Section 4(f) Resources

Florida Department of Transportation

SR-A1A OVER SEBASTIAN INLET- BRIDGE REPLACEMENT

District: FDOT District 4

County: Indian River County

ETDM Number: 14433

Financial Management Number: 445618-1-21-01

Federal-Aid Project Number: D420-075-B

Project Manager: Binod Basnet

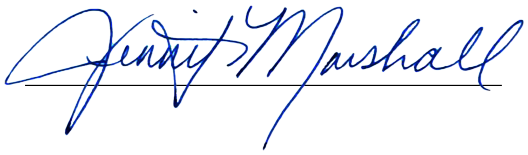
The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by the Florida Department of Transportation (FDOT) pursuant to 23 U.S.C. § 327 and a Memorandum of Understanding dated May 26, 2022 and executed by the Federal Highway Administration and FDOT. Submitted pursuant 49 U.S.C. § 303.

Table of Contents

Summary and Approval 1
Sebastian Inlet State Park 2
Sebastian Inlet District 4
FDOT Transportation Easement 5
Sebastian Inlet Bridge (Historic) 6
Project-Level Attachments 24
Resource Attachments 25

Summary and Approval

Resource Name	Facility Type	Property Classification	Owner/Official with Jurisdiction	Recommended Outcome	OEM SME Action
Sebastian Inlet State Park	Park/Rec Area	Park/Rec Area	Florida Department of Environmental Protection	*de minimis*	Concurrence 05-16-2023
Sebastian Inlet District	Non-Section 4(f)		Sebastian Inlet District	Not Applicable	Determination 12-09-2022
FDOT Transportation Easement	Transportation Easement		FDOT	Not Applicable	Determination 12-19-2022
Sebastian Inlet Bridge (Historic)	Fixed Bridge	Historic Site	FDOT and SHPO	Programmatic	Concurrence 05-16-2023



May 23, 2023

Director of the Office of Environmental Management
Florida Department of Transportation

Sebastian Inlet State Park

Facility Type: Park/Rec Area

Property Classification: Park/Rec Area

Address and Coordinates:
Address: 900 SR-A1A, Melbourne Beach, FL, 32951, USA
Latitude: 28.06937 Longitude: -80.56085

Description of Property:
The Sebastian Inlet State Park (SISP) is owned by the State of Florida Trustees of the Internal Improvement Trust Fund (TIITF) and managed by the Florida Department of Environmental Protection (FDEP). Based on the park Approved Unit Management Plan dated 2008, the park is a public outdoor recreation single use property, which contains 971.01 acres. The following are the existing functions/facilities of the part of the park which is located within Indian River County: McLarty Treasure Museum with dune boardwalk and parking lot (28 spaces); Camp Registration Building/Office; Sebastian Fishing Museum/Fish Cleaning Table; campsite areas; playground and picnic pavilions; restrooms/showers (bathhouses); snack bars; boat ramp; main parking lot (60 spaces); beach areas (including beach access) east of SR A1A; paved bicycle path within FDOT ROW through the park; and South Jetty.
The following are the existing facilities of the segment of the park within Brevard County: Bait and tackle/concessions; Ranger Station; nature trail; marina office/store; Storage building; administrative office/Spanish House area.

Available recreational use includes saltwater fishing, surfing, swimming, sunbathing, camping, hiking, picnicking, shelling, snorkeling, scuba diving, boating, canoeing/kayaking, bird watching, and interpretive programs. Several major surfing competitions are held within the park every year. There are other documented cultural resources including 13 recorded archaeological sites, an unknown number or unrecorded sites, and recovered artifacts on display at the McLarty Museum. There are also a number of natural resources including beach dunes, coastal hammocks, and mangrove shorelines along the Indian River Lagoon which provide wildlife habitat for various species of birds, sea turtles, manatees, and other protected species including the federally listed beach mouse.

Usage of the park is very heavy as 600,000 to 800,000 people visit the park every year. The park also is open 24 a day to allow fishing access to the jetties.

Access to the park is by pedestrians and automobiles utilizing the south and north entrances to the park.

Owner/Official with Jurisdiction: Florida Department of Environmental Protection

Recommended Outcome: *de minimis*

Yes	No	
☒	☐	Was there coordination with the Official(s) with Jurisdiction to identify an opportunity for a *de minimis* finding?
☒	☐	Was the OWJ informed by the District of FDOT s intent to pursue a *de minimis* approval option?
☒	☐	Was the OWJ informed in writing that their concurrence with a no adverse effect finding to the activities, features or attributes which qualify the property for protection may result in FDOT making a *de minimis* approval under Section 4(f)?

☒ ☐ Did the OWJ concur that the proposed project, including any enhancement, mitigation and minimization of harm measures, will result in no adverse effects to the activities features or attributes of the property?

Basis on Which the Determination was Made

An approximate total of 3.46 acres (0.38%) of park property is required by FDOT for necessary ROW to meet current design standards for clear zone and maintenance associated with bridge approaches, roadway, park entrances, shared use path improvements and stormwater management (one pond site is required for the south basin and one for the north basin). Coordination with the FDEP and Park staff has been ongoing throughout the PD&E Study.

The FDOT has or will incorporate the following mitigation measures (measures to minimize harm) within the proposed project:

- Replacement of the existing perimeter fence around the bridge on the north side of the park.
- Repaving of both the south and north parking lots within the FDOT right of way (ROW) under the bridge.
- Providing the funding through a Joint Participation Agreement (JPA) for installation of electronic gates at both the south and north park entrances.
- Continue efforts to further reduce, and not increase, the total amount of park acreage needed to be converted to FDOT ROW for inclusion as stormwater management facilities during the final design phase from the estimated 2.87 acres shown in the proposed Pond Reduction Alternative Matrix.

Public Involvement Activities:

The Public Hearing was held on both December 13, 2022 (Virtual), and on December 15, 2022 (Sebastian Community Center). The public did not submit any comments regarding the impacts/use of the park property during the public comment period. The Public Hearing Transcripts and Public Hearing Summary documents have been uploaded to the SWEPT File.

OEM SME Concurrence Date: 05-16-2023

Sebastian Inlet District

Facility Type: Non-Section 4(f)

Property Classification:

Address and Coordinates:
Address: 114 6th Ave, Indialantic, FL, 32903, USA
Latitude: 28.09078 Longitude: -80.56742

Description of Property:
By special act of the Florida Legislature in 1919, the SID was created as an independent special taxing district and chartered to maintain the navigational channel between between the Indian River and the Atlantic Ocean. The SID is responsible for bypassing sand that migrates into the inlet system to other beaches downstream. To accomplish these tasks, SID conducts periodic dredging, channel maintenance, sand bypass, and beach renourishment projects for the main purpose of maintaining the channel. Other critical functions include erosion control, emergency beach and dune repair, shoreline stabilization and inlet infrastructure maintenance, public safety in navigation, and environmental monitoring and protection.

Because of these responsibilities, the SID holds fee simple title to the land that is now submerged where the barrier island previously existed. The current location of the Sebastian Inlet Bridge spans the District's fee simple land and in 1963, the District granted an easement to the State Road Department, now FDOT, providing access over its property for the construction and maintenance of the bridge.

Based on this information, the SID's main function for their land is for maintenance of the navigational channel between the Indian River and Atlantic Ocean. The maintenance of the inlet requires periodic dredging. Dredging is not considered to be an activity that is protected under Section 4(f).There are some secondary recreational benefits/uses of their land, but those activities are considered to be incidental, secondary, occasional or dispersed activities similar to park, recreational or refuge activities but these activities do not constitute a primary purpose within the context of Section 4(f).

Owner/Official with Jurisdiction: Sebastian Inlet District

Recommended Outcome: Not Applicable

Rationale:
SID's primary purpose is for maintenance of the Sebastian Inlet, and therefore not subject to Section 4(f) protection based on the Federal Highway Administration (FHWA)'s 2012 Policy Paper, Question 1A, Page 23.

OEM SME Determination Date: 12-09-2022

FDOT Transportation Easement

Facility Type: Transportation Easement

Property Classification:

Address and Coordinates:
Address:
Latitude: Longitude:

Description of Property:
Based on the July 22, 1963 Sebastian Inlet District (SID) Warranty Deed 99-279 with the State Road Department [(now known as the Florida Department of Transportation (FDOT)], the SID granted the FDOT an easement, an excerpt as follows: "for the purposes of constructing a bridge with all appurtenant facilities, across Sebastian Inlet District, which said bridge when completed will become part of State Road A1A for use by the general public. Said appurtenant facilities consist of (a) fenders for said bridge; (b) pedestrian walkways beneath said bridge deck, and (c) access roads to the lands and easements of said District and private property abutting the proposed State Road right of way as shown on the construction plans of said bridge."

The area of FDOT's 120 feet of ROW within the SID easement contains the existing bridge and the existing pedestrian walkway (or catwalk).

Because the ROW is utilized by FDOT primarily for transportation purposes, and is maintained by the FDOT for transportation purposes, Section 4(f) does not apply. In addition, the pedestrian walkway, or catwalk has some recreational functions as currently visitors to the park utilize this walkway for fishing activities. However, the location of the walkway is provided generally within the existing transportation ROW, rather than as a recreational feature requiring a specific location within the ROW, and therefore, the walkway is not subject to Section 4(f) applicability.

Owner/Official with Jurisdiction: FDOT

Recommended Outcome: Not Applicable

Rationale:
Based on the above referenced language of the warranty deed, the Official With Jurisdiction is the FDOT, and the area of FDOT's ROW easement's major purpose is for transportation. Recreational activities within the FDOT Transportation Easement are secondary in nature and do not constitute a primary purpose within the context of Section 4(f) and are therefore not subject to Section 4(f) protection (2012 FHWA Policy Paper Question 1A, Page 23).

OEM SME Determination Date: 12-19-2022

Sebastian Inlet Bridge (Historic)

Facility Type: Fixed Bridge

Property Classification: Historic Site

Address and Coordinates:
Address: Bridge #880005 at Sebastian Inlet, Indian River and Brevard Counties, FL
Latitude: 28.06937 Longitude: -80.56085

Description of Property:
The Sebastian Inlet Bridge (Bridge # 880005) crosses the Sebastian Inlet at the Indian River County and Brevard County boundary. Sebastian Inlet Bridge (bridge) (Florida Master Site File [FMSF] Numbers 8BR3148/8IR1493), is also known as the James H. Pruitt Memorial Bridge. The **Purpose and Need** for the project is to address the structural and functional deficiencies of the existing bridge and address the gap in system linkage for bicyclists and pedestrians.

The bridge has been determined NRHP-eligible under Criterion C in the area of Engineering for its "high-integrity embodiment of a prestressed concrete bridge in Florida". The State Historic Preservation Officer (SHPO) concurred and determined the Sebastian Inlet Bridge National Register-eligible in 2010.

A Cultural Resource Assessment Survey was completed in February 2022, and in consideration of the structural deficiencies identified in the November 2020 FDOT *Bridge Inspection Report,* this project will require bridge replacement (all alternatives are discussed below). Since a bridge replacement will require the demolition of the National Register eligible James H. Pruitt Memorial Bridge, it was determined that the proposed project will have an adverse effect to historic properties. The SHPO concurred with the adverse effects determination March 30, 2022.

The bridge is a 1,548-feet long concrete structure constructed in 1964 to carry State Road (SR) A1A over the Sebastian Inlet (Inlet). The Inlet is manmade, being created in 1919 from privately owned lands and reopened in 1923. In 1919 the Sebastian Inlet District (SID) was formed to maintain the Inlet and the submerged lands under the bridge. The fixed bridge is located within FDOT and SID right-of-way (ROW) and is adjacent to the Sebastian Inlet State Park (Park). The bridge structure and portions of the bridge approaches are located within an easement granted from the SID to the then Florida State Road Department (FSRD), now FDOT. The easement provided for construction of the bridge and all appurtenant facilities which, when constructed, became part of SR A1A for use by the public. Review of historical FSRD ROW maps, U.S. Geological Survey (USGS) maps, and SID historical documents and photographs shows SR A1A in Indian River County was acquired by the FSRD around 1961 and constructed prior to completion of the bridge. SR A1A in Brevard County was constructed with FSRD ROW between 1951 and 1956.

The bridge vertical clearance is 39-feet and horizontal clearance is 150-feet between the bridge fenders. The Inlet provides access for vessels between the Indian River Lagoon and the Atlantic Ocean and is approximately 525-feet wide at the bridge. The 19-span bridge features lightweight concrete prestressed beam and girder design with cast-in-place reinforced concrete support piers. The main span is 180-feet. During construction, the contractor made use of special provisions that permitted changing the prestressing of the variable depth members from the post-tensioned design to pretensioned.

The existing bridge has two 12-foot travel lanes and 2-foot shoulders (**Figure 1**). Within the project limits, SR A1A has two 12-foot travel lanes. North and south of the bridge, paved shoulders are 2 to 4-feet wide. South of the bridge, shoulders

are marked as designated bicycle lanes. There are currently no pedestrian or bicycle facilities located within the bridge approaches or on the bridge, creating a gap in the multimodal network along SR A1A.

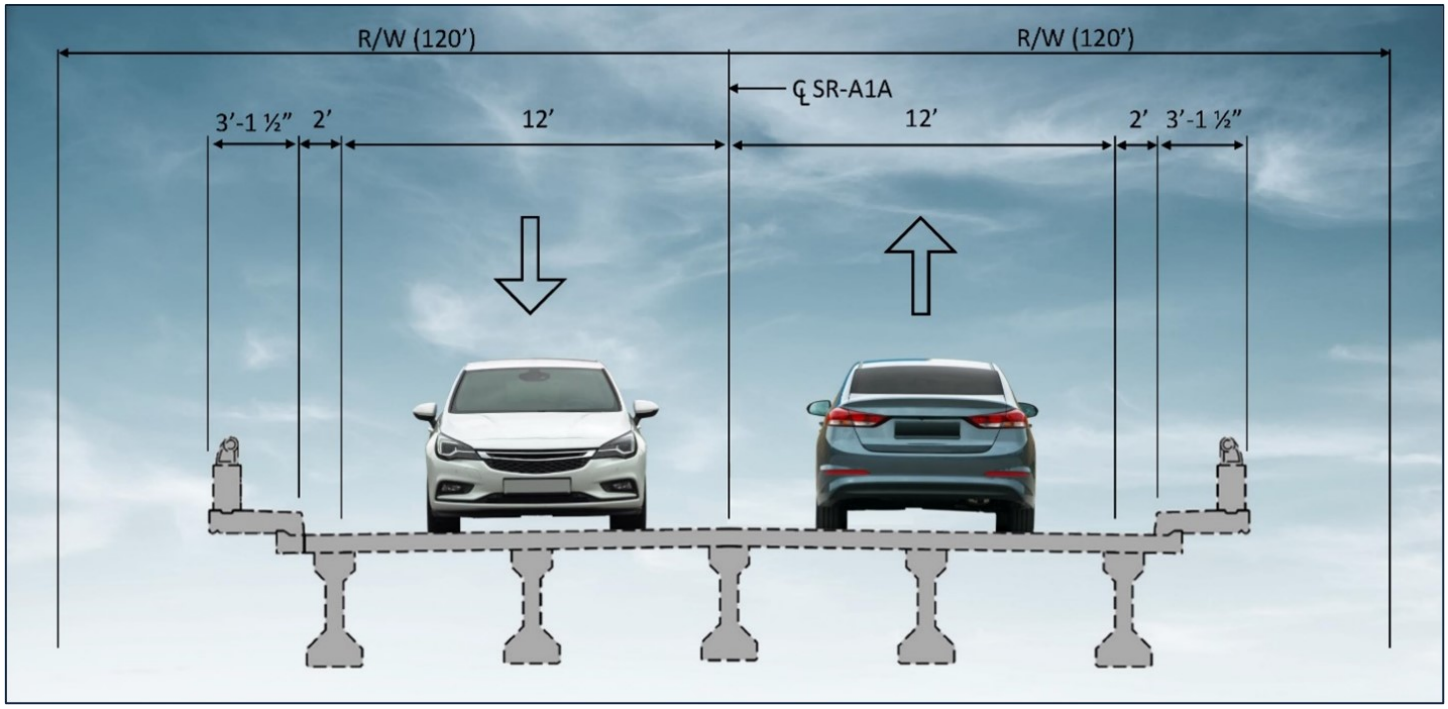


FIGURE 1**: EXISTING SR A1A BRIDGE TYPICAL SECTION**

FDOT performs biannual inspections and evaluations of all fixed bridge structures under its jurisdiction, as part of the FHWA National Bridge Inventory (NBI) and Structural Inventory and Appraisal Program which rates a bridge deck, superstructure, substructure, or culvert. The bridge was inspected by FDOT District Four on November 14, 2018, following Hurricane Florence. Based on this evaluation the bridge was rated as structurally deficient with a sufficiency rating of 51.6 and a health index of 79.8. Additional information related to the condition of the bridge was obtained from the November 17, 2020, bridge inspection report prepared by FDOT. FDOT's work program requires that structurally deficient bridges, once identified, have corrective actions (repair or replacement) initiated within six years. Structurally deficient bridges are not considered unsafe for public use unless the bridge is also closed.

The "health Index" is a tool that measures the overall condition of a bridge; a lower health index indicates more work is needed in order to improve the bridge to an ideal condition. Bridges with a health index of less than 85 require repair or replacement.

The sufficiency rating is used to determine whether a bridge that is structurally or functionally deficient should be repaired or replaced. The sufficiency rating considers several factors, only about half of which relate to the condition of the bridge itself.

Bridge Condition is determined by the lowest rating of NBI condition ratings. If the lowest rating is greater than or equal to 7, the bridge is classified as Good; if less than or equal to 4, it is Poor; and 5 or 6 are Fair. The structurally deficient condition is given to any bridge when any component: deck, superstructure, substructure, or culvert us in Poor condition (rated 4). The November 2020 bridge inspection report, summarized below, indicated the following bridge conditions.

- Structurally deficient

Substructure Rating: 4 (Poor)

- Sufficiency rating = 51.6
- Health index = 79.8
- Scour vulnerability rating of 3 SC, "scour critical", indicating that the bridge foundations were determined to be unstable for assessed or calculated scour conditions.

Bridge scour is the lowering of the streambed at bridge foundation (piers and abutments). Bridge scour is the largest cause of bridge failure in the United States and a major factor that contributes to the total construction and maintenance costs of bridges in the United States (FDOT *Bridge Scour Manual*, June 2022).

The term functionally deficient or functionally obsolete means that the bridge does not meet current roadway design standards for features such as lane width, shoulder width, or bicycle and/or pedestrian facilities. Although the bridge does have 12-foot travel lanes, it has deficient shoulder widths at 2-feet wide and deficient bicycle and pedestrian facilities with none present across the bridge.

The following supporting documentation is attached to the Programmatic Section 4(f) Evaluation:

- SHPO Concurrence with the CRAS, March 30, 2022 SHPO Concurrence with Adverse Effects, March 30, 2022
- Cultural Resource Committee (CRC) Meeting Notes, April 27, 2022
- ACHP Correspondence regarding Section 106 Consultation, July 2022
- Memorandum of Agreement between the FDOT and the SHPO executed April 21, 2023

The Section 4(f) Programmatic Alternatives Analysis is included in the following section *Describe in detail how the Section 4(f) property will be used".*

Technical studies prepared to support the evaluation of conditions related to the historic bridge include the following and are incorporated by reference:

- Typical Section Package
- Concept Plans - Preferred Alternative
- Navigation Needs Memorandum
- Vertical Clearance Evaluation Memorandum
- Traffic Analysis Methodology Memorandum
- Project Traffic Analysis Report
- Pond Siting Report
- Geotechnical Report
- Bridge Hydraulic Report
- Utilities Assessment Package Value Engineering Report Sociocultural Effects Evaluation
- Noise Study Technical Memorandum Level I Contamination Assessment Report Water Quality Impact Evaluation
- Final Cultural Resource Assessment Survey (CRAS), SR A1A/Sebastian Inlet Bridge (#880005) PD&E Study, February 2022
- Natural Resource Evaluation
- Cultural Resource Assessment Report
- Planning Consistency Form

- Alternatives Public Meeting Summary

Owner/Official with Jurisdiction: FDOT and SHPO

Recommended Outcome: Programmatic (Programmatic Section 4(f) Evaluation and Approval for FHWA Projects that Necessitate the Use of Historic Bridges)

Describe in detail how the Section 4(f) property will be used.
The *Programmatic Section 4(f) Evaluation and Approval for FHWA Projects that Necessitate the Use of Historic Bridges* is being applied to this project based on a determination that there are no feasible and prudent alternatives to the use this historic bridge.

In consideration of the critical need to maintain this regional route over the Inlet, the structural deficiencies identified in previous bridge inspections, the results of the CRAS, and other environmental evaluations, it was determined that this project will require demolition (use) of the National Register-eligible James H. Pruitt Memorial Bridge for a bridge replacement within the existing FDOT ROW at this location.

AVOIDANCE ALTERNATIVES
As required under the terms of the Programmatic Section 4(f) for historic bridges, the purpose of this section is to examine alternatives that would avoid the "use" of a Section 4(f) resource, and to determine whether such avoidance alternatives are prudent and feasible.

1. **No Action (No Build) Alternative**
In order for this Programmatic Section 4(f) evaluation to be applied to the project, each of the following findings must be supported by the circumstances, studies, and consultations on the project:

A determination of whether the No Build Alternative can remain to an acceptable level in a feasible and prudent manner is a function of its ability to perform adequately in both structural and functional areas. The No Action Alternative consists of leaving the existing bridge in place and is an alternative solution that assumes the retainment of existing conditions within the projects limits. The existing bridge would continue to provide a 39-foot vertical clearance and 150-foot horizontal clearance. Previous studies and inspections indicate the existing bridge condition continues to decline with structural conditions significantly decreasing following Hurricane Florence.

For evaluation purposes, routine maintenance and repair options were only considered viable for 5 years before bridge replacement is needed. Cost estimates for the No Action Alternative considered continued maintenance and repair of the existing bridge; however, these short-term solutions alone will not improve the existing bridge structural or functional deficiencies and will not improve safety. Normal maintenance includes repair of:

- Concrete spalling of bridge deck, columns, girders/beams
- Concrete delamination of bridge cap, pier cap
- Steel corrosion - exposed strands, rebar, bearing cantilevered section, girders/beams

The No Action Alternative would preserve the historic eligibility of the bridge and does not have an adverse effect to the resource under Section 106. These deficiencies can lead to structural failure and normal maintenance is not considered adequate to address these deficiencies. The bridge remains:

- structurally deficient
- scour critical
- functionally deficient

Eventually the existing bridge needs to be replaced due to its age and importance in maintaining a critically needed regional coastal route used by travelers (multiple modes) for daily travel, Sebastian Inlet State Park access, hurricane evacuation, and emergency vehicle access. Regionally available alternative routes are limited and are considerable distances from the bridge. The closest alternate routes are via SR A1A north from the bridge to the Melbourne Causeway bridge to US 1 south or south from the bridge to the Wabasso bridge to US 1 and north. The detours are approximately 70 miles. The bridge is significant to the local economy as it provides access to the Sebastian Inlet State Park along with businesses and residences north and south along SR A1A. The bridge is used by residents, tourists, delivery trucks, emergency services, pedestrians, and bicyclists

The No Action Alternative was determined to be neither feasible nor prudent. The No Action Alternative does not correct the conditions that cause the bridge to be considered structurally and functionally deficient. Nor does it extend the service life of the bridge which implies continued risk of safety hazards to the traveling public including bicyclists and/or pedestrians. The No Action Alternative ignores the basic transportation need and does not meet the purpose and need for the project.

For the following reasons, this alternative is determined to fail the Section 4(f) prudent and feasible standard and is not recommended.:

a. Purpose and Need - The No Action Alternative does not meet the purpose and need for the project.

b. Maintenance - The No Action Alternative does not correct the situation that causes the bridge to be considered structurally deficient or extend the service life of the bridge resulting in continued maintenance. Normal maintenance does not correct the critical scour condition of the bridge foundation. These deficiencies can lead to sudden collapse and potential injury or loss of life. Normal maintenance is not considered adequate to address the situation.

c. Safety - The No Action Alternative poses serious and unacceptable safety hazards to the traveling public or places intolerable restriction on transport and travel.

2. Build on New Location Alternative (parallel construction/conversion to one-way pair)
SR A1A and the Sebastian Inlet Bridge are a critically needed regional coastal route used by travelers for daily travel, Sebastian Inlet State Park access, hurricane evacuation, and emergency vehicle access. Regionally available alternative routes are limited and are considerable distances from the existing bridge.

The following criteria were evaluated to determine if the New Location Alternative met the Section 4(f) prudent and feasible standard.

1. *Terrain*
2. *Adverse Social , Economic, or Environmental Effects*
3. *Engineering and Economy*
4. *Preservation of Old Bridge*

The **Build on New Location Alternative** would correct all structural and functional deficiencies. Evaluation of the criteria listed above results in an alternative that is not feasible and prudent:

1. The existing bridge has been constructed along SR A1A crossing the Sebastian Inlet at the most feasible and prudent location. The project location is surrounded by the Sebastian Inlet State Park with the Atlantic Ocean to the immediate east beyond the dunes and the Indian River to the west (**Figure 2**).

2. Constructing a bridge on a new location would cause significant impacts to natural and Section 4(f) resources and the surrounding coastal habitat and species. The length of a bridge on new location would substantially increase construction costs, result in expanded agency permitting, and effect navigation.

3. Constructing a bridge on new location would result in the need to acquire additional right-of-way, extraordinary bridge and approach engineering, construction difficulty, costs, and disruption to established travel patterns. Impacts to natural and Section 4(f) resources would be significant to surrounding coastal habitat and species. Meeting the requirements of various permitting agencies including the environment and navigation would be substantially more difficult. Any deviation in bridge alignment would require improvements to access roads leading to this new bridge resulting in increased environmental impact and cost.

4. Preservation of the existing bridge is not feasible or prudent even if a new bridge were constructed on new location. The bridge would remain structurally deficient for a transportation or alternative use and would contribute to continued maintenance costs and ultimate cost for demolition in the future.

The Build on New Location Alternative is determined to fail the Section 4(f) feasible and prudent standard.

The **Parallel Bridge/Couplet Alternative** would not correct all structural and functional deficiencies and the existing bridge would remain structurally and functionally deficient.

1. The existing bridge has been constructed along SR A1A crossing the Sebastian Inlet at the most feasible and prudent location. The project location is surrounded by the Sebastian Inlet State Park with the Atlantic Ocean to the immediate east beyond the dunes and the Indian River to the west (**Figure 2**).

2. Constructing a parallel bridge would not correct the conditions that cause the existing bridge structural and functional deficiencies. These deficiencies can lead to structural failure and safety hazards to the traveling public and are unacceptable for bicyclists and/or pedestrians. Normal maintenance is not considered adequate to address these deficiencies for the existing bridge and previous studies and inspections indicate the existing bridge condition continues to decline.

3. Constructing a parallel bridge would not correct the structural and functional deficiencies of the existing bridge. The bridge would remain structurally deficient for a transportation or alternative use and would contribute to continued maintenance costs and ultimate cost for demolition in the future.

4. Preservation of the existing bridge is not feasible or prudent even if a new bridge were constructed parallel to the existing. The bridge would remain structurally deficient for a transportation or alternative use and would contribute to continued maintenance costs and ultimate cost for demolition in the future.

FIGURE 2. PROJECT LOCATION

Based on the evaluation of the following criteria: Terrain; Adverse Social, Economic, or Environmental Effects; Engineering and Economy; and Preservation of Old Bridge and for the following reasons, this alternative was determined to fail the Section 4(f) prudent and feasible standard and was removed from further consideration.

a. Purpose and Need - The New Location Alternative does not meet the purpose and need for the project.

b. Maintenance - The New Location Alternative - Parallel Alternative does not correct the situation that causes the bridge to be considered structurally deficient or extend the service life of the bridge resulting in continued maintenance. Normal

maintenance does not correct the critical scour condition of the bridge foundation. These deficiencies can lead to sudden collapse and potential injury or loss of life. Normal maintenance is not considered adequate to address the situation.

c. Safety - The New Location Alternative - Parallel Alternative poses serious and unacceptable safety hazards to the traveling public or places intolerable restriction on transport and travel.

Rehabilitation Alternative Without Affecting the Historic Integrity of the Bridge
Because the bridge is determined an eligible historic resource under Section 106 of the National Historic Preservation Act, a Rehabilitation Alternative was considered. A determination of whether rehabilitation can be completed to an acceptable level in a feasible and prudent manner is a function of its ability to perform adequately in both structural and functional areas. The Rehabilitation Alternative consists of leaving the existing bridge in place.

Bridge rehabilitation activities may include the following:

- Temporarily reinforce the bridge substructure/foundation
  Use of crutch bents is not a long-term solution in Florida
- Remove and replace bridge deck
- Replace and/or repair bridge approach slabs
- Remove existing paint from all structural steel
- Paint all structural steel
- Remove and replace damaged beams
- Relocate utilities
- Work within constraints of ROW limits
- Complete approach roadway work

Rehabilitation to the original condition without changing the existing bridge design features such as lane widths, deficient shoulder widths, and lack of bicycle and pedestrian facilities was one form of rehabilitation considered. Keeping the existing bridge in service as part of the transportation network could avoid any adverse effects. However, to remain in service, the bridge deficiencies related to its age and design must be addressed. Bridge rehabilitation can be considered an avoidance alternative that satisfies Section 4(f) requirements only if both of the following conditions can be met:

1. The elements that make the bridge historically significant are preserved; and
2. Structural and functional deficiencies are addressed.

At the federal level, FHWA's goal is bridge design with a service life of 100 years. FDOT bridge design expects a 75 year service life (Structures Manual Volume 1 - Structures Design Guidelines, Section 1.1.) For evaluation purposes, the Rehabilitation Alternative would expand the life-cycle of the existing bridge 10 years beyond the No Action Alternative; however, rehabilitation alone will not improve the existing bridge deficiencies. As noted above, previous studies and inspections indicate the existing bridge condition continues to decline. This alternative was only considered viable for 15 years before replacement is needed; therefore, the total project cost estimate and summary of environmental impacts for this alternative considers the need to replace the existing bridge.

Rehabilitation would continue to provide a 39-foot vertical bridge clearance and 150-foot horizontal clearance. Rehabilitation that maintains the existing bridge would not sufficiently address structural and functional deficiencies of the bridge. Correction of structural and functional deficiencies would entail removal or replacement of the existing bridge components in order to meet current FDOT roadway and bridge design criteria. If the bridge is rehabilitated to meet the

purpose and need for the project, at minimum, it must:

- Meet current FDOT Design Standard
  Widening to add 8-foot minimum shoulders and bicycle/pedestrian facilities
- Provide a 75-Year service life
- Maintains existing vertical and horizontal clearances
- Maintain traffic during construction
- Minimize impacts to the natural, cultural, and physical environments

Whether the bridge is rehabilitated to its existing condition or not, this option does not meet the purpose and need for the project and the bridge remains structurally and functionally deficient. Based on the results of the Rehabilitation Alternative analysis, the Rehabilitation Alternative does not correct the conditions that cause the structural deficiencies. These deficiencies can lead to structural failure and normal maintenance is not considered adequate to address these deficiencies. The Rehabilitation Alternative does not correct the conditions that cause the bridge to be considered functionally or geometrically deficient. These deficiencies can lead to safety hazards to the traveling public and are unacceptable for bicyclists and/or pedestrians.

The Rehabilitation Alternative would not address the immediate need to improve the existing bridge structural deficiencies. Geometrically, the bridge cannot be widened to meet current design standards without affecting the historic integrity of the bridge because the widened structure would be constructed with prestressed I girders, steel plate girders, or post-tensioned girders which are all modern superstructure types. Because the bridge and SR A1A are critical to regional travel, continued disruption to traffic for maintenance and construction activities associated with the bridge would have a major social and economic impact to the travelers.

Based on the results of the Rehabilitation Alternative analysis and for the following reasons, this alternative was determined to fail the Section 4(f) prudent and feasible standard.

a. Purpose and Need - The Rehabilitation Alternative does not meet the purpose and need for the project.

b. Maintenance - The Rehabilitation Alternative does not correct the situation that causes the bridge to be considered structurally and functionally deficient. The Rehabilitation Alternative does not meet the 75 year life span. These deficiencies can lead to sudden collapse and potential injury or loss of life. Normal maintenance is not considered adequate to address the situation.

c. The bridge is seriously deficient geometrically and cannot be widened to meet the design requirements of the highway system including shoulder width and bicycle and pedestrian facilities.

d. This bridge has a history of random spalling of piers, beams, and deck with debris falling into public use areas including the under bridge observation/fishing piers. Maintenance is ongoing for these issues. In addition, bridge rehabilitation to remove the structural deficiencies and meet current FDM standards will not address this ongoing safety issue with the bridge and fails the feasible standard.

The Rehabilitation Alternative was determined to fail the Section 4(f) prudent and feasible standard and was removed from further consideration.

Summary
Based on the above discussion, the avoidance alternatives 1) do nothing (no build); 2) build a new structure on a different alignment without affecting the historic bridge, and 3) rehabilitation would not meet the purpose and need for the project and fail the Section 4(f) prudent and feasible standards.

BUILD ALTERNATIVES

During the PD&E Study, three Build Alternatives were considered and evaluated for a fixed span bridge. A key criterion for the Alternatives development is the vertical and horizontal clearances of the bridge. Based on coordination with the USCG, a preliminary clearance determination was received from the in November 2021 which stated a minimum vertical clearance of 51-feet above mean high water (MHW) for a fixed bridge and 125-feet minimum horizontal clearance will meet the reasonable needs of navigation for a bridge crossing the Sebastian Inlet.

Build Alternatives were developed and evaluated based on the following criteria:

- Ability to satisfy the purpose and need for the project
- Vertical and horizontal navigational clearances
- Bridge, roadway, and Park entrance geometry
- Natural, social, cultural and physical environment impacts
- Section 4(f) impacts
- Section 106 criteria of the National Historic Preservation Act (NHPA)
- Required ROW
- Avoidance of bridge closure during construction
- Project costs

Each Build Alternative would replace the two-lane bridge over the Sebastian Inlet and correct the bridge structural and functional deficiencies by meeting current design standards and a 75-year service life. The bridge typical section is shown in **Figure 3** and includes:

- Two 12-foot travel lanes
- Two 8-foot shoulders
- Two 12-foot shared use paths

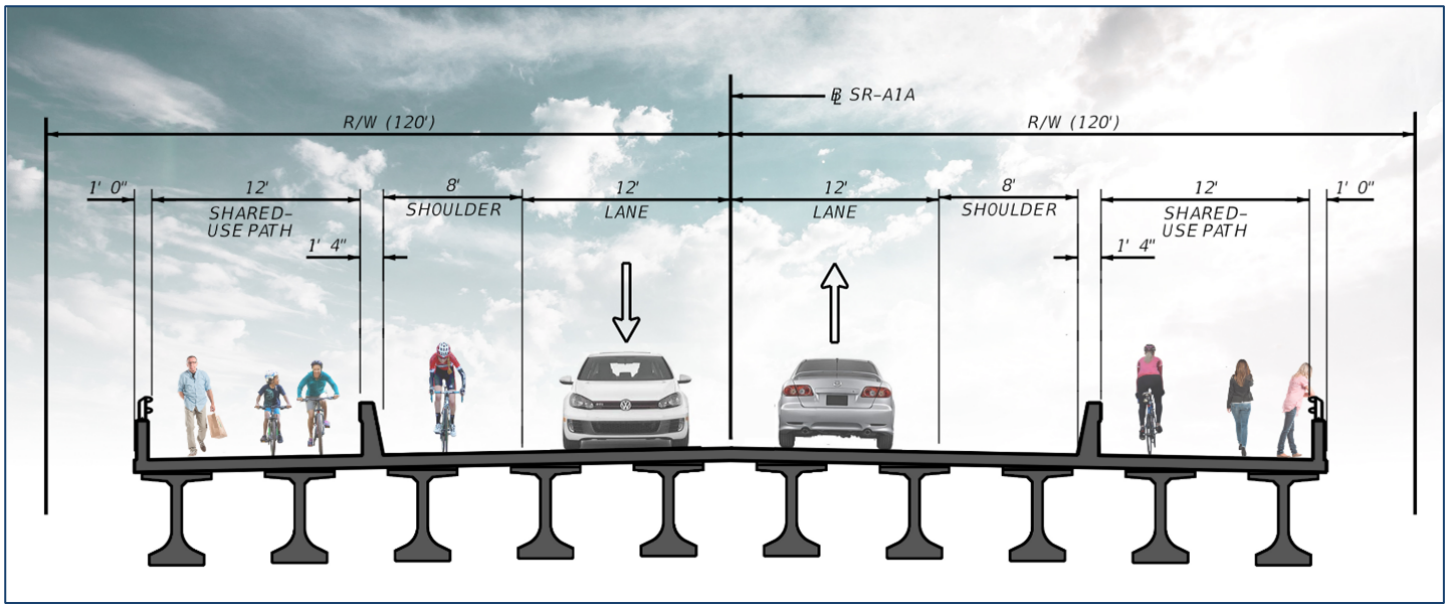


FIGURE 3. PROPOSED BRIDGE TYPICAL SECTION

Build Alternative 1

Build Alternative 1 includes a new bridge on the existing alignment. This alternative requires the installation of a temporary bridge to maintain traffic and avoid bridge closing or lengthy detours.

South of the bridge, proposed Build Alternative 1 improvements include:

- The beginning of the temporary bridge
- Reconfiguration of the south Park entrance including the addition of an exit right turn lane
- A southbound acceleration lane from the south Park entrance
- Lengthened storage of the southbound right turn lane into the Park
- Continuation of the shared use path on the west side of the bridge and roadway
- Addition of a shared use path on the east side of the bridge and roadway that extends to the public parking lot located on the east side of SR A1A
- Addition of a crosswalk crossing SR A1A at the south Park entrance

North of the bridge, proposed Build Alternative 1 improvements include:

- The end of the temporary bridge
- Reconfiguration of the north Park entrance including the addition of an exit right turn lane
- Lengthened storage of the southbound right turn lane into the Park
- Continuation of the shared use path on the west side of the bridge and roadway
- Addition of a shared use path on the east side of the bridge and roadway terminating at the north Park entrance
- Addition of a crosswalk crossing SR A1A at the north Park entrance
- Reconfiguration of the SID Access Road

All bridge improvements are located within existing FDOT ROW. Approximately 4.90 acres of ROW is required to meet current design standards for clear zone and maintenance associated with bridge approaches, roadway, Park entrances, shared use path improvements and stormwater management.

Build Alternative 2

Build Alternative 2 includes a new bridge alignment that is shifted to the east of the centerline of the existing bridge. South and north of the bridge**,** the proposed Build Alternative 2 improvements are the same as Build Alternative 1 except that a temporary bridge is not required.

All bridge improvements are located within existing FDOT ROW. Approximately 3.46 acres of ROW is required to meet current design standards for clear zone and maintenance associated with bridge approaches, roadway, Park entrances, shared use path improvements, and stormwater management.

Build Alternative 3

Build Alternative 3 includes a new bridge on alignment that is shifted to the west of the centerline of the existing bridge. South and north of the bridge**,** the proposed Build Alternative 3 improvements are the same as Build Alternative 1 except that a temporary bridge is not required.

All bridge improvements are located within existing FDOT ROW. Approximately 4.09 acres of ROW is required to meet current design standards for clear zone and maintenance associated with bridge approaches, roadway, Park entrances, shared use path improvements, and stormwater management.

PREFERRED ALTERNATIVE

Following the January 11 and 13, 2022 Alternatives Public Workshop and as a result of comprehensive resource evaluation, environmental and engineering studies, costs, and involvement of the public, local officials, and federal and state resource agencies, sufficient information exists to identify Alternative 2 (East) as the Preferred Alternative.

The Build Alternative would correct the conditions that cause the bridge to be determined structurally and functionally deficient. The Build Alternative would improve conditions for the traveling public including bicyclists and pedestrians and meet the purpose and need for the project. In addition, the replacement alternative would include changes to the existing vertical navigational clearances at the bridge. This alternative does not require significant yearly maintenance, addresses all functional deficiencies, and has a service life of 75 years.

The Preferred Alternative avoided where possible and minimized overall impacts, to the greatest extent practicable, while meeting the stated purpose and need to address the structural and functional deficiencies of the existing bridge and the gap in system linkage for bicyclists and pedestrians.

The Preferred Alternative includes a new bridge alignment that is shifted to the east of the of the existing bridge and includes 12-foot shared use paths on both sides of the bridge and approaches along with 8-foot shoulders that may be used as bicycle lanes. The shared use paths continue north and south of the bridge. On the west side of SR A1A, the shared use path connects to the existing shared use path located along SR A1A. On the east side, the shared use path terminates at the north and south Park entrances. Crosswalks at the Park entrances are provided.

South of the bridge**,** the Preferred Alternative improvements include:

- Reconfiguration of the south Park entrance including the addition of an exit right turn lane
- A southbound acceleration lane from the south Park entrance
- Lengthened storage of the southbound right turn lane into the Park
- Continuation of the shared use path on the west side of the bridge and roadway
- Addition of a shared use path on the east side of the bridge and roadway that extends to the public parking lot located on the east side of SR A1A

- Addition of a crosswalk crossing SR A1A at the south Park entrance

North of the bridge**,** the Preferred Alternative improvements include:

- Reconfiguration of the north Park entrance including the addition of an exit right turn lane
- Lengthened storage of the southbound right turn lane into the Park
- Continuation of the shared use path on the west side of the bridge and roadway
- Addition of a shared use path on the east side of the bridge and roadway terminating at the north Park entrance
- Addition of a crosswalk crossing SR A1A at the north Park entrance
- Reconfiguration of the SID Access Road
- All bridge improvements are located within existing FDOT ROW.

Approximately 3.46 acres of ROW is required to meet current design standards for clear zone and maintenance associated with bridge approaches, roadway, Park entrances, shared use path improvements, and stormwater management.

The Preferred Alternative is determined to meet the Section 4(f) prudent and feasible standard.

SUMMARY

The need to replace the Sebastian Inlet Bridge was determined after applying the Programmatic Section 4(f) criteria and review of the following:

- Project purpose and need
- The existing bridge's structural deficiencies
- The existing bridge's functional deficiencies
- The importance of this critically needed regional coastal route which is used by travelers (multiple modes) for daily travel, Sebastian Inlet State Park access, hurricane evacuation, and emergency vehicle access.
- Public safety
- Maintenance of the transportation system continuity and integrity

All possible planning to minimize harm resulting from such use has been considered. For the purpose of this Programmatic Section 4(f) evaluation, the proposed action will "use" a bridge that is eligible for inclusion on the NRHP and will impair the historic integrity of the bridge either by rehabilitation or demolition.

Following evaluation of Build Alternatives that meet purpose and need, this evaluation determined Alternative 2 (East) as the Preferred Alternative.

The Preferred Alternative:

- Satisfies the purpose and need for the project
- Includes improvements that accommodate vehicular, bicycle, and pedestrian traffic
- Was developed within FDOT and FHWA policies and standards
- Has the lowest wetland and surface water impacts
- Requires the least amount of wetland and Section 4(f) mitigation
- Has the lowest Section 4(f) recreational impacts
- Has the lowest archaeological resource impacts
- Has the lowest impacts to species and habitat

- Requires the least amount of ROW
- Has the lowest cost

This Preferred Alternative is determined to meet the Section 4(f) prudent and feasible standard.

Applicability

Yes	No	
☒	☐	Does the project meet all of the following criteria?

1. The bridge is to be replaced or rehabilitated with Federal funds.
2. The project will require the use of a historic bridge structure which is on or is eligible for listing on the National Register of Historic Places.
3. The bridge is not a National Historic Landmark.
4. FDOT has determined that the facts of the project match those set forth in the sections below labeled Alternatives, Findings, and Measures to Minimize Harm.
5. Agreement among FDOT, the State Historic Preservation Officer (SHPO), and the Advisory Council on Historic Preservation (ACHP), if participating, has been reached through procedures pursuant to Section 106 of the NHPA.

Alernatives and Findings

1. No Build: The No Build Alternative has been studied and does not meet the Section 4(f) prudent and feasible standard. The No Build Alternative is not recommended based on the following:
   - **Structural Deficiencies:** The No Build Alternative does not correct the situation that causes the bridge to be considered structurally deficient or significantly deteriorated. These deficiencies can lead to eventual structural failure/collapse. Normal maintenance is not considered adequate to address these deficiencies.
   - **Functional/Geometric Deficiencies:** The No Build Alternative does not correct the situation that causes the bridge to be considered functionally/geometrically deficient. These deficiencies can lead to safety hazards to the traveling public or place unacceptable restrictions on transport and travel.
2. Build on New Location Without Using the Old Bridge: This alternative has been studied and does not meet the Section 4(f) prudent and feasible standard. The New Location Alternative is not recommended based on the following:
   - **Structural Deficiencies:** The New Location Alternative does not correct the situation that causes the bridge to be considered structurally deficient or significantly deteriorated. These deficiencies can lead to eventual structural failure/collapse. Normal maintenance is not considered adequate to address these deficiencies.
   - **Functional/Geometric Deficiencies:** The New Location Alternative does not correct the situation that causes the bridge to be considered functionally/geometrically deficient. These deficiencies can lead to safety hazards to the traveling public or place unacceptable restrictions on transport and travel.
3. Rehabilitation Without Affecting the Historic Integrity of the Bridge: This alternative has been studied and does not meet the Section 4(f) prudent and feasible standard. The Rehabilitation Alternative is not recommended based on the following:
   - **Structural Deficiencies:** The Rehabilitation Alternative does not correct the situation that causes the bridge to be considered structurally deficient or significantly deteriorated. These deficiencies can lead to eventual structural failure/collapse. Normal maintenance is not considered adequate to address these deficiencies.

- **Functional/Geometric Deficiencies:**The Rehabilitation Alternative does not correct the situation that causes the bridge to be considered functionally/geometrically deficient. These deficiencies can lead to safety hazards to the traveling public or place unacceptable restrictions on transport and travel.

4. Replacement: The Replacement Alternative has been studied and is determined to meet the Section 4(f) prudent and feasible standard. The Replacement Alternative is recommended based on the following:

   - **Structural Deficiencies:**The Replacement Alternative corrects the situation that causes the bridge to be considered structurally deficient or significantly deteriorated.
   - **Functional/Geometric Deficiencies:**The Replacement Alternative corrects the situation that causes the bridge to be considered functionally/geometrically deficient.

Measures to Minimize Harm

☐ For bridges that are to be rehabilitated, the historic integrity of the bridge is preserved, to the greatest extent possible, consistent with unavoidable transportation needs, safety, and load requirements;

☒ For bridges that are to be rehabilitated to the point that the historic integrity is affected or that are to be moved or demolished, FDOT ensures that, in accordance with the Historic American Engineering Record (HAER) standards, or other suitable means developed through consultation, fully adequate records are made of the bridge;

☒ For bridges that are to be replaced, the existing bridge is made available for an alternative use, provided a responsible party agrees to maintain and preserve the bridge; and

☒ For bridges that are adversely affected, agreement among the SHPO, FDOT, and ACHP (if participating in consultation) is reached through the Section 106 process of the NHPA on measures to minimize harm and those measures are incorporated into the project. This programmatic Section 4(f) evaluation does not apply to projects where such an agreement cannot be reached.

The proposed project meets all the applicable criteria set forth by the Federal Highway Administration's (FHWA) Guidance on Programmatic Section 4(f) Evaluation and Approval for FHWA Projects Which Necessitate the Use of Historic Bridges (23 CFR Part 774). All alternatives set forth in the subject programmatic evaluation were fully analyzed and the findings made are clearly applicable to this project. There are no feasible and prudent alternatives to the use of the historic bridge, and the project includes all possible planning to minimize harm.

Public Involvement Activities:

Throughout the course of the study, and as part of the Section 106 process, public involvement has been ongoing with appropriate agencies, organizations, and interested individuals. For each public meeting, the historic eligibility of the bridge and the reasons why is determined eligible were presented. Opportunities to comment were available during the public meetings/hearing, and any time via the project website, by email to the FDOT Project Manager, or by mail. The purpose of these meetings was not only to share project information with stakeholders, but to also collect feedback which was considered during the alternatives development and evaluation process.

Multiple coordination meetings were held with the Sebastian Inlet State Park and the Sebastian Inlet District. The project team established a Cultural Resource Committee (CRC) to conduct and document good faith consultation with affected parties in compliance with Section 106. Coordination with the CRC continued through development of the Memorandum of Agreement. Because the public is considered a Section 106 consulting party, the public hearing was designated as an additional point of Section 106 consultation. The public was given an opportunity to participate and provide input on the effect to the historic bridge. No comments were received regarding the effects to the historic bridge.

Coordination with the Advisory Council on Historic Preservation (ACHP) was initiated through the e106@achp.gov process. The ACHP has determined it will not participate in consultation to resolve adverse effects to the historic bridge.

Below is a list of public involvement activities:

Date	Location	Topic
Feb 26, 2021	Virtual	Sebastian Inlet State Park Coordination Meeting
Mar 3, 2021	Virtual	US Coast Guard Coordination Meeting
Mar 17, 2021	Virtual	Progress Meeting #3
Apr 2021	On-Line	Public Navigation Survey
May 11, 2021	Virtual	Public Kickoff Meeting
June 21, 2021	Virtual	Agency Coordination Meeting - FIND/SID/IRC MPO
Sept 29, 2021	In-Person	D4 Field Review - Sebastian Inlet State Park
Oct 12, 2021	Virtual	USCG Vertical Alternatives Evaluation Coordination Meeting
Nov 23, 2021	Virtual	Coordination Meeting SID and SISP
Dec 8, 2021	In-Person	Sebastian Inlet District (SID) Presentation
Dec 8, 2021	In-Person	Indian River MPO Presentation
Dec 10, 2021	Virtual	Pond Alternatives Coordination Meeting
Jan 11, 2022	Virtual	Virtual Alternatives Public Workshop
Jan 13, 2022	In-Person	Alternatives Public Workshop
Jan 27, 2022	Virtual	FDEP ARC Meeting
Feb 10, 2022	Virtual	Coordination Meeting with SID - Access Easement
Feb 18, 2022	Virtual	District 5 Coordination Meeting
Mar 3, 2022	Virtual	Sebastian Inlet State Park Improvements Meeting
Mar 7, 2022	In-Person	SCTPO TAC Meeting Presentation
Mar 10, 2022	In-Person	SCTPO Board Meeting Presentation
Apr 27, 2022	Virtual	Cultural Resource Committee Meeting #1
May 2, 2022	In-Person	Value Engineering Site Visit with Sebastian Inlet State Park
May 19, 2022	Virtual	SID Coordination Meeting - Access Road Relocation
May 27, 2022	In-Person	OEM Site Visit
June 6, 2022	Virtual	FDEP-SJRWMD Coordination Meeting #1
June 16, 2022	Virtual	FDEP Coordination Meeting #2
July 6, 2022	Virtual	FDEP ERP Coordination Meeting #3
July 7, 2022	Virtual	ETAT Meeting
August 10, 2022	Virtual	FDEP Sebastian Inlet State Park Coordination Meeting
Oct 24, 2022	Virtual	FDEP Sebastian Inlet State Park Coordination Meeting
Dec 13, 2022	Virtual	Virtual Public Hearing
Dec 15, 2022	In-Person	Public Hearing

MEASURES TO MINIMIZE HARM

The No Build, New Location, Parallel Location, and Rehabilitation alternatives, which would either avoid or minimize harm to the bridge, were considered, evaluated, and determined to fail the Section 4(f) feasible and prudent standard. These alternatives do not meet the purpose and need for the project. If one of these avoidance alternatives were feasible and met the purpose and need, it would not be prudent to make the historic bridge available for alternate use due to potential

safety concerns for bridge users and navigation below. Routine maintenance by FDOT or another party is insufficient to correct the structural deficiencies that will eventually lead to bridge failure.

A Memorandum of Agreement (MOA) between the SHPO and FDOT, executed April 21, 2023, stipulates that prior to initiating any ground disturbing or demolition work associated with the Project, FDOT shall ensure that the following measures are carried out:

I. Documentation of the James H. Pruitt Memorial Bridge (8BR03148/8IR01493)
A. Prior to bridge demolition and per guidance provided by the National Park Service (NPS), FDOT will prepare Historic American Engineering Record (HAER) Level II documentation for the James H. Pruitt Memorial Bridge (FDOT Bridge No. 880005) as follows:

1. Written historical and descriptive data prepared in accordance with outline format guidelines containing a construction history of the bridge including the history of the bridge type, an architectural description of the resource including alterations, a description of the site and changes, any historical photographs in the supplementary materials section, and a site plan; and
2. Reproduction of existing "as built" and existing drawings on vellum; and
3. Large-format (4" x 5" or larger negative size) photographs processed for archival permanence in accordance with HAER photographic specifications; and
4. At least one color digital photograph of the resource and its setting; and
5. Photo locations keyed to the site plan and included with the "Index to Photographs."

B. FDOT shall provide draft HAER documentation (non-archival format, electronic version) to the NPS and SHPO for concurrent review. Both agencies shall have 30 days, after receipt of the draft documentation for review, as per Stipulation VII.
C. FDOT shall make requested edits and provide final copies of the HAER documentation, completed in accordance with Stipulation I.A, as follows:

1. An archival copy to the NPS Southeast Regional Office for review and approval prior to salvage and demolition of the structure, per HAER guidelines; and
2. An archival copy to the SHPO for inclusion in the Florida Master Site File and the State Archives of Florida; and
3. Non-archival copies and electronic copies to the Indian River County Historical Society and the Sebastian Inlet District.

D. The HAER documentation cannot be considered complete, and bridge demolition cannon take place, until accepted by NPS.

II. Public Education

A. FDOT will assist with the development and funding of two State Historic Markers with one to be placed in proximity to the north side and the other to be placed in proximity to the south side of the bridge location. The Markers will be located in areas that are safe and accessible to the public. The draft Marker text and location will be coordinated with the SHPO for review, as described in Stipulation VII
B. FDOT will assist with the development and funding of two educational interpretive panels to be placed within the boundaries of the Sebastian Inlet State Park with one to be placed in proximity to the north side and the other to be placed in proximity to the south side of the bridge location. The panels (design, text, and locations) will be coordinated with the SHPO for review, as described in Stipulation VII.

III. Documentation of State Road (SR) A1A (8BR02544/8IR01500)

1. A. FDOT will assist with the documentation of State Road (SR) A1A. A historic context will be developed for an approximate 25-mile portion of SR A1A from Wabasso Beach (Indian River County) to Indialantic (Brevard County). The historic context will address the unique historic development of this isolated stretch of the roadway and its association with the construction of the James H. Pruitt Memorial Bridge (FDOT Bridge No. 880005) and the multiple

federal and state-owned recreational facilities along the roadway. The field survey of the resource will include a survey of historic resources within the roadway right-of-way. Florida Master Site File forms will be completed for this length of SR A1A (one for Brevard County and one for Indian River County) and any historic resources identified in the roadway right-of-way (excluding the James H. Pruitt Memorial Bridge/ FDOT Bridge No. 880005). National Register evaluations will be made for the historic resources within the survey area (except for the James H. Pruitt Memorial Bridge/FDOT Bridge No. 880005). The survey and evaluations will not include any archaeological resources.

A. FDOT will assist with the documentation of State Road (SR) A1A. A historic context will be developed for an approximate 25-mile portion of SR A1A from Wabasso Beach (Indian River County) to Indialantic (Brevard County).

1. Field survey of the 25-mile linear resource will include a survey of historic linear resources as well as the historic resources within the roadway right-of-way. The survey, subsequent documentation, and NRHP evaluations will not include any archaeological resources.
2. A historic context will be developed for the approximate 25-mile portion of SR A1A. The historic context will address the unique historic development of this isolated stretch of the roadway and its association with the construction of the James H. Pruitt Memorial Bridge (FDOT Bridge No. 880005) and the multiple federal and state-owned recreational facilities along the roadway. A historical context will also be developed, or the above-mentioned context will be expanded/augmented, to contextualize any historical resources documented during the field survey should the fall outside the developed historic context, as appropriate.
3. A Survey Document will be compiled in accordance with guidance from the Florida Division of Historical Resources (FDHR)/SHPO and Florida Administrative Code Chapters 1A-32 and 1A-46. Content will include, but is not limited to, the purpose of the survey, survey methodology, aforementioned historic context, and survey results sections. In addition, National Register evaluations will be made for the historic resources documented in the survey area (except for the James H. Pruitt Memorial Bridge/FDOT Bridge No. 880005).
4. Florida Master Site File (FMSF) resource forms will be completed for this length of SR A1A (one for Brevard County and one for Indian River County) and any historic resources identified in the roadway right-of-way (excluding the James H. Pruitt Memorial Bridge/ FDOT Bridge No. 880005). A FMSF Survey Log will be completed for the historic architectural survey. Appropriate maps, photographs, and GIS data will be generated to accompany the FMSF forms, per FMSF submission guidance.

B. FDOT will submit the Survey Document and FMSF package, as detailed above, to SHPO for review per Stipulation VII. SHPO ill for review the Survey Document for completeness and sufficiency in accordance with Florida Administrative Code Chapter 1A-46 and will review the FMSF resource forms to provide concurrence with the NRHP determination recommendations.

