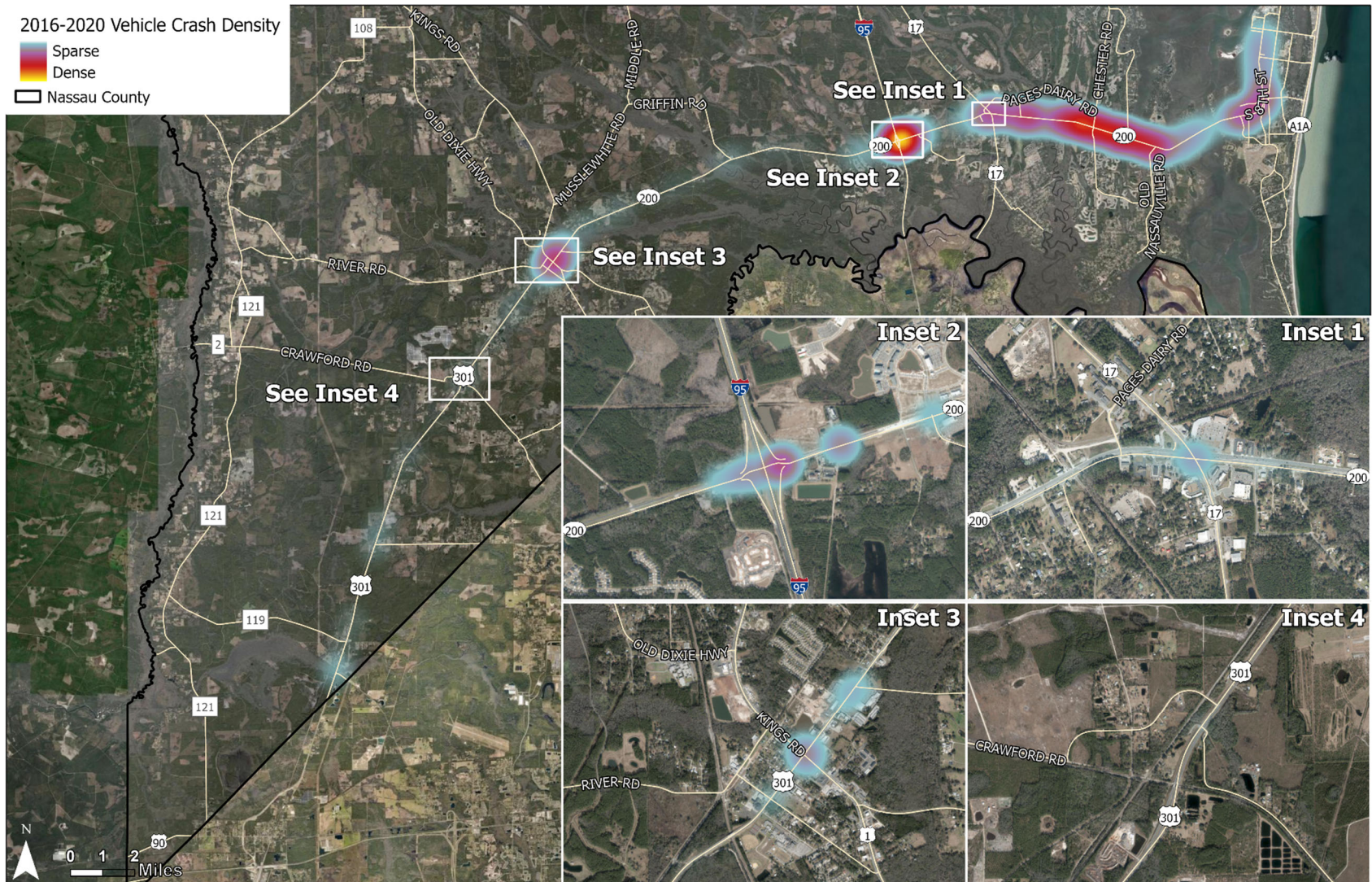
FIGURE 42: SR 200/A1A CORRIDOR CRASH LOCATIONS



Source: FDOT, modified by RS&H



FIGURE 43: SR 200/A1A CORRIDOR CRASH DENSITY



Source: FDOT, modified by RS&H

## 7.7. Intergovernmental Coordination

The Port and OHPA will continue to foster positive working relationships with its agency and governmental partnerships. The Port and OHPA are part of a close-knit community on Amelia Island and will continue to have an open dialogue with the City of Fernandina Beach and Nassau County staff.

The Port will continue to consider the existing plans and participate in the development of future comprehensive and land use plans developed for both the City of Fernandina Beach and the County. The Port's existing activities and those planned within the 10-year horizon will remain consistent with the industrial land uses and zoning that are currently identified within the existing Fernandina Beach designations. Though the Port is not planning to expand its terminal boundaries, it will focus on upcoming business partnerships with development in the region. The environmental, historical, and residential properties in proximity to the Port limit terminal growth; however, partnership with properties off-terminal provide opportunities for future enhancements.

The Port will establish regular coordination with Federal, State, and local agencies as required during the development of capital or operational based improvements. OHPA is committed to participating in joint meetings with the City of Fernandina Beach and Nassau County on an annual basis.

Moving forward, the Port's efforts will take into consideration regional master planning efforts and, to the extent feasible, will provide input into these planning processes as they are developed. For reference, the Fernandina Beach zoning (**Figure 44**) and future land use (**Figure 45**) maps have been included below.<sup>79</sup> The maps show that the area surrounding the Port and the WestRock facility are zoned and anticipated to remain industrial land uses.

OHPA will also continue to look for opportunities to partner with the Florida Department of Transportation on grant funding opportunities for the mutual benefit of OHPA and local residents. For instance, as of the time of this report, OHPA is in contact with FDOT about conducting a resiliency and sustainability study in the area near the Port as part of FDOT's Resiliency Planning Program.

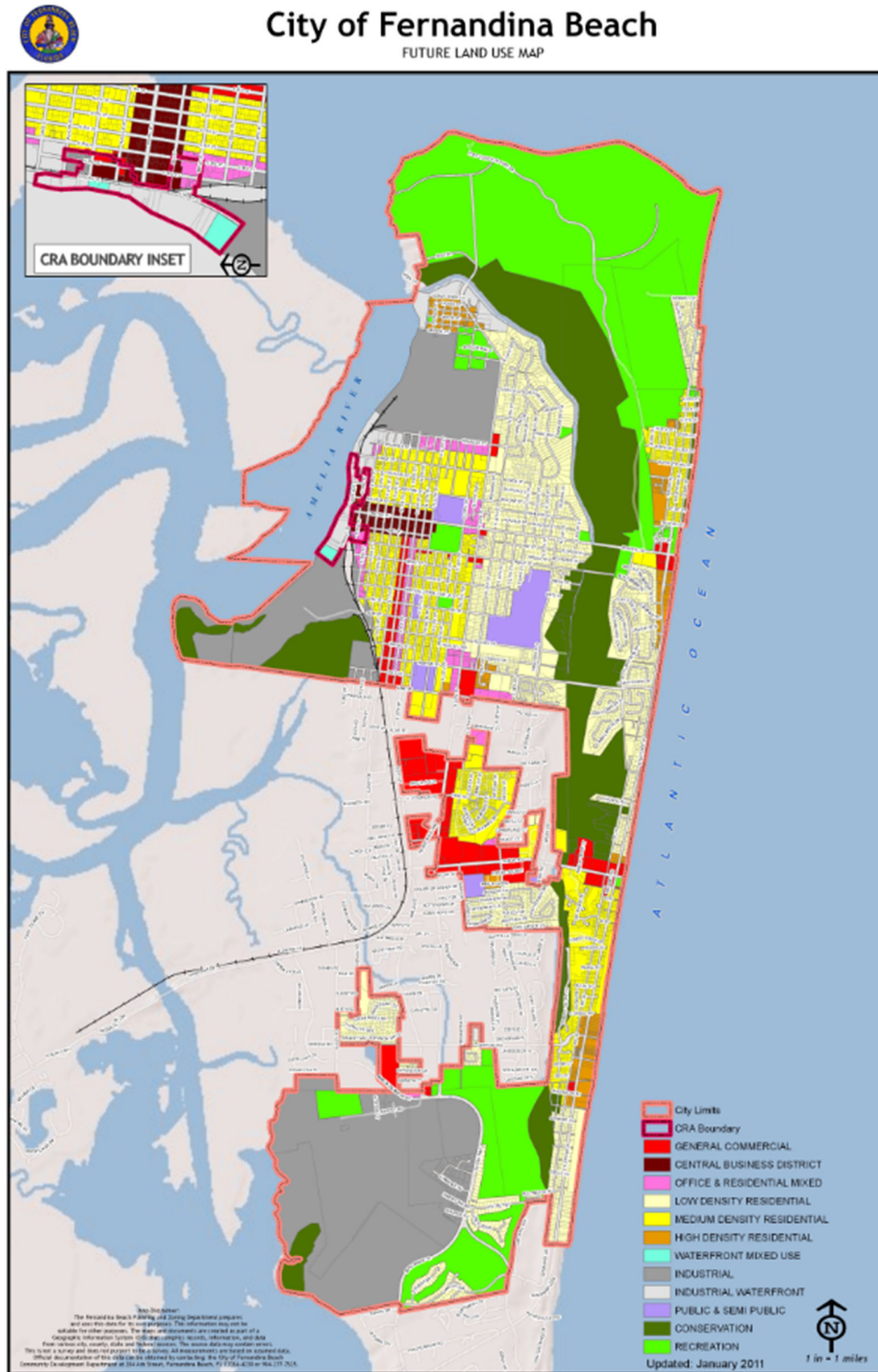
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<sup>79</sup> <https://www.fbfl.us/493/Maps>





FIGURE 45: CITY OF FERNANDINA BEACH FUTURE LAND USE MAP





## 8. Recommendations

This section outlines the specific recommended steps for OHPA and the Terminal Operator to take over the time period of this plan.

Coordination with the Terminal Operator has led to the inclusion of the 5-year Capital Improvement Plan (CIP) for the Port of Fernandina as identified within this section. It is recommended that the Terminal Operator update this 5-year CIP on an annual basis and provide to OHPA for review and approval.

In addition to the 5-year CIP, several other opportunities have been identified and summarized. These possible improvements to the Port and the policies impacting its operation have been outlined below.

### 8.1. Capital Improvement Plan

Moving forward, OHPA will work with the Terminal Operator on the development of a rolling 5-year Capital Improvement Plan (CIP) detailing specific improvements that will be implemented. The current 5-year CIP has been included within **Table 25**. The CIP provides a framework for future port development projects and upgrades but could change according to market conditions.

The Terminal Operator, Nassau Terminals, has indicated that targeting an increase in bulk cargo will be a goal in their business development efforts. The prioritization of bulk cargo may be considered as the Port considers future operational improvements.

Prior to initiating any new service, OHPA will require the development and subsequent approval of movement and safety plans for any cargo. Additionally, OHPA will require that the Terminal Operator refrain from transporting cargo of particular hazard as identified in 33 CFR Part 126.3 within Waterfront Industrial or IW zoned areas.

Any changes in the movement of goods related to the Port will be conducted within the regulations outlined by the Federal Motor Carrier Safety Administration (FMCSA)<sup>80</sup>. If it is determined that the movements of bulk goods from the Port are leading to unintended debris or wear on the road network, the Port will coordinate with the City and County on potential solutions. One such solution may be the development of a regular street sweeping activity to reduce the potential of roadside debris from bulk cargo.

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<sup>80</sup> <https://www.fmcsa.dot.gov/regulations>

In addition to the movement of bulk cargo, the Port may prioritize the handling of additional storage types. All storage improvements will be consistent with best management practices and standard operating procedures and safety will be prioritized.

TABLE 25: FIVE-YEAR CAPITAL IMPROVEMENT PLAN

Project	Year					Project Description
	1	2	3	4	5	
Pile cap corrosion spalling	X					Remove loose and deteriorated concrete at all locations with open spalls or exposed rebar, clean exposed rebar, apply corrosion inhibitor, patch with polymer cement
Concrete deck planking	X					Remove loose and deteriorated concrete at all locations with open spalls or exposed rebar, clean exposed rebar, apply corrosion inhibitor, patch with polymer cement
Additional onsite storage	X					With use of Grant funding, purchase and erect two 100'x250' fabric buildings
Damaged (3) fenders	X					Replace three fenders in disrepair.
Dock North ramp slope	X					Stabilize and decrease slope of North ramp
Lost phase on yard lighting	X					Run new electrical cables, enhanced and additional lighting
Add shields to yard lighting	X					Help reduce lighting pollution to neighborhood
Port District Road signage	X					Signage to indicate Port District Roads near the Port
Dock appurtenances		X				Replace tiedowns, stowage pins, crane stops to suit current equipment
FEL study/additional onsite storage		X				Engineering to support construction of additional storage space loading docks with potential construction to begin in 2024 and completion in 2025
Flooding of NW corner of yard and rail		X				New sheet pile wall inboard of berth, raise rail and yard, repave laydown area
Wharf concrete spalling and deterioration		X				Patch and repair spalling elements
Interlock high speed warehouse fans		X				Interlock with fire suppression system
Center rail		X				Remove and fill with concrete
Warehouse 1 dock slab spalling		X				Remove loose and deteriorated concrete at all locations with open spalls or exposed rebar, clean exposed rebar, apply corrosion inhibitor, patch with polymer cement
Warehouse 3 rail dock		X				Remove sections of dock, fill and compact new material, pour new concrete
Delaminated topping slab			X			Replace the topping slab in locations of heavy delamination
Fender maintenance			X			Repair and/or replace fenders as needed
Mooring fixtures			X			Repair concrete around mooring fixtures to limit water intrusion
Damaged wharf curbing			X			Repair damaged concrete to limit water intrusion
Crane rails			X			Replacement of all crane rails
Windstorm improvements Warehouse 1,2,3			X			Lap seam roof and wall panels, replace translucent panels, improve corner securement, install additional fasteners
Repair warehouse 1 floor			X			As needed, collapsed sections
Warehouse 2 fire suppression				X		Expand/improve system
Warehouse 3 fire suppression				X		Expand/improve system
Yard paving					X	Replace as needed
Dock resurfacing					X	Replace as needed

## 8.2. Designation of Port District Roads

In an effort to support OHPA's objective to ensure that Port operations are conducted in the safest manner possible, it is recommended that OHPA request the City of Fernandina Beach to designate certain roads around the Port as Port District Roads pursuant to Florida Statute 320.525. The public roads this would apply to are Dade St between Front St and N 3<sup>rd</sup> St, N 2<sup>nd</sup> St between Dade St and just north of Broome St, and Calhoun St between the railroad tracks and N 3<sup>rd</sup> St. Currently, these roadways are managed within the local road network leading to potential conflict between road users and Port operations. Port facilities and transit sheds are located outside of the gated perimeter, leading to heavy equipment and vehicles using the local road network for daily port activities. Port vehicles such as forklifts and bomb carts are typically, but not always, unlicensed vehicles. Florida Law allows for the designation of Port District Roads which allows these types of vehicles to utilize public roadways. In addition, the Law provides for signage on these roadways to identify them as Port District Roads, which serves as an additional reminder of the potential hazards to the traveling public. The Port, working with FDOT, should install signage to help reduce potential incidents in the area and improve the safety of road users and Port employees. These roadways would remain open to the public and continue to be managed as part of the public roadway network. It is not suggested, nor is it OHPA's intent, to close any public rights of way.

## 8.3. Identification of Additional Revenue Generating Opportunities

OHPA should identify opportunities to increase its revenues outside of its Operating Agreement, particularly over the next couple of years until the agency begins to collect on the Utility Use Fee from the Terminal Operator as described in the Operating Agreement section. The following are some recommended options for OHPA to create additional revenue streams to help fund some of the initiatives identified in this plan and to remain financially sustainable into the future.

### 8.3.1. Parking Lot Fees

OHPA owns an empty waterfront lot along N Front St that is currently used for Port employee parking. There is an opportunity for OHPA to coordinate with the City to potentially use this lot for paid parking for the public or for a local business.

### 8.3.2. Sale of Unused Parcels

OHPA should consider the sale of the two parcels it owns near the Port entrance at 305 Dade St and 332 N 3<sup>rd</sup> St. Both parcels are zoned residential on City zoning and future land use maps. OHPA should evaluate these parcels for sale or Port use in the future. If pursued, the sale of the parcels could help supply funding for items in this plan.

### 8.3.3. Issuance of Revenue Bonds or Certificates

Under its Charter, OHPA is authorized to issue negotiable revenue bonds or revenue certificates to finance or refinance projects, improvements, or facilities throughout Nassau County. OHPA should use this ability to coordinate with the many facilities identified in this plan to support development around the County.

## 8.4. Identification of Space for CBP Operations

It is recommended that OHPA prioritize the identification of appropriate office space for US Customs and Border Protection (CBP). CBP currently operates in the “Customs House” located at 403 N 3<sup>rd</sup> St near the Port entrance. However, the Customs House structure does not currently comply with CBP design standards. CBP has indicated that for them to continue their operations at the Port of Fernandina, OHPA will need to provide office space that adequately meets the design standards. Options include improvements or expansions to the existing structure or provisioning of a new facility.

If a new building is developed, the existing Customs House could be repurposed to house other Port related needs or returned to the community. This structure could hold additional office space, provide storage, be converted to a museum, or potentially retrofitted and used for affordable housing. Any redevelopment of the Customs House structure should consider the possibility of environmental conditions as identified in **Section 7.2.2**.

Due to the costs associated with the development of a new structure and/or repurposing the Customs House, OHPA might consider using the proceeds from the sale of the unused parcels near the Port entrance to fund the development of these capital improvements.

## 8.5. Additional Onsite Cargo Storage

Additional opportunities for improvement exist within the terminal area for the improvement of the Port’s rail loading and storage conditions to support OHPA’s objective of growing the Port’s cargo mix and volume. Currently, the Port is only able to load 11 rail cars from the transit shed located along Front Street; however, the Port has considered the development of a rail spur and subsequent storage/transit shed structure in the northeastern portion of the Port’s property. The development of this structure and spur would be within the existing Port property boundaries, thereby reducing the potential for environmental and community impacts. The additional rail loading space would reduce the need for freight trucks and potentially reduce any congestion related to freight movements on the road network. **Figure 46** depicts the approximate size and location of a covered storage space (approximately 60,000 sf) and rail staging area (approximately 9,400 sf) that could be implemented on the Port’s property. The size and type of the structure and location of the rail spur are dependent on further analysis and design of the

alternative. If this recommendation is pursued, coordination with the rail provider and necessary stakeholders will be conducted.



FIGURE 46: POTENTIAL LOCATION OF RAIL SPUR AND COVERED STORAGE IMPROVEMENT





## 8.6. Offsite Freight Operations

In addition to infrastructure improvements at the Port facility, the expedited movement of goods should continue to be considered into the future. The location of the Port adjacent to the downtown area of Fernandina Beach requires large freight trucks to utilize the respective roadway network. As the Port continues to grow, the volume of these large freight trucks on the local roadway network is likely to increase; however, the volume and type of freight movements are highly subjective to market conditions. According to the North Florida Transportation Planning Organization, the nearby roadway network is largely free of congestion, indicating that changes in freight movement from the Port are unlikely to significantly increase the roadway network congestion.

The cargo transfer facility located along Friendly Road has been identified as a location that may aid the Port's operations. This offsite facility would require short drayage trips between the Port and the transfer facility for cargo. The facility would be most appropriate to reduce the need for freight truck movements near the downtown area and would likely provide more efficient access to the interstate and rail networks. Use of an offsite facility will increase the capacity of the Terminal by adding to the overall storage capabilities for port operations.

The use of short freight trips will help improve traffic within the area by utilizing locally experienced drivers and established routes. The drayage freight operators will have the local knowledge of the roadway network, reducing turnarounds and routing issues typically experienced by unfamiliar drivers. This reduction in lost time will help reduce truck congestion related to these movements as well as efficiency improvements for the movement of goods. Once established, non-local drivers will be able to utilize the offsite storage area to more effectively access the major road network without impacting the downtown area due to its location adjacent to SR 200/SR A1A.

Additionally, the use of offsite storage and transfer areas may improve the Port's ability to utilize the nearby rail network without significant terminal expansion. As offsite industrial and freight related areas continue to grow, the Port's ability to leverage both the major roadway and rail networks can be improved. Several new and existing developments have been identified along the SR 200/SR A1A and US 17 corridors that could provide access to the rail network. These developments are detailed in **Section 7.6.2**. The use of development adjacent to these corridors would allow for a more efficient movement of goods via rail through the region. Improved access to the rail system will help the Port reduce its reliance on truck traffic and will help reduce the overall congestion of the road network.

## 8.7. Harbor Management

In addition to the land-based recommendations identified above, management of the riverine system will remain a priority for the Port. As part of its future operations, the Port will coordinate with the St. John's Harbor Pilots to be included within their matrix for channel soundings. This process would be implemented every six months to determine the condition of the Amelia River bottom. This updated data will be used to set draft limitations for the facility and will identify areas of the river which may need management. This process will help OHPA plan and execute a maintenance dredging plan to maintain the current harbor and channel depths, but OHPA does not have any intentions of pursuing efforts to deepen the Federal Channel beyond its current depth to accommodate larger vessels during the time period of this planning document.

## 8.8. Resiliency and Environmental Considerations

The location of the Port necessitates an increased awareness and preparation of resilient and sustainable planning. The Port should consider the development of resiliency and sustainability study to highlight specific needs and areas for improvement. There are often grants available through federal or state agencies to provide funding for these studies. This study would have a focus on vulnerabilities of the Port by water intrusion and flooding which is likely to increase into the future. This planning effort should be conducted in coordination with the City of Fernandina Beach to promote a unified vision for the area, and to identify concerns which would impact the community as a whole. As of the time of this report, OHPA is in contact with FDOT about conducting a resiliency and sustainability study in the area near the Port as part of FDOT's Resiliency Planning Program. Some key features of the resiliency and sustainability study would include the following:

- Terminal area evaluation
- Rail placement evaluation
- Existing and anticipated areas of flooding
- Nearby wetlands and waterbodies
- Seawall improvements in coordination with the City

## 8.9. Sustainability and Green Initiatives

OHPA and the Terminal Operator should continue to seek ways to make terminal operations at the Port more sustainable by incorporating green initiatives when possible. An energy audit of the terminal facilities and equipment should be commissioned to study the possibilities of solar power, shore power, diesel fleet conversion, and potential upgrades to the lighting systems and controls. There are also case studies of port authorities establishing Clean Truck Programs in which owner-operators are incentivized to upgrade their trucks to newer, more energy efficient

models.<sup>81</sup> Grant funding is often available through federal or state agencies to study these initiatives.

