



Flagler County Board of County Commissioners Workshop Agenda

Monday, August 28, 2023 • 2:30 p.m.

Government Services Complex, 1769 E. Moody Blvd., Bldg 2, Board Chambers, Bunnell, FL 32110

1. Call to Order
2. Pledge to the Flag and Moment of Silence
3. Welcome: Flagler County Board Chair
4. Beach Management Plan Discussion
5. City of Flagler Beach Collaborative Group Discussion
6. Public Comment
7. Adjournment

While this is a workshop only and no decisions are expected to be made by any of the governmental bodies, if a person decides to appeal any matter that may be discussed for a future proceeding, a record of the workshop may be needed and, for such purposes, the person may need to ensure that a verbatim record of the workshop is made.

In accordance with the Americans with Disabilities Act, persons needing assistance to participate in this meeting should contact the (386) 313-4001 at least 48 hours prior to the meeting.



FLAGLER COUNTY BOARD OF COUNTY COMMISSIONERS

Beach Management

Plan Development Workshop

July 28, 2023

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associates, inc.
Coastal Engineering

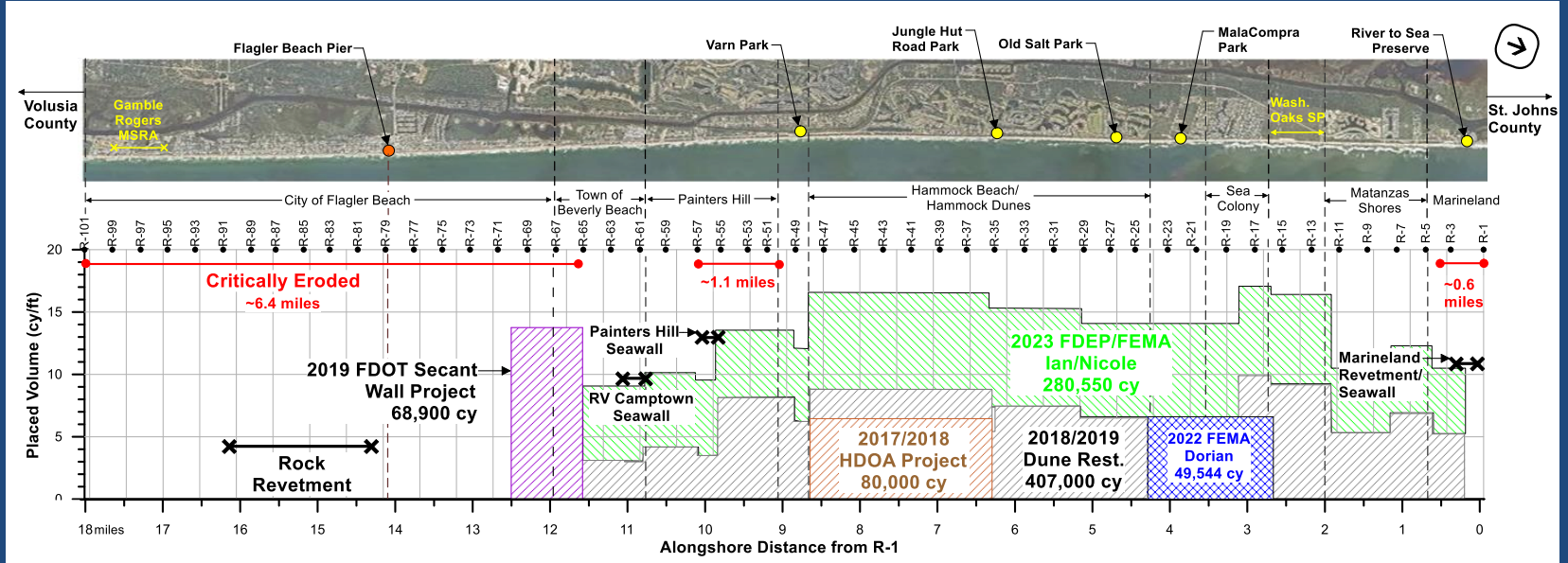


- Flagler County has recognized the a need to development and implement a comprehensive Beach Management Plan for Flagler County's Atlantic Ocean coastline.
- At a November 2019 Board of County Commissions (BOCC) Workshop, the BOCC established a consensus to develop a long-term comprehensive Beach Management Plan.
- In 2021, Flagler County sponsored a Beach Management Study (BMS) intended to identify beach management needs, goals and implementation requirements.
- In August 2022, the BOCC was briefed on the findings of the BMS.