OEM SME Concurrence Date: 05-16-2023

Project-Level Attachments

None

Resource Attachments

Sebastian Inlet State Park

Section 4(f) Figures SISP
2008_Sebastian_Inlet_State_Park_Unit_Management_Plan
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FM_445618_1_FDEP_AFAs Letter
FDOT_Notification of De minimus _Letter_to_FDEP_445618_1_Signed
445618_1 FDEP Response Letter
Project Location Map_445618_1

Sebastian Inlet District

8-4-22 SID Easement Presentation to OEM
Sebastian Inlet District Submerged Land Parcel

FDOT Transportation Easement

FDOT_ROW_Map
Sebastian_Inlet_District Warranty_Deed_99_279_to FDOT

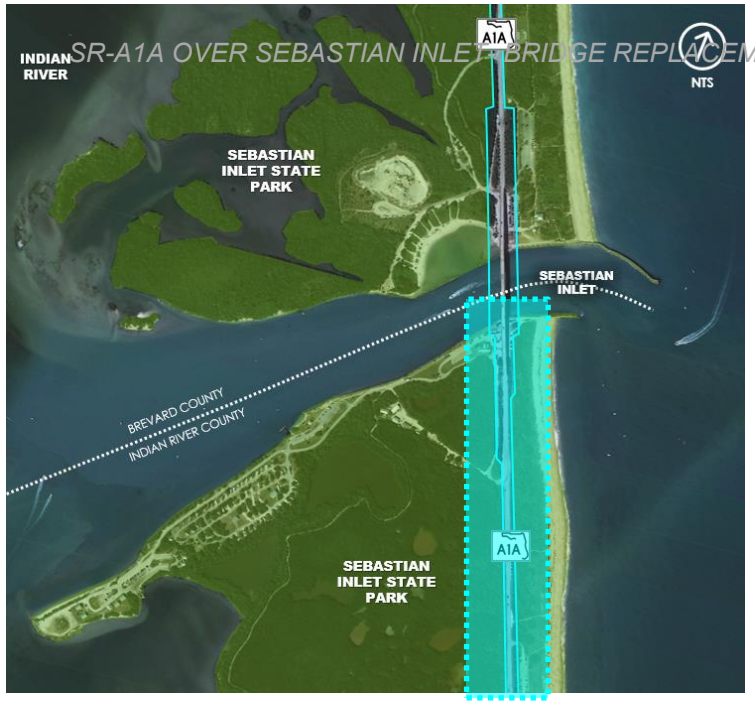
Sebastian Inlet Bridge (Historic)

ACHP_e106
Cult_Res_Com_Mtg_No.1_Notes
SHPO_Concurrence_Effects_Determination
Executed_Section_106 MOA

Sebastian Inlet State Park

Contents:

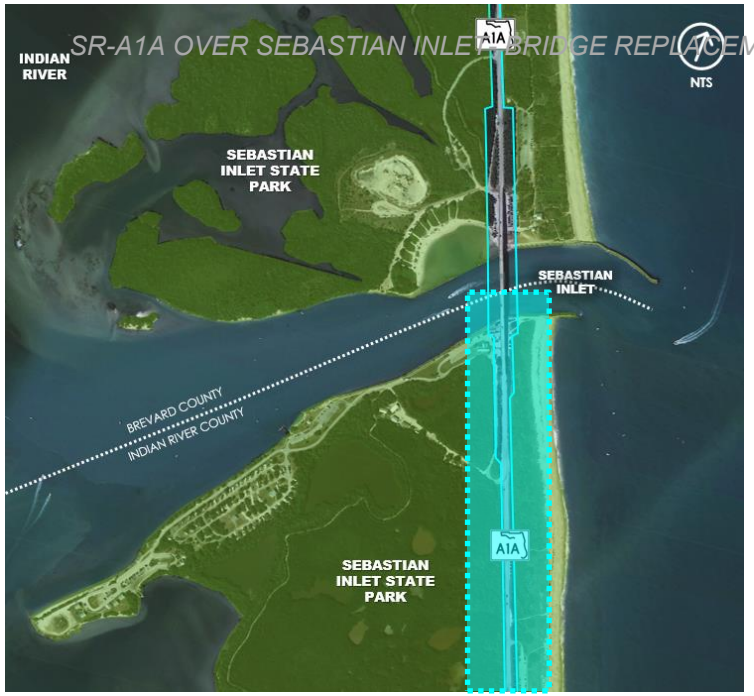
Section 4(f) Figures SISP
2008_Sebastian_Inlet_State_Park_Unit_Management_Plan
Signed_FDOT-FDEP_Park_de minimis letter_445618_1
FM_445618_1_FDEP_AFAs Letter
FDOT_Notification of De minimus _Letter_to_FDEP_445618_1_Signed
445618_1 FDEP Response Letter
Project Location Map_445618_1



HIGHLIGHTS OF SECTION 4(F)

Existing Conditions South of Bridge (Indian River County)

1. To Parking and Restrooms
2. Sebastian Inlet State Park (Wetland Areas, Mangroves)
3. Sebastian Inlet State Park (Dunes)
4. Park Entrance/Exit
5. To Campground and Boat Ramp
6. Sebastian Inlet
7. Sebastian Inlet Fishing Museum & Parking
8. Under Bridge Deck Observation/Fishing Pier
9. James H. Pruitt Memorial Bridge
10. To South Jetty



HIGHLIGHTS OF SECTION 4(F) & SECTION 106 IMPACTS PREFERRED ALTERNATIVE

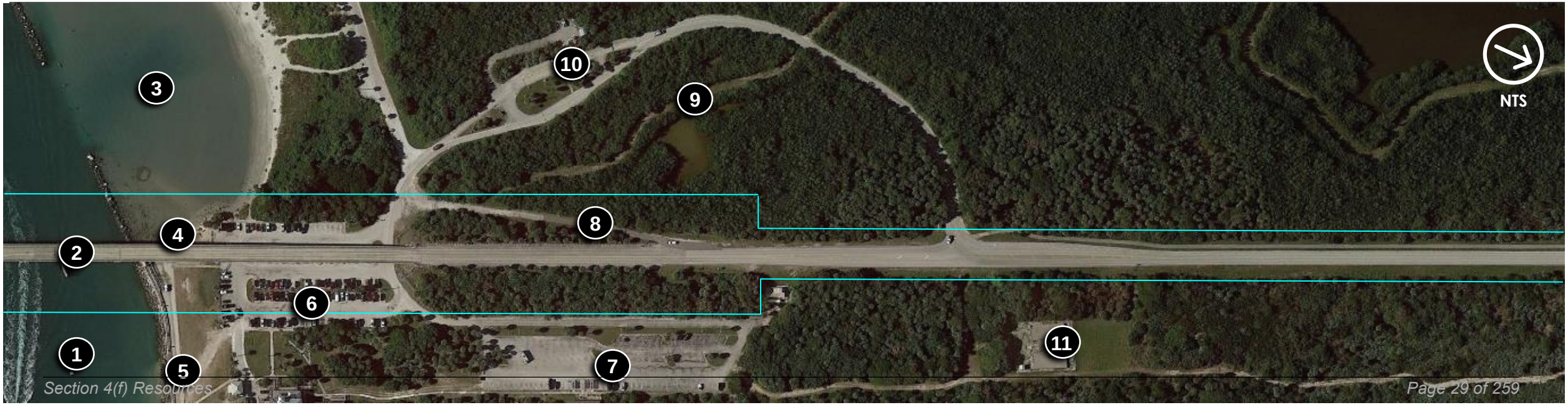
South of Bridge (Indian River County)

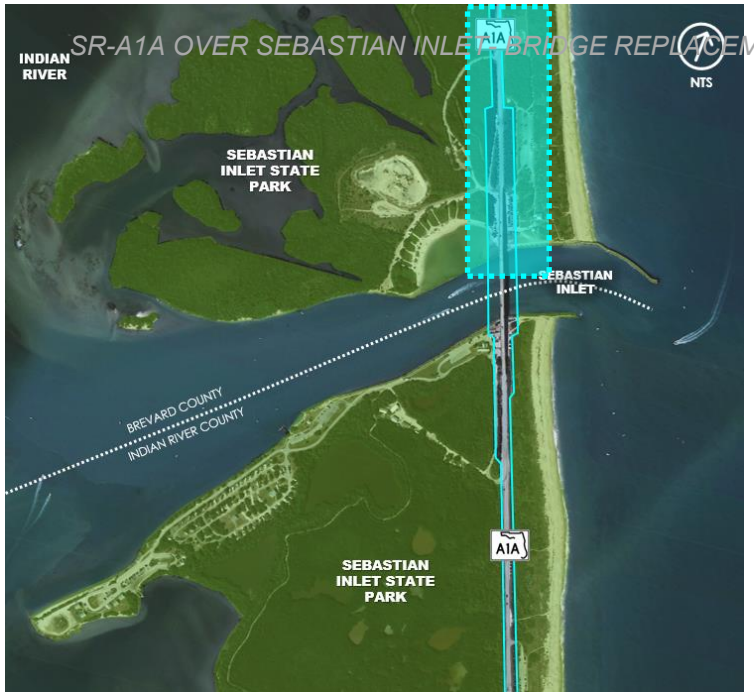
1. South Stormwater Pond – 0.74 Acres
2. Clear Zone and Maintenance for Shared Use Path – 0.33 Acres
3. Right Turn Lane from Park Entrance – 0.08 Acres
4. Demolition of James H. Pruitt Memorial Bridge

HIGHLIGHTS OF SECTION 4(F)

Existing Conditions North of Bridge (Brevard County)

1. Sebastian Inlet
2. James H. Pruitt Memorial Bridge
3. Swimming Cove
4. Under Bridge Deck Observation/Fishing Pier
5. To North Jetty
6. Sebastian Inlet State Park (Parking, Inlet Grill Restaurant, Inlet Bait and Tackle Shop, Restrooms)
7. Parking
8. Sebastian Inlet District Access Road
9. Hiking/Biking Trail
10. Sebastian Inlet State Park – North Entrance
11. Utilities





HIGHLIGHTS OF SECTION 4(F) & SECTION 106 IMPACTS

PREFERRED ALTERNATIVE

North of Bridge (Brevard County)

1. North Stormwater Pond – 1.39 Acres
2. Clear Zone and Maintenance for Shared Use Path – 0.26 Acres
3. Right Turn Lane from Park Entrance – 0.04 Acres
4. Demolition of James H. Pruitt Memorial Bridge

SEBASTIAN INLET STATE PARK ACCESS ROAD
PAVED SHOULDERS - BICYCLE LANES

LENTH (Feet)	WIDTH (Feet)	AREA SF	AREA ACRES	LOCATION	DESCRIPTION
SOUTH ENTRANCE					
940	4	7520	0.17	South Entrance	Paved
940	2	3760	0.09	South Entrance	Unpaved
TOTAL	**6**	**11280**	**0.26**	**South Entrance**	**Both Paved & Unpaved**
NORTH ENTRANCE					
710	4	5680	0.13	North Entrance	Paved
710	2	2840	0.07	North Entrance	Unpaved
TOTAL	**6**	**8520**	**0.20**	**North Entrance**	**Both Paved & Unpaved**

Project Development and Environment Study
SR A1A over Sebastian Inlet Bridge 880005 - Bridge Replacement
Indian River County and Brevard County
FM No. 445618-1-22-02

SEBASTIAN INLET STATE PARK

Unit Management Plan

APPROVED

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Division of Recreation and Parks
DECEMBER 12, 2008

TABLE OF CONTENTS

INTRODUCTION.....1

PURPOSE AND SCOPE OF PLAN.....1

MANAGEMENT PROGRAM OVERVIEW.....4

Management Authority and Responsibility.....4

Park Goals and Objectives.....5

Management Coordination.....10

Public Participation.....11

Other Designations.....11

RESOURCE MANAGEMENT COMPONENT

INTRODUCTION.....13

RESOURCE DESCRIPTION AND ASSESSMENT.....13

Natural Resources.....13

Cultural Resources.....24

RESOURCE MANAGEMENT PROGRAM.....30

Special Management Considerations.....30

Management Needs and Problems.....32

Management Objectives.....33

Management Measures For Natural Resources.....36

Management Measures For Cultural Resources.....41

Research Needs.....43

Resource Management Schedule.....45

Land Management Review.....45

LAND USE COMPONENT

INTRODUCTION.....47

EXTERNAL CONDITIONS.....47

Existing Use of Adjacent Lands.....47

Planned Use of Adjacent Lands.....48

PROPERTY ANALYSIS.....48

Recreation Resource Elements.....49

Assessment of Use.....50

Existing Facilities.....53

CONCEPTUAL LAND USE PLAN.....54

Site Planning and Design Process.....54

Potential Uses and Proposed Facilities.....54

Facilities Development.....60

Existing Use and Optimum Carrying Capacity.....61

Optimum Boundary.....63

TABLE

TABLE 1 - Existing Use and Optimum Carrying Capacity.....32

LIST OF ADDENDA

ADDENDUM 1

Acquisition History.....A 1 - 1

ADDENDUM 2

References Cited.....A 2 - 1

ADDENDUM 3

Soil Descriptions ..... A 3 - 1

ADDENDUM 4

Plant and Animal List ..... A 4 - 1

ADDENDUM 5

Designated Species List ..... A 5 - 1

ADDENDUM 6

Archaeological Site Data ..... A 6 - 1

ADDENDUM 7

Priority Schedule and Cost Estimates ..... A 7 - 1

MAPS

Vicinity Map 2
Reference Map 3
Soils Map 15
Natural Communities Map 17
Burn Zones Map 38
Base Map 51
Conceptual Land Use Plan 55
Optimum Boundary Map 64

INTRODUCTION

Sebastian Inlet State Park is located in Brevard and Indian River counties (see Vicinity Map) on a barrier island between the Atlantic Ocean and the Indian River Lagoon. Access to the park is from State Road A1A, 12 miles north of Vero Beach or 18 miles south of Melbourne (see Reference Map).

Acquisition of the park began in 1966, with a donation from Robert P. McLarty and Dodo W. McLarty. The State of Florida acquired Sebastian Inlet State Park to protect, develop, operate and maintain the property for public outdoor recreational, park, conservation, historic and related purposes.

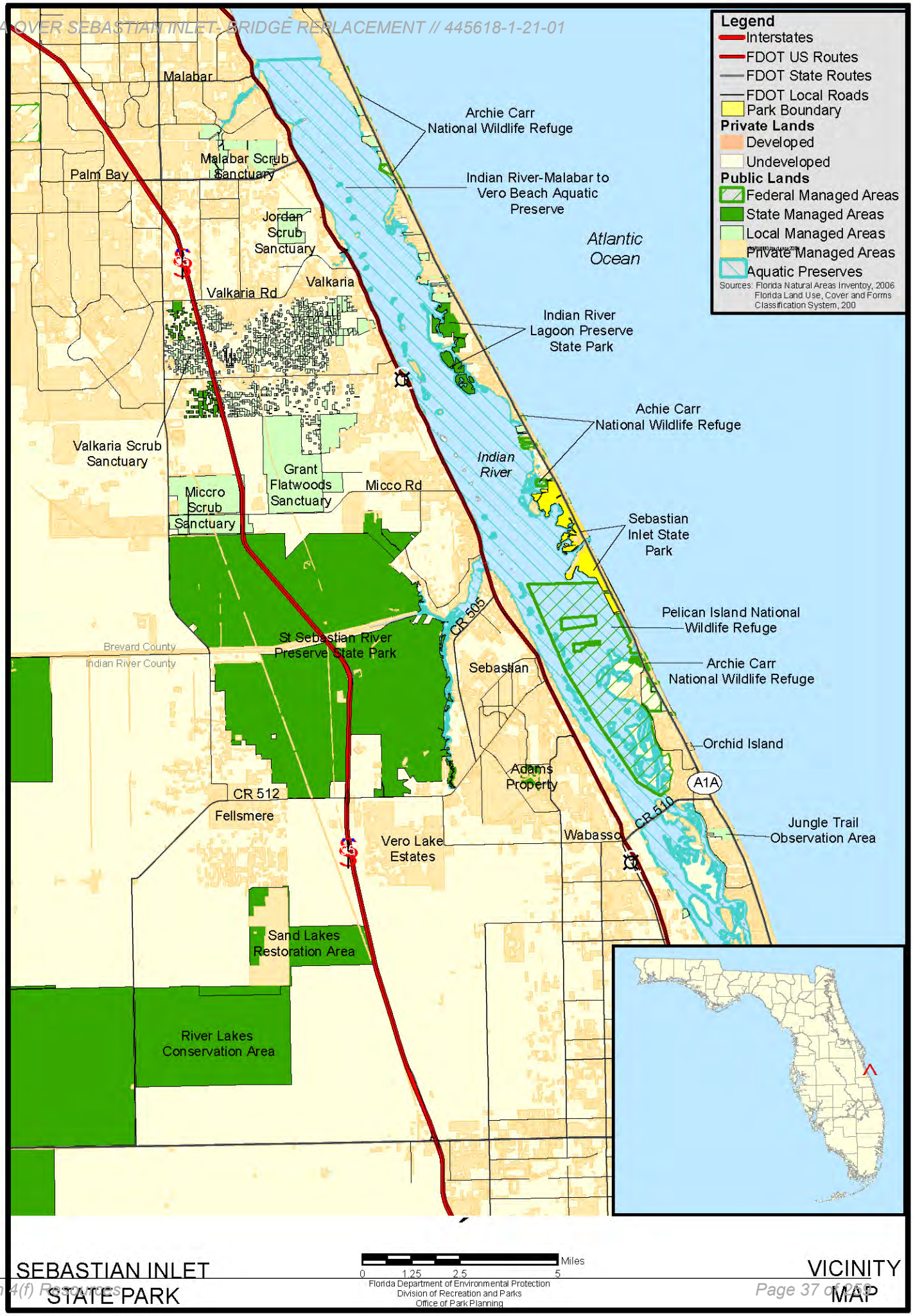
At Sebastian Inlet State Park, public outdoor recreation is the designated single use of the property (see Addendum 1). There are no legislative or executive directives that constrain the use of this property. The park contains 971.01 acres, as reflected on the current Properties under Jurisdiction of the Division of Recreation and Parks (Division) report.

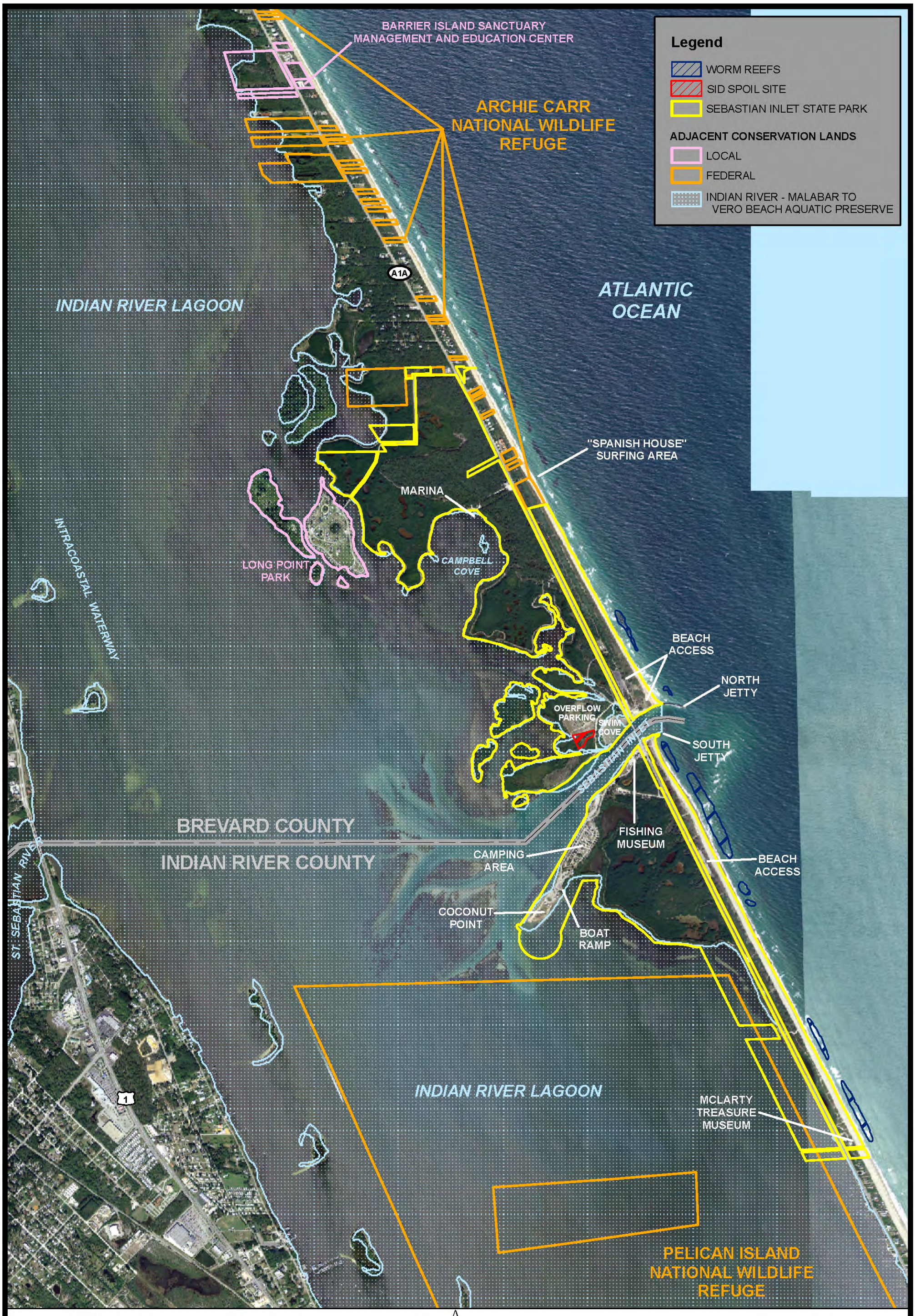
PURPOSE AND SCOPE OF THE PLAN

This plan serves as the basic statement of policy and direction for the management of Sebastian Inlet State Park as a unit of Florida's state park system. It identifies the objectives, criteria and standards that guide each aspect of park administration, and sets forth the specific measures that will be implemented to meet management objectives. The plan is intended to meet the requirements of Sections 253.034 and 259.032, Florida Statutes, Chapter 18-2, Florida Administrative Code, and intended to be consistent with the State Lands Management Plan. With approval, this management plan will replace the January 25, 2001 approved plan. All development and resource alteration encompassed in this plan is subject to the granting of appropriate permits; easements, licenses, and other required legal instruments. Approval of the management plan does not constitute an exemption from complying with the appropriate local, state or federal agencies. This plan is also intended to meet the requirements for beach and shore preservation, as defined in Chapter 161, Florida Statutes and Chapters 62B-33, 62B-36 and 62R-49, Florida Administrative Code.

The plan consists of two interrelated components. Each component corresponds to a particular aspect of the administration of the park. The resource management component provides a detailed inventory and assessment of the natural and cultural resources of the park. Resource management problems and needs are identified, and specific management objectives are established for each resource type. This component provides guidance on the application of such measures as prescribed burning, exotic species removal and restoration of natural conditions.

The land use component is the recreational resource allocation plan for the unit. Based


Legend
Interstates
FDOT US Routes
FDOT State Routes
FDOT Local Roads
Park Boundary
Private Lands
Developed
Undeveloped
Public Lands
Federal Managed Areas
State Managed Areas
Local Managed Areas
Private Managed Areas
Aquatic Preserves
Sources: Florida Natural Areas Inventoy, 2006
Florida Land Use, Cover and Forms Classification System, 200
Malabar
Palm Bay
Malabar Scrub Sanctuary
Archie Carr National Wildlife Refuge
Indian River-Malabar to Vero Beach Aquatic Preserve
Atlantic Ocean
Jordan Scrub Sanctuary
Valkaria Rd
Valkaria
Indian River Lagoon Preserve State Park
Achie Carr National Wildlife Refuge
Valkaria Scrub Sanctuary
Indian River
Grant Flatwoods Sanctuary
Micco Rd
Miccro Scrub Sanctuary
Sebastian Inlet State Park
CR 505
Pelican Island National Wildlife Refuge
St Sebastian River Preserve State Park
Brevard County
Indian River County
Sebastian
Archie Carr National Wildlife Refuge
Orchid Island
Adams Property
A1A
CR 512
Fellsmere
CR 510
Wabasso
Jungle Trail Observation Area
Vero Lake Estates
Sand Lakes Restoration Area
River Lakes Conservation Area
Miles
0 1.25 2.5 5
Florida Department of Environmental Protection
Division of Recreation and Parks
Office of Park Planning
SEBASTIAN INLET STATE PARK
VICINITY MAP



SEBASTIAN INLET STATE PARK

REFERENCE MAP

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF RECREATION AND PARKS
OFFICE OF PARK PLANNING

on considerations such as access, population and adjacent land uses, an optimum allocation of the physical space of the park is made, locating use areas and proposing types of facilities and volume of use to be provided.

In the development of this plan, the potential of the park to accommodate secondary management purposes ("multiple uses") was analyzed. These secondary purposes were considered within the context of the Division's statutory responsibilities and an analysis of the resource needs and values of the park. This analysis considered the park natural and cultural resources, management needs, aesthetic values, visitation and visitor experiences.

For this park, it was determined that no secondary purposes could be accommodated in a manner that would not interfere with the primary purpose of resource-based outdoor recreation and conservation. Uses such as water resource development projects, water supply projects, stormwater management projects, linear facilities and sustainable agriculture and forestry (other than those forest management activities specifically identified in this plan) are not consistent with this plan.

The potential for generating revenue to enhance management was also analyzed. Visitor fees and charges are the principal source of revenue generated by the park. It was determined that multiple-use management activities would not be appropriate as a means of generating revenues for land management. Instead, techniques such as entrance fees, concessions and similar measures will be employed on a case-by-case basis as a means of supplementing park management funding.

MANAGEMENT PROGRAM OVERVIEW

Management Authority and Responsibility

In accordance with Chapter 258, Florida Statutes and Chapter 62D-2, Florida Administrative Code, the Division is charged with the responsibility of developing and operating Florida's recreation and parks system. These are administered in accordance with the following policy:

> It shall be the policy of the Division of Recreation and Parks to promote the state park system for the use, enjoyment, and benefit of the people of Florida and visitors; to acquire typical portions of the original domain of the state which will be accessible to all of the people, and of such character as to emblemize the state's natural values; conserve these natural values for all time; administer the development, use and maintenance of these lands and render such public service in so doing, in such a manner as to enable the people of Florida and visitors to enjoy these values without depleting them; to contribute materially to the development of a strong mental, moral, and physical fiber in the people; to provide for perpetual preservation of historic sites and memorials of statewide significance and interpretation of their history to the people; to contribute to the tourist appeal of Florida.

The Trustees have also granted management authority of certain sovereign submerged lands to the Division under Management Agreement MA 68-086 (as amended January 19, 1988). The management area includes a 400-foot zone from the edge of mean high water where a park boundary borders sovereign submerged lands fronting beaches, bays, estuarine areas, rivers or streams. Where emergent wetland vegetation exists, the zone extends waterward 400 feet beyond the vegetation. The agreement is intended to provide additional protection to resources of the park and nearshore areas and to provide authority to manage activities that could adversely impact public recreational uses. In addition, the park borders the Indian River Aquatic Preserve. Therefore, the management authority is jointly shared within the boundary of the aquatic preserve.

Many operating procedures are standard system wide and are set by policy. These procedures are outlined in the Division's Operations Manual (OM) and cover such areas as personnel management, uniforms and personal appearance, training, signs, communications, fiscal procedures, interpretation, concessions, camping regulations, resource management, law enforcement, protection, safety and maintenance.

In the management of Sebastian Inlet State Park, a balance is sought between the goals of maintaining and enhancing natural conditions and providing various recreational opportunities. Natural resource management activities are aimed at management of natural systems. Development in the park is directed toward providing public access to and within the park, and to providing recreational facilities, in a balance, that are both convenient and safe. Depletion of a resource by any recreational activity is not permitted. Program emphasis is on interpretation on the park's natural, aesthetic and educational attributes.

Park Goals and Objectives

The following park goals and objectives express the Division's long-term intent in managing the state park. At the beginning of the process to update this management plan, the Division reviewed the goals and objectives of the previous plan to determine if they remain meaningful and practical and should be included in the updated plan. This process ensures that the goals and objectives for the park remain relevant over time.

Estimates are developed for the funding and staff resources needed to implement the management plan based on these goals, objectives and priority management activities. Funding priorities for all state park management and development activities are reviewed each year as part of the Division's legislative budget process. The Division prepares an annual legislative budget request based on the priorities established for the entire state park system. The Division also aggressively pursues a wide range of other funds and staffing resources, such as grants, volunteers and partnerships with agencies, local governments and the private sector, for supplementing normal legislative appropriations to address unmet needs. The ability of the Division to implement the specific goals, objectives and priority actions identified in this plan will be determined

by the availability of funding resources for these purposes.

Natural Resources

1. Conserve, protect and manage natural communities, significant habitat and ecological systems.
- **A.** Survey for exotic plant and animal species and continue the exotic species removal program.
- **B.** Continue and expand the prescribed fire program to maintain fire as an ecosystem process with emphasis on maintaining the current condition of the coastal strand and beach dune habitats south of the inlet while restoring these communities to the north of the inlet.
- **C.** Seek funding for additional staff to aid in the preparation, implementation and evaluation of resource management.
- **D.** Monitor natural community restoration projects to adaptively manage habitats
- **E.** Close unauthorized footpaths that occur throughout the beach dune and coastal strand habitat to the north and south of the inlet and replant with native herbaceous vegetation.
- **F.** Control unauthorized access and prevent additional erosion.
- **G.** Educate visitors on all projects and changes to the park to promote the park and park programs.

2. Restore, monitor and protect the hydrology of the park to the greatest extent practicable.
- **A.** Work with St. Johns River Water Management District to obtain ground and surface water quality and quantity data.
- **B.** Determine the feasibility of restoring the original hydroperiod to the tidal swamps by working with local mosquito control districts.
- **C.** Control and limit stormwater runoff into adjacent wetlands along State Road A1A, park drives, easements and other areas.

3. Maintain or increase populations of listed plant and animal species occurring on the park.
- **A.** Explore opportunities for reintroducing the southeastern beach mouse to the north side of the inlet.
- **B.** Expand and restore beach mouse habitat.
- **C.** Survey and monitor for wintering and nesting shorebirds and establish protected resting, loafing and nesting areas where needed throughout the year. Work with FWC and local agencies on shorebird protection issues.
- **D.** Prohibit pets from all park beach areas.
- **E.** Control access to Coconut Point during shorebird breeding season and after enhancement.
- **F.** Work with SID to encourage more appropriate timing and frequency for future renourishment projects that allow for successful sea turtle nesting and to protect sensitive beach mouse and shorebird habitat
- **G.** Survey and monitor populations of gopher tortoises.

H. Protect gopher tortoises in the field west of the cove by controlling access and developing a plan for this area.
I. Continue flora and fauna surveys.

4. Restore highly altered or severely impacted natural communities.
A. Mechanically treat severely overgrown, fire suppressed coastal strand communities to the north of the inlet. A narrow buffer may be needed to control unauthorized access.
B. Seek funding to initiate the enhancement of the Coconut Point protected zone for beach-nesting birds according to the developed plan.
C. Develop a written plan for the field west of the cove that takes into consideration all demands for this parcel.
D. Restore the area around the cove by removing exotics and replanting with natives to give a more natural appearance for visitors to enjoy.

5. Provide environmental education and enhance public appreciation for elements of natural and cultural diversity.
A. Continue to operate both the McLarty Treasure Museum and the Sebastian Fishing Museum
B. Expand interpretive programs and field trips for the public and school groups to raise awareness of the local flora and fauna, including what is needed for management.
C. Train additional volunteers as tour guides.
D. Universal Trail Assessment Process (UTAP) designated park trails and update interpretive signage as appropriate.

Cultural Resources

1. Develop and implement an archaeological site condition-monitoring program.
A. Establish a reasonable site visit schedule.
B. Train staff or volunteers to conduct condition assessments.
C. Adopt a standardized condition assessment form to ensure data collection consistency.
D. Maintain permanent files for each site for condition data, and other documentation related to the physical change or treatment of sites.

2. Protect recorded and unrecorded archaeological sites.
A. Prioritize avoiding or minimizing site disturbance during improvement and resource management projects.
B. Reduce or eliminate other threats to the extent possible.
C. Apply approved treatment to preserve or stabilize sites.

3. Conduct archaeological surveys in order to locate sites, determine boundaries, document condition, assess significance, evaluate the archaeological sensitivity of the coast and distinguish between historic and non-historic surface remains.
A. Prioritize archaeological survey needs.
B. Identify what can be accomplished in-house.
C. Pursue grant funding for additional professional work.

D. Solicit volunteer support where appropriate.

4. Coordinate preservation, research and interpretation efforts for archaeological sites with local entities.
- **A.** Encourage permitted research by accredited regional universities and colleges.
- **B.** Encourage volunteer work by local chapters of the Florida Anthropological Society.
- **C.** Foster a relationship with the new regional office of the Florida Public Archaeology Network.
- **D.** Solicit support from Brevard and Indian River Counties for archaeological surveys and pursuit of grant money.

5. Develop a Museum Manual for the Sebastian Inlet Fishing Museum.
- **A.** Clarify roles and responsibilities of the park and the Citizens Support Organization.
- **B.** Clarify operational procedures.
- **C.** Clarify collection management arrangements.

6. Develop an Interpretive Plan and Scope of Collection Statement for the Sebastian Inlet Fishing Museum.
- **A.** Revisit the purpose of the museum and identify additional interpretive goals.
- **B.** Consult with individuals with ties to the local commercial fishing industry.
- **C.** Evaluate current exhibits based on the new interpretive plan.
- **D.** Evaluate current museum collection, and identify collecting priorities based on the new interpretive plan.

7. Address preservation, conservation and interpretation issues at the McLarty Museum
- **A.** Purchase equipment to produce a continuous record of temperature and humidity, and evaluate and remedy significant fluctuations.
- **B.** Replace UV-protective sleeves on lights; reconfigure or replace current lighting as needed to protect photographic material.
- **C.** Consult with Department Of State, Division of Historical Resources for permission to and instructions on touching up conserved metal artifacts.
- **D.** Secure funds for a general conservation assessment, via the Conservation Assessment Program or a private conservator, to assess the collection and museum environment, and for specific evaluation of the paintings.
- **E.** Develop a written security plan for the museum.

8. Recognize and interpret the significance of the park's cultural resource and stewardship activities.
- **A.** Solicit the involvement of associated living communities in the development of related preservation and interpretive projects.
- **B.** Post protective signage near heavily trafficked archaeological sites if useful.
- **C.** Nominate significant sites to the National Register of Historic Places.
- **D.** Keep permanent park history files on the park's development and history of surfing, fishing and other traditional uses; Park Interpretive plans should be updated to promote public education of these activities, the park's history and

prehistory, archaeological research of the peninsula, and preservation issues.

Recreational Goals

1. Continue to provide quality resource based outdoor recreational and interpretive programs and facilities at the state park.
- **A.** Provide facilities and use areas to support beach recreation, fishing, surfing, camping, picnicking, hiking, biking, boating, kayaking and birding.
- **B.** Regularly monitor impacts to park resources and the visitor experience and address through appropriate management action.
- **C.** Provide controlled public access to the beach.
- **D.** Deliver ranger led interpretive programs and provide static interpretive displays and educational materials to educate visitors and encourage responsible use of park resources.

2. Seek funding to expand recreational and interpretive opportunities through the improvement of programs and the development of new use areas and facilities, as outlined in this management plan.
- **A.** Expand and enhance the "Spanish House" parking area.
- **B.** Evaluate and renovate the entire marina area.
- **C.** Evaluate and redesign the concession area at the north jetty beach use area.
- **D.** Enhance the swimming cove area and provide stabilized parking.
- **E.** Add a primitive group camp.
- **F.** Explore the feasibility of developing a cabin area along the north inlet shoreline.
- **G.** Replace the fishing dock along the inlet's south shoreline.
- **H.** Improve and expand the camping area.
- **I.** Improve and control beach access areas south of the inlet.
- **J.** Evaluate the McLarty Treasure Museum for possible renovations.
- **K.** Explore ability to extend paved bike paths along park roads.

Park Administration/Operations

1. Provide efficient and effective management of park resources and facilities while maintaining a high level of visitor service.
- **A.** Pursue funding to acquire additional FTE positions as the parks operation grows in complexity.
- **B.** Seek funding to accomplish goals and objectives set forth in this management plan.
- **C.** Assure compliance with Division, state and federal safety guidelines and training requirements by providing training to all staff in visitor services, park information and emergency services.
- **D.** Maintain high maintenance standards and conduct routine safety inspections to provide clean safe facilities and use areas.
- **E.** Seek funding to meet staff residence needs and construct/upgrade support facilities.

F. Recruit and maintain volunteer support to assist park staff with the maintenance of park facilities, protection of park resources and implementation of park programs.

G. Establish and maintain effective park boundaries through fencing and posting of signs.

H. Work with Florida Park Police and other state and local Law Enforcement Agencies to protect natural and cultural resources while protecting park visitors.

I. Maintain and expand an active public relations program that increases public awareness and support for the park including resource management activities such as prescribed burning, exotic removal, listed species protection.

Management Coordination

The park is managed in accordance with all applicable Florida Statutes and administrative rules. Agencies having a major or direct role in the management of the park are discussed in this plan.

The Department of Agriculture and Consumer Services, Division of Forestry (DOF), assists Division staff in the development of wildfire emergency plans and provides the authorization required for prescribed burning. The Florida Fish and Wildlife Conservation Commission (FFWCC), assists staff in the enforcement of state laws pertaining to wildlife, freshwater fish and other aquatic life existing within park boundaries. In addition, the FFWCC aids the Division with wildlife management programs, including the development and management of Watchable Wildlife programs. The Department of State, Division of Historical Resources (DHR) assists staff to assure protection of archaeological and historical sites. The Department of Environmental Protection (DEP), Office of Coastal and Aquatic Managed Areas (CAMA) aids staff in aquatic preserves management programs and advises staff of Environmental Resource Permitting (ERP) requirements and mitigation options. The DEP, Bureau of Beaches and Wetland Resources aids staff in planning and construction activities seaward of the Coastal Construction Line. In addition, the Bureau of Beaches and Wetland Resources aid the staff in the development of erosion control projects. Emphasis is placed on protection of existing resources as well as the promotion of compatible outdoor recreational uses.

Sebastian Inlet State Park is closely related to management issues and activities by the Sebastian Inlet District (SID), Indian River and Brevard County governments, CAMA, local water management districts, and the U.S. Fish and Wildlife Service's Archie Carr National Wildlife Refuge. The park is also involved in local initiatives to designate State Road A1A as a Florida Scenic Highway and to designate portions of the barrier island as a National Historic District. Division staff will continue its involvement with each of these groups to insure that management activities within the state park are consistent with the goals, objectives and activities of the other programs, as necessary

and appropriate.

Division staff will encourage staff of the Florida Forever acquisition program to evaluate those areas the Indian River Blueways project to identify important shorebird nesting habitats within the project boundary, and recommend that important habitat areas be given priority for acquisition.

Division of Recreation and Parks staff has reviewed the SID's management plan for the Sebastian Inlet. Staff considers the goals and objectives of that plan to be generally consistent with the Division's interests in management of the state park. Erosion of the Atlantic beach shoreline south of the Sebastian Inlet has been a resource management problem for decades, and will continue to be in the future. The development of a sand transfer system at Sebastian Inlet is suggested as a primary measure to address this ongoing problem. Division staff agrees that a sand transfer system should continue to be considered as a part of the solution to the problem, with the understanding that decisions on beach renourishment and sand transfer must be based on a comprehensive understanding of the options and their relative impacts to the physical, biological and recreational resources and operation of the state park. The Division will continue to work with the SID, Indian River and Brevard Counties and the DEP Bureau of Beaches and Coastal Systems to evaluate all options available to address beach erosion and renourishment south of the inlet.

Public Participation

The Division provided an opportunity for public input by conducting a public meeting and an advisory group meeting to present the draft management plan to the public. A public meeting was held on May 13, 2008. An Advisory Group meeting was held May 14, 2008. The purpose of this meeting was to provide the Advisory Group members an opportunity to discuss the draft management plan.

Other Designations

Sebastian Inlet State Park has not been designated as an Area of Critical State Concern as defined in section 380.05, Florida Statutes. Currently it is not under study for such designation. The park is a component of the Florida Greenways and Trails System.

This unit is adjacent to the Indian River Aquatic Preserve, which was designated under provision of the Florida Aquatic Preserve Act of 1975 (section 258.35, Florida Statutes). All waters within the unit have been designated as Outstanding Florida Waters, pursuant to Chapter 62-302 Florida Administrative Code. Administered by the Department of Environmental Protection, this program was created by Section 403.061, Florida Statutes, and protects lakes, rivers and streams against degradation of existing ambient water quality. Surface waters in this unit are also classified as Class III waters by DEP.

RESOURCE MANAGEMENT COMPONENT

INTRODUCTION

The Division of Recreation and Parks has implemented resource management programs for preserving for all time the representative examples of natural and cultural resources of statewide significance under its administration. This component of the unit plan describes the natural and cultural resources of the park and identifies the methods that will be used to manage them. The stated management measures in this plan are consistent with the Department's overall mission in ecosystem management. Cited references are contained in Addendum 2.

The Division's philosophy of resource management is natural systems management. Primary emphasis is on restoring and maintaining, to the degree practicable, the natural processes that shape the structure, function and species composition of Florida's diverse natural communities as they occurred in the original domain. Single species management may be implemented when the recovery or persistence of a species is problematic provided it is compatible with natural systems management.

The management goal of cultural resources is to preserve sites and objects that represent all of Florida's cultural periods as well as significant historic events or persons. This goal may entail active measures to stabilize, reconstruct or restore resources, or to rehabilitate them for appropriate public use.

Because park units are often components of larger ecosystems, their proper management is often affected by conditions and occurrences beyond park boundaries. Ecosystem management is implemented through a resource management evaluation program (to assess resource conditions, evaluate management activities and refine management actions), review of local comprehensive plans and review of permit applications for park / ecosystem impacts.

RESOURCE DESCRIPTION AND ASSESSMENT

Natural Resources

Topography

Sebastian Inlet State Park is located on the Atlantic coast of Florida on a barrier island, which is bounded on the east by the Atlantic Ocean, and on the west by the Indian River Lagoon. Elevations at the unit range from sea level along the coast to approximately 5 feet above mean sea level.

This unit is found within the Eastern Flatwoods District (Brooks 1981a). Within this district, the park lies along the Central Atlantic Coastal Strip physiographic division, which was created or modified by shoreline processes during the Late Pleistocene when

sea levels were at about 18 feet (12 to 15 feet above its present level). In this division, the park lies along the Cocoa-Sebastian Ridge (Brooks 1981b); in addition, this unit is situated along the Silver Bluff Terrace, which formed during the Pleistocene. During the formation of this terrace, sea level was approximately 8 to 10 feet higher than the current level (Healy 1975).

Geology

This unit is underlain by at least two different geological deposits (Wettstein et al. 1987). The majority of the park consists of Hawthorn Group deposits of interbedded limestone, dolomite, sand and clay, laid down in the Miocene (25 to 13 million years before the present). The Anastasia Formation, which overlies the Hawthorn Group, is composed of quartz sand and shell material; it was laid during the Pleistocene, 1.6 to 0.1 million years before the present.

Soils

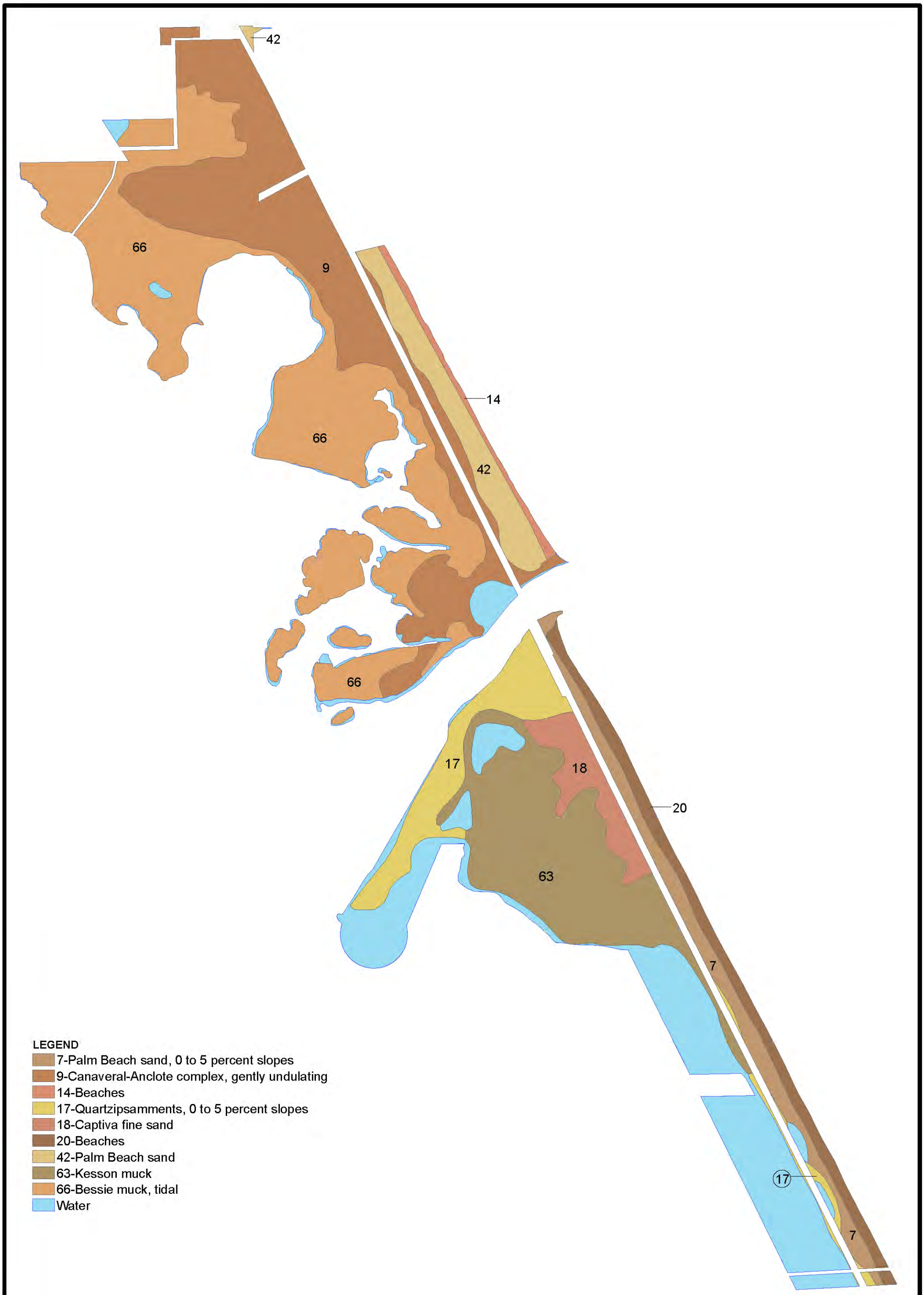
There are nine different soil types in addition to spoil banks occurring in Sebastian Inlet State Park (see Soils Map). This soil survey was compiled by the U. S. Department of Agriculture, Soil Conservation Service (SCS) in the soil surveys of Brevard County (Huckle et al. 1974) and Indian River County (Wettstein et al. 1987). Management activities will follow generally accepted best management practices to prevent soil erosion and conserve soil and water resources on site. Addendum 3 contains complete descriptions of park soil types.

Soil erosion occurs primarily in two areas of the park: 1) along the shoreline of the Atlantic Ocean 2) and in the beach dune community, south of inlet. Along the shoreline of the Atlantic, the erosion is caused by seasonal storms; the inlet exacerbates erosion in the southern part of the park. Beach renourishment projects have occurred south of the inlet on a periodic basis; in recent years, the frequency of the projects has increased. Following these projects, moderate to severe escarpments (3-6 feet or higher) has formed; on some occasions, the contractor has removed the escarpment. Numerous footpaths exist south of inlet which transverse the coastal strand and beach dune communities. These areas are devoid of vegetation because they are heavily used by visitors to access the beach. Over time, sand has been dispersed, leaving a trench like gully through the dune. Closing these foots paths and redirecting visitors to the designated parking areas will correct these issues before the paths can be restored.

In 1975, riprap was placed seaward of the McLarty Museum to protect the building and the historic site from beach erosion. This has stabilized the shoreline and does not appear to be negatively affecting sea turtle nesting and erosion in the immediate vicinity of the Museum.

Minerals

No deposits of commercially valuable minerals are evident.



SEBASTIAN INLET STATE PARK

SOILS MAP

Hydrology

The principal drainage from this unit is to the Atlantic Ocean and the Indian River, a shallow estuarine lagoon separating the barrier island from the mainland. Groundwater is available from the shallow surficial aquifer and the upper Floridan aquifer (Hyde 1975). Average annual rainfall at the park is approximately 52 inches. Though much of the rain filters into the shallow aquifer, some remains on the surface, adding to the Indian River Lagoon system.

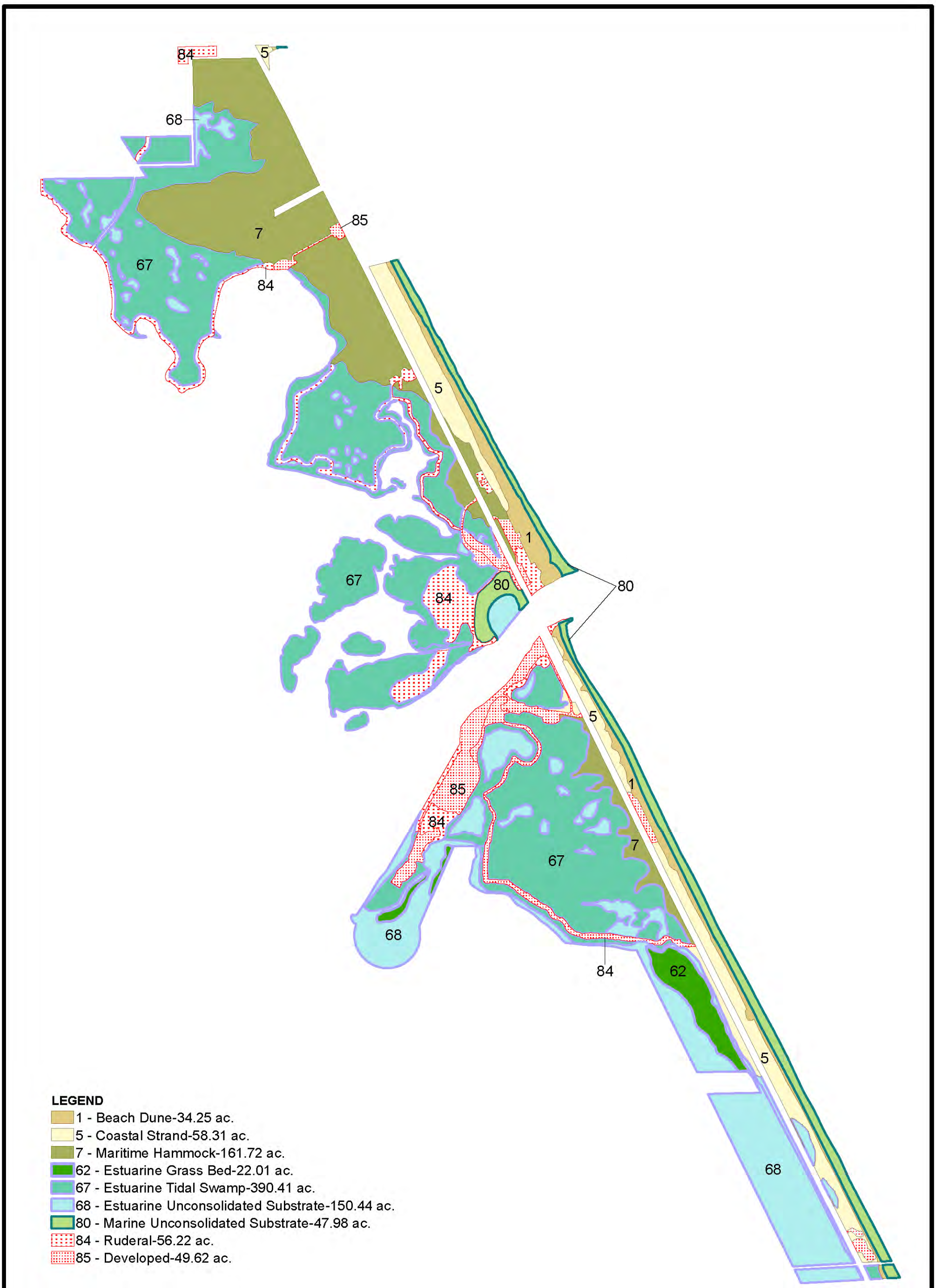
Past mosquito ditching practices along the western side of the park have altered the historical hydrologic flow. Studies should be conducted to determine the feasibility of backfilling mosquito ditches and removing the levees to restore the altered hydrology and near shore communities along the Indian River Lagoon. Most of the Indian River, including that portion adjacent to this unit, has been designated as an aquatic preserve and has received a Class II water quality designation by the Department. The waters of the aquatic preserve and the park are designated as Outstanding Florida Waters.

Natural Communities

The system of classifying natural communities employed in this plan was developed by the Florida Natural Areas Inventory (FNAI). The premise of this system is that physical factors, such as climate, geology, soil, hydrology and fire frequency generally determine the species composition of an area, and that areas which are similar with respect to these factors will tend to have natural communities with similar species compositions. Obvious differences in species composition can occur, despite similar physical conditions. In other instances, physical factors are substantially different, yet the species compositions are quite similar. For example, coastal strand and scrub--two communities with similar species compositions--generally have quite different climatic environments, and these necessitate different management programs.

The park contains eight distinct natural communities (see Natural Communities Map—marine worm reef is not mapped) in addition to ruderal and developed areas. The Natural Communities Map is a graphic representation of the existing vegetative conditions in the park at the time this management plan was developed. Park specific assessments of the existing natural communities are provided in the narrative below. A list of plants and animals occurring in the unit is contained in Addendum 4.

Beach dune. This community exists as a strip of land along the eastern border of the unit between the beach and the coastal strand communities. The condition of this community varies along its length. North and immediately south of the inlet, the community is generally in fair to good condition; erosion is minimal, and vegetative cover is largely intact. The dominant vegetation on the foredunes is sea oats (*Uniola paniculata*); other plants include railroad vine (*Ipomoea pes-caprae*), beach morning glory (*Ipomoea imperati*), east coast dune sunflower (*Helianthus debilis* var. *debilis*), baybean



LEGEND

- 1 - Beach Dune-34.25 ac.
- 5 - Coastal Strand-58.31 ac.
- 7 - Maritime Hammock-161.72 ac.
- 62 - Estuarine Grass Bed-22.01 ac.
- 67 - Estuarine Tidal Swamp-390.41 ac.
- 68 - Estuarine Unconsolidated Substrate-150.44 ac.
- 80 - Marine Unconsolidated Substrate-47.98 ac.
- 84 - Ruderal-56.22 ac.
- 85 - Developed-49.62 ac.

N

0 500 1,000 2,000 Feet

Florida Department of Environmental Protection
Division of Recreation and Parks
Office of Park Planning

SEBASTIAN INLET STATE PARK

NATURAL COMMUNITIES MAP

(Canavalia rosea), bitter panicgrass (*Panicum amarum*) with scattered sea grape (*Coccoloba uvifera*) encroaching from the coastal strand community in areas of infrequent fire.

South of the day-use area, to the southern end of the park, the beach dune community is in poor to fair condition. The community has been negatively impacted by recent beach renourishment projects: several vehicular access ramps were constructed to allow dump trucks to deposit fill material on the beach, and many areas of the community were covered by the fill. To date, the ramps have not been completely revegetated; they are regularly used by visitors for access to the beach. These areas are more susceptible to blowouts and erosion due to the lack of vegetative cover. The park has obtained ownership of one of the access ramps and has begun to mitigate for the impacts caused by foot traffic. There is a high amount of erosion along this area; in some cases, very little of the original foredune still exists. Where vegetation occurs, sea oats are dominant. Numerous footpaths and access ramps are used by visitors to access the beach. Vegetation is being trampled, leaving large areas of foredune devoid of vegetation leading to erosion and possible blowouts. Access to the beach should be controlled by directing visitors to the parking areas, allowing restoration of the footpaths to begin. With the exception of revegetation of the ramp areas and footpaths, no special management actions are needed at this time.

Coastal strand. Coastal strand exists inland of the beach dune community. North of the inlet, this community grades into maritime hammock. Several boardwalks have been constructed through this community north of the inlet for access to the beach. In this area of the park, the community is in fair condition. The dominant vegetation consists primarily of shrubs and trees consisting of saw palmetto (*Serenoa repens*), sea grape, cabbage palm (*Sabal palmetto*), coralbean, and beachberry (*Scaevola plumieri*). Areas devoid of shrubs are dominated by sea oats, marshhay cordgrass (*Spartina patens*), bitter panicgrass, seacoast marshelder (*Iva imbricata*), erect pricklypear (*Opuntia stricta*), gulf croton (*Croton punctatus*), and east coast dune sunflower.

South of the inlet, the community is in good condition and is highly fragmented; beach facilities, a boardwalk, footpaths, a staff residence, a museum, and State Road A1A were sited in the coastal strand. While grasses predominate, sea grape, wax myrtle (*Myrica cerifera*), saw palmetto and cabbage palm are present. Several vehicular access roads for beach renourishment projects (also referenced above) were constructed through this community; to date, the roads have not been revegetated. They are regularly used by visitors for access to the beach. These areas are more susceptible to blowouts and erosion due to the lack of vegetative cover. In 1997, a prescribed burning program was initiated in this area of the park to reduce the amount of hardwood encroachment and increase the coverage of grasses to benefit a population of southeastern beach mice (*Peromyscus polionotus niveiventris*). Additional prescribed burning, mowing and periodic exotic removal efforts will be necessary to maintain this community.

Maritime hammock. At this unit, the maritime hammock community is considered to be in good to excellent condition. It is composed of a mixture of temperate and subtropical plant species, such as sand live oak (*Quercus geminata*), red bay (*Persea borbonia* var. *borbonia*), marlberry (*Ardisia escallonioides*), Florida swamp-privet (*Forestiera segregata*), wild lime (*Zanthoxylum fagara*), twinberry (*Myrcianthes fragrans*), white stopper (*Eugenia axillaris*), Spanish stopper (*Eugenia foetida*), strangler fig (*Ficus aurea*), wild coffee (*Psychotria nervosa*), shortleaf wild coffee (*Psychotria sulzneri*), and gumbo-limbo (*Bursera simaruba*).

In some areas of the park, this community has been invaded by exotic plant species, including Brazilian pepper (*Schinus terebinthifolius*) and Australian pines (*Casuarina equisetifolia*). An aggressive exotic control effort, which has been underway for the past several years, has resulted in a significant reduction in the coverage of these and other exotic plants within the maritime hammock.

This community type is considered by the Florida Natural Areas Inventory (FNAI) to be imperiled due to its rarity of because of vulnerability to extinction due to natural or human-caused factors. It should be protected from future development to the greatest extent practicable. This community is essentially self-maintaining; with the exception of exotic removal efforts, no special management actions are needed at this time.

Estuarine tidal swamp. The condition of this community varies within the park from excellent to good to fair. Historically, some of this community was likely estuarine tidal marsh before extensive ditching and impoundment for mosquito control. Over time, the marshes dried out and the community succeeded to estuarine and marine tidal swamp. In submerged areas, red mangrove (*Rhizophora mangle*) became dominant, while Brazilian pepper and Australian pine are dominant along the dikes. In other areas of the park, exotic encroachment is minimal. Many of these areas are dominated by red mangrove, black mangrove (*Avicennia germinans*), white mangrove (*Laguncularia racemosa*), and buttonwood (*Conocarpus erectus*). This community is essentially self-maintaining; with the exception of exotic removal efforts, no special management actions are needed at this time.

Estuarine unconsolidated substrate. The often-unvegetated portion of sand lying along the lagoon side of the park that is categorized as estuarine unconsolidated substrate. This community is tidally inundated on a daily basis, and is largely devoid of plant species; however, in areas where the substrate has been disturbed, grass and weedy species dominate. Estuarine unconsolidated substrate is utilized by shorebirds for resting, loafing and feeding, along with other invertebrate species like crabs and mollusks.

Marine unconsolidated substrate. The portion of the beach, which lies seaward of the beach dune community, is categorized as marine unconsolidated substrate. This

community is tidally inundated on a daily basis, and is largely devoid of plant species. Marine unconsolidated substrate is utilized by shorebirds for resting, loafing and feeding, and sea turtles traverse this community during nesting and emergence events. With the exception of periodic beach renourishment projects (once or twice every decade) that use sand dredged from the inlet sand trap, no other renourishment projects may be warranted. Additional actions to improve the quality of the material placed in this community should be implemented.

Estuarine grass beds. This offshore natural community is one of the smallest within the boundaries of the park but does exist outside of park within CAMA lands. Dominant species are turtle grass *(Thalassia testudinum*), shoal grass *(Halodule wrightii*), and manatee grass *(Syringodium filiforme*). Johnson's seagrass (*Halophila johnsonii*) can also be found within the park, but due to its rarity, it often not detectable. Ecologically, grass beds are important components of the estuary: they stabilize sediments and provide nurseries, food and shelter to many estuarine organisms. Grass beds are sensitive to changes in salinity and to disturbance caused by boats such as propeller scars. Due to their location within the park near the boat ramp facility, impacts caused by boats will increase as ramp becomes more heavily used. The park should continue to educate boaters on the proper protection measures to protect this valuable resource.

Marine worm reef (not mapped). This community is located just offshore of the park and is faunal-based where it is dependent on a *sabellariid polychaete*, *Phragmatopoma lapidosa*. This marine invertebrate cements sand grains together to form large colonial structures of worm tubes. The community grows as larvae attach to the substrate created by the adults. In order for the community to become established, a hard substrate must be present, such as the granitic rocks of the jetties as well as on the coquina-limestone outcrop of the Anastasia Formation south of the inlet. South of the inlet, the worm reef is covered by sand following storms and beach renourishment projects; this can result in the death of portions of the reef. At this time, the condition of the reef is unknown; no management actions are proposed at this time. Future considerations should include an initial assessment of reef conditions followed by periodic monitoring to determine if beach renourishment projects are having a negative impact on the reef systems.

Ruderal areas. These areas are characterized by having the natural substrate or the natural community overwhelmingly altered because of human activity. Native vegetation is sparse and is often replaced by weedy or exotic species. These areas require restoration efforts.

Developed areas. These areas consist of natural biological communities that have been replaced or nearly replaced by structures or permanently cleared areas such as roads, visitor facilities, campgrounds, recreation areas, parking lots or concessions.

Designated Species

Designated species are those that are listed by the Florida Natural Areas Inventory (FNAI), U.S. Fish and Wildlife Service (USFWS), Florida Fish and Wildlife Conservation Commission (FFWCC), and the Florida Department of Agriculture and Consumer Services (FDA) as endangered, threatened or of special concern. Addendum 5 contains a list of the designated species and their designated status for this park. Management measures will be addressed later in this plan.