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<sup>81</sup> <https://www.inboundlogistics.com/articles/10-greenest-ports-in-america/>

## *Appendix 1 – Port Operating Agreement*

## OPERATING AGREEMENT

THIS AGREEMENT, made and entered into as of the 19th day of October, 2018, by and between NASSAU TERMINALS, LLC., ("NASSAU TERMINALS LLC", or "OPERATOR"), whose address is 2345 Friendly Road, Fernandina Beach, FL, 32034 and the OCEAN HIGHWAY AND PORT AUTHORITY OF NASSAU COUNTY, a body politic and corporate and a political subdivision under the Constitution and laws of the State of Florida, having its principal office at Nassau County Annex, 86130 License Road, Ste. 9, Fernandina Beach, Florida 32034 ("PORT AUTHORITY" or "OHPA"):

WITNESSETH:

Whereas, Nassau Shipping Company, Inc. and the PORT AUTHORITY entered into an Operating Contract ("Original Operating Contract") dated December 4, 1985, whereby Nassau Shipping Company, Inc. would perform functions necessary to load, unload, transfer, store and handle cargo of all types in and out of the Port of Fernandina, Florida (the "Port"), and also to include the collection of all fees and all services such as stevedoring, warehousing, storage and reclaim; and

WHEREAS, Nassau Shipping Company, Inc. and the PORT AUTHORITY entered into a First Amendment to the Original Operating Contract on April 26, 1986; and

WHEREAS, on October 11, 1986, Nassau Shipping Company, Inc. and Fernandina Marine Management, Inc. merged, with Fernandina Marine Management, Inc. being the surviving corporation pursuant to Amended and Restated Articles of Merger filed with the Florida Secretary of State on October 15, 1986; and

WHEREAS, Fernandina Marine Management, Inc. and the PORT AUTHORITY entered into a Second Amendment to the Original Operating Contract on October 25, 1986, pursuant to which Fernandina Marine Management, Inc. and the PORT AUTHORITY amended and restated the Original Operating Contract ("First Restated Operating Contract");

WHEREAS, also on October 25, 1986, Fernandina Marine Management, Inc. sold a fifty percent (50%) interest in the First Restated Operating Contract to Van Ommeren Port Terminals, South Atlantic Inc. ("VOPT") and concurrently therewith, Fernandina Marine Management, Inc. and VOPT formed a Delaware general partnership under the name Nassau Terminals ("Partnership"), and adopted Articles of Partnership whereby, inter alia, the First Restated Operating Contract and other assets were assigned by Fernandina Marine Management, Inc. and VOPT to the Partnership; and



WHEREAS, the Partnership and Fernandina Marine Management, Inc., on October 19, 1989, with the consent of the PORT AUTHORITY, assigned to VOPT all of their right, title and interest under the First Restated Operating Contract, including all instruments or documents relating to such First Restated Operating Contract, as a result of which VOPT became the operator under the First Restated Operating Contract; and

WHEREAS, during November, 1989, VOPT changed its name to "NASSAU TERMINALS INC."; and

WHEREAS, on April 9, 1990, NASSAU TERMINALS, INC. and PORT AUTHORITY entered into the Third Amendment to the Original Operating Contract; and

WHEREAS, on July 19, 2001, NASSAU TERMINALS, INC. amended its business form and changed itself into "NASSAU TERMINALS, LLC", a Delaware limited liability company authorized to do business in the State of Florida; and

WHEREAS, the OPERATOR and PORT AUTHORITY desire to further amend and restate the Original Operating Contract as heretofore amended and restated and, for such purpose, are executing and delivering this Operating Contract ("Operating Contract" or "this Agreement"), which supersedes all prior versions thereof; and

WHEREAS, PORT AUTHORITY desires to contract for services to have OPERATOR perform all functions necessary to load, unload, transfer, store and handle cargo of all types in, out and through the facilities of the Port of Fernandina, Florida, and to include the collection of all fees. All services such as stevedoring, warehousing, storage and reclaim are part of OPERATOR's responsibility and OPERATOR is willing to provide such services necessary ("Services").

NOW, THEREFORE, in consideration of the foregoing and of the mutual covenants herein set forth, the parties hereto agree as follows:

#### 1. DURATION OF OPERATING CONTRACT

Section 1.1 The term of this Operating Contract shall be for a period of ten (10) years, commencing upon execution by the Parties, and shall be renewed under the same terms and conditions set forth herein, unless other terms and conditions are mutually agreed upon, for two (2) additional terms of twelve (12) years each. Upon execution PORT AUTHORITY will file this Operating Contract with the Federal Maritime Commission.

Section 1.2 If, prior to or during a period of one year following the expiration of the term (including renewals) of this Operating Contract as provided above, the PORT

AUTHORITY shall desire to enter into a contract relating to all or any substantial part of the subject matter hereof, the PORT AUTHORITY shall in good faith negotiate the terms of such contract with the OPERATOR. Failing any agreement from the negotiations described in the preceding sentence, OHPA shall utilize the competitive process for procuring services found in Florida Statutes, and if the PORT AUTHORITY shall as a result of such process negotiate the terms of such a contract with a third party, the PORT AUTHORITY shall offer to enter into a contract with the OPERATOR upon terms and conditions approved by the PORT AUTHORITY and such third party ("Successor Operating Contract"). The PORT AUTHORITY shall promptly advise the OPERATOR of the terms of the proposed Successor Operating Contract with such third party and the OPERATOR shall have 60 days from receipt of notice of the terms thereof to accept or reject the same. If the OPERATOR accepts the terms thereof, the PORT AUTHORITY and the OPERATOR shall, within 60 days thereafter, execute and deliver an agreement having the terms of the Successor Operating Contract with such variations as the parties shall mutually accept. The OPERATOR shall have no liability to the PORT AUTHORITY by reason of its failure to accept the Successor Operating Contract.

## 2. SCOPE OF WORK

Section 2.1 OPERATOR shall provide the necessary labor, machinery and equipment to accomplish cargo handling and warehousing functions in the Port. It is understood by and between the parties hereto that labor may be supplied either directly or indirectly. Machinery may be purchased or leased on a long or short term basis. Procurement of and payment for the Machinery and Equipment set forth in "Exhibit 1" will be the responsibility of PORT AUTHORITY. To the extent PORT AUTHORITY cannot fully fund Machinery and Equipment set forth in Exhibit 1, OPERATOR will make all reasonable efforts to fund any deficiencies, with the repayment structure to be determined on a project-by-project basis, and as mutually agreed to by both Parties. Port Authority shall have no obligation for any purchase as to which no identifiable funding source exists for either a purchase or repayment of any loan used to fund any purchase. Revenue streams not contemplated by this agreement, should they arise, will be subject to Section 6.10.

Section 2.2 OPERATOR at its own expense will provide skilled personnel to maintain and operate equipment set forth in Exhibit 1.

Section 2.3 Throughout the term of this Contract and every extension period thereafter, OPERATOR shall perform all ordinary day to day repairs and maintenance to port facilities and equipment owned by PORT AUTHORITY. However, if the cost of any single repair, preventative maintenance job or refurbishment of PORT AUTHORITY



owned facilities or equipment exceeds \$15,000 (adjusted annually after the first six (6) years following the execution of this Operating Contract for inflation based on the United States Department of Labor Consumer Price Index ("CPI") calculated from the CPI at the beginning of year 7), the excess costs shall be submitted to the PORT AUTHORITY, and the PORT AUTHORITY shall reimburse OPERATOR to the extent such costs are reasonable and not caused by the negligence of OPERATOR and funds are available. OPERATOR shall maintain current all maintenance logs and records, together with all repair reports, and shall, on July 1 of each year, provide the PORT AUTHORITY with a written maintenance report and account on each piece of equipment owned by the PORT AUTHORITY and utilized by OPERATOR, together with each building, shed, shack, scale, and warehouse owned by the PORT AUTHORITY and utilized by OPERATOR, together with the projected expenses for the maintenance, replacement or repair of such item for the next fiscal year. If the OHPA property is destroyed or damaged by any accident, neglect, or failure to maintain by OPERATOR, then OPERATOR shall pay the full cost of replacement or repair as necessary.

Section 2.4 OPERATOR shall maintain an office in Nassau County, Florida.

Section 2.5 OPERATOR, in such manner as it shall deem advisable in its sole judgment, shall advertise and solicit shipping business through the Port.

### 3. PORT AUTHORITY AND OPERATOR REVENUES

Section 3.1 The PORT AUTHORITY shall set tariffs and negotiate rates and dockage and wharfage fees ("Dockage and Wharfage Fees"), in consultation with and subject to the approval of OPERATOR, which approval shall not unreasonably be withheld, subject to the schedule of distribution, compensation and reimbursement set forth herein. Subject to the provisions of Section 6.10, all amounts due to OPERATOR under this Operating Contract, plus all other revenues, fees or charges collected by OPERATOR resulting from the rendering by OPERATOR of services, including but not limited to Dockage and Wharfage Fees, shall be the property of OPERATOR ("Operator Revenues"). Both parties agree that wharfage and dockage fees shall be charged at competitive rates and shall not exceed those charged at neighboring ports North and South of the Port of Fernandina Beach.

### 4. INSURANCE AND INDEMNIFICATION

Section 4.1 OPERATOR shall, at its own expense, commencing when the date work under this Operating Contract begins and at all times during this Operating Contract,

maintain insurance coverages in such amounts and covering such contingencies as would be maintained by a reasonable and prudent operator of a port similar to the Port, including the following:

Section 4.2 WORKERS' COMPENSATION INSURANCE as prescribed by law with a limit per accident of not less than \$500,000.00.

Section 4.3 COMPREHENSIVE GENERAL LIABILITY INSURANCE including a contractual liability provision to cover the liability assumed by OPERATOR under this Operating Contract, and automobile liability, all with a combined single limit for bodily injury and property damage liability of not less than \$1,000,000.00 per person and not less than \$3,000,000.00 with respect to any one occurrence. If any of the work is subcontracted, OPERATOR shall require each subcontractor to maintain insurance as previously described.

Section 4.4 PROPERTY INSURANCE – The reasonable cost of Property Insurance for the PORT AUTHORITY premises and property including physical damage, and "All Hazard" insurance, including premiums, deductibles and self-insured retentions, shall be paid and maintained by the OPERATOR but shall be for the account of PORT AUTHORITY to be reimbursed to OPERATOR out of Facility Use Fees pursuant to Section 6 when available.

Additional Provisions Regarding Insurance:

1. During the term of the Operating Contract, as may be further amended or renewed, OPERATOR shall maintain in effect one or more policies of insurance, issued by one or more reputable insurance carriers lawfully authorized to do business in the State of Florida, providing "All Risk" property insurance, written on a replacement cost basis with limits equal to the full replacement cost of the Facility (the "Insurance Policy").

- (a) The insurance Policy shall name the PORT AUTHORITY as additional insured with respect to liability arising out of the operations of OPERATOR or its contractors and subcontractors, as applicable. Where applicable, the PORT AUTHORITY will also be named as loss payee.

- (b) The Insurance Policy shall include a waiver of subrogation or its equivalent against the PORT AUTHORITY.



(c) The Insurance Policy shall apply as primary insurance with respect to any other insurance or self-insurance programs afforded to or maintained by the PORT AUTHORITY.

(d) The Insurance Policy shall provide that the insurance carrier will provide written notice to the PORT AUTHORITY no less than (30) days prior to the termination, cancellation, non-renewal or any material change.

2. Notwithstanding anything in 1. above to the contrary, the PORT AUTHORITY at its expense and solely for its own benefit may obtain such additional insurance as it may deem appropriate.

Section 4.5 OPERATOR agrees to indemnify and hold harmless PORT AUTHORITY, its agents and employees, from and against any and all losses, expenses, damages, demands and claims, including attorney's fees, arising out of injury or alleged damages to any property to the extent due to, and proportional to, the negligence or willful act or omission of OPERATOR, its employees, agents, representatives or subcontractors resulting from or occurring in connection with the OPERATOR's performance under this Operating Contract.

#### 5. COMPLIANCE WITH LAWS; TAXES

Section 5.1 OPERATOR will comply with all applicable laws and regulations, and all taxes validly assessed against OPERATOR for the operation of its Port business, as well as the cost of any permits and licenses for said business. PORT AUTHORITY shall bear and pay all ad valorem or real estate taxes of any kind or nature, if applicable.

#### 6. COMPENSATION

Section 6.1 OPERATOR agrees to pay to PORT AUTHORITY \$251,675.00 per annum, in equal and consecutive quarterly payments of \$62,918.75 (adjusted annually for inflation based on the CPI) toward the annual operating budget of PORT AUTHORITY for the entire term of this Operating Contract.

Section 6.2 In addition to the foregoing, OPERATOR agrees to contribute to the PORT AUTHORITY the amounts of \$50,000.00 in 2019 and \$50,000.00 in 2020 toward the annual DRI (Development of Regional Impact) payments due from the PORT AUTHORITY to the City of Fernandina Beach. Such contributions shall be paid by OPERATOR to the PORT AUTHORITY no later than July 31 of 2019 and 2020, respectively.



Section 6.3 OPERATOR also agrees to pay PORT AUTHORITY, on a quarterly basis Facility Use Fees as follows:

a. For Container and Breakbulk cargo:

1. \$1.50 per short ton up to 549,999 tons per annum;
2. \$1.25 per short ton from 550,000 tons up to 649,999 tons per annum; and
3. \$1.00 per short ton over 650,000 tons per annum.

b. For Bulk and general cargo, OPERATOR shall pay Facility Use Fees of \$.91 per short ton, respectively.

Section 6.4 For the first six (6) years from the execution of this Agreement, the OPERATOR agrees to allocate \$5,000 per month to fund the Capital Improvements and Maintenance Reserve Fund, and all Facility Use Fees that would otherwise be payable by OPERATOR under Section 6.3 shall be retained by OPERATOR.

Section 6.5 Commencing in year seven (7) from the execution of this Agreement, the OPERATOR agrees to continue to fund \$5,000 to the Capital Improvements and Maintenance Reserve Fund per month. In addition, a percentage of the Facility Use Fees calculated according to Section 6.3 will be paid by OPERATOR to the PORT AUTHORITY as follows, to be applied according to Section 6.6:

- |     |   |             |   |     |
|-----|---|-------------|---|-----|
| i.  | - | Years 7-9   | - | 25% |
| ii. | - | Years 10-12 | - | 50% |

Upon completion of Year 12:

- All Facility Use Fees calculate under Section 6.3 will be paid by the OPERATOR to the PORT AUTHORITY to be applied according to Section 6.6;
- The agreement by the OPERATOR to fund \$5,000 per month to the Capital Improvements and Maintenance Reserve Fund will continue; and
- In addition to Facility Use Fees, OPERATOR agrees to continue provide a maximum annual budgetary allocation of \$251,675,000 adjusted for inflation, to fund the operations of the PORT AUTHORITY.

The dollar amounts (but not the percentages) in Sections 6.3, 6.4, and 6.5 shall be adjusted annually after the first six (6) years following the execution of this Operating Contract for inflation based on the CPI calculated from the CPI at the beginning of year 7.

Section 6.6 the Facility Use Fees paid by OPERATOR to the PORT AUTHORITY under Sections 6.3, 6.4, and 6.5 will be applied as follows: The first Facility Use Fees paid by OPERATOR to the PORT AUTHORITY will be directed into an OHPA Reserve Fund ("OHPA Reserve Fund"), until such time as it reaches \$50,000. Three percent (3%) of the Facility Use Fees paid by OPERATOR to the PORT AUTHORITY will be directed to the operations of OHPA. All additional Facility Use Fees paid by OPERATOR to the PORT AUTHORITY shall be directed to the Capital Improvements and Maintenance Reserve Fund (the "CIMR Fund").

Section 6.7 [Reserved]

Section 6.8 Facility Use Fees will be directed to the CIMR Fund until such time as it reaches a balance of \$1,000,000. Facility Use Fees not required to maintain the balance of \$1,000,000 in the CIMR Fund shall be paid to the PORT AUTHORITY to be used at its discretion.

Section 6.9 The PORT AUTHORITY and OPERATOR agree to meet annually throughout the term of this Operating Contract to mutually develop a plan and budget for capital improvements and repairs for the subsequent five (5) years on a rolling basis (the "Capital Improvements Program"). The Capital Improvements Program may address by mutual agreement the protection of Port facilities from natural disasters, hazard mitigation, and repair or restoration of Port facilities damaged by natural or man-made causes. The Capital Improvements Program may take into account any need to fund specific capital projects matched by FDOT grants necessary for the long-term function and viability of the terminal, supplemented by monies made available in the Capital Improvements and Maintenance Reserve Fund, with payment or repayment structure to be determined on a mutually agreeable project-by-project basis. The ultimate decision on any spending shall rest with the PORT AUTHORITY.

Section 6.10 This is an agreement for cargo handling and warehousing only. Regardless of how developed, or by which party, all new or additional revenue streams not contemplated by this Agreement, such as the provision of electricity, shall be divided between PORT AUTHORITY and OPERATOR as mutually agreed



Section 6.11 Notwithstanding this agreement, as mutually agreed, the PORT AUTHORITY will have the ability, but shall not be required, to work with the OPERATOR on other projects outside of the scope of this Agreement on a case-by-case basis.

## 7. PERFORMANCE

Section 7.1 OPERATOR shall not be liable for any delay in or inability to complete the performance of the Operating Contract by reason of any of the following causes: Acts of the PORT AUTHORITY, or their representatives, or failures of the PORT AUTHORITY, or their representatives, to act as required under the Operating Contract, including without limitation, approval of tariff rates, fees and all other charges, furnishing of information, or work in connection with provision of machinery and equipment, acts of God; acts of the public enemy; terrorism; riot; civil commotion; insurrection; vandalism; looting; sabotage; acts (including delay or failure to act), orders, rules, regulations, suspensions or requisitions of any kind of any governmental authority (de jure or de facto); war (declared or undeclared); revolution; priorities; epidemics; strikes or other stoppage of labor or shortage in the supply thereof; inability to obtain fuel, power, material or parts or shortage in the supply thereof; fire casualties, or accidents; failure of or shortage in the supply of shipping facilities; or any cause or causes whether of the same or a different character beyond the OPERATOR's control. The duration of this Operating Contract shall be extended for a period equal to the time lost by reason of any of the above delays. Nothing in this Section 7.1 shall be deemed to be a waiver or election of any rights or remedies under law or equity.

Section 7.2 In case an event such as that described above in Section 7.1 occurs, OPERATOR shall not be required to incur additional expenses in order to continue to render the services required of OPERATOR under this Operating Contract. Nevertheless, if OPERATOR decides to incur such additional expenses, as soon as practicable after incurring such expenses, OPERATOR shall submit invoices for such expenses to the PORT AUTHORITY, and the PORT AUTHORITY shall reimburse OPERATOR to the extent such expenses are reasonable, with reasonableness to be judged based upon the exigencies of the circumstances.

Section 7.3 OPERATOR undertakes to devote to the performance of this Operating Contract the efforts and experience of one reasonably skilled in the field of port operations. In no event shall OPERATOR be liable for any loss of profits, incidental damages or consequential damages not caused by OPERATOR's intentional torts, criminal acts, or gross negligence. Nothing contained in this Section 7.3 shall limit

OPERATOR's liability for any loss or destruction of or damage to the machinery and equipment referred to in Exhibits 1 and 2 annexed hereto.

Section 7.4 OPERATOR shall be required to notify the PORT AUTHORITY at each monthly meeting – or sooner to the PORT AUTHORITY's director, attorney or chairman, as circumstances demand – any and all of the following:

Initiation of process that is otherwise needed to invoke a proceeding for civil administrative or criminal liability, including but not limited to a trespass, negligence, Longshore and Harbor Workers' Compensation Act violation, or workers' compensation;

Breach of security at the Port otherwise needed for reporting to another governmental authority or insurer;

Arrival or expected arrival of any Certain Dangerous Cargo as defined in U.S. Code of Federal Regulations Title 33, Chapter I, subchapter P, Part 160, Subpart C, Section 160.202 (appended) to the extent known to OPERATOR; and

Inspections of the port facility or off-loaded cargo conducted by any state or federal governmental entity residing in the United States, and local public safety/fire inspections. and the written results thereof,

Notices in this regard must comply with – and may be withheld on the basis of – confidentiality or security restrictions of the federal government or the Captain of the Port, although the withholding of notice based on such restriction(s) shall be communicated to the PORT AUTHORITY's director, attorney or chairman on a monthly basis, or sooner as circumstances demand. Such notices shall further include an update of existing matters previously presented by OPERATOR as described above. OPERATOR shall have a duty to defend, indemnify, and hold harmless the PORT AUTHORITY in any action alleged or found to be the fault or negligence of the OPERATOR, or its contractors or subcontractors, in proportion to the assessment or apportionment of liability made by the Court or administrative body.

Section 7.5 PORT AUTHORITY agrees, in further consideration of the obligations of OPERATOR and Facility Use Fees paid to it pursuant to Section 6 of this Contract, and in consideration of guarantees and assurances OPERATOR must provide to customers of the Port, to grant OPERATOR first priority access to and use and operation of all land, buildings, docks wharves and equipment owned or leased by



the PORT AUTHORITY, comprised of the marine terminal, warehouses, and appurtenances that are the subject of this Agreement. When OPERATOR is providing services to the public users of the Port, PORT AUTHORITY agrees to take no action which would impede OPERATOR's ability to fully perform its obligations pursuant to this Operating Contract or its obligations to service the customers of the Port. So long as OPERATOR is performing its obligations pursuant to this Operating Contract, the PORT AUTHORITY agrees not to engage another entity to provide such services at the Port.