- The findings of the BMS were intended to serve as a framework for subsequent conversation, debate, and development of a Beach Management Plan.
- The Beach Management Plan is to be adopted by the BOCC for implementation by the County through cooperation with local stakeholders.
- **The purpose of today's workshop is to review the BMS findings and initiate discussion with the BOCC about the framework and content of a Beach Management Plan.**

Recent Projects



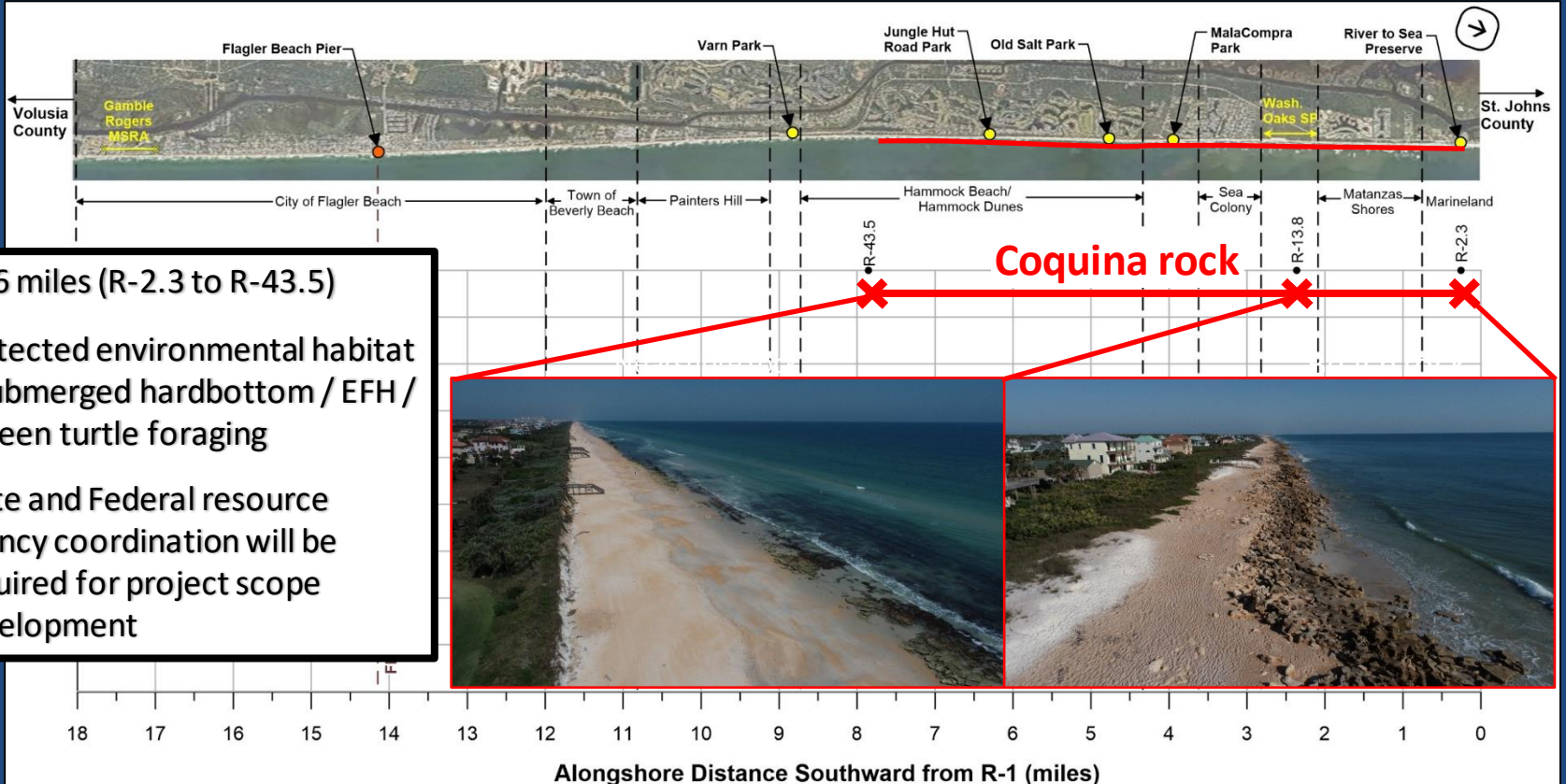
Beach Mgt Study (BMS) Objectives

- Consider entire 18 miles of Flagler County shoreline
- Evaluate existing conditions of the beach and dune
- Summarize historical beach and dune change
- Develop concepts for initial restoration and future maintenance (50 yrs)
- Identify candidate sand source(s)
- Estimate probable cost for alternatives
- Identify local funding responsibility
- Summarize project implementation tasks