Marine turtles. As noted previously, Sebastian Inlet State Park is located within the Archie Carr National Wildlife Refuge, which is a critical area for the nesting of loggerhead sea turtles (*Caretta caretta*). The beaches of the ACNWR support the largest nesting colony of loggerhead turtles in the western hemisphere, the second largest in the world. The park also provides important nesting habitat for green and leatherback sea turtles (*Chelonia mydas and Dermochelys coriacea*, respectively). In addition, hawksbills (*Eretmochelys imbricata*) have occasionally been seen at the park. In 2006, the totals were as follows: 619 loggerhead nests, 74 green turtle nests, and 1 leatherback nest. The park participates in nest surveys and monitoring as part of the index nesting beach program administered by the Florida Fish and Wildlife Conservation Commission. The park participates in nest monitoring as an index beach. The Federal recovery plan for the respective sea turtle species (loggerhead and green turtle: National Marine Fisheries Service and U.S. Fish and Wildlife Service 1991; leatherback: National Marine Fisheries Service and U.S. Fish and Wildlife Service 1992) will be closely adhered to by staff.

The greatest threat to sea turtles at this unit involves the beach renourishment projects that use sand brought in from inland sources. According to Ehrhart and Herren (1998), nesting success was reduced by 60 percent on the portion of the beach that received inland material in 1997. Reproductive success was also significantly reduced; many eggs died early in development. The smaller grain sizes, higher moisture content, lower temperatures, and higher shears resistance of the material contributed to these results. Too much material has also been placed on the beach in some areas during the past renourishment projects. Often, this leads to the formation of numerous scarps along the beach. Once escarpment occurs, a tall wall of material is created (3-6 or more feet); which can create a situation where sea turtles are unable to pull themselves up the beach to nest. The excessive amount of material placed on the beach has also covered the primary dune community in some areas, destroying habitat for beach mice and obscuring nesting cues for sea turtles. On several occasions, after the escarpment was removed by the renourishment contractor, sea turtles continued west, fell over the back of the original primary dune and were trapped. In one instance, a turtle continued heading west and was killed by an automobile on State Road A1A. The timing of the projects will likely prove detrimental to sea turtles. According to Ehrhart (pers. comm.), renourished beaches require a minimal resting period of three years before they become

optimal for sea turtle nesting. The current renourishment schedule proposed by the Sebastian Inlet District (SID) has projects occurring every year. FPS should pursue a less frequent schedule for future renourishment projects to help encourage sea turtle nesting as well as to protect sensitive beach mouse and shorebird habitat. This would also be favorable for the protection of the worm rock reef communities located just offshore.

Beach mice. The beach dune community south of the inlet supports one of the last populations of the southeastern beach mouse in the southern half of its range. Monitoring has revealed that the population is very small, but persistent. Continued habitat fragmentation and destruction by beach renourishment projects may jeopardize the continued existence of this federally threatened species at the park. Prescribed burning was initiated in beach mouse habitat south of the inlet in 1997; due to the favorable response by beach mice, burning has continued since then on a periodic basis to reduce hardwood encroachment and to increase the coverage and vigor of grasses.

Beach mice historically occurred north of the inlet, but due to predation, habitat fragmentation and habitat succession, the population no longer is present. In the late 1990s, the Florida Park Service began ongoing discussions with the United States Fish and Wildlife Service (USFWS) and university researchers of the possibility of reintroducing the species back into the northern side of the park. It was determined that habitat modification was needed to restore the beach dune and coastal strand communities before a reintroduction could be attempted. The condition of both communities at the time was determined to be fair to poor, with overgrown vegetation, exotic plant infestations and inflated native and non-native predator populations. Habitat restoration of the coastal strand community began in 2006. The goal was to mechanically treat the vegetation with mowing and follow with a prescribed fire. Mowing was completed in 2006 and a burn was conducted in February 2007. Herbaceous ground cover has already responded and exotic species have been treated and removed. Continued mowing and burning of both the coastal strand and beach dune communities will continue until all areas are managed and have reached a maintenance condition where prescribed fire and exotic removal alone will be able to maintain the natural communities in a favorable condition. The feasibility of a reintroduction of the southeastern beach mouse will be evaluated upon the response of the habitat to restoration.

Feral cats are removed as soon as they are detected. Other nuisance wildlife that are determined to be a threat to beach mouse populations will be removed on an as needed basis upon the recommendation from the park / district biologist. A Federal recovery plan for the southeastern beach mouse (U.S. Fish and Wildlife Service 1993) will be referenced and followed by staff.

Shorebirds and wading birds. The park provides important resting, feeding, and

nesting habitat for many state and federally listed shorebirds and wading birds, including but not limited to Roseate Spoonbill (*Ajaia ajaja*), Little Blue Heron (*Egretta caerulea*), Reddish Egret (*E. rufescens*), Snowy Egret (*E. thula*), Tricolored Heron (*E. tricolor*), Wood Stork, White Ibis (*Eudocimus albus*), Least Tern (*Sterna antillarum*), Black Skimmer (*Rynchops niger*), Wilson's Plover (*Charadrius wilsonia*), and the Piping Plover (*Charadrius melodus*). Standard Resource Management Procedure Number 13 and Resource Management Guideline Number 3, concerning the protection of colonial breeding birds, will continue to be followed by park staff. These procedures are currently being revised to include protection of loafing and resting birds year round along with nesting birds. The current and new procedures and guidelines will be strictly followed.

With over 3 miles of beach habitat within a sea of development, Sebastian Inlet State Park should be a magnet for beach-nesting birds, but unfortunately, no nesting activity has been observed on the beach itself within the last few years. The only nesting activity that has been documented on the park has occurred on a spoil deposition area west of the campground. This lack of bird nesting activity on relatively untouched, natural beach can be attributed to: 1) heavy use by visitors 2) presence of predators 3) presence of dogs 4) beach renourishment activities. To date, no areas have been closed to public access for the purpose of protecting and encouraging nesting of shorebirds. The beach is restricted to pets year round; however, dogs are frequently seen. Dogs can run through congregations of resting birds and destroy nests of nesting birds. Research studies have shown that shorebirds can detect an animal on the beach from a distance of 500 ft and greater, depending on the species. Beach renourishment projects occur yearly and cause considerable disturbance to the birds during crucial periods prior to nesting. Sand is pumped onto shorebird habitat at the toe of the primary dune where most nesting shorebirds nest.

A population of least terns historically nested on Coconut Point, west of the campground. In 1978, a use agreement for a portion of this area was granted to the SITD for the placement of non-beach quality fill dredged from the inlet. Following the placement of material in this area and the resultant erosion, least tern nesting ceased. In spring 2000, park staff scraped ruderal vegetation off the westernmost portion of Coconut Point; following this, tern nesting was observed, and the area was temporarily closed to public access. Additional habitat enhancement and seasonal restrictions of visitor access (March 15 to September 1) to this area will be necessary to protect future nesting of least terns and other beach-nesting birds. Future facility or campground development on Coconut Point will need to be planned with consideration of sensitive area. The tip of the point (1.5 ac) has been set aside for protection and enhancement will begin when funds are secured. Other areas throughout the park should be investigated for the possibility of being potential nesting sites for beach-nesting birds. Areas that are determined to be suitable nesting/resting areas may be temporarily closed.

In response to high numbers of road-killed birds, especially royal terns (*Sterna maxima*) on the State Road A1A bridge over Sebastian Inlet, bird mortality reduction structures were installed on the bridge in 1994 (Egensteiner, pers. comm.). These structures consisted of 10-foot poles erected vertically and placed 12 feet apart on both sides of the bridge. The intent of this action was to direct the birds up and away from the bridge, thus reducing road-kill. To date, the structures appear to be successful in reducing bird mortality on the bridge.

Gopher tortoise. A population of gopher tortoises (*Gopherus polyphemus*) can be found in several of the upland communities of the park. Currently, a marking program exists to allow for long-term monitoring of the population. Continued prescribed fire activities will benefit the tortoise population at the park as well. A population occurs in a field on the north side of the inlet, west of the cove. The field is often used as an overflow parking area during peak visitation that creates a problem with protection of tortoises. A plan for this area should be developed to take into account all visitor and wildlife uses for this area. This topic will be discussed in the management measures section.

Diamondback terrapin. The Indian River Lagoon historically supported a large population of diamondback terrapins (*Malaclemys terrapin*). Due to habitat loss, overharvesting, mortality in crab traps, predation, and stochastic factors, populations of diamondback terrapins have declined throughout the species' range (Roosenburg et al. 1997; Forstner, pers. comm. 1998). Although terrapin sightings in the area surrounding the park were numerous until the mid-1980s, few have been seen in recent years.

Special Natural Features

The park is located within the Archie Carr National Wildlife Refuge, which is recognized as the most important region of nesting beaches for the loggerhead sea turtle within the Western Hemisphere.

Cultural Resources

Evaluating the condition of cultural resources is accomplished using a three part evaluative scale, expressed as good, fair, and poor. These terms describe the present state of affairs, rather than comparing what exists against the ideal, a newly constructed component. Good describes a condition of structural stability and physical wholeness, where no obvious deterioration other than normal occurs. Fair describes a condition in which there is a discernible decline in condition between inspections, and the wholeness or physical integrity is and continues to be threatened by factors other than normal wear. A fair judgment is cause for concern. Poor describe an unstable condition where there is palpable, accelerating decline, and physical integrity is being compromised quickly. A resource in poor condition suffers obvious declines in physical integrity from year to year. A poor condition suggests immediate action to reestablish physical stability.

The Florida Master Site File (FMSF) lists 13-recorded sites within the unit.

Sebastian Inlet State Park contains many cultural resources, and many types, remnants of the daily life of the area's former inhabitants, or representative of typical activities specific to this locale, from the prehistoric period to the mid-20th century. For several millennia, people have inhabited this narrow peninsula seasonally and permanently, drawn by the area's unique natural resources that make it an ideal place to harvest marine and riverine resources and to recreate. The park also contains the exceptional material associated with survivors and salvagers of the Spanish Plate Fleet destroyed just offshore by a hurricane in 1715. Archaeological sites and artifacts; historic objects, archives and photographs; oral histories, and works of art document and illuminate the peninsula's rich and varied history. Additionally, the park has ties to living communities, including fishers and surfers, for whom park lands figure strongly into their sense of identity or (past) way of life; thus its cultural resources also include associated peoples and related ethnographic material.

Archaeological resources. Sebastian Inlet State Park's archaeological resources include thirteen recorded sites, four in the northern half of the peninsula in Brevard County and nine in the southern half in Indian River; an unknown number of unrecorded sites; and recovered artifacts on display at the park's McLarty Museum. Additionally, there are eight recorded sites, similar and related, just off shore and to the north and south of the park, and artifacts excavated from sites now in the park in storage at other institutions in Florida and elsewhere. The park's archaeological resources represent many facets of the larger area's history, including the Indian River Lagoon's pre-contact and proto-historic native population, the 1715 Spanish Plate Fleet wreck and salvage operations, French colonial activity on Florida's northern Atlantic seaboard, and the inlet's 19th and 20th century fish camps.

All thirteen of the recorded sites represent Sebastian Inlet's lengthiest yet least well-understood history –that of the peoples who lived here before European arrival. Eleven of the thirteen sites are prehistoric, shell middens and one sand mound, while the two historic sites also contain shell middens. Archaeological evidence suggests cultural continuity in the area, from the Orange Period (circa 2000 – 500 B.C.) through the Malabar 1 and 2 Periods (circa 500 B.C. to 800 A.D. and 800 A.D. to 1763 A.D.), including the colonial-period Ais Indians. The Malabar tradition ceramics include both the chalky, plain and decorated St. Johns pottery found to the north, and the plain sand-tempered Glades pottery to the south, reflecting an area of transition or interaction between the neighboring Glades and St. Johns cultures (Milanich 1994). Shell middens that run the length of the peninsula indicate that inhabitants of the Indian River Lagoon were foragers, unlike the St. Johns agriculturalists to the north, living in larger villages near wetlands while harvesting marine and riverine resources from single-use or seasonal campsites in the surrounding area. Sand mounds and human burials reflect some degree of ceremonialism and ritualism, although not as elaborate as found in

South Florida. Excavated sites in and nearby the park have contained shellfish and other faunal remains, hearths, ceramics, human remains, and utilitarian and decorative worked shell and bone. Four of the five terrestrial sites just outside park boundaries are prehistoric sites.

According to the Florida Master Site File, ten of the thirteen prehistoric sites lay along the coastline in the beach dune, coastal strand and maritime hammock natural communities. Highway realignment since original recordation of the sites makes their exact location uncertain. The other three-recorded sites lie along coves on the Indian River Lagoon coastline. The park also contains known but unrecorded sites, and additional sites in unsurveyed areas are suspected. It is unknown how representative this site distribution pattern is given the lack of a systematic archaeological survey of the area. Known sites may simply correlate with areas that have already been examined, or represent chance discoveries encountered during other activities. A predictive model of archaeological site location developed for Brevard County determined that the entire peninsula possessed a high probability for containing archaeological sites and furthermore, that every type of physiographic environment in the peninsula, except the surf zone, possessed this probability (Bense and Phillips 1990). The swampy nature of the Indian River Lagoon shoreline may have dissuaded investigators to date; however, one of the oldest known sites in the Indian River area is located along the lagoon just outside the park, dating to the Orange Period with its fiber-tempered ceramics, now partially inundated by higher sea levels. According to State Archaeologists, the high numbers of sites on the peninsula indicate a concentrated pre-Columbian occupation (CARL 2003).

Two of the park's thirteen recorded sites are historic sites with prehistoric components. One is a tentatively identified homestead or mosquito control ditch located near the Indian River Lagoon, and the other is the renowned 1715 Spanish survivors' camp that stretches across a narrow portion of the peninsula near the park's southern boundary. The park's McLarty Museum is located on-site, interpreting the catastrophe and recovery efforts, and the larger historical and political context, including Native American and European interactions evidenced by the mix of historic and aboriginal archaeological material. There are three underwater shipwreck sites just offshore, not under Division management; two are remnants of wrecked Spanish Plate Fleet ships, and one an early 20th century vessel. The park also contains structural remains and debris associated with late 19th through mid 20th century fishing camps and squatter habitations. It is uncertain at this time which qualify as historic, or what significance any possess. See Addendum 6 for basic site information.

Many of the prehistoric sites along the peninsula, including ones now within park boundaries, were documented by Irving Rouse during his 1944 "survey of Indian River archaeology," sponsored by the Yale Peabody Museum (Rouse 1951). Rouse compiled all available data on known sites, based largely on local informants, and from his own

limited reconnaissance survey, site visits and study of private and museum collections. Of the nine sites in the park that Rouse recorded, two were brought to his attention by Albert T. Anderson, a local landowner, and five by Charles D. Higgs, a winter resident of the area. Both men had conducted amateur excavations of a number of these sites, as had other amateurs from the late 19th century on, the type, extent and documentation of which are unknown. Several artifact collections associated with these early investigations are housed at the Florida Museum of Natural History in Gainesville, Florida, (formerly the Florida State Museum); a collection may also exist at the Museum of Natural History as well, associated with Charles S. Allen's excavations of 8BR124 in 1893. Archaeologists Rouse, John Goggin, and Hale Smith, a student field crew, and local amateurs visited several of the park sites during the mid to late 1940s in connection with the Indian River survey, documenting sites' observable extent and conducting very limited subsurface testing, with the exception of the more substantial trenching of a shell midden north of the inlet (8BR125). The information from this survey comprises the bulk of what we know to this day about most of the sites in the park.

Three sites received greater attention in the late 1960s. In 1966, midden and human remains eroding from a beach deposit exposed by low tides prompted excavations by individuals associated with the company that held salvage rights to the area. In 1967, the Central Florida Archaeological Society, a local branch of the Florida Anthropological Society, systematically excavated a large shell midden (8BR125) north of the inlet to sterile ground with permission from then owner Jack Foote (CFAS 1969). The site revealed evidence of habitation, including a possible hearth, postholes and *in situ* deposits of ceramic sherds dating to the Malabar 2 period. Also in 1966 – 1967, State Archaeologist Carl Clausen excavated the 1715 Spanish Fleet Survivors and Salvagers Camp, donated to the state by local landowner Robert McLarty, recovering artifacts and data from this and nearby sites and shipwrecks to develop interpretive exhibits for the park's new treasure museum.

There has not been an intensive, systematic archaeological survey of the Indian River Lagoon. In the half century since Rouse's seminal work, amateur and professional archaeologists, as well as treasure hunters, have identified more sites and excavated a few, counties have developed predictive site location models, CRM firms have surveyed sites slated for development, and state archaeologists have helped public land managers protect sites. The Division has conducted or sponsored no further research, survey or excavation in the park since Clausen in the late 1960s, with the exception of limited shovel testing during archaeological monitoring of park improvements. Eleven of the park's thirteen recorded archaeological sties were recorded before the state park was established; the two since were recorded in the 1990s by agency staff who encountered them while in the field on other business.

With the exception of the National Historic Landmark 1715 Survivors' and Salvagers'

Camp, the significance of sites in the park is mostly unknown. The 2003 CARL (Conservation and Recreational Land) Survey of the Archie Carr Sea Turtle Refuge just to the north of the park found that the prehistoric sites in the refuge, and other similar sites nearby, appeared to "form a settlement complex strategic to exploiting resources from the Atlantic and the Indian River." State Archaeologists stated that this complex of sites is likely eligible for listing on the National Register of Historic Places (Glowacki, Newman and Gensler 2003).

The size and current condition are also unknown for most sites, and for a few, their location too. During a 1997 assessment of recorded sites, park staff relocated as many sites as possible, updated location and condition information, identified observable threats, and noted recent activity in the area. At that point, some sites were vegetated while others had recently been cleared of exotics; sites to the south of the inlet were eroding along their coastal edge, while areas to the north were accreting; some had long ago been impacted by road and parking lot construction; and one had recently been looted after being covered in a local newspaper article. It is unknown, however, how seriously the park's archaeological sites have been impacted by these various phenomena and how much decline, if any, sites have suffered over the years.

In addition to archaeological sites, the park also possesses artifacts excavated from sites in the park, related nearby sites, and sites further afield along Florida's Atlantic coast. Almost all of the park's archaeological artifacts are located in interpretive exhibits in the McLarty Treasure Museum. The artifact collection is primarily related to the 1715 Spanish Plate Fleet, recovered from nearby underwater shipwreck sites, the park's Survivors and Salvagers Camp (8IR26), and the Higgs site (8IR24) just south of the park. Many of these artifacts are on loan to the park from the Division of Historic Resources (DHR), Florida Department of State. Loan renewal is based on conducting periodic inventory and condition assessment, and ensuring the safety of artifacts via sufficient security and housekeeping measures. Other artifacts are on loan from private collectors, or have been donated to the museum by such. The artifacts are in a climate-controlled environment, and are in relatively stable condition. An exception is a large anchor conserved years ago by DHR, whose protective coating is starting to fail. See the Museum Collection sections for related information.

Metal detecting is a popular sport in the area. The public is presently permitted to metal detect in the park between the high water mark and the toe of the dune along the coast. Two issues associated with metal detecting in the park are the unknown archaeological sensitivity of the coastline and conflicts between metal detectors and offshore treasure salvagers. As permitted by Division policy, park management has banned metal detecting in coastal areas with known archaeological sites, including the Cato Site and the 1715 Spanish Shipwreck and Salvagers Camp. The park's coast has never been surveyed to assess its archaeological sensitivity, however; future survey, which should be prioritized, may support restricting the activity in even more areas of

the park. This stretch of Florida is known as the Treasure Coast because of the Spanish shipwrecks just offshore; however, the park does not promote metal detecting in the park for historic artifacts. Per state law, any artifacts found on state lands belong to the State of Florida and cannot be removed from the park, including those located by metal detectors in areas where the activity is permitted. Three state-issued, offshore treasure salvage contracts are presently held by private entities that each extend to the park's mean high water mark. In the past, metal detectors have inadvertently trespassed over this line into areas that these companies hold exclusive salvage rights. Some mechanism is needed to inform metal detectors of restrictions in regards to archaeological sites, and salvage companies' control of certain areas.

Ethnographic resources. Sebastian Inlet is renowned as a top fishing location. In addition to attracting sport and local fisherman, park lands have an historic association with a once thriving commercial fishing industry. This history and these lands have cultural significance for still living local communities. With construction of the Sebastian Inlet Fishing Museum in 2000, the park formally assumed a role in the preservation and interpretation of this history. In the process of developing interpretive displays for the museum, the park established or strengthened relationships with local families with ties to the industry, conducted oral history interviews, and collected objects and photographs that illuminate various aspects of the industry. The park manages the tangible material related to this history and culture as part of its museum collections, including oral history tapes and transcripts, fishing poles and other equipment, photographs and miscellaneous memorabilia. Museum staff actively collects additional material to round out its collection and augment its interpretation, and routinely interacts with individuals who have connections to this past.

Sebastian Inlet is also renowned as a top surfing location. The north jetty creates breaks that draw surfers from around the world; the park hosts an annual surf competition. While a much newer phenomenon in the area than fishing, surfing predates creation of the park, as does the sometimes contentious relationship between surfers and fishers. The park does not formally recognize surfing as a cultural or historical resource; in another decade or so, however, use of the area for this activity by this subculture will segue way into the historic, worthy of consideration as a candidate for preservation efforts.

Historic structures. The park does not presently contain any historic structures. While not historic yet, the McLarty Treasure Museum is unique for its 'starfish' design, with finger-like projections from a central hub. Preservation of this character-defining design should be considered during the planning of any new additions or alterations. Sebastian Inlet's jetties date to the first half of the 20th century, qualifying as historic structures whose significance, particularly as an example of engineering, is unknown. Because the Division's jurisdiction does not include them, however, responsibility for compliance lies elsewhere.

Museum collections. The park contains two museums –the McLarty Treasure Museum and the Sebastian Inlet Fishing Museum. The McLarty Museum was built in 1969 on land donated by Robert McLarty, on a portion of the site whose history it interprets, the 1715 Spanish Plate Fleet Survivors and Salvagers' Camp. It was the donor's intent that this facility be used to exhibit a certain percentage of the State's share of treasure recovered from local Florida waters by permitted salvage companies. Security concerns have tempered the scale of the original endeavor. The museum still exhibits representative artifacts from the string of such camps and shipwrecks along the peninsula, however, as well as artifacts related to Florida's French colonial activity that are displayed in separate cases, donated and loaned to the park by private collectors. Members of the museum's Citizen Support Organization have donated some of this material, and embellished some displays with interpretive props. Artifact displays, narrative text and illustrations, paintings, an acclaimed documentary, and special event presentations are used to tell the story of the Treasure Coast. The park directly manages and oversees development of the museum building, collection and interpretative programming. Dedicated staff handles collection care, including loan and donation transfers and paperwork, the collection catalog and the cyclical cleaning of artifact cases and exhibit areas.

The Sebastian Inlet Fishing Museum was built in 2000 with sponsorship by Representative Sembler to commemorate, preserve and interpret the history of commercial fishing in the area. Because this history is of the recent past, this museum has the extra dynamic of being staffed and visited by people connected specifically to this local history and seafaring generally. Interpretation is largely accomplished through signage and reproduced historic images and industrial settings and equipment. Several exhibits incorporate authentic objects whose historical and cultural value differentiates them from interpretive props. These museum collection objects are mostly owned and managed by the museum's Citizen Support Organization, who handle new acquisitions and donor stipulations. This museum, unlike the McLarty Museum, is directly overseen, operated and staffed by volunteers. Volunteer staff has augmented interpretive programming by new tours, exhibit cases, displays and hands-on activities.

RESOURCE MANAGEMENT PROGRAM

Special Management Considerations

Timber Management Analysis

Chapters 253 and 259, Florida Statutes, require an assessment of the feasibility of managing timber in land management plans for parcels greater than 1,000 acres if the lead agency determines that timber management is not in conflict with the primary management objectives of the land. The feasibility of harvesting timber at this park during the period covered by this plan was considered in context of the Division's statutory responsibilities, and an analysis of the park's resource needs and values. The

long-term management goal for forest communities in the state park system is to maintain or re-establish old-growth characteristics to the degree practicable, with the exception of early successional communities such as sand pine scrub and coastal strand.

A timber management analysis was not conducted for this park. The total acreage for the park is below the 1,000-acre threshold established by Florida Statutes.

Additional Considerations

Since Sebastian Inlet State Park represents one of the last remaining populations of southeastern beach mice (SEBM), monitoring will continue, and all suitable habitats for this endemic subspecies should be burned periodically. This would include both the beach dune and coastal strand communities. The opportunities to reintroduce beach mice north of the inlet should be investigated for feasibility and desirability. In 2006, discussions occurred with USFWS about a possible reintroduction of mice, north of the park on USFWS property and on park property. In order for the reintroduction to be successful, habitat at the park is needed. A number of recommendations were made: 1) continue to control possible predators and feral cats, 2) increase herbaceous ground cover through mechanical treatment and prescribed fire and 3) improve suitable habitats, which would include both the beach dune and coastal strand communities where possible. The park follows all USFWS procedures for beach mice outlined in the Federal recovery plan for SEBM.

Increased protection and management for threatened and endangered shorebird species should continue and should expand into other areas of the park where habitat is available. Cooperation with local, state and federal agencies along with law enforcement is needed to ensure that resting, loafing and nesting birds are protected on the beaches with in the park, especially in the cove west of the bridge, on the north side of the inlet, and on Coconut Point. The beach is heavily used by visitors for fishing, swimming, sunbathing, surfing and fitness. Often visitors will bring their pets to the beach with them even though pets are prohibited on the beach. Enforcement of the no pets on the beach policy is necessary in order have successful shorebird nesting.

Enhancement of the protected zone at the tip of Coconut Point should begin as soon as possible since this area has proven to be a suitable area for beach-nesting birds. A plan has been written for this area and can be put into action when funds are secured. In order for the project to be a success, visitor access to the site will need to be restricted and enforced.

Biotically diverse Sabellariid worm reefs occur east of the park boundary, within the 400-foot sovereign submerged areas. Juvenile green turtles are known to use these reefs for protection and foraging. Research to determine faunal composition has been conducted and additional research should be encouraged. The condition of the reefs is not well known; however, they do appear to be affected by beach renourishment

projects. Following beach renourishment projects and storms, sand has covered them; this may result in death to some portions of the reef. With respect to beach renourishment projects, measures should be taken to insure that beach quality sand with a minimum of fine material is used; in addition, the amount of material placed on the beach and its slope should be minimized. The park needs to stress the importance of monitoring the reefs during renourishment projects. The best reefs within the vicinity of the park should be protected and are shown on the Reference Map.

Protection of archeological resources. The spit of land that Sebastian Inlet bisects is heavily impacted by natural forces, including tidal action and inclement weather. The resulting flooding, accretion, and erosion pose some of the most serious threats to archaeological sites given the coastal location of most. Three areas of active erosion have been identified in the park, including the Coconut Point area west of the campground, the entire Atlantic shoreline and the beach dune community south of the inlet. Archaeological sites in these areas require closer monitoring than more sheltered sites. The park's dynamic natural conditions routinely precipitate substantial beach re-nourishment projects that entail the addition of sand, heavy vehicle traffic, and occasional earth moving. As with any anticipated potential impact to archaeological sites, coordination with the Division of Historical Resources regarding compliance requirements is needed. Other potential impacts to monitor and mitigate as needed include erosive foot and ATV traffic across areas with known sites, vegetation removal and prescribed burns.

Management Needs and Problems

1. The interaction between gopher tortoises and vehicles in the overflow parking area west of the cove will continue to be a problem with the demand for additional parking to meet the high recreational demands. Vehicles should be prohibited in portions of the field where tortoises are present according to FWC protection guidelines. A plan will need to written for this area outlining all demands for this area such as species protection, groundcover enhancement and visitor use in the area.
2. Unauthorized access to the beaches along A1A south of the inlet continues to be a problem and may be a problem on the north side of the inlet following habitat restoration efforts. Access must be controlled by closing the numerous footpaths and directing visitors to authorized parking areas and park entrances. Fencing may be needed to control access and to allow restoration of the eroded footpaths to take place. Signage along State Road A1A and the primary dune may be necessary. The use of ATVs on park beaches is proving to be a problem. Those needing access to the beach using ATVs should receive permission from the park manager beforehand.
3. Funding needs to be secured in order to begin enhancement of the protected area at tip of Coconut Point for beach-nesting birds. Ruderal and exotic vegetation needs to be removed and access controlled. This may require fences, native

plantings and public education.

4. The cove west of the bridge and north of inlet is a swimming beach; therefore, pets should be restricted from this area for public health and safety, water quality, and listed species protection. Law enforcement will be necessary in order to restrict pets from the area.
5. Areas on the beach, around the cove, and on Coconut Point may be occasionally closed if the areas prove to be possible nesting and resting areas for listed shorebird species. The recreational demands at the park are so great that birds may not have the opportunity to begin to nest. Birds and visitors can both be in or on these areas if done according to FWC, USFWS, and the Florida Park Service's rules and guidelines.
6. A professional archaeological survey is needed to re-locate previously recorded sites, identify not yet recorded sites and determine site boundaries, so that the park can know what to protect. Priority areas for this kind of archaeological survey work are the areas most impacted by erosion, exotic vegetation removal and beach renourishment projects.
7. Regularly scheduled site visits to archeological sites are needed to monitor site condition, track condition changes over time and generate data useful for planning any needed preservation treatment. Baseline condition information should be compiled for the park's archaeological sites so that site decline can be measured and detected.
8. Impacts to sea grass beds within the park boundaries should be limited to the extent possible due to their sensitive nature and rarity and the habitat for which they provide to wildlife. The park should work with CAMA to determine the appropriate protection measures that would take into consideration current and future visitor use.
9. An interpretive plan is needed for the fishing museum to evaluate current exhibits and to guide future improvements.

Management Objectives

The resources administered by the Division are divided into two principal categories: natural resources and cultural resources. The Division primary objective in natural resource management is to maintain and restore, to the extent possible, to the conditions that existed before the ecological disruptions caused by man. The objective for managing cultural resources is to protect these resources from human-related and natural threats. This will arrest deterioration and help preserve the cultural resources for future generations to enjoy.

Natural Resources

1. Conserve, protect and manage natural communities, significant habitat and ecological systems.
   - **A.** Survey for exotic plant and animal species and continue the exotic species removal program

- **B.** Continue and expand the prescribed fire program to maintain fire as an ecosystem process with emphasis on maintaining the current condition of the coastal strand and beach dune habitats south of the inlet while restoring these communities to the north of the inlet
- **C.** Seek funding for additional staff to aid in the preparation, implementation, and evaluation of resource management
- **D.** Monitor natural community restoration projects to adaptively manage habitats
- **E.** Close unauthorized foot paths which occur throughout the beach dune and coastal strand habitat to the north and south of the inlet and replant with native herbaceous vegetation
- **F.** Control unauthorized access and prevent additional erosion
- **G.** Educate visitors on all projects and changes to the park to promote the park and it's programs

2. Restore, monitor and protect the hydrology of the park to the greatest extent practicable.

- **A.** Work with SJRWMD to obtain ground and surface water quality and quantity data
- **B.** Determine the feasibility of restoring the original hydroperiod to the tidal swamps by working with local mosquito control districts
- **C.** Control and limit stormwater runoff into adjacent wetlands along A1A, park drives, easements, and other areas

3. Maintain or increase populations of listed plant and animal species occurring on the park.

- **A.** Explore opportunities for reintroducing the southeastern beach mouse to the north side of the inlet
- **B.** Expand and restore beach mouse habitat
- **C.** Survey and monitor for wintering and nesting shorebirds and establish protected resting, loafing and nesting areas where needed throughout the year. Work with FWC and local agencies on shorebird protection issues.
- **D.** Prohibit pets from all park beach areas
- **E.** Control access to Coconut Point during shorebird breeding season and after enhancement
- **F.** Work with SID to encourage more appropriate timing and frequency for future renourishment projects that allow for successful sea turtle nesting and to protect sensitive beach mouse and shorebird habitat
- **G.** Survey and monitor populations of gopher tortoises
- **H.** Protect gopher tortoises in the field west of the cove by controlling access and developing a plan for this area
- **I.** Continue flora and fauna surveys

4. Restore highly altered or severely impacted natural communities.

- **A.** Mechanically treat severely overgrown, fire suppressed coastal strand communities to the north of the inlet. A narrow buffer may be needed to control unauthorized access

- **B.** Seek funding to initiate the enhancement of the Coconut Point protected zone for beach-nesting birds according to the developed plan
- **C.** Develop a written plan for the field west of the cove that takes into consideration all demands for this parcel
- **D.** Restore the area around the cove by removing exotics and replanting with natives to give a more natural appearance for visitors to enjoy

5. Provide environmental education and enhance public appreciation for elements of natural and cultural diversity.

- **A.** Continue to operate both the McLarty Treasure Museum and the Sebastian Fishing Museum
- **B.** Expand interpretive programs and field trips for the general public and school groups to raise awareness of the local flora and fauna, including what is needed for management
- **C.** Train additional volunteers as tour guides
- **D.** UTAP designated park trails and update interpretive signage as appropriate

Cultural Resources

1. Develop and implement an archaeological site condition-monitoring program.

- **A.** Establish a reasonable site visit schedule
- **B.** Train staff or volunteers to conduct condition assessments
- **C.** Adopt a standardized condition assessment form to ensure data collection consistency
- **D.** Maintain permanent files for each site for condition data, and other documentation related to the physical change or treatment of sites.

2. Protect recorded and unrecorded archaeological sites.

- **A.** Prioritize avoiding or minimizing site disturbance during improvement and resource management projects
- **B.** Reduce or eliminate other threats to the extent possible
- **C.** Apply approved treatment to preserve or stabilize sites

3. Conduct archaeological surveys in order to locate sites, determine boundaries, document condition, assess significance, evaluate the archaeological sensitivity of the coast and distinguish between historic and non-historic surface remains.

- **A.** Prioritize archaeological survey needs
- **B.** Identify what can be accomplished in-house
- **C.** Pursue grant funding for additional professional work
- **D.** Solicit volunteer support where appropriate

4. Coordinate preservation, research and interpretation efforts for archaeological sites with local entities.

- **A.** Encourage permitted research by accredited regional universities and colleges
- **B.** Encourage volunteer work by local chapters of the Florida Anthropological Society, as appropriate
- **C.** Foster a relationship with the new regional office of the Florida Public Archaeology Network

D. Solicit support from Brevard and Indian River Counties for archaeological surveys and pursuit of grant money

5. Develop a Museum Manual for the Sebastian Inlet Fishing Museum.
- **A.** Clarify roles and responsibilities of the park and the CSO
- **B.** Clarify operational procedures
- **C.** Clarify collection management arrangements

6. Develop an Interpretive Plan and Scope of Collection Statement for the Sebastian Inlet Fishing Museum.
- **A.** Revisit the purpose of the museum and identify additional interpretive goals
- **B.** Consult with individuals with ties to the local commercial fishing industry
- **C.** Evaluate current exhibits based on the new interpretive plan
- **D.** Evaluate current museum collection, and identify collecting priorities based on the new interpretive plan

7. Address preservation, conservation and interpretation issues at the McLarty Museum.
- **A.** Purchase equipment to produce a continuous record of temperature and humidity, and evaluate and remedy significant fluctuations
- **B.** Replace UV-protective sleeves on lights; reconfigure or replace current lighting as needed to protect photographic material
- **C.** Consult with DHR for permission to and instructions on touching up conserved metal artifacts
- **D.** Secure funds for a general conservation assessment, via the Conservation Assessment Program or a private conservator, to assess the collection and museum environment, and for specific evaluation of the paintings.
- **E.** Develop a written security plan for the museum

8. Recognize and interpret the significance of the park's cultural resource and stewardship activities.
- **A.** Solicit the involvement of associated living communities in the development of related preservation and interpretive projects
- **B.** Post protective signage near heavily trafficked archaeological sites if useful.
- **C.** Nominate significant sites to the National Register of Historic Places
- **D.** Keep permanent park history files on the park's development and history of surfing, fishing and other traditional uses; Park Interpretive plans should be updated to promote public education of these activities, the park's history and prehistory, archaeological research of the peninsula, and preservation issues

Management Measures for Natural Resources

Hydrology

The St. Johns River Water Management District (SJRWMD) is responsible for water control in the unit as well as in the surrounding drainage basin. SJRWMD monitors quality and quantity of ground water in the park. Management will comply with best management practices to maintain and improve the existing water quality on site and

will take measures to prevent soil erosion and other impacts to water resources.

Discussions with the local mosquito control districts should be initiated to address the altered hydroperiod for the tidal swamp caused by the levees. The tidal swamps are not influenced by the natural tidal influx, possibly affecting water quality, flora and fauna, and other unknown aspects of the park. A feasibility study should be done to determine if any of the mosquito ditches and levees could be removed to restore hydrologic conditions to near shore communities.

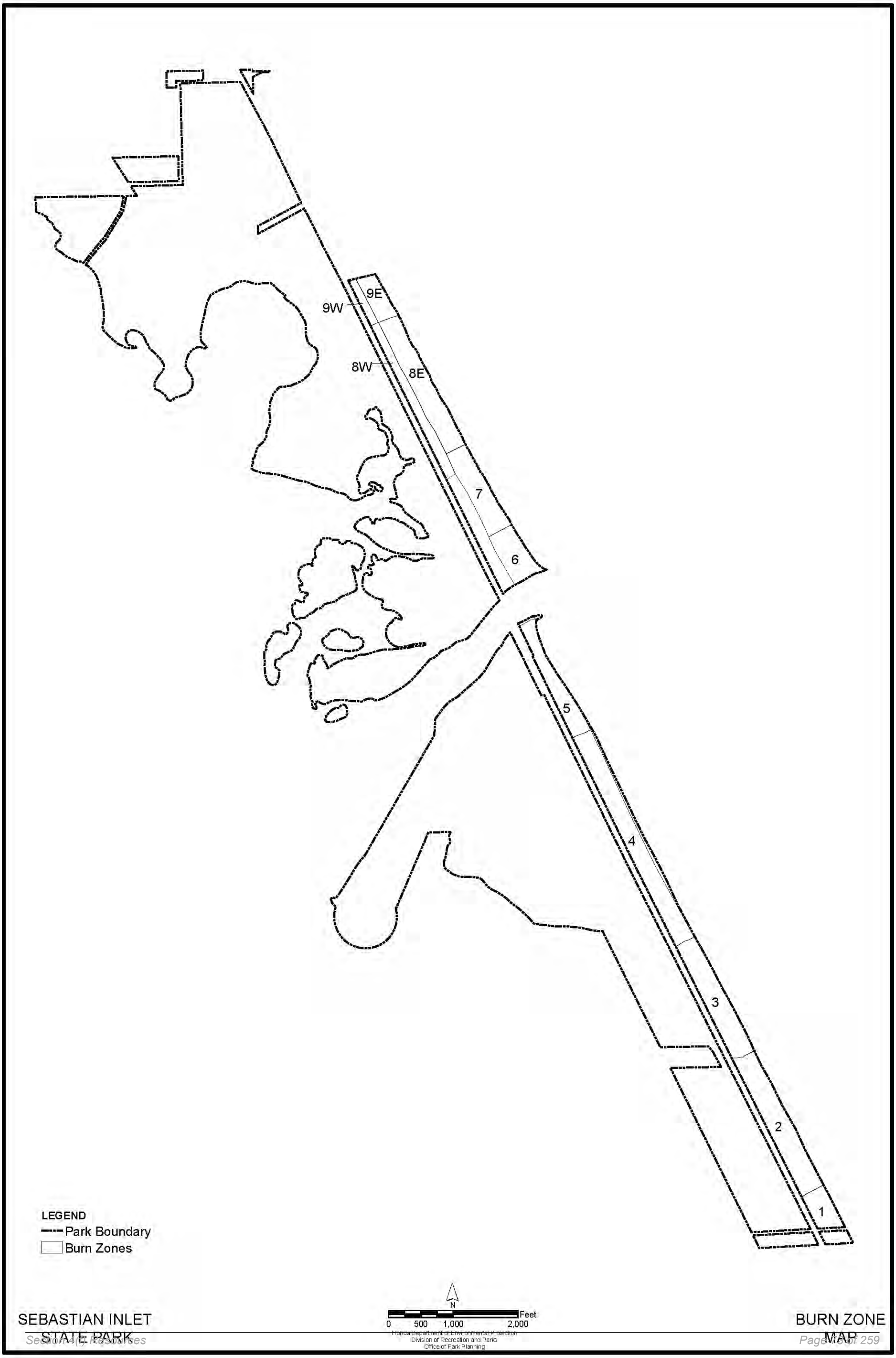
Prescribed Burning

The objectives of prescribed burning are to create those conditions that are most natural for a particular community, and to maintain ecological diversity within the unit's natural communities. To meet these objectives, the park is partitioned into burn zones, and burn prescriptions are implemented for each zone. The park burn plan is updated annually to meet current conditions. All prescribed burns are conducted with authorization from the Department of Agriculture and Consumer Services, Division of Forestry (DOF). Wildfire suppression activities will be coordinated between the Division and the DOF.

There are 92 total burn acres at this unit divided into 11 burn zones (see Burn Zone Map). Both fuel reduction and restoration burns are necessary. Since a majority of the burn acres is dominated by coastal strand and beach dune, all zones will have a target fire return interval of five to seven years. Shorter intervals may be necessary to help restore overgrown zones to a more natural state based on desired herbaceous cover and densities. Fire will be the main restoration tool, but mechanical removal of hardwoods and palmettos and the use of herbicides will be used when needed. These issues will be addressed in the annual burn proposal developed by the park manager and biologist.

Restoration of the coastal strand community north of the concession building on the north side of the inlet began in January 2007. Only a portion of the habitat was mowed in preparation of a prescribed fire and for a possible reintroduction of the southeastern beach mouse. A burn was performed a month later and the results were impressive. This had been the first time that this zone had ever been burned and fuel loading was a concern as well as vertical structures of the habitat. The vertical structure before mowing was on average 6 to 15 ft but after mowing, the average height was 18 in with a few unmowed patches. When other zones north of the inlet are treated, unauthorized access will be a concern. It may be necessary to leave a visual barrier and / or fence along A1A to prevent access.

The USFWS manages a small portion of habitat directly north of the park, west of A1A, located within the Archie Carr National Wildlife Refuge. Due to budget cutbacks and staff reductions, it has been difficult for the Service to find resources to restore this portion of coastal strand and dune to its historic condition. As the park continues to



SEBASTIAN INLET STATE PARK

BURN ZONE MAP

restore portions of habitat immediately adjacent to the USFWS, it will become more and more difficult to conduct prescribed burns. The Park Service and the USFWS have begun to discuss the possibilities of how the park can aid in the management of this parcel.

Restoration has been ongoing on the south side of the inlet in the coastal strand community. Numerous burns have been conducted with the vegetation responding favorably. Sea grape is dense around the base of the bridge and in some areas south of the day use parking area. Mowing may be needed to reduce the height of the sea grape and encourage the reproduction of grasses and forbs as long as the removal of the vegetation does not cause disorientation of nesting sea turtles.

Future development and placement of facilities should consider the prescribed fire program. The existing concession building and restrooms are located within burn zones and that may be difficult to burn around. Resource management would be much improved if future facilities were placed within existing footprints or in disturbed areas.

Designated Species Protection

The welfare of designated species is an important concern of the Division. In many cases, these species will benefit most from proper management of their natural communities. At times, however, additional management measures are needed because of the poor condition of some communities, or because of unusual circumstances that aggravate the particular problems of a species. To avoid duplication of efforts and conserve staff resources, the Division will consult and coordinate with appropriate federal, state and local agencies for management of designated species. Specifically, data collected by the FWC and USFWS as part of their ongoing research and monitoring programs will be reviewed periodically to inform management of decisions that may have an impact on designated species at the park.

Surveys to monitor the distribution and abundance of the southeastern beach mouse at Sebastian Inlet will continue. At this time, the population appears to be concentrated in the most recently burned areas of coastal strand habitat on the southern part of the park.

Surveys to monitor the population of gopher tortoises should also continue, as should road kill surveys to document the impact of roads on wildlife, particularly State Road A1A that bisects the park going from north to south and is known to be a significant source of wildlife mortality in the park.

Sea turtle nest monitoring and index nesting beach surveys will also be continued following the statewide protocols established by the FWC. Additionally, predator removal projects will be implemented if it is determined that excessive predator populations are having negative impacts on sea turtles and their nests as well as other

listed species such as beach mice and shorebirds.

Shorebird surveys will also be conducted. Staff will continue to follow Standard Resource Management Procedure Number 13 and Resource Management Guideline Number 3, concerning the protection of colonial breeding birds. Under this procedure and guideline, recommended setback distances from colonies will be implemented, boundary signs will be posted and the area will be monitored. The recommended setback distance for least tern colonies is 180 meters (590 feet) from the perimeter of the outermost nests or individual birds. Important bird resting areas may also be protected under this resource management procedure and guideline. Fencing to exclude visitors may be necessary during the nesting season. On Coconut Point, mechanical removal of vegetation may be required before shorebird nesting season. Where nesting occurs on spoil areas, both the resource management procedure and guideline allow for the deposition of new spoil if necessary, well in advance of the expected onset of breeding.

Exotic Species Control

Exotic species are those plants or animals that are not native to Florida, but were introduced because of human-related activities. Exotics have fewer natural enemies and may have a higher survival rate than do native species, as well. They may also harbor diseases or parasites that significantly affect non-resistant native species. Consequently, it is the strategy of the Division to remove exotic species from native natural communities.

Plants. All exotic species pose real or potential threats to the integrity of the unit's natural communities and are in conflict with the Division goal of preserving and maintaining examples of the natural Florida. Brazilian pepper is the invasive exotic plant species that currently poses the greatest threat to the resources of this unit. Other invasive exotics, such as Australian pine, simpleleaf chastetree (*Vitex trifolia*), golden pothos (*Epipremnum pinnatum*), chandelier plant (*Kalanchoe tubiflora*), castorbean (*Ricinus communis*), creeping oxeye (*Wedelia trilobata*), papaya (*Carica papaya*), mother-in-law's tongue (*Sansevieria hyacinthoides*), and balsampear (*Momordica charanita*) also occur at this unit and should be removed to prevent further infestations. Brazilian pepper and Australian pine are the main priorities for removal activities; an exotic removal plan is updated annually and is actively carried out by park staff. Grants and other sources of funding must be sought to hire contractors in order to aid in the control of exotic plant infestations. Staff time is limited so the park often relies on seasonal employees to scout for and to treat infestation in difficult locations.

Animals. Several exotic animal species are found at this unit, including black rat (*Rattus rattus*), nine-banded armadillo (*Dasypus novemcinctus*), brown anole (*Anolis sagrei*), Indo-pacific gecko (*Hemidactylus garnotii*), and northern curlytail lizard (*Leiocephalus carinatus armouri*). Of these, the black rat is the most widespread. It occurs in and around buildings, the jetties and the coastal strand habitat, primarily where

Brazilian pepper has been established. Black rats could compete with southeastern beach mice and eastern wood rats for similar food sources; therefore, rats should be removed whenever possible. Feral cats are occasionally a problem and are removed immediately upon detection. It may prove beneficial to the park to hire private contractors to deal with hard to capture species when funds are available to do so.

Problem Species

Problem species are defined as native species whose habits create specific management problems or concerns. Occasionally, problem species are also a designated species, such as alligators. The Division will consult and coordinate with appropriate federal, state and local agencies for management of designated species that are considered a threat or problem.

Raccoons (*Procyon lotor*) are problem species during sea turtle and shorebird nesting season when they predate nests and destroy eggs, nestlings and hatchlings. They are also problematic in the campground where they scavenge for food from campers. Education of the park visitor about the consequences of feeding wildlife should continue. Periodically, the least cautious and most destructive raccoons may need to be removed from the beach dune areas and the campground.

Management Measures for Cultural Resources

The management of cultural resources is often complicated because these resources are irreplaceable and extremely vulnerable to disturbances. The advice of historical and archaeological experts is required in this effort. Managers of state lands must coordinate any land clearing or ground disturbing activities with the Division to allow for review and comment on the proposed project. Recommendations may include, but are not limited to approval of the project as submitted, pre-testing of the project site by a certified archaeological monitor, cultural resource assessment survey by a qualified professional archaeologist, modifications to the proposed project to avoid or mitigate potential adverse effects.

Projects such as additions, exterior alteration or related new construction regarding historic structures must also be submitted to the Division of Historical Resources for review and comment by the Division's architects. Projects involving structures fifty years of age or older, must be submitted to this agency for a significance determination**.** In rare cases, structures under fifty years of age may be deemed historically significant. These must be evaluated on a case-by-case basis.

Adverse impacts to significant sites, either archaeological sites or historic buildings, must be avoided. Furthermore, managers of state property should prepare for locating and evaluating historic resources, both archaeological sites and historic structures.

The significance of most archaeological sites in the park is unknown. Evaluation of

significance enables a park to know the cultural and historical value, and research potential, of the archaeological resources in its charge. As relates to the practical matter of site protection, the park is unable to prioritize and concentrate its protection efforts to sites of known significance versus those with no remaining integrity. As relates to the role of preserving and interpreting Florida's heritage, the park possesses a largely unevaluated and untapped resource.

Many of the archaeological artifacts on display are metal objects, much of which has undergone conservation treatment in the past. Protective coatings have a life span, and may require periodic touch-up. Other collection-related concerns related to archaeological artifacts are included in the Museum Collection section.

Ethnographic resources. The park is, to some extent, a steward of a living group's heritage. The Sebastian Inlet Fishing Museum is the primary mechanism through which the park researches, preserves and interprets the area's commercial fishing history, and maintains connection to the local fishing community. Development of new interpretive displays tends to drive the collection of historic and ethnographic objects, photographs and other material. At present, the museum does not possess a plan to guide interpretive program development beyond the original exhibits installed for its grand opening. These exhibits were based, in part, on the contributions of families that had once been prominent in the local industry. An interpretive plan is needed to evaluate current exhibits, and to guide future improvements. The planning process should identify what other aspects of this history are significant to the local community and warrant interpretation, and what additional museum collections are needed for effective interpretation. This process can honor the park's associated communities by calling on them not just to contribute content, but participate in design.

The park should consider broadening its scope of collection to include material related to the history of surfing in the area. The park does not presently interpret this history to the public, nor does it have available interpretive facilities to do so. While collecting objects may be beyond the interpretive plans and resource management capacity of the park, collecting archival material can preserve record of this long-time recreational use of the area and distinct subculture.

Museum collections. The McLarty Museum's artifact collection is at the museum's core, and in addition to the direct care regime, is affected by interpretive and structural issues. Interpretation, which makes artifacts meaningful to visitors, needs further development for subsets of the collection. This includes additional research, consideration of rotating displays and living history events, refurbishment and correction of existing signage and displays, and installation of new interpretive media. The building itself, its envelope, systems and displays, also directly affect the physical wellbeing of artifacts. While the interior is climate controlled, summers are extremely hot and humid. The door from the main gallery to the boardwalk overlooking the site

is opened frequently during business hours, having an unknown affect on the desired temperature and humidity inside the museum. Some mechanism is needed to produce a continuous record of temperature and humidity fluctuations in order to assess the impact of the door on the gallery, and the functioning of the HVAC generally. If indicated by monitoring results, corrective action should be taken to stabilize the environment inside to protect artifacts. Other environmental threats to the collection are mold and UV light. Visible patches of mold on the ceiling, and reports of carpenter ants, indicate possible moisture problems with the roof that need identification and remedy. Displayed artwork requires examination by a conservator, particularly the large rendition of a hurricane-tossed ship, as it has been treated for mold in the past and may be molding again. Fading of displayed historic photographs signifies the need to assess and remedy the harmful affects of light, and/or replace the original photos with copies.

The Sebastian Inlet Fishing Museum is newer and less well established, and its collection is smaller. From its start, the museum has been dependent on FPS collaboration with locals and volunteers, both for interpretive program development and for staffing. Volunteers from the museum's Citizen Support Organization (CSO) handle the day-to-day operation of the gallery, and have expanded the scope of its interpretation and collection via the addition of new displays and narrative. The CSO accepts, owns and manages most of the museum's historic object collection. The museum is where the CSO and the park's purview overlap; no formal agreement exists, however, between the park and CSO regarding the museum. A Museum Manual is needed that clarifies the roles and responsibilities of each, and delineates procedures, in regards to different aspects of the museum's operation and development. Additionally, an interpretive plan is needed to identify and prioritize the museum's goals; its development can honor and bring together the input and contributions of volunteers and associated local communities with the park's preservation and interpretive goals. Both of these documents will have a direct bearing on museum collections management and care, and are necessary to proceed in development of a Scope of Collection Statement.

Research Needs

Natural Resources

Any research or other activity that involves the collection of plant or animal species on park property requires a collecting permit from the Department of Environmental Protection. Additional permits from the Florida Fish and Wildlife Conservation Commission, the Department of Agriculture and Consumer Services, or the U.S. Fish and Wildlife Service may also be required.

Research on sea turtles and sea turtle nesting has been ongoing at the park for many years; due to the importance of this area to nesting sea turtles, current and future

research should be encouraged. Monitoring of the physical attributes of nourished and natural beaches has been conducted since the mid-1990s; this information continues to yield valuable information for management purposes. Some limited geological research has also been conducted; more should be encouraged. Research on marine invertebrates, seagrass and worm reefs has been ongoing, in some cases since the late 1980s. Further research should be done to document the effects of beach renourishment on the worm rock reefs. A feasibility study should be done to determine if any of the mosquito ditches and levees could be removed to restore hydrologic conditions and nearshore communities. Some recent research on mangrove planting techniques within the park may prove to be valuable for mangrove community restoration. Research has also been conducted on royal tern migration based on band recoveries.

Surveys to monitor gopher tortoise population size and status should continue, as should monitoring of the southeastern beach mouse, shorebirds, and marine turtles. Additional surveys to determine the presence and population size of diamondback terrapin and eastern wood rat should be conducted when possible.

Cultural Resources

In the past, there have been several very limited or narrowly focused cultural resource research projects at the park. There are no current or ongoing cultural resource research projects. Further research and survey opportunities should be pursued when possible, especially if the recommended combined Level I and Level II archaeological survey locates any prehistoric or historic sites.

Staff should draft a proposal for a combined Level I and Level II archaeological survey to identify, protect and preserve currently unknown prehistoric and historic cultural resources at the park and to resurvey the known recorded archaeological sites, utilizing GPS to fix locations.

Research is needed on the cultural periods that occupied the park or the surrounding area throughout prehistory and history: Archaic, perhaps Mount Taylor, Orange, Transitional, St. Johns and Glades, First Spanish, British, Second Spanish, Territorial, and Seminole.

Research is also needed on the history of the Spanish treasure fleets, the 1715 shipwreck, the survivors and salvors camp, the settlement of the Indian River Lagoon and the Sebastian area, the development and decline of the commercial fishing industry, and the various inlet projects.

Research is also needed to document the history of land acquisition, development and operation of the park and its two unique museums.

Resource Management Schedule

A priority schedule for conducting all management activities that is based on the purposes for which these lands were acquired, and to enhance the resource values, is contained in Addendum 7. Cost estimates for conducting priority management activities are based on the most cost effective methods and recommendations currently available.

Land Management Review

Section 259.036, Florida Statutes, established land management review teams to determine whether conservation, preservation, and recreation lands titled in the name of the Board of Trustees of the Internal Improvement Trust Fund (board) are being managed for the purposes for which they were acquired and in accordance with a land management plan adopted pursuant to s. 259.032, the board of trustees, acting through the Department of Environmental Protection (department). The managing agency shall consider the findings and recommendations of the land management review team in finalizing the required update of its management plan.

This park was subject to a land management review on April 27, 2006. The review team made the following determinations:

1. The land is being managed for the purpose for which it was acquired.
2. The actual management practices, including public access, complied with the management plan for the park.

LAND USE COMPONENT

INTRODUCTION

Land use planning and park development decisions for the park system are based on the dual responsibilities of the Division of Recreation and Parks. These responsibilities are to preserve representative examples of original natural Florida and its cultural resources, and to provide outdoor recreation opportunities for Florida's citizens and visitors.

The general planning and design process begins with an analysis of the natural and cultural resources of the unit, and then proceeds through the creation of a conceptual land use plan that culminates in the actual design and construction of park facilities. Input to the plan is provided by experts in environmental sciences, cultural resources, park operation and management, through public workshops, and environmental groups. With this approach, the Division objective is to provide quality development for resource-based recreation throughout the state with a high level of sensitivity to the natural and cultural resources at each park.

This component of the unit plan includes a brief inventory of the external conditions and the recreational potential of the unit. Existing uses, facilities, special conditions on use, and specific areas within the park that will be given special protection, are identified. The land use component then summarizes the current conceptual land use plan for the park, identifying the existing or proposed activities suited to the resource base of the park. Any new facilities needed to support the proposed activities are described and located in general terms.

EXTERNAL CONDITIONS

An assessment of the conditions that exist beyond the boundaries of the unit can identify any special development problems or opportunities that exist because of the unit's unique setting or environment. This also provides an opportunity to deal systematically with various planning issues such as location, regional demographics, adjacent land uses and park interaction with other facilities.

Existing Use of Adjacent Lands

The lands north and south of Sebastian Inlet State Park include a mix of single family residential and condominium developments, a few commercial areas, and numerous conservation lands. The Atlantic coastal area of east-central Florida has been a focus of conservation land acquisition programs for many years. The Archie Carr National Wildlife Refuge, which is composed of multiple units along a twenty-mile stretch of coast north and south of the park, was established to protect sea turtles that nest here. South of the park is the country's first national wildlife refuge, Pelican Island National Wildlife Refuge. This refuge was created in 1903 by Theodore Roosevelt to protect its bird rookeries. To the west of the park is the Indian River – Malabar to Vero Beach

Aquatic Preserve that was established to protect the living waters of the Indian River Lagoon, a shallow lagoon estuary. Also near the park are various protected lands acquired and managed by Brevard and Indian River Counties, some of which provide public beach access. Of note, Brevard County opened the Barrier Island Sanctuary Management and Education Center in 2008 that is located less than two miles north of the park. This new educational facility will focus on the habitats of the barrier island, sustainable living and the sea turtles found in the Archie Carr Refuge. Brevard County also operates a large camping area at Long Point Park on an island in the Indian River Lagoon adjacent to the northwest corner of the park.

Collectively, these managed areas protect a significant range of natural communities and habitats and support an important sample of Florida's natural biodiversity. In addition to their importance to the protection of natural habitat, the Division of Recreation and Parks recognizes the importance of these diverse natural and cultural resource areas as assets to the growing success of nature and heritage based tourism in this area of the state.

Planned Use of Adjacent Lands

Continued development of residential and commercial properties north and south of the park is expected, to a limited extent. Future development will likely result in additional traffic along State Road A1A, increased threat of exotic species invading the park, additional constraints on the prescribed burning program within the park, and higher demand for the park's recreational resources. Generally, the growth management regulations now in place in both Brevard and Indian River Counties will serve to protect the natural resources and surface and ground water systems of the park.

In recent years, a paved bicycle path along State Road A1A was completed that connects to the park entrances from both the north and south. An increase in bicycle and pedestrian activities has resulted. Division staff will advocate for a safe bike/pedestrian crossing when the Florida Department of Transportation designs a replacement bridge scheduled for 2015. In addition, as part of the recent Scenic Highway designation, signage along the state road within the park may need to be altered to comply with guidelines adopted with the Scenic Highway management plan. Staff will coordinate these activities with the appropriate parties, as needed.

PROPERTY ANALYSIS

Effective planning requires a thorough understanding of the unit's natural and cultural resources. This section describes the resource characteristics and existing uses of the property. The unit's recreation resource elements are examined to identify the opportunities and constraints they present for recreational development. Past and present uses are assessed for their effects on the property, compatibility with the site, and relation to the unit's classification.

Recreation Resource Elements

This section assesses the unit's recreation resource elements those physical qualities that, either singly or in certain combinations, supports the various resource-based recreation activities. Breaking down the property into such elements provides a means for measuring the property's capability to support individual recreation activities. This process also analyzes the existing spatial factors that either favor or limit the provision of each activity.