## 8. ACCOUNTS AND RECORDS

Section 8.1 Section 8.1 OPERATOR shall maintain its accounts and all records pertaining to the Dockage and Wharfage Fees and Operator Revenues and compensation in accordance with general accepted accounting principles and practices and shall retain such accounts and records including all documents received from the PORT AUTHORITY and/or any third party in connection with Dockage and Wharfage Fees or Operator Revenues and compensation. OPERATOR shall permit duly authorized representatives of the PORT AUTHORITY for the duration of this Operating Contract and for a period of ten (10) years thereafter to have access to all accounts books documents papers and records of the OPERATOR relating to the Dockage and Wharfage Fees and Operator Revenues for the purpose of audit examination and inspection and agrees to make available adequate facilities for such purposes and to permit duplication of any records that are subject to such inspection.

Section 8.2 Notwithstanding the foregoing OPERATOR shall not be required to retain any business corporate or financial records in excess of ten (10) years from the end of the calendar year to which such records relate except as provided in Section 8.3 hereinbelow.

### Section 8.3 PUBLIC RECORDS: PUBLIC RECORDS COMPLIANCE

- a. OPERATOR as an independent contractor is required to comply with public records laws and specifically to:
  - 1. Keep and maintain public records required by OHPA as the public agency to perform the services for OHPA;



2. Upon request from the public agency's custodian of public records provide the public agency with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in Chapter 119 Florida Statutes or as otherwise provided by law;
  3. Ensure that the public records that are exempt or confidential and exempt from public records disclosures requirements are not disclosed except as authorized by law for the duration of the contract term and following completion of the contract if the contractor does not transfer the records to OHPA as the public agency;
  4. Upon completion of the contract, transfer, at no cost to OHPA as the public agency all public records in possession of the contractor or keep and maintain public records required by OHPA, as the public agency, to perform the services. If the contractor transfers all of the public records to the agency upon completion of the contract, the contractor shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the contractor keeps and maintains public records upon completion of the contract, the contractor shall meet all requirements of retaining public records. All records stored electronically must be provided to OHPA, as the public agency upon request from the OHPA custodian of public records, in a format that is compatible with the information technology systems of the public agency.
- b. Statement required by F.S. 119.0701(2)(a)

1. IF THE CONTRACTOR HAS A QUESTION REGARDING THE APPLICATION OF CHAPTER 119 FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF RECORDS AT 904/491-7422

9. DREDGING AND MAINTENANCE OF ACCESS CHANNEL, TURNING BASIN, AND WATER DEPTH ALONGSIDE BERTHS

Section 9.1 The PORT AUTHORITY acknowledges the benefit of improving the access channel and the turning basin to a depth of 38 feet mean low water presently, and eventually 42 feet mean low water. At such time that the Corps of Engineers has

approved such improvements, the PORT AUTHORITY will make every possible effort to accomplish such improvements.

Section 9.2 The PORT AUTHORITY shall thereafter be responsible for maintaining a minimum water depth of 38 feet at mean low water alongside the berths, until such time that permitting is obtained for increasing the depth to 42 feet mean low water. Thereafter the PORT AUTHORITY will be responsible for maintaining a depth of 42 feet mean low water alongside the berth. The obligation of maintenance is dependent on a funding source being identified and secured.

Section 9.3 Maintenance and deepening of the berths and the access channels if any as well as any dredging of any nature shall under no circumstances ever be the responsibility of OPERATOR.

Section 9.4 Whenever any dredging including maintenance dredging or maintenance or deepening of access channels is required the PORT AUTHORITY and OPERATOR will cooperate with each other to obtain any and all requisite federal state and local permits and approvals at the expense of the party obligated under this Agreement to carry out such dredging. The PORT AUTHORITY AND OPERATOR agree to coordinate all dredging activities in the best interest of a sustainable long-term port operation.

#### 10. FUTURE CAPITAL EXPENDITURE PROJECTS & GOVERNMENT GRANTS

Section 10.1 OPERATOR will work with PORT AUTHORITY to determine certain capital improvements to the Facility including the Capital Improvements Plan described above and will support PORT AUTHORITY in any attempts to secure government grants for capital improvements based on an updated STRATEGIC PORT MASTER PLAN to be conducted every ten (10) years. Amendment of an existing plan may take place at any time as circumstances dictate and as mutually agreed and a new STRATEGIC PORT MASTER PLAN may be developed at any time as circumstances dictate and as mutually agreed which may include the identification of funding sources for such plan.

Section 10.2 The PORT AUTHORITY recognizes that certain equipment and facilities will become obsolete because of normal wear and tear or because of changing needs of the Port. In such cases OPERATOR may arrange for the sale trade or disposal of such equipment on commercially reasonable terms and subject to the prior approval of the PORT AUTHORITY inclusive of equipment of fixtures owned and/or provided by the PORT AUTHORITY pursuant to this Agreement. Such approval shall not be unreasonably withheld and shall include specification of adequate measures to



secure continuation of Port operations on at least the current levels of performance. The proceeds from any such sale trade or disposal of equipment or fixtures of the PORT AUTHORITY shall remain the property of the PORT AUTHORITY pursuant to this Operating Contract after reimbursement of the OPERATOR for the costs and expenses incurred by OPERATOR in arranging and carrying out such sale, trade or disposal.

Section 10.3 EXISTING CRANES and EQUIPMENT – It is hereby acknowledged and agreed that notwithstanding the PORT AUTHORITY's obligations hereunder with respect to the provision of Cranes and Machinery set forth in Exhibit 1 affixed hereto, the existing cranes currently in place at the Port, known as "The Clyde" and "The Hitachi", as described in Exhibit 3 affixed hereto, are the property of the OPERATOR and not subject to Section 10.2.

## 11. MISCELLANEOUS

Section 11.1 This Operating Contract, including the exhibits and other writings referred to herein or delivered pursuant hereto, contains the entire understanding of the parties with respect to its subject matter, all negotiations, discussions and agreements prior hereto between or among the parties being merged and integrated herein and superseded hereby. There are no restrictions, agreements, promises, representations, warrants, covenants or undertakings other than those expressly set forth herein. This Operating Contract may be amended only by a written instrument duly executed by duly authorized representatives of each of the parties hereto.

Section 11.2 The section headings contained herein are for reference purposes only and will not affect in any way the meaning or interpretation of this Contract.

Section 11.3 All notes, reports, requests, demands and other communications hereunder will be in writing and will be deemed to have been duly given and delivered if delivered or mailed (registered or certified mail, postage prepaid) as follows:

to PORT AUTHORITY:

Ocean Highway and PORT AUTHORITY  
86130 License Road, Suite 9  
Fernandina Beach, FL 32034

to OPERATOR:

Nassau Terminals. LLC; Care of:  
Worldwide Terminals Fernandina, LLC  
2345 Friendly Road  
Fernandina Beach, FL, 32034

or to such other address as such person may have furnished to the others in writing in the manner set forth above.

Section 11.4 This Operating Contract will be governed by construed and enforced in accordance with the laws of the State of Florida.

Section 11.5 No waiver by either party of any breach by the other of any provision hereof shall be deemed to be a waiver of any later or other breach or as a waiver of any such or other provision of this Operating Contract.

Section 11.6 This Operating Contract is being executed simultaneously in several counterparts each of which will be deemed to be an original but all of which together will constitute one and the same instrument.

Section 11.7 This Contract shall be binding upon and shall inure to the benefit of the parties hereto and their respective successors and assigns. This Agreement may not be assigned by OPERATOR without the consent of Port Authority. Such consent may not be unreasonably withheld or delayed but Port Authority reserves the right to impose reasonable terms and conditions thereon. The consent of the Port Authority shall not be required for (i) an assignment by OPERATOR to a subsidiary or other affiliate of OPERATOR, provided that OPERATOR shall remain obligated for the assignee OPERATOR's performance of its obligations under this Agreement, or (ii) an assignment as collateral to obtain financing.

Section 11.8 In the event that a firm offer is received for a transaction or series of transactions that in the aggregate would result in a transfer of more than fifty percent (50%) of the ownership of OPERATOR to parties that in the aggregate do not hold at least fifty percent (50%) of the ownership of OPERATOR prior to such transaction (a "Change of Control Offer") OPERATOR will give the PORT AUTHORITY written notice of such Change of Control Offer specifying the price and other terms and conditions thereof in reasonable detail and providing supporting evidence in reasonable detail that following such change of control the new proposed OPERATOR will have the financial and operational resources and reputation as are necessary to carry out OPERATOR's obligations under this Agreement.



The PORT AUTHORITY shall have ten (10) business days within which to notify OPERATOR in writing whether or not the PORT AUTHORITY consents to the Change of Control Offer with such consent not to be unreasonably withheld or conditioned as per the provision noted above.

If the PORT AUTHORITY does not notify OPERATOR IN writing prior to the expiration of such ten-day period that the PORT AUTHORITY consents to the Change in Control Offer then the PORT AUTHORITY shall have an additional sixty (60) days within which to provide (i) a binding offer or memorandum of agreement from a third party to carry out an equivalent transfer of ownership of OPERATOR for 100% of the price in the Change of Control Offer and on other terms and conditions substantively equivalent to those of the Change of Control Offer and (ii) written evidence satisfactory to OPERATOR that such third party has the financial capacity or resources sufficient to carry out its offer.

During this sixty (60) day period the OPERATOR agrees to fully cooperate with PORT AUTHORITY during the RFP process.

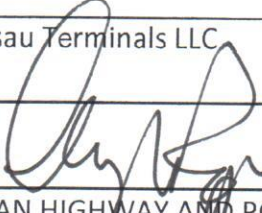
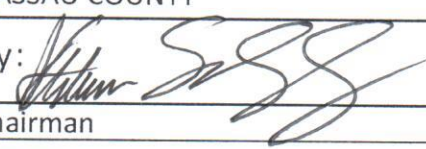
If the PORT AUTHORITY provides neither its written consent within the ten-business days period nor such third-party offer plus evidence satisfactory to OPERATOR of the financial capacity or resources sufficient to carry out such offer within such further sixty-day period then upon the expiration of the further sixty-day period the PORT AUTHORITY may consent to the Change in Control Offer, such consent not to be unreasonably withheld. Should the PORT AUTHORITY refuse to consent, then it must provide to OPERATOR written justification for its failure to do so.

OPERATOR agrees to give the PORT AUTHORITY notice of any sale or transfer of equity interests representing less than fifty percent (50%) in the aggregate of the ownership of OPERATOR.

[The following page is the signature page.]



IN WITNESS WHEREOF the parties hereto have caused this Operating Contract to be duly executed the day and year first above written.

Nassau Terminals LLC
By:  CEO
OCEAN HIGHWAY AND PORT AUTHORITY OF NASSAU COUNTY
By: 
Chairman

ATTEST

(SEAL)

Secretary



Exhibit "1"

TO OPERATING CONTRACT

All Cranes to include but not limited to:

1. Rail Mounted cranes
2. Rail Mounted Container Gantry Cranes
3. Rubber-tired Gantry Cranes
4. Harbor Cranes

EXHIBIT "2"

TO OPERATING CONTRACT

Machinery and Equipment to be procured by and paid for by OPERATOR:

Such machinery and equipment as OPERATOR in its sole judgement shall determine is needed in performance of its "Services" as provided for in the Operating Contract.

EXHIBIT "3"  
TO OPERATING CONTRACT

[Description of cranes "The Clyde" and "The Hitachi" are attached hereto.]

Exhibit 3  
To the Operating Agreement  
Dated October 19, 2018

(Page one)

Exhibit 3  
To the Operating Agreement  
Dated October 19, 2018

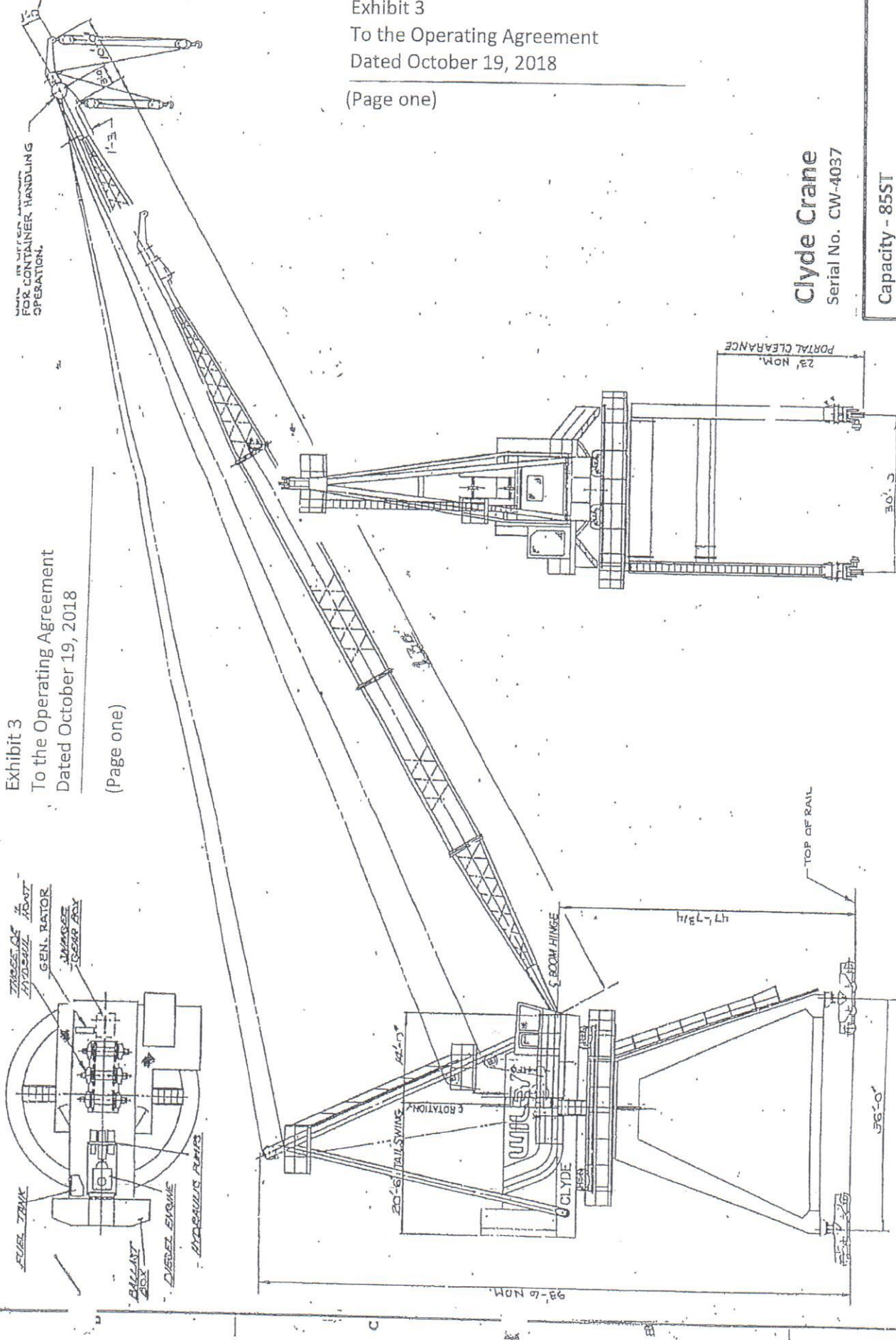
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**Clyde Crane**  
Serial No. CW-4037

Capacity - 85ST

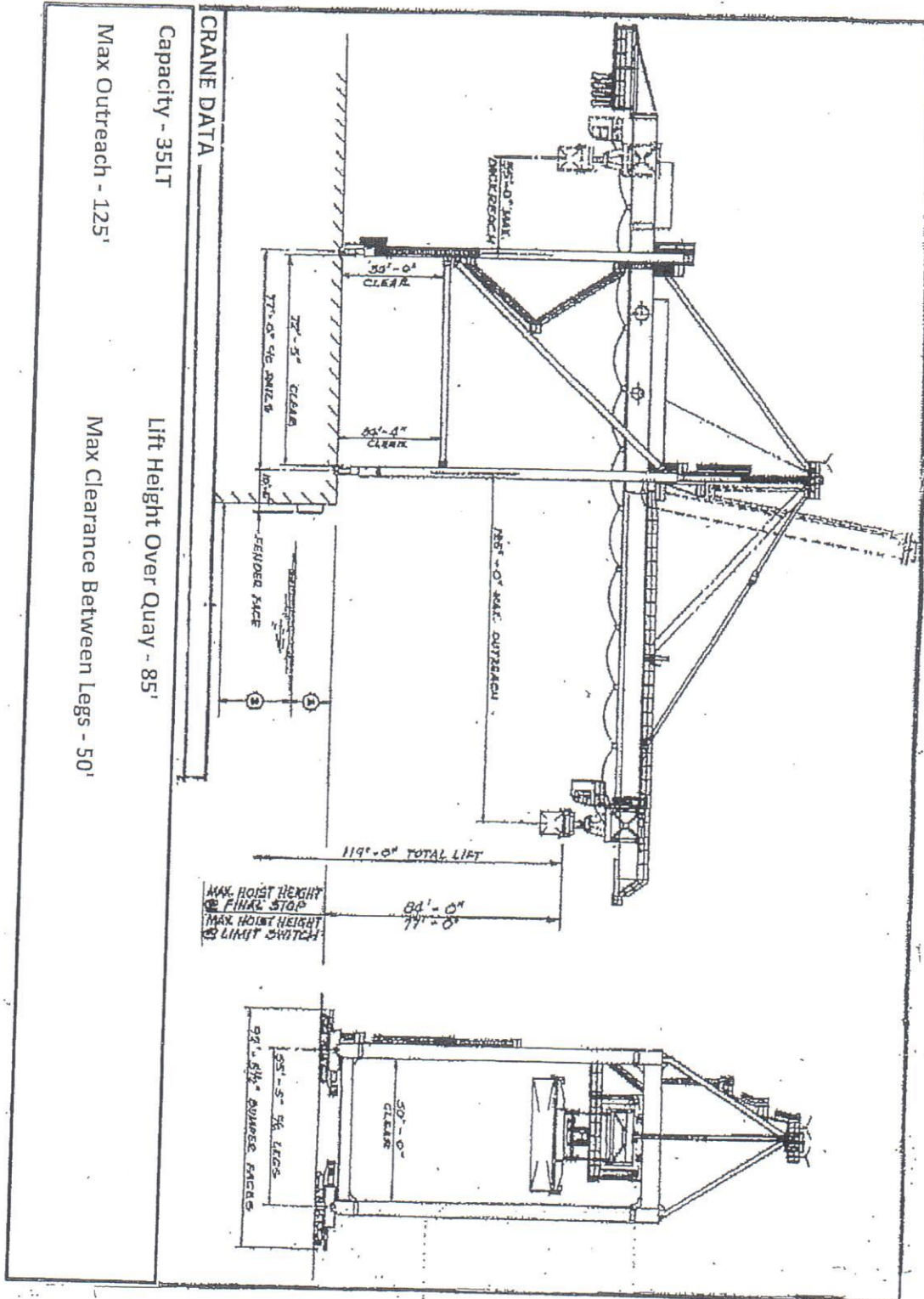
Lift Height Over Quay - 165'

Max Outreach - 135'





## Hitachi Crane



## *Appendix 2 – Port of Fernandina SWPPP*

# **STORMWATER POLLUTION PREVENTION PLAN**

**NASSAU TERMINALS  
PORT OF FERNANDINA**

**December 13, 2022**

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### COMPLIANCE AIDS

Compliance Schedule..... iv



## **List of Acronyms**

BMP	Best Management Practice
DMR	Discharge Monitoring Report
EPA	Environmental Protection Agency
FDEP	Florida Department of Environmental Protection
MSGP	Multi-Sector General Permit
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
OHPA	Ocean Highway and Port Authority
SPCC	Spill Prevention, Control, and Countermeasure
SWPPP	Stormwater Pollution Prevention Plan

**COMPLIANCE SCHEDULE**

<b>Requirement</b>	<b>Frequency</b>	<b>Submittal Required</b>
Stormwater compliance evaluation	Annually	No
Periodic stormwater inspection	Monthly	No
Visual observation	Quarterly	No
Analytical sampling	Quarterly during years 2 and 4 of the Permit	Yes by March 31 <sup>st</sup> the following year
Initial hire stormwater training	Time of hire	No
Stormwater refresher training	Annually	No
Visual tank inspection (leaks/overflow protection)	Monthly	No
Spill response equipment	Monthly	No
Spill log	As needed	No
Update SWPPP	Within 2 weeks of any changes	No
Retention of all records	Minimum of 3 years	No

## **1 GENERAL INFORMATION**

### **1.1 Overview**

The Clean Water Act (CWA) of 1972 authorizes the United States Environmental Protection Agency (EPA) to ensure waters of the United States are protected from pollution. To ensure these waters are protected, the EPA implemented pollution control programs such as the National Pollutant Discharge Elimination System (NPDES). This is a program that requires permits for discharges of pollutants from point sources. The EPA has given authority to the Florida Department Environmental Protection (FDEP) to administer the NPDES program in the state of Florida. To obtain a NPDES permit, a facility must prepare a Stormwater Pollution Prevention Plan (SWPPP) and submit a Notice of Intent (NOI).

Industrial facilities that meet certain eligibility criteria can obtain NPDES coverage under a Multi Sector General Permit (MSGP or Permit). Facilities that have a unique operation with uncommon procedures or levels of pollutants may have to obtain an individual NPDES permit. This facility has coverage under the MSGP issued by the state. The facility submitted a NOI for permit coverage and can provide a copy upon request.

### **1.2 Purpose of the SWPPP**

Savage Services (Savage) acquired Worldwide Terminals, the company that operates the facility as Nassau Terminals. The Port is owned by the Ocean Highway and Port Authority (OHPA). Savage has prepared this SWPPP to meet the requirements of the MSGP issued by the FDEP. The purpose of the SWPPP is to ensure the design, implementation, management, and maintenance of Best Management Practices (BMPs) to reduce the amount of pollutants in stormwater discharges associated with industrial activities at the facility.