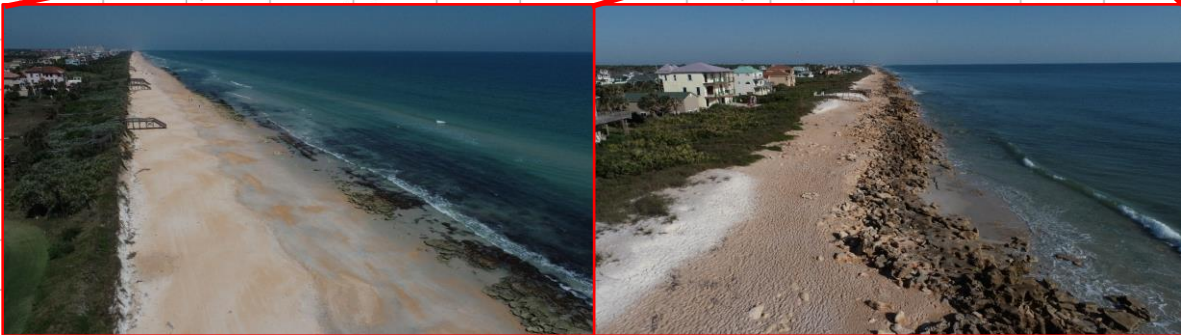
Alternative Development Considerations

- Scope of planned projects (USACE CSRMS & Flagler/FDOT)
- Historical conditions and sand loss rates
- Future sand loss rates with sea level rise
- Required sand volume to construct and maintain for 50 years
- Construction methodologies
- Location and extent of coquina rock
- Dune conditions / enhancement consideration

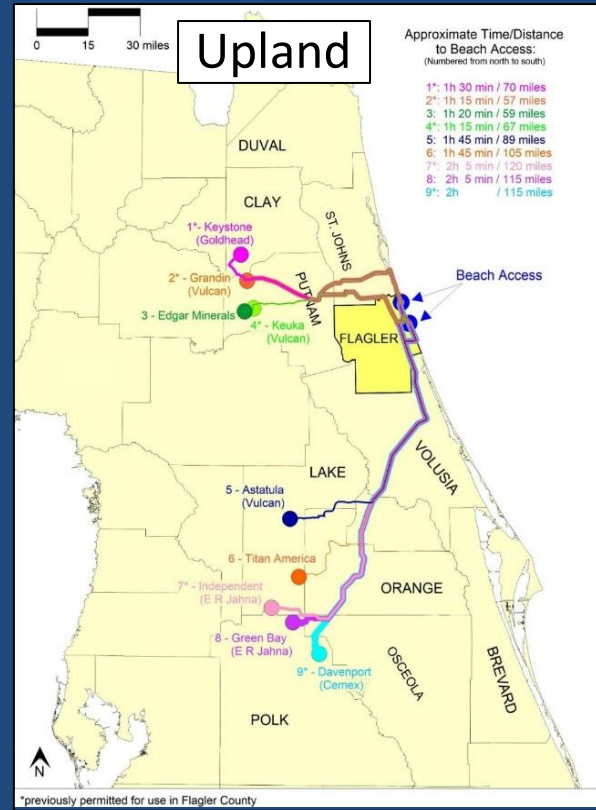
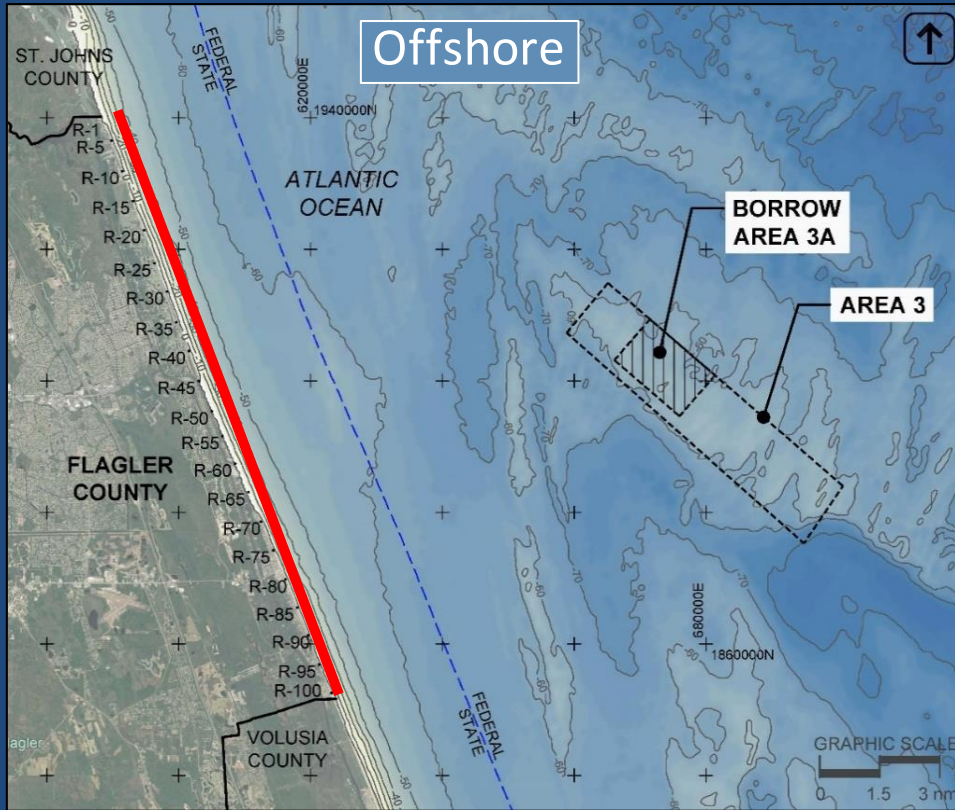
Coquina Beach/Nearshore Rock