Land Area

Sebastian Inlet State Park provides the typical recreational resources of Florida's coastal barrier islands with beach frontage on the Atlantic Ocean. The primary recreational activities of fishing, surfing, swimming and boating occur along the shoreline and within the surrounding waters. The upland communities of the park consist of beach dune, coastal strand, maritime hammock and estuarine tidal swamp. These areas provide numerous opportunities for land-based recreation including camping, hiking, biking, picnicking, bird watching and interpretive programs.

Water and Shoreline Area

The waters bordering the park include three miles of shoreline on the Atlantic Ocean, the Indian River Lagoon along its western boundary, and the Sebastian Inlet that bisects the park. The beach shoreline is extremely popular for surfing. The north jetty creates breaks that draw surfers from around the world. The beach is also popular for swimming, sunbathing, shoreline fishing, snorkeling and strolling. Bordering the lagoon side of the park is mangrove tidal swamp. The marina and boat ramp area provide access to this water body that is used by fishermen, pleasure boaters and canoe/kayakers. Along the 500-foot wide inlet, the park's shoreline is heavily used by fishermen. In particular, the jetties at the mouth of inlet that extend into the ocean have produced many impressive catches.

Natural Scenery

The outstanding natural scenery of the park includes views from the beach, the jetties north and south of the inlet, and the bridge that crosses the inlet.

Significant Wildlife Habitat

The beach dunes, coastal hammock community and the mangrove shoreline along the Indian River Lagoon provide excellent wildlife habitat. In winter, thousands of birds gather to feed on the wide tidal flats. In summer, sea turtles nest along the park beach, and on adjacent beachfronts. Manatees can be seen feeding in the Indian River. In addition, rare worm reefs can be found in certain areas just off the beach. Interpretive programs in the park attempt to capitalize on these recreational resources, while protecting the animal species through visitor management and education.

Archaeological and Historical Features

Sebastian Inlet State Park is also a significant cultural resource site, with prehistoric

components and the site of the salvage camp from the hurricane wreck of the 1715 Spanish treasure fleet. The McLarty Treasure Museum provides an exceptional collection of artifacts from the Spanish wreck site, and interprets both the wreck and the subsequent salvage operation. In addition, the Sebastian Fishing Museum is devoted to the rich cultural history of the local fishing industry.

Assessment of Use

All legal boundaries, significant natural features, structures, facilities, roads and trails existing in the unit are delineated on the base map (see Base Map). Specific uses made of the unit are briefly described in the following sections.

Past Uses

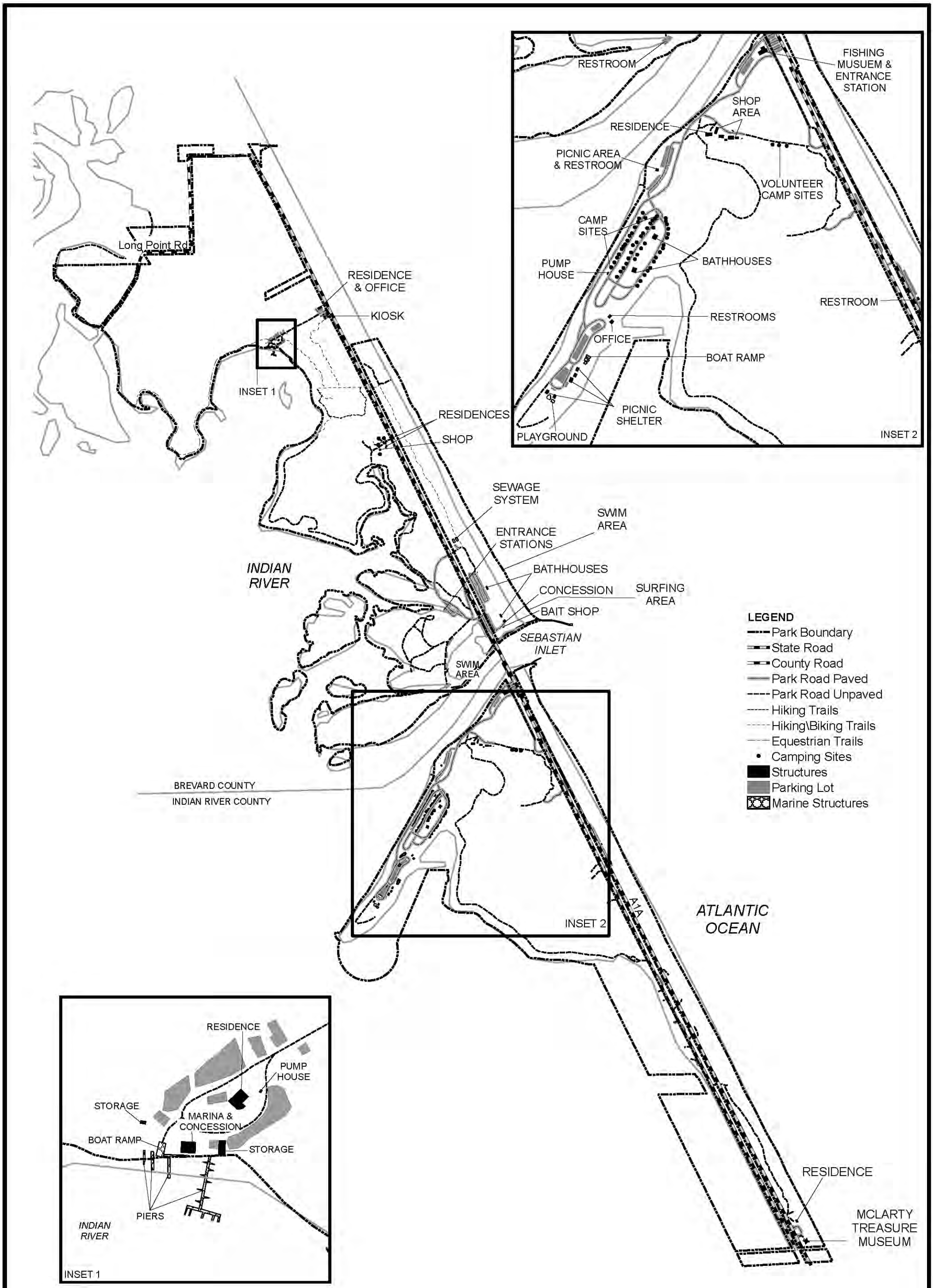
Before state acquisition, portions of the park were private lots used for mobile home sites. Indian River County managed a camping area at the same location currently developed for that purpose before the inception of the park.

Future Land Use and Zoning

The Division works with local governments to establish designations that provide both consistency between comprehensive plans and zoning codes and permit typical park uses and facilities necessary for the provision of resource-based recreation opportunities.

The Future Land Use designations for the park property within Brevard County include Recreation, Public Conservation and Residential 1 (Brevard County, 2005). The zoning classifications for the park property within Brevard County include Government Managed Lands (GML), General Use (GU) and Environmental Areas (EA). The permitted uses within the GML – Parks and Conservation designation allows active and passive recreation as well as temporary or permanent conservation uses. The areas of the park designated as GML include the administration office area, marina area, and beach concession area. The estuarine tidal swamp areas of the park are classified EA. The purpose of this classification is to conserve natural resource functions and features by retaining lands and waters in their pristine character and condition, but permit uses which are compatible with or which shall enhance or restore the functions and features of such natural resources. The remainder of the park within Brevard County is classified as GU. This zoning classification encompasses rural single-family residential development, or unimproved lands for which there is no definite current proposal for development, or land in areas lacking specific development trends. Parks and public recreational facilities are permitted uses in both GML and GU.

The park property within Indian River County is designated Recreation on the Future Land Use Map (Indian River County, 2007). The local zoning for almost all of the park property within Indian River County, RS-1, allows public parks as an administrative permit use and retreats and camps as a special exception. At the extreme southern end of the park, there are a few parcels including the McLarty Treasure Museum zoned as



SEBASTIAN INLET
STATE PARK

BASE MAP

RS-3 and A-1 which also allow public parks as an administrative permit use.

Current Recreational Use and Visitor Programs

Sebastian Inlet State Park is an extremely popular location for saltwater fishing and surfing. Since the area directly north of the north jetty is favored by both fishermen and surfers, conflicts do arise on occasion. Other available recreational uses at the park include swimming, sunbathing, camping, hiking, biking, picnicking, shelling, snorkeling, scuba diving, boating, canoe/kayaking, bird watching, and interpretive programs. The park also contains two museums, the McLarty Treasure Museum and the Sebastian Fishing Museum. In addition, several major surfing competitions are held here every year.

The park recorded 712,256 visitors in fiscal year 2006/2007 ranking it sixth among all the parks in Florida**.** Visitation remains heavy throughout the year but peaks March through July. This park is unique in that it remains open 24 hours a day to allow fishing access to the jetties. By Division estimates, the FY 2006/2007 visitors contributed $32.3 million in direct economic impact and the equivalent of 645 jobs to the local economy (Florida Department of Environmental Protection, 2007).

Other Uses

The original Sebastian Inlet was dug by hand between 1886 and 1895, but closed by a storm soon after. A permanent inlet was opened in 1924, allowed to close during World War II and reopened after the war. Today, the inlet is maintained by the Sebastian Inlet District (SID). The two jetties, which are very popular with fishermen and other park visitors, are managed under agreements between the Division and the SID. Spoil and pipeline easements are in place to support the periodic dredging operations necessary to maintain the inlet. Division staff meets with the SID frequently to coordinate inlet work with the resource management and visitor service responsibilities of the park.

State Road A1A traverses the full length of the park, and a paved bicycle path has been constructed within the state road right-of-way through the park.

During the summer, an overnight surf camp for children utilizes the volunteer campsites adjacent to the maintenance area on the south side of the inlet. The remainder of the year the campsites are reserved for park volunteers.

Protected Zones

A protected zone is an area of high sensitivity or outstanding character from which most types of development are excluded as a protective measure. Generally, facilities requiring extensive land alteration or resulting in intensive resource use, such as parking lots, camping areas, shops or maintenance areas, are not permitted in protected zones. Facilities with minimal resource impacts, such as trails, interpretive signs and boardwalks are generally allowed. All decisions involving the use of protected zones are made on a case-by-case basis after careful site planning and analysis.

At Sebastian Inlet State Park, the beach dunes, marine unconsolidated substrate, coastal strand, maritime hammock, tidal swamp and offshore worm reef communities have been designated as protected zones. The western portion of Coconut Point is an additional protected zone established for nesting shorebirds (see the Conceptual Land Use Plan).

Existing Facilities

Most of the facilities at this park are 20 to 35 years old and require considerable maintenance due to heavy use and the harsh coastal environment. Ongoing maintenance and repair budgets sufficient to deal with these factors are needed to provide a quality park experience for visitors. The following is a list of existing facilities.

Recreation Facilities

Administrative Office/"Spanish House" Area

Administrative office
Interpretive kiosk
Portable toilet
Stabilized parking (48 spaces)

Sebastian Inlet Marina

Marina office/store
Boat slips (22)
Boat ramp
Storage building
Stabilized parking (14 spaces)

North Jetty/Beach Use Area

Ranger station
Beach restrooms (2)
Dune boardwalks (3)
Snack bar/gift shop building
Bait and tackle store
Medium shelter
Scattered picnic tables
Parking (226 spaces)

Swimming Cove/Overflow Area

Swimming area
Portable toilets (2)
Unimproved parking (approximately 40 spaces)
Overflow parking field (approximately 200 spaces)

South Inlet Shoreline

Sebastian Fishing Museum
Camper registration office
Fishing dock
Fish cleaning table
Scattered picnic tables
Restroom
Parking (190 spaces)

Camping Area

Standard campsites (51)
Bathhouses (2)

Coconut Point Area
Boat ramp (3 lanes)
Non-motorized watercraft launching beach
Large picnic shelters (4)
Playground
Restrooms (2)
Office
Parking (66 spaces)

South Beach Use Area
Bathhouse
Dune boardwalk
Parking (80 spaces)

McLarty Treasure Museum
Museum building
Dune boardwalk w/overlook
Parking (28)

Trails
Hammock Nature Trail (1 mi.)
Bike trail (4 miles)

Support Facilities

North Maintenance Area
Equipment storage building

South Maintenance Area
Shop building
Equipment storage buildings (3)
Sheds (2)
Greenhouse

Residences (6)

Miscellaneous
Sewage treatment plant

Park Roads
Paved (1.25 mile)
Unpaved (0.5 mile)

CONCEPTUAL LAND USE PLAN

The following narrative represents the current conceptual land use proposal for this park. As new information is provided regarding the environment of the park, cultural resources, recreational use, and as new land is acquired, the conceptual land use plan may be amended to address the new conditions (see Conceptual Land Use Plan). A detailed development plan for the park and a site plan for specific facilities will be developed based on this conceptual land use plan, as funding becomes available.

Site Planning and Design Process

During the development of the unit management plan, the Division assesses potential impacts of proposed uses on the resources of the property. Uses that could result in

SEBASTIAN INLET STATE PARK

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF RECREATION AND PARKS
OFFICE OF PARK PLANNING
APPROVED

CONCEPTUAL LAND USE PLAN

unacceptable impacts are not included in the conceptual land use plan. Potential impacts are more thoroughly identified and assessed through the site planning process once funding is available for the development project. At that stage, design elements, such as sewage disposal and stormwater management, and design constraints, such as designated species or cultural site locations, are more thoroughly investigated. Advanced wastewater treatment or best available technology systems are applied for on-site sewage disposal. Stormwater management systems are designed to minimize impervious surfaces to the greatest extent feasible, and all facilities are designed and constructed using best management practices to avoid impacts and to mitigate those that cannot be avoided. Federal, state and local permit and regulatory requirements are met by the final design of the projects. This includes the design of all new park facilities consistent with the universal access requirements of the Americans with Disabilities Act (ADA). After new facilities are constructed, the park staff monitors conditions to ensure that impacts remain within acceptable levels.

Potential Uses and Proposed Facilities

The existing recreational activities provided to the public at Sebastian Inlet State Park are appropriate and should be continued. As with all of the older units of the park system, improvements to park facilities and infrastructure are needed for the Division to fulfill its responsibilities to provide outdoor recreation, protect, and enhance the natural and cultural resources of the park. Renovations, replacements and other improvements of the facilities and use areas are recommended by this plan to enhance visitor experience. In addition, this plan also recommends the expansion of certain use areas, as described below.

Recreation Facilities

Administrative Office/"Spanish House" area. Across State Road A1A from the park's administrative office is a very popular and well-known surfing destination called "Spanish House." Surfers park their vehicles in the stabilized parking area adjacent to the administrative office and walk across the highway to the beach. As discussed in the Optimum Boundary section, this particular stretch of beach is not within the park boundary, but instead, is part of the Archie Carr National Wildlife Refuge. The Division will work towards establishing a Memorandum of Understanding with the U.S. Fish and Wildlife Service to manage this property. If such a management arrangement is established, this plan recommends creating a new beach access a short distance to the south of the existing foot trail, expanding and redesigning the parking area to accommodate up to 100 vehicles, constructing a restroom with outdoor shower, and providing scattered picnic tables adjacent to the parking area. Coordination with the Florida Department of Transportation is also needed to provide flashing signals, a marked pedestrian crosswalk and reduced speed limit on State Road A1A at this location for visitor safety.

Sebastian Inlet Marina. The facilities at Sebastian Inlet Marina are in disrepair and in

need of a complete overhaul. In addition, this area has not reached its potential for visitor use. Future planning and design should determine how best to improve this area to support its intended recreational use. A site plan is recommended. Consideration should be given to revamping the marina buildings, docking facilities, seawall, boat ramp, residence, road, septic system and increasing the capacity of the boating facilities and parking area. The possibility of providing a marine pump-out station, establishing some tent camping in this area and providing dockage for a rescue/law enforcement vessel will also be explored. Ideally, the marina structures should be constructed in a vernacular architectural style in keeping with the rustic character associated with the many small "fish camps" that once flourished along the Indian River. The services to be offered in the marina area should include expanded boat and kayak rentals, snacks and sales area, a designated area for fishing and manatee observation, and possible boat tours and fishing trips. Commercial uses of the marina should be limited to those related to the recreational programs of the park. Long-term slip rentals and boat storage are not uses appropriate to this facility.

Several factors will influence the new design of the docking facilities, including the lack of a dredged channel and draft limitations within Campbell Cove, the hard coquina surface bottom and the desire to analyze the needs of park visitors.

North Jetty/Beach use area. The beach use area at the north jetty is the most popular location in the park. This area is attractive to surfers, fishermen, and beach goers. The park's main concession operation is located here, consisting of a small snack bar/gift shop and bait and tackle store. These concession buildings are showing serious signs of aging and are no longer adequate to accommodate customer growth and serve their expanding needs. This plan recommends developing a site plan for this area and replacing these structures with new, expanded facilities. Services to be provided in this area should continue to offer food service with a dining area, retail sales, beach equipment rentals and fishing supplies.

A complete redesign of the boardwalk system including outdoor shower stations should be incorporated into the site plan for the area. The two beach restrooms in this area of the park also require some attention; appropriate renovations are recommended.

Swimming Cove/overflow parking area. The small swimming cove on the north shoreline of the inlet is very popular and should be improved for public access to enhance its use as a sheltered swimming area suitable for families with small children. Recommended facilities include up to eight small and medium-sized picnic shelters, two restrooms with outdoor showers, universal access to the picnic facilities and the shoreline, and native landscaping. The road leading to the cove swimming area should be either stabilized or paved and parking should be established along the road shoulder for up to 100 vehicles.

The overflow-parking field, north of the swimming cove, is used regularly during weekends and holidays. During large special events, nearly the entire field can be full of vehicles. The organization and efficiency of this parking area could be greatly improved if sections were stabilized, circulation route established, and wheel stops added. Barriers for vehicles should also be placed around gopher tortoise burrows that occupy this area. Improvement of this area should follow the recommendations of the proposed plan discussed in the Resource Management Component that will evaluate all the demands for this specific area such as species protection, groundcover enhancement, SID easements and visitor use.

South Inlet shoreline. In recent years, many amenities have been added along the south inlet shoreline to enhance the visitors' fishing experience. This plan recommends replacing the small, L-shaped fishing dock with a longer dock that parallels this portion of the inlet shoreline. The existing, adjacent parking lot is currently underutilized and could accommodate the increased use of the dock. Potential also exists for providing a park store near this fishing facility and the adjacent camping area. This location could service fishermen, campers and other day-use visitors. A decision on the park store requires further market analysis.

Camping area. Complete renovation of the existing 51-site camping area is recommended to bring the infrastructure up to modern standards, enhance the size and slope of each site, and improve the buffer between the sites. In addition, this plan recommends expanding the campground to the southwest into a previously disturbed area to provide an additional 20 to 25 campsites and a bathhouse. Approximately five of these new sites should be designed for tent camping only. This area had contained campsites in the past but those sites were relocated in preparation to construct rental cabins, a concept approved in the previous management plan. The Division has since decided not to proceed with cabin development at this location and believes camping expansion would result in greater public benefit for this area. As part of the camping area renovations and expansion, landscaping is recommended, where possible, to provide better separation, privacy and shade for each campsite.

North Inlet Shoreline/new use area. In the previous approved management plan, cabins were proposed for the western end of the existing camping area. During the planning process for this management plan, a location that is better suited for cabin development was identified within an old spoil deposition site along the north inlet shoreline. This new location is preferable because it is located within a previously disturbed area that would not affect an established use area while still providing scenic views of the inlet. An engineering study is recommended to determine the feasibility of building on this site and providing vehicular access. If feasible, six rental cabins are proposed along with the necessary utilities and access. Since development of the cabins is not likely in the near future, this plan recommends making the site available to serve as a primitive group camp in the interim. This group camp should be able to

accommodate organized groups of up to 30 campers. Recommended facilities include a campfire circle, designated tent area, large shelter, restroom facilities and boardwalk access.

Coconut Point area. The shoreline north of the picnic area on Coconut Point provides a stabilized beach for launching non-motorized watercraft. This shoreline area is currently being repaired following hurricane damage. As part of future concession operations, this location would be ideal for renting catamarans and other non-motorized vessels.

South Beach use areas. Proposed improvements to the existing beach use area south of the inlet include replacing the beach restroom and dune crossover as well as formalizing the two existing footpaths at the corner of the parking lot. The remaining informal footpaths in the vicinity will be eliminated.

Despite the availability of this 80-vehicle beach parking lot, many visitors choose to park along State Road A1A south of the inlet and access the beach through numerous, unauthorized foot paths that cross over the dunes. Consequently, these areas are more susceptible to blowouts and erosion due to the lack of vegetative cover. In an effort to discourage the use of these unauthorized paths, fencing and signage is proposed to control beach access and direct visitors to established parking areas. In addition, one new beach parking area is recommended south of the inlet with parking for up to 40 vehicles. This new beach access area should utilize one of the more popular footpaths located between the existing beach parking lot and the McLarty Museum.

McLarty Treasure Museum. The museum should be evaluated for possible upgrades and renovations. Consideration should be given to exhibit content, ADA compliance, improving the gift shop area and dedicating space for revolving exhibits and guest lectures.

Miscellaneous. As noted above, a paved bicycle path along State Road A1A now connects to the park entrances from both the north and south thus resulting in an increase in bicycle and pedestrian activity around the park. Unfortunately, the bike path ends at the park gates. This plan recommends exploring the ability to provide a separate bike path along the park roads at both park entrances to deliver bikes/pedestrians to each use area within the park.

Support Facilities

Administrative office area. A 3-bay equipment storage building is recommended within the fenced compound adjacent to the administrative office.

North maintenance area. The 2-bay equipment storage building located in the maintenance area north of the inlet needs to be replaced.

South maintenance area. Most of the structures within the large maintenance area located south of the inlet need replacement. The list of proposed structures includes a 6-bay equipment storage building, 4-bay shop building, and another 4-bay equipment storage building.

Residences. Either two additional permanent residences or one duplex residence is needed at the north residence area to replace existing mobile homes.

Miscellaneous. Water and sewage collection systems are available both north and south of the park. Engineering studies are needed to determine the feasibility of connecting the park to these systems, and to determine the costs involved. A long-term goal of the park is to shift these infrastructure needs to off-site systems to reduce maintenance responsibilities and discontinue operation of the existing water wells, a sewage treatment plant and septic tank/drainfield disposal systems.

Facilities Development

Preliminary cost estimates for the following list of proposed facilities are provided in Addendum 7. These cost estimates are based on the most cost-effective construction standards available at this time. The preliminary estimates are provided to assist the Division in budgeting future park improvements, and may be revised as more information is collected through the planning and design processes.

The following is a summary of facilities needed to implement the conceptual land use plan for Sebastian Inlet State Park:

Administrative Office/"Spanish House" Area

Medium restroom w/outdoor showers
Scattered picnic tables (8)
Crosswalk and signs
Stabilized parking expansion (up to 50 additional spaces)

Sebastian Inlet Marina

Site plan
Renovate/replace marina buildings
Repair seawall
Replace docking facility
Evaluate boat ramp
Evaluate residence
Evaluate septic system
Parking expansion
Road paving (0.25 mile)

North Jetty/Beach Use Area

Site plan
Renovate/replace concessions buildings
Redesign dune boardwalk system
Renovate beach restrooms (2)

Swimming Cove/Overflow Parking Area

Small picnic shelters (4)
Medium picnic shelters (4)

Swimming Cove/Overflow Parking Area

Small restrooms (2)
Boardwalks (3)
Stabilized parking (up to 100 spaces)
Road stabilize/paving (0.25 mile)
Native landscaping
Overflow parking field enhancements

North Inlet Shoreline/New Use Area

Primitive group camp w/pedestrian access
Cabin development (6) w/vehicular access

South Inlet Shoreline

Replace fishing dock

Camping Area

Renovate camping area (51 sites)
Upgrade electric/water/sewer connections
New full-facility campsites (approximately 20 sites)
New tent sites (approximately 5)
New bathhouse
Native landscaping

Coconut Point Area

Potential non-motorized watercraft rental station

South Beach Use Areas

Replace restroom
Replace dune crossover
New stabilized beach parking area (40 cars)
Fencing (as needed)

McLarty Treasure Museum

Evaluate exhibit area

Miscellaneous

Bike paths (0.5 mile)

<u>Support Facilities</u>

3-bay equipment shelter
2-bay equipment shelter
4-bay shop building
6-bay equipment shelter
4-bay equipment shelter
Ranger residences (2)
Engineering study (water & sewer systems)

Existing Use and Recreational Carrying Capacity

Carrying capacity is an estimate of the number of users a recreation resource or facility can accommodate and still provide a high quality recreational experience and preserve the natural values of the site. The carrying capacity of a unit is determined by identifying the land and water requirements for each recreation activity at the unit, and then applying these requirements to the unit's land and water base. Next, guidelines are applied which estimate the physical capacity of the unit's natural communities to

withstand recreational uses without significant degradation. This analysis identifies a range within which the carrying capacity most appropriate to the specific activity, the activity site and the unit's classification is selected (see Table 1).

The recreational carrying capacity for this park is a preliminary estimate of the number of users the unit could accommodate after the current conceptual development program has been implemented. When developed, the proposed new facilities would approximately increase the unit's carrying capacity.

Table 1--Existing Use And Recreational Carrying Capacity

	Existing Capacity		Proposed Additional Capacity		Estimated Recreational Capacity	
Activity/Facility	**One Time**	**Daily**	**One Time**	**Daily**	**One Time**	**Daily**
Beach Use						
Swim, Sunbath, etc.	800	1600	80	160	880	1760
Surfing	300	600	100	200	400	800
Fishing	352	704			352	704
Camping						
Standard	408	408	200	200	608	608
Group Camp			30	30	30	30
Picnicking	220	440			220	440
Trails						
Hiking	10	40			10	40
Biking	32	64			32	64
Boating						
Motorized Vessels	242	242			242	242
Non-Motorized	80	160			80	160
McLarty Museum	60	240			60	240
Fishing Museum	60	240			60	240
Cabins			36	36	36	36
TOTAL	**2564**	**4738**	**446**	**626**	**3010**	**5364**

Note: Under the Beach Use category, the "Swim, Sunbath, etc." capacity includes swimming, sunbathing, beachcombing, snorkeling, and other beach related activities. For the two boating categories, the capacity figures refer to the number of people, not boats. In addition, occasional special events can draw large crowds in excess of 6,000 people.

Optimum Boundary

As additional needs are identified through park use, development, research, and as adjacent land uses change on private properties, modification of the unit's optimum boundary may occur for the enhancement of natural and cultural resources, recreational values and management efficiency.

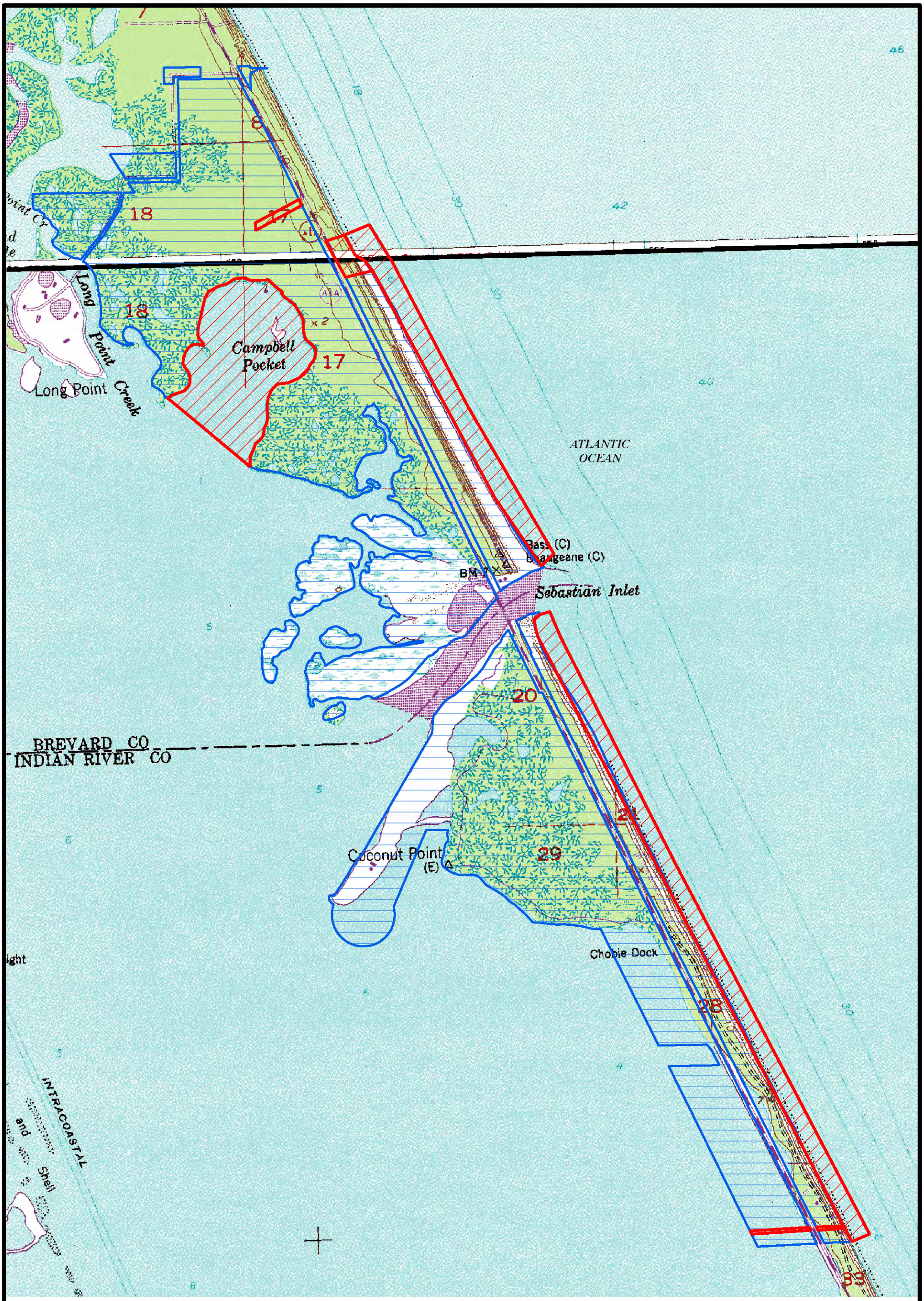
Identification of lands on the optimum boundary map is solely for planning purposes and not for regulatory purposes. A property's identification on the optimum boundary recreational activities.

The submerged land within Campbell Pocket is recommended for addition to the park boundary. This cove is home to the park's marina and supports ongoing recreational use such as boating, canoe/kayaking, fishing and manatee observation. The Optimum Boundary Map also identifies two, small out parcels for addition to the park.

The beachfront property north of the current boundary, which is a non-contiguous parcel of the Archie Carr National Wildlife Refuge, should be considered for cooperative management through the implementation of a Memorandum of Understanding between the two agencies. As discussed under *Potential Uses and Proposed Facilities*, this section of beach is a popular destination for surfers and having management authority for this area would allow the Division to enhance its recreational use as well as coordinate resource management efforts.

The submerged lands along the Atlantic Ocean shoreline are recommended for including in the park boundary. The placement of these submerged lands within the boundaries of the park would allow park staff to enforce Florida Administrative Code 62D-2 within this new boundary that is proposed to stretch approximately 400 feet waterward of the mean high water line.

And, consideration may be given to releasing the two, small disjunct parcels at the north end of the park near the intersection of Long Point Road and State Road A1A. Due to their remoteness, these parcels might be better served under the management of another agency or entity, such as Brevard County or the USFWS.



SEBASTIAN INLET
STATE PARK

N

0 500 1,000 2,000 Feet

Florida Department of Environmental Protection
Division of Recreation and Parks
Office of Park Planning

LEGEND
Park Boundary
Optimum Boundary

OPTIMUM BOUNDARY MAP

Addendum 1 – Acquisition History and Advisory Group Staff Report

Sebastian Inlet State Park Acquisition History

Purpose of Acquisition. The State of Florida acquired Sebastian Inlet State Park to restore, conserve, protect and develop the property for the greatest good and benefit of the citizens of the state.

Sequence of Acquisition. On February 14, 1969, the Board of Trustees of the Internal Improvement Trust Fund (Trustees) obtained title to a 7-acre property constituting the initial area of Sebastian Inlet State Park. This property was donated to the State by Robert P. McLarty and his wife Dodo W. McLarty. Since this initial acquisition, the Trustees have acquired several individual parcels through a lease as well as through different land acquisition programs such as EEL, LATF, SOC and P2000 and added them to Sebastian Inlet State Park. Currently, the park is comprises 971.01 acres.

On September 4, 1970, the Trustees leased Sebastian Inlet State Park to the Florida Department of Environmental Protection, Division of Recreation and Parks (Division), under Lease Number 2457. Lease Number 2457 is a ninety-nine (99)-year lease and will expire on September 3, 2069.

According to Lease Number 2457, the Division manages Sebastian Inlet State Park for the purpose of preserving, developing, operating, and maintaining said lands and property for outdoor recreational, park, conservation and related purposes.

Title Interest. The Trustees holds fee simple title to Sebastian Inlet State Park.

Special Conditions on Use. Sebastian Inlet State Park is designated single-use to provide public recreation and other related uses. Uses such as water resource development projects, water supply projects, stormwater management projects, linear facilities and sustainable agriculture and forestry (other than those forest management activities specifically identified in this plan) are not consistent with this plan.

Outstanding Reservations. The Division's lease from the Trustees stipulates that all the property shall be used for public outdoor recreation and related purposes. Following is a listing of outstanding rights, reservations and encumbrances that apply to Sebastian Inlet State Park.

Sebastian Inlet State Park Acquisition History

Instrument: .....Amended and Restated Memorandum of Agreement
Instrument Holder: .....Sebastian Inlet Tax District
Beginning Date:.....December 21, 2000
Ending Date:.....There is no specific ending date given.
Outstanding Rights, Uses, Etc.: .....The memorandum of agreement summarizes and restates all easements including, but not limited to, maintenance, construction, ingress and egress, and spoil disposal granted to Sebastian Inlet Tax District to use certain portions of Sebastian Inlet State Park.

Instrument: .....Lease Agreement (Right-of-way lands along State Road A-1-A and beneath the Sebastian Inlet Bridge)
Instrument Holder: .....State of Florida Department of Transportation
Beginning Date:.....April 23, 1976
Ending Date:.....April 22, 2071
Outstanding Rights, Uses, Etc: .....The lease is subject to the rights of the owners and operators of utility lines existed within the leased premises at the time of the lease agreement.

Instrument: .....Special Warranty Deed
Instrument Holder: .....Indian River County
Beginning Date:.....November 4, 1970
Ending Date:.....No specific ending date given.
Outstanding Rights, Uses, Etc.: .....The special warranty deed is subject to that : (1) The property in question be used forever and continuously used and maintained for a public park for recreational purposes and no part of this property is confined or used as a restricted campground or other restricted area. (2) The South shoreline of the Sebastian Inlet, the fishing pier, under the Sebastian Inlet Bridge and the South Jetty of the Sebastian Inlet shall be accessed by all people day or night at no specific charge.

Sebastian Inlet State Park Advisory Group Members

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Brevard County Board of Commissioners
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Titusville, Florida 32780

The Honorable Sandra Bowden
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"Sachi" Sachidanandan, Chair
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Richard Baker, President
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Sebastian Inlet State Park Advisory Group Members

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Indian River Chapter
Surfrider Foundation
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Justin Stoval, Owner
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Steven Webster, President
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Association
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Mr. Bob Bruce
12396 North Highway A1A
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Sebastian Inlet State Park Advisory Group Staff Report

The Advisory Group meeting to review the proposed land management plan for Sebastian Inlet State Park was held in the park's conference room on May 14, 2008 at 9am. Commissioner Chuck Nelson (Brevard County), Bud Crisafulli (Brevard Soil and Water Conservation District), David Gunter (Indian River Soil and Water Conservation District) and Rob Varley (Brevard County Tourism Development Council) did not attend. Alex Pries (Florida Fish and Wildlife Conservation Commission) and Dale Armstrong (Florida Division of Forestry) sent written comments in lieu of attending. All other appointed Advisory Group members were present. Attending staff from the Division of Recreation and Parks included Larry Fooks, Clif Maxwell, Ron Johns, Terry Coulliette, Jason DePue, Phil Rand and Brian Burket.

Mr. Burket began the meeting by explaining the purpose of the Advisory Group and reviewing the meeting agenda. He provided a brief overview of the Division's planning process and summarized public comments received during the previous evening's public workshop. He then asked each member of the advisory group to express his or her comments on the plan.

Summary of Advisory Group Comments

Richard Baker (Pelican Island Audubon Society) recommended that more effort be made to get local citizens active in the park. He encouraged the park to provide more birding and kayak trips and suggested that they be free. He initiated a discussion about recent efforts to protect sea grass beds around the park. He commented that the Audubon Society contributed to the Eagle Scout project at the tip of Coconut Point to enhance and interpret this shorebird nesting area. He recommended a more proactive exotic plant removal effort.

Chairman Sandra Bowden (Indian River County Board of County Commissioners) suggested that the park may become more popular with local citizens as a consequence of the slumping economy. She commented that the park is a glorious place and she would like to invite Park Manager Terry Coulliette to an upcoming BOCC meeting to recognize and help raise support for the park. She also offered her support to publicize the park to local citizens.

Jenny Lawton-Seal (Sebastian Inlet District) recommended including language in the management plan about the current SID proposal. The SID has requested exchanging their existing spoil deposit site for a larger, previously disturbed area. In compensation, the SID has offered to dredge the boat ramp, replace the L-dock, provide a new canoe/kayak launch area and maintain the channel markers to the boat ramp. She offered the assistance of the SID to help advertise and market the park. She mentioned that SID has recently developed a touch-screen kiosk that needs a secure home and suggested that an appropriate area might be found in the park.

Jon Bates (Indian River County Tourist Development Council) remarked that the plan was an interesting read. He commented that more effective methods are needed to inform residents and tourists about the park. He requested that park staff provide brochures to local hotels to help encourage visitation. He inquired about where revenue generated at the park goes and how the park is funded. He suggested that park staff work with the TDC to develop a marketing plan.

"Sachi" Sachidanandan (Turtle Coast Sierra Club) expressed appreciation for the staff and their work put into the development of the management plan. He commented that the plan is ambitious and will require additional staffing and volunteers. He suggested that the management plan clarify that the bike trail is for bicycles and not motorized bikes. He recommended that all beach access areas include a restroom and shower. He commented that the existing beach concession buildings are not attractive and requested that the future concession building be aesthetically pleasing.

He later sent written comments where he suggested that water conservation be considered in the renovation or construction of new restrooms and shower facilities. He recommended installing waterless urinals and water conserving showerheads in an effort to minimize water usage at the park.

Justin Stovall (Whitey's Bait & Tackle) commented that he talked with many local boaters and fishermen to hear their comments about the park. He shared that many are concerned about the conflict between boaters navigating the inlet and fishermen who cast in their path. He commented that boats moving through the inlet have the right-of-way. He suggested that the creation of an offshore, artificial reef could lure some boaters away from fishing at the congested, north jetty. He requested more law enforcement at the jetties due to indecent behavior by some park visitors and the taking of illegal fish. He suggested that all park visitors who pay taxes to the SID should be allowed into the park at no cost. He congratulated the SID for the new seagrass signage around the inlet. He requested that the channel markers for the marina be extended to the inlet channel and to Long Point Park. He commented that closing the unauthorized footpaths to the beach will be difficult to enforce since each path leads to a popular fishing hole. After the meeting, he suggested that 10-20 tent campsites with a restroom and showers be considered for the marina area to support this use of this area by boaters and surfers.

Blair Witherington (Floridana Beach Homeowner's Association) commented that the plan was well written. He recommended that the plan recognize the draft limitations within the marina channel. He commented that the plan provides a good discussion of the natural resource impacts of sand bypass and beach renourishment. A discussion followed about the impacts of the most recent beach renourishment project. He questioned whether the SID's management plan for the inlet was consistent with the Division's interests in management of the state park. A compromise was reached that

the plan is "generally consistent." He encouraged the park staff to strengthen their relationship with the SID and improve coordination of SID projects that could result in impacts to the park resources and visitor experience. He requested that the management plan reinforce the need for park staff to be involved in decision making process regarding SID projects. He commented that the dog policy for the park is confusing and suggested identifying specific areas where dogs are allowed rather than providing signage everywhere dogs are not allowed. He commented that the Coconut Point shorebird protection area is rather small and recommended exploring the potential to establish/enhance other areas of the park for shorebird habitat. He recommended increasing the volume of parking at the existing beach parking lot south of the inlet rather than establishing a new beach access area. He voiced support for closing all unauthorized footpaths to the beach. He remarked that a stable and well-managed sand footpath to the beach is better than a boardwalk. He commented that future boat tours from the marina should be encouraged. He commented that the area suggested for a kayak launch by the SID is a destination for paddlers and therefore should not be an access point. He suggested the development of a marked kayak trail from the marina to this area. He provided a few recommendations for the species list.

Steven Webster (Citizens for Florida's Waterways) asked about the proposed budget for the marina redevelopment and requested that this be a priority project. He commented that the county is lacking a sufficient number of boat ramps and boat trailer parking spaces so therefore requested that consideration be given to expanding the boating capacity at the marina as part of the redevelopment project. He suggested that the Division look into establishing boat trips between the park and the City of Sebastian across the lagoon. He asked for clarification of the carrying capacity table regarding the number of motorized boaters the park is able to support now and in the future following the marina redevelopment.

Jim Egan (Marine Resources Council) commented that funding sources are available for establishing boat tours to and from the park. He encouraged the Division staff to include a list of all potential projects, studies, research, etc. in the management plan to increase the likelihood of them being supported and funded. He suggested lobbying for a bicycle path to be included on the bridge once FDOT begins planning its replacement. He commented that Scenic Highway grants may be available to improve destination areas within the park.

David Barney (Surfrider Foundation, Indian River Chapter) recommended that the management plan mention the legal obligation of the SID to transfer a certain volume of sand on Indian River beaches each year. He recommended that smaller beach renourishment projects be pursued that build-up the dunes instead of larger projects that impact hard bottom. He commented that recent studies indicate that Sebastian Inlet is becoming a mature inlet and that some sand is beginning to naturally bypass the inlet. He suggested that the park manager and/or biologist attend the monthly

meetings of the Indian River Beach and Shore Preservation Advisory Committee. He commented that the park has amazing resources and acknowledged the hard work and dedication of outgoing Park Manager Ron Johns and Archie Carr NWR Manager Paul Tritaik. He asked about the relationship between park visitation and funding for the park. He commented that many tourists know more about the park than local citizens and recommended that the Division aggressively promote the park locally. He remarked that the desire for free beach access is a big issue at the park. He suggested creating a new beach access area at "Monster Hole." He commented that surfers/beachgoers recently lost a beach access near Long Point Road due to the elimination of roadside parking there. He requested that the Division consider providing a beach access parking lot at the north end of the park adjacent to Long Point Road in exchange for scaling down the proposed improvements at the "Spanish House" parking area. He commented that the Surfrider Foundation can be a huge resource for volunteer recruitment especially for surf competitions and other special events. He suggested that the park staff attend the FDOT workgroup meetings. He identified the need to enforce the separation of surfers and jet skis at "Monster Hole" for safety reasons.

Sharon Tyson (Indian River-Malabar to Vero Beach Aquatic Preserve) suggested that a committee of experts be established to review SID projects before the permitting phase. She commented that recent studies indicate that beach renourishment projects around the state are linked to the increasing frequency of red-tide blooms around Florida. She mentioned that FWC is researching least terns in Brevard County and are working to establish Critical Wildlife Areas. She recommended that the Division inquire about the park's CWA status. She commented that her office has a tremendous relationship with the park staff and complimented the management plan. She requested that the plan clarify that CAMA shares management authority for all submerged lands within the park boundary and within the 400 foot zone waterward of MHW. She mentioned that CAMA might be able to assist with native plantings around the swim cove area, including mangroves. She recommended that the tidal connection near the south maintenance area should be improved. She requested that the Division coordinate any projects with CAMA that take place within submerged lands around the park, such as the proposed fishing dock replacement. She requested that seagrass beds around the park be identified on a map in the plan. She commented that healthy seagrass beds are located in the area of the proposed dock replacement within the inlet. She recommended including a small rescue/law enforcement boat at the proposed fishing dock. She commented that CAMA has been actively surveying for diamondback terrapins around the park.

She also provided the following additional comments in written form. She recommended a management objective to prepare a plan for the occurrence of aquatic invasive species. She recommended an objective to encourage permitted research by universities and institutions. She recommended an objective to limit disturbance (trails)

through tidal wetlands on the north side of the park adjacent to the inlet. In addition to controlling access to the shorebird protection area at Coconut Point, she requested that waterward access to seagrass beds and shoreline habitat also be limited. She suggested the use of Island designations and Universal Island signage be adopted. She recommended the surveying of submerged archaeological sites. She proposed that park staff comment on State and Federal treasure requests and re-authorizations. She commented that the camping area is surrounded by tidal wetlands so the proposed improvements will probably require ERP permitting. She recommended implementing educational signage allowances for the protection of dolphin, manatee, woodstorks, etc. She provided some language about CAMA to include under the Management Coordination section. She commented that the Natural Communities Map does not reflect all tidal habitats near developed areas or natural mangrove fringe habitat. She provided a description of seagrass habitat for possible inclusion in the plan. She suggested coordinating with utility companies about any future placement of electrical poles and wires which could result in bird fatalities. She recommended that the Management Needs and Problems section mention seagrass impacts by boats, sand removal and construction. She requested that shorebird data be reported on the FWC website.

Bob Bruce (adjacent landowner) commented that the inlet is manmade and has deleterious impacts; however, the inlet is also what makes this area so special and popular. He remarked that a lot of work was put into getting the Scenic Highway designation so the park and others could benefit from this funding source which could be used for beach access improvements.

Paul Tritaik (Archie Carr National Wildlife Refuge) highlighted the benefits of establishing a disposal site for material dredged from the inlet, i.e. identifying an area for material not suitable for the beach but useable for the creation of shorebird habitat. He commented that a boardwalk to the beach can be problematic for prescribed burns and is not necessary if the sand footpath is stable and not prone to dune blowout. He thanked Ron Johns and his staff for their support and hard work over the years and complimented the management plan. He expressed appreciation for the commitment to sea turtle surveys and attention to shorebirds, gopher tortoises, beach mice and diamondback terrapins. He recommended the plan include a discussion of land crabs occurring in the park. He commented that the USFWS is interested in establishing a management agreement with the Division for their property at "Spanish House." He identified one small beach parcel at the north end of the park that he believes is owned by the State and not USFWS. He provided a couple of suggestions for the exotic species list. He expressed appreciation for the coordination of efforts pertaining to the beach mice. He suggested that a management agreement between the park and USFWS be established to share management resources.

Dave Pasley (Friends of Sebastian Inlet State Park, Inc.) suggested a mulch and sand

footpath for the new beach access at "Spanish House" instead of a boardwalk structure. He strongly recommended that the management plan include a comprehensive "wish list" of potential projects likely to be funded and approved.

He also provided the following additional comments in written form. In regards to channel dredging and beach renourishment projects, he recommended that the management plan focus on the Division's advisory role and allow the process to work in resolving permitting issues, etc. He stated that the management of these issues is both political and beyond the scope of this management plan. He recommended that the plan address the Division's role in working with SID, ACOE, FIND, DEP, etc. in managing the wetlands, shorelines, beaches, etc. He pointed out that it would be inaccurate to identify "restoration" plans for Coconut Point and the overflow parking field since these areas didn't exist prior to the creation of the inlet. He recommended that pictures and documents of local historical significance that have been collected by SID Commissioner Jim Culbertson be directed to state archives. He suggested that park volunteers also help with park operations and security. He recommended that the paragraphs regarding the impact of beach renourishment projects on park resources be removed from the plan. He recommended that a comprehensive plan, funding, etc. be provided for Coconut Point to help establish a shorebird nesting area. He questioned whether there exists a Document of Understanding that outlines who owns which collection items at the Sebastian Fishing Museum and what items can be displayed, etc. He commented that the issue of the worm reef and beach renourishment is highly controversial and suggested removing some of the text in the plan regarding this topic. He requested that the SID proposal to develop the fill area west of the swim cove and overflow parking field be reviewed and incorporated into the management plan. He also supported the SID's proposal to develop a kayak launch in the old inlet channel area. He recommended that a brief description of the SID/Park agreements be included in the management plan. He recommended that the plan also acknowledge the various agencies and research groups that are managing land and collecting important data in and around the park. He commented that expanding the use at "Spanish House" will result in a variety of issues including liability, security and inability to collect fees. He recommended that the existing marina buildings should be demolished and seawall replaced. He recommended adding more boat slips, parking and boat ramps at the marina. He recommended that the beach concession building should also be demolished and suggested that it be replaced with a structure that the community can use for weddings and other functions in addition to hosting surfing events, etc. He requested that serious consideration be given to the SID proposal to replace the inlet fishing dock with a larger structure that can be used for emergency/law enforcement vessels and mooring of a 60 foot barge for inlet construction and dredging activities. He stated his strong support for upgrading and expanding the camping area. He requested consideration for expanding the gift shop at the McLarty Treasure Museum in any remodeling plans. He commented that much of the ongoing boardwalk renovation at the north jetty beach use area is being funded by the CSO. He commented that the

swim cove is highly susceptible to storm damage; therefore, investing in anything but the barest essentials here will be futile. He requested permission to open a small gift counter in the Sebastian Fishing Museum. He mentioned that the majority of the park's 225 picnic tables were built by volunteers and funded by the CSO.

Summary of Written Comments

Dale Armstrong (Florida Division of Forestry) stated that due to the location of the park, timber management is not a consideration. He commented that beach renourishment projects have greatly impacted the worm reefs from Sebastian Inlet down to MacArthur Beach. He offered the assistance of DOF staff for prescribed burns at the park. He stated that park staff does a commendable job in balancing natural resource management with intensive recreation. He commented that over the last eleven years he has seen the park improve both naturally and recreationally.

Alex Pries (Florida Fish & Wildlife Conservation Commission) stated that overall the management plan provides adequate consideration for wildlife and wildlife needs on-site. He commented that the discussion of using prescribed fire in dune habitats was confusing since fire is not typically needed in dune communities. However, he stated prescribed fire is useful in the coastal strand community and should continue to enhance habitat for beach mice and bird species. He stated support for the closing of unauthorized footpaths to the beach and recommended planting a mixture of native coastal vegetation when attempting to rebuild the dunes. He recommended keeping FWC informed of any improvements in beach mouse habitat or potential for translocation. He suggested coordinating survey and monitoring actions for nesting shorebirds with FWC personnel. He strongly recommended coordination with SID to develop beach nourishment projects that minimize impacts to nesting sea turtles/beach mouse habitat. He encouraged the removal of feral cats and educating surrounding landowners on being responsible pet owners. He suggested that FWC staff could help with closing shorebird nesting areas. He expressed support for actions to protect the population of gopher tortoise within the overflow parking field. He commented that the monitoring efforts for listed species discussed in the plan are appropriate. He suggested alternative methods to determining the relative abundance of beach mice.

Staff Recommendations

The staff recommends approval of the proposed management plan for Sebastian Inlet State Park as presented with a few minor edits and clarifications as well as the changes below. Some of the other suggestions voiced at the meeting are not appropriate for inclusion in the management plan but are appreciated and will be taken into consideration as it affects park operations.

- In regards to the recent SID request to exchange their spoil easement site, the Division is carefully considering their proposal. The specifics of their proposal do not need to be included in the management plan since it is part of the regular coordination between the Division and the SID.
- In addition to Coconut Point, the Division will explore the potential to establish/enhance shorebird habitat elsewhere in the park.
- Consideration for potential seagrass impacts will be evaluated when determining appropriate recreational activities in these areas.
- The request for an offshore, artificial reef is not within the jurisdiction of the Division and, therefore, will not be included in the management plan.
- The Natural Communities Map will be evaluated for possible improvements, including the identification of seagrass beds within the park boundary.
- Staff agrees that a boardwalk to provide beach access may not always be necessary and will pursue the best available management option for providing beach access in the future.
- As part of the site planning for the marina redevelopment project, consideration will be given to expanding the boating capacity, providing a marine pump-out station, exploring the possibility of establishing some tent camping, and providing dockage for a rescue/law enforcement vessel.
- The Division does not support the recommendation to establish a new beach access area at the north end of the park adjacent to Long Point Road. This area is composed of maritime hammock which is included in the park's protected zone due to its rarity in the state. In addition, Sebastian Inlet State Park already provides multiple beach access points along its shoreline.
- The carrying capacity table will be edited to clarify the number of motorized boaters (people) the park is currently able to support.
- Park staff has identified the need for an additional 3-bay equipment storage building within the fenced area adjacent to the Administrative Office.

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Addendum 3—Soils Descriptions

Sebastian Inlet State Park Soils Descriptions

(Ca) Canaveral complex, gently undulating - This complex consists of nearly level and gently sloping soils that are mixtures of sand and shell fragments. It is along the Atlantic Coast on narrow ridges interspersed with parallel narrow sloughs. The water table is between depths of 10 and 40 inches for 2 to 4 months of the year; in dry seasons it is below a depth of 60 inches.

(Ck) Coastal beaches - This soil type consists of narrow strips of nearly level or gently sloping sand, along the Atlantic Ocean, that is covered with salt water at daily high tides and of low dunes adjacent to the tide-washed sands. This material is a mixture of quartz sand and fragments of sea shells. It is subject to movement by the wind and the tide and is bare of vegetation.

(7) Palm Beach sand, 0 to 5 percent slopes - This soil type is nearly level to gently sloping and well-drained to excessively drained. It occurs on dunelike ridges that are parallel to the coastline. This map unit is adjacent to the beach. Slopes are mainly 0 to 5 percent but can range from 0 to 8 percent.

Typically, the surface layer is very dark gray sand about 4 inches thick. The underlying material to a depth of 65 inches is sand that has stratified layers of shell fragments throughout. The upper 16 inches of the underlying material is grayish brown sand, and the lower 45 inches is pale brown sand. Below that to a depth of 80 inches or more is very pale brown sand.

This soil is low in organic matter content; it is moderately alkaline throughout. Permeability is very rapid, and the available water capacity is very low. It has no water table within a depth of 80 inches.

(Pb) Palm Beach sand - This is a nearly level and gently sloping, excessively drained soil on dunelike ridges that roughly parallel the Atlantic Ocean. It consists of mixed sand and shell fragments. Slopes are mostly 2 to 5 percent. The water table is at a depth of more than 10 feet.

(17) Quartzipsamments, 0 to 5 percent slopes - This soil type is nearly level to gently sloping and moderately well-drained to somewhat poorly drained. It consists of thick deposits of sand and of mixed sand and shell fragments.

One of the most common profiles has a surface layer of light yellowish brown fine sand that has brownish yellow mottles about 17 inches thick. The next layer, to a depth of about 30 inches, is yellowish-brown fine sand that has very dark grayish-brown mottles. Below that, to a depth of about 60 inches, is dark grayish-brown fine sand that has very dark gray streaks and yellowish-brown splotches and is mixed with 10 percent shell fragments. The underlying material to a depth of 80 inches or more is gray sand.

Sebastian Inlet State Park Soils Descriptions

Permeability is very rapid, and the available water capacity is very low. Reaction is slightly acid to alkaline. The content of shell fragments ranges from about 5 to 50 percent.

(18) Captiva fine sand - This soil is nearly level and poorly drained. It is in narrow, elongated sloughs that are between low, dunelike ridges and mangrove swamps. Slopes are smooth and range from 0 to 1 percent.

Typically, the surface layer is very dark gray fine sand mixed with about 2 percent shell fragments. It is about 8 inches thick. The underlying material to a depth of 80 inches or more is grayish-brown, olive gray, and greenish-gray fine sand mixed with about 2 to 15 percent shell fragments. In most years, under natural conditions, the water table is at a depth of 10 to 40 inches for 6 to 9 months or more and within a depth of 10 inches of the surface for 1 to 3 months during the wet season. In some years, the soil is covered by standing water for about 1 month.

Permeability is rapid in the surface layer and very rapid in the underlying layers. The available water capacity is medium in the surface layer and low to very low in the subsurface layer.

(20) Beaches - This map unit consists of nearly level to sloping, narrow strips of tide and surf-washed sands and shell fragments. Beaches occur along the Atlantic Ocean shoreline. They commonly are a mixture of moderately alkaline sand and fine shell fragments. Beaches are generally devoid of vegetation, although some sparse growth of sea oats, railroad vine, or other salt-tolerant plants occurs near the inland edges.

Depth to the water table is highly variable depending on distance from the shore, elevation of the beach, and the tidal condition. Commonly, the water table ranges from a depth of 0 to 6 feet.

(63) Kesson muck - This soil is nearly level and very poorly drained and is frequently flooded. It occurs in tidal swamps and marshes. This soil formed in thick marine deposits of sand and shell fragments. These swamps and marshes are at or near sea level and are adjacent to the Indian River. Tidal water inundates most of these areas at high tide.

Typically, the surface layer is about 6 inches thick; it is a dark reddish-brown muck that is about 30 percent unrubbed fiber and less than 5 percent rubbed. The underlying material is grayish-brown and dark greenish-gray fine sand mixed with about 15 to 25 percent sand-sized shell fragments to a depth of 80 inches or more.

Under natural conditions, this soil is flooded during normal high tides. Permeability is moderately rapid. The available water capacity is high in the surface layer and low in

Sebastian Inlet State Park Soils Descriptions

the underlying materials. The native vegetation consists of red, black, and white mangroves; searocket, saltwort, perennial glasswort, seashore saltgrass, and seashore paspalum occur in some areas.

(Tm)Tidal marsh - Tidal marsh consists of nearly level areas of soils that are regularly covered with salt water or brackish water at high tide. It occurs along the edge of salt water in several places. Many areas are isolated by deep, wide canals. The soils are highly variable; some are shallow mucky sands over marl or limestone, some are irregularly stratified mixed sand and shell fragments, some are silty or clayey layers over sand sand shells, and some are deep organic material. Any one area of tidal marsh can be one kind of soil material or a mixture.

(Ts) Tidal swamp - This soil type consists of nearly level areas at about mean sea level that are covered with a dense, tangled growth of mangrove trees and roots. It occurs along the edge of the Banana and Indian rivers and in smaller areas adjacent to salt water. The soil material ranges from mixed sand and shells to organic materials.