This SWPPP will be maintained on site and made readily available during normal business hours for review by authorized FDEP personnel upon request. This plan is certified by a company representative, and the certification is included in **Appendix D**.

### **1.3 Facility Description**

Nassau Terminals operates a marine cargo handling facility located in Fernandina Beach, Florida. The facility loads/unloads various bulk paper and wood products and sea containers on and off of vessels. The containers and products are loaded and unloaded using cranes located on the dock. A general layout of the facility is shown on the site map in **Appendix A**.

**Source Location:** 315 N. 2<sup>nd</sup> Street

Fernandina Beach, FL 32034

**Mailing Address:** 315 N. 2<sup>nd</sup> Street  
Fernandina Beach, FL 32034

**County:** Nassau

**Facility Area:** ~22 acres

**Permit ID Number:** FLR05G710

**Surface Receiving Water:** The facility has six outfalls. Amelia River runs along the west side of the facility and is the nearest surface receiving water.

## 1.4 Facility Drainage

The topography of the site has a gentle slope toward the west. There are six outfalls on the property. Outfall 001 is located on the north side of the facility. Outfalls 002 through 005 are located along the west side of the facility and discharge directly to the Amelia River. Outfall 006 is located on the east side of the facility and discharges to a stormwater detention pond that has an outlet on the north side. The ground surface of the facility is largely impervious and allows minimal infiltration. Stormwater that does not infiltrate the surface flows to inlets of the underground stormwater drainage system that is located throughout the site. See **Appendix A** for a site map that shows the direction of flow from various areas of the facility.

## 2 POLLUTION PREVENTION TEAM

Nassau Terminals/Savage team members listed in **Appendix B** have been identified as members of the Stormwater Pollution Prevention Team. These members responsibilities are clearly defined and include the development, implementation, maintenance, and revision of the SWPPP for this facility.

## 3 POTENTIAL POLLUTANT SOURCES

### 3.1 Summary of Stormwater Discharge and Flow

As discussed in Section 1.4, there are six stormwater outfalls located along the perimeter of the facility. Much of the stormwater that falls on the facility enters an underground drainage system that flows to the six outfalls.

### 3.2 Inventory of Exposed Materials

The facility loads and unloads containers that hold a variety of products. The containers are generally kept closed to prevent damage to the products being loaded/unloaded. Products that would generally have minimal impact to stormwater may be transferred in open top containers or outside of containers as practical. These include bulk lumber, wood sheet goods, wood pulp, and rolled paper. Materials/products are stored in various quantities at the facility, depending on customer needs.

An inventory of significant materials currently stored and handled at the facility is provided below.

Stormwater Pollutant Sources	Exposed Material	Potential Pollutant	Potential Outfall
Facility Equipment: Minor leaks/drips that occur during operations have the potential to contaminate runoff.	Mobile equipment and cranes	Hydraulic fluids, oils, fuels, fuel additives, grease and other lubricants, accumulated particulate matter	All
Fueling: Mobile fueling of ships by third party	Mobile refueling equipment	Fuels	002 – 005
Storage Containers: Potential leaks of container contents	Sea containers	Various packaged products and consumer goods	001 – 005
Mobile Fueling: Minor leaks/drips during equipment filling	Tank, piping, hoses	Fuels	All

The inventory will be updated following a significant change in the types of materials that are exposed to precipitation or runoff, or significant changes in material management practices that may affect the exposure of materials to precipitation or runoff.

### 3.3 Significant Spills and Leaks

Reportable spills that occur that are exposed to precipitation or that drain to a stormwater conveyance could impact stormwater quality. This includes spills and leaks of pollutants that occurred in the three years prior to the effective date of the NOI for this facility. These spills should be recorded in the table in **Appendix E**. The list will be updated on a regular basis to include all additional reportable spills and leaks that occurred at the facility.



## **4 NON-STORMWATER DISCHARGES**

### **4.1 Identification of Non-Stormwater Discharges**

The following non-stormwater discharges are authorized under the general permit:

- Fire fighting activities;
- Fire hydrant flushings;
- Potable water sources, including waterline flushings;
- Irrigation drainage;
- Lawn watering;
- Routine external building washdown without detergents;
- Pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used;
- Air conditioning condensate;
- Compressor condensate;
- Springs;
- Uncontaminated ground water; and
- Foundation or footing drains where flows are not contaminated with process materials such as solvents that are combined with storm water discharges associated with industrial activity.

Past evaluations of non-stormwater discharges at the facility have identified the following discharges:

- Air conditioning and ice machine condensate
- Compressor condensates
- Potable water sources

No unauthorized discharges are known or suspected to be discharged from the site.

### **4.2 Certification of Non-Stormwater Discharges**

The facility is evaluated annually for the presence of non-stormwater discharges. This evaluation is part of the Annual Comprehensive Site Compliance Evaluation included in **Appendix G**.

## **5 STORMWATER MEASURES AND CONTROLS / BEST MANAGEMENT PRACTICES**

This section provides a narrative description of the stormwater measures and controls/BMPs that may be implemented at the facility. Some of them target specific potential pollutants, while others are designed to cover potential pollutants throughout the entire facility. Regardless of the location, these measures and controls will be used

concurrently to achieve the same goal. The measures and controls should be used by the Stormwater Pollution Prevention Team as they determine them to be necessary, reasonable, and effective.

## **5.1 Good Housekeeping Measures**

Good housekeeping measures have been developed to ensure areas of the facility that contribute or potentially contribute pollutants to stormwater discharges (e.g. areas around trash dumpsters, storage areas, loading docks, and outdoor processing areas) are maintained in a clean and orderly manner. Good housekeeping measures include:

- Routinely sweeping the paved areas of the facility, including entrances and exits to prevent sediment drag out.
- Managing and removing debris, trash, and empty containers from outside storage areas.
- Storing chemicals in flammable storage cabinets.
- Keeping chemical storage areas clean at all times.
- Collecting and disposing waste materials on a regular basis.
- Cleaning and containing spilled or leaked materials using sorbents or other appropriate materials.
- Communicating spill cleanup procedures to all team members.
- Performing monthly inspections and checking for leaks and the conditions of all drums, tanks, and containers.
- Keeping all containers clearly labeled and marking all special handling and storage requirements.
- Disconnecting and sealing off any existing floor drains that connect to city sewers unless domestic sewage.
- Establishing traffic patterns that minimized sediment drag out.

## **5.2 Spill Prevention and Response Procedures**

In the event of a spill, spilled materials should be controlled and cleaned up immediately to prevent pollutants from spreading. Drums, cans, and containers should be properly labeled so that the material can be managed and disposed of appropriately. Improperly labeled containers and containers missing labels are difficult to manage and can result in material being sent to the wrong facility for disposal.

To respond to a spill, the facility should be adequately stocked with the appropriate spill response supplies. Small spills will be contained using absorbent material. Larger spills may require boom material to contain the material until vacuum equipment can be used. Spent absorbent material will be managed appropriately and disposed in accordance with applicable regulations. Team members should be trained in spill prevention and response procedures.

### **5.3 Erosion Control and Site Stabilization**

Erosion will be minimized by stabilizing exposed soils at the facility, where practicable, in order to minimize pollutant discharges. Slopes can increase the speed of surface water flow and increase the potential for erosion. If practicable, the steepness of slopes should be minimized and additional BMPs like wattles and/or silt fences may be installed until slopes are stabilized.

Erosion control measures have been evaluated and implemented as necessary to reduce soil erosion at the facility. The majority of the property is paved, with very little bare soil exposed. No major soil erosion is expected due to the development of the facility.

### **5.4 Minimize Exposure**

Exposure of manufacturing, processing, and material storage areas (including loading and unloading, storage, disposal, cleaning, maintenance, and fueling operations) to rain and runoff will be minimized in order to minimize pollutant discharges by either locating these industrial materials and activities indoors or protecting them with storm resistant coverings, when practicable.

As feasible, the facility should also:

- Locate materials, equipment, and activities that have high risks so that potential leaks and spills are contained or able to be contained or diverted to minimize contact with stormwater before discharge.
- Grade surfaces, install curbing, or use berming to channel stormwater run-on away from pollutant sources.
- Store leaky equipment indoors or, if stored outdoors, use drip pans and absorbents to capture leaks.
- Delay performance of activities that have a risk for stormwater pollutant contamination to dry weather periods when possible.
- Clean up spills and leaks promptly using dry methods (e.g., dry absorbents) to prevent the discharge of pollutants.
- Use spill/overflow protection equipment.
- Perform all vehicle and/or equipment cleaning operations indoors, under cover, or in bermed areas that prevent runoff and run-on and also that capture any overspray.
- Collect and properly dispose of any water from cleaning operations that does not evaporate or infiltrate into the soil.
- Perform cleaning with detergents on an impervious surface and collect and disposed of properly. At no time will water with detergents be allowed to discharge offsite.
- Provide all stationary bulk storage container with secondary containment and, when practicable, under roof.

## **5.5 Waste Management**

Dry waste, such as scrap metal, floor sweepings, metal fragments, and cardboard can be dispersed by wind or operational error if not properly stored. If a waste receptacle's lid is not securely closed, refuse may spill out of the receptacle. Uncovered receptacles or bins also expose waste to stormwater, which may leak out into stormwater runoff.

Waste receptacles/bins will be located in easily accessible areas. Waste receptacles/bins will be emptied regularly. Waste receptacles (dumpsters) for trash will have lids; lids will be kept closed when not in use. If the dumpster has inadequate capacity and it is not possible to keep the cover closed, the frequency of pickups will be increased, or the unit replaced with a model of larger capacity.

## **5.6 Waste Reduction**

Reducing the amount of waste produced at a facility reduces the amount of significant materials potentially exposed to stormwater.

Reducing waste will minimize or eliminate the potential discharge of pollutants to stormwater. Methods to reduce waste include, but are not limited to, substituting or eliminating raw materials, modifying existing processes or equipment, planning and sequencing production, and separating wastes.

## **5.7 Management of Runoff**

By implementing the control measures and BMPs discussed in Section 5, stormwater runoff is expected to have minimal pollutants. No additional storm water management practices are required at this time to prevent runoff pollution.

# **6 PREVENTATIVE MAINTENANCE**

Preventative maintenance involves the regular inspection, testing, and cleaning of facility equipment and operational systems. These inspections will help to uncover conditions that might lead to a release of materials. Thus, allowing for maintenance to prevent such a release.

Maintenance frequencies have been established for each of the controls to prevent failures that could result in a discharge of pollutants. Records documenting the estimated volumes of solids removed from catch basins, and other similar control structures are maintained by the facility.

## 7 SPILL PREVENTION AND RESPONSE MEASURES

Spill prevention and response measures have been developed and implemented in accordance with Savage policies to prevent spills and to provide for adequate spill response. The specific spill prevention and response procedures are provided in the facility's Spill Prevention, Control, and Countermeasure (SPCC) Plan. Savage policies and procedures address the following:

- Identification of areas where spills could contribute pollutants to stormwater discharges;
- Procedures to minimize or prevent contamination of stormwater from spills have been developed and implemented (e.g. training equipment operators to inspect for leaks each day during operation of equipment; not storing liquid storage containers outside, installation of overfill prevention devices on pumps and tanks; modification of material handling techniques; and routine inspection of drums and other containers);
- All drums, tanks, and other containers are clearly labeled regarding their content and securely closed when not adding or removing material from the container;
- Specific spill prevention and clean up techniques have been developed and implemented;
- Materials and equipment necessary for spill cleanup are available to facility personnel;
- An inventory of spill cleanup materials and equipment has been developed and is maintained and positioned near the fuel pumps;
- These measures have been incorporated as a part of the team member training program; and
- Vehicles and equipment that are scheduled for maintenance that have potential fluid leaks shall be confined to a designated area. Drip pans shall be utilized to prevent the release of fluid to the environment.
- Raw waste dumpers have a plate at the bottom to prevent any leaks.

### 7.1 Notification of Unauthorized Discharges

Certain discharges are required to be reported to federal, state, and/or local agencies. The permit requires that the following notifications be made.

Agency	Notification Requirement	Reporting Timeframe	Contact Information
National Response Center	If the spill exceeds the reportable quantity of federally listed hazardous materials	Immediately	(800) 424-8802



	or If an oil spill impacts or threatens to impact a waterway		
FDEP	If more than 25 gallons or if any amount of oil is discharged into a waterway such as a creek, lake, river, or stream so that it creates a sheen on the surface of the water	Immediately	(800) 320-0519
Local Emergency Planning Committee (LEPC)	A. If the release is not contained or threatens the health or safety of the local population B. If the spill exceeds the reportable quantity of federally listed hazardous materials	A. Immediately B. Immediately	911

## 8 TEAM MEMBER TRAINING PROGRAM AND TEAM MEMBER EDUCATION

Savage has a training program for all team members regarding health and safety, safe chemical handling, and spill response procedures. Training is provided to team members who are responsible for implementing or maintaining activities identified in the SWPPP. Team member training includes, at a minimum:

- Proper material management and handling practices for specific chemicals, fluids, and other materials used or commonly encountered at the facility;
- spill prevention methods;
- the location of materials and equipment necessary for spill cleanup;
- spill cleanup techniques;
- proper spill reporting procedures; and
- Familiarization with good housekeeping measures, BMPs, and goals of the SWPPP.

Training is conducted upon initial hiring and at least once per year and records of training activities are maintained at the facility. Computer-based and onsite awareness training is provided.

The team member training records are included in **Appendix H**. A record of all team members/contractors who have received specific stormwater program training for this

facility is maintained by the facility and is available to FDEP regulatory personnel upon request.

## **9 RECORDKEEPING AND INTERNAL REPORTING**

Records of all stormwater monitoring information and copies of all reports required by the MSGP must be retained for a period of at least three (3) years. These records document and describe maintenance activities, inspections, spills, discharge quality, SWPPP updates and modifications. Each record will be maintained for at least three (3) years.

## **10 STRUCTURAL BEST MANAGEMENT PRACTICES**

Structural BMPs are used in situations where non-structural BMPs are not effective. Structural BMPs generally consist of structural devices that reduce or prevent pollutants in stormwater discharges and authorized non-stormwater discharges.

## **11 MONITORING PROGRAM**

This portion of the SWPPP is written to comply with the requirements specified in the MSGP. Both routine inspections and quarterly visual monitoring must be performed.

### **11.1 Routine Inspections**

Monthly site inspections shall be completed by a member of the Stormwater Pollution Prevention Team to determine the effectiveness of the good housekeeping measures, spill prevention and response measures, erosion control measures, preventative maintenance program, BMPs, and the team member training program per the MSGP. Inspections should include the following areas: pressure washing area, blasting, sanding, and painting areas, material storage areas, engine maintenance and repair areas, material handling areas, drydock area, and general yard area. The inspections are documented through the use of a checklist that is developed to include each of the controls and measures that are evaluated. When revisions or additions to the SWPPP are recommended as a result of inspections, a summary description of these proposed changes will be attached to the inspection checklist. The summary will identify any necessary time frames required to implement the proposed changes. The checklist used by this facility is available in **Appendix G**.

### **11.2 Visual Monitoring**

All stormwater discharges associated with industrial activity from each outfall must be monitored visually at least each calendar quarter per the MSGP. All samples for visual monitoring should be from a storm event that is greater than 0.1 inches in magnitude and

occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The visual observations will be completed only under the following conditions: (1) during daylight hours; and (2) within the first 30 minutes (or as soon thereafter as practical, but not to exceed one hour) of when the runoff or snowmelt begins discharging. The Visual Assessment of Stormwater Quality form is also included in **Appendix G**. The visual monitoring will document observations of color, odor, clarity, solids, foam, oil, and other obvious indicators of stormwater pollution.

If the facility is unable to collect a sample for visual monitoring during the quarter due to adverse climatic conditions, a member of the Stormwater Pollution Prevention Team should document the reason for not performing the assessment.

### 11.3 Analytical Monitoring

The MSGP requires analytical monitoring to be conducted quarterly during years 2 and 4 after the permit is issued. All samples should be collected from a storm event that is greater than 0.1 inches in magnitude and occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Based on the facility's Sector (Sector Q), the pollutants of concern listed in the Table below must be analyzed.

Pollutant of Concern	Monitoring Cut-off Concentration (mg/L)
Total Recoverable Aluminum	0.75
Total Recoverable Iron	1.0
Total Recoverable Lead	0.0816
Total Recoverable Zinc	0.065

The following information must be recorded when a stormwater sample is collected that will be analyzed by a laboratory:

- Date;
- Duration of the storm event sampled (in hours);
- Rainfall measurements or estimates (in inches) of the storm event;
- Duration between the storm event sampled and the end of the previous measurable storm event (greater than 0.1 inch of rainfall); and
- Estimate of the total volume (in gallons) of the discharge sampled.

Monitoring results for each outfall should be submitted on Discharge Monitoring Report (DMR) forms postmarked no later than the 31<sup>st</sup> day of the following March. A DMR is required for each outfall for each storm event sampled.

## **12 ANNUAL COMPREHENSIVE SITE COMPLIANCE EVALUATION**

### **12.1 Description**

The annual comprehensive site compliance evaluation includes a site inspection and an overall assessment of the effectiveness of the current SWPPP. This evaluation is completed in addition to other routine inspections required by the MSGP (e.g. inspections of good housekeeping measures, structural controls, and for identification of non-stormwater sources). This evaluation may, however, substitute for a periodic inspection if it is conducted during the regularly scheduled period for the periodic inspection. The Annual Comprehensive Site Compliance Evaluation Checklist is included as **Appendix G**.

### **12.2 General Requirements**

The evaluation is conducted once per year and will be conducted by Savage or a third-party contractor of the facility's Stormwater Pollution Prevention Team. The evaluation includes:

- a. A review of all visual observation records, inspection records, and sampling and analysis results;
- b. A visual inspection of all potential pollutant sources for evidence of, or the potential for, pollutants entering the drainage system;
- c. A review and evaluation of all BMPs (both structural and non-structural) to determine whether the BMPs are adequate, properly implemented and maintained, or whether additional BMPs are needed. A visual inspection of equipment needed to implement the SWPPP, such as spill response equipment, shall be included; and
- d. An evaluation report which is signed by an authorized company official, and retained on-site for at least three (3) years that includes:
  - Identification of personnel performing the evaluation,
  - The date(s) of the evaluation,
  - Scope of the comprehensive site evaluation,
  - Any major observations relating to implementation of the SWPPP, and
  - Any incidents of non-compliance and the corrective actions taken.

## **13 REVISION OF THE SWPPP**

The SWPPP will be revised to include and address the findings of the Annual Comprehensive Site Compliance Evaluation Checklist within three (3) weeks following

completion of the evaluation. Revisions will include all applicable changes that result from the annual comprehensive site compliance evaluation report and all applicable updates to:

- Elements of the SWPPP that require modification for effectiveness;
- Any additional elements (e.g. structural controls or BMPs) that should be added or modified for prevention of pollution;
- The site map;
- The inventory of exposed materials;
- The description of the good housekeeping measures;
- The description of structural and non-structural controls; and
- Any other element of the plan that was either found to be inaccurate or that will be modified.

If existing BMPs need to be modified or added, implementation must be completed in a timely manner but in no case more than 90 days after completion of the comprehensive site evaluation. Revisions to this SWPPP should be listed in the SWPPP Review/Revisions Log in **Appendix F**.



# Appendix A

## Site Map and Figures

## General Location Map

## Nassau Terminals

315 N 2<sup>nd</sup> St

Fernandina Beach, FL 32034



Source: U.S. Geological Survey, 2021. Map of Fernandina Beach, FL Quadrangle: The Geological Survey, scale 1:24,000.








## Site Map

## Nassau Terminals

315 N 2<sup>nd</sup> St

Fernandina Beach, FL 32034



ID	Material	Area	Notes
1	1,000-gal diesel	A Equipment Storage Area	 Spill Kit  Drainage Boundary
2	600-gal diesel (generator)	B Loading/Unloading Areas	
3	500-gal used oil	C Material Storage Areas	
4	500-gal used oil		 Surface Flow  Facility Boundary
5	(2) 250-gal waste water		
6	3,000-gal diesel (crane 9)*		 Outfall (00#)  Entrance
7	3,000-gal diesel (crane 10)*		
8	3,500-gal diesel (crane)*		 Underground Drain Pipe Note: *Container is exempt from SPCC (motive power)
9	250-gal diesel (crane)*		
10	250-gal diesel (generator)		

Note: \*Container is exempt from SPCC (motive power)

Revised 12/13/22

# Appendix B

## Contact List/ Pollution Prevention Team

## Contact List/Pollution Prevention Team

Individual	Role and Responsibilities
<p>Kyle Clark – (910) 231-7940 General Manager / Stormwater Compliance Manager</p>	<ul style="list-style-type: none"> <li>• Oversee the development and implementation of the SWPPP</li> <li>• Oversee completion of all required inspections and facility assessments</li> <li>• Oversee collection of stormwater samples</li> <li>• Update the SWPPP as necessary</li> <li>• Oversee spill response</li> <li>• Ensure completion of the comprehensive compliance evaluation inspection to be performed annually</li> <li>• Ensure implementation of best management practices</li> <li>• Ensure implementation of training program as required by the SWPPP</li> <li>• Maintains facility records</li> </ul>
<p>Terry Bleckner – (801) 865-2387 Sr. SH&amp;E Manager</p>	<ul style="list-style-type: none"> <li>• Update the SWPPP as necessary</li> <li>• Support the facility in implementing BMPs</li> <li>• Assist the facility as needed</li> </ul>
<p>Landon Bott – (801) 722-9897 Sr. Environmental Manager</p>	<ul style="list-style-type: none"> <li>• Development of the SWPPP</li> <li>• Update the SWPPP as necessary</li> <li>• Support the facility in implementing BMPs</li> <li>• Assist the facility as needed</li> </ul>



## Appendix C

### Potential Pollutants

# Potential Pollutants

Type	Contents	Typical Location	Stormwater Control	Predicted Drainage (Outfall)
Outdoor Storage	Material Storage Areas	Center of the facility	Material stored in closed containers, staged away from drainage courses/ inlets as much as practical	001, 002, 003, 006
Storage Tank	Diesel	East of Transit Shed	Double-walled tank	002
Drum Storage	Used oil	Maintenance Shop	Indoor/covered storage	002
Drum Storage	Used oil absorbents	Throughout facility (as needed)	Closed container storage	All
Outdoor Process	Equipment maintenance	Maintenance Shop	Performed under roofed area when possible, but otherwise performed during dry weather with controls to capture fluids	002
Outdoor Process	Fueling operations	Dock, east of Transit Shed	Active containment or sufficiently sized containers for nozzles	002
Outdoor Process	Loading and unloading operations	Dock, near material storage areas	Performed away from drainage courses/inlets	All
Outdoor Process	Mobile equipment	Throughout facility	Preventive maintenance	All
Outdoor Process	Sediment Runoff	Unpaved area	Housekeeping, proper maintenance of stormwater control devices	006

## Appendix D

### Certifications

# Management Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

---

Name (printed)

---

Title

---

Signature

---

Date

# Appendix E

## Reportable Spills



# Reportable Spills

Date	Material Spilled/Leaked	Quantity Spilled/Leaked	Quantity Recovered	Cause of Spill/Leak	Is Material Still Exposed to Stormwater	Preventative Measures Taken

# Appendix F

## SWPPP Review/Revision Log

## SWPPP Review/Revision Log

Date of Review/ Revision	Name of Reviewer	Changes Made

Note: This SWPPP is based on a plan initially developed on December 13, 2022.