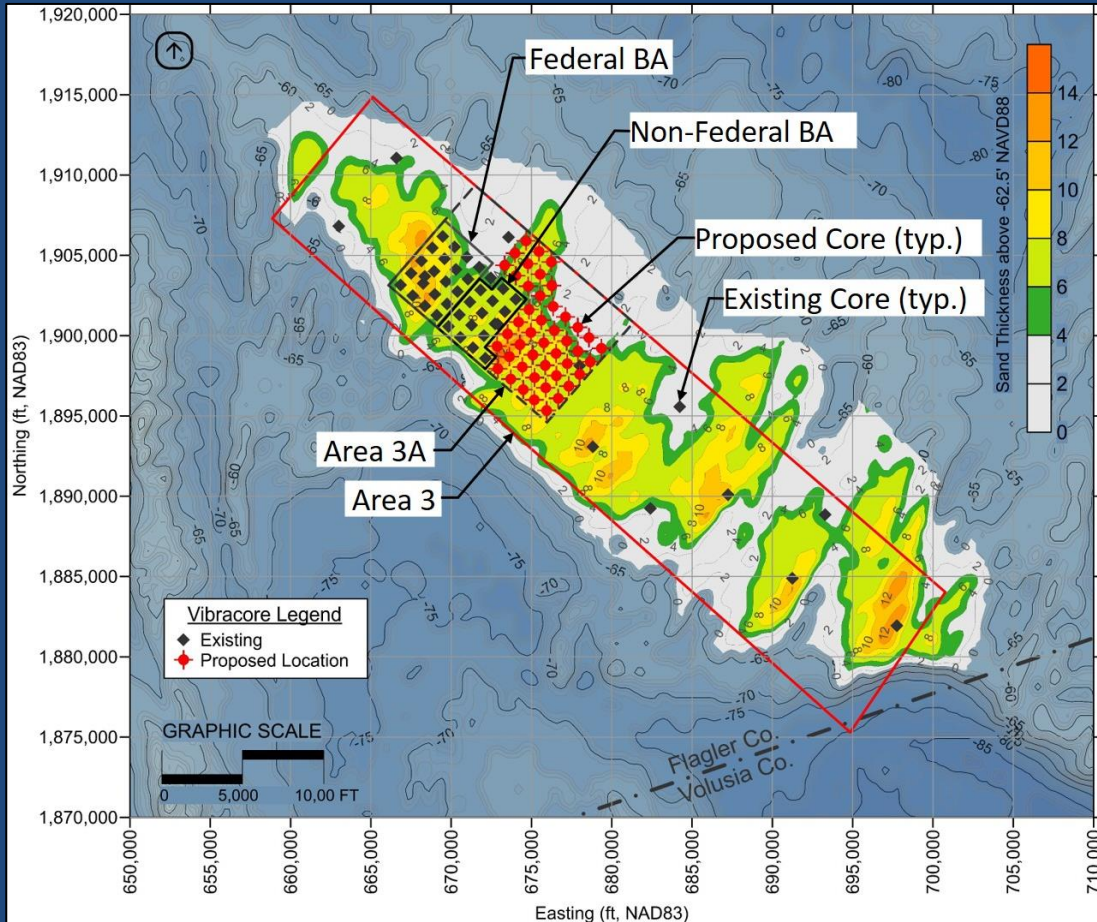
- ~7.6 miles (R-2.3 to R-43.5)
- Protected environmental habitat
 - Submerged hardbottom / EFH / green turtle foraging
- State and Federal resource agency coordination will be required for project scope development