Sebastian Inlet State Park Soils Descriptions

Addendum 4–Plants And Animals List

Sebastian Inlet State Park Plants

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Spiny redweed	*Acanthophora* sp.	
Mermaid's wine glass	*Acetabularia crenulata*	
Giant leather fern	*Acrostichum danaefolium*	
False sisal	*Agave decipiens*	
Wild century plant*	*Agave sisalana*	
Silktree*	*Albizia julibrissin*	
Aloe*	*Aloe vera*	
Yellow joyweed	*Alternanthera flavescens*	
Common ragweed	*Ambrosia artemisiifolia*	
Bastard indigobush	*Amorpha fruticosa*	
Sea torchwood	*Amyris elemifera*	
Marlberry	*Ardisia escallonioides*	
Bluestem	*Andropogon* sp.	
Red algae	*Anotrichium tenue*	
Sprenger's asparagus-fern*	*Asparagus densiflorus*	
White oldfield aster	*Aster pilosus*	
Crested saltbush	*Atriplex cristata*	
Algae	*Audounella* sp.	
Algae	*Audouinella* sp.	
Black mangrove	*Avicennia germinans*	
Groundsel tree	*Baccharis halimifolia*	
Herb-of-grace	*Bacopa monnieri*	
Saltwort	*Batis maritima*	
Beggarticks	*Bidens alba* var. *radiata*	
Bushy seaside oxeye	*Borrichia frutescens*	
Algae	*Botyrocladia occidentalis*	
Bouganvillea*	*Bouganvillea spectabilis*	
Red algae	*Bryocladia cuspidata*	
Red algae	*Bryothamnium seaforthii*	
Fungus	*Buellia lauricassiae*	
Fungus	*Buellia rappii*	
Fungus	*Buellia* sp.	
Gumbo-limbo	*Bursera simaruba*	
Gray nicker	*Caesalpinia bonduc*	
American beautyberry	*Callicarpa americana*	
Algae	*Caloglossa leprieurii*	
Santa Maria*	*Calophyllum antillanum*	
Fungus	*Caloplaca* sp.	
Baybean	*Canavalia rosea*	
Garden canna*	*Canna* x *generalis*	
Lichen	*Canoparmelia amazonica*	

*** Non-native Species**

Sebastian Inlet State Park Plants

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Lichen	*Canoparmelia cryptochlorophaea*	
Jamaican capertree	*Capparis cynophallophora*	
Papaya*	*Carica papaya*	
Natal plum*	*Carissa macrocarpa*	
Chaffhead	*Carphephorus* sp.	
Australian-pine*	*Casuarina equisetifolia*	
Madagascar periwinkle*	*Catharanthus roseus*	
Green algae	*Caulerpa cupressoides*	
Green algae	*Caulerpa mexicana*	
Green algae	*Caulerpa prolifera*	
Green algae	*Caulerpa racemosa* var. *macrophysa*	
Green algae	*Caulerpa vickersiae*	
Southern sandbur	*Cenchrus echinatus*	
Coast sandbur	*Cenchrus incertus*	
Sanddune sandbur	*Cenchrus tribuloides*	
Sandbur	*Cenchrus* sp.	
Algae	*Centroceras clavulatum*	
Spurred butterfly pea	*Centrosema virginianum*	
Algae	*Ceramium fastigiatum*	
Green algae	*Chaetomorpha aerea*	
Partridge pea	*Chamaecrista fasciculata*	
Pillpod sandmat	*Chamaesyce hirta*	
Hyssopleaf sandmat	*Chamaesyce hyssopifolia*	
Spotted sandmat	*Chamaesyce maculata*	
Coastal beach sandmat	*Chamaesyce mesembryanthemifolia*	
Snowberry	*Chiococca alba*	
Algae	*Chondra collinsiana*	
Red algae	*Chondra* sp.	
Coco plum	*Chrysobalanus icaco*	
Lichen	*Chrysothrix candelaris*	
Sorrelvine	*Cissus trifoliata*	
Florida fiddlewood	*Citharexylum spinosum*	
Sour orange*	*Citrus aurantium*	
Lemon*	*Citrus limon*	
Lime*	*Citrus* sp.	
Green algae	*Cladophora* sp.	
Tread-softly	*Cnidoscolus stimulosus*	
Lichen	*Coccocarpia palmicola*	
Seagrape	*Coccoloba uvifera*	
Domestic croton*	*Codiaeum variegatum*	
Green algae	*Codium decorticatum*	

*** Non-native Species**

Sebastian Inlet State Park Plants

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Algae	*Colopomenia sinuosa*	
Whitemouth dayflower	*Commelina erecta*	
Buttonwood	*Conocarpus erectus*	
Canadian horseweed	*Conyza canadensis* var. *pusilla*	
Showy rattlebox*	*Crotalaria spectabilis*	
Gulf croton	*Croton punctatus*	
Red algae	*Cryptonemia* sp.	
Lichen	*Cryptothecia striata*	
Christmas lichen	*Cryptothecia rubrocincta*	
Dodder	*Cuscuta* sp.	
Sago palm*	*Cycas circinalis*	
Leafless swallowwort	*Cynanchum scoparium*	
Flatsedge	*Cyperus* sp.	
Beach star	*Cyperus pedunculatus*	
Flatleaf flatsedge	*Cyperus planifolius*	
Pinebarren flatsedge	*Cyperus retrorsus*	
Durban crowfootgrass*	*Dactyloctenium aegyptium*	
Coinvine	*Dalbergia ecastophyllum*	
Algae	*Dasya collinsiana*	
Ticktrefoil	*Desmodium incanum*	
Witchgrass	*Dichanthelium* sp.	
Sixangle foldwing	*Dicliptera sexangularis*	
Algae	*Dictyopteris delicatula*	
Algae	*Dictyota dichotoma*	
Brown algae	*Dictyota* spp.	
Algae	*Dilophus guineensis*	
Air potato*	*Dioscorea bulbifera*	
Lichen	*Dirinaria applanata*	
Lichen	*Dirinaria picta*	
Lichen	*Dirinaria purpurascens*	
Twinflower	*Dyschoriste* sp.	
Devil's potato	*Echites umbellata*	
Florida butterfly orchid	*Encyclia tampensis*	7
Hair algae	*Enteromorpha* spp.	
Golden pothos*	*Epipremnum pinnatum*	
Coralbean	*Erythrina herbacea*	
White stopper	*Eugenia axillaris*	
Spanish stopper	*Eugenia foetida*	
Dogfennel	*Eupatorium capillifolium*	
Throughwort	*Eupatorum* sp.	
Crown-of-thorns*	*Euphorbia milii*	

*** Non-native Species**

Sebastian Inlet State Park Plants

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Pinewoods fingergrass	*Eustachys petraea*	
Marshgentian	*Eustoma exaltatum*	
Strangler fig	*Ficus aurea*	
Hurricanegrass	*Fimbristylis cymosa*	
Narrowleaf yellowtops	*Flaveria linearis*	
Florida swampprivet	*Forestiera segregata*	
Firewheel	*Gaillardia pulchella*	
Downy milkpea	*Galactia volubilis*	
Southern beeblossom	*Gaura angustifolia*	
Algae	*Gelidopsis gracilis*	
Red algae	*Gigartina acicularis*	
Rose mock vervain	*Glandularia canadensis*	
Mock vervain	*Glandularia* sp.	
Globe amaranth*	*Gomphrena serrata*	
Red algae	*Gracilaria cervicornis*	
Red algae	*Gracilaria mammilaris*	
Red algae	*Gracilaria* sp.	
Lichen	*Graphis sp*	
Lichen	*Graphis striatula*	
Algae	*Gratelupia filicina*	
Red algae	*Griffithsia* sp.	
Beeftree	*Guapira discolor*	
Lichen	*Haematomma accolens*	
Lichen	*Haematomma persoonii*	
Bloodstain lichen	*Hafellia bahiana*	
Red algae	*Haliptilon cubense*	
Shoalweed	*Halodule wrightii*	
Johnson's seagrass	*Halophila johnsonii*	
Algae	*Halymenia* sp.	
Simpson's applecactus	*Harrisia simpsonii*	
Clustered mille graine	*Hedyotis uniflora*	
East coast dune sunflower	*Helianthus debilis* ssp. *debilis*	
Seaside heliotrope	*Heliotropium curassavicum*	
Heliotrope	*Heliotropium* sp.	
Algae	*Helminthocladia calvadosii*	
Algae	*Herposiphonia secunda*	
Camphorweed	*Heterotheca subaxillaris*	
Rosemallow*	*Hibiscus rosa-sinensis* var. *rosa-sinensis*	
Mangrove spiderlily	*Hymenocallis latifolia*	
St. John's wort	*Hypericum* sp.	
Algae	*Hypnea musciformis*	

*** Non-native Species**

Sebastian Inlet State Park Plants

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Algae	*Hypnea* sp.	
Moonflowers	*Ipomoea alba*	
Tievine	*Ipomoea cordatotriloba*	
Beach morningglory	*Ipomoea imperati*	
Railroad vine	*Ipomoea pes-caprae*	
Saltmarsh morningglory	*Ipomoea sagitatta*	
Ornamental iris*	*Iris* sp.	
Seacoast marshelder	*Iva imbricata*	
Algae	*Jania rubens*	
Star jasmine*	*Jasminum multiflorum*	
Chandelier plant*	*Kalanchoe tubiflora*	
Virginia saltmarsh mallow	*Kosteletskya virginica*	
Black ironwood	*Krugiodendron ferreum*	
Crapemyrtle*	*Lagerstroemia indica*	
White mangrove	*Laguncularia racemosa*	
Lantana*	*Lantana camara*	
Buttonsage	*Lantana involucrata*	
Lichen	*Lecanora hybocarpa*	
Lichen	*Lecanora* sp.	
Lichen	*Lecanora strobilina*	
Duckweed	*Lemna* sp.	
Lichen	*Leptogium austroamericanum*	
Algae	*Liagora ceranoides*	
Algae	*Liagora* sp.	
Gopher apple	*Licania michauxii*	
Carolina sealavender	*Limonium carolinianum*	
Creeping cucumber	*Melothria pendula*	
Poorman's patch	*Mentzelia floridana*	
Climbing hempvine	*Mikania scandens*	
Indian chickweed*	*Mollugo verticillata*	
Balsampear*	*Momordica charantia*	
Spotted beebalm	*Monarda punctata*	
Red mulberry	*Morus rubra*	
Common banana*	*Musa* x *paradisiaca*	
Twinberry	*Myrcianthes fragrans*	
Southern bayberry	*Myrica cerifera*	
Tuberous sword fern*	*Nephrolepis cordifolia*	
Oleander*	*Nerium oleander*	
Lancewood	*Ocotea coriacea*	
Seabeach eveningprimrose	*Oenothera humifusa*	
Clustered mille graine	*Oldenlandia uniflora*	

*** Non-native Species**

Sebastian Inlet State Park Plants

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Erect pricklypear	*Opuntia stricta*	
Algae	*Padina gymnosperma*	
Algae	*Padina jamaicensis*	
Algae	*Padina sanctae-crucis*	
Algae	*Padina* spp.	
Bitter panicgrass	*Panicum amarum*	
Panic grass	*Panicum* spp.	
Lichen	*Parmotrema dilatatum*	
Lichen	*Parmotrema gardneri*	
Lichen	*Parmotrema michauxianum*	
Lichen	*Parmotrema perforatum*	
Lichen	*Parmotrema praesorediosum*	
Lichen	*Parmotrema rigidum*	
Virginia creeper	*Parthenocissus quinquefolia*	
Purple passionflower	*Passiflora incarnata*	
Corkystem passionflower	*Passiflora suberosa*	
Redbay	*Persea borbonia* var. *borbonia*	
Volcano wart lichen	*Pertusaria xanthodes*	
Red algae	*Peyssonnelia inamoena*	
Lichen	*Phaeographis* sp.	
Lichen	*Phaeographis subfulgurata*	
Tree philodendron*	*Philodendron selloum*	
Golden polypody	*Phlebodium aureum*	
Turkey tangle fogfruit	*Phyla nodiflora*	
Chamber-bitter*	*Phyllanthus urinaria*	
Groundcherry	*Physalis* sp.	
Walter's groundcherry	*Physalis walteri*	
American rosette lichen	*Physcia americana*	
Rosette lichen	*Physcia atrostriata*	
Rosette lichen	*Physcia neogaea*	
American pokeweed	*Phytolacca americana*	
Resurrection fern	*Pleopeltis polypodioides* var. *michauxiana*	
Camphorweed	*Pluchea* sp.	
Paintedleaf	*Poinsettia cyathophora*	
Rustweed	*Polypremum procumbens*	
Little hogweed	*Portulaca oleracea*	
Pink purslane	*Portulaca pilosa*	
Purselane	*Portulaca* sp.	
Black cherry	*Prunus serotina* var. *serotina*	
Wild coffee	*Psychotria nervosa*	
Shortleaf wild coffee	*Psychotria sulzneriI*	

*** Non-native Species**

Sebastian Inlet State Park Plants

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Red algae	*Pterocladia bartletti*	
Red algae	*Pterocladia* sp.	
Wart lichen	*Pyrenula cruenta*	
Wart lichen	*Pyrenula microcarpa*	
Wart lichen	*Pyrenula ochaceoflava*	
Wart lichen	*Pyrenula ochaceoflavens*	
Wart lichen	*Pyrenula* sp.	
Wart lichen	*Pyrenula thelomorpha*	
Sand live oak	*Quercus geminata*	
Lichen	*Ramalina complanata*	
Lichen	*Ramalina montagnei*	
Lichen	*Ramalina paludosa*	
Lichen	*Ramalina peruviana*	
Lichen	*Ramalina stenospora*	
Lichen	*Ramalina willeyi*	
White indigoberry	*Randia aculeata*	
Myrsine	*Rapanea punctata*	
Rubbervine	*Rhabdadenia biflora*	
Red mangrove	*Rhizophora mangle*	
Winged sumac	*Rhus copallinum*	
Rose natalgrass*	*Rhynchelytrum repens*	
Castorbean*	*Ricinus communis*	
Rougeplant	*Rivina humilis*	
Britton's wild petunia*	*Ruellia tweediana*	
Curly dock*	*Rumex crispus*	
Wedgeleaf dock*	*Rumex frutescens*	
Cabbage palm	*Sabal palmetto*	
Annual glasswort	*Salicornia bigelovii*	
Carolina willow	*Salix caroliniana*	
Tropical sage	*Salvia coccinea*	
American elder	*Sambucus canadensis*	
Bowstring hemp*	*Sansevieria hyacinthoides*	
Sargassum weed	*Sargassum* sp.	
Beachberry	*Scaevola plumieri*	
Australian umbrella tree*	*Schefflera actinophylla*	
Brazilian pepper*	*Schinus terebinthifolius*	
Algae	*Scinaia* sp.	
Saw palmetto	*Serenoa repens*	
Shoreline seapurslane	*Sesuvium portulacastrum*	
Common wireweed	*Sida acuta*	
Fanpetals	*Sida* sp.	

*** Non-native Species**

Sebastian Inlet State Park Plants

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Saffron plum	*Sideroxylon celastrinum*	
Tough bully	*Sideroxylon tenax*	
False mastic	*Sideroxylon foetidissimum*	
Earleaf greenbrier	*Smilax auriculata*	
Seaside goldenrod	*Solidago sempervirens*	
Algae	*Solieriacae* sp.	
Common sowthistle*	*Sonchus oleraceus*	
Yellow necklacepod	*Sophora tomentosa*	
Marshhay cordgrass	*Spartina patens*	
Algae	*Spatoglossum schroederi*	
Creeping oxeye*	*Sphagneticola trilobata*	
Coral dropseed	*Sporobolus domingensis*	
Smutgrass*	*Sporobolus indicus*	
Seashore dropseed	*Sporobolus virginicus*	
Red algae	*Sporolithon* spp.	
White oldfield aster	*Symphyotrichum pilosum*	
Manateegrass	*Syringodium filiforme*	
Turtlegrass	*Thalassia testudinum*	
Spanish moss	*Tillandsia usneoides*	
Red algae	*Titanoderma* sp.	
Eastern poison ivy	*Toxicodendron radicans*	
Purple queen*	*Tradescantia pallida*	
Oyster-plant*	*Tradescantia spathacea*	
Wandering-jew*	*Tradescantia zebrina*	
Burrnut*	*Tribulus cistoides*	
Forked bluecurls	*Trichostema dichotomum*	
Southern cattail	*Typha domingensis*	
Algae	*Ulva lactuca*	
Algae	*Ulva rigida*	
Seaoats	*Uniola paniculata*	
Sandpaper vervain	*Verbena scabra*	
White crownbeard	*Verbesina virginica*	
Giant ironweed	*Vernonia gigantea*	
Ironweed	*Vernonia* sp.	
Hairypod cowpea	*Vigna luteola*	
Simpleleaf chastetree*	*Vitex trifolia*	
Summer grape	*Vitis aestivalis*	
Muscadine	*Vitis rotundifolia*	
Shoestring fern	*Vittaria lineata*	
Tallow wood	*Ximenia americana*	
Spanish bayonet*	*Yucca aloifolia*	

*** Non-native Species**

Sebastian Inlet State Park Plants

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Florida arrowroot	*Zamia pumila*	7,82
Hercules'-club	*Zanthoxylum clava-herculis*	
Wild lime	*Zanthoxylum fagara*	

*** Non-native Species**

Sebastian Inlet State Park Plants

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)

* Non-native Species

Sebastian Inlet State Park Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)

INVERTEBRATES

Lepidoptera

Gulf fritillary	*Dione vanillae nigrior*	1,5,81
Common sulphur	*Colias philodice*	1,5,81
Great southern white	*Ascia monuste phileta*	1,5,81
Zebra long wing	*Heliconius charitonius tuckeri*	1,5,81
Composia moth	*Composia fidelissima*	5,81,82
Cecropia moth	*Hyalophora cecropia*	5,81,82
Luna moth	*Actias luna*	5,81,82
Io moth	*Automeris io io*	5,7,81,82
Imperial moth	*Eacles imperialis imperialis*	5,7,81,82
Bella moth	*Utetheisa bella*	5,81
Palamedes swallowtail	*Papilio palamedes*	
Cloudless sulfur butterfly	*Phoebis sennae eubule*	
Oak hairstreak	*Satyrium liparops*	

Porifera

Sponge	*Callyspongia vaginalis*	66/78
Sponge	*Cinachyra alloclada*	66/78
Sponge	*Cliona caribbea*	66/78
Sponge	*Cliona celata*	66/78
Sponge	*Cliona lampa*	66/78
Sponge	*Halichondria* sp.	66/78,81
Sponge	*Hymeniacidon* sp.	66/78
Sponge	*Leucetta floridana*	66/78
Sponge	*Lissodendoryx* sp.	66/78,81
Sponge	*Microciona prolifera*	66/78,81
Sponge	*Microciona spinosa*	66/78
Sponge	*Mycale* sp.	66/78
Sponge	*Tethya* sp.	66/78

Cnidaria

Hydroid	*Obelia hyalina*	66/78
Hydroid	*Sertularia amplectens*	66/78
Hydroid	*Sertularia exigua*	66/78
Hydroid	*Sertularia flowersi*	66/78
Hydroid	*Sertularia inflata*	66/78

* Non-native Species

Sebastian Inlet State Park Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Hydroid	*Sertularia mayersi*	66/78
Hydroid	*Sertularia stookeyi*	66/78
Hydroid	*Telmactis* sp.	66/78,81
Ctenophora		
Comb jellies	*Mnemiopsis leadyi*	59/71
Chordata		
	Botryllus sp.	66/78,81
Bryozoa		
Bryozoan	*Amathia alternata*	66/78
Bryozoan	*Amathia vidivici*	66/78
Bryozoan	*Beania hirtissima*	66/78
Bryozoan	*Bugula* sp.	66/78,81
Bryozoan	*Bugula stolonifera*	66/78
Bryozoan	*Bugula turrita*	66/78
Bryozoan	*Cryptosula pallasiana*	66/78
Bryozoan	*Exechonella antillea*	66/78
Bryozoan	*Membranipora arborescens*	66/78
Bryozoan	*Membranipora savartii*	66/78
Bryozoan	*Membranipora* sp.	66/78,81
Bryozoan	*Pasythea tulipifera*	66/78
Bryozoan	*Schizoporella unicornis*	66/78
Bryozoan	*Thalamoporella floridana*	66/78
Bryozoan	*Watersipora subovoidea*	66/78
Polychaeta		
Polychaete	*Cirriformia* sp.	66/78
Polychaete	*Dialychone* sp.	66/78
Polychaete	*Dodecaceria* sp.	66/78
Polychaete	*Eulalia* sp.	66/78
Polychaete	*Eunice websteri*	66/78
Polychaete	*Filograna* sp.	66/78
Polychaete	*Hermenia* sp.	66/78,81
Polychaete	*Hermodice carunculata*	66/78,81
Polychaete	*Hesione* sp.	66/78

*** Non-native Species**

Sebastian Inlet State Park Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Polychaete	*Hydroides dianthus*	66/78
Polychaete	*Hydroides protulicola*	66/78
Polychaete	*Lepidonotus* sp.	66/78
Polychaete	*Loimia medusa*	66/78,81
Polychaete	*Lumbrinereis inflata*	66/78
Polychaete	*Marphysa* sp.	66/78
Polychaete	*Megalomma bioculatum*	66/78
Polychaete	*Mystides* sp.	66/78
Polychaete	*Naineris* sp.	66/78
Polychaete	*Nereiphylla* sp.	66/78
Polychaete	*Nereis* sp.	66/78
Polychaete	*Nothria* sp.	66/78
Polychaete	*Onuphis* sp.	66/78,81
Polychaete	*Ophiodromus* sp.	66/78
Polychaete	*Phragmatopoma lapidosa*	66/78
Polychaete	*Phyllodocidae* sp.	66/78
Polychaete	*Platynereis* sp.	66/78
Polychaete	*Polydorella* sp.	66/78
Polychaete	*Pseudovermillia occidentalis*	66/78
Polychaete	*Pseudovermiliopsis* sp.	66/78
Polychaete	*Pterocirrus* sp.	66/78
Polychaete	*Pycnogonum littorale*	66/78
Polychaete	*Rhynchospio* sp.	66/78
Polychaete	*Sabella* sp.	66/78,81
Polychaete	*Sabellaria* sp.	66/78
Polychaete	*Sabellastarte* sp.	66/78,81
Polychaete	*Syllides* sp.	66/78
Polychaete	*Syllis* sp.	66/78
Polychaete	*Trypanosyllis* sp.	66/78
Pycnogonida		
Sea spider	*Achelia spinosa*	66/78
Sea spider	*Anoplodactylus parvus*	66/78
Sea spider	*Pycnogonum* sp.	66/78,81
Sea spider	*Tanystylum orbiculare*	66/78
Cirripedia		
Barnacle	*Balanus amphitrite amphitrite*	66/78
Barnacle	*Balanus* sp.	66/78,81
Barnacle	*Balanus trigonus*	66/78
Barnacle	*Balanus venustus*	66/78

***** **Non-native Species**

Sebastian Inlet State Park Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Barnacle	*Chthamalus* sp.	66/78,81
Cumacea		
	Cyclaspis pustulata	66/78
	Oxyurostylis smithi	66/78
Isopoda		
Isopod	*Bagatus bermudensis*	66/78
Isopod	*Cirolana gracilis*	
Isopod	*Cirolana parva*	66/78
Isopod	*Cleantis planicauda*	66/78
Isopod	*Dynamella quadripunctata*	66/78
Isopod	*Dynamella* sp.	66/78
Isopod	*Erichsonella filiformis*	66/78
Isopod	*Excorallana sexticornis*	66/78
Isopod	*Excorallana tricornis*	66/78
Isopod	*Exosphaeroma* sp.	66/78
Isopod	*Janira minuta*	66/78
Isopod	*Jaeropsis rathbunae*	66/78
Isopod	*Jaeropsis* sp.	66/78
Isopod	*Laeropsis* sp.	
Isopod	*Mesanthura decorata*	66/78
Isopod	*Paracerceis caudata*	66/78
Isopod	*Sphaeroma destructor*	66/78
Isopod	*Sphaeroma quadridentatum*	66/78
Isopod	*Sphaeroma* sp.	66/78,81
Isopod	*Sphaeroma walkeri*	66/78
Amphipoda		
Amphipod	*Acanthohaustorius shoemakei*	66/78
Amphipod	*Ampelisca agassizi*	66/78
Amphipod	*Ampithoe marcuzzii*	66/78
Amphipod	*Ampithoe pollex*	66/78
Amphipod	*Ampithoe* sp.	66/78
Amphipod	*Caprella equilibra*	66/78
Amphipod	*Caprella penantis*	66/78
Amphipod	*Cerapus tubularis*	66/78
Amphipod	*Corophium acherusicum*	66/78
Amphipod	*Corophium acutum*	66/78
Amphipod	*Corophium tuberculatum*	66/78
Amphipod	*Elasmopus levis*	66/78

* **Non-native Species**

Sebastian Inlet State Park Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Amphipod	*Elasmopus pectinicrus*	66/78
Amphipod	*Elasmopus rapax*	66/78
Amphipod	*Elasmopus* sp.	66/78
Amphipod	*Erichthonius brasiliensis*	66/78
Amphipod	*Gammaropsis* sp.	66/78
Amphipod	*Gammarus* sp.	66/78,81
Amphipod	*Gitanopsis tortugae*	66/78
Amphipod	*Hyale* sp.	66/78
Amphipod	*Jassa falcata*	66/78
Amphipod	*Lembos* sp.	66/78
Amphipod	*Listriella* sp.	66/78
Amphipod	*Lysianassa* sp.	66/78
Amphipod	*Lysianopsis* sp	66/78,81
Amphipod	*Microdeutopus myersi*	66/78
Amphipod	*Microprotopus raneyi*	66/78
Amphipod	*Milita nitida*	66/78
Amphipod	*Orchestia* sp.	66/78,81
Amphipod	*Podocerus brasiliensis*	66/78
Amphipod	*Stenothoe* spp.	66/78
Crustacea		
Speckled crab	*Arenaeus cribrarius*	1,65/77
Crab	*Clibanarius* sp.	66/78,81
Brown shrimp	*Farfantepenaeus aztecus*	66/78
Crab	*Homola* sp.	66/78
Crab	*Libinia* sp.	66/78,81
Crab	*Macrocoeloma subparallelum*	66/78,81
Crab	*Menippe mercenaria*	66/78,81
Crab	*Microphrys bicornutus*	66/78,81
Crab	*Neopanope sayi*	66/78
Ghost crab	*Ocypode quadrata*	1,65/77
Mottled shore crab	*Pachygrapsus transversus*	66/78
Crab	*Panopeus herbstii*	66/78,81
Crab	*Panopeus occidentalis*	66/78
Spiny lobster	*Panulirus argus*	66/78
Spanish lobster	*Panulirus guttata*	66/78
Crab	*Percnon gibbesi*	66/78,81
Crab	*Pelia mutica*	66/78
Crab	*Petrolisthes galathinus*	66/78,81
Crab	*Pilumnus dasypodus*	66/78

*** Non-native Species**

Sebastian Inlet State Park Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Crab	*Pilumnus floridanus*	66/78
Crab	*Speleophorus pontifer*	66/78
Florida shovelnose	*Scyllarus americanus*	66/78
Mollusca		
Mollusk	*Abra aequalis*	66/78
Mollusk	*Anomia antillensis*	66/78,81
Mollusk	*Anomia simplex*	66/78,81
Mollusk	*Barbatia domingensis*	66/78,81
Mollusk	*Barbatia candida*	66/78,81
Mollusk	*Barleeia* sp.	66/78
Mollusk	*Bittium varium*	66/78,81
Mollusk	*Brachidontes exustus*	66/78,81
Mollusk	*Bulla striata*	66/78,81
Mollusk	*Caecum pulchellum*	66/78,81
Mollusk	*Caecum nitidum*	66/78,81
Mollusk	*Cerithiopsis greeni*	66/78
Mollusk	*Cerithiopsis subulata*	66/78,81
Mollusk	*Cerithium atratum*	66/78,81
Mollusk	*Cerithium eburneum*	66/78,81
Mollusk	*Chama congregata*	66/78,81
Mollusk	*Chama macerophylla*	66/78,81
Mollusk	*Chione grus*	66/78,81
Mollusk	*Costoanachis avara*	66/78,81
Mollusk	*Costoanachis floridana*	66/78,81
Mollusk	*Crassispira leucocyma*	66/78,81
Mollusk	*Crepidula aculeata*	66/78,81
Mollusk	*Crepidula fornicata*	66/78,81
Mollusk	*Cylindrobulla beauii*	66/78
Mollusk	*Dendrodoris krebsi*	66/78,81
Mollusk	*Diodora cayenensis*	66/78,81
Mollusk	*Diodora listeri*	66/78,81
Mollusk	*Diplothyra smithi*	66/78
Mollusk	*Epitonium multistriatum*	66/78
Mollusk	*Epitonium* sp.	66/78,81
Mollusk	*Fargoa bartschi*	66/78,81
Mollusk	*Fargoa bushiana*	66/78,81
Mollusk	*Fargoa dianthophila*	66/78,81
Mollusk	*Haminoea antillarium*	66/78,81
Mollusk	*Haminoe succinea*	66/78

*** Non-native Species**

Sebastian Inlet State Park Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Mollusk	*Isognomon alatus*	66/78,81
Mollusk	*Isognomon bicolor*	66/78
Mollusk	*Lithophaga bisulcata*	66/78
Mollusk	*Littorina melagris*	66/78
Mollusk	*Littorina ziczac*	66/78,81
Mollusk	*Marginella lavalleana*	66/78,81
Mollusk	*Meioceras nitidum*	66/78,81
Mollusk	*Microphrys bicornutus*	66/78,81
Mollusk	*Mitrella lunata*	66/78
Mollusk	*Modulus modulus*	66/78,81
Mollusk	*Modiulus* sp.	66/78
Mollusk	*Musculus lateralis*	66/78
Mollusk	*Nassarius albus*	66/78,81
Mollusk	*Nerita fulgurans*	66/78,81
Mollusk	*Noetia ponderosa*	66/78
Mollusk	*Odostoma* sp.	66/78
Mollusk	*Odostomia babylonia*	66/78,81
Mollusk	*Odostomia* sp.	
Mollusk	*Ostrea equestris*	66/78,81
Mollusk	*Ostreola equestris*	66/78
Mollusk	*Parviturboides interruptus*	66/78,81
Mollusk	*Peristicha agria*	66/78,81
Mollusk	*Pteria colymbus*	66/78
Mollusk	*Rissoina bryerea*	66/78,81
Mollusk	*Rissoina catesbyana*	66/78,81
Mollusk	*Seila adamsi*	66/78,81
Mollusk	*Selia pectinata*	
Mollusk	*Siphonaria pectinata*	66/78,81
Mollusk	*Sphenia antillensis*	66/78,81
Mollusk	*Thais haemastoma*	66/78,81
Mollusk	*Tricolia affinis*	66/78,81
Mollusk	*Triphora decorata*	66/78,81
Mollusk	*Triphora nigrocincta*	66/78,81
Mollusk	*Triphora* sp.	66/78
Mollusk	*Turbonilla* sp.	66/78,81
Mollusk	*Turitella* sp.	66/78
Mollusk	*Vermicularia* sp.	66/78
Mollusk	*Vermicularia spirata*	66/78,81
Mollusk	*Vitrinella floridana*	66/78,81

Echinodermata

*** Non-native Species**

Sebastian Inlet State Park Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Sea urchin	*Echinometra lacunter*	66/78
Sea urchin	*Holothuria* sp.	66/78,81
Sea urchin	*Ophiothrix* sp.	66/78,81
Tunicata		
Tunicate	*Aplidium* sp.	66/78
Sea squirt	*Didemnum candidum*	66/78
Tunicate	*Diplosoma macdonaldi*	66/78
Tunicate	*Distaplia bermudensis*	66/78
Tunicate	*Distaplia bermudia*	66/78
Tunicate	*Ecteinascidea turbinata*	66/78
Tunicate	*Eudistoma capsilatum*	66/78
Tunicate	*Eudistoma carolinense*	66/78
Tunicate	*Perophora bermudensis*	66/78
Tunicate	*Perophora viridis*	66/78
Sea squirt	*Tridemnum orbiculatum*	66/78
Sea squirt	*Tridemnum savignii*	66/78
FISH		
Nurse shark	*Ginglymostoma cirratum*	59/71
Bonnethead	*Sphyrna tiburo*	59/71
Spinner shark	*Carcharhinus falciformis*	59/71
Bull shark	*Carcharhinus leucas*	59/71
Blacktip shark	*Carcharhinus limbatus*	59/71
Tiger shark	*Galeocerdo cuvier*	59/71
Lemon shark	*Negaprion brevirostris*	59/71
Atlantic sharpnose shark	*Rhizoprionodon terranovae*	59/71
Scalloped hammerhead	*Sphyrna lewini*	59/71
Great hammerhead	*Sphyrna mokarran*	59/71
Smalltooth sawfish	*Pristis pectinata*	59/71,64/76
Lesser electric ray	*Narcine brasiliensis*	59/71,64/76
Atlantic torpedo	*Torpedo nobiliana*	59/71,64/76
Atlantic guitarfish	*Rhinobatos lentiginosus*	59/71,64/76
Clearnose skate	*Raja eglanteria*	59/71
Southern stingray	*Dasyatis americana*	59/71
Roughtail stingray	*Dasyatis centroura*	59/71
Atlantic stingray	*Dasyatis sabina*	59/71
Bluntnose stingray	*Dasyatis say*	59/71

***** **Non-native Species**

Sebastian Inlet State Park Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Smooth butterfly ray	*Gymnura micrura*	59/71
Spotted eagle ray	*Aetobatis narinari*	59/71
Cownose ray	*Rhinoptera bonasus*	59/71
Manta	*Manta birostris*	59/71
Ladyfish	*Elops saurus*	59/71,64/76
Tarpon	*Megalops atlanticus*	59/71,64/76
Bonefish	*Albula vulpes*	59/71,64/76
American eel	*Anguilla rostrata*	59/71,66/78
Green moray	*Gymnothorax funebris*	66/78
Spotted moray	*Gymnothorax moringa*	66/78
Atlantic menhaden	*Brevoortia tyrannus*	59/71,64/76
False pilchard	*Harengula clupeola*	59/71
Scaled sardine	*Harengula jaguarana*	59/71,64/76
Spanish sardine	*Sardinella aurita*	
Atlantic thread herring	*Opisthonema oglinum*	59/71,64/76
Striped anchovy	*Anchoa hepsetus*	59/71,64/76
Bigeye anchovy	*Anchoa lamprotaenia*	59/71,64/76
Bay anchovy	*Anchoa mitchilli*	59/71,64/76
Hardhead catfish	*Arius felis*	64/76
Gafftopsail catfish	*Bagre marinus*	64/76
Inshore lizardfish	*Synodus foetens*	59/71
Oyster toadfish	*Opsanus tau*	59/71
Ballyhoo	*Hemiramphus brasiliensis*	59/71
Silverstripe halfbeak	*Hyporhamphus unifasciatus*	59/71
Atlantic needlefish	*Strongylura marina*	59/71
Redfin needlefish	*Strongylura notata*	59/71,64/76
Timucu	*Strongylura timucu*	59/71,64/76
Houndfish	*Tylosurus crocodilus*	59/71,64/76
Sheepshead minnow	*Cyprinodon variegatus variegatus*	59/71,64/76
Goldspotted killifish	*Floridichthys carpio*	64/76
Gulf killifish	*Fundulus grandis*	64/76
Striped/longnose killifish	*Fundulus majalis*	64/76
Rainwater killifish	*Lucania parva*	59/71,64/76
Eastern mosquitofish	*Gambusia holbrooki*	64/76
Sailfin molly	*Poecilia latipinna*	59/71,64/76
Tidewater silverside	*Menidia peninsulae*	
Silverside	*Menidia* spp.	59/71,64/76
Lined seahorse	*Hippocampus erectus*	66/78
Chain pipefish	*Syngnathus louisianae*	59/71
Gulf pipefish	*Syngnathus scovelli*	59/71
Spotted scorpionfish	*Scorpaena plumier*	59/71

*** Non-native Species**

Sebastian Inlet State Park Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Leopard searobin	*Prionotus scitulus*	59/71,66/78
Bighead searobin	*Prionotus tribulus*	59/71,66/78
Swordspine snook	*Centropomus ensiferus*	59/71
Fat snook	*Centropomus paralelus*	59/71
Tarpon snook	*Centropomus pectinatus*	59/71
Common snook	*Centropomus undecimalis*	59/71
Black sea bass	*Centropristis striata*	59/71,64/76
Jewfish	*Epinephelus itajara*	59/71,64/76
Red grouper	*Epinephelus morio*	59/71
Black grouper	*Mycteroperca bonaci*	59/71,64/76
Gag	*Mycteroperca microlepis*	59/71,64/76
Bluefish	*Pomatomus saltatrix*	59/71,64/76
Cobia	*Rachycentron canadum*	59/71,64/76
Blue runner	*Caranx crysos*	59/71,64/76
Crevalle jack	*Caranx hippos*	59/71,66/78
Horse-eye jack	*Caranx latus*	59/71,66/78
Leatherjack	*Oligoplites saurus*	59/71,66/78
Atlantic moonfish	*Selene setapinnis*	59/71,66/78
Lookdown	*Selene vomer*	59/71,66/78
Florida pompano	*Trachinotus carolinus*	59/71,66/78
Permit	*Trachinotus falcatus*	59/71,66/78
Mutton snapper	*Lutjanus analis*	59/71
Schoolmaster	*Lutjanus apodus*	59/71
Gray snapper	*Lutjanus griseus*	59/71,64/76
Lane snapper	*Lutjanus synagris*	59/71,64/76
Tripletail	*Lobotes surinamensis*	59/71,64/76
Irish pompano	*Diapterus auratus*	59/71,66/78
Striped mojarra	*Diapterus plumieri*	59/71,66/78
Silver jenny	*Eucinostomus gula*	59/71,64/76
Tidewater mojarra	*Eucinostomus harengulus*	59/71,64/76
Slender mojarra	*Eucinostomus jonesi*	
Mojarra	*Eucinostomus* spp.	59/71,64/76
Black margate	*Anisotremus surinamensis*	59/71,64/76
Porkfish	*Anisotremus virginicus*	59/71,64/76
Tomtate	*Haemulon aurolineatum*	59/71,64/76
Sailor's choice	*Haemulon parra*	
Pigfish	*Orthopristis chrysoptera*	59/71
Sheepshead	*Archosargus probatocephalus*	59/71
Sea bream	*Archosargus rhomboidalis*	59/71
Grass porgy	*Calamus arctifrons*	59/71
Spottail pinfish	*Diplodus holbrooki*	59/71,64/76

*** Non-native Species**

Sebastian Inlet State Park Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Pinfish	*Lagodon rhomboides*	59/71,64/76
Silver perch	*Bairdiella chrysoura*	59/71,64/76
Spotted seatrout	*Cynoscion nebulosus*	59/71,64/76
Spotted drum	*Equetus punctatus*	59/71,64/76
Spot	*Leiostomus xanthurus*	59/71,64/76
Southern kingfish	*Menticirrhus americanus*	59/71,65/77
Gulf kingfish	*Menticirrhus littoralis*	59/71,65/77
Atlantic croaker	*Micropogonias undulatus*	59/71,65/77
Red drum	*Sciaenops ocellatus*	59/71,64/76
Star drum	*Stellifer lanceolatus*	59/71,64/76
Atlantic spadefish	*Chaetodipterus faber*	59/71,65/77
Blackchin tilapia	*Tilapia melanotheron*	64/76,65/77
Sargeant major	*Abudefduf saxatilis*	59/71,64/76
Night sargeant	*Abudefduf taurus*	59/71,64/76
Dusky damselfish	*Pomacentrus fuscus*	59/71,64/76
Beaugregory	*Pomacentrus leucostictus*	59/71,64/76
Striped mullet	*Mugil cephalus*	59/71,64/76
White mullet	*Mugil curema*	59/71,64/76
Mullet	*Mugil* sp.	59/71,64/76
Great barracuda	*Sphyraena barracuda*	65/77,66/78
Southern sennet	*Sphyraena picudilla*	65/77,66/78
Dwarf wrasse	*Doratonotus megalepis*	59/71,64/76
Emerald parrotfish	*Nicholsina usta*	65/77,66/78
Southern stargazer	*Astroscopus y-graecum*	65/77,66/78
Hairy blenny	*Labrisomus nuchipinnis*	59/71,64/76
Striped blenny	*Chasmodes bosquianus*	59/71,64/76
Florida blenny	*Chasmodes saburrae*	59/71,64/76
Frillfin goby	*Bathygobius soporator*	59/71,64/76
Violet goby	*Gobioides broussoneti*	59/71,64/76
Darter goby	*Gobionellus boleosoma*	59/71,64/76
Naked goby	*Gobiosoma bosc*	59/71,64/76
Code goby	*Gobiosoma robustum*	59/71,64/76
Clown goby	*Microgobius gulosus*	59/71,64/76
Atlantic cutlassfish	*Trichiurus lepturus*	59/71,64/76
King mackerel	*Scomberomorus cavalla*	59/71,64/76
Spanish mackerel	*Scomberomorus maculatus*	59/71,64/76
Cero	*Scomberomorus regalis*	59/71,64/76
Spotted whiff	*Citharichthys macrops*	
Bay whiff	*Citharichthys spilopterus*	59/71,64/76
Fringed flounder	*Etropus crossotus*	59/71,66/77
Gulf flounder	*Paralichthys albigutta*	59/71,65/77

*** Non-native Species**

Sebastian Inlet State Park Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Summer flounder	*Paralichthys dentatus*	59/71,65/77
Southern flounder	*Paralichthys lethostigma*	59/71,65/77
Lined sole	*Achirus lineatus*	59/71,65/77
Blackcheek tonguefish	*Symphurus plagiusa*	59/71,64/76
Hogchoker	*Trinectus maculatus*	59/71,64/76
Fringed filefish	*Monacanthus ciliatus*	59/71,64/76
Planehead filefish	*Monacanthus hispidus*	59/71,64/76
Spotted trunkfish	*Lactophrys bicaudalis*	59/71,64/76
Striped burrfish	*Chilomycterus schoepfi*	59/71,65/77
Southern puffer	*Sphoeroides nephelus*	59/71,65/77
Bandtail puffer	*Sphoeroides spengleri*	59/71,65/77
Checkered puffer	*Sphoeroides testudineus*	59/71,65/77
Ocean sunfish	*Mola mola*	66/78
Dolphin	*Coryphaena hippurus*	
Lyre gobi	*Evorthodus lyricus*	
Sargassumfish	*Histrio histrio*	

REPTILES

Leatherback	*Dermochelys coriacea coriacea*	1,66/78
Common snapping turtle	*Chelydra serpentina serpentina*	64/76,65/77
Striped mud turtle	*Kinosternon bauri*	7
Florida mud turtle	*Kinosternon subrubrum steindachneri*	64/76,65/77
Common musk turtle	*Sternotherus odoratus*	
Loggerhead musk turtle	*Sternotherus minor minor*	
Eastern chicken turtle	*Deirochelys reticularia reticularia*	
Carolina diamondback terrapin	*Malaclemys terrapin centrata*	59/71,64/76
Florida box turtle	*Terrapene carolina bauri*	5,7
Florida cooter	*Pseudemys floridana floridana*	
Florida redbelly turtle	*Pseudemys nelsoni*	
Gopher tortoise	*Gopherus polyphemus*	5,81
Loggerhead	*Caretta caretta*	1,66/78
Green turtle	*Chelonia mydas*	1,66/78
Hawksbill	*Eretmochelys imbricata*	1,66/78
Atlantic ridley	*Lepidochelys kempii*	1,66/78
Florida softshell	*Apalone ferox*	65/77
American alligator	*Alligator mississippiensis*	64/78
American crocodile	*Crocodylus acutus*	
Indo-Pacific gecko*	*Hemidactylus garnotii*	82
Green anole	*Anolis carolinensis carolinensis*	5,7
Brown anole*	*Anolis sagrei*	7,81,82

*** Non-native Species**

Sebastian Inlet State Park Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Brown Basilisk*	*Basiliscus vittatus*	82
Northern curlytail lizard*	*Leiocephalus carinatus armouri*	82
Eastern slender glass lizard	*Ophisaurus attenuatus longicaudus*	
Island glass lizard	*Ophisaurus compressus*	5,7
Eastern glass lizard	*Ophisaurus ventralis*	5
Six-lined racerunner	*Cnemidophorus sexlineatus sexlineatus*	5,7,81
Southeastern five-lined skink	*Eumeces inexpectatus*	5,7
Broad-headed skink	*Eumeces laticeps*	7
Ground skink	*Scincella lateralis*	7
Red-tailed Boa*	*Boa constrictor*	82
Florida scarlet snake	*Cemophora coccinea* coccinea	5,7
Southern black racer	*Coluber constrictor priapus*	5,7,81
Southern ringneck snake	*Diadophis punctatus punctatus*	7
Eastern indigo snake	*Drymarchon corais couperi*	5,7
Corn snake	*Elaphe guttata guttata*	5,7
Yellow rat snake	*Elaphe obsoleta quadrivittata*	7
Florida kingsnake	*Lampropeltis getula floridana*	7
Eastern kingsnake	*Lampropeltis getula getula*	
Scarlet kingsnake	*Lampropeltis triangulum elapsoides*	7
Eastern mud snake	*Farancia abacura abacura*	
Eastern coachwhip	*Masticophis flagellum flagellum*	5
Atlantic salt marsh snake	*Nerodia clarkii taeniata*	64/76
Florida brown snake	*Storeria dekayi victa*	
Banded water snake	*Nerodia fasciata fasciata*	64/76
Brown water snake	*Nerodia taxispilota*	64/76
Striped crayfish snake	*Regina alleni*	
Rough green snake	*Opheodrys aestivus*	7,64/76
Florida pine snake	*Pituophis melanoleucus mugitus*	5
Pine woods snake	*Rhadinaea flavilata*	
Southeastern crowned snake	*Tantilla coronata*	7
Eastern ribbon snake	*Thamnophis sauritus sauritus*	
Eastern garter snake	*Thamnophis sirtalis sirtalis*	
Eastern hognose snake	*Heterodon platyrhinos*	
Southeastern hognose snake	*Heterodon simus*	
Eastern coral snake	*Micrurus fulvius fulvius*	7
Eastern diamondback rattlesnake	*Crotalus adamanteus*	1,5,7,81
Dusky pigmy rattlesnake	*Sistrurus miliarius barbouri*	5,81
Eastern cottonmouth	*Agkistrodon piscivorus*	

BIRDS

* **Non-native Species**

Sebastian Inlet State Park Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Red-throated Loon	*Gavia stellata*	59/71
Common Loon	*Gavia immer*	59/71
Pied-billed Grebe	*Podilymbus podiceps*	59/71
Horned Grebe	*Podiceps auritus*	59/71
Sooty Shearwater	*Puffinus griseus*	Open ocean
Wilson's Storm-Petrel	*Oceanites oceanicus*	Open ocean
Leach's Storm-Petrel	*Oceanodroma leucorhoa*	Open ocean
Band-rumped Storm-Petrel	*Oceanodroma castro*	Open ocean
White-tailed Tropicbird	*Phaethon lepturus*	Open ocean
Masked Booby	*Sula dactylatra*	Open ocean
Brown Booby	*Sula leucogaster*	Open ocean
Northern Gannet	*Morus bassanus*	Open water
American White Pelican	*Pelecanus erythrorhynchos*	Flyover/open water
Brown Pelican	*Pelecanus occidentalis*	Flyover/open water
Double-crested Cormorant	*Phalacrocorax auritus*	59/71,64/76
Anhinga	*Anhinga anhinga*	59/71,64/76
Magnificent Frigatebird	*Fregata magnificens*	Flyover
Least Bittern	*Ixobrychus exilis*	59/71,64/76
Great Blue Heron	*Ardea herodias*	59/71,64/76
Great White Heron (pop)	*Ardea herodias occidentalis (pop)*	59/71,64/76
Great Egret	*Ardea alba*	59/71,64/76
Snowy Egret	*Egretta thula*	59/71,64/76
Little Blue Heron	*Egretta caerulea*	59/71,64/76
Tricolored Heron	*Egretta tricolor*	59/71,64/76
Reddish Egret	*Egretta rufescens*	59/71,64/76
Cattle Egret*	*Bubulcus ibis*	59/71,64/76
Green Heron	*Butorides virescens*	59/71,64/76
Black-crowned Night-Heron	*Nycticorax nycticorax*	59/71,64/76
Yellow-crowned Night-Heron	*Nyctanassa violacea*	59/71,64/76
White Ibis	*Eudocimus albus*	59/71,64/76
Glossy Ibis	*Plegadis falcinellus*	59/71,64/76
Roseate Spoonbill	*Platalea ajaja*	59/71,64/76
Wood Stork	*Mycteria americana*	59/71,64/76
Black Vulture	*Coragyps atratus*	Flyover
Turkey Vulture	*Cathartes aura*	Flyover
Fulvous Whistling-Duck	*Dendrocygna bicolor*	59/71,64/76
Canada Goose	*Branta canadensis*	59/71,64/76
Wood Duck	*Aix sponsa*	59/71,64/76
Green-winged Teal	*Anas crecca*	59/71,64/76
American Black Duck	*Anas rubripes*	59/71,64/76

*** Non-native Species**

Sebastian Inlet State Park Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Mottled Duck	*Anas fulvigula*	59/71,64/76
Mallard	*Anas platyrhynchos*	59/71,64/76
Northern Pintail	*Anas acuta*	59/71,64/76
Blue-winged Teal	*Anas discors*	59/71,64/76
Northern Shoveler	*Anas clypeata*	59/71,64/76
Gadwall	*Anas strepera*	59/71,64/76
American Wigeon	*Anas americana*	59/71,64/76
Canvasback	*Aythya valisineria*	59/71,64/76
Redhead	*Aythya americana*	59/71,64/76
Ring-Necked Duck	*Aythya collaris*	59/71,64/76
Greater Scaup	*Aythya marila*	59/71,64/76
Lesser Scaup	*Aythya affinis*	59/71,64/76
Harlequin Duck	*Histrionicus histrionicus*	59/71,64/76
Oldsquaw	*Clangula hyemalis*	59/71,64/76
Black Scoter	*Melanitta nigra*	59/71,64/76
Surf Scoter	*Melanitta perspicillata*	59/71,64/76
White-winged Scoter	*Melanitta fusca*	59/71,64/76
Hooded Merganser	*Lophodytes cucullatus*	59/71,64/76
Red-breasted Merganser	*Mergus serrator*	59/71,64/76
Ruddy Duck	*Oxyura jamaicensis*	59/71,64/76
Osprey	*Pandion haliaetus*	64,76
Bald Eagle	*Haliaeetus leucocephalus*	Flyover
Northern Harrier	*Circus cyaneus*	1,5
Sharp-shinned Hawk	*Accipiter striatus*	5,7
Cooper's Hawk	*Accipiter cooperii*	5,7
Red-shouldered Hawk	*Buteo lineatus*	5,7
Broad-winged Hawk	*Buteo platypterus*	5
Red-tailed Hawk	*Buteo jamaicensis*	5,7
American Kestrel	*Falco sparverius*	5
Merlin	*Falco columbarius*	5
Peregrine Falcon	*Falco peregrinus*	77
Northern Bobwhite	*Colinus virginianus*	5,81,82
Black Rail	*Laterallus jamaicensis*	64,76
Clapper Rail	*Rallus longirostris*	64,76
King Rail	*Rallus elegans*	64,76
Virginia Rail	*Rallus limicola*	64,76
Sora	*Porzana carolina*	64,76
Common Moorhen	*Gallinula chloropus*	64,76
American Coot	*Fulica americana*	64,76
Black-bellied Plover	*Pluvialis squatarola*	77
Wilson's Plover	*Charadrius wilsonia*	77

*** Non-native Species**

Sebastian Inlet State Park Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Semipalmated Plover	*Charadrius semipalmatus*	77
Piping Plover	*Charadrius melodus*	77
Killdeer	*Charadrius vociferus*	77
American Oystercatcher	*Haematopus palliatus*	77
Black-necked Stilt	*Himantopus mexicanus*	77
American Avocet	*Recurvirostra americana*	77
Greater Yellowlegs	*Tringa melanoleuca*	77
Lesser Yellowlegs	*Tringa flavipes*	77
Solitary Sandpiper	*Tringa solitaria*	77
Willet	*Catoptrophorus semipalmatus*	77
Spotted Sandpiper	*Actitis macularia*	77
Whimbrel	*Numenius phaeopus*	77
Long-billed Curlew	*Numenius americanus*	77
Marbled Godwit	*Limosa fedoa*	77
Ruddy Turnstone	*Arenaria interpres*	77
Red Knot	*Calidris canutus*	77
Sanderling	*Calidris alba*	77
Semipalmated Sandpiper	*Calidris pusilla*	77
Western Sandpiper	*Calidris mauri*	77
Least Sandpiper	*Calidris minutilla*	77
White-rumped Sandpiper	*Calidris fuscicollis*	77
Pectoral Sandpiper	*Calidris melanotos*	77
Purple Sandpiper	*Calidris maritima*	77
Dunlin	*Calidris alpina*	77
Stilt Sandpiper	*Calidris himantopus*	77
Short-billed Dowitcher	*Limnodromus griseus*	77
Common Snipe	*Gallinago gallinago*	77
Wilson's Phalarope	*Phalaropus tricolor*	77
Red-necked Phalarope	*Phalaropus lobatus*	77
Red Phalarope	*Phalaropus fulicaria*	77
Pomarine Jaeger	*Stercorarius pomarinus*	77
Parasitic Jaeger	*Stercorarius parasiticus*	77
Laughing Gull	*Larus atricilla*	77
Bonaparte's Gull	*Larus philadelphia*	77
Ring-billed Gull	*Larus delawarensis*	77
Herring Gull	*Larus argentatus*	77
Iceland Gull	*Larus glaucoides*	77
Lesser Black-backed Gull	*Larus fuscus*	77
Glaucous Gull	*Larus hyperboreus*	77
Great Black-backed Gull	*Larus marinus*	77
Black-legged Kittiwake	*Rissa tridactyla*	77

*** Non-native Species**

Sebastian Inlet State Park Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Gull-billed Tern	*Sterna nilotica*	77
Caspian Tern	*Sterna caspia*	77
Royal Tern	*Sterna maxima*	77
Sandwich Tern	*Sterna sandvicensis*	77
Roseate Tern	*Sterna dougallii*	77
Common Tern	*Sterna hirundo*	77
Arctic Tern	*Sterna paradisaea*	77
Forster's Tern	*Sterna forsteri*	77
Least Tern	*Sterna antillarum*	77
Bridled Tern	*Sterna anaethetus*	77
Sooty Tern	*Sterna fuscata*	77
Black Tern	*Chlidonias niger*	77
Brown Noddy	*Anous stolidus*	77
Black Skimmer	*Rynchops nigra*	77
Rock Dove *	*Columba livia*	81,82
Mourning Dove	*Zenaida macroura*	81,82
Common Ground-Dove	*Columbina passerina*	5,81,82
Black-billed Cuckoo	*Coccyzus erythropthalmus*	5,76
Yellow-billed Cuckoo	*Coccyzus americanus*	7,76
Mangrove Cuckoo	*Coccyzus minor*	76
Smooth-billed Ani	*Crotophaga ani*	5
Barn Owl	*Tyto alba*	7
Eastern Screech-Owl	*Otus asio*	7
Great Horned Owl	*Bubo virginianus*	7
Barred Owl	*Strix varia*	7
Common Nighthawk	*Chordeiles minor*	5,Flyover
Chuck-will's-widow	*Caprimulgus carolinensis*	5,7
Whip-poor-will	*Caprimulgus vociferus*	5,7
Chimney Swift	*Chaetura pelagica*	Flyover
Ruby-throated Hummingbird	*Archilochus colubris*	5,7,81,82
Belted Kingfisher	*Ceryle alcyon*	64,76
Red-bellied Woodpecker	*Melanerpes carolinus*	5,7,81,82
Yellow-bellied Sapsucker	*Sphyrapicus varius*	7
Downy Woodpecker	*Picoides pubescens*	5,7
Hairy Woodpecker	*Picoides villosus*	5,7
Northern Flicker	*Colaptes auratus*	5,81,82
Pileated Woodpecker	*Dryocopus pileatus*	7
Eastern Wood-Pewee	*Contopus virens*	5,7
Eastern Phoebe	*Sayornis phoebe*	5
Great Crested Flycatcher	*Myiarchus crinitus*	5,7
Western Kingbird	*Tyrannus verticalis*	5

*** Non-native Species**

Sebastian Inlet State Park Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Eastern Kingbird	*Tyrannus tyrannus*	5
Gray Kingbird	*Tyrannus dominicensis*	5
Scissor-tailed Flycatcher	*Tyrannus forficatus*	5
Horned Lark	*Eremophila alpestris*	5
Purple Martin	*Progne subis*	5,Flyover
Tree Swallow	*Tachycineta bicolor*	5,Flyover
Northern Rough-winged Swallow	*Stelgidopteryx serripennis*	5,Flyover
Bank Swallow	*Riparia riparia*	5,Flyover
Cliff Swallow	*Petrochelidon pyrrhonota*	5,Flyover
Barn Swallow	*Hirundo rustica*	5,Flyover
Blue Jay	*Cyanocitta cristata*	5,7,81,82
American Crow	*Corvus brachyrhynchos*	5,7,81,82
Fish Crow	*Corvus ossifragus*	5,7,81,82
Carolina Wren	*Thryothorus ludovicianus*	5,7,81,82
House Wren	*Troglodytes aedon*	5,7
Sedge Wren	*Cistothorus platensis*	5
Marsh Wren	*Cistothorus palustris*	5
Ruby-crowned Kinglet	*Regulus calendula*	5,7
Blue-gray Gnatcatcher	*Polioptila caerulea*	5,7
Veery	*Catharus fuscescens*	5,7
Gray-cheeked Thrush	*Catharus minimus*	5,7
Swainson's Thrush	*Catharus ustulatus*	5,7
Hermit Thrush	*Catharus guttatus*	5,7
Wood Thrush	*Hylocichla mustelina*	5,7
American Robin	*Turdus migratorius*	5,7
Gray Catbird	*Dumetella carolinensis*	5,7
Northern Mockingbird	*Mimus polyglottos*	5,7,81,82
Brown Thrasher	*Toxostoma rufum*	5,7
Cedar Waxwing	*Bombycilla cedrorum*	5,7
Loggerhead Shrike	*Lanius ludovicianus*	5
European Starling *	*Sturnus vulgaris*	5,81,82
White-eyed Vireo	*Vireo griseus*	5,7
Blue-headed Vireo	*Vireo solitarius*	7
Philadelphia Vireo	*Vireo philadelphicus*	7
Red-eyed Vireo	*Vireo olivaceus*	7
Black-whiskered Vireo	*Vireo altiloquus*	7
Blue-winged Warbler	*Vermivora pinus*	7
Tennessee Warbler	*Vermivora peregrina*	7
Orange-crowned Warbler	*Vermivora celata*	7
Northern Parula	*Parula americana*	7

*** Non-native Species**

Sebastian Inlet State Park Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Yellow Warbler	*Dendroica petechia*	7
Magnolia Warbler	*Dendroica magnolia*	7
Cape May Warbler	*Dendroica tigrina*	7
Black-throated Blue Warbler	*Dendroica caerulescens*	7
Yellow-rumped Warbler	*Dendroica coronata*	7
Black-throated Green Warbler	*Dendroica virens*	7
Blackburnian Warbler	*Dendroica fusca*	7
Yellow-throated Warbler	*Dendroica dominica*	7
Pine Warbler	*Dendroica pinus*	7
Prairie Warbler	*Dendroica discolor*	7
Palm Warbler	*Dendroica palmarum*	7
Blackpoll Warbler	*Dendroica striata*	7
Cerulean Warbler	*Dendroica cerulea*	7
Black-and-white Warbler	*Mniotilta varia*	7
American Redstart	*Setophaga ruticilla*	7
Prothonotary Warbler	*Protonotaria citrea*	7
Worm-eating Warbler	*Helmitheros vermivorus*	7
Ovenbird	*Seiurus aurocapillus*	7
Northern Waterthrush	*Seiurus noveboracensis*	7
Louisiana Waterthrush	*Seiurus motacilla*	7
Common Yellowthroat	*Geothlypis trichas*	7
Hooded Warbler	*Wilsonia citrina*	7
Wilson's Warbler	*Wilsonia pusilla*	7
Yellow-breasted Chat	*Icteria virens*	7
Bananaquit	*Coereba flaveola*	7
Summer Tanager	*Piranga rubra*	7
Scarlet Tanager	*Piranga olivacea*	7
Western Tanager	*Piranga ludoviciana*	7
Northern Cardinal	*Cardinalis cardinalis*	5,7,81,82
Rose-breasted Grosbeak	*Pheucticus ludovicianus*	7
Indigo Bunting	*Passerina cyanea*	5,7
Painted Bunting	*Passerina ciris*	7
Eastern Towhee	*Pipilo erythrophthalmus*	5,7
Chipping Sparrow	*Spizella passerina*	5
Field Sparrow	*Spizella pusilla*	5
Savannah Sparrow	*Passerculus sandwichensis*	5
Grasshopper Sparrow	*Ammodramus savannarum*	5
LeConte's Sparrow	*Ammodramus leconteii*	5
Seaside Sparrow	*Ammodramus maritima*	5
White-throated Sparrow	*Zonotrichia albicollis*	5
Bobolink	*Dolichonyx oryzivorus*	5

*** Non-native Species**

Sebastian Inlet State Park Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Red-winged Blackbird	*Agelaius phoeniceus*	5,81,82
Boat-tailed Grackle	*Quiscalus major*	5,81,82
Common Grackle	*Quiscalus quiscula*	5,81,82
Brown-headed Cowbird	*Molothrus ater*	5,81,82
Baltimore Oriole	*Icterus galbula*	7
Pine Siskin	*Carduelis pinus*	5,7
American Goldfinch	*Carduelis tristis*	5,7
House Sparrow *	*Passer domesticus*	81,82
MAMMALS		
Virginia opossum	*Didelphis virginiana*	5,7,81
Eastern mole	*Scalopus aquaticus*	5,7,81
Nine-banded armadillo*	*Dasypus novemcinctus*	5,7,64/76,81,82
Marsh rabbit	*Sylvilagus palustris*	7,64/76
Eastern cottontail	*Sylvialgus floridanus*	5,7,81
Gray squirrel	*Sciurus carolinensis*	7,64/76,81
Southern flying squirrel	*Glaucomys volans*	5,7
Red bat	*Lasiurus borealis*	
Hoary bat	*Lasiurus cinereus*	
Northern yellow bat	*Lasiurus intermedius*	
Seminole bat	*Lasiurus seminolus*	
Evening bat	*Nycticeius humeralis*	
Cotton mouse	*Peromyscus gossypinus*	5,7
Oldfield mouse	*Peromyscus polionotus*	
Southeastern beach mouse	*Peromyscus polionotus niveiventris*	1,5
Hispid cotton rat	*Sigmodon hispidus*	1,5,7
Norway rat	*Rattus norvegicus*	
Black rat*	*Rattus rattus*	5,81,82
Eastern woodrat	*Neotoma floridana*	
Marsh rice rat	*Oryzomys palustris*	
House mouse*	*Mus musculus*	81,82
Northern short-tailed shrew	*Blarina brevicauda*	
Least shrew	*Cryptotis parva*	
Gray fox	*Urocyon cinereoargenteus*	1,5,7,64/76
Raccoon	*Procyon lotor*	1,5,7,64/76,81,82
River otter	*Lutra canadensis*	64/76.59/71
Eastern spotted skunk	*Spilogale putorius*	5,7,64/76
Striped skunk	*Mephites mephites*	5,7,64/76
Bobcat	*Felis rufus*	5,7,64/76,81
Feral cat*	*Felis catus*	81,82

*** Non-native Species**

Sebastian Inlet State Park Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Jaguarundi	*Felis yagouaroundi*	
West Indian manatee	*Trichechus manatus latirostris*	59/71
Atlantic bottle-nosed dolphin	*Tursiops truncatus*	Water Areas
Pygmy sperm whale	*Kogia breviceps*	Water Areas
North Atlantic right whale	*Balaena glacialis glacialis*	Water Areas
Eastern pipistrelle	*Pipistrelluse subflavus*	

*** Non-native Species**

Sebastian Inlet State Park Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)

* Non-native Species

Habitat Codes

Terrestrial
1. Beach Dune
2. Bluff
3. Coastal Berm
4. Coastal Rock Barren
5. Coastal Strand
6. Dry Prairie
7. Maritime Hammock
8. Mesic Flatwoods
9. Mesic Hammock
10. Coastal Grasslands
11. Pine Rockland
12. Prairie Hammock
13. Rockland Hammock
14. Sandhill
15. Scrub
16. Scrubby Flatwoods
17. Shell Mound
18. Sinkhole
19. Slope Forest
20. Upland Glade
21. Upland Hardwood Forest
22. Upland Mixed Forest
23. Upland Pine Forest
24. Xeric Hammock

Palustrine
25. Basin Marsh
26. Basin Swamp
27. Baygall
28. Bog
29. Bottomland Forest
30. Coastal Interdunal Swale
31. Depression Marsh
32. Dome
33. Floodplain Forest
34. Floodplain Marsh
35. Floodplain Swamp
36. Freshwater Tidal Swamp
37. Hydric Hammock
38. Marl Prairie
39. Seepage Slope
40. Slough
41. Strand Swamp
42. Swale
43. Wet Flatwoods
44. Wet Prairie

Lacustrine
45. Clastic Upland Lake
46. Coastal Dune Lake
47. Coastal Rockland Lake

Lacustrine
48. Flatwood/Prairie Lake
49. Marsh Lake
50. River Floodplain Lake
51. Sandhill Upland Lake
52. Sinkhole Lake
53. Swamp Lake

Riverine
54. Alluvial Stream
55. Blackwater Stream
56. Seepage Stream
57. Spring-Run Stream

Estuarine
58. Estuarine Algal Bed
59. Estuarine Composite Substrate
60. Estuarine Consolidated Substrate
61. Estuarine Coral Reef
62. Estuarine Grass Bed
63. Estuarine Mollusk Reef
64. Estuarine Octocoral Bed
65. Estuarine Sponge Bed
66. Estuarine Tidal Marsh
67. Estuarine Tidal Swamp
68. Estuarine Unconsolidated Substrate
69. Estuarine Worm Reef

Marine
70. Marine Algal Bed
71. Marine Composite Substrate
72. Marine Consolidated Substrate
73. Marine Coral Reef
74. Marine Grass Bed
75. Marine Mollusk Reef
76. Marine Octocoral Bed
77. Marine Sponge Bed
78. Marine Tidal Marsh
79. Marine Tidal Swamp
80. Marine Unconsolidated Substrate
81. Marine Worm Reef

Subterranean
82. Aquatic Cave
83. Terrestral Cave

Miscellaneous
84. Ruderal
85. Developed

MTC Many Types of Communities
OF Over Flying

Habitat Codes

Addendum 5—Designated Species List

Rank Explanations For FNAI Global Rank, FNAI State Rank, Federal Status, And State Status

The Nature Conservancy and the Natural Heritage Program Network (of which FNAI is a part) define an element as any exemplary or rare component of the natural environment, such as a species, natural community, bird rookery, spring, sinkhole, cave, or other ecological feature. An element occurrence (EO) is a single extant habitat that sustains or otherwise contributes to the survival of a population or a distinct, self-sustaining example of a particular element.