# Appendix G

## Forms and Checklists

# Annual Comprehensive Site Compliance Evaluation Checklist

<b>Facility:</b>						
<b>Inspector Name/Title:</b>					<b>Date:</b>	
<b>Weather During Inspection:</b>						
Inspection Element	(Check one; any "Yes" responses require corrective action)			Findings	Corrective Action	Date Completed
	Yes	No	NA			
<b>Activities Exposed to Stormwater</b>						
Are exposed materials onsite that aren't identified in the Inventory of Exposed Materials section of the SWPPP?						
Do fueling areas need maintenance?						
Is equipment leaking and requiring maintenance?						
<b>Control Measures</b>						
Are there any issues with non-structural BMPs (e.g., good housekeeping measures and spill prevention)?						
Do structural controls (e.g. silt fence, swales, culverts, detention ponds, etc) need maintenance or replacement?						
Are additional control measures needed in any area of the site?						
Do the outfall(s) require maintenance?						
If dust is controlled with water, is too much being applied causing mud to be discharged offsite/into outfalls?						
Is dirt/mud being tracked offsite?						



<b>Non-Stormwater Evaluation</b>						
Are there any non-stormwater discharges at the outfall(s)?						
Are there any discharges from the site or pollutants that were previously unidentified?						
Is there potential for pollutants entering the drainage system?						
Is there evidence of pollutants discharging to receiving waters?						
<b>SWPPP Review</b>						
Does the SWPPP need to be revised based on the findings of this evaluation?						
Are there items that need to be added or removed to the site map?						
Does the contact information for the pollution prevention team need to be updated?						
<b>Training Review</b>						
Are there deficiencies with the team member training and education program?						
Do any team members need additional training?						

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

Note: Findings must be addressed within 12 weeks of evaluation.

# Periodic Inspection Checklist

<b>Facility:</b>						
<b>Inspector Name/Title:</b>				<b>Date:</b>		
<b>Weather During Inspection:</b>				<b>Discharge Occurring Now?</b>		
<b>Ensure each of the following areas are inspected:</b> pressure washing area, blasting, sanding, and painting areas, material storage areas, engine maintenance and repair areas, material handling areas, drydock area, and general yard area						
Inspection Element	(Check one; any "Yes" responses require corrective action)			Findings	Corrective Action	Date Completed
	Yes	No	NA			
<b>Activities Exposed to Stormwater</b>						
Are there new pollutants onsite that need to be added to the SWPPP?						
Are additional controls/maintenance needed at material loading/unloading areas?						
Do fueling areas need maintenance?						
Is equipment leaking and requiring maintenance?						
Is outdoor vehicle/equipment washing causing pollution?						
Are stock piles uncontrolled and causing pollution?						
<b>Control Measures</b>						
Are there any issues with non-structural BMPs (e.g., good housekeeping measures and spill						

prevention)?						
Are berms, curbing, and/or secondary containment structures missing or need repairs?						
Do structural controls (e.g. silt fence, swales, culverts, detention ponds, etc) need maintenance or replacement?						
Are there any existing BMPs that are not properly or completely implemented?						
Are additional control measures needed in any area of the site?						
Do the outfall(s) require maintenance?						
Is sweeping of paved areas inadequate?						
Is dirt/mud being tracked offsite?						
Does the site map need to be updated?						
Are there any incidents of non-compliance?						

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

# Visual Assessment of Stormwater Quality

<b>Facility:</b>				
<b>Outfall Number(s):</b>				
<b>Sampler Name/Title:</b>				
<b>Discharge Occurring Now (circle one):</b>		<b>Yes</b>	<b>No</b>	<b>Date:</b>
<b>Nature of discharge (circle one):</b>		<b>Rain</b>	<b>Snowmelt</b>	<b>Time:</b>
<b>Observations</b>	<b>Circle one</b>			
Color	None	Other:		
Clarity	Clear	Slightly Cloudy	Cloudy	Opaque
Floating Solids	Yes	No		
Settled Solids	Yes	No		
Suspended Solids	Yes	No		
Foam	Yes	No		
Oil Sheen	Yes	No		
Odor	Yes	No		

Are there any other obvious indicators of stormwater pollution? If yes, describe: \_\_\_\_\_

If a sample was not collected within the required timeframe, please explain why: \_\_\_\_\_

Describe measures taken to determine the source of any contaminants and changes to best management practices to prevent contact with water: \_\_\_\_\_

## Appendix H

### Training Records



## *Appendix 3 – Port of Fernandina Truck Circulation Study*

An aerial photograph of the Port of Fernandina, showing a large body of water on the left, a dense grid of streets and buildings in the center, and a large industrial area with a shipyard on the right. The image is overlaid with a semi-transparent blue filter.

# PORT OF FERNANDINA TRUCK CIRCULATION STUDY

OCTOBER 2015

PREPARED FOR:



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## APPENDICES

Appendix A: Comparison of May and June Daily Traffic

Appendix B: Raw Count Data

Appendix C: FHWA Classification Scheme F

Appendix D: Truck Percentage by Movement

Appendix E: Signal Timing Data

Appendix F: Synchro Output

## **I. INTRODUCTION**

The North Florida Transportation Planning Organization and the Port of Fernandina has requested a truck circulation study in order to update and evaluate the existing traffic and truck levels on the local arterial intersections of the City of Fernandina Beach, FL. Evaluated in this study is the existing truck traffic generated by the Port of Fernandina and the two industrial sites (mills) within the vicinity of the Port.

## **II. STUDY AREA**

The City of Fernandina Beach, FL is located in Nassau County and is home to tourist destinations as well as industrial sites. Fernandina Beach offers a historic downtown area in addition to beach access. Three industrial sites generate truck traffic to the City. Rayonier Inc. operates a saw mill 24 hours a day, 7 days a week on the west side of the City on the coast of the St. Marys River. The Port of Fernandina lies on the St. Marys River approximately 1 mile north of Rayonier. The Port's container interchange gate is open Monday-Friday, 7AM-9PM. Warehouse access is available Monday-Friday, 7AM-11PM. The third industrial site is a paper mill operated by WestRock at the northern terminus of 8th Street/SR A1A. WestRock is open Monday-Friday, 8AM-5PM (See Figure 1).

The truck circulation study focuses on traffic movements along two north/south corridors: 8th Street/SR A1A and 14th Street/SR 105. SR A1A is a major state route which connects the City of Fernandina to the rest of the region. The study area, shown in Figure 1, includes the following intersections:

8th Street/SR A1A at:

1. Sadler Road
2. Courson Road
3. Lime Street
4. Gum Street
5. Beech Street
6. Centre Street/Atlantic Avenue
7. Dade Street
8. Escambia Street

14th Street/SR 105 at:

9. Sadler Road
10. Courson Road
11. Lime Street
12. Atlantic Avenue
13. Franklin Street



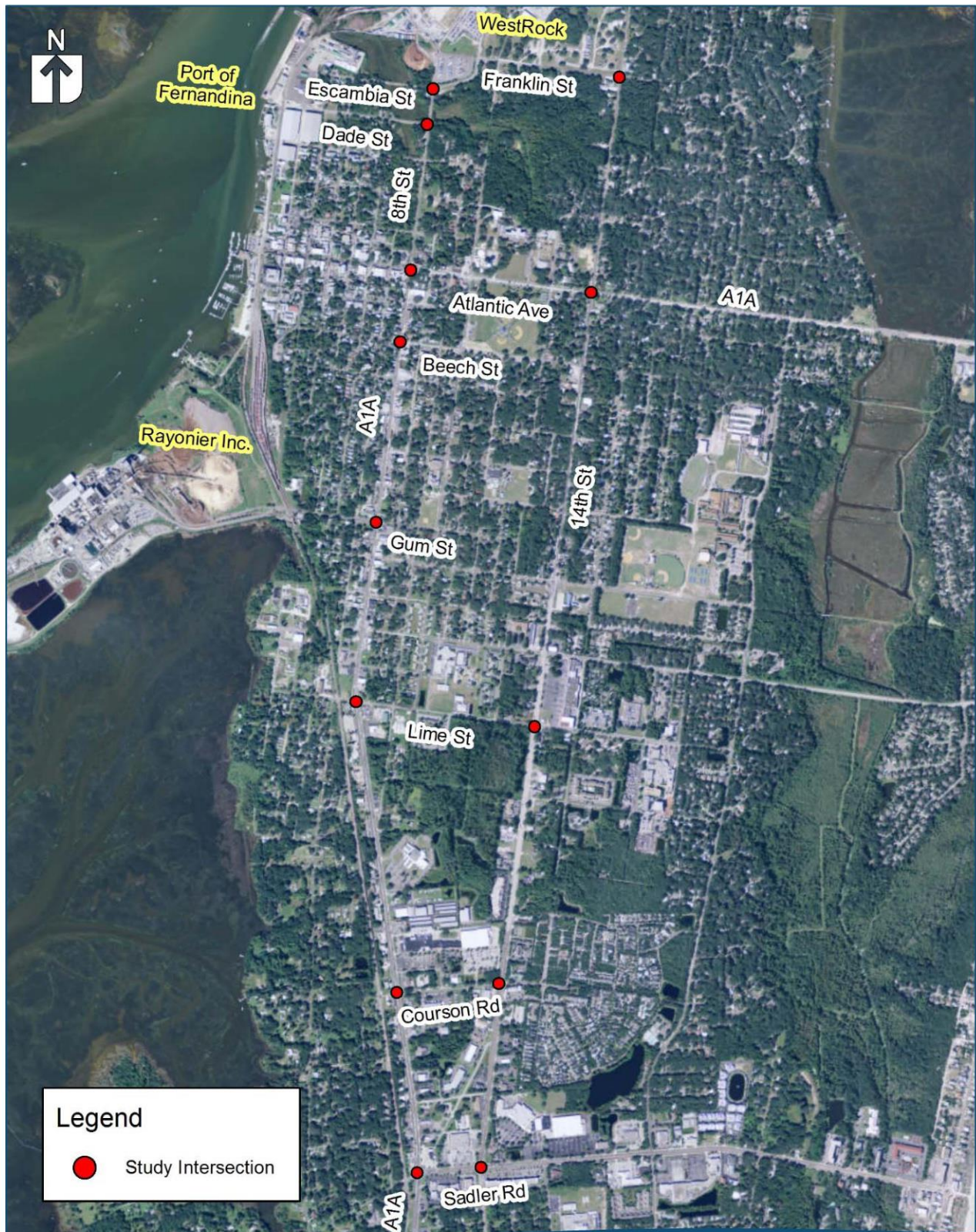


FIGURE 1. STUDY AREA MAP



### III. FIELD DATA COLLECTION

Field traffic counts are the primary source of existing traffic data for this study. Both daily classification counts and peak period Turning Movement Counts (TMC) were collected within the study area. Twelve 48-hour classification counts were collected on May 12th-14th, 2015 and May 19th-20th and one 5 day classification count was collected the week of May 12th (8th Street/SR A1A south of Sadler Road). A second week of data (7 days) was collected at SR A1A south of Sadler Road during the week of June 2nd which enabled a comparison of traffic volumes when school was in session versus when it was out of session. The daily traffic collected during May was consistently, though slightly, higher than the June daily traffic when comparing the same day of the week. Traffic volumes on Saturday were also captured in both weeks. The weekend daily traffic in both weeks was lower than the weekday daily traffic and the May and June Saturday traffic volumes were similar. **Appendix A** shows a graphic comparison of the May and June hourly volumes for Tuesday, Wednesday, and Saturday.

Locations of classification counts included the following:

1. 8<sup>th</sup> Street/SR A1A – south of Sadler Road (7 day)
2. 8<sup>th</sup> Street/SR A1A – north of Sadler Road (48-hour)
3. Sadler Road – east of 8<sup>th</sup> Street/SR A1A (48-hour)
4. 8<sup>th</sup> Street/SR A1A – north of Gum Street (48-hour)
5. 8<sup>th</sup> Street – north of Atlantic Avenue (48-hour)
6. 8<sup>th</sup> Street – north of Dade Street (48-hour)
7. Dade Street – west of 8<sup>th</sup> Street (48-hour)
8. 14th Street/SR 105- north of Sadler Road (48-hour)
9. 14th Street/SR 105 – north of Beech Street (48-hour)
10. 14th Street/SR 105 – north of Atlantic Avenue (48-hour)
11. 14th Street/SR 105 – north of Franklin Street (48-hour)
12. Franklin Street – west of 14th Street/SR 105 (48-hour)

The 2014 FTI was utilized to perform a review of hourly traffic data within the study area. The purpose of this review was to identify the prevailing AM and PM peak periods for traffic along the study area roadways. This information was used to select the time periods for TMC data collection. The review of the data indicated a typical AM peak period and an early PM peak period. Based on this information, TMCs were collected at the 13 study intersections from 6AM-10AM to capture the AM peak and from 2PM-6PM to capture the PM peak.

**Figure 2** shows the traffic data collection sites. **Appendix B** contains the raw count data.



FIGURE 2. DATA COLLECTION SITES

## IV. EXISTING TRAFFIC

The field traffic counts were used to develop existing daily and peak hour volumes for use in this study. To calculate the Average Annual Daily Traffic (AADT) volumes an average of the 48-hour classification counts was summed for each location and factored seasonally. The Seasonal Factors (SF) used in the study were taken from the 2014 FTI database and are listed in Table 1. No axle correction was necessary because all 48-hour counts included vehicle classification.

**Table 1: Seasonal Factors Used**

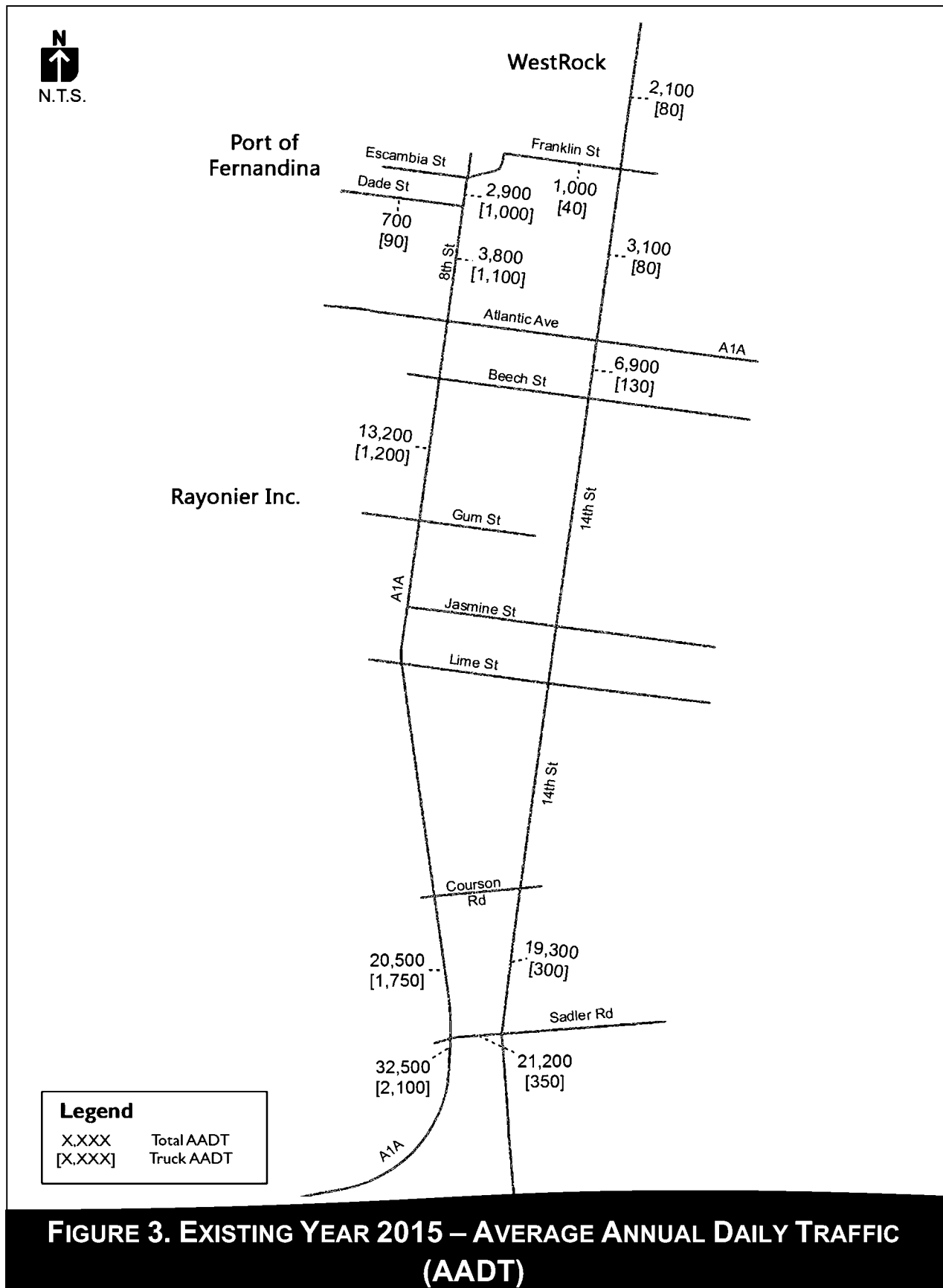
Date	Factor
May 12 <sup>th</sup> -14 <sup>th</sup> , 2015	0.95
May 19 <sup>th</sup> -20 <sup>th</sup> , 2015	0.96
June 2 <sup>nd</sup> -3 <sup>rd</sup> , 2015	0.97

Two sets of AADTs were developed for this study; total AADT and truck AADT. The total AADT includes all vehicle types. The truck AADT includes vehicle classification groups 5-13. Group 4, buses, were not included in the truck AADT because the heavy vehicles that will be going to the industrial areas will not include buses. **Appendix C** contains the FHWA Classification Scheme “F” table describing all of the vehicle class groups. Table 2 lists the existing AADTs for all vehicles and for trucks. Figure 3 displays both AADTs by location.

**Table 2: Existing AADTs**

Description	AADT (veh/day)	
	Total	Trucks
8th Street/SR A1A, s/o Sadler Road	32,500	2,100
8th Street/SR A1A, n/o Sadler Road	20,500	1,800
Sadler Road, east of 8th Street	21,200	400
8th Street/SR A1A, n/o Gum Street	13,200	1,200
8th Street/SR A1A, n/o Alachua Street	3,800	1,100
8th Street, n/o Dade Street	2,900	1,000
Dade Street, w/o 8th Street	700	90
14th Street/SR 105, north of Sadler Road	19,300	300
14th Street/SR 105, n/o Beech Street	6,900	130
14th Street/SR 105, n/o Atlantic Avenue	3,100	80
14th Street/SR 105, n/o Franklin Street	2,100	80
Franklin Street, w/o 14th Street/SR 105	1,000	40

The network-wide AM and PM peak hours were determined by using the TMC data to find the most frequent peak hour across the study intersections. The AM peak hour was identified as 7:15AM-8:15AM while the PM peak hour was from 2:45PM-3:45PM. In general, truck traffic peaked at different times than the total traffic; however, the impacts to the study area were assessed when the highest amount of total traffic was on the roadway network. Figure 4 shows the AM and PM peak hour volumes for the study intersections.