Sand Sources



Offshore Sand Source (Area 3/3A)



Available Volume

Area 3A: 15 to 20 Mcy

Area 3: ~45 Mcy

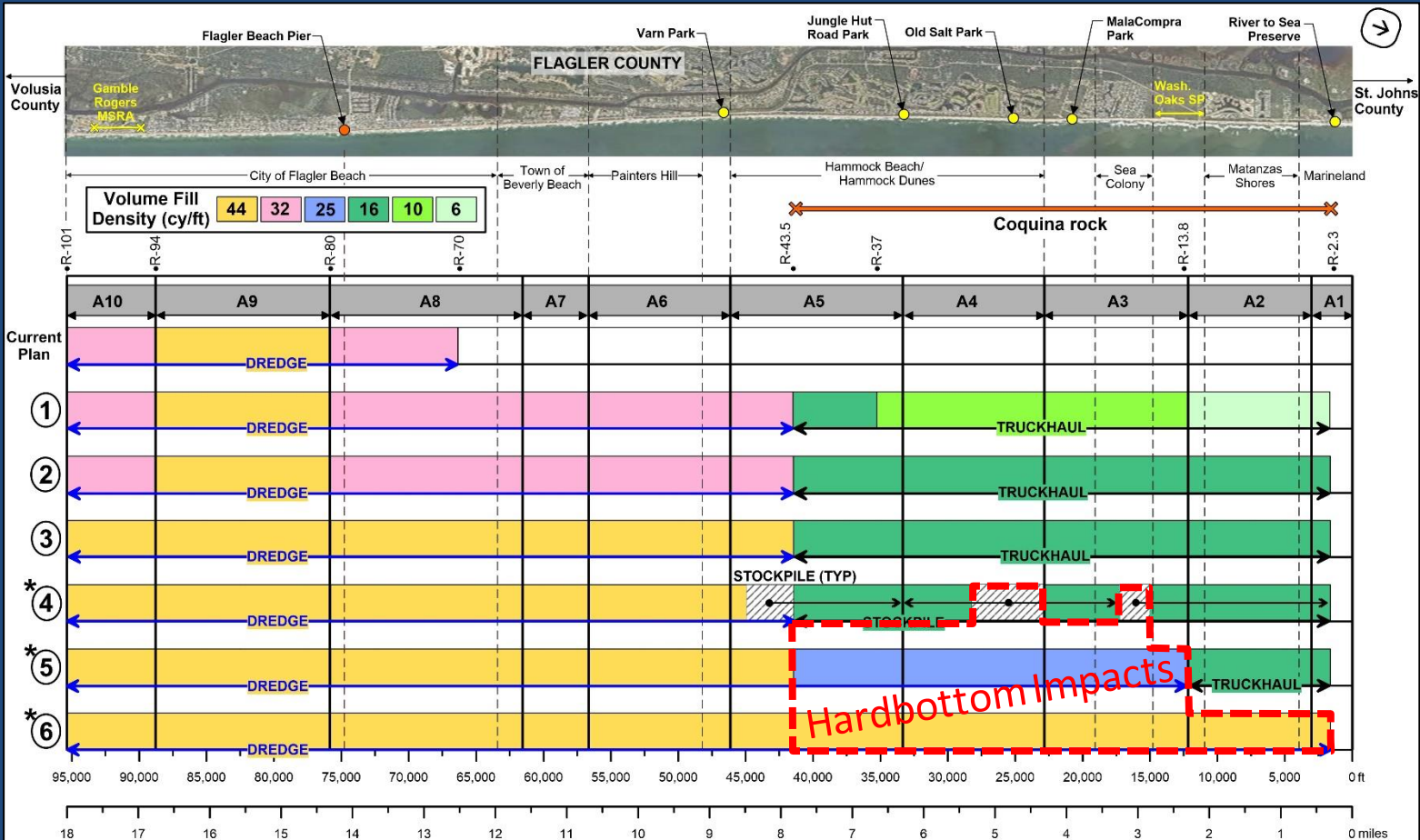
Largest assumed 50-year need
with "high" SLR is ~20 Mcy