Using a ranking system developed by The Nature Conservancy and the Natural Heritage Program Network, the Florida Natural Areas Inventory assigns two ranks to each element. The global rank is based on an element's worldwide status; the state rank is based on the status of the element in Florida. Element ranks are based on many factors, the most important ones being estimated number of Element occurrences, estimated abundance (number of individuals for species; area for natural communities), range, estimated adequately protected EOs, relative threat of destruction, and ecological fragility.

Federal and State status information is from the U.S. Fish and Wildlife Service; and the Florida Game and Freshwater Fish Commission (animals), and the Florida Department of Agriculture and Consumer Services (plants), respectively.

FNAI GLOBAL RANK DEFINITIONS

G1	=	Critically imperiled globally because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor.
G2	=	Imperiled globally because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.
G3	=	Either very rare and local throughout its range (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction of other factors.
G4	=	apparently secure globally (may be rare in parts of range)
G5	=	demonstrably secure globally
GH	=	of historical occurrence throughout its range, may be rediscovered (e.g., ivory-billed woodpecker)
GX	=	believed to be extinct throughout range
GXC	=	extirpated from the wild but still known from captivity or cultivation
G#?	=	tentative rank (e.g.,G2?)
G#G#	=	range of rank; insufficient data to assign specific global rank (e.g., G2G3)
G#T#	=	rank of a taxonomic subgroup such as a subspecies or variety; the G portion of the rank refers to the entire species and the T portion refers to the specific subgroup; numbers have same definition as above (e.g., G3T1)
G#Q	=	rank of questionable species - ranked as species but questionable whether it is species or subspecies; numbers have same definition as above (e.g., G2Q)
G#T#Q	=	same as above, but validity as subspecies or variety is questioned.
GU	=	due to lack of information, no rank or range can be assigned (e.g., GUT2).
G?	=	not yet ranked (temporary)
S1	=	Critically imperiled in Florida because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor.
S2	=	Imperiled in Florida because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.
S3	=	Either very rare and local throughout its range (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction of other factors.
S4	=	apparently secure in Florida (may be rare in parts of range)
S5	=	demonstrably secure in Florida
SH	=	of historical occurrence throughout its range, may be rediscovered (e.g., ivory-billed woodpecker)
SX	=	believed to be extinct throughout range
SA	=	accidental in Florida, i.e., not part of the established biota
SE	=	an exotic species established in Florida may be native elsewhere in North America
SN	=	regularly occurring, but widely and unreliably distributed; sites for conservation hard to determine
SU	=	due to lack of information, no rank or range can be assigned (e.g., SUT2).
S?	=	not yet ranked (temporary)

Rank Explanations For FNAI Global Rank, FNAI State Rank, Federal Status, And State Status

LEGAL STATUS

N = Not currently listed, nor currently being considered for listing,by state or federal agencies.

FEDERAL (Listed by the U. S. Fish and Wildlife Service - USFWS)

LE = Listed as Endangered Species in the List of Endangered and Threatened Wildlife and Plants under the provisions of the Endangered Species Act. Defined as any species that is in danger of extinction throughout all or a significant portion of its range.

PE = Proposed for addition to the List of Endangered and Threatened Wildlife and Plants as Endangered Species.

LT = Listed as Threatened Species. Defined as any species that is likely to become an endangered species within the near future throughout all or a significant portion of its range.

PT = Proposed for listing as Threatened Species.

C = Candidate Species for addition to the list of Endangered and Threatened Wildlife and Plants. Defined as those species for which the USFWS currently has on file sufficient information on biological vulnerability and threats to support proposing to list the species as endangered or threatened.

E(S/A) = Endangered due to similarity of appearance.

T(S/A) = Threatened due to similarity of appearance.

STATE

Animals (Listed by the Florida Fish and Wildlife Conservation Commission - FFWCC)

LE = Listed as Endangered Species by the FFWCC. Defined as a species, subspecies, or isolated population which is so rare or depleted in number or so restricted in range of habitat due to any man-made or natural factors that it is in immediate danger of extinction or extirpation from the state, or which may attain such a status within the immediate future.

LT = Listed as Threatened Species by the FFWCC. Defined as a species, subspecies, or isolated population which is acutely vulnerable to environmental alteration, declining in number at a rapid rate, or whose range or habitat is decreasing in area at a rapid rate and as a consequence is destined or very likely to become an endangered species within the foreseeable future.

LS = Listed as Species of Special Concern by the FFWCC. Defined as a population which warrants special protection, recognition, or consideration because it has an inherent significant vulnerability to habitat modification, environmental alteration, human disturbance, or substantial human exploitation which, in the foreseeable future, may result in its becoming a threatened species.

Plants (Listed by the Florida Department of Agriculture and Consumer Services - FDACS)

LE = Listed as Endangered Plants in the Preservation of Native Flora of Florida Act. Defined as species of plants native to the state that are in imminent danger of extinction within the state, the survival of which is unlikely if the causes of a decline in the number of plants continue, and includes all species determined to be endangered or threatened pursuant to the Federal Endangered Species Act of 1973,as amended.

LT = Listed as Threatened Plants in the Preservation of Native Flora of Florida Act. Defined as species native to the state that are in rapid decline in the number of plants within the state, but which have not so decreased in such number as to cause them to be endangered.

Sebastian Inlet State Park Designated Species—Plants

Common Name/ *Scientific Name*	Designated Species Status FDACS	USFWS	FNAI
Florida butterfly orchid *Encyclia tampensis*	CE		
Simpson's applecactus *Harrisia simpsonii*	LE		
Johnson's Seagrass *Halophila johnsonii*	LT		
Twinberry *Myrcianthes fragans*	LT		
Erect pricklypear *Opuntia stricta*	LT		
Beachberry *Scaevola plumieri*	LT		
Coontie *Zamia pumila*	CE		

Sebastian Inlet State Park Designated Species—Plants

Common Name/ *Scientific Name*	**Designated Species Status**		
	FDACS	**USFWS**	**FNAI**

Sebastian Inlet State Park Designated Species—Animals

Common Name/ *Scientific Name*	Designated Species Status FFWCC	USFWS	FNAI
REPTILES			
American alligator *Alligator mississippiensis*	LS	T(S/A)	S4
Loggerhead turtle *Caretta caretta*	LT	LT	S3
Green turtle *Chelonia mydas mydas*	LE	LE	S2
American crocodile *Crocodylus acutus*	LE	LE	S1
Leatherback *Dermochelys coriacea coriacea*	LE	LE	S2
Eastern indigo snake *Drymarchon corais couperi*	LT	LT	S3
Hawksbill turtle *Eretmochelys imbricata imbricata*	LE	LE	S1
Gopher tortoise *Gopherus polyphemus*	LS	PT	S3
Southern hognose snake *Heterodon simus*			S2
Atlantic ridley *Lepidochelys kempii*	LE	LE	S1
Atlantic salt marsh snake *Nerodia clarkii taeniata*	LT	LT	S1
Florida pine snake *Pituophis melanoleucus mugitus*	LS		S3
Florida brown snake *Storeria dekayi victa*	LT		
BIRDS			
Cooper's Hawk *Accipiter cooperii*			S3
Brown Noddy *Anous stolidus*			S1
Great Egret *Ardea alba*			S4
Piping Plover *Charadrius melodus*	LT	LT	S2

Sebastian Inlet State Park Designated Species—Animals

Common Name/ *Scientific Name*	Designated Species Status FFWCC	USFWS	FNAI
Wilson's Plover *Charadrius wilsonia*			S2
Mangrove Cuckoo *Coccyzus minor*			S3
Little Blue Heron *Egretta caerulea*	LS		S4
Reddish Egret *Egretta rufescens*	LS		S2
Snowy Egret *Egretta thula*	LS		S4
Tricolored Heron *Egretta tricolor*	LS		S4
White Ibis *Eudocimus albus*	LS		S4
Swallow-tailed Kite *Elanoides forficatus*			S2S3
Merlin *Falco columbarius*			S2
Peregrine Falcon *Falco peregrinus*	LE		
Magnificent Frigatebird *Fregata magnificens*			S1
American Oystercatcher *Haematopus palliatus*	LS		S3
Bald Eagle *Haliaeetus leucocephalus*	LT	LT	S3
Worm-eating Warbler *Helmitheros vermivorus*			S1
Black Scoter *Melanitta nigra*			
Wood Stork *Mycteria americana*	LE	LE	S2
Yellow-crowned Night-Heron *Nytanassa violaceus*			S3
Black-crowned Night-Heron *Nycticorax nycticorax*			S3
Osprey *Pandion haliaetus*			S3S4
Painted Bunting *Passerina ciris*			S3

Sebastian Inlet State Park Designated Species—Animals

Common Name/ *Scientific Name*	Designated Species Status FFWCC	USFWS	FNAI
Brown Pelican			
Pelecanus occidentalis	LS		S3
Hairy Woodpecker			
Picoides villosus			S3
Roseate Spoonbill			
Platalea ajaja	LS		S2
Glossy Ibis			
Plegadis falcinellus			S3
American Avocet			
Recurvirostra americana			S2
Black Skimmer			
Rynchops niger	LS		S3
Louisiana Waterthrush			
Seiurus motacilla			S2
American Redstart			
Setophaga ruticilla			S2
Least Tern			
Sterna antillarum	LT		S3
Caspian Tern			
Sterna caspia			S2
Roseate Tern			
Sterna dougallii	LT	LT	S1
Sooty Tern			
Stern fuscata			S1
Royal Tern			
Sterna maxima			S3
Gull-billed Tern			
Sterna nilotica			S2
Sandwich Tern			
Sterna sandvicensis			S2
Black-whiskered Vireo			
Vireo altiloquus			
FISH			
Snook			
Centropomus undecimalis	LS		
MAMMALS			
North Atlantic right whale			
Balaena glacialis glacialis	LE	LE	

Sebastian Inlet State Park Designated Species—Animals

Common Name/ *Scientific Name*	Designated Species Status FFWCC	USFWS	FNAI
Southeastern beach mouse			
Peromyscus polionotus niveiventris	LT	LT	S1
West Indian manatee			
Trichechus manatus latirostris	LE	LE	S2

Addendum 6—Archaeological Site Data

Sebastian Inlet State Park Archaeological Site Data

County	Location	Site #	Site Type 1	Site Type 2	Culture	Culture	Date Recorded
Brevard	in park	8BR124	shell midden	sand mound	unspecified prehsitoric		1950
Brevard	in park	8BR125	shell midden		Malabar 1 and 2		1951
Brevard	in park	8BR770	homestead or mosquito control structure	shell midden	19th - early 20th century	unspecified prehistoric	1990
Brevard	in park	8BR1694	shell midden		unspecified prehsitoric		1997
Indian River	in park	8IR34	shell midden		Malabar 1		1953
Indian River	in park	8IR37	shell midden	sand mounds	Malabar 2		1951
Indian River	in park	8IR38	shell midden				1950
Indian River	in park	8IR39	shell midden				1950
Indian River	in park	8IR35	sand mound				1950
Indian River	in park	8IR36	shell midden				1950
Indian River	in park	8IR40	shell midden		Malabar 2		1953

Sebastian Inlet State Park Archaeological Site Data

County	Location	Site #	Site Type 1	Site Type 2	Culture	Culture	Date Recorded
Indian River	**in park**	**8IR25**	**shell midden**				**1967**
Indian River	in park	8IR26	shipwreck survivors camp	shell midden	1715	unspecified prehistoric	1971
Brevard	to north of park	8BR559	shell midden				1989
Indian River	to south of park	8IR42	shell midden		Malabar 2		1951
Indian River	to south of park	8IR11	shell midden				1953
Indian River	to south of park	8IR24	shipwreck survivors camp	shell midden			1951
Indian River	to south of park	8IR41	shell midden		Orange	Malabar 1	
Indian River	offshore	8IR23	shipwreck		1715 Spanish Fleet		1965
Indian River	offshore	8IR30	shipwreck		1715 Spanish Fleet		1969
Brevard	offshore	8BR168	shipwreck	early 19th century			1965

Addendum 7—Priority Schedule and Cost Estimates

Sebastian Inlet State Park Priority Schedule And Cost Estimates

Estimates are developed for the funding and staff resources needed to implement the management plan based on goals, objectives and priority management activities. Funding priorities for all state park management and development activities are reviewed each year as part of the Division's legislative budget process. The Division prepares an annual legislative budget request based on the priorities established for the entire state park system. The Division also aggressively pursues a wide range of other funds and staffing resources, such as grants, volunteers and partnerships with agencies, local governments and the private sector for supplementing normal legislative appropriations to address unmet needs. The ability of the Division to implement the specific goals, objectives and priority actions identified in this plan will be determined by the availability of funding resources for these purposes.

Resource Management

1. Revise the exotic plant removal plan to include recently acquired parcels. Zero-10 years. Estimated Cost: $1,000/year reoccurring **$10,000.00**

2. Survey for exotic species and implement an exotic species removal program. Zero-10 years. Estimated Cost: $20,000/year recurring **$200,000.00**

3. Continue and expand the prescribed fire program by obtaining the needed equipment and by training staff. Add overgrown coastal strand on the north side of inlet to the plan. Zero-10 years. Estimated Cost: $8,000/year reoccurring **$80,000.00**

4. Mechanically treat overgrown pyrogenic natural communities. Zero-10 years. Estimated Cost: $50,000 ..... **$50,000.00**

5. Monitor the site-bearing duneline, Atlantic beach on the east, and coastline on the Indian River Lagoon to the west for erosion damage. Zero-10 years. Estimated Cost: $2000/year reoccurring **$20,000.00**

6. Monitor the changes in the quality and quantity of suitable habitat for southeastern beach mice and the mouse population. Zero-10 years. Estimated Cost: $5,000, plus $5,000/year reoccurring..... **$55,000.00**

7. Survey for and monitor wintering and nesting shorebirds. Zero-10 years. Estimated Cost: $5000/year reoccurring **$50,000.00**

8. Restoration of Coconut point protection zone for beach-nesting birds and public education according to the restoration plan. Zero-10 years. Estimated Cost: $40,000 ..... **$40,000.00**

9. Monitoring all known archaeological sites for possible threats. Zero-10 years. Estimated Cost: $1000/yearreoccurring **$10,000.00**

10. Conduct both a Level I and Level II archaeological survey of the park, both on land and underwater, utilizing GPS technology. Zero-10 years. Estimated Cost: $75,000 ..... **$75,000.00**

Sebastian Inlet State Park Priority Schedule And Cost Estimates

11. Implement cultural resource monitoring protocols, utilizing photopoints. Zero-10 years. Estimated Cost: $1,000, plus $1,000/year reoccurring **$11,000.00**

12. Consider opportunities to reintroduce beach mice to appropriate habitat north of the inlet. Zero-10 years. Estimated Cost: $5,000..... **$5,000.00**

13. Catalog all collections objects in the fisheries museum. Zero-10 years. Estimated Cost: $2,000 ..... **$2,000.00**

14. Reach a planning decision on future of McLarty Museum. Zero-10 years. Estimated Cost: $1,000 ..... **$1,000.00**

15. Seek grant funding for a research project to document history of park and surrounding area. Zero-10 years. Estimated Cost: $1,000 ..... **$1,000.00**

Administration

1. Add staff positions. Zero-10 years. Estimated Cost (includes benefits): 1 Park Attendant, 2 Toll Collectors, 2 Park Rangers, 1 Environmental Specialist I. Zero-10 years. Estimated Cost: $136,000/year reoccurring **$1,360,000.00**

Total Estimated Cost..... $ 1,970,000.00

Development Area or Facilities

Administrative Office/"Spanish House" Area 468,700.00
Sebastian Inlet Marina.....1,500,000.00
North Jetty/Beach Use Area.....1,500,000.00
Swimming Cove/Overflow Area 1,026,000.00
South Inlet Shoreline 750,000.00
Camping Area 710,500.00
Cabin Area 1,976,000.00
South Beach Use Areas.....267,000.00
Miscellaneous 67,600.00
Support Facilities.....1,370,000.00

Total w/contingency $11,562,960.00

Florida Department of Transportation

RON DESANTIS
GOVERNOR

3400 West Commercial Boulevard
Fort Lauderdale, FL 33309

JARED W. PERDUE, P.E.
SECRETARY

May 9, 2023

Mr. Daniel Alsentzer, Bureau Chief, Office of Park Planning
Florida Department of Environmental Protection
Division of Recreation and Parks
3800 Commonwealth Blvd
Tallahassee, Florida 32399-3000

Subject: Final *De minimis* Request for Concurrence on Sebastian Inlet Park
Sebastian Inlet Bridge Replacement Project
Financial Management Number: 445618-1-22-01
Limits: Roadway ID 88070000 from MP 21.945 to MP 22.665
Roadway ID 70060000 from MP 0.000 to MP 0.395
Indian River and Brevard Counties, Florida

Dear Mr. Alsentzer:

As part of the ongoing Project Development and Environment (PD&E) Study for the above referenced project, the Florida Department of Transportation (FDOT) has identified your agency as the Official with Jurisdiction (OWJ) over Sebastian Inlet State Park (Park). This park qualifies for protection as a Section 4(f) resource because it is a publicly owned, recreational resource, 49 U.S.C. §303. In analyzing the project's effects upon the Park with respect to its ability to continue providing public recreational opportunities, FDOT wishes to notify you that our evaluation supports a *de minimis* finding based on park operations. As discussed previously with Florida Department of Environmental Protection (FDEP) state and local park staff, this Section 4(f) process is necessary because of the project's proposed impact to park property for transportation related improvements.

Through coordination with Mr. Ken Torres, Park Manager, and Ms. Jennifer Roberts, Assistant Bureau Chief, both FDEP and FDOT have discussed the activities, features, and attributes that qualify the park for protection as well as measures to minimize harm through avoidance, mitigation and enhancement. Impacts to these identified qualities, along with proposed avoidance and minimization measures relating to location of the proposed ponds sites as well as reduction in footprint along with betterments for the Park, form the basis for the *de minimis* impact determination. The project plans, including the proposed impacts to the Park, were available for public comment during Public Hearings held on December 13, 2022 (Virtual) and December 15, 2022 (in-person). After reviewing all public comments from the hearings, FDOT documented that there were no public comments on the impacts to the Park.

Through our coordination, we collectively identified the following mitigation measures as part of the *de minimis* process that FDOT commits to providing as part of the project:

- Replacing the existing perimeter fence around the bridge on the north side of the park.
- Repaving both the south and north parking lots within the FDOT right of way (ROW) under the bridge.

- Providing funding through a Joint Participation Agreement (JPA) for installation of electronic gates at both the south and north park entrances.
- Continue efforts to further reduce, and not increase, the total amount of park acreage needed to be converted to FDOT ROW for inclusion as stormwater management facilities during the final design phase from the estimated 2.87 acres shown in the proposed Pond Reduction Alternative Matrix.

In addition to the Section 4(f) consultation, FDOT recognizes there are additional processes which require agency coordination to further consider and minimize impacts to natural resources within the Park. As the project transitions to the final design phase, FDOT will continue working with the Division of State Lands to address the Acquisition and Restoration Council (ARC) process and will embark on the environmental permitting process as well.

To conclude the *de minimis* consultation process in accordance with 23 CFR §774.5(b), FDOT requests your signature below as concurrence from the OWJ with FDOT's *de minimis* finding. As the project moves to design, FDOT will continue to coordinate with your staff to further refine these mitigation measures.

If there are any questions, please feel free to contact me at (954) 777-4325 or Christie Pritchard at (954) 777-4147.

Sincerely,

Ann Broadwell
Environmental Administrator
FDOT - District 4

Concurrence: The Florida Department of Environmental Protection (FDEP) as the Official with Jurisdiction concurs that the permanent impacts to the Sebastian Inlet State Park as a result of the Sebastian Inlet Bridge Replacement Project, including all measures to mitigate and minimize harm (which shall include, but not be limited to the four commitment bullets in the letter above), will not adversely affect the activities, features, or attributes that qualify the property for protection under Section 4(f) [49 U.S.C. §303] and concurs with FDOT's Section 4(f) *de minimis* finding. In addition, FDEP recognizes that FDOT will continue its coordination to minimize impacts to the Park (which may include further minimization of park natural area conversion to stormwater features to support the expanded roadway which would ultimately be finalized through acquisition of those potentially smaller areas as FDOT ROW) and address proprietary matters through the ARC process.

Daniel Alsentzer, Bureau Chief, Office of Park Planning
Florida Department of Environmental Protection

May 9, 2023
Date

cc:

Mr. Ken Torres, FDEP Park Manager
Ms. Jennifer Roberts, FDEP Assistant Bureau Chief
Mr. Brad Richardson, FDEP Division of State Lands
Mr. Binod Basnet, P.E., FDOT Project Manager
Ms. Beth Beam, Consultant Project Manager, Stantec Inc.
Ms. Christie Pritchard, Pritchard Environmental Inc.

FLORIDA DEPARTMENT OF Environmental Protection

Division of Recreation & Parks, District 3
1800 Wekiwa Circle, Apopka, FL 32712

Ron DeSantis
Governor

Jeanette Nuñez
Lt. Governor

Shawn Hamilton
Secretary

April 21, 2022

Christie Pritchard
District 4 In-house PLEMO Consultant
Office: 954-777-4147
Cell: 561-818-2751

Dear Ms. Pritchard,

In response to your request for information regarding the Sebastian Inlet Bridge replacement project, I have compiled the following information based on the categories of information you are requesting.

1. **Possible adverse effects to the activities, features, and attributes (AFAs) to the park while all park operations are maintained during construction activities:**

   - Parking and access on the north side of the park will be affected due to the inability to park, walk or drive under the bridge while construction is taking place during certain times of the project. This would include access to and from two restrooms, bait shop, restaurant, banquet hall, north jetty, north beach, catwalk, fish cleaning station and parking.
   - Access over the bridge will be limited while lane closures take place. This would not only affect visitors, but possible emergency services and staff needing to access different areas of the park.
   - Temporary or long-term loss of utilities and possible needed repairs.
   - Temporary possible disruption of vendor access for deliveries and services. This may include items such as food and propane deliveries.
   - Parking and access on the south side of the park will be affected due to the inability to park, walk or drive under the bridge while construction is taking place during certain times of the project. This would include access to the south jetty, south beach access, catwalk and parking area. Area under the bridge is used for staff and visitor parking, park visitor turn-around and firewood storage.

2. Permanent impacts to the AFAs from the FDOT project:

Activities:

- Addition of bike/pedestrian lane will be a positive addition to the park. Recommend eliminating seating areas on ocean/east side of bridge so pedestrians are not encouraged to cross traffic on State Road A1A to increase safety.
- Additional foot traffic on east and west sides of the bridge.

Features (structure, form, main items):

- Change to water well access under bridge on north side. This will most likely need to be relocated or removed.
- Recommend eliminating sidewalk to the south day use parking lot as this is not seen as a park need.

Attributes (characteristic, quality):

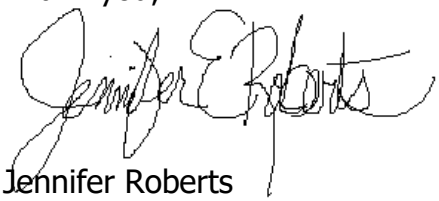
- Moving of bridge supports to the east or west will impact those areas of the park. This will vary depending on the footprint of the project boundary.
- Creating stormwater holding ponds will impact habitat due to the removal of native vegetation and the change in elevation. Recommend finding alternatives for stormwater retention that do not involve impacting native habitat.
- Possible unknown archaeological impacts.
- Increase in project area may result in loss of gopher tortoise habitat.
- Recommend removing the catwalk structures under the bridge unless they are maintained in perpetuity by FDOT.

3. Park improvement recommendations

- Paving of north and south entrance roads to include a pedestrian/bike lane.
- Paving of parking lots under north and south bridge.
- Addition of stormwater drainage system in north parking area to address parking lot flooding issues.
- Shoreline stabilization project at Coconut Point.
- Installation of utilities at north and south entrances and electronic entrance gates. Priority would be on south entrance with pin pad and vehicle turn around.
- Replacement of existing rusted perimeter fences around base of bridge.
- Recommend wetland mitigation from stormwater pond impacts be mitigated at Indian River Lagoon Preserve, Brevard County.

Please let me know if you have any additional questions or need more information.

Thank you,



Jennifer Roberts
Assistant Bureau Chief
Department of Environmental Protection
Division of Recreation & Parks, District 3
1800 Wekiwa Circle, Apopka, FL 32712
Jennifer.e.roberts@FloridaDEP.gov
Office: 407-553-4356

Florida Department of Transportation

RON DESANTIS
GOVERNOR

3400 West Commercial Boulevard
Fort Lauderdale, FL 33309

JARED W. PERDUE, P.E.
SECRETARY

December 12, 2022

Brian Fugate, Assistant Director
Field Operations
Florida Department of Environmental Protection
Division of Recreation and Parks
3800 Commonwealth Blvd
Tallahassee, Florida 32399-3000

Subject: Notice of Intent to Pursue *De minimis* Notification for Sebastian Inlet Park
Sebastian Inlet Bridge Replacement Project Development &Environment (PD&E) Study
Financial Management Number: 445618-1-22-01
Limits: Roadway ID 88070000 from MP 21.945 to MP 22.665
Roadway ID 70060000 from MP 0.000 to MP 0.395
Indian River and Brevard Counties, Florida

Dear Mr. Fugate:

As part of the ongoing Project Development and Environment Study (PD&E) for the above referenced project, the Florida Department of Transportation (FDOT) has identified your agency as the Official with Jurisdiction (OWJ) over the above referenced Sebastian Inlet State Park. This park qualifies for protection as a Section 4(f) resource because it is a publicly owned, recreational resource, and therefore, FDOT wishes to notify you of our intent to pursue a *de minimis* finding. As discussed previously with both Ken Torres, Park Manager, and Ms. Jennifer Roberts, Assistant Bureau Chief, this *de minimis* process is necessary because of our intent to use the existing park property for project related improvements.

Through coordination with Mr. Ken Torres, Park Manager and Ms. Jennifer Roberts, both FDEP and FDOT have identified the activities, features, and attributes that qualify the park for protection as well as measures to minimize harm and enhance existing conditions. Impacts to these qualities, along with proposed enhancements form the basis for the *de minimis* impact determination. The project plans that include the impacts to the existing park, will be available for public comments at the upcoming Public Hearing on both December 13 (Virtual), and December 15 (in-person). After reviewing all public comments from the hearing, we will be respectively requesting a letter of concurrence from your office with the *de minimis* impact so that the FDOT can continue the process of securing park property for project related improvements.

If there are any questions, please feel free to contact me at (954) 777-4325 or Christie Pritchard at (954) 777-4147.

Sincerely,

Ann Broadwell
Environmental Administrator
FDOT - District 4

cc:
Mr. Ken Torres, FDEP Park Manager
Ms. Jennifer Roberts, FDEP Assistant Bureau Chief
Mr. Brad Richardson, FDEP Division of State Lands
Mr. Binod Basnet, P.E., FDOT Project Manager
Ms. Beth Beam, Consultant Project Manager, Stantec Inc.
Ms. Christie Pritchard, Pritchard Environmental Inc.

Florida Department of Transportation

RON DESANTIS
GOVERNOR

3400 West Commercial Boulevard
Fort Lauderdale, FL 33309

JARED W. PERDUE, P.E.
SECRETARY

September 12, 2022

Ms. Jennifer Roberts, Assistant Bureau Chief
Florida Department of Environmental Protection (FDEP)
Division of Recreation & Parks, District 3
1800 Wekiva Circle, Apopka, FL. 32712

Subject: Response to FDEP April 21, 2022 Letter to FDOT
Sebastian Inlet Bridge Replacement Project Development &Environment (PD&E) Study
Financial Management Number: 445618-1-22-01
Limits: Roadway ID 88070000 from MP 21.945 to MP 22.665
Roadway ID 70060000 from MP 0.000 to MP 0.395
Indian River and Brevard Counties, Florida

Dear Ms. Roberts:

Thank you for your time during our coordination meeting on August 10, 2022. In that meeting, we discussed the issues/concerns relating to the activities, features, and attributes of the Sebastian Inlet State Park regarding the above referenced project. These concerns, along with proposed park improvements/mitigation recommended by FDEP were outlined in FDEP's letter to the Florida Department of Transportation (FDOT, Christie Pritchard) April 21, 2022. Responses to FDEP concerns are summarized below.

1. Possible adverse effects to the activities, features, and attributes (AFAs) to the park while all park operations are maintained during construction activities:

- Parking and access on the north side of the park will be affected due to the inability to park, walk or drive under the bridge while construction is taking place during certain times of the project. This would include access to and from two restrooms, bait shop, restaurant, banquet hall, north jetty, north beach, catwalk, fish cleaning station and parking.
FDOT Response: *In general, and as discussed, bridge construction activities are phased. Any duration of potential limits to access to the various AFAs will be coordinated between FDOT and the park during the Final Design Phase to avoid interference with AFAs on a temporary basis while also providing the safest environment for park users. Details associated with construction phasing, temporary traffic control plan to provide access to vehicles and pedestrians, and staging will be completed during the Design Phase of the project. FDOT will be coordinating further with your park personnel regarding these issues. These items will be included in the Construction Plans, Plan Notes, and Contractor*

Bid Documents etc. A design commitment will be included in the Type II CE regarding the need for additional coordination of these issues.

- Access over the bridge will be limited while lane closures take place. This would not only affect visitors, but possible emergency services and staff needing to access different areas of the park.
  FDOT Response:
  Two-way traffic will be maintained during construction which will include access for emergency services and staff needing access to different areas of the park. A Temporary Traffic Control Plan (TTCP) will be completed during the Final Design Phase which will address the temporary traffic control and sequencing of construction phases. The FDOT will further coordinate with the FDEP regarding these issues during the Final Design Phase, and a design commitment will be included in the Type II CE document.

- Temporary or long-term loss of utilities and possible needed repairs.
  FDOT Response: *The need to relocate and/or replace existing utilities located near and within the bridge ROW is anticipated. During the Final Design Phase, FDOT Utility Coordinator will contact utility owners to coordinate any need to relocate utilities during construction and ensure no lapse in utility service.*

- Temporary possible disruption of vendor access for deliveries and services. This may include items such as food and propane deliveries.
  FDOT Response*: As mentioned above, the proposed bridge demolition and construction will primarily occur within the limits of the FDOT ROW. During the Final Design Phase, FDOT will further develop the sequence of construction activities to avoid/minimize impacts to park related resources, and additional coordination will take place between FDOT and the park staff regarding these issues.*

- Parking and access on the south side of the park will be affected due to the inability to park, walk or drive under the bridge while construction is taking place during certain times of the project. This would include access to the south jetty, south beach access, catwalk, and parking area. Area under the bridge is used for staff and visitor parking, park visitor turn-around and firewood storage.
  FDOT Response: *The FDOT contractor will phase construction so that sections of the parking lot, outside the FDOT ROW, will be open to the public and FDEP staff at all times. FDOT to further coordinate with FDEP during the Final Design Phase and prior to the Construction Phase to present a sequencing plan for parking and access for these activities.*

Activities:

- Addition of bike/pedestrian lane will be a positive addition to the park. Recommend eliminating seating areas on ocean/east side of bridge so pedestrians are not encouraged to cross traffic on State Road A1A to increase safety.
  FDOT Response: *The proposed shared use path on the east and west sides of the bridge are barrier separated. The proposed "bump out" areas on the east and west sides of the bridge currently do not show any seating area.*

- Additional foot traffic on east and west sides of the bridge.
  FDOT Response: *Although the project does not propose capacity changes (2-lanes of travel are maintained), bicyclists and pedestrians will benefit from the improved shoulders and shared use paths proposed on the east and west sides of the bridge. The project is consistent with FDOT design criteria for bridges/roadways of this type and the Indian River County Bicycle and Pedestrian Plan. These improvements will enhance beneficial uses of the environment by providing improved opportunities for increased multi-modal travel within the project area, as requested by the Indian River County Metropolitan Planning Organization (MPO).*

Features (structure, form, main items):

- Change to water well access under bridge on north side. This will most likely need to be relocated or removed.
  FDOT Response: *The need to relocate and/or replace existing utilities located near and within the bridge ROW is anticipated. FDOT will coordinate with utility owners and the park to ensure no long-term lapse in utility service.*

- Recommend eliminating sidewalk to the south day use parking lot as this is not seen as a park need.
  FDOT Response: *Bicyclists and pedestrians will benefit from the improved shoulders and shared use path that extends to the day use parking lot. FDOT is committed to providing a safe transportation facility for all users. These improvements have been coordinated with and requested by the Indian River County MPO and will enhance beneficial uses of the environment by providing improved opportunities for increased multi-modal travel within the project area.*

Attributes (characteristic, quality):

- Moving of bridge supports to the east or west will impact those areas of the park. This will vary depending on the footprint of the project boundary.
  FDOT Response: *The proposed bridge piers are located within FDOT ROW and will be relocated from the existing bridge pier locations. The existing bridge superstructures will be removed during the construction phase and the area will be reconstructed and incorporated into the revised parking lot layout.*

- Creating stormwater holding ponds will impact habitat due to the removal of native vegetation and the change in elevation. Recommend finding alternatives for stormwater retention that do not involve impacting native habitat.
  FDOT Response: *The project team continues to evaluate options to manage stormwater from the proposed bridge/roadway improvements. Currently, the project proposes two wet detention ponds (0.74 acres south and 1.39 acres north of the inlet) within predominantly upland area to avoid or minimize mangrove impacts. Additional drainage concepts that could potentially be within the FDOT ROW will be further developed during the Final Design Phase of the project (which is currently overlapping with the PD&E Study).*

- Possible unknown archaeological impacts.

FDOT Response: *A Cultural Resource Assessment Survey (CRAS) has been completed for the project and identifies possible locations of archaeological resources. The Preferred Alternative avoids these resources. However, the FDOT commits to having a professional archaeologist conduct monitoring during construction of this project. Should construction activities uncover any archaeological remains while an archaeological monitor is not present in the area, it is recommended that activity in the immediate area of the remains be stopped until a professional archaeologist evaluates the material. The need for an archaeological monitor will be included as a project commitment in the Type II CE document.*

- Increase in project area may result in loss of gopher tortoise habitat.
  FDOT Response: *A survey of the presence of gopher tortoises was completed as part of the Natural Resource Evaluation (NRE) for the PD&E Study. FDOT will continue to work with Park personnel regarding the gopher tortoises and every effort will be made to keep the tortoises within the park boundaries.*

- Recommend removing the catwalk structures under the bridge unless they are maintained in perpetuity by FDOT.
  FDOT Response: *The fishing pier/observation deck will be constructed as part of the project. FDOT will continue to maintain the structural components of the facility and the park will conduct the daily maintenance activities such as trash pickup, etc. This information will be included as a project commitment in the Type II CE document.*

2. Park improvement recommendations
FDOT Response: *FDOT has committed to further evaluation and/or construction of the items listed below as measures to minimize harm/mitigate Section 4(f) and Acquisition and Restoration Council (ARC) requirements.*

- Paving of north and south entrance roads to include a pedestrian/bike lane. *Currently, this improvement is not part of the bridge replacement project. Further evaluation is required to understand the environmental impacts associated with the proposed improvement. The north access road is surrounded by mangroves and any widening or construction would have impacts to the natural environment. Similarly, the south access road has mangroves on west side and SR A1A on the east. Per the recent meeting with the park, more information regarding the type of facility (and examples of this kind of enhancement) will be provided by the park to FDOT. FDOT proposes further evaluation of these improvements during the Design phase to meet the ARC and Section 4(f) impact mitigation requirements.*

- Paving of parking lots under north and south bridge. *FDOT commits to paving of the parking lots that are impacted by construction of the project. This will be included as a project commitment in the Type II CE document.*

- Addition of stormwater drainage system in north parking area to address parking lot flooding issues. *Majority of the drainage issues in north parking area are associated with the runoff from the scuppers on the bridge. The proposed bridge replacement project will route the stormwater from the new bridge to a new stormwater management system and*

resolve this issue. Construction of parking lots within FDOT ROW will also include resolving drainage issues. FDOT proposes to evaluate the stormwater runoff from outside of the ROW. This will also be included as a project commitment in the Type II CE document.

- Shoreline stabilization project at Coconut Point. *FDOT proposes to further evaluate this project as potential mitigation for the following: Section 4(f), wetland impacts, and to meet the Acquisition and Restoration Council (ARC) requirements.*

- Installation of utilities at north and south entrances and electronic entrance gates. Priority would be on south entrance with pin pad and vehicle turn around. *FDOT proposes to install electronic entrance gates at both the south and north entrances as mitigation to Section 4(f) impacts. During the August 10, 2022 meeting with the park, FDOT requested that FDEP share a design of an entrance gate that has been previously installed at a State park. This improvement will be considered for Section 4(f) compensation and/or ARC requirements.*

- Replacement of existing rusted perimeter fences around base of bridge. *FDOT proposes to replace the existing fences around the perimeter of the bridge as mitigation to Section 4(f) impacts. Once agreed, this will be a commitment in the Type II CE document.*

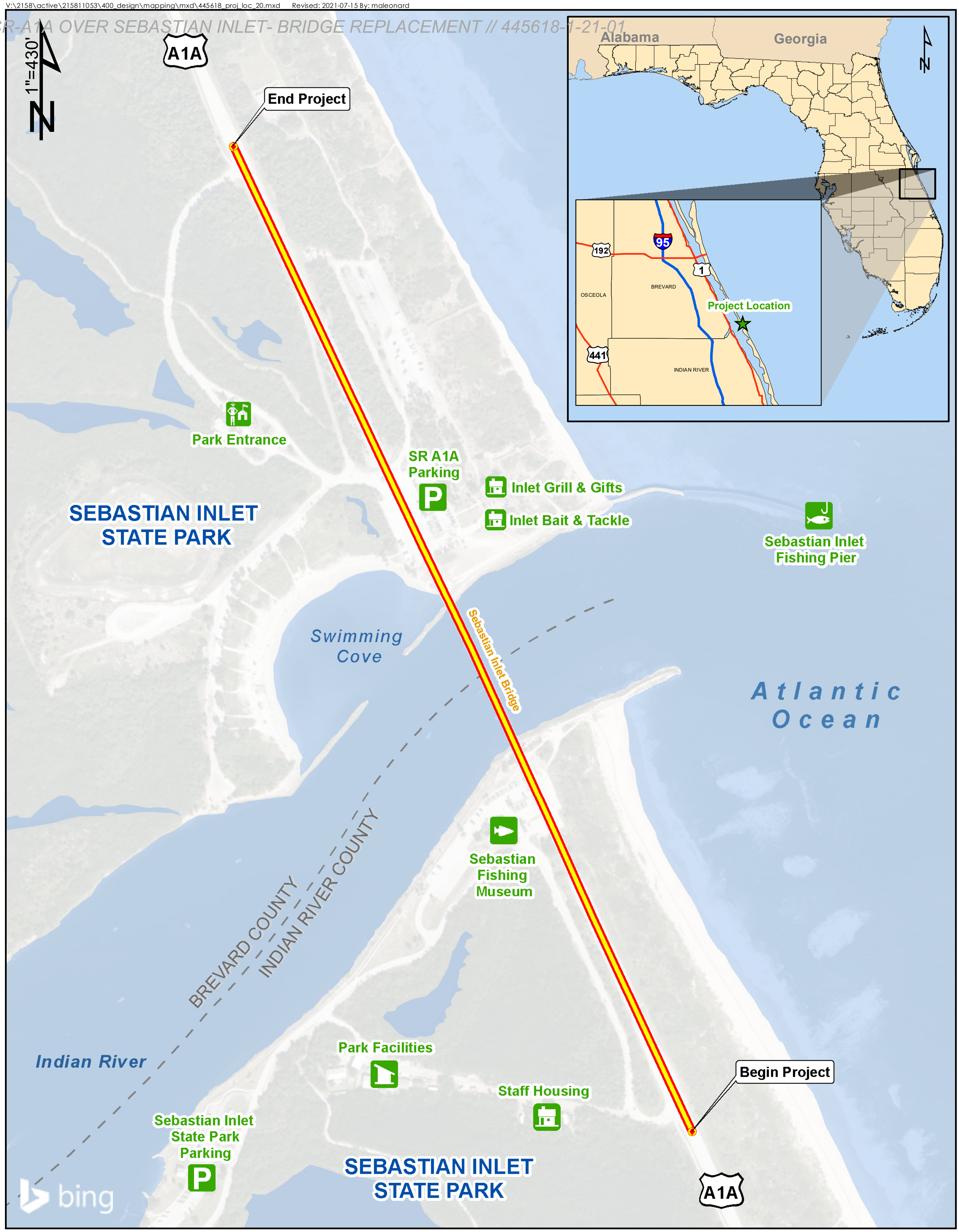
- Recommend wetland mitigation from stormwater pond impacts be mitigated at Indian River Lagoon Preserve, Brevard County. *FDOT to further evaluate this plan once we receive additional details on the scope of work. Additional information was requested by FDOT during the August 10, 2022 meeting. FDOT understands that the Coconut Point restoration project is a park need and that any other proposed mitigation is a park desire and not a need.*

FDOT understands that the need for park property for transportation features, will require compensation based on the Federal Highway Administration (FHWA) Section 4(f) process. We also understand that in order to satisfy the State's Acquisition and Restoration Council (ARC), FDOT needs to work with park personnel to determine that there is a Net Positive Benefit to the park by incorporating elements of the April 21, 2022 letter into the bridge replacement project. If there are any questions, please feel free to contact me at (954) 777-4325 or Christie Pritchard at (954) 777-4147.

Sincerely,

Ann Broadwell
Environmental Administrator
FDOT - District 4

cc:
Mr. Ken Torres, FDEP Park Manager
Mr. Brad Richardson, FDEP Division of State Lands
Mr. Binod Basnet, P.E., FDOT Project Manager



PROJECT LOCATION

FIGURE 1

PROJECT DEVELOPMENT AND ENVIRONMENT (PD&E) STUDY
SR-A1A OVER SEBASTIAN INLET - BRIDGE 880005 - BRIDGE REPLACEMENT
INDIAN RIVER COUNTY AND BREVARD COUNTY, FLORIDA

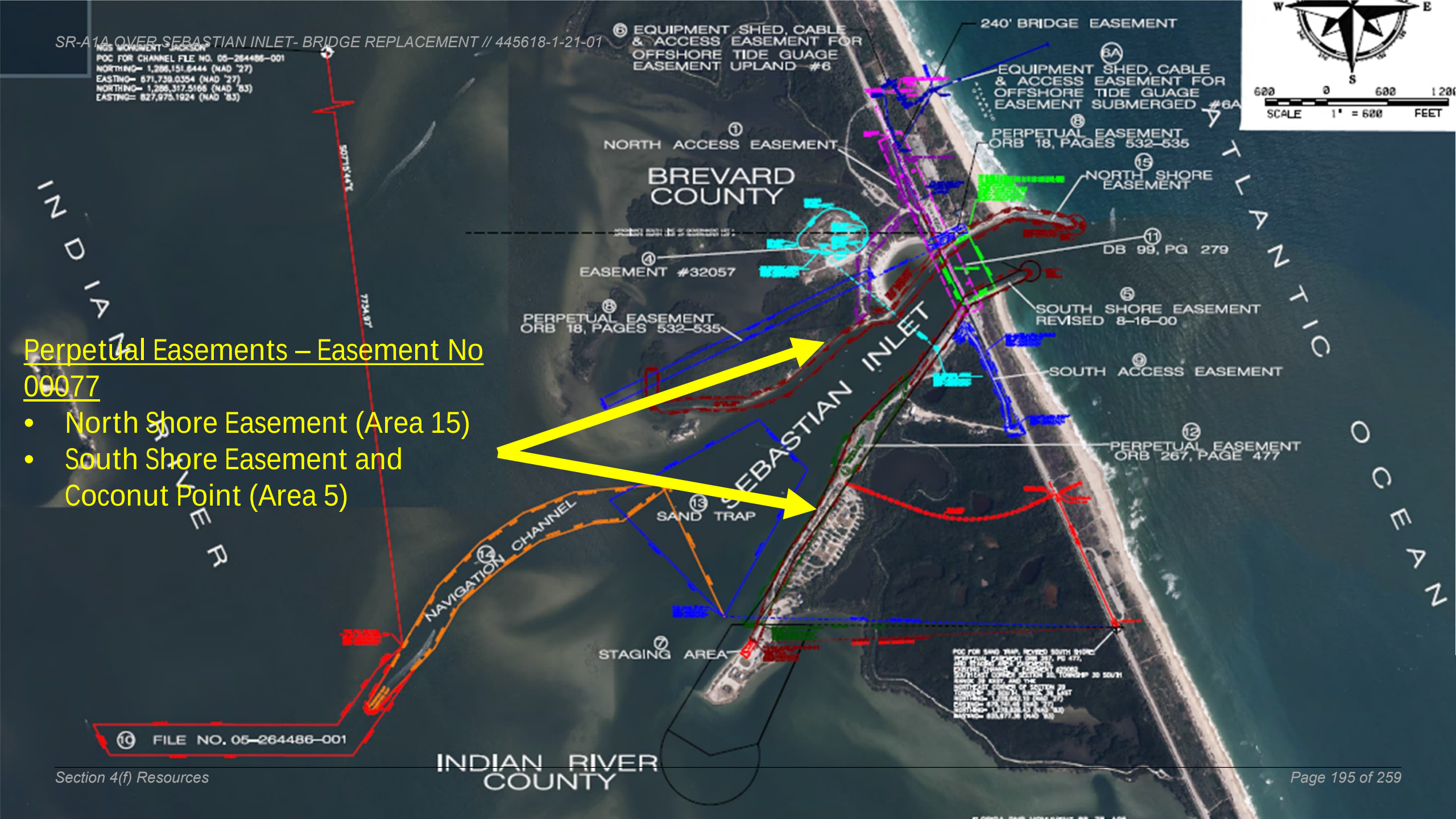
FINANCIAL PROJECT ID: 242592-4-52-01 | FEDERAL AID NO.: D420 075B | ETDM NO.: 14433

Sebastian Inlet District

Contents:

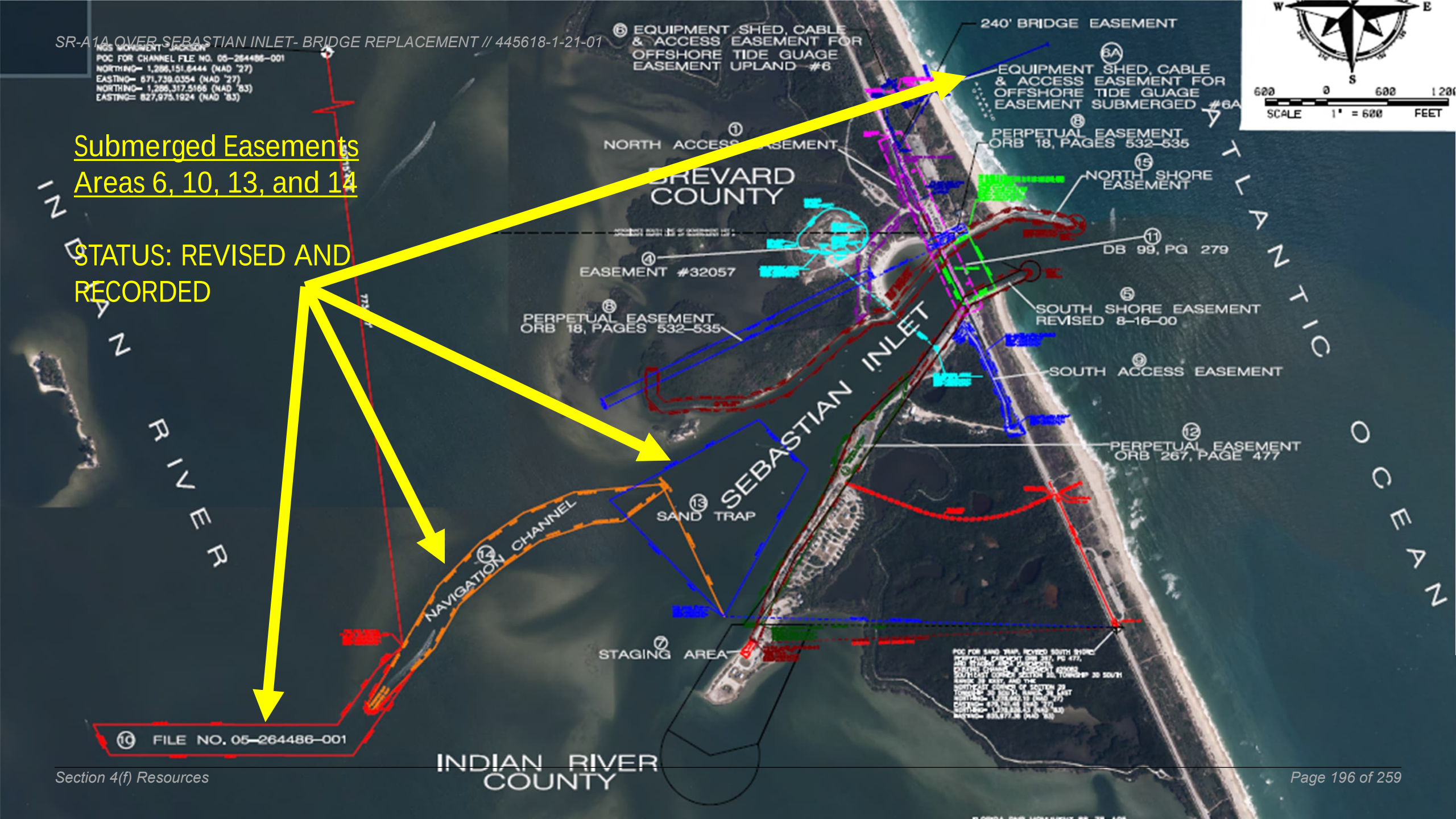
8-4-22 SID Easement Presentation to OEM

Sebastian Inlet District Submerged Land Parcel



Perpetual Easements – Easement No 00077

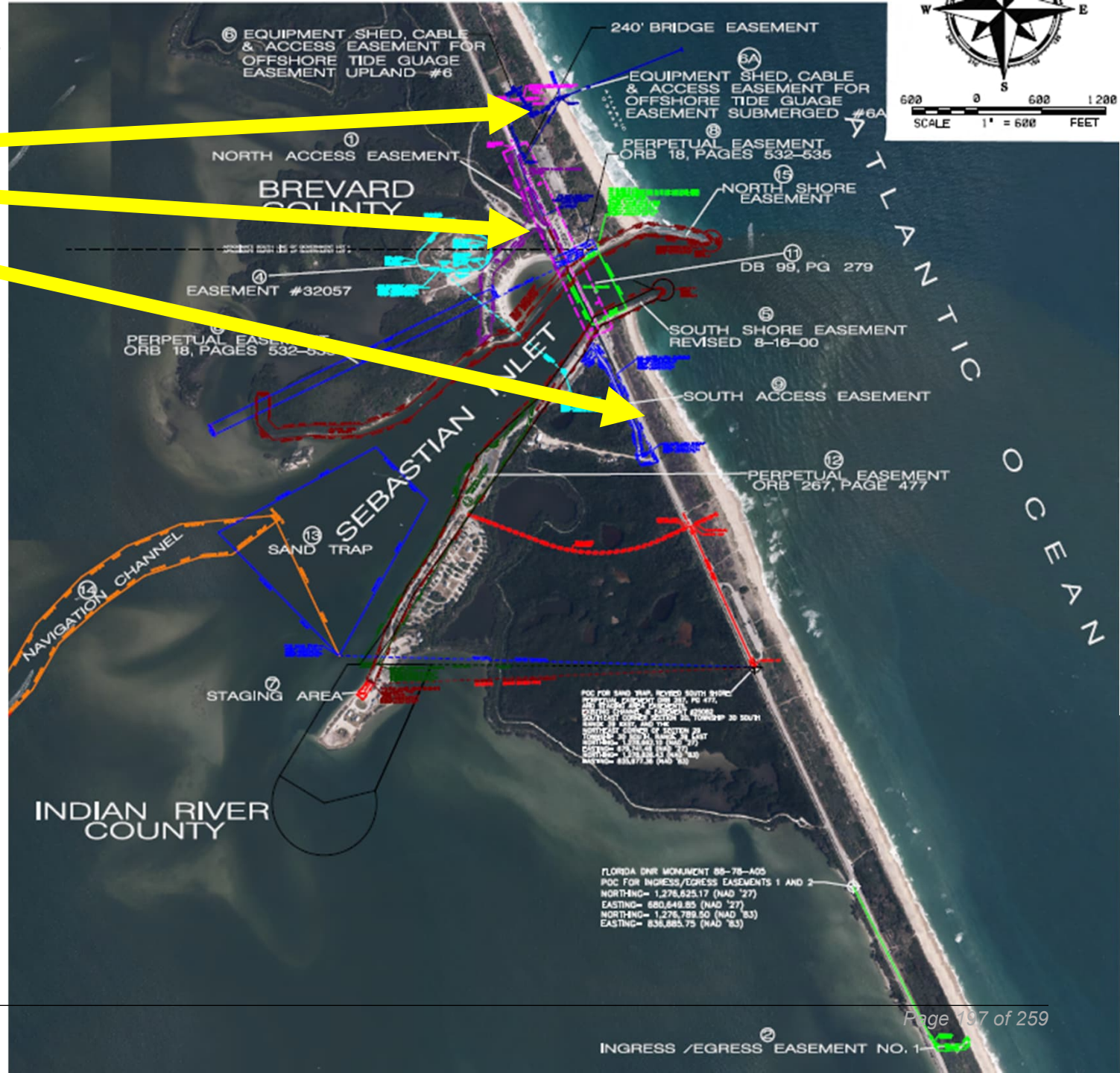
- North Shore Easement (Area 15)
- South Shore Easement and Coconut Point (Area 5)


Submerged Easements
Areas 6, 10, 13, and 14
STATUS: REVISED AND RECORDED
⑥ EQUIPMENT SHED, CABLE & ACCESS EASEMENT FOR OFFSHORE TIDE GUAGE EASEMENT UPLAND #6
240' BRIDGE EASEMENT
⑥A EQUIPMENT SHED, CABLE & ACCESS EASEMENT FOR OFFSHORE TIDE GUAGE EASEMENT SUBMERGED #6A
① NORTH ACCESS EASEMENT
BREVARD COUNTY
④ EASEMENT #32057
⑧ PERPETUAL EASEMENT ORB 18, PAGES 532–535
⑧ PERPETUAL EASEMENT ORB 18, PAGES 532–535
⑮ NORTH SHORE EASEMENT
⑪ DB 99, PG 279
⑤ SOUTH SHORE EASEMENT REVISED 8–16–00
⑨ SOUTH ACCESS EASEMENT
⑫ PERPETUAL EASEMENT ORB 267, PAGE 477
SEBASTIAN INLET
⑬ SAND TRAP
⑭ NAVIGATION CHANNEL
⑦ STAGING AREA
⑩ FILE NO. 05–264486–001
INDIAN RIVER COUNTY
INDIAN RIVER
ATLANTIC OCEAN
SCALE 1" = 600 FEET

Upland Easement 33359

- Wave Gauge Equipment Shed (Area 6)
- North Access Easement (Area 1)
- South Access Easement (Area 9)

- FDEP Approved 1/25/22
- STATUS: FDEP Rescinded 2/3/22 (FDOT ROW Concerns)

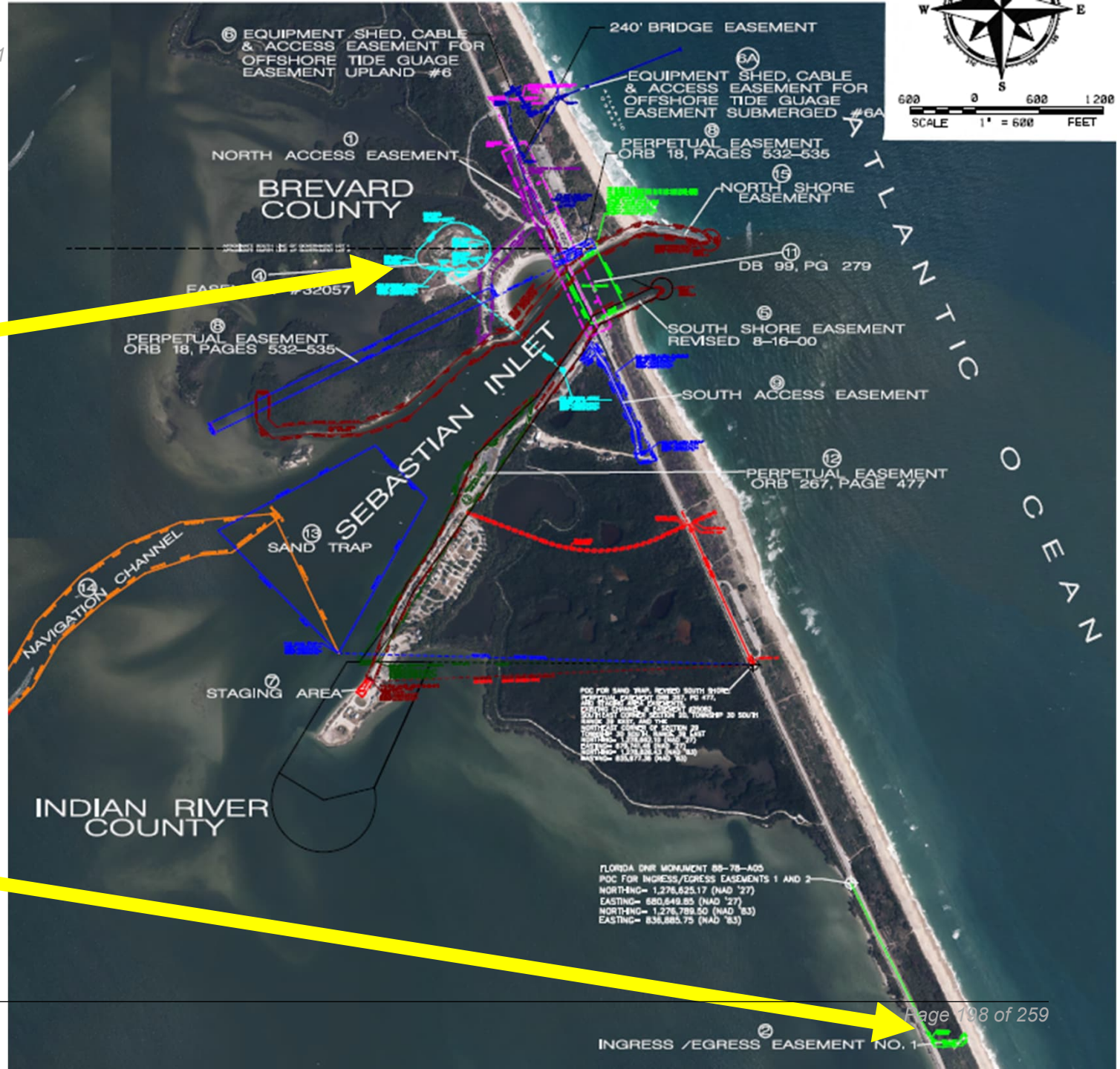


Upland Easement 32057

- Dredged Material Management Area (Area 4)
- STATUS: UNDER FDEP REVIEW

Upland Easement 30247

- R-8 Beach Access (Area 2)
- STATUS: REVISED AND RECORDED

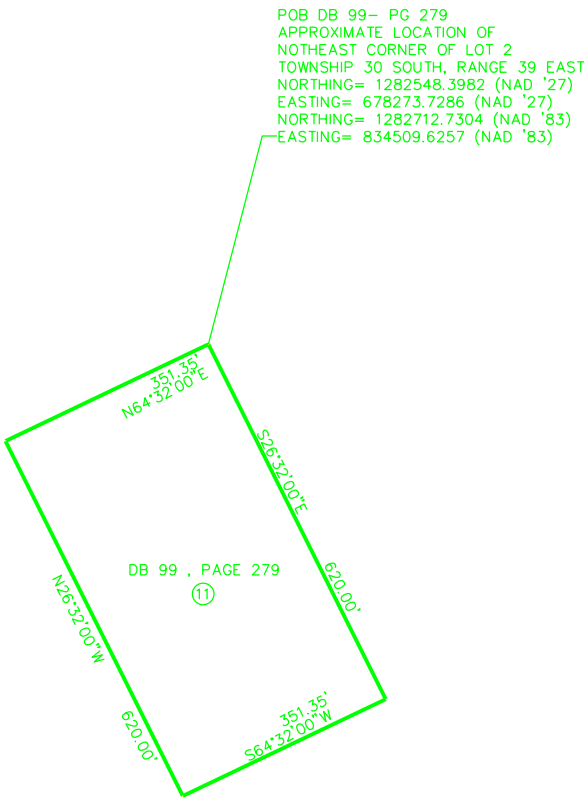


SKETCH OF DESCRIPTION
SEBASTIAN INLET TAX DISTRICT
DB99–PG.279
BRIDGE PARCEL

CERTIFICATIONS

SEBASTIAN INLET TAX DISTRICT

LEGEND	
POC	POINT-OF-COMMENCEMENT
POB	POINT-OF-BEGINNING
EASE	EASEMENT



TIMOTHY R. CARLILE
License Number
5170
STATE OF
FLORIDA
Professional Surveyor and Mapper

NOTES
1. NO UNDERGROUND OR ABOVE-GROUND IMPROVEMENTS LOCATED.
2. THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY TIMOTHY R CARLILE, PLS 5170, ON THE DATE INDICATED. PRINTED COPIES ARE NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.
3. THIS SKETCH OF DESCRIPTION IS A TRUE AND CORRECT REPRESENTATION OF THE LAND AS SHOWN AND NOTED AND MEETS THE MINIMUM TECHNICAL STANDARDS AS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL LAND SURVEYORS IN CHAPTER 5J-17, FLORIDA ADMINISTRATIVE CODE, PURSUANT TO SECTION 472.027, FLORIDA STATUTES.
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6. NO MONUMENTS WERE SET BY SURVEYOR.