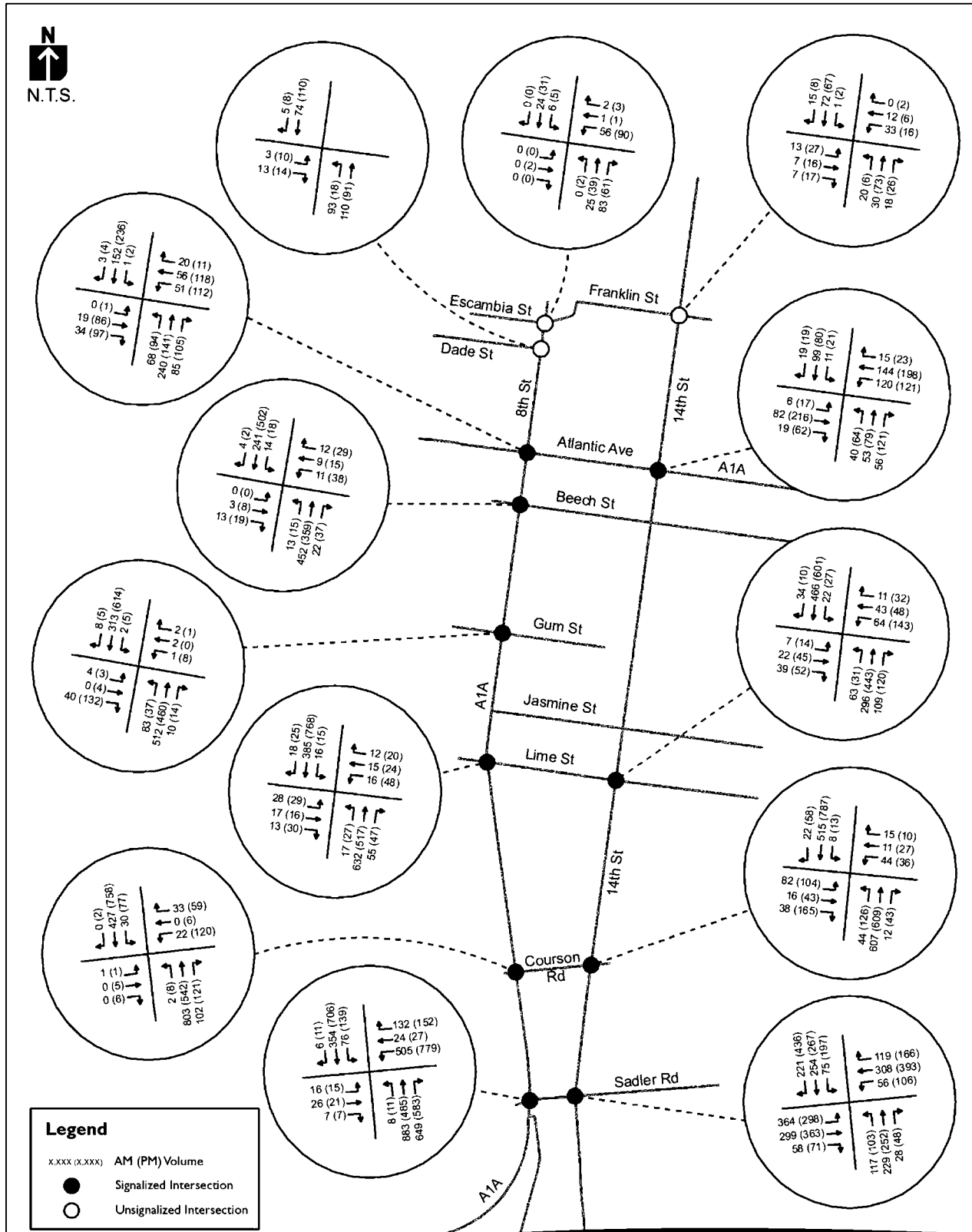


FIGURE 4. EXISTING YEAR 2015 – AM (PM) PEAK HOUR VOLUMES



The Peak Hour Factor (PHF) and truck factors used in the analysis were calculated using the existing traffic count data (Table 3). The PHF is calculated by dividing the peak hour volume by four times the peak rate of flow within the hour. For the peak hour intersection analysis, a unique PHF was used for each intersection and each peak period.

**Table 3: Peak Hour Factors**

Description	AM 7:15-8:15	PM 2:45-3:45
8th Street/SR A1A and Sadler Road	0.91	0.94
8th Street/SR A1A and Courson Road	0.86	0.92
8th Street/SR A1A and Lime Street	0.86	0.96
8th Street/SR A1A and Gum Street	0.82	0.94
8th Street/SR A1A and Beech Street	0.86	0.96
8th Street/SR A1A and Atlantic Avenue	0.87	0.92
8th Street and Dade Street	0.72	0.88
8th Street and Escambia Street	0.62	0.80
14th Street/SR 105 and Sadler Road	0.83	0.93
14th Street/SR 105 and Courson Road	0.87	0.88
14th Street/SR 105 and Lime Street	0.86	0.91
14th Street/SR 105 and Atlantic Avenue	0.84	0.95
14th Street/SR 105 and Franklin Street	0.89	0.80

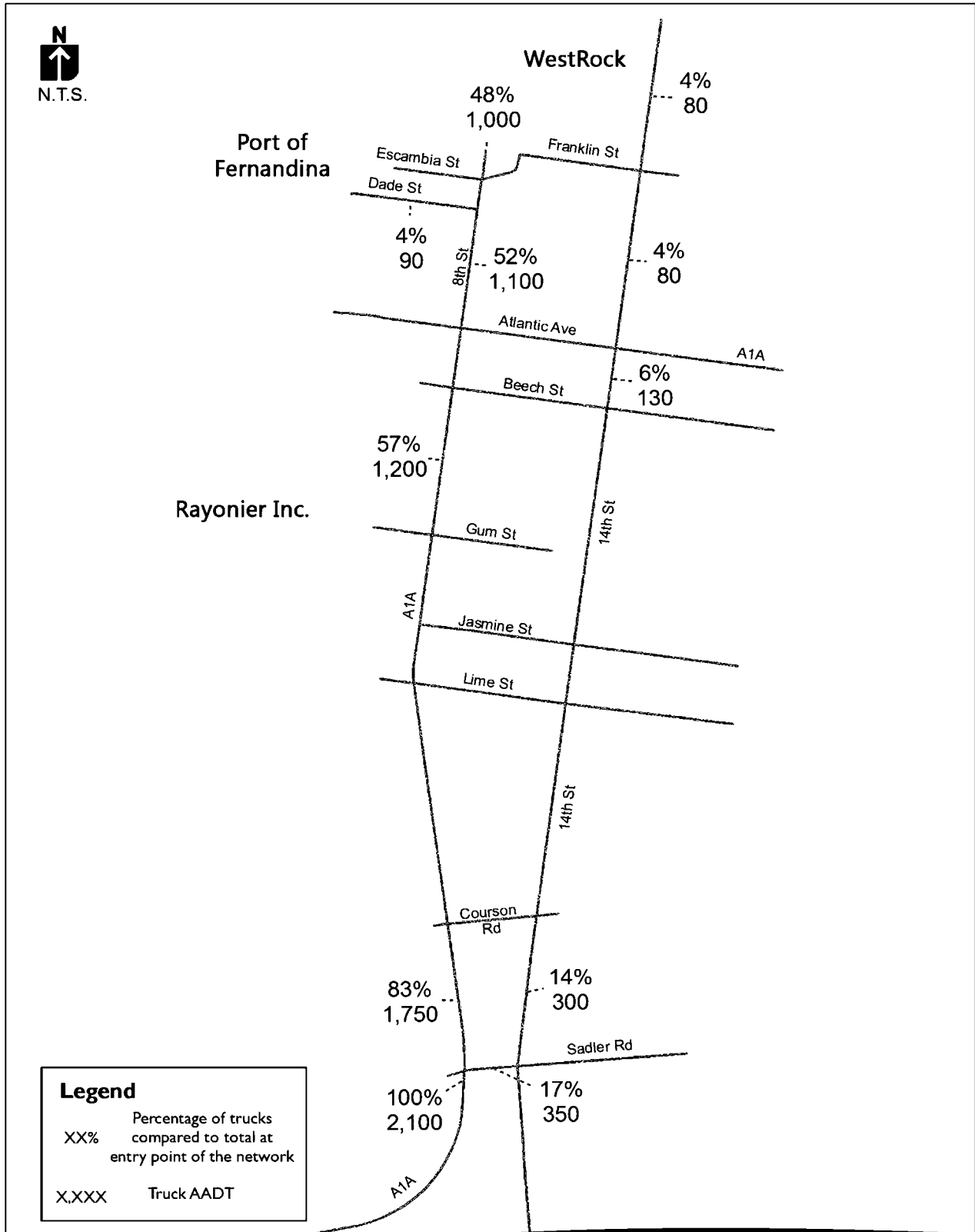
Due to the nature of this study, the peak hour truck percentage was calculated by movement for each peak. **Appendix D** contains the peak hour truck percentages calculated and used in the analysis.

## V. TRUCK CIRCULATION ANALYSIS

A truck circulation analysis was conducted along 8th Street/SR A1A and 14th Street/SR 105 to determine truck movement characteristics within the study area. In order to determine the truck flow on 8th Street/SR A1A and 14th Street/SR 105, the daily bi-directional truck AADT at each classification count station was compared to the truck AADT at the main access point to the network via 8th Street/SR A1A south of Sadler Road. The truck AADT on 8th Street/SR A1A south of Sadler Road, 2,100 veh/day, became the control point accounting for 100% of the daily truck traffic accessing the network. The AADT on each link to the north is represented as a percentage of the control point AADT as shown in Figure 5.

The analysis indicates that a majority of the truck traffic utilizes 8th Street/SR A1A as opposed to 14th Street/SR 105. Eighty three percent (83%) of the total daily trucks at the main access point of the network used the 8th Street/SR A1A link north of Sadler Road while 17% utilize the Sadler Road link east of 8th Street/SR A1A. A large decrease in trucks is experienced north of Gum Street (83% to 57%). Trucks destined for the Rayonier Inc. industrial site utilize Gum Street west of 8th Street/SR A1A to enter the mill.

The next industrial site northwards, west of 8th Street, is the Port of Fernandina. Trucks destined for the Port of Fernandina utilize Dade Street. Four percent (4%) of the total daily trucks entering the network, 90 trucks/day, are observed on Dade Street west of 8th Street. The last industrial site, WestRock, is accessed via 8th Street and Franklin Street; 48% of the total daily trucks entering the network utilize the 8th Street link north of Dade Street and are presumed destined for WestRock.



**FIGURE 5. EXISTING YEAR 2015 – DAILY BIDIRECTIONAL TRUCK CIRCULATION**

Based on the results of the truck circulation analysis, it can be determined that the majority of truck traffic utilizing the network are potentially originating or destined to Rayonier Inc. and WestRock industrial sites with the minority of truck traffic generated by the Port of Fernandina.

## VI. PEAK HOUR INTERSECTION ANALYSIS

Peak hour intersection analysis for existing traffic was conducted in Synchro 8 to determine the Level of Service (LOS) of each study intersection. LOS is defined as the system of six designated ranges from "A" (best) to "F" (worst). LOS is determined for an intersection or intersection approach based on the level of delay, in seconds per vehicle, experienced by drivers. **Table 4** provides the delay ranges used to determine LOS for signalized and unsignalized intersections.

**Table 4: LOS Thresholds**

Level of Service	Signalized Delay	Unsignalized Delay
A	≤ 10	≤ 10
B	>10-20	>10-15
C	>20-35	>15-25
D	>35-55	>25-35
E	>55-80	>35-50
F	>80	>50

Source: HCM 2010

The 13 intersections, 10 signalized and 3 unsignalized, were analyzed using existing lane configuration and signal timings and populated with AM and PM peak hour volumes. Signal timing and phasing data was requested and obtained from FDOT and Nassau County. **Table 5** lists the LOS and delay (seconds/vehicle) of each intersection. **Figure 6** shows the existing lane configuration and **Figure 7** shows the peak hour volumes and LOS. **Appendix E** contains the existing signal timing plans. **Appendix F** contains the Synchro output for each intersection.

**Table 5: Existing LOS and Delay**

Description	AM		PM	
	LOS	Delay <sup>1</sup>	LOS	Delay <sup>1</sup>
8th Street/SR A1A and Sadler Road	C	27.0	C	27.3
8th Street/SR A1A and Courson Road	A	6.0	B	12.3
8th Street/SR A1A and Lime Street	A	9.4	A	9.8
8th Street/SR A1A and Gum Street	A	5.1	A	7.4
8th Street/SR A1A and Beech Street	A	6.2	A	9.8
8th Street/SR A1A and Atlantic Avenue	B	19.1	C	29.6
8th Street and Dade Street <sup>2</sup>	A	9.7	A	9.5
8th Street and Escambia Street <sup>2</sup>	A	9.4	A	9.4
14th Street/SR 105 and Sadler Road	C	33.1	C	33.6
14th Street/SR 105 and Courson Road	B	16.5	C	24.3
14th Street/SR 105 and Lime Street	B	11.4	B	15.1
14th Street/SR 105 and Atlantic Avenue <sup>3</sup>	-	-	-	-
14th Street/SR 105 and Franklin Street <sup>2</sup>	B	10.3	B	10.4

1. Delay = seconds/vehicle
2. Unsignalized intersection LOS is represented by the stop-controlled approach with the highest delay.
3. Signal timing data for 14th Street/SR 105 and Atlantic Avenue could not be obtained.

Because the overall intersection LOS is determined by a weighted average of all vehicles entering the intersection it is important to review delay for each individual approach. For example **Table 6** shows the LOS and delay (s/veh) for each approach in the AM and PM peak for the intersection at 8<sup>th</sup> Street/SR A1A and Sadler. The eastbound and westbound approaches experience slightly higher delay corresponding to LOS D while the overall intersection LOS is C. All study intersections were reviewed and no approaches experience LOS F operations.

**Table 6: 8<sup>th</sup> Street/SR A1A and Sadler Road Existing LOS and Delay**

Description	AM Peak				PM Peak			
	EB	WB	NB	SB	EB	WB	NB	SB
8th Street/SR A1A and Sadler Rd	D	D	C	B	D	D	B	C
	48.2	37.3	20.5	17.1	45.2	40.3	17.6	24.1

The study intersection at 8th Street and Escambia Street is a three-way stop-controlled intersection with the northbound movement free. The Highway Capacity Manual (HCM) does not provide procedures to calculate delay and LOS at three-way stop-controlled intersections. To estimate the delay at this intersection using current HCM procedures, it was analyzed as an all-way stop-controlled intersection and the highest approach delay (southbound) was reported.

In the existing conditions, the analysis showed that all of the study intersections operate at LOS C or better during the AM and PM peak hours; therefore no intersection mitigation is proposed.

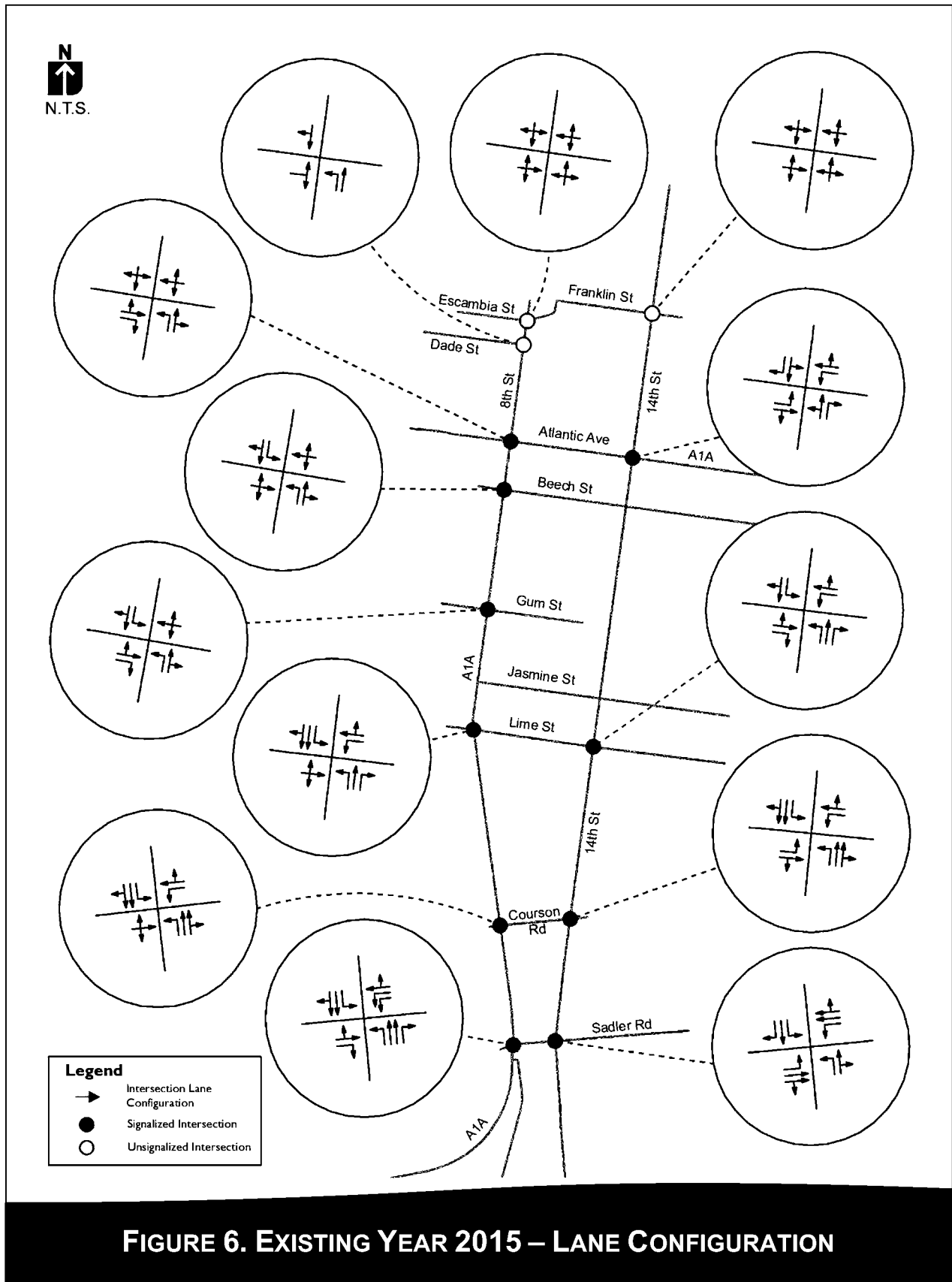
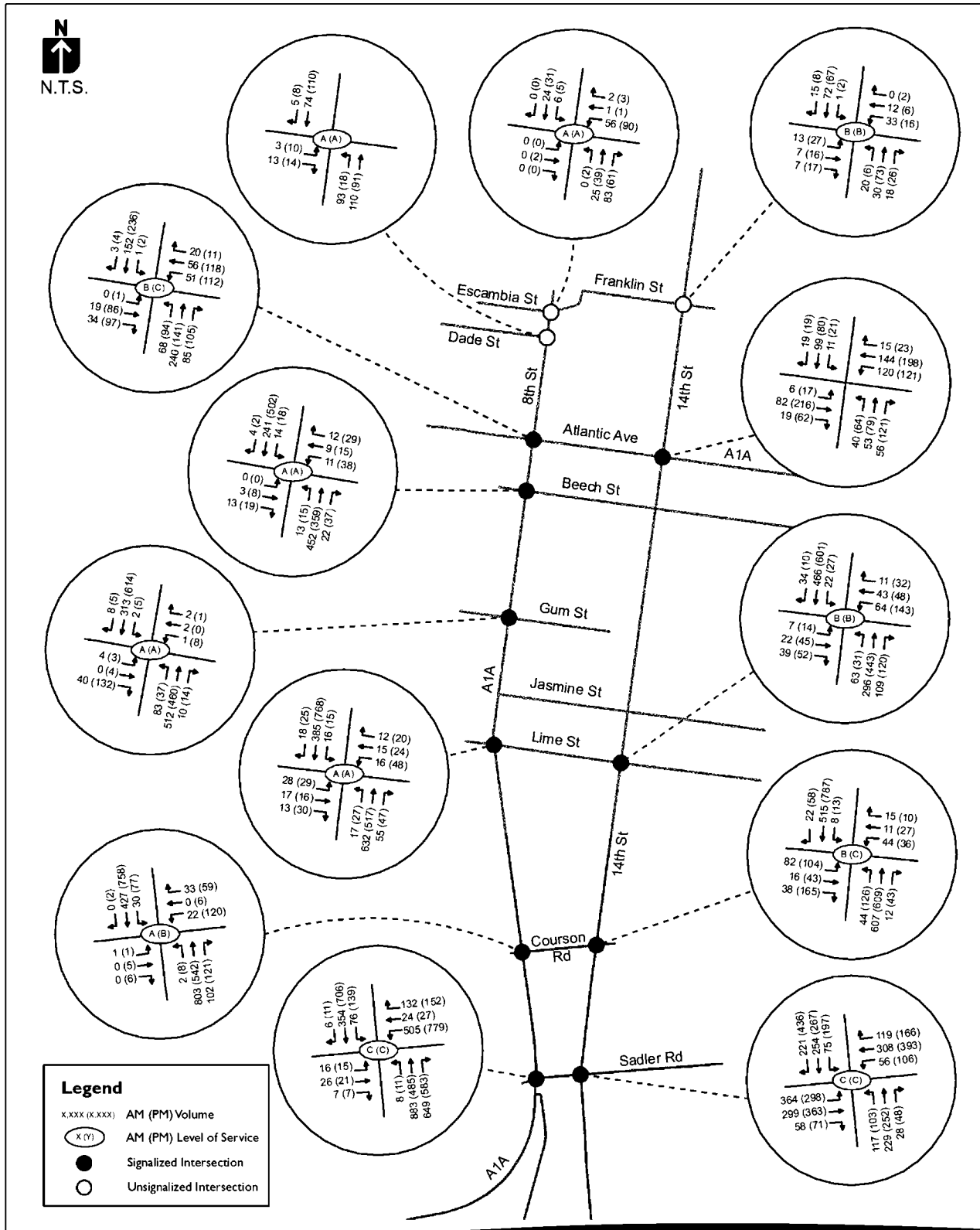


FIGURE 6. EXISTING YEAR 2015 – LANE CONFIGURATION





**FIGURE 7. EXISTING YEAR 2015 – AM (PM) PEAK HOUR VOLUMES AND LEVEL OF SERVICE (LOS)**

## **VII. SUMMARY OF CONCLUSIONS**

Again, the purpose of this study was to update and evaluate the existing traffic and truck movements through the study area. The existing traffic data shows that a majority of the daily truck traffic at the entry location of the study area uses 8th street/SR A1A and is destined for one of the two mill industrial sites, Rayonier Inc. or WestRock. The results of this traffic circulation study indicate that truck traffic generated by the Port of Fernandina are minimal and it can be assumed it may not adversely impact the traffic operations within the study area. Trucks at the main access point to the network (on 8<sup>th</sup> Street/SR A1A, south of Sadler Road) consisted of 6% of the total traffic. The portion of trucks attributed to the Port of Fernandina accounts for 4% of the total truck traffic at the main access point to the study area (90 trucks/day). The AM and PM peak hour intersection analysis indicates that all study intersections operate at LOS C or better.