SCALE:	1" = 300'
JOB NO.:	2021–044
SHEET NO.	1 OF 2
DATE:	07–26–2021
DRAWN BY:	MC
CHECKED BY:	TC

SURVEY FOR: SITD

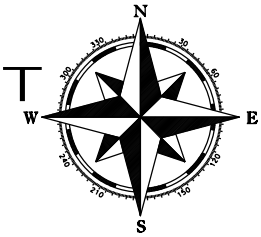
LAND & SEA SURVEYING CONCEPTS, INC.
LAND BUSINESS #6447
PHONE: 321–454–6310
FAX: 321–454–6998
E–MAIL: TC5170@AOL.COM
1605 CHASE HAMMOCK RD.
MERRITT ISLAND, FL 32953
WWW.LAND–AND–SEA–SURVEYING.COM

REVISIONS

08-05-21	CHANGED TITLE FROM EASEMENT TO PARCEL

TIM CARLILE P.L.S
FLORIDA P.L.S. 5170
(NOT VALID UNLESS SEALED)

SKETCH OF DESCRIPTION
SEBASTIAN INLET TAX DISTRICT
DB99–PG.279
BRIDGE PARCEL



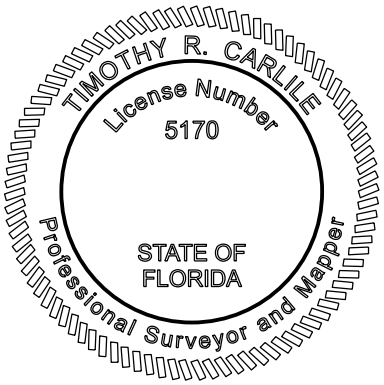
CERTIFICATIONS

SEBASTIAN INLET TAX DISTRICT

LEGEND	
POC	POINT-OF-COMMENCEMENT
POB	POINT-OF-BEGINNING
EASE	EASEMENT

DESCRIPTION OF DB 99- PG 279

BEGINNING AT THE NORTHEAST CORNER OF FRACTIONAL LOT (2) TWO, SECTION (20) TWENTY, TOWNSHIP (30) THIRTY SOUTH, RANGE (39) THIRTY-NINE EAST, THENCE S 26°32' EAST (620) SIX HUNDRED TWENTY FEET TO SOUTH EDGE OF SOUTH JETTY, THENCE S64°32'W ALONG SOUTH EDGE OF SOUTH JETTY TO INDIAN RIVER, THENCE N 26°32'W (620) SIX HUNDRED TWENTY FEET TO NORTH EDGE OF NORTH JETTY, THENCE N64°32'W ALONG NORTH EDGE OF NORTH JETTY TO POINT OF BEGINNING, CONTAINING (5) FIVE ACRES, MORE OR LESS, TOGETHER WITH RIPARIAN RIGHTS.



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6. NO MONUMENTS WERE SET BY SURVEYOR.

SCALE:	1" = 300'
JOB NO.:	2021–044
SHEET NO.	2 OF 2
DATE:	07–26–2021
DRAWN BY:	MC
CHECKED BY:	TC

SURVEY FOR: SITD

LAND & SEA SURVEYING CONCEPTS, INC.
LAND BUSINESS #6447
PHONE: 321–454–6310
FAX: 321–454–6998
E-MAIL: TC5170@AOL.COM
1605 CHASE HAMMOCK RD.
MERRITT ISLAND, FL 32953
WWW.LAND-AND-SEA-SURVEYING.COM

REVISIONS

08-05-21	CHANGED TITLE FROM EASEMENT TO PARCEL

TIM CARLILE P.L.S
FLORIDA P.L.S. 5170
(NOT VALID UNLESS SEALED)

FDOT Transportation Easement

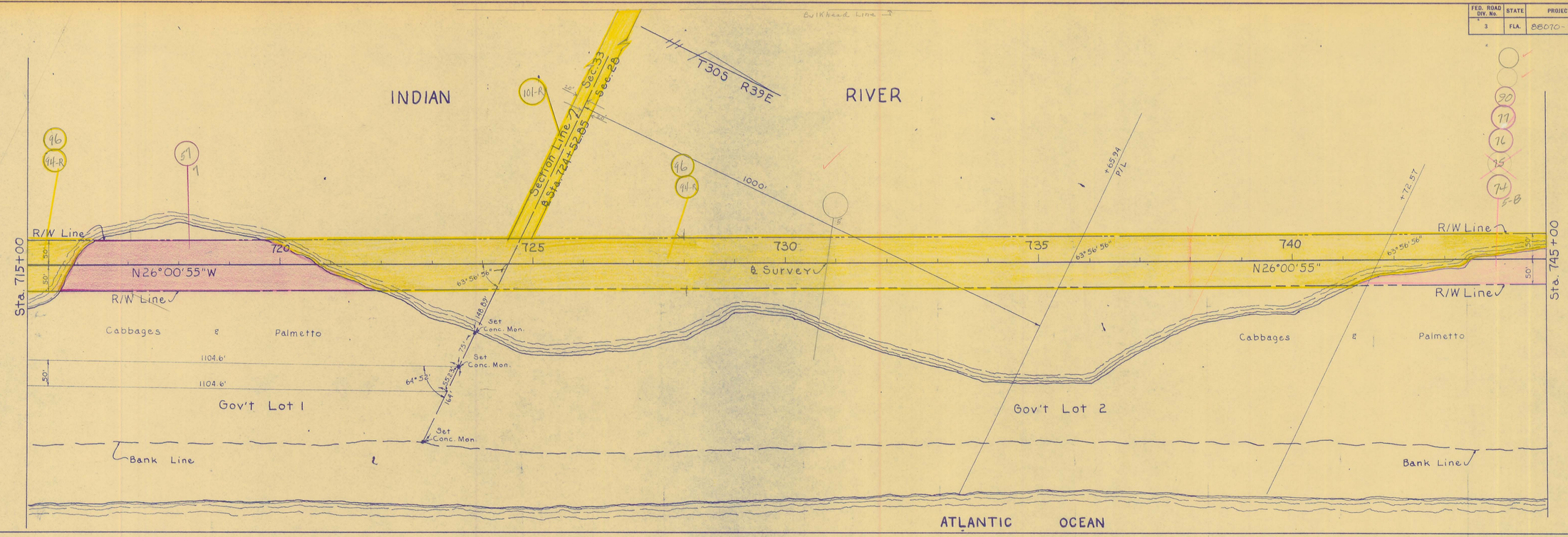
Contents:

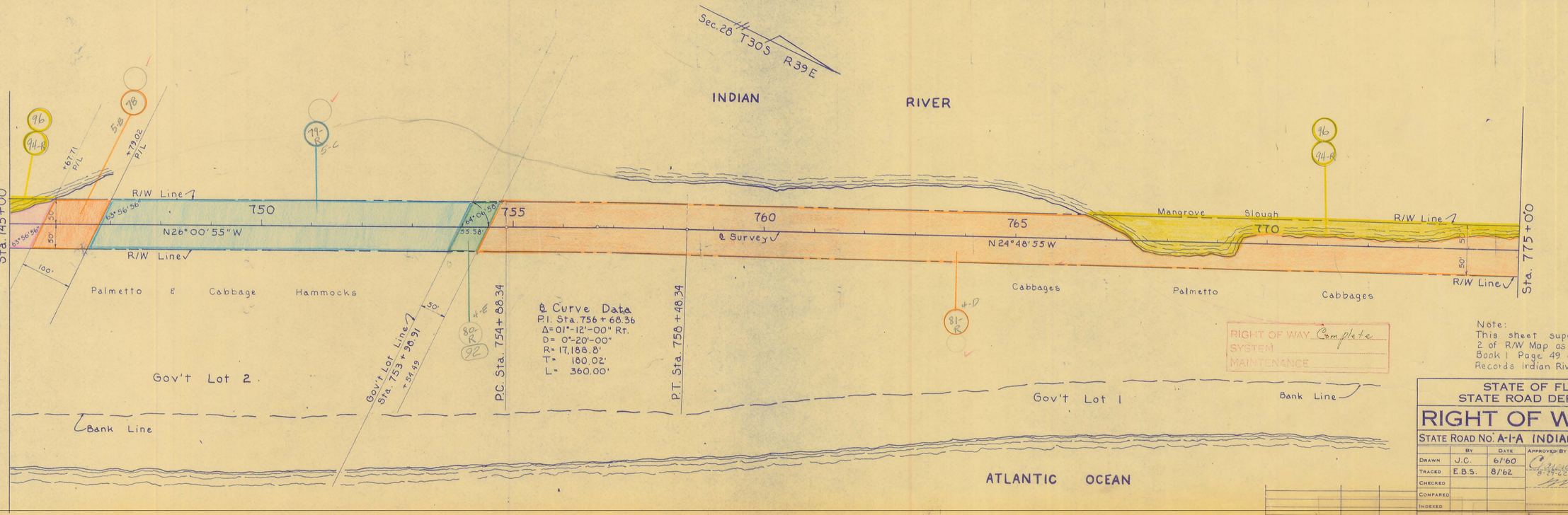
FDOT_ROW_Map

Sebastian_Inlet_District Warranty_Deed_99_279_to FDOT


FED. ROAD DIV. No. | STATE | SEC. AND JOB No. | FISCAL YEAR | SHEET No. | TOTAL SHEETS
3 | FLA. | 88070-2501 | '61 | 1 | 3
LOCATION MAP
Scale: 1" = 1 Mile
BEGIN RIGHT-OF-WAY
END RIGHT-OF-WAY
INDIAN RIVER
ATLANTIC OCEAN
SEBASTIAN RIVER
FLEMING GRANT
TO MELBOURNE
INDIAN RIVER COUNTY
BREVARD COUNTY
R38E
R39E
℄ CURVE DATA
P.I. STA. 672 + 42.39
Δ = 08°53'00" Lt.
D = 01°00'00"
R = 5,730.01'
T = 434.68'
L = 871.67'
5729.58' Used in descriptions
BEGINNING OF RIGHT-OF-WAY STA. 666 + 12.35
SUBDIVISION No 1 AMBERSAND BEACH P.B. 3 PG. 76 BREVARD COUNTY
SUBDIVISION No 2 AMBERSAND BEACH P.B. 3 PG. 76 BREVARD COUNTY
SEC. 33 T30S R39E
T31S
T30S
Exist. R/W Line
R/W LINE
℄ SURVEY
N26°00'55"W
Cabbage Hammocks
Palmetto
Mangroves
Sea Grapes
OCEAN BOULEVARD
GOVT. LOT 2
GOVT. LOT 1
Bank Line
STREET
Gov't. Lot Line
Bulkhead Line
STA. 685+00
STA. 715+00
RIGHT OF WAY Complete
SYSTEM
MAINTENANCE
STATE OF FLORIDA
STATE ROAD DEPARTMENT
RIGHT OF WAY MAP
SECTION No. 88070-2501
ROAD No. A-1-A
INDIAN RIVER COUNTY
SCALE 1" = 100'
DRAWN J.C. 6/60
TRACED G.J.M. 6/60
INDEXED
REVISED
APPROVED BY
A. C. Church
No. | REVISION | BY | DATE

FED. ROAD DIV. No.	STATE	PROJECT No.	FISCAL YEAR	SHEET No.
3	FLA.	88070-2501	61	2





RIGHT OF WAY Complete
SYSTEM
MAINTENANCE

Note:
This sheet supercedes Sheet 2 of R/W Map as filed in Map Book 1 Page 49 of the Public Records Indian River County Florida

STATE OF FLORIDA
STATE ROAD DEPARTMENT

RIGHT OF WAY MAP

STATE ROAD NO. A-1-A INDIAN RIVER COUNTY

	BY	DATE
DRAWN	J.C.	6/60
TRACED	E.B.S.	8/62
CHECKED		
COMPARED		
INDEXED		

APPROVED BY — DISTRICT ENGINEER — DATE 8-27-62
ENGINEER OF RIGHTS OF WAY — DATE 9-5-62
STATE HIGHWAY ENGINEER

REVISION	BY	DATE

SECTION 88070-2501 SHEET 2 OF 3

FED. ROAD DIV. No.	STATE	SEC. AND JOB No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3	FLA.	88070-2501	'61	3	3

T30S R39E
Section Line
Mangrove
Slough
R/W LINE
Cabbages
Palmetto
Bay
Oaks
N24°48'55"W
780
785
790
795
800
℄ SURVEY
R/W LINE
See Detail "A"
Section Line
GOV'T LOT 1
GOV'T LOT 4
GOV'T LOT 3
Bank Line
GOVERNMENT LOT LINE
ATLANTIC OCEAN
DETAIL "A"
No Scale
STA. 779+00
STA. 805+00
SEC 20 T30S R39E
SEBASTIAN
END OF RIGHT OF WAY
Gov't Lot Line (According To Plat)
Gov't Lot Line (According To S.R.D. Survey)
R/W Line
810
815
820
825
Myrtles
℄ S.R. A1A
Exist. R/W
GOV'T LOT 3
Bank Line
SEBASTIAN INLET SUBDIVISION
P.B. 3 Pg. 39
BREVARD COUNTY
INLET
INDIAN RIVER COUNTY
BREVARD COUNTY
STA. 828+06.64 Back = STA. 11+00 Ahead
EQUATION
SECTION 20
SECTION 17
RIGHT OF WAY Complete
SYSTEM
MAINTENANCE
ATLANTIC OCEAN

STATE OF FLORIDA
STATE ROAD DEPARTMENT

RIGHT OF WAY MAP

SECTION No. 88070

ROAD No. A-1-A — INDIAN RIVER COUNTY

	NAMES	DATES
SCALE 1" = 100'		
DRAWN	J.C.	6/60
TRACED	G.J.M.	6/60
INDEXED		
REVISED		
REVISED		

APPROVED BY
A. C. Church

No.	REVISION	BY	DATE
2	Revised R/W Line Sta. 806 to Inlet	R. Sanford	2-4-63
1	Add P/Ls & R/W dimensions	Schindler	7-30-62

88070-2501 3-

SRD No. 101.1
SECTION 70060-250
STATE ROAD A1A
COUNTIES - BREVARD
and INDIAN RIVER

SRD No. 104
SECTION 88070-2501
STATE ROAD A-1-A
Indian River COUNTY

E A S E M E N T

THIS EASEMENT, made and entered into this 22nd day of July, 1963, by and between the SEBASTIAN INLET DISTRICT, a special taxing district created by Chapter 7976, Special Acts of Florida of 1919, and amended by Chapter 12259, General Acts of Florida of 1927, hereinafter referred to as District, party of the first part, and the STATE ROAD DEPARTMENT OF FLORIDA, a component agency of the State of Florida, hereinafter referred to as the Department, party of the second part,

W I T N E S S E T H :

WHEREAS, said District owns certain lands and easements more particularly described in the following documents, viz:

1. That certain warranty deed by Milton J. Hardee to Sebastian Inlet District, dated September 18, 1923, recorded October 3, 1923 in Deed Book 99, page 279 of the public records of Brevard County, Florida.

2. That certain warranty deed by Milton J. Hardee to Sebastian Inlet Commissioners, dated May 11, 1923, recorded May 12, 1923 in Deed Book 99, page 181 of the public records of Brevard County, Florida.

3. That certain agreement and perpetual easement made by Chas. H. Crim, as Trustee, joined by his wife, Sara M. Crim, to Sebastian Inlet District, dated February 20, 1957, recorded May 27, 1957 in O. R. Book 18, pages 532-535 of the public records of Brevard County, Florida,

and,

WHEREAS, said District has agreed to give to said Department an easement across the aforesaid land and easements hereinabove mentioned for the purpose of constructing a

510 DOT 7/22/63

bridge with all appurtenant facilities, across Sebastian Inlet, which said bridge when completed will become a part of State Road A1A for use by the general public; and

WHEREAS, said appurtenant facilities will consist of (a) fenders for said bridge; (b) pedestrian walk ways beneath said bridge deck, and (c) access roads to the lands and easements of said District and private property abutting the proposed State Road right of way as shown on the construction plans of said bridge; and

WHEREAS, by the acceptance of this easement the Department expressly agrees with the District as follows:

(1) The District shall never be obligated to pay from its public funds any expenses for the construction, replacement, repair, maintenance or upkeep of said bridge, or any part thereof above or below the waters of Sebastian Inlet, including all appurtenances thereto and all approaches to said bridge.

(2) Within ninety (90) days after the Department awards a contract for the construction of said bridge with all appurtenances thereto, the Department will at its expense, change the fender system of said bridge to conform to the recommendations of said District as approved by the Coastal Engineering Laboratory, of Gainesville, Florida, U. S. Army District Engineers, of Corps of Engineers, Jacksonville, Florida. Written notice of such change of said fender system, if any is to be made, shall be given by the District to the Department within said ninety-day period; and

WHEREAS, a written agreement providing for this easement has heretofore been entered into between the District, Indian River County, Florida, and the Department, reference to which is hereby made.

NOW, THEREFORE, the said party of the first part, in consideration of the premises, the aforesaid agreement, and the sum of $1.00 to it in hand paid by the party of the second part, the receipt whereof is hereby acknowledged, hereby grants unto the said party of the second part, or its successors, an easement across the land and easements hereinabove mentioned for the purpose of constructing said bridge and appurtenances above described, the width of this easement to be 120 feet on each side of the centerline of State Road A1A, Section 70060, and such centerline is described as follows:

> Commence at a concrete monument marking the Southeast corner of the W½ of SW¼ of SE¼ of Section 17, Township 30 South, Range 39 East, and run thence South 3.33 feet to the North line of Section 20, said Township and Range; thence Westerly along said North line of Section 20, a distance of 276.55 feet; thence South 24° 48' 55" East, 482.17 feet to the POINT OF BEGINNING of the centerline being herein described; thence continue South 24°48'55" East, 1906.64 feet to the end of this centerline description.

IN WITNESS WHEREOF, each of the parties hereto has caused these presents to be executed by its proper officers under its corporate seal, the day and year first above written.

SIGNED, SEALED and delivered in the presence of:

As to the Party of First Part

THE BOARD OF COMMISSIONERS OF SEBASTIAN INLET DISTRICT

By _____ Its Chairman

ATTEST: _____ Its Secretary

(CORP. SEAL)

As to Party of Second Part

STATE ROAD DEPARTMENT OF FLORIDA

By _____ Executive Director

ATTEST: _____ Secretary

(CORP. SEAL)

STATE ROAD DEPARTMENT OF FLORIDA
DIVISION OF RIGHTS OF WAY
DESCRIPTION APPROVED

APPROVED AS TO FORM AND EXECUTION
THOMAS T. COBB
ATTORNEY, S. R. D.
BY _____ 6/21/63
ASSISTANT ATTORNEY

Sebastian Inlet Bridge (Historic)

Contents:

ACHP_e106

Cult_Res_Com_Mtg_No.1_Notes

SHPO_Concurrence_Effects_Determination

Executed_Section_106 MOA

From: Amy Streelman
To: lynn.kelley@dot.state.fl.us
Cc: Beam, Beth
Subject: FW: [External] e form and supporting documents for Sebastian Inlet Bridge
Date: Tuesday, August 16, 2022 11:53:36 AM

It says below they have 15 days to respond, and that time frame has passed, so it appears that they do not want to participate in consultation -

Amy Streelman
Janus Research
1107 N. Ward Street
Tampa, Florida 33607
Cell: 727-560-9963
Office: 813-636-8200

From: e106 <e106@achp.gov>
Sent: Monday, July 18, 2022 11:53 AM
To: Amy Streelman <amy_streelman@janus-research.com>
Subject: Automatic reply: [External] e form and supporting documents for Sebastian Inlet Bridge

The ACHP has received your submission to e106@achp.gov. If your submission is to:

• notify the ACHP of a finding that an undertaking may adversely affect historic properties, or

• invite the ACHP to participate in a section 106 consultation, and/or

• propose to develop a project Programmatic Agreement (project PA) for complex or multiple undertakings, or

• file an executed MOA or PA with the ACHP in accordance with Section 800.6(b)(iv) (where the ACHP did not participate in consultation); or

• provide documentation regarding any other situation.

If this is a notification of an adverse effect, this is your official dated receipt of your submission (in accordance with 36 CFR Part 800.6(1) if this is an adverse effect notification). The ACHP has 15 calendar days to determine if it will participate in consultation to resolve adverse effects to historic properties.

If this is a notification for any other reason, this is your official dated receipt of your submission. The time in which the ACHP responds is dependent on the nature of the notification.

*****Please note that the e106@achp.gov address is intended solely for the submission of documentation and official notifications to the ACHP regarding new/ongoing consultations and existing agreement documents. This address is not intended for case specific communication,

correspondence, or scheduling. Such communications should be directed to the assigned ACHP staff member using their ACHP email address.******

MEETING NOTES

Cultural Resource Committee Meeting No. 1

Project	Project Development & Environment (PD&E) Study SR A1A Over Sebastian Inlet – Bridge 880005 - Bridge Replacement Indian River County and Brevard County
FM No.	445618-1-22-02
Contract No.	CAA79
Stantec Project No.	215811053
Date/Time	Wednesday, April 27, 2022/ 8:30 AM – 10:00 AM
Location	GoTo Meeting https://meet.goto.com/918402493
Call-In Number	(872) 240-3412 Access Code: 918-402-493
FDOT PM	Binod Basnet, PE
Consultant PM	Beth Beam MS, AICP

The first meeting of the Cultural Resource Committee for the Sebastian Inlet Bridge PD&E Study was held on Wednesday, April 27, 2022, as a GoTo Meeting.

1. Introduction

Binod Basnet (FDOT) opened the meeting with call-in attendees. The purpose of the meeting is to conduct and document good faith consultation with affected parties in compliance with Section 106 of the National Historic Preservation Act. Due to time constraints no formal introductions were made.

Following is a summary of key discussion points.

2. Presentation

Beth Beam (Stantec), Amy Streelman (Janus), and Rudy Westerman (Janus) presented a PowerPoint presentation that covered the following:

- Project Location
- Purpose and Need for the Project
- PD&E Process
- Project Background
- Existing Bridge Conditions
- Alternatives Development and Analysis
    - No-Action, Rehabilitation, Build Alternatives
- Section 106 Process

Discussion

At the conclusion of the presentation, attendees were invited to comment, ask questions, provide input for discussion.

Ms. Streelman asked if there were any questions on the results of the cultural resources survey or assessment. No comments were received.

MEETING NOTES

Ms. McManus (FDOS) stated that the Historic American Engineering Recordation (HAER) and bridge marker were anticipated mitigation opportunities. Ann Broadwell (FDOT) noted that the historic aspect of the bridge is straightforward. She mentioned other opportunities to memorialize the bridge such as through information kiosks or the use of QR codes that can take a user to historical information or documentation.

James Gray (Sebastian Inlet District) confirmed that the bridge is the only one that has crossed the Sebastian Inlet. He noted that Indian River County repurposes materials, such as this bridge, for use to continue development of an artificial reef off the coast.

Marsha Welch (FDOS) asked about monitoring of archaeological sites. Mr. Westerman said that the two high probability sites will be monitored.

Meeting adjourned at 9:32 AM

These notes reflect our interpretation of the discussions and issues discussed during the meeting. Please notify Beth Beam if there are any modifications needed to the meeting notes within ten (10) calendar days from issuance of the meeting notes.

Attachments: Agenda
PPT

ACTION ITEMS

Stantec

- Coordinate Date for Cultural Resource Committee Meeting No. 2

LIST OF ATTENDEES

Binod Basnet, FDOT/Project Manger
Ann Broadwell, FDOT/District Environmental Administrator
Ruben Rodriguez, FDOT/Drainage Design
Fernando Ascanio, FDOT Planning and Environmental Management
Lindsay Rothrock, FDOT/Office of Environmental Management
Deena Woodward, FDOT/Office of Environmental Management
Andi Maris, USCG/Bridge Management Specialist
Marsha Welch, FDOS/Historic Preservationist, Division of Historical Resources
Alyssa McManus, FDOS/Division of Historical Resources
Kenneth Torres, FDEP/ Park Manager, Sebastian Inlet State Park
Brian Freeman, Indian River County MPO/Staff Director
Sarah Kraum, Space Coast TPO/Senior Transportation Planner
James Gray, Sebastian Inlet District/Executive Director
Beth Beam, Stantec/Project Manager
Mohit Soni, Stantec/Deputy Project Manager
Roberto Gutierrez, Stantec/Engineering Lead
Amy Streelman, Janus/Cultural Resources
Ginny Jones, Janus/Cultural Resources
Jim Pepe, Janus/Archaeology
Rudy Westerman, Janus/Archaeology

Agenda

Cultural Resource Committee Meeting No. 1

Project	Project Development & Environment (PD&E) Study SR A1A Over Sebastian Inlet – Bridge 880005 - Bridge Replacement Indian River County and Brevard County
FM No.	445618-1-22-02
Contract No.	CAA79
Stantec Project No.	215811053
Date/Time	Wednesday, April 27, 2022, 8:30 AM – 9:30 AM
Location	GoTo Webinar
Webinar Link	https://meet.goto.com/829850525
Call-In Number	+1 (646) 749-3122 Access Code: 829-850-525
FDOT PM	Binod Basnet, PE
Consultant PM	Beth Beam MS, AICP

8:30 am – 9:15 am

Presentation

1. Introductions
2. Project Location
3. Purpose and Need for the Project
4. PD&E Process
5. Project Background
6. Existing Bridge Conditions
7. Alternatives Development and Analysis
8. Section 106 Process

9:15 am – 10:00 am

9. Discussion
10. Next Steps

Timeframes are estimated.

Should the time provided not be required the meeting will close early.

Cultural Resource Committee

Meeting No. 1

SR A1A over Sebastian Inlet
Bridge 880005 - Bridge Replacement
PD&E Study

Indian River County and Brevard County
FM No. 445618-1-22-02
ETDM 14433

April 27, 2022
8:30 AM – 10:00 AM

www.fdot.gov/projects/SebastianInletBridge

AGENDA

- Project Location
- Purpose and Need for the Project
- PD&E Process
- Project Background
- Existing Bridge Conditions
- Alternatives Development and Analysis
- Section 106 Process
- Next Steps
    - Discussion

Project Location

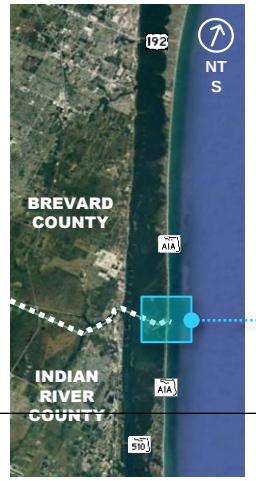
Indian River County and Brevard County Boundary

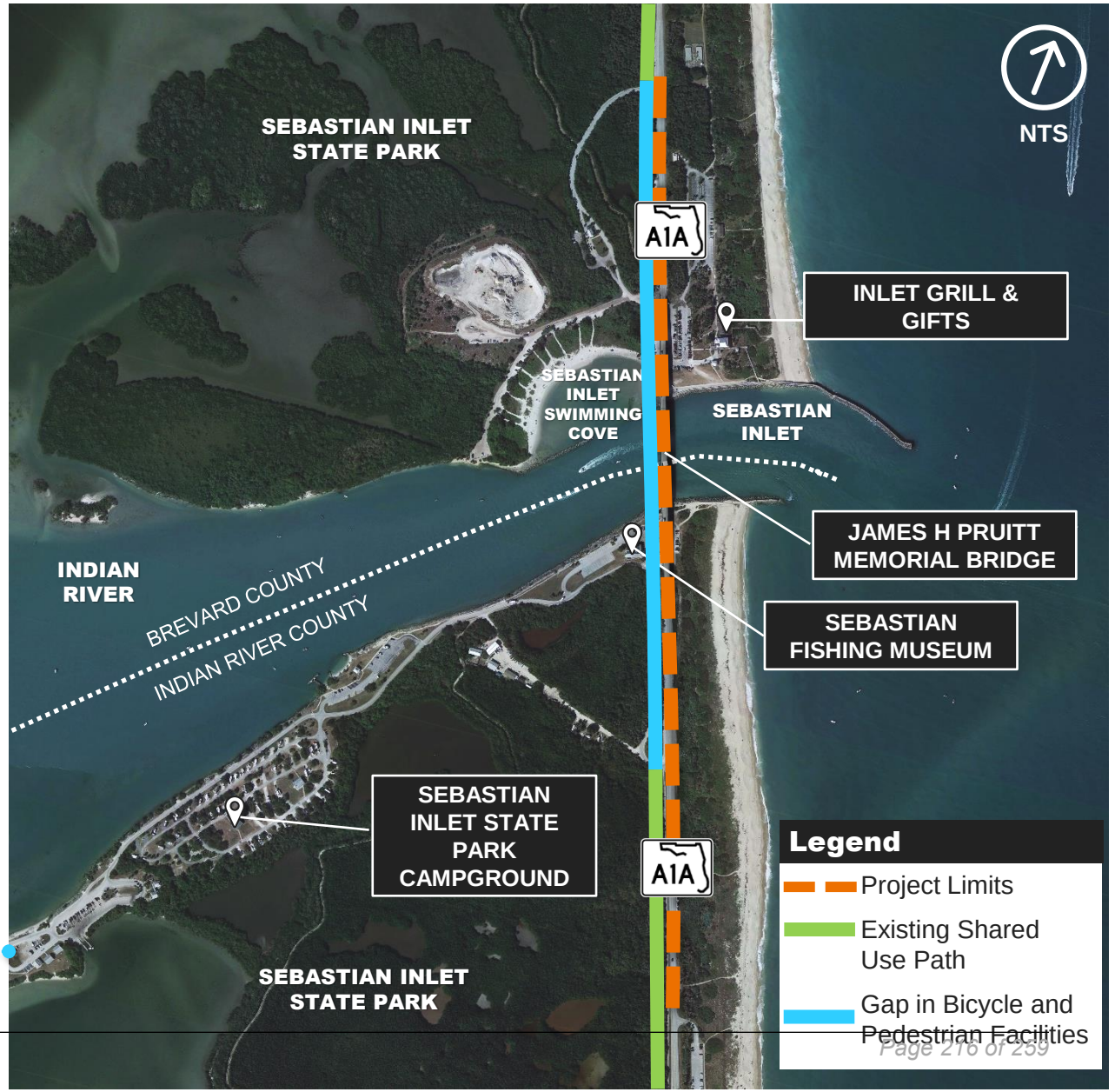
SR A1A

- Two-lane Roadway
- Shared use path - west side north and south of the bridge
- Part of the Indian River Lagoon National Scenic Byway

James H Pruitt Memorial Bridge

- Two-lane Bridge
- No shoulders
- No bicycle or pedestrian facilities





2019 Bicycle/Pedestrian Data Counts

Dec 12 – Dec 15 6:00 AM to 6:00 PM

231 Bicyclists

5 Pedestrians

Currently crossing the bridge despite not having appropriate bicycle and pedestrian facilities

Purpose and Need for the Project

- Address bridge structural and functional deficiencies
- Address the gap in system linkage for bicyclists and pedestrians
- Evaluate bridge alternatives

Class of Action

- Type 2 Categorical Exclusion (CE)

Purpose of the Cultural Resource Committee

To conduct and document good faith consultation with affected parties in compliance with Section 106 of the National Historic Preservation Act.

PD&E Study Process

Alternatives Public Workshop January 11 & 13, 2022

Data Collection

- Engineering Data
- Environmental Data
- Other Data

Concept Development

- Needs Analysis
- Initial Concept Alternatives Development
- Concept Alternatives Screening

Environmental & Engineering Analyses

- Environmental Analyses & Studies
- Engineering Analyses

Alternatives Refinement

- Alternatives Refinement & Screening
- Environmental Documentation

Final Documents

- Preliminary Engineering Report
- Type 2 Categorical Exclusion
- FDOT Review of Final Documents
- Location and Design Concept Acceptance (LDCA)

Public Kickoff Meeting May 11, 2021

NEXT : Complete documentation, refine alternatives, and Hold Public Hearing

View Public Meeting Presentations and Project Related Documents on the Project Website:
www.fdot.gov/projects/SebastianInletBridge

Project Background

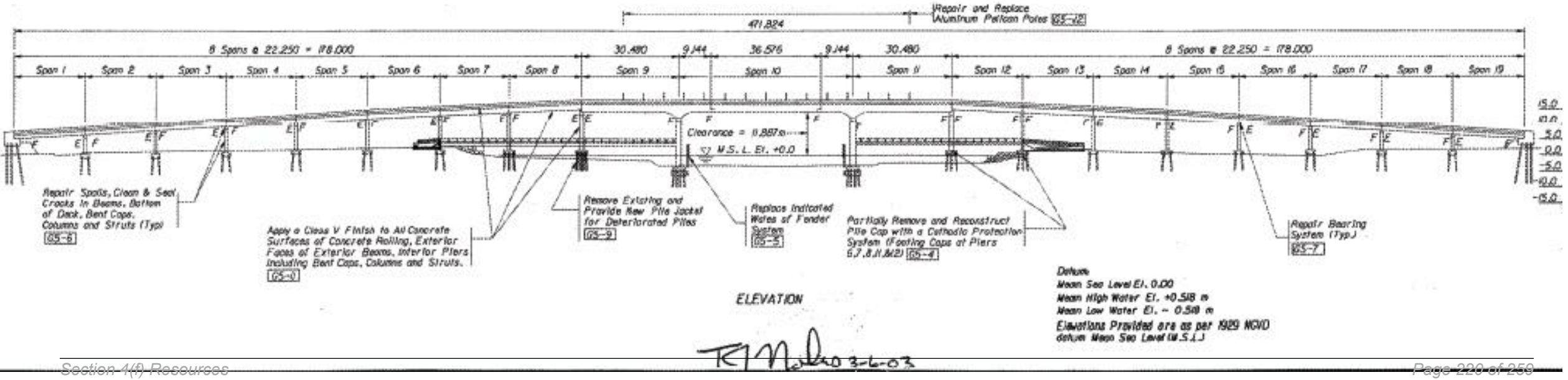
- Constructed 1964
- Repaired or retrofitted – 1978 and 2003
  - Vertical clearance: 39-feet
  - Horizontal clearance: 150-feet
  - Bridge width: 34-feet 3-inches
- Observation/fishing piers under bridge deck on the north and south sides of the bridge
- November 2018 bridge inspection:
  - Bridge Health Index of 79.8
  - Per FHWA's national bridge rating system – "structurally deficient" (This does not mean the bridge is unsafe – the rating indicates the need for repair or replacement)

James H. Pruitt Memorial Bridge

National Register of Historic Places (NRHP)

Built as a pre-tensioned bridge

Determined Eligible for Listing under **Criterion C** in the area of Engineering for its high-integrity embodiment of a prestressed concrete bridge in Florida



Structural Deficiencies

Bridges are rated on a scale of 0 to 9 for the following bridge elements:

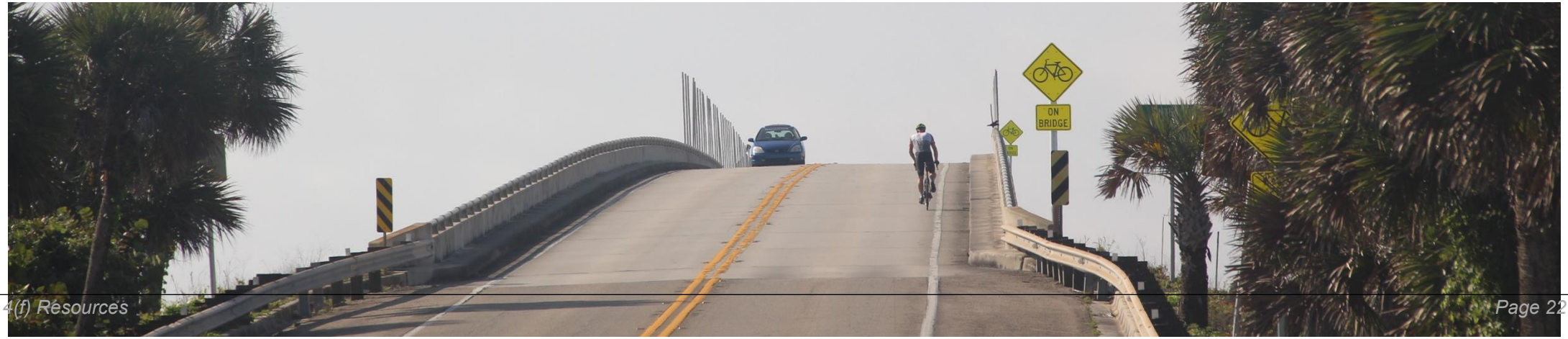
- deck (riding surface),
- superstructure (supports beneath riding surface)
- substructure (bridge foundation)
- culverts

A rating of 4 or less is a structural deficiency

Functional Deficiencies

A functionally deficient bridge is one that was built to current standards for:

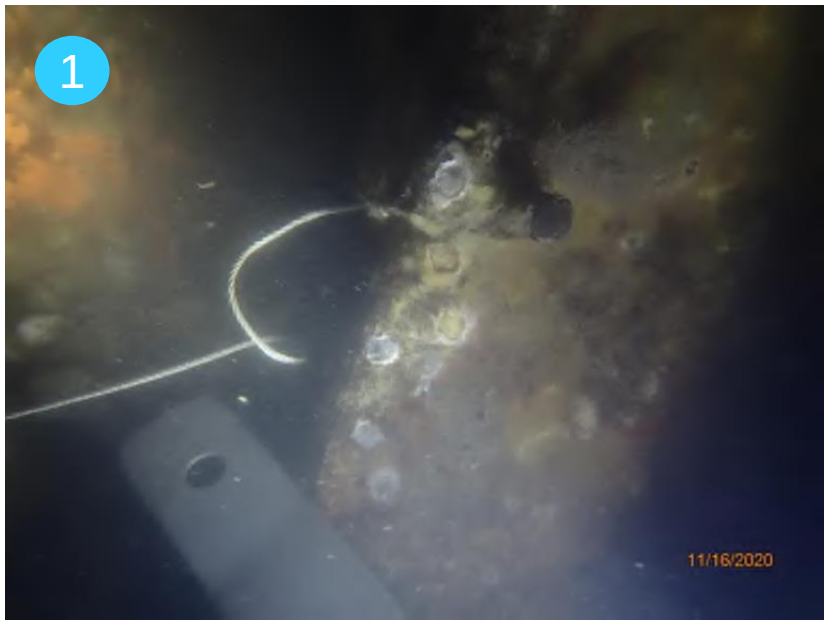
- lane widths
- shoulder widths
- vertical clearances to serve current traffic demand
- may be occasionally flooded

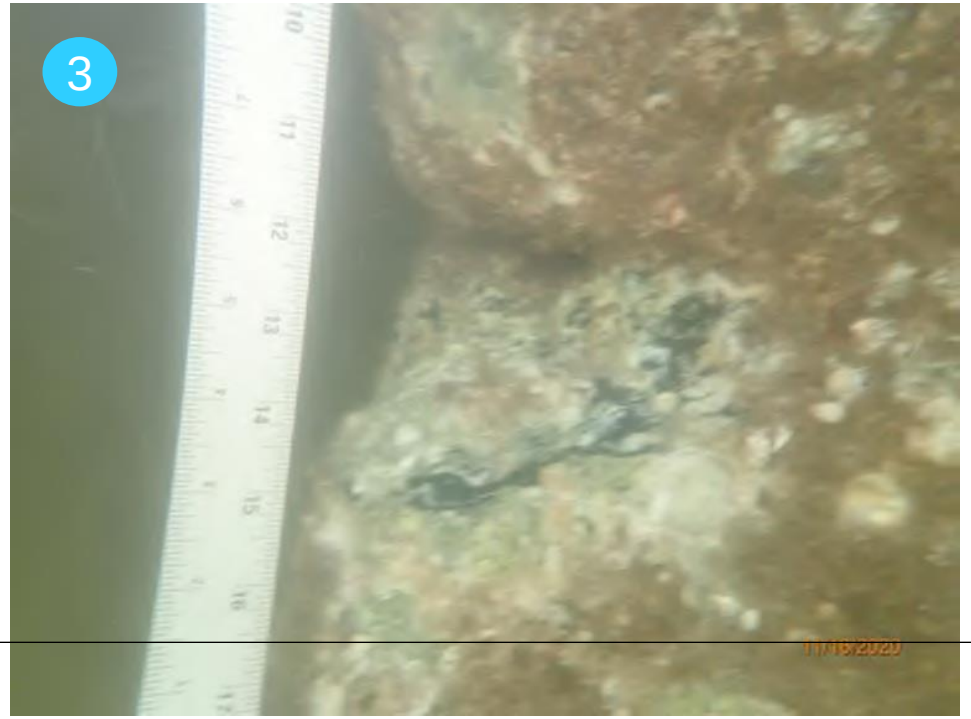


Existing Bridge Deficiencies

Scour Critical

1. Pile exposed with corrosion and pitting
2. Pile jacket voids
3. Pile jacket spalling





Existing Bridge Deficiencies

Spalling/Delamination

1. Deck exposing steel tie back at Pier 9
2. Deck spall with exposed corroded rebar
3. Spall with exposed steel

Existing Bridge Deficiencies

1. Exposed steel, painted
2. Column spalling/delamination
3. Spall with exposed steel – concrete girder/beam

Existing Bridge Deficiencies

1. Bridge cap delamination between columns
2. Bridge pier cap delamination
3. Bridge cap delamination bottom face

Existing Bridge Deficiencies

1. Corrosion - Exposed Strands
2. Corrosion on bearing – cantilevered section
3. Spall/delamination of concrete girder/beam with exposed strands

Existing Bridge Deficiencies

1. Bridge delamination and spalling
2. Corrosion on under bridge fishing pier railing and deck
3. Corrosion on under bridge fishing pier

Agency Coordination

Federal and State

- US Coast Guard
- US Army Corps of Engineers
- NOAA National Marine Fisheries Service
- Florida Department of State Parks – Sebastian Inlet State Park
- Florida Department of Environmental Protection
- State Historic Preservation Officer
- St. Johns River Water Management District

Local Agencies

- Sebastian Inlet District
- Indian River County and Metropolitan Planning Organization
- Brevard County
- Space Coast Transportation Planning Organization
- Indian River Lagoon Council
- Indian River Scenic Byway Coalition

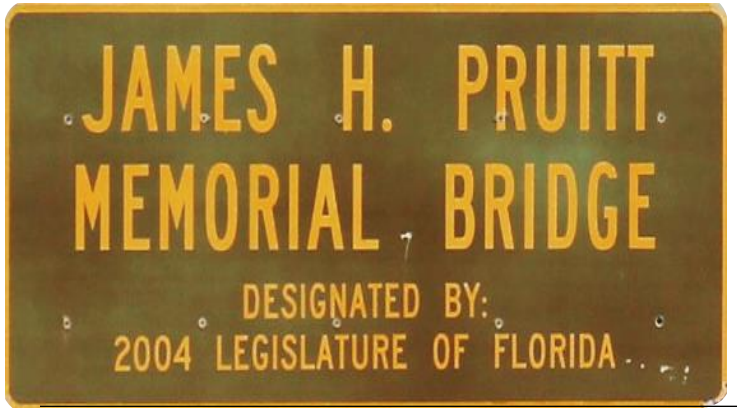
Public Involvement

- Public Kickoff Meeting held May 11, 2021
- Alternatives Public Workshop held January 11 & 13, 2022
- ***NEXT: Public Hearing – Fall 2022***

Engineering Analysis

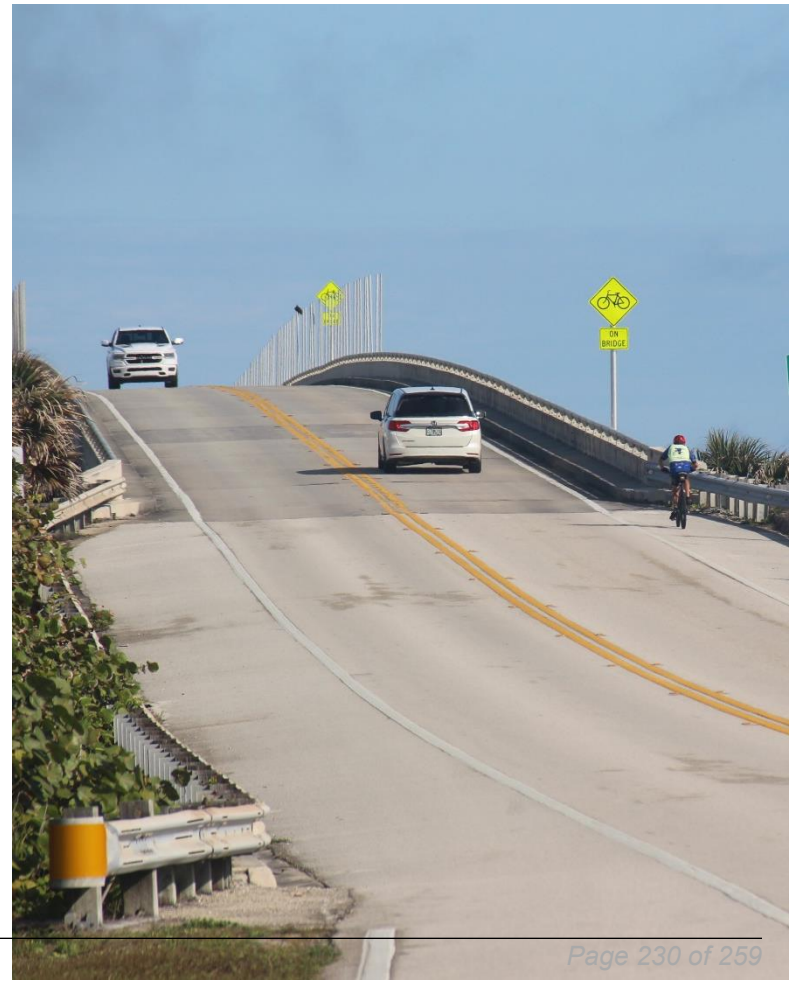
Environmental Analysis

Cultural Resources



Natural Resources

Physical Resources



Alternatives Considered

No Build

- No improvements are made
- Serves as baseline for comparison of other alternatives

Rehabilitation or Repair

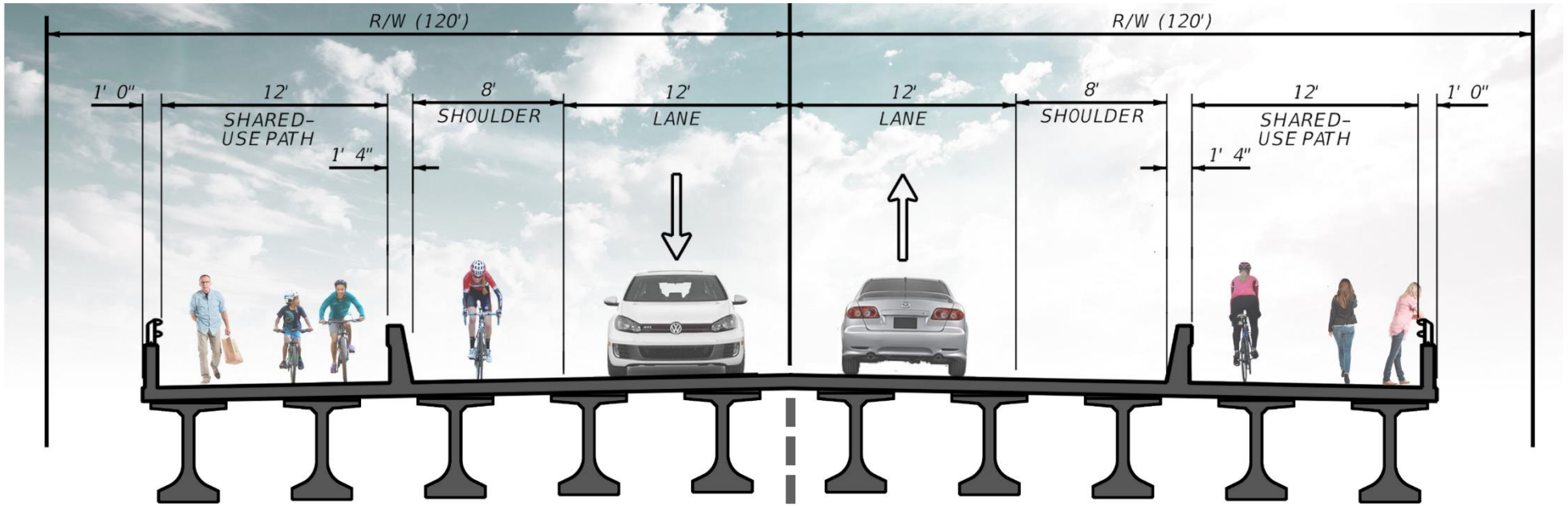
Build

- Evaluation of alignment
  - Alternative 1: Center (along existing)
  - Alternative 2: East
  - Alternative 3: West

Evaluation Criteria/Category

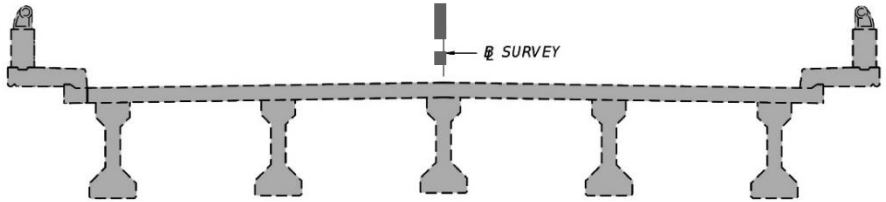
- Design speed
- USCG Determination
  - Vertical Clearance
  - Horizontal Clearance
- Horizontal alignments
- Constructability
- Benefit to:
  - Marine Traffic
  - Vehicular Traffic
- Impact to Resources
  - Recreational
  - Natural Resources
  - Cultural Resources

Bridge Typical Section



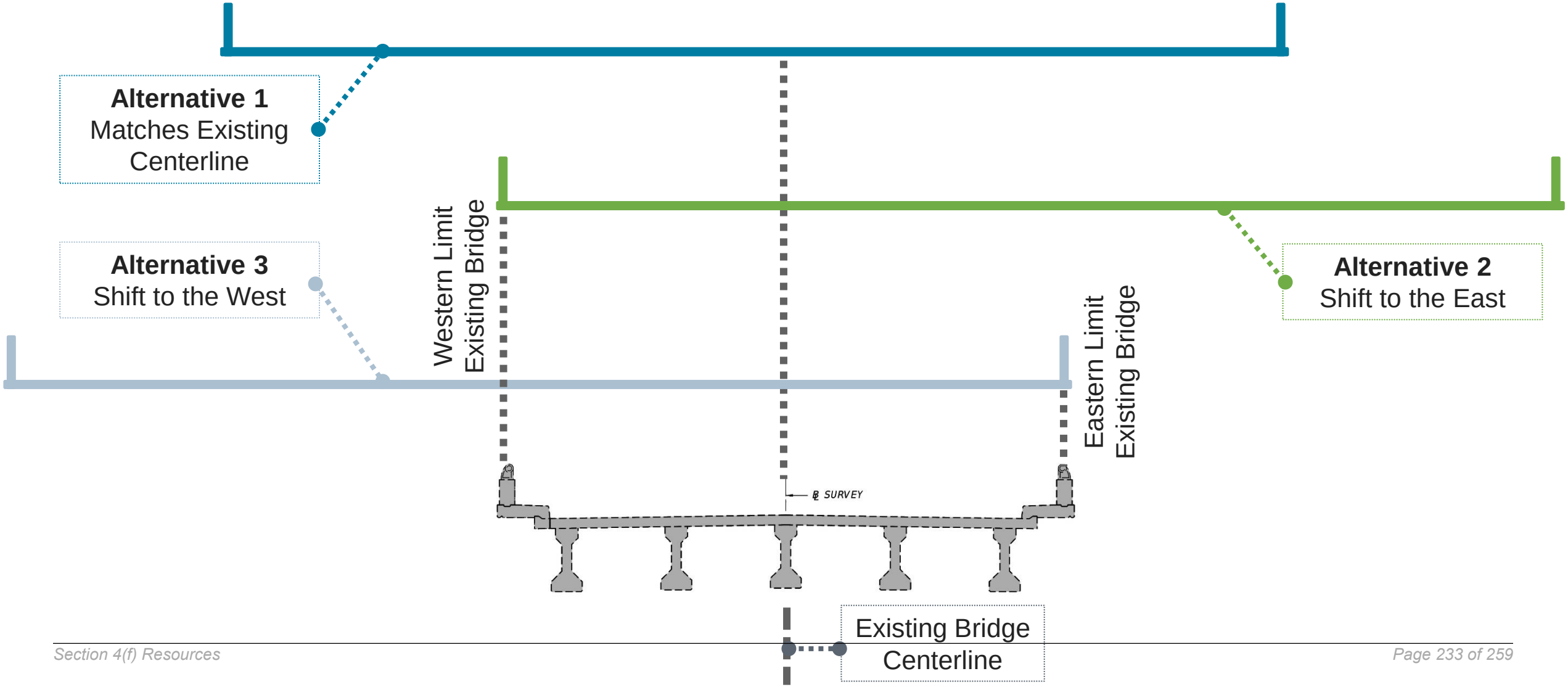
Proposed Bridge Typical Section

Existing Bridge Centerline

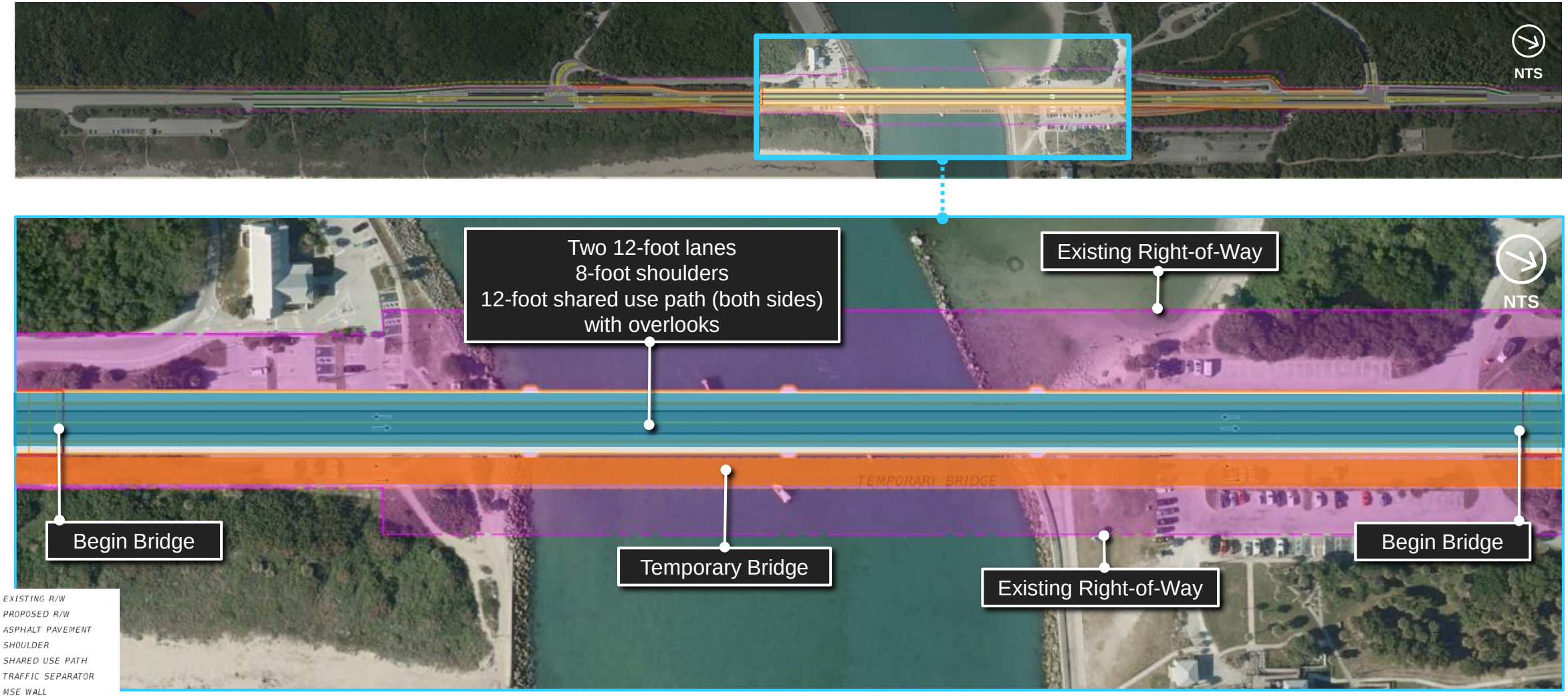


Existing Bridge Typical Section

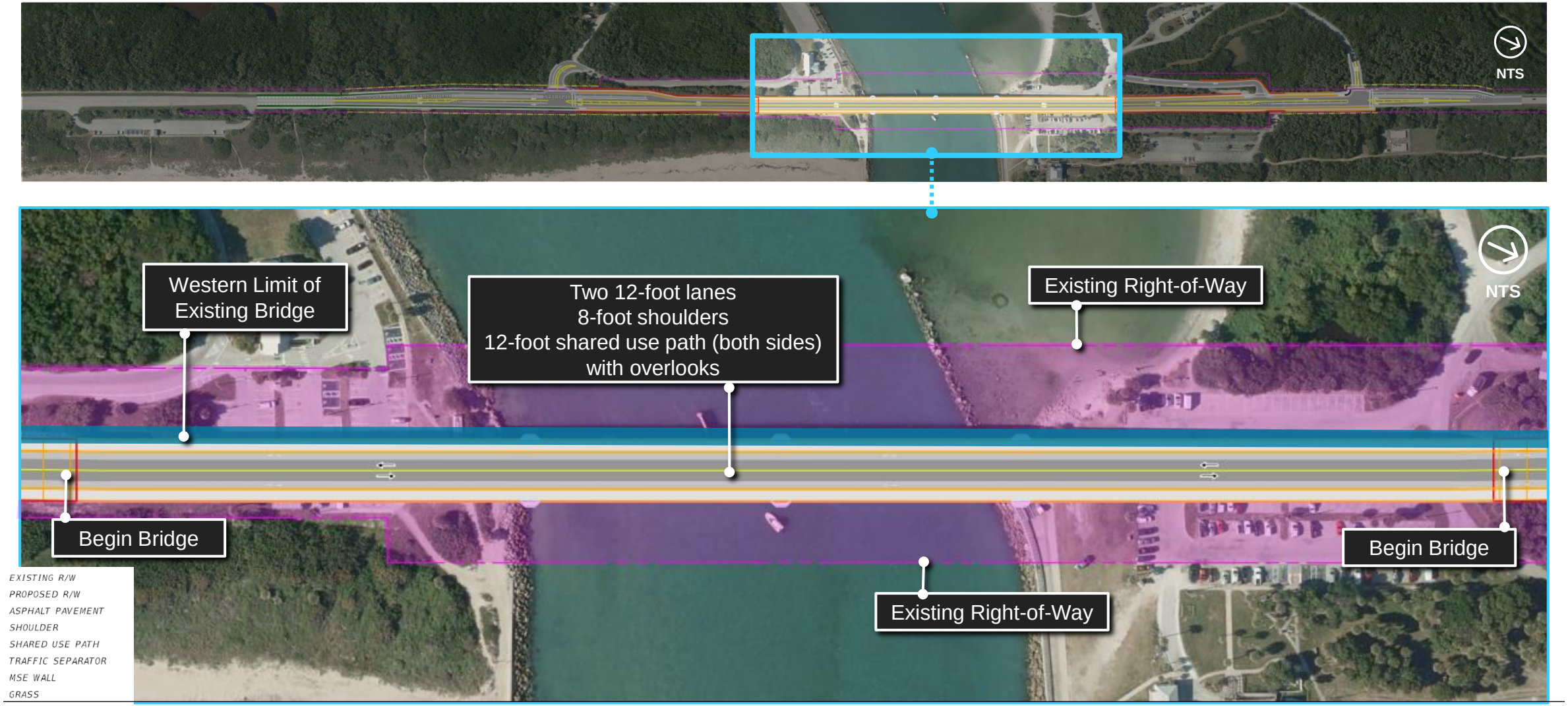
Viable Build Alternatives Alignment Comparison



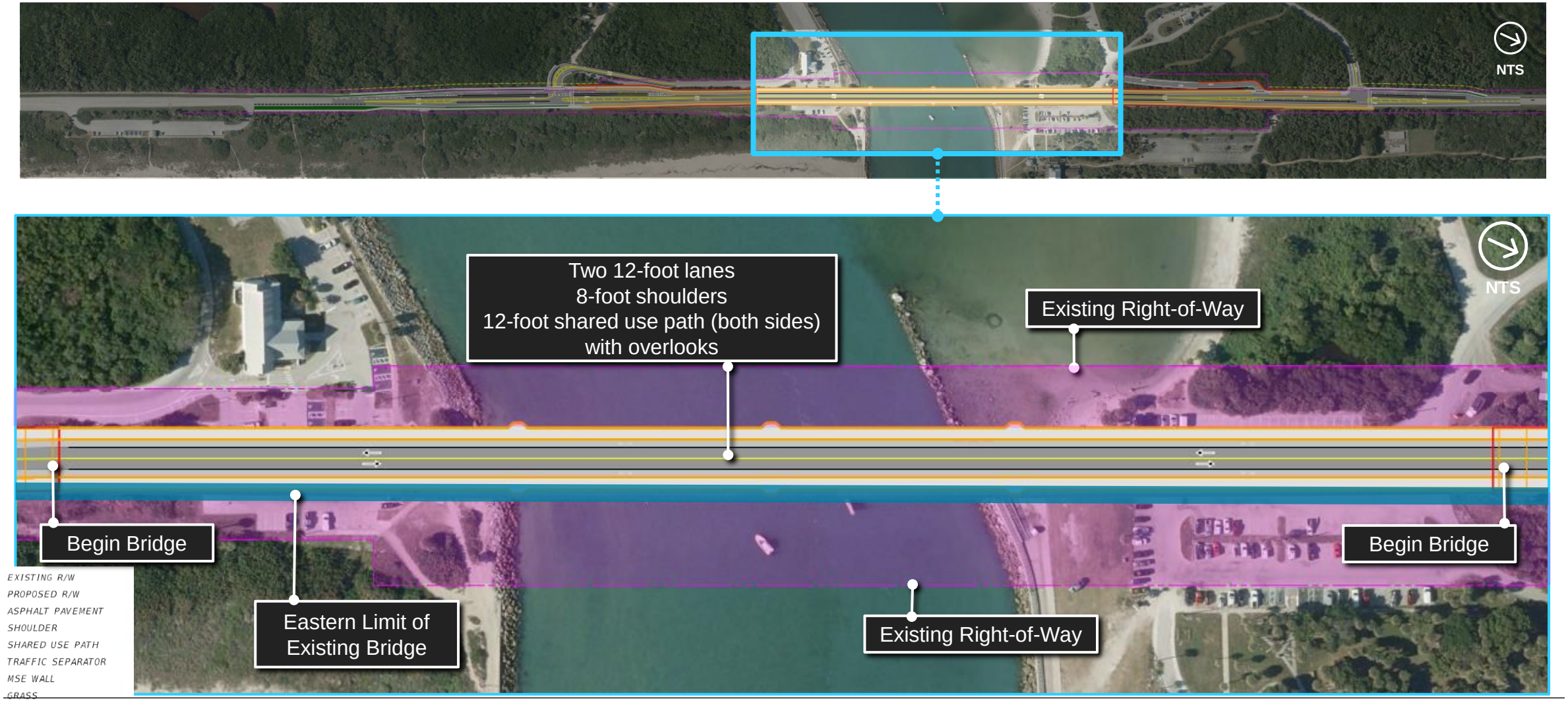
Viable Build Alternative 1: Existing Alignment with Temporary Bridge



Viable Build Alternative 2: East Alignment



Viable Build Alternative 3: West Alignment



Rehabilitation Alternative

Rehabilitate to Existing Condition

Yes

Does not Meet the Purpose and Need for the Project

No

Remains structurally and functionally deficient

No

Does not Meet the Purpose and Need for the Project

No

Remains structurally and functionally deficient

Rehabilitate to Meet the Purpose and Need for the Project

Meet current FDOT Design Standards

At minimum, widen bridge deck by adding shoulders and bicycle/pedestrian facilities

Provide a 75-Year Service Life

Maintains existing vertical and horizontal clearances

Maintain traffic during construction

Minimize impacts to the natural, cultural, and physical environments

Section 106 of the National Historic Preservation Act

Cultural Resources Assessment Survey

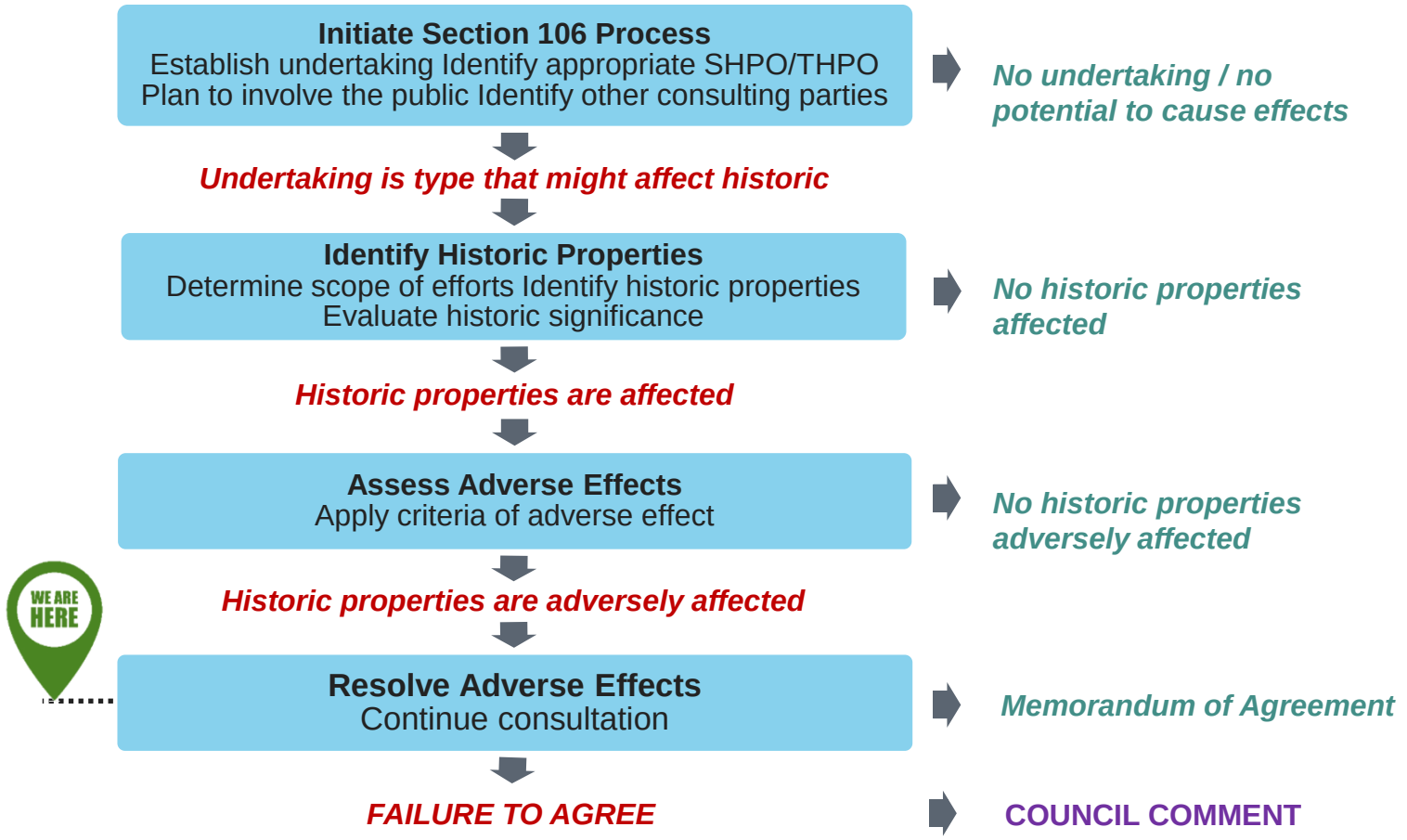
- Establish Area of Potential Effect
- Identify and Document Resources
- Evaluate Significance according to NRHP Criteria
- Completed January 2022
- **SHPO concurred with CRAS findings March 2022**

Evaluation of Effects
Determination of Effects Case Study

Apply Section 106 Criteria of Effects

SHPO concurred with Effects March 2022

- Next step - Develop MOA with minimization and mitigation measures



Historic Resources

CRAS Documentation

- CRAS completed and submitted to D4, OEM, and State Historic Preservation Officer (SHPO)
- SHPO Concurrence received March 30, 2022
  - Included Adverse Effect discussion in CRAS cover letter

Adverse Effect

- Historic Bridge

Potential Measures to Minimize Harm

1. HAER Recordation of Bridge in accordance with the Secretary of the Interior
2. State Historical Marker

Archaeological Resources

CRAS Documentation

- Two archaeological sites recorded in the area:
  - 8IR34:
    - Indian River County
    - west of bridge
  - 8BR125:
    - Brevard County
    - east of the bridge
- Subsurface testing conducted within archaeological APE
- The portions of the sites within the archaeological APE do not have sufficient research potential to be National Register eligible.
- Insufficient information to fully evaluate the eligibility of both sites.

No Adverse Effect

- SHPO concurred with the finding of “no adverse effects” on the archaeological sites (8IR34 and 8BR125).

Archaeological Monitoring

- The APE has areas with high archaeological site potential where testing was impossible.
- Archaeological monitoring during construction was recommended, and the SHPO concurred.
- Archaeological monitoring is prudent because Pre-Columbian human remains have been documented adjacent to APE.

CULTURAL RESOURCE COMMITTEE MEETING NO. 1

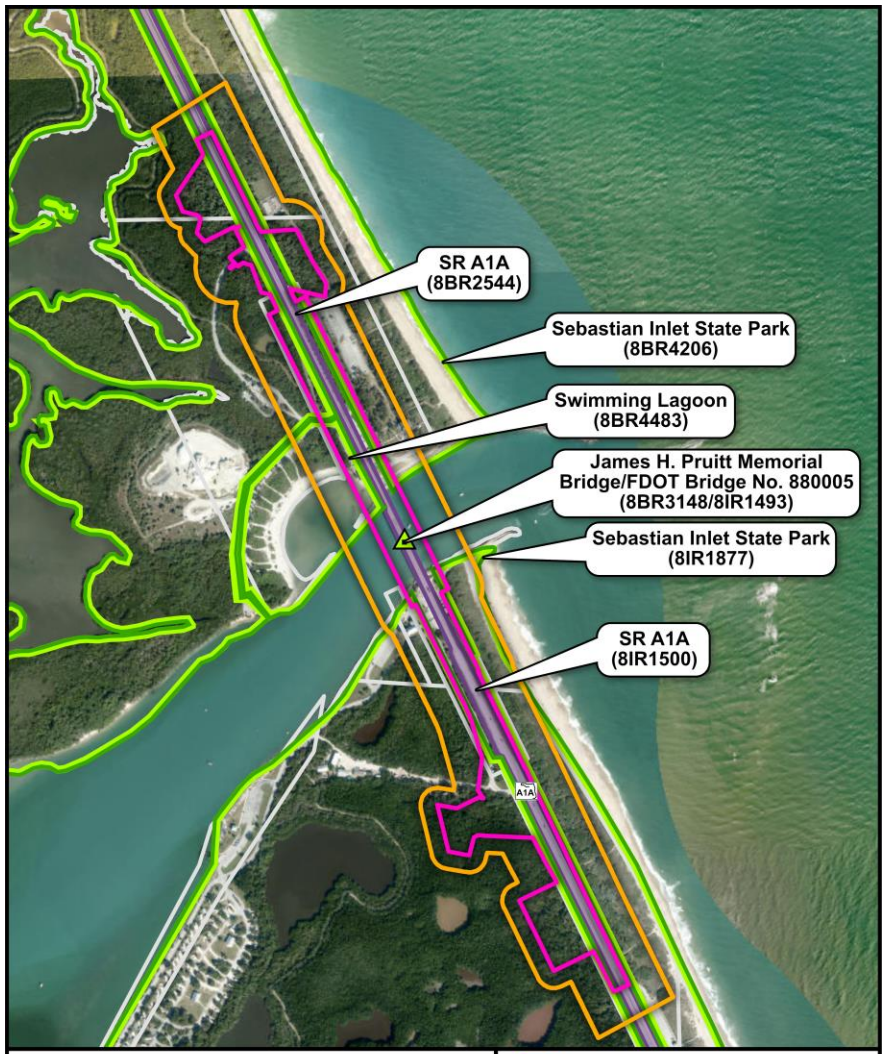
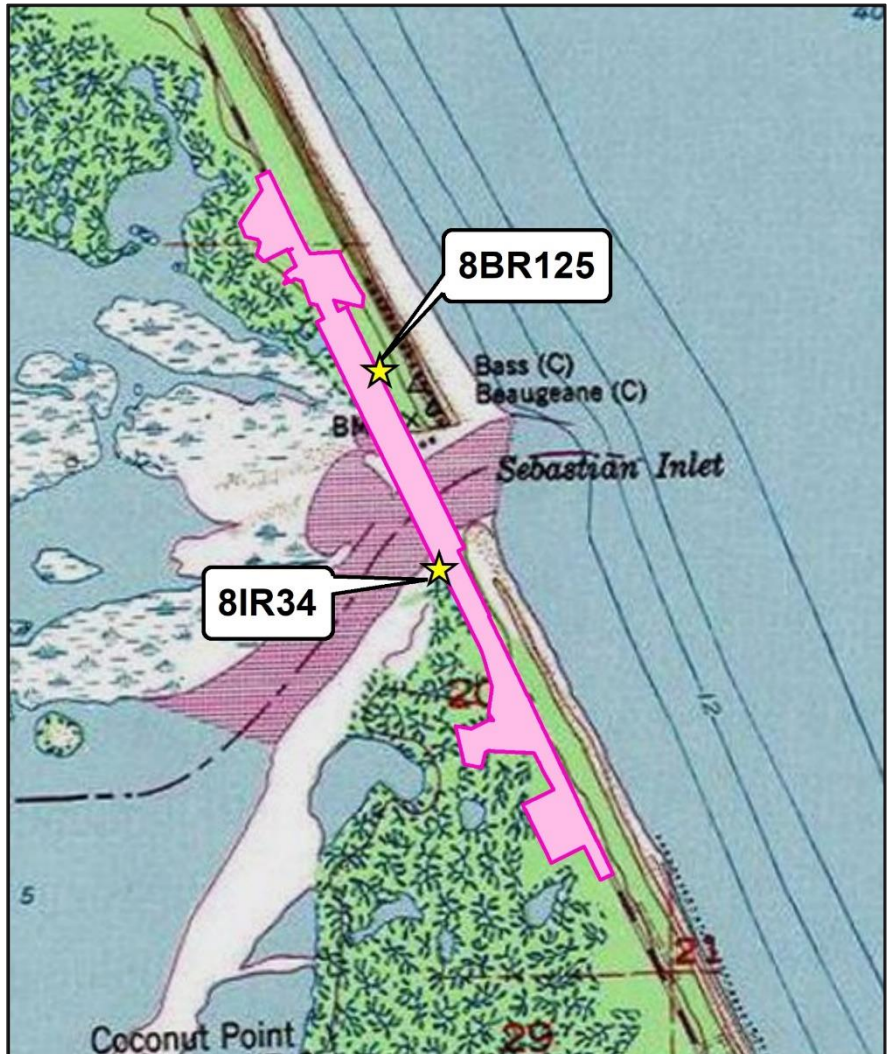


Figure 31: Identified Historic Resources

SR A1A Over Sebastian Inlet (FDOT Bridge 880005)
PD&E Study (FM No. 445618-1-22-02)



General Area of Previously Recorded Sites within the Archaeological APE

SR A1A/Sebastian Inlet Bridge (#880005) Replacement (445618-1-22-01)

USGS Quadrangle:
Sebastian (1949 PR 1970)

Historic Resource Impacts of No-Build vs. Build Alternatives

No Build Alternative

- Results in No Adverse Effects/Impacts to the historic resource

Build Alternatives

- Rehabilitation Adverse Effects/Impacts to the historic resource
- Replacement Adverse Effects/Impacts to the historic resource

Adverse Effects

- Section 106 Effects Determination completed
- Memorandum of Agreement-Next Step
- Further consultation with affected parties-Ongoing
- Section 4(f) documentation

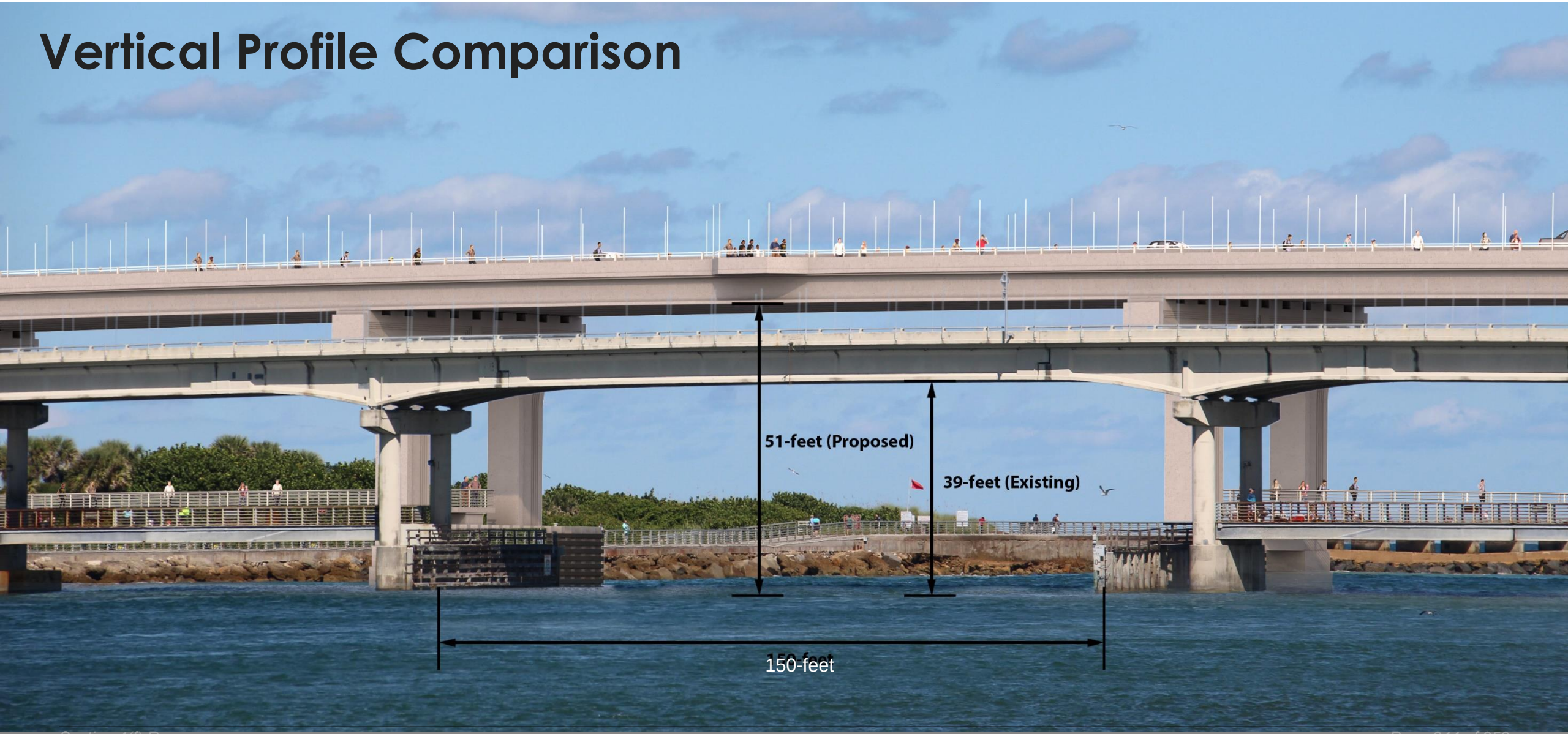
CULTURAL RESOURCE COMMITTEE MEETING NO. 1

EVALUATION MATRIX

Criteria/Category		No Build Alternative	Rehabilitation Alternative	Alternative 1 (Existing)	Alternative 2 (East)	Alternative 3 (West)
BRIDGE	Vertical Navigational Clearance above Mean High Water	39-feet	39-feet	51-feet	51-feet	51-feet
	Horizontal Navigational Clearance Between Fenders	150-feet	150-feet	150-feet	150-feet	150-feet
	Benefit to Marine Traffic	No Change	No Change	Yes	Yes	Yes
	Temporary Bridge Required	N/A	No	Yes	No	No
	Bridge Closure or Detour During Construction	N/A	No	No	No	No
	Life of Alternative (Estimated Years) [1]	5	15	75	75	75
TRAFFIC OPERATIONS	Benefit to Vehicular Traffic	No	No	Yes	Yes	Yes
	Evacuation / Emergency Response (Improved)	No	No	Yes	Yes	Yes
	Sebastian Inlet State Park North Entrance (Improved)	No	No	Yes	Yes	Yes
	Sebastian Inlet State Park South Entrance (Improved)	No	No	Yes	Yes	Yes
	Sebastian Inlet District North Access Road (Improved)	No	No	Yes	Yes	Yes
NATURAL RESOURCES	Impacts to Wetlands (Acres)	0	0	3.07	3.18	3.2
	Impacts to Surface Waters (Acres)	No Change	2.73	2.73	2.73	2.73
	Impacts to Essential Fish Habitat - Benthic Resources (Acres)	0	0	0	0	0
SOCIAL & CULTURAL RESOURCES	Impacts to Section 4(f) Resources (Park) (Acres)	No	No	2.98	3.26	3.81
	Potentially Eligible Archaeological Resources (Number)	0	0	1	0	1
	Eligible Historic Resources (Number)	0	1	1	1	1
	Bicycle and Pedestrian Facilities	No	No	Yes	Yes	Yes
PHYSICAL RESOURCES	Noise Receptors Impacted	0	0	0	0	1
	Contamination Sites [2]	0	0	0	0	0
	Aesthetics / Visual Changes	No	Yes	Yes	Yes	Yes
RIGHT-OF-WAY	Additional Right-of-Way Required (Acres)	0	0	4.51 *	3	3.26
	* Includes Temporary Bridge					
COSTS (Dollars)	Design	0	1,479,295	6,656,822	5,917,175	5,917,175
	Bridge and Roadway Construction	0	3,553,560 [3]	47,376,210	47,532,207	47,532,207
	Temporary Bridge Construction	0	0	6,906,605	0	0
	Mitigation	0	TBD	TBD	TBD	TBD
	TOTAL COST	**0**	**5,032,855**	**60,939,637**	**53,449,382**	**53,449,382**

[1] FDOT policy states a structurally deficient bridge must be replaced within 6 years.
[2] Bridge will be evaluated for asbestos, lead paint during design.
[3] Bridge rehabilitation does not meet the project Purpose and Need. Construction costs include repairs to the superstructure and substructure and stabilization of foundation only.

Vertical Profile Comparison



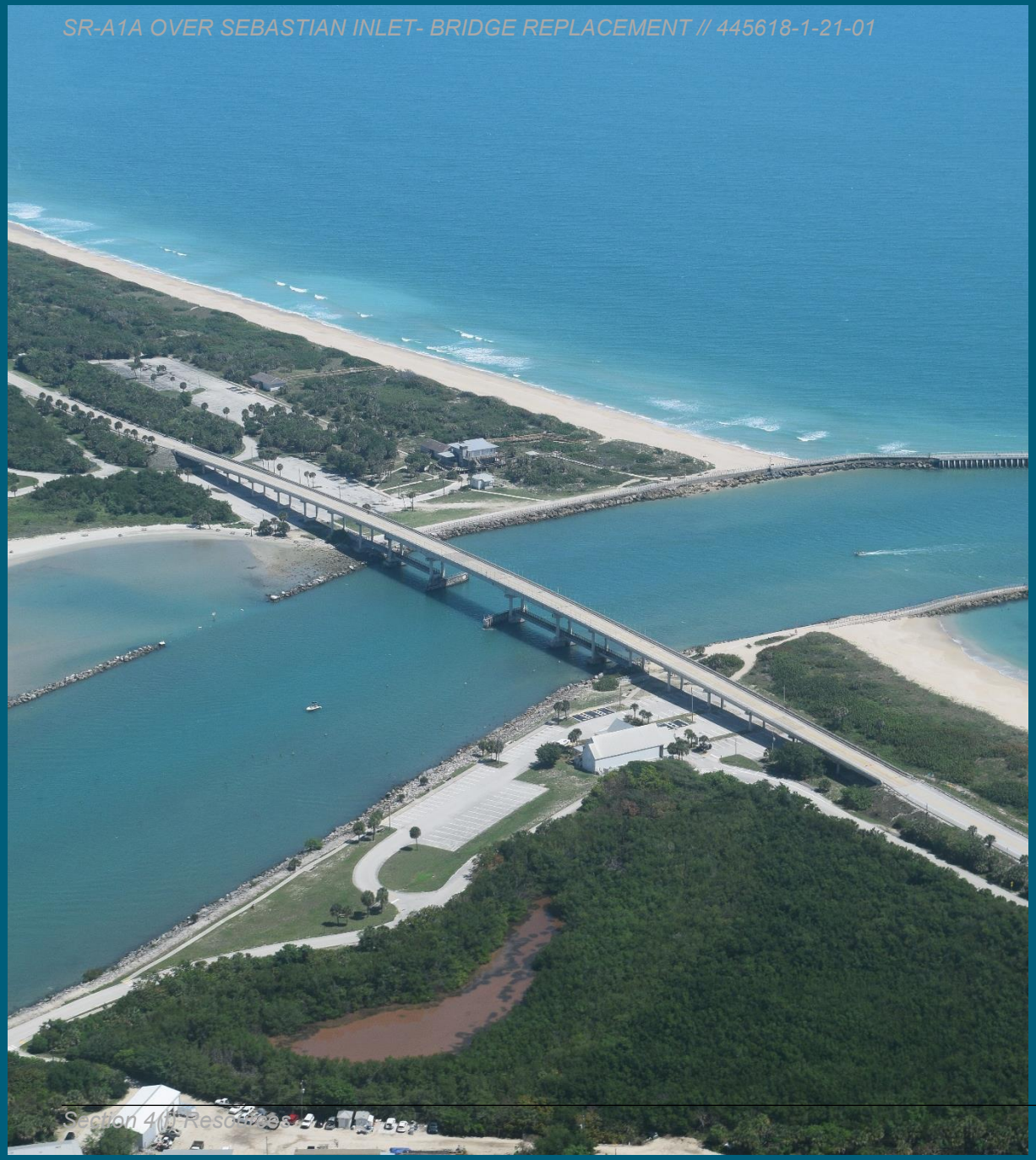
View Looking Northeast from Southwest Side of Inlet

Proposed Bridge

View Looking Northwest from Southeast Side of Inlet

NEXT STEPS

- Develop MOA
- Continue Coordination with affected parties
- Complete Section 4(f) Programmatic or Individual Statement Documentation to document there is no prudent or feasible alternative to the proposed improvements
- Public Hearing – Opportunity for Public Involvement



Thank You

SR-A1A over Sebastian Inlet

Bridge 880005
Bridge Replacement
Project Development and Environment (PD&E) Study

Binod Basnet, PE
Florida Department of Transportation
District Four
3400 W Commercial Blvd
Ft. Lauderdale, FL 33309

Binod.Basnet@dot.state.fl.us

(954) 777-4146
Toll free at (866) 336-8435, ext 4146

www.fdot.gov/projects/SebastianInletBridge

Florida Department of Transportation

RON DESANTIS
GOVERNOR

3400 West Commercial Boulevard
Fort Lauderdale, FL 33309

KEVIN J. THIBAULT, P.E.
SECRETARY

February 9, 2022

Timothy A. Parsons, Ph.D.
Director, Division of Historical Resources, and
State Historic Preservation Officer
R.A. Gray Building
500 S. Bronough Street
Tallahassee FL 32399-0250

Attn: Marsha K. Welch, Transportation Compliance Review Program

Re: Cultural Resource Assessment Survey (CRAS) and Effects Finding: State Road (SR) A1A Sebastian Inlet Bridge (FDOT Bridge No. 880005) Project Development and Environment (PD&E) Study
FM No. 445618-1-22-02
ETDM No. 14433
Brevard County and Indian River County, Florida

Dear Ms. Welch,

The *Cultural Resource Assessment Survey (CRAS) of the State Road (SR) A1A Sebastian Inlet Bridge (FDOT Bridge No. 880005) Project Development and Environment (PD&E) Study, Brevard and Indian River counties, Florida* was undertaken by Janus Research at the request of the Florida Department of Transportation (FDOT), District 4. This survey and report were also prepared under 1A-32 Archaeological Research Permit No. 2021.50, issued by the Bureau of Archaeological Research (BAR) on May 5, 2021. The project limits are approximately one mile long. The purpose of the CRAS of the SR A1A Sebastian Inlet Bridge was to locate and evaluate potential archaeological and historic resources within the Area of Potential Effect (APE) and to assess eligibility for inclusion in the *National Register of Historic Places* (National Register) according to criteria set forth in 36 CFR Section 60.4.

All work was conducted in accordance with Section 106 of the *National Historic Preservation Act (NHPA) of 1966* (Public Law 89-665, as amended), as implemented by 36 CFR 800 -- *Protection of Historic Properties* (incorporating amendments effective August 5, 2004); Stipulation VII of the *Programmatic Agreement among the Federal Highway Administration (FHWA), the Advisory Council on Historic Preservation (ACHP), the Florida Division of Historical Resources (FDHR),*

the State Historic Preservation Officer (SHPO), and the FDOT Regarding Implementation of the Federal-Aid Highway Program in Florida (Section 106 Programmatic Agreement, effective March 2016, amended June 7, 2017); Section 102 of the *National Environmental Policy Act (NEPA) of 1969*, as amended (42 USC 4321 et seq.), as implemented by the regulations of the Council on Environmental Quality (CEQ) (40 CFR Parts 1500–1508); Section 4(f) of the *Department of Transportation Act of 1966*, as amended (49 USC 303 and 23 USC 138); the revised Chapters 267 and 373, *Florida Statutes (F.S.)*; and the standards embodied in the FDHR's *Cultural Resource Management Standards and Operational Manual* (February 2003), Chapter 1A-46 (*Archaeological and Historical Report Standards and Guidelines*), *Florida Administrative Code (FAC)*, and Rule 1A-32 (*Archaeological Research*), *FAC*. In addition, this report was prepared in conformity with standards set forth in Part 2, Chapter 8 (*Archaeological and Historical Resources*) of the FDOT *PD&E Manual* (effective July 1, 2020). All work also conforms to professional guidelines set forth in the *Secretary of Interior's Standards and Guidelines for Archaeology and Historic Preservation* (48 FR 44716, as amended and annotated).

The FDOT District 4 is conducting a PD&E Study to evaluate the replacement of the Sebastian Inlet Bridge (FDOT Bridge No. 880005) crossing the Sebastian Inlet located at the Indian River County and Brevard County boundary. The Sebastian Inlet Bridge, also known as the James H. Pruitt Memorial Bridge, was constructed in 1964 to carry SR A1A across the Sebastian Inlet. The bridge is approximately 1,500 feet long with 19 spans, the longest of which is approximately 180 feet long. The bridge vertical clearance is 39 feet and horizontal clearance is 150 feet between the bridge fenders. The Inlet provides access for vessels between the Indian River Lagoon and the Atlantic Ocean and is approximately 525 feet wide at the bridge. The bridge is located within FDOT and Sebastian Inlet District (SID) right-of-way (ROW) and is adjacent to the Sebastian Inlet State Park. The Inlet was created from privately owned uplands. In 1919 the SID was formed to maintain the Inlet and owns the submerged lands under the bridge.

The existing bridge has two 12-foot travel lanes and 2-foot shoulders. The approach roadway has two 12-foot travel lanes. North and south of the bridge, paved shoulders are 2- to 4-feet wide. South of the bridge, shoulders are marked as designated bicycle lanes. There are currently no pedestrian or bicycle facilities located within the bridge approaches or on the bridge, creating a gap in the multimodal network along SR A1A. An 8-foot shared use path, separated from SR A1A, is located on the west side of the roadway north and south of the bridge.

This project was evaluated through FDOT's Efficient Transportation Decision Making (ETDM) process as project No. 14433. An ETDM Programming Screen Summary Report containing comments from the Environmental Technical Advisory Team (ETAT) was published on June 3, 2020. The ETAT evaluated the project's effects on natural, physical, cultural, social, and economic resources.

Two archaeological sites, 8IR34 and the Micco Beach Site (8BR125), have been recorded within the archaeological area of potential effect (APE) for the project, which encompasses all areas of potential ground disturbing improvements for each project alternative, as well as areas proposed for ROW acquisition. The SHPO has not previously evaluated these sites for their National

Register eligibility. Additionally, one archaeological occurrence was identified during the field review.

The field review identified no remnants of previously recorded 8IR34 archaeological site, a pre-Columbian midden, within the archaeological APE. However, due to the presence of a paved parking lot, a paved park road, bridge berms, and underground utilities serving a guard house, no subsurface testing was possible within the vicinity of this site. Therefore, there is insufficient information to determine the National Register eligibility of 8IR34.

A small part of the previously recorded Micco Beach Site (8BR125), a pre-Columbian midden that potentially contains Archaic, Malabar I/St. Johns I, and Malabar II/St. Johns II components, was relocated within the archaeological APE in seven (7) shovel tests. The portion of the site within the archaeological APE lacks intact midden or features and contains a sparse artifact assemblage. Much of it is disturbed and potentially redistributed from the main part of the site to the east, closer to the beach. Previous research on the main portion of the site outside the current archaeological APE has identified more extensive archaeological material and intact human burials. Because of the limited testing of the site for this project, there is insufficient information to assess the eligibility of the larger Micco Beach Site (8BR125). However, if the site were to be determined National Register–eligible in the future, the small portion of the site contained within the current archaeological APE would not contribute to its significance.

Due to the archaeological sensitivity of the area, the previous identification of human remains at the Micco Beach site (8BR125), and the inability to test portions of the APE with elevated archaeological potential, such as within the 8IR34 archaeological site, a professional Archaeologist will conduct monitoring of this project during construction. The resultant report will be provided to your office once it is available.

Historical research and field survey resulted in the identification and evaluation of four resources comprised of one previously identified historic bridge (James H. Pruitt Memorial Bridge, 8BR3148/8IR1493), one previously identified historic roadway (SR A1A, 8BR2544/8IR1500) and two newly identified historic landscapes (Sebastian Inlet State Park, 8BR4206/8IR1877; and Swimming Lagoon, 8BR4433). The James H. Pruitt Memorial Bridge (8BR3148/8IR1493) was constructed in 1964 and was determined individually National Register–eligible in 2012 by the Florida SHPO as a result of the 2010 *Historic Highway Bridges of Florida* study conducted by Archaeological Consultants, Incorporated (ACI) on behalf of the FDOT Office of Environmental Management. The James H. Pruitt Memorial Bridge was determined National Register–eligible under Criterion C for its Engineering. The bridge is an early example of the use of prestressed concrete in Florida. The current study finds that the bridge remains eligible for the National Register.

The portion of SR A1A (8BR2544/8IR1500) within the current project area is similar to other portions determined ineligible in 2010 and 2020. Historical research and field survey did not revealed any additional information to suggest the resource is eligible for the National Register, therefore, the portion of SR A1A within the current project area is considered National Register ineligible.

The newly identified Sebastian Inlet State Park (8BR4206/8IR1877) and Swimming Lagoon (8BR4433) are associated with the post-World War II development of publicly owned recreational areas that occurred throughout the state of Florida. Based on the lack of significant historical associations, both the Sebastian Inlet State Park and the Swimming Lagoon are considered ineligible for the National Register both individually and as contributing resources to a historic district.

Effects Discussion:
The Criteria of Effects established by Section 106 of the NHPA in 36 CFR 800.5 was applied to the project. The current PD&E included evaluation of Build and Rehabilitation alternatives for the bridge and the No-Action (No-Build) alternative, replacement of the existing under deck observation/fishing piers, and the addition of bicycle and pedestrian facilities across the bridge. The underdeck observation/ fishing piers are located under the north and south portions of the bridge. Build alternatives will include evaluation of the bridge vertical clearance as required by the US Coast Guard (USCG). A navigation needs analysis memorandum was submitted to the USCG and a preliminary clearance determination was received which stated a desired minimum vertical clearance of 65-feet above mean high water (MHW) for a fixed bridge and 125-feet minimum horizontal clearance.

The alternatives analysis resulted in the conclusion that the rehabilitation option did not meet the purpose and need for the project and the bridge remains structurally and functionally deficient. Based on the results of the rehabilitation alternative analysis, this alternative was removed from further consideration.

The three build alternatives considered alignments in the current bridge location (Build Alternative 1), an alignment east of the current bridge (Build Alternative 2), and an alignment to the west of the current bridge (Build Alternative 3). All of the build alternatives require the demolition of the current bridge. There currently is not a chosen Preferred Alternative.

Since all of the build alternatives will require the demolition of the National Register eligible James H. Pruitt Memorial Bridge (8BR3148/8IR1493) it was determined that the proposed project will have an adverse effect to historic properties. The remaining resources are ineligible for the National Register. As a result of this adverse effect, further consultation with your office and project stakeholders to minimize and mitigate the adverse effect will occur.

We kindly request that this letter be reviewed, and concurrence provided by your office. This information is provided in accordance with the provisions contained in 36 CFR, Part 800, as well as the provisions contained in the revised Chapter 267, *F.S.* If you have any questions regarding the subject project, please contact me at ann.broadwell@dot.state.fl.us or Lynn Kelley at lynn.kelley@dot.state.fl.us.

Sincerely,

DocuSigned by:
Ann Broadwell
1942EE83B10D4E7...

Ann Broadwell
Environmental Administrator
FDOT District 4 Planning & Environmental Management

The Florida State Historic Preservation Officer ☑ concurs/ ☐ does not concur with the recommendations and findings provided in this cover letter for SHPO/FDHR Project File Number 2019-8223C. Or, the SHPO finds the attached document contains _____ insufficient information.
SHPO Comments:
Kelly L. Chase, DSHPO — Digitally signed by Kelly L. Chase, DSHPO DN: cn=Kelly L. Chase, DSHPO, o, ou, email=kelly.chase@dos.myflorida.com, c=US Date: 2022.03.30 09:55:53 -04'00' — 3/30/2022
Timothy A. Parsons, Director, and State Historic Preservation Officer Florida Division of Historical Resources — [DATE]

MEMORANDUM OF AGREEMENT
BETWEEN THE FLORIDA DEPARTMENT OF TRANSPORTATION AND THE FLORIDA STATE HISTORIC PRESERVATION OFFICER REGARDING THE STATE ROAD A1A SEBASTIAN INLET BRIDGE PROJECT DEVELOPMENT AND ENVIRONMENT STUDY, INDIAN RIVER COUNTY AND BREVARD COUNTY, FLORIDA

WHEREAS, Pursuant to 23 United States Code (U.S.C.) § 327 and the implementing Memorandum of Understanding (MOU) executed on May 26, 2022, the Florida Department of Transportation (FDOT) has assumed Federal Highway Administration's (FHWA) responsibilities under the National Environmental Policy Act (NEPA) for highway projects on the State Highway System (SHS) and Local Agency Program (LAP) projects off the SHS; and

WHEREAS, in accordance with the MOU, FDOT's assumption of FHWA's responsibilities under NEPA for highway projects includes assumption of responsibilities for compliance with 36 CFR Part 800, regulations implementing Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108); and

WHEREAS, FDOT proposes to provide federal financial assistance for the State Road (SR) A1A Project Development and Environment Study (PD&E) to address the structural and functional deficiencies of the James H. Pruitt Memorial Bridge (FDOT Bridge No. 880005) over the Sebastian Inlet (Financial Project Identification Number 445618-1-22-01; Federal Aid Number D420-075-B) **(the Project)**; and

WHEREAS, FDOT has determined that **the Project** represents an undertaking in accordance with 36 CFR § 800.3(a); and

WHEREAS, FDOT has defined **the Project's** area of potential effects (APE) for historic resources to include all historic properties immediately adjacent to the proposed improvements, for a distance of up to 200 feet. The APE for the proposed ponds includes all adjacent historic properties up to 100 feet from the proposed pond right-of-way (ROW). The archaeological APE focuses upon identifying and evaluating resources within the geographic limits of the proposed action and its associated ground disturbing activities; and

WHEREAS, FDOT has consulted with the Florida State Historic Preservation Officer (SHPO) pursuant to the requirements of 36 CFR Part 800 and has determined that **the Project** will have an adverse effect on the James H. Pruitt Memorial Bridge (Florida Master Site File [FMSF] Numbers 8BR03148/8IR01493), which is eligible for listing in the National Register of Historic Places (NRHP); and

WHEREAS, FDOT has consulted with the United States Coast Guard (USCG), United States Army Corps of Engineers, National Oceanic and Atmospheric Administration (National Marine Fisheries Service), Florida Department of Environmental Protection (FDEP), Sebastian Inlet State Park, St. Johns River Water Management District, Indian River County, Indian River County Metropolitan Planning Organization, Brevard County, Space Coast Transportation

Planning Organization, Sebastian Inlet District, Indian River Lagoon Council, and the Indian River Scenic Byway Council, regarding the effects of **the Project** on historic properties; and

WHEREAS, FDOT has provided opportunities for public review and comment regarding the effects of **the Project** on historic properties; and

WHEREAS, in accordance with 36 CFR § 800.6(a)(1) FDOT has notified the Advisory Council on Historic Preservation (ACHP) of the adverse effect determination with specified documentation and has invited the ACHP to comment and participate in consultation, and the ACHP has chosen not to participate pursuant to 36 CFR § 800.6(a)(1)(iii); and

NOW, THEREFORE, FDOT and the SHPO agree that **the Project** shall be implemented in accordance with the following stipulations to take into account the effect of **the Project** on historic properties.

STIPULATIONS

Prior to initiating any ground disturbing or demolition work associated with **the Project**, FDOT shall ensure that the following measures are carried out:

I. **Documentation of the James H. Pruitt Memorial Bridge (8BR03148/8IR01493)**

A. Prior to bridge demolition and per guidance provided by the National Park Service (NPS), FDOT will prepare Historic American Engineering Record (HAER) Level II documentation for the James H. Pruitt Memorial Bridge (FDOT Bridge No. 880005) as follows:

1. Written historical and descriptive data prepared in accordance with outline format guidelines containing a construction history of the bridge including the history of the bridge type, an architectural description of the resource including alterations, a description of the site and changes, any historical photographs in the supplementary materials section, and a site plan; and

2. Reproduction of existing "as built" and existing drawings on vellum; and

3. Large-format (4" x 5" or larger negative size) photographs processed for archival permanence in accordance with HAER photographic specifications; and

4. At least one color digital photograph of the resource and its setting; and

5. Photo locations keyed to the site plan and included with the "Index to Photographs."

B. FDOT shall provide draft HAER documentation (non-archival format, electronic version) to the NPS and SHPO for concurrent review. Both agencies shall have 30 days, after receipt of the draft documentation, for review, as per Stipulation VII.

C. FDOT shall make requested edits and provide final copies of the HAER documentation, completed in accordance with Stipulation I.A, as follows:

1. An archival copy to the NPS Southeast Regional Office for review and approval prior to salvage and demolition of the structure, per HAER guidelines; and

2. An archival copy to the SHPO for inclusion in the Florida Master Site File and the State Archives of Florida; and

3. Non-archival copies and electronic copies to the Indian River County Historical Society and the Sebastian Inlet District.

D. The HAER documentation cannot be considered complete, and bridge demolition cannot take place, until accepted by NPS.

II. Public Education

A. FDOT will assist with the development and funding of two State Historic Markers (Markers) with one to be placed in proximity to the north side and the other to be placed in proximity to the south side of the bridge location. The Markers will be located in areas that are safe and accessible to the public. The draft Marker text and location will be coordinated with the SHPO for review, as described in Stipulation VII.

B. FDOT will assist with the development and funding of two educational interpretive panels to be placed within the boundaries of the Sebastian Inlet State Park with one to be placed in proximity to the north side and the other to be placed in proximity to the south side of the bridge location. The panels (design, text, and locations) will be coordinated with the SHPO for review, as described in Stipulation VII.

III. Documentation of State Road (SR) A1A (8BR02544/8IR01500)

A. FDOT will assist with the documentation of an approximate 25-mile portion of State Road (SR) A1A. from Wabasso Beach (Indian River County) to Indialantic (Brevard County).

1. Field survey of the 25-mile linear resource will include a survey of the historic linear resource as well as the historic resources within the roadway right-of-way. The survey, subsequent documentation, and NRHP evaluations will not include any archaeological resources.

2. A historic context will be developed for the approximate 25-mile portion of SR A1A. The historic context will address the unique historic development of this isolated stretch of the roadway and its association with the construction of the James H. Pruitt Memorial Bridge (FDOT Bridge No. 880005) and the multiple federal and state-owned recreational facilities along the roadway. A historical context will also be developed, or the above-mentioned context will be expanded/augmented, to contextualize any historical resources documented during the field survey should they fall outside the developed historic context, as appropriate.

3. A Survey Document will be compiled in accordance with guidance from Florida Division of Historical Resources (FDHR)/SHPO and Florida Administrative Code Chapters 1A-32 and 1A-46. Content will include, but is not limited to, the purpose of the survey, survey methodology, aforementioned historic context, and survey results sections. In addition, National Register evaluations will be made for the historic resources documented in the survey area (except for the James H. Pruitt Memorial Bridge/FDOT Bridge No. 880005).

4. Florida Master Site File (FMSF) resource forms will be completed for this length of SR A1A (one for Brevard County and one for Indian River County) and any historic resources identified in the roadway right-of-way (excluding the James H. Pruitt Memorial Bridge/ FDOT Bridge No. 880005). A FMSF Survey Log will be completed for the historic architectural survey. Appropriate maps, photographs, and GIS data will be generated to accompany the FMSF forms, per FMSF submission guidance.

B. FDOT will submit the Survey Document and FMSF package, as detailed above, to SHPO for review per Stipulation VII. SHPO will for review the Survey Document for completeness and sufficiency in accordance with Florida Administrative Code Chapter 1A-46 and will review the FMSF resource forms to provide concurrence with NRHP determination recommendations.

IV. PROFESSIONAL STANDARDS

All archaeological and historic preservation work carried out pursuant to this Agreement shall be conducted by, or under the direct supervision of, a person or persons meeting the Secretary of the Interior's Professional Qualification Standards for Archaeology and Historic Preservation as set forth at 62 FR 33708-33723 (June 20, 1997).

V. DURATION

This Memorandum of Agreement (MOA) will expire if its terms are not carried out within 5 years from the date of execution or project acceptance, whichever should come first. Prior to expiration, the parties will agree to extend the timeframe for fulfillment of the terms by letter agreement.

VI. POST-REVIEW DISCOVERIES

In accordance with 36 CFR § 800.13, FDOT will take the following actions if a post-review discovery is made:

A. If previously unidentified historic properties are discovered, or if the potential to affect previously identified historic properties changes after FDOT has completed their appropriate reviews under this Agreement, but before construction has started, FDOT shall reinitiate consultation under Section 106 of the National Historic Preservation Act and Chapter 267, Fla. Stat.

B. If previously unidentified historic properties are discovered during construction or if unanticipated impacts to known or previously unidentified historic properties occur during construction, the following procedures shall be followed:

1. All construction-related activity in the vicinity of the discovery shall stop and the contractor shall immediately notify the Project Engineer and the FDOT District 4 Cultural Resources Coordinator of the discovery. Necessary security measures will be taken to protect the discovery as appropriate.

2. FDOT will notify the SHPO of the discovery and invite them to accompany FDOT staff (or consultants) to the location within forty-eight (48) hours of the discovery.

3. FDOT will immediately notify any Indian tribe that might attach religious and cultural significance to the affected property within forty-eight (48) hours of the discovery.

4. FDOT shall consult with the SHPO/THPO and appropriate consulting parties to document and evaluate the project effects and the need, if any, for further investigation within forty-eight (48) hours of the SHPO/THPO receipts of notification.

5. If FDOT determines that the discovery does not warrant further investigation, FDOT will provide written notification to the SHPO outlining FDOT's reasons and requesting their concurrence within two (2) business days of the visit to the discovery location. The SHPO/THPO and Indian tribes will have two (2) business days after receipt to respond. If no comments are received within this period, concurrence will be assumed, and project construction may resume.

6. If FDOT determines that the site warrants further investigation, a scope of work will be developed within forty-eight (48) hours of the site visit. The scope of work will be submitted to the SHPO and, as appropriate, the tribes. The SHPO/THPO and tribes will have two (2) business days after receipt to review and comment. If no comments are received within this period, concurrence will be assumed and work will be implemented in accordance with the scope. If comments are received, FDOT shall take them into account and carry out the scope of work. Upon completion and acceptance of the work, construction may proceed as planned. A report of the investigations will be completed within the time frame established by the scope of work and copies provided to all consulting parties. Should any party object to the proposed work plan or results, FDOT will proceed in accordance with Stipulation VIII.

7. When the discovery consists of human remains, graves, or grave-associated artifacts or other properties that federally recognized tribes with ancestral ties to Florida may ascribe with a traditional cultural or religious significance, FDOT-OEM will notify the tribes. FDOT will comply with Section 1.6 of the current version of the FDOT Standard Specifications for Road and Bridge Construction

and the procedures for inadvertent discovery of human remains contained in Section 872.05, F.S. and Rule 1A-44 of the Florida Administrative Code.

VII. REVIEW STIPULATION

FDOT shall afford the SHPO and other consulting parties, including the federally-recognized tribes affiliated with Florida, as appropriate, a 30-day period for review and comment following the receipt of delivery of those submittals and reviews described above. If no comments are received by FDOT at the end of these 30 days, FDOT will presume there are no objections. Any objections to the findings or plans proposed in these submittals will be addressed in accordance with Stipulation VIII, below.

VIII. DISPUTE RESOLUTION

Should any signatory to this MOA object at any time to any actions proposed or the manner in which the terms of this MOA are implemented, FDOT shall consult with such party to resolve the objection. If FDOT determines that such objection cannot be resolved, FDOT will:

A. Forward all documentation relevant to the dispute, including FDOT's proposed resolution, to the ACHP. The ACHP shall provide FDOT with its advice on the resolution of the objection within thirty (30) days of receiving adequate documentation. Prior to reaching a final decision on the dispute, FDOT shall prepare a written response that considers any timely advice or comments regarding the dispute from the ACHP, signatories, and concurring parties, and provide them with a copy of this written response. FDOT will then proceed according to its final decision.

B. Make a final decision on the dispute and proceed accordingly if the ACHP does not provide its advice regarding the dispute within thirty (30) days. Prior to reaching such a final decision, FDOT shall prepare a written response that considers any timely comments regarding the dispute from the signatories to the MOA, and provide them and the ACHP with a copy of the written response.

C. Fulfill its responsibility to carry out all other actions subject to the terms of this MOA that are not the subject of the dispute remain unchanged.

IX. AMENDMENTS

This MOA may be amended when such an amendment is agreed to in writing by all signatories. All signatories must signify their acceptance of the proposed changes to the MOA in writing within 30 days of their receipt. The amendment will be effective on the date a copy signed by all signatories is filed with the ACHP. In accordance with 36 CFR § 800.6(b)(7), if the ACHP was not a signatory to the original agreement and the signatories execute an amended agreement, FDOT shall file the amended agreement with the ACHP.

X. TERMINATION

If any signatory to this MOA determines that its terms will not or cannot be carried out, that party shall immediately consult with the other signatories in an effort to amend the MOA per Stipulation

IX, above. If within thirty (30) days (or another time agreed to by all signatories) an amendment cannot be reached, any signatory may terminate the MOA upon written notification to the other signatories.

Once the MOA is terminated, and prior to work continuing on **the Project**, FDOT must either (a) execute an MOA pursuant to 36 CFR § 800.6 or (b) request, take into account, and respond to the comments of the ACHP under 36 CFR § 800.7. FDOT shall notify the signatories as to the course of action it will pursue.

Execution of this MOA by FDOT and SHPO and implementation of its terms is evidence that FDOT has taken into account the effects of this undertaking on historic properties per the requirements of Section 106 (Public Law 113-287 [Title 54 U.S.C. 306108]), and 36 CFR Part 800 (Protection of Historic Properties).

SIGNATORIES:

FLORIDA STATE HISTORIC PRESERVATION OFFICER

Alissa S. Lotane Date 4/6/23
Alissa S. Lotane
Director, Division of Historical Resources
State Historic Preservation Officer

FLORIDA DEPARTMENT OF TRANSPORTATION

DocuSigned by:
Jennifer Marshall
D881D38487C64B2...
Date 04/21/2023 | 3:41 PM EDT
Jennifer Marshall, P.E.
Director, Office of Environmental Management

CONCURRING PARTIES:

FLORIDA DEPARTMENT OF TRANSPORTATION, DISTRICT 4

Date 4/21/2023
Steven C. Braun, P.E.
Director of Transportation Development