## *Appendix 4 – Future Rail Corridors Study*



# Future Rail Corridors Study



# FUTURE RAIL CORRIDORS STUDY

AUGUST 2011

PREPARED FOR THE



AND THE



PREPARED BY:





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## Introduction

The Jacksonville Port Authority (JAXPORT), an international trade seaport in Northeast Florida, is evaluating the development of an “on-port” intermodal rail facility, sometimes referred to as an *intermodal container transfer facility* (ICTF), to serve its current and planned marine container terminals at Dames Point and Blount Island. Viable rail access is critical to the development of a successful intermodal solution for containerized commodity flows.

Currently, all railed containers moving from or to JAXPORT’s Dames Point or Blount Island Marine Terminals move by truck via highway along SR9A/I-295 to CSX and Norfolk Southern (NS) Intermodal Rail Terminals located on the west side of Jacksonville, a distance of about 20 miles. Containers are trucked, or drayed, from JAXPORT’s Dames Point or Blount Island Terminals to intermodal yards where trains are built for long distance trips outside of the region. Only CSX rail lines reach the port’s Dames Point and Blount Island Terminals. However, JAXPORT’s Talleyrand Marine Terminal interchanges intermodal cars to both CSX and NS at F&J Yard, a small rail yard west of Talleyrand.

## Purpose and Need

The purpose of this study was to identify opportunities and constraints for potential future rail access alternatives that can be considered for JAXPORT’s Dames Point and Blount Island Terminals. The identification of long term rail access solutions is an important step for Northeast Florida region as it continues the pursuit to grow the transportation and logistics industry sector. A primary concern of JAXPORT is that its tenants have adequate rail and roadway access in order to stay competitive with other ports.

Why should the process of securing a long term rail access solution begin now? This is a legitimate question given current economic conditions; however the answer to this question is related to several conditions as outlined below.

- All trains that travel between the Port of Jacksonville (including marine terminals on JAXPORT property, military, JEA and other private marine terminals) and Class I rail mainlines must travel on rail routes that currently go through Jacksonville;
- JAXPORT’s intermodal container volumes, and potentially other Port of Jacksonville cargo volumes, are expected to increase in the long term;
- Existing urban rail lines contain numerous at-grade crossings and will likely need upgrades to safely and more efficiently handle longer and more frequent intermodal trains;
- The volume of containers and other cargo may increase to a point whereby draying could become more cost sensitive than it is currently;
- Increases in draying may either create a roadway capacity issue or raise community concerns;
- Increases in train volumes along portions of existing city routes may not fit with the community’s redevelopment vision for that area;
- Good intermodal connectivity, including an “on-dock” or “near-dock” intermodal container terminal facility, is critical to the success of Northeast Florida’s freight transportation system, and ultimately, its economy;
- Adequate rail infrastructure, including adequate rail access, is critical for the region to efficiently handle any planned on intermodal container terminal facility operation;

- Rail access alternatives and plans must be developed in coordination with the rail carriers;
- The process for ensuring efficient rail access is lengthy, as the time to plan, design, fund and construct infrastructure can take 2-10 years, or more;
- Land use coordination is critical to development of rail access options as alternatives tend to diminish over time with other competing activities such as land development can either eliminate options or greatly increase the project costs for options; and
- Large infrastructure projects require extensive coordination and collaboration between public agencies, private business interests, and land owners.

Therefore, the following key **objectives** were considered for the study taking into account existing rail access conditions within the region; the state of the practice related to commodity flows and intermodal freight movements; the need to remain competitive with other ports; and the opportunity to leverage rail, port and highway assets located in Northeast Florida.

1. Identify future rail corridors connecting JAXPORT Marine Terminals to railroad mainlines;
2. Consider economic and environmental opportunities and constraints; and
3. Develop a “Next Steps” action plan for public and private stakeholders

Taking into consideration the importance of intermodal connectivity to the success of the region’s transportation system; as well as the multiple processes for developing large scale infrastructure projects, the following assumptions were made regarding the study:

1. On-port rail access is considered a NEED in the future, not just a desire.
2. An “on-dock” or “near-dock” ICTF is considered a NEED in the future, not just a desire.
3. Planning long term infrastructure is considered an economic development imperative.
4. Clear defined roles and responsibilities for stakeholders must be developed in the next phase.

It was NOT the intent of this evaluation to determine or recommend an alignment, the proper business/commercial arrangements or agreements for accommodating multi-carrier rail access, or location of facilities such as intermodal yards or distribution centers. This evaluation was to simply present opportunities and constraints of potential long-term alternatives and to facilitate the needed conversations and efforts to align agencies, private operators, and other parties on next steps such that future alternatives are preserved or studied further.

## Introduction to Rail Alternatives

Four potential route alternatives were included in this evaluation and are shown on Figure 1.

1. Existing Route
2. Gross Connection
3. JEA Power Line Easement
4. Braddock/JIA

CSX and NS have existing rail routes through urbanized portions of Jacksonville, north of Downtown, named for this study as the **Existing Option**. These routes traverse the urban core of Jacksonville and link the Port of Jacksonville with intermodal rail terminals and yards on the west side. As previously mentioned, these rail lines contain numerous at-grade crossings and will likely need upgrades to safely and more efficiently handle longer and more frequent intermodal trains.

CSX has offered a rail route option, called the **Gross Connection**, as one alternative to the existing rail routes. The Gross Connection, a former CSX line, now abandoned, would require trains to travel approximately a 40 mile one way trip through portions of Jacksonville and Nassau County. Additionally, the property required for successful implementation of the Gross Connection Option is currently in private ownership.

As a result of limitations identified for both the Existing and Gross Connection Options, two additional rail connection options were considered for evaluation. These two options, called the **JEA Power Line Easement Option** and the **Braddock/JIA Option**, are both located within Jacksonville, north of the Existing Jacksonville Option and south of the Gross Connection Option.

Each of the rail access options connect to both the CSX Dames Point spur and the CSX Kingsland Subdivision (i.e., the line parallel to US 17/Main Street). Only the Power Line Easement Option would potentially not require use of the CSX Kingsland line or the Dames Point Spur. According to a Jacksonville Transportation Authority (JTA) Commuter Rail Feasibility Study (2009), the CSX Kingsland Subdivision has approximately 150 feet of ROW and the highest density of local freight customers and industrial plants of all lines in the region with four active freight sidings. Annual freight volume is approximately 5 -10 million gross tons annually.

## CARRIER ACCESS

While not a specific objective of this evaluation, the issue of dual-carrier or multi-carrier access is accommodated in one or more of the following conditions:

- Service, trackage rights, or usage agreements between landlord and tenant railroads;
- Separate rail lines into port terminals;
- Third party short rail operator providing multi-carrier service on either landlord rail lines (usage agreement), or third party rail owner (i.e., JPA, City of Jacksonville, etc.)

For JAXPORT, only CSX rail lines reach the Port's Dames Point and Blount Island Terminals. This holds true for other Port of Jacksonville Marine Terminals as well. Shippers often take the position that having more than one carrier serving their facility creates added competition which can result in lower shipping costs. On the other hand, a rail carrier will protect its franchise right to exclusively serve the customers located on its rail lines. Under current conditions, multi-carrier access to these terminals would require a service agreement between CSX and NS.

Rail carrier trackage rights agreements are common in the railroad industry. These voluntary arrangements allow one carrier to operate over the lines of another carrier and are generally driven by some type of operating efficiency that is mutually advantageous to both rail carriers. In reaching agreement the landlord railroad and the tenant railroad must agree on multiple terms and conditions.

## QUALITATIVE EVALUATION PROCESS

The study team, which consisted of rail industry experts with detailed working knowledge of both CSX and NS, investigated and summarized information related to industry experience as well as evaluated rail route options. Additionally, the study was augmented with stakeholder coordination. In addition to

the North Florida TPO and JAXPORT, study sponsors, discussions were held with rail providers (i.e., CSX and Rail Link, a short line railroad operating company currently operating JAXPORT's Talleyrand Terminal Railroad as well as the First Coast Railroad, in nearby Nassau County to the north).

Criteria considering environmental and public land constraints; community impacts; land use; and operational impacts were utilized. Geographic information systems (GIS) assisted with the evaluation and with illustrating the route options. Areas of evaluation for the rail options were as follows:

- Existing rail lines/alignments – 150-foot buffer (75 feet on either side of an approximate center line); and
- Potential new rail lines/ corridors – 150-foot to .5 mile corridor

### **Environmental and Public Land Constraints**

Each potential rail corridor was assessed based on the impact it might have to wetlands, floodplains and public/managed lands. Utilizing GIS, the total acres within a 150 ft. buffer for each potential rail option was approximated. Table 1 (located at the end of the report) describes whether or not wetlands, floodplains and public lands exist within the buffer for each of the four potential rail route options.

### **Community Impact**

Aspects of the surrounding community were taken into consideration within the 150 foot buffer for each potential rail access option. A primary aspect of freight rail impacting the surrounding community is the number of at-grade crossings. Utilizing GIS, approximate at-grade crossings were mapped to identify potential impacts to local surface streets, neighborhoods and commuters as a result of freight trains moving through the area.

### **Land Use Considerations**

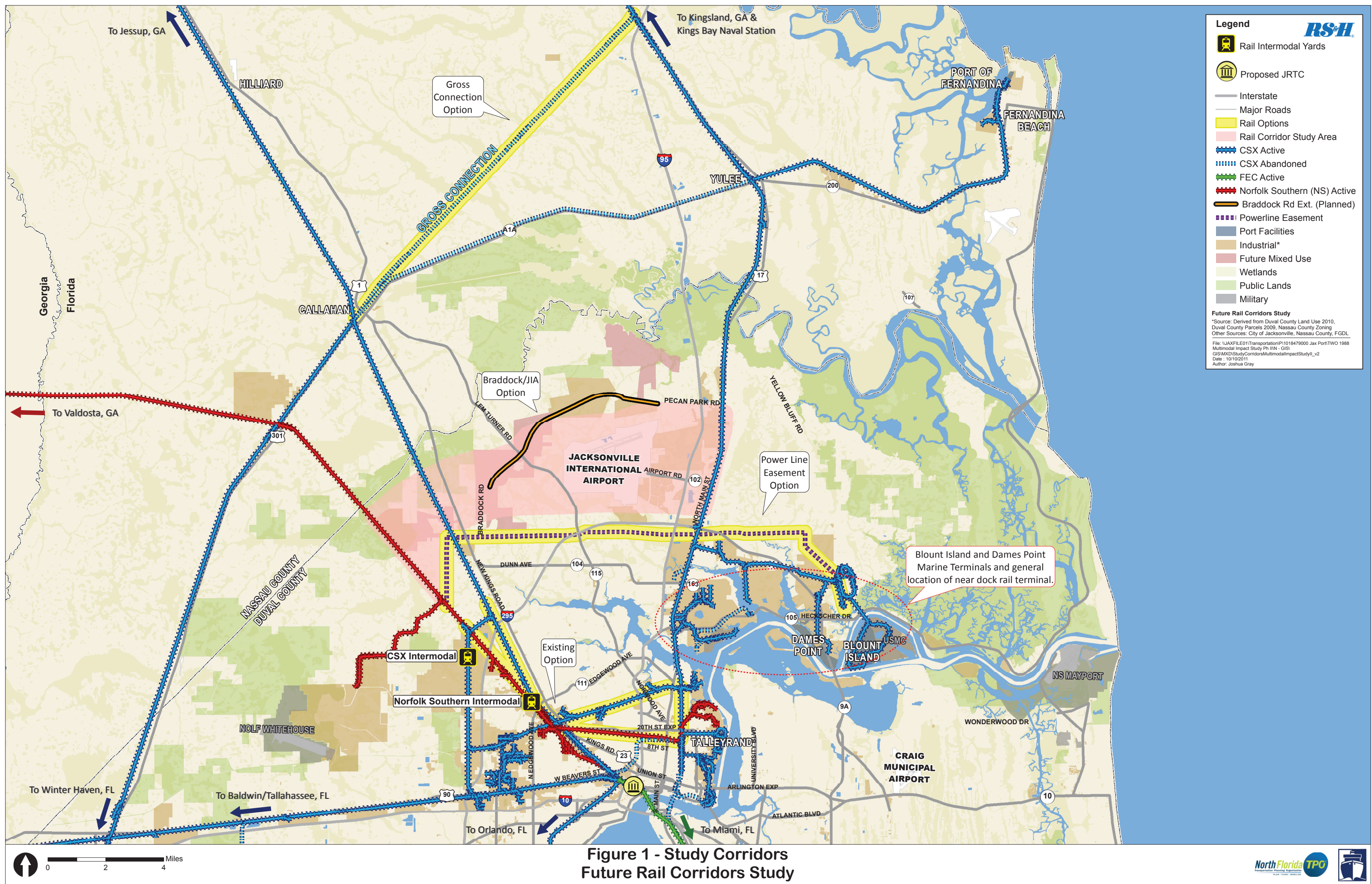
Land use conditions for each of the rail options were considered. Existing and future land use in the areas surrounding each rail route option was mapped and listed in Table 1. Additionally, for the planned Braddock Road extension (i.e., Braddock Parkway), discussions with the City of Jacksonville (COJ) Planning Department and the Northeast Florida Regional Council (NEFRC) helped the project team to understand the status of land use amendments and planned land use in the area surrounding the corridor.

### **Operational /Infrastructure Issues**

This section summarizes the effects of changes in type and/or extent of rail operations. Increased freight rail volumes would likely require new track, sidings and new/modified overpasses and/or bridges. Even without increased freight rail volume, three out of the four potential rail connection options will require new track. In addition, commuter rail is planned for the Kingsland Subdivision rail line, from Jacksonville to Yulee. A rail corridor serving freight operations modified to become a shared freight/passenger rail corridor would have extensive operational impacts. This is documented in JTA's Commuter Rail Feasibility Study.

To the extent possible and at a level of detail appropriate for this high level planning evaluation, rail options likely requiring new/modified infrastructure have been summarized in Table 1 as either new track, siding or grade separation. It is notable that a detailed evaluation of infrastructure requirements and costs would be necessary if one of the four rail routes is to be considered further.







## Evaluation of Rail Alternatives

Following is a summary description of evaluation results, including opportunities, constraints and a summary matrix (Table 1) of criteria for consideration.

### EXISTING ROUTE (FIGURE 2)

This route would use the existing CSX and NS rail routes through urban portions of the City of Jacksonville to reach CSX Moncrief Yard and NS Simpson Yard (and ultimately the CSX Intermodal and NS Intermodal Terminals). This route is currently used for intermodal cars interchanged from JAXPORT's Talleyrand Marine Terminal. Intermodal cars are interchanged to CSX and NS at F & J Yard, a small rail yard west of the Talleyrand Terminal. CSX and NS then move these cars on their respective lines through the city to their west side yard facilities for switching into outbound intermodal trains. The Talleyrand Terminal Railroad (TTR) Facility is owned by JAXPORT and operated by Rail Link, a division of Genesee and Wyoming, a short line railroad operating company. CSX estimates that the total run time between Dames Point and Grand Junction<sup>1</sup> is one hour.

#### *Opportunities:*

- Since the rail lines are already built, there will be little ROW acquisition cost or other development issues and/or environmental constraints related to this rail option.
- CSX has estimated that its existing city route can handle an additional two trains per day in each direction, which is reportedly equal to approximately 3 to 4 times the current volume of intermodal traffic being generated by JAXPORT. One 6000 foot doublestack train per day in each direction can carry an additional 100,000 to 125,000 containers per year.

#### *Constraints:*

- The existing routes through the city have many at-grade crossings, where rail and roadway corridors cross at the same level. Existing land uses near the existing city rail routes include homes, schools, industrial, and community assets such as the Shands Hospital. Currently, trains reportedly travel about 15 to 25 miles per hour (MPH) on existing track to the west side intermodal rail terminals.
- In the long term, particularly if the number of trains through downtown increases, existing routes through the City will require rail upgrades. Potential rail upgrades could include construction of double track or passing sidings, elimination of at-grade crossings via closures or installation of overpasses, installation of track signals (interlocking upgrades), track improvements to eliminate existing speed restrictions and potentially other rail upgrades to improve efficiency of rail operation.
- It is anticipated that the Trout River rail bridge, a swing bridge on CSX's Kingsland Subdivision line (i.e., the line parallel to US17), would be expensive to improve if it required upgrades and/or repairs. JTA's Commuter Rail Feasibility Study (2009) reports that the Trout River Bridge requires double tracking for commuter rail service.
- Discussion with Rail Link revealed there could be future capacity constraints at the F&J yard, a current interchange located just outside of JAXPORT's Talleyrand Terminal. Additional rail infrastructure may be needed to enable efficient interchange in the future.

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<sup>1</sup> Rail intersection connecting the existing CSX Option to the CSX mainline, located just north of the CSX Moncrief Yard



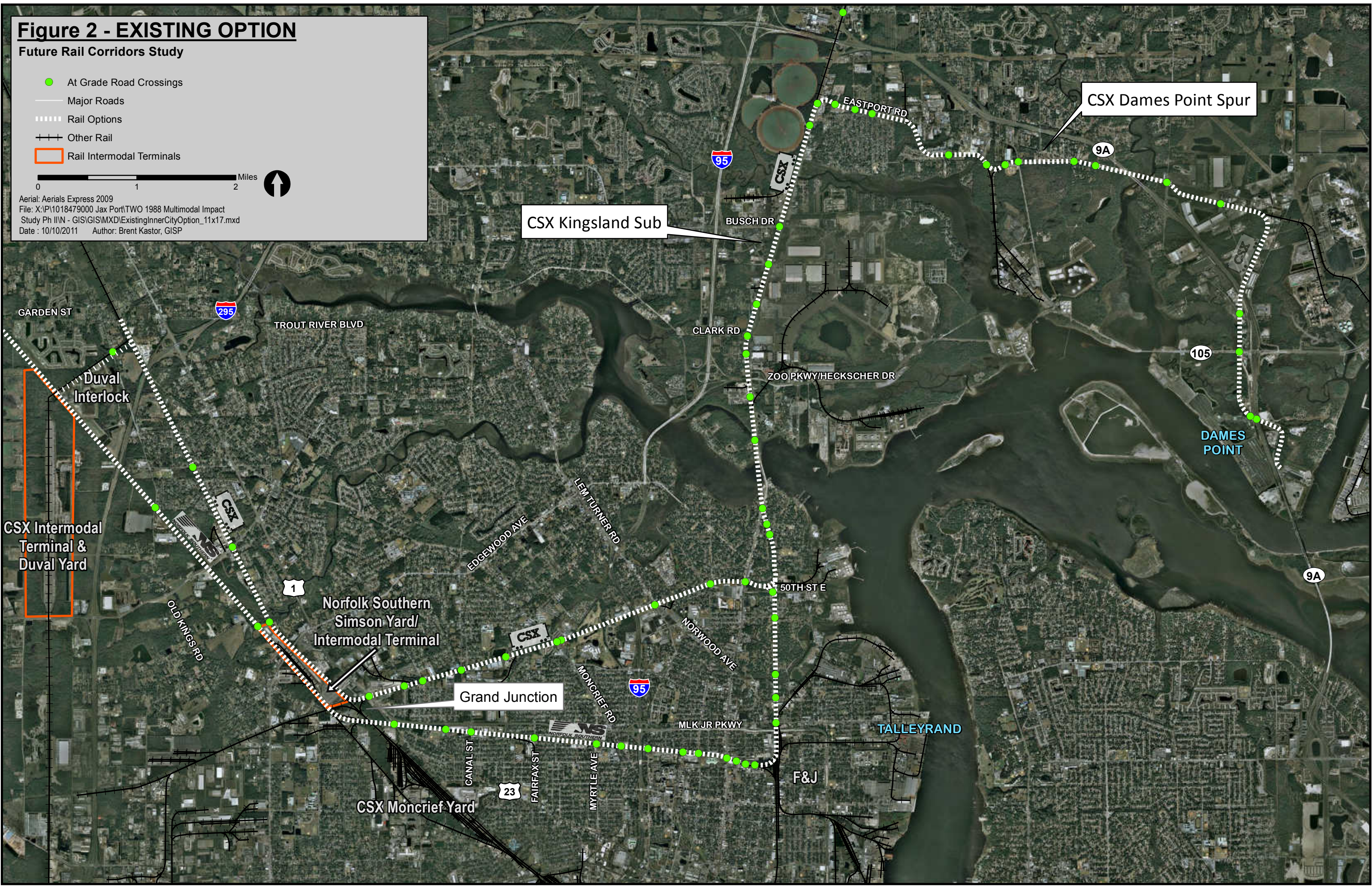
# Figure 2 - EXISTING OPTION

## Future Rail Corridors Study

- At Grade Road Crossings
- Major Roads
- ⋯ Rail Options
- + + + Other Rail
- ▭ Rail Intermodal Terminals



Aerial: Aerials Express 2009  
File: X:\P\1018479000 Jax Port\TWO 1988 Multimodal Impact  
Study Ph II\N - GIS\GIS\MXD\ExistingInnerCityOption\_11x17.mxd  
Date : 10/10/2011 Author: Brent Kastor, GISP





### GROSS CONNECTION (FIGURE 3)

This route would run north from JAXPORT's Dames Point Marine Terminal about 20 miles on CSX's Kingsland sub-division to Gross, Florida about 7 miles north of Yulee. CSX has leased its line north of Yulee to the First Coast Railroad which is operated as a division of Rail Link. At Gross, the route runs southwest along a former CSX line, referred to as the Gross Connection, to Callahan a distance of about 14 miles. At Callahan there would be a connection to the CSX main line. The total distance from JAXPORT's Dames Point Marine Terminal to Callahan is about 40 miles.

#### *Opportunities:*

- The Gross Connection has been presented by CSX as one option the rail carrier may consider to improve rail connectivity at some undetermined time in the future when volumes warrant. However, this investment would reportedly not be made until after an on port intermodal container facility was constructed and intermodal cargo volumes justified the investment.
- The overpass height at I-95 just south of Gross (where I-95 crosses the portion of CSX Kingsland line being leased by First Coast Railroad) appears sufficient to accommodate doublestack rail clearance (23 feet).
- The Gross Connection Option may facilitate access to the planned 1,800-acre Crawford Diamond Industrial Park site. This planned development is approved for 5 million square feet of high cube warehouse, light industrial and manufacturing space.

#### *Constraints:*

- The previous Gross Connection rail line has been abandoned and the right of way would need to be reacquired from the current private owner.
- This option is the northernmost of the four options evaluated making for the longest distance traveling north and around the urban area, for a total of about 40 miles to Callahan.
- There is the potential for concern from Nassau County residents. However there is an opportunity to design the corridor to minimize potential impact on Yulee and Callahan. This may include grade separated road / rail crossings and/or modifying the route's alignment to detour around areas of concern. For example, the intersection of US 17 and A1A/SR 200 in Yulee may require a highway overpass to reduce conflicts with vehicular movement through this intersection.
- The Gross Connection Option has a relatively high volume of wetlands around the portion of the rail option requiring new track, in comparison to other rail route options.
- This option requires new track and additional infrastructure to improve connectivity/operations.
  - The old Gross Connection rail line would have to be rebuilt
  - Rail infrastructure connecting the CSX spur serving JAXPORT's Blount Island and Dames Point Terminals to north along the CSX Kingsland line is not in place.
  - Since the CSX Kingsland line does not continue north past Seals, GA, rail infrastructure will have to be built at Callahan to support interchange from the Gross Connection to rail main lines.
  - Discussion with Rail Link revealed that infrastructure improvements may be required on the First Coast Railroad (FCRR) in order to handle more trains. [Rail Link currently operates along the CSX Kingsland subdivision line under a lease from CSX. This portion of the Kingsland Subdivision (as well as from Yulee to Seals, GA and to Fernandina) is called the FCRR.]



# Figure 3 - GROSS CONNECTION OPTION

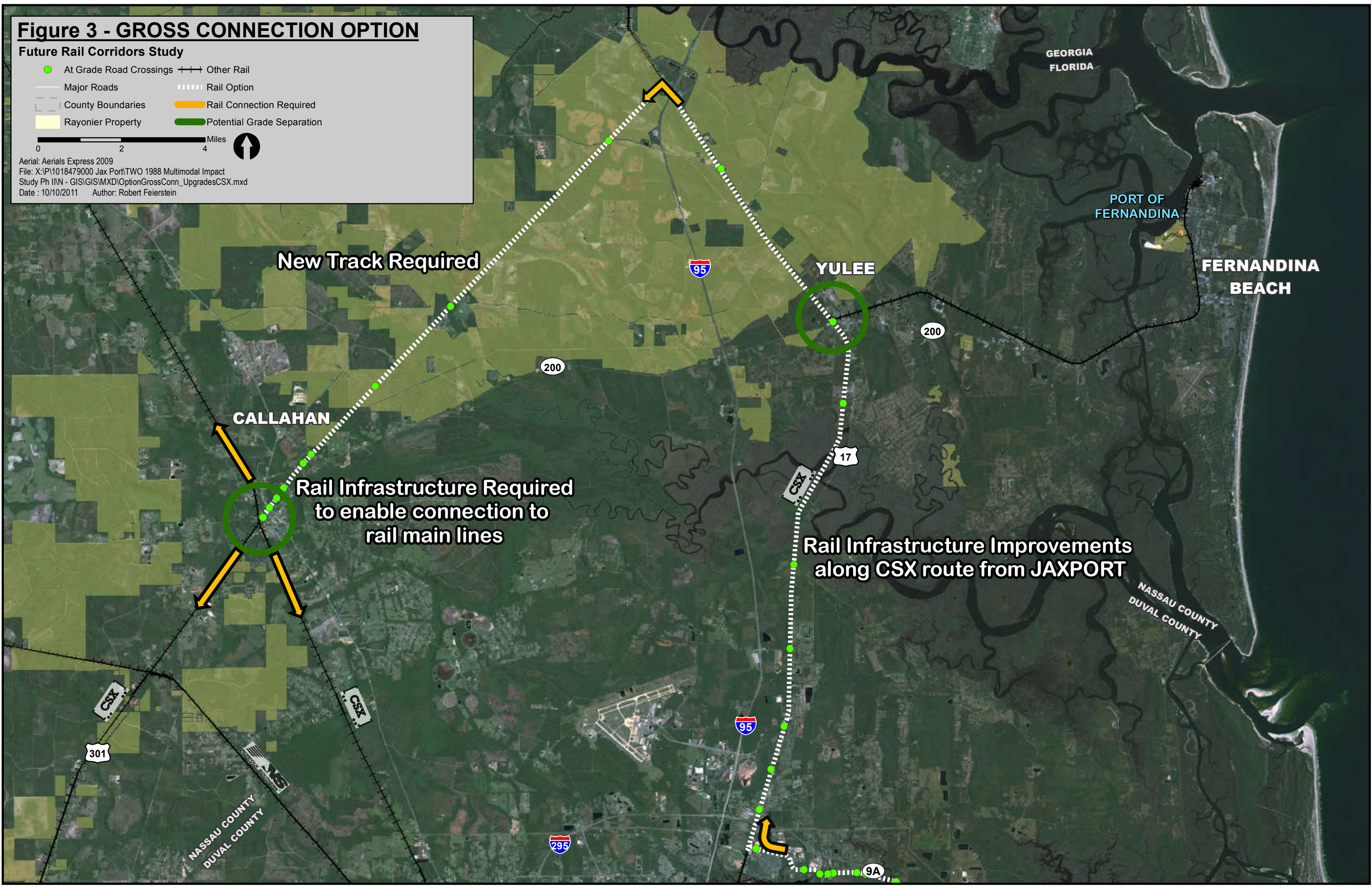
## Future Rail Corridors Study

- At Grade Road Crossings
- Major Roads
- County Boundaries
- Rayonier Property
- Other Rail
- Rail Option
- Rail Connection Required
- Potential Grade Separation

0 2 4 Miles



Aerial: Aerials Express 2009  
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Date : 10/10/2011 Author: Robert Feierstein





## **JEA POWER LINE EASEMENT (FIGURE 4)**

The Power Line Easement Option represents a potential new rail right of way along the easement. This rail option begins near JAXPORT's Blount Island and Dames Point Marine Terminals at its eastern terminus and crosses both CSX and NS mainlines on its western terminus. The easement specifically begins near the St. Johns River Power Park, just north of Dames Point, and runs west about 5.5 miles where it intersects the CSX Kingsland sub-division just south of US 17 and SR9A. It then runs due west about 8.5 miles to the CSX main line just west of US 1. The Power Line Easement then turns south about 3 miles where it intersects with the NS main line. The Power Line Easement Option offers potential use of the entire Power Line Easement from the Dames Point and Blount Island area over to the Westside intermodal yards; or using just a portion of the Power Line Easement combined with existing rail lines.

### ***Opportunities:***

- This potential corridor offers great connectivity with JAXPORT's Dames Point and Blount Island Terminals as well as with Class I rail carrier mainlines and intermodal rail terminals to the west.
- The Power Line Easement ROW is approximately 100-150 feet wide, providing potential space to develop a new rail corridor.
- The Power Line Easement Option would provide direct access to the JEA Coal Plant which currently receives a significant amount of coal via CSX rail.

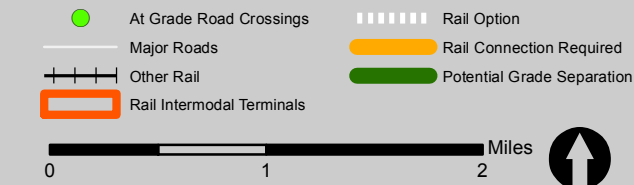
### ***Constraints:***

- Portions of the Power Line Easement are owned by JEA (Jacksonville Electric Authority) and portions by private land owners. ROW acquisition will involve multiple property owners.
- This route would require all new construction, with connections to the Port on the eastern terminus and connections to CSX and NS main lines and intermodal yards on the western terminus.
- A new rail line through the Power Line Easement would require approximately 16 at-grade road/rail crossings; however this is an improvement over the approximately 32 at-grade crossings along the existing city rail lines.
- New grade separations, highway bridges or railroad trestles would be required at I-95, I-295, US 17 and potentially US 1.

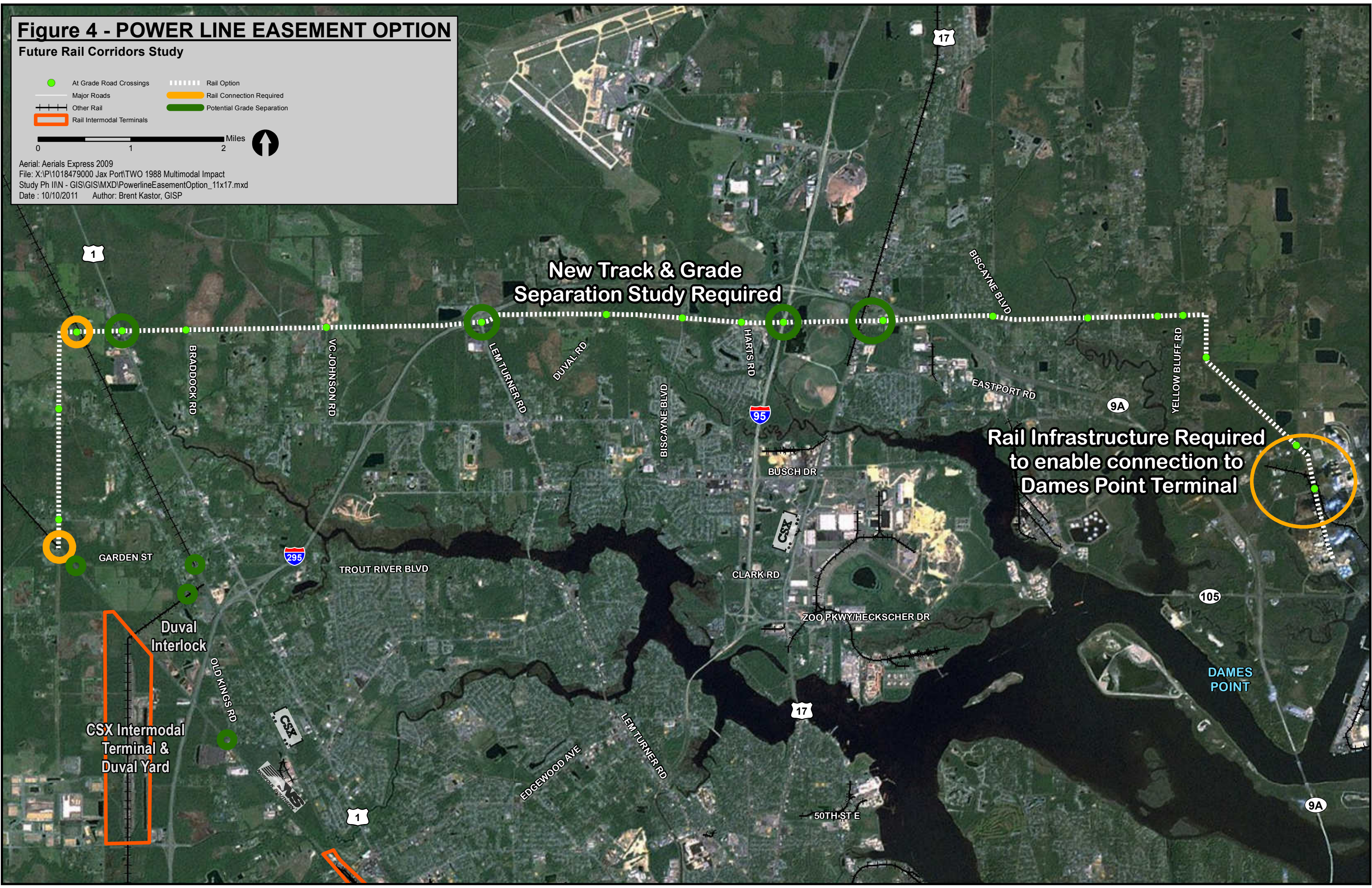


# Figure 4 - POWER LINE EASEMENT OPTION

## Future Rail Corridors Study



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Date : 10/10/2011 Author: Brent Kastor, GISP





## BRADDOCK /JIA CORRIDOR (FIGURE 5)

The Braddock /JIA Option represents a potential new rail corridor in the vicinity of a planned roadway right-of-way (the extension of Braddock Road, called Braddock Parkway) just northwest of the Jacksonville International Airport (JIA). This rail route option would connect CSX's Kingsland line north of the Port with rail main lines to the west. The actual alignment of a rail connection through this area requires further study. For this high level assessment the study team identified areas that rail alignments could potentially traverse (Figure 5).

The planned Braddock Parkway alignment (i.e., the planned extension of Braddock Road) begins just south of Pecan Park Road and US 17 about 4 miles north of Route 9A. It extends north and west of the airport, intersects with Lem Turner Road and connects with the existing Braddock Road. The route then follows Braddock Road to a point where it intersects with the Power Line Easement and follows the Power Line Easement to the CSX and NS main lines. The Braddock Parkway route is about 12 miles in length from the Kingsland sub-division to the CSX main line and about 15 miles to the NS main line.

### *Opportunities:*

- This potential rail option, located further south than the Gross Connection, is closer to JAXPORT and both Class I rail carrier's existing intermodal rail terminals.
- The Braddock/JIA Option, located in close proximity to JIA and the adjacent International Tradeport may offer additional potential for rail customers than the other rail options.
- Much of the land to the north and northwest of JIA, along this route was recently given a future land use designation of industrial and/or mixed use; potentially an indication of future freight rail customers in the long term.
- Much of the land required for this rail option is not significantly built up and at the time of the revised future land use designations was mostly vacant to the north and northwest of JIA.
- Much of the land potentially required for this rail option is either publicly owned or made up of large privately owned parcels.
- This corridor located north of the Existing Option and south of the Gross Connection Option, potentially has good connectivity south to existing intermodal rail terminals as well as north to planned industrial park site(s).

### *Constraints:*

- Like the Power Line Easement Option, the Braddock/JIA Option would require a significant amount of new construction, with connections to the Port on the option's eastern terminus and connections to the intermodal yards on the option's western terminus.
- Depending upon the actual alignment chosen, this route may have about 20 or more total at-grade road/rail crossings; from the Dames Point area to the Class I rail main lines.
- Additional study would be required to determine the specific environmental constraints associated with this option.
- New grade separations, highway bridges or railroad trestles would be required at I-95, US 17, and potentially US 1.



Figure 5 - Braddock/JIA Option

Future Rail Corridors Study

- City of Jacksonville
- Jacksonville Aviation Authority
- Large Private Properties
- Parcels
- Rail Corridor Study Area
- Public Lands
- Braddock Rd Ext. (Planned)
- Rail

0 1 2 Miles

Source: Parcels - Duval County, Dec. 2010  
Public Lands - FLDEP

Aerial: Esri World Imagery  
File: X:\P\1018479000 Jax Port\TWO 1988 Multimodal Impact  
Study Ph I\IN - GIS\GIS\MXD\BraddockJIA\_Option\_v2\_5.26.mxd  
Date : 10/10/2011 Author: Joshua Gray

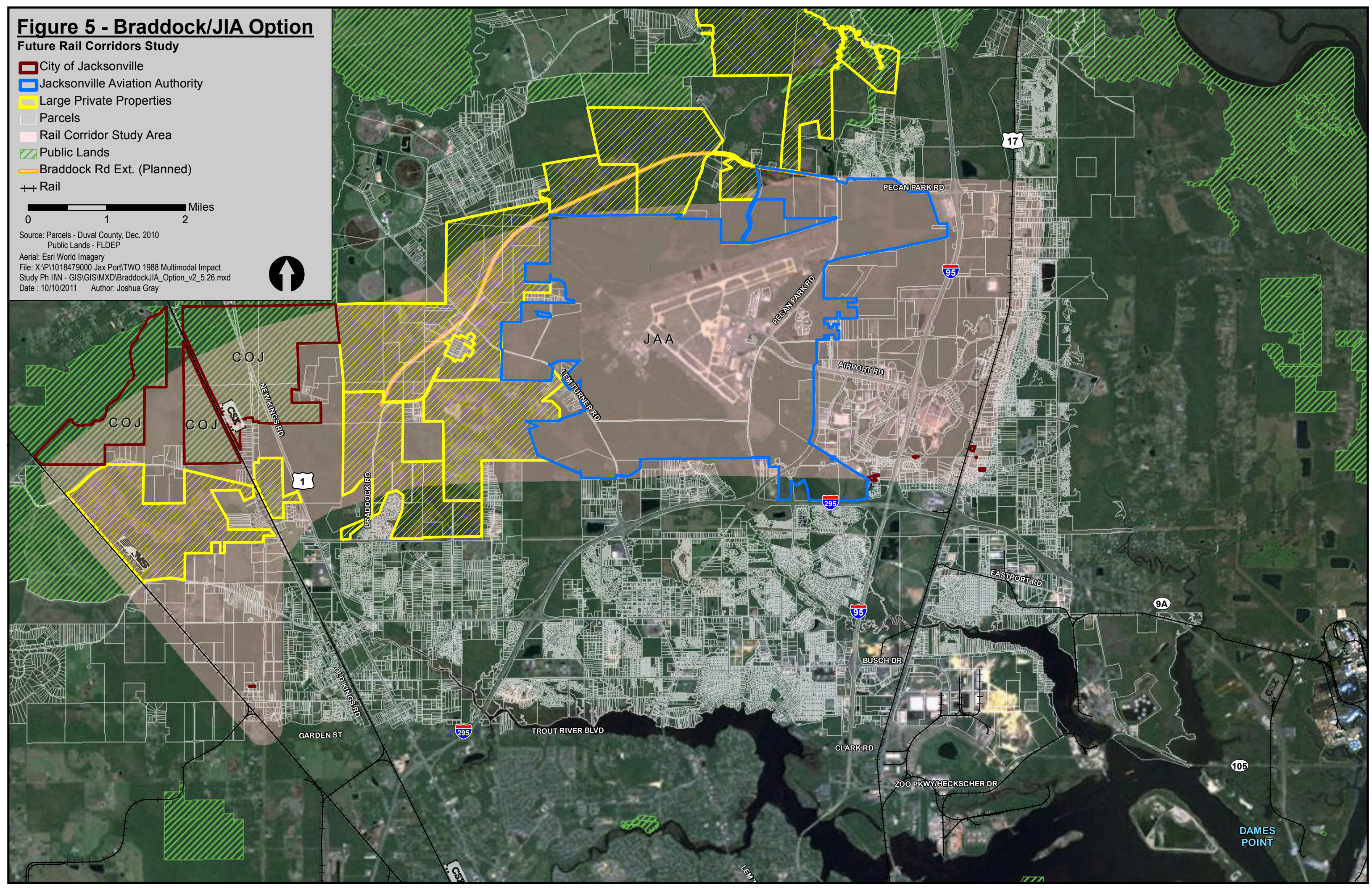




Table 1: Evaluation Matrix

Table 1. Evaluation Matrix		Existing Route	Gross Connection	JEA Power Line Easement	Braddock /JIA <sup>3</sup>
<b>Corridor Summary</b>	<b>Approx. Number of Miles <sup>1</sup></b>	15.5 - 17	40-44.5	15-17	21-23
<b>Community</b>	<b>Approx. Number of At Grade Crossings <sup>1</sup></b>	32-40	31-35	16-17	21-23
<b>Environment</b>	<b>Wetlands Impacted <sup>2</sup></b>	N/A	Yes	Yes	Potentially
	<b>Floodplains Impacted <sup>2</sup></b>	N/A	Yes	Yes	Potentially
	<b>Public Land Impacted <sup>2</sup></b>	N/A	No	No	Potentially
<b>Land Use</b>	<b>Existing Land Use</b>	Residential Industrial Institutional Public/Semi-Public Retail/Office Vacant/Non-Residential	Agricultural Residential	Agricultural Residential Institutional Industrial Public/Semi-Public Retail/Office Vacant/Non-Residential	Agricultural Institutional Public/Semi-Public
	<b>Future Land Use</b>	Residential Industrial Institutional Commercial Recreation/Open Space	Agricultural Residential Conservation	Residential Commercial Industrial Agricultural Mixed Use	Agricultural Commercial Industrial Mixed Use Institutional
<b>Operations and Infrastructure</b>	<b>Planned Shared Freight/Passenger Rail</b>	Yes	Yes	No	Yes
	<b>New Rail Route Requiring New Track</b>	No	Yes	Yes	Yes
	<b>New Sidings Required</b>	Potentially	Potentially	No	Potentially
	<b>Potential Grade Separations at: Major Roadways I-95</b>	Yes No	Yes Potentially	Yes Yes	Yes Yes

<sup>1</sup> from Dames Point area to CSX and NS mainlines<sup>2</sup> primarily compares portion of rail options that require new track<sup>3</sup> depends on the alignment within the selected corridor



## Recommended Next Steps

Planning and identifying short, mid and long term improvements, including rail access solutions are important steps for the Northeast Florida region as it continues its pursuit to grow the transportation and logistics industry sector and enhance the region's role within the global economy.

Our region's rail networks, interstate highways, marine terminals and aviation facilities represent key infrastructure assets. Integrating these assets to create a holistic and seamless freight and logistics system will enhance our region's economic competitiveness; and serve to leverage historical and future investments in these systems.

It is recommended that Northeast Florida transportation stakeholders, including the North Florida TPO, JAXPORT, private marine terminals, the Florida Department of Transportation (FDOT), and others, continue the evaluation of alternative long term rail connection options. Detailed studies should include planning, right-of-way, engineering, environmental and community considerations.

Expanding Strategic Intermodal System (SIS) rail facilities in the region should be evaluated as well in future studies. Currently, the CSX portion of the Existing Option is designated on FDOT's Strategic Intermodal System (SIS) as a rail "connector". SIS facilities are a statewide system of high priority transportation facilities, with statewide and/or interregional significance; representing multiple modes and including hubs, corridors and connectors.

On June 9, 2011, the North Florida TPO's Board approved a motion for continued evaluation of alternative long term rail connection options. During the presentation to the Board, it was stated that continued evaluation would not exclude consideration of the alternative options. In particular, the Braddock/JIA Corridor offers potential opportunities with its proximity to the Airport; however, as a corridor ranging from 3 to 5 miles wide, it needs additional focus.