Note: All volumes estimates are preliminary
and subject to change.



BMS Assumed Initial Project Volumes **

Project Alternatives



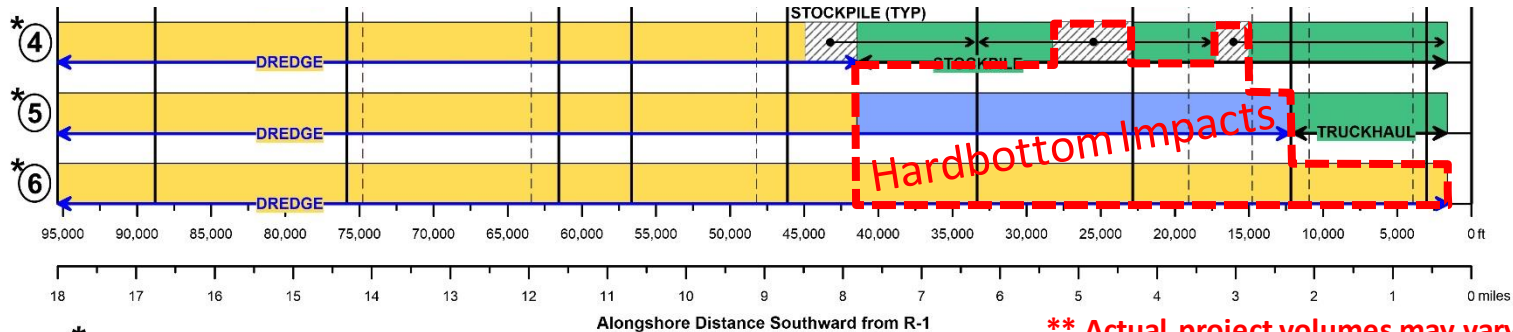
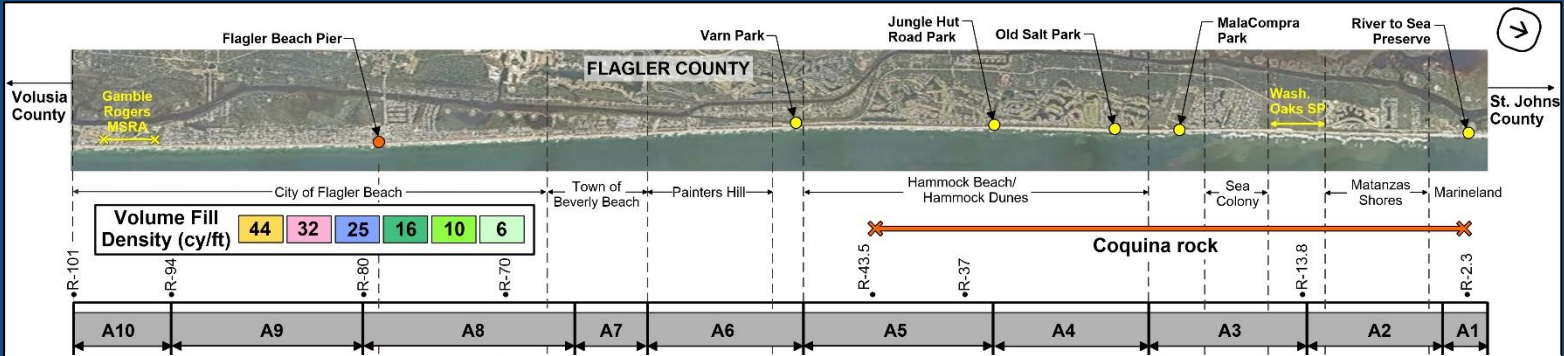
* Alternative includes impacts to coquina rock.

** Actual project volumes may vary



BMS Assumed Initial Project Volumes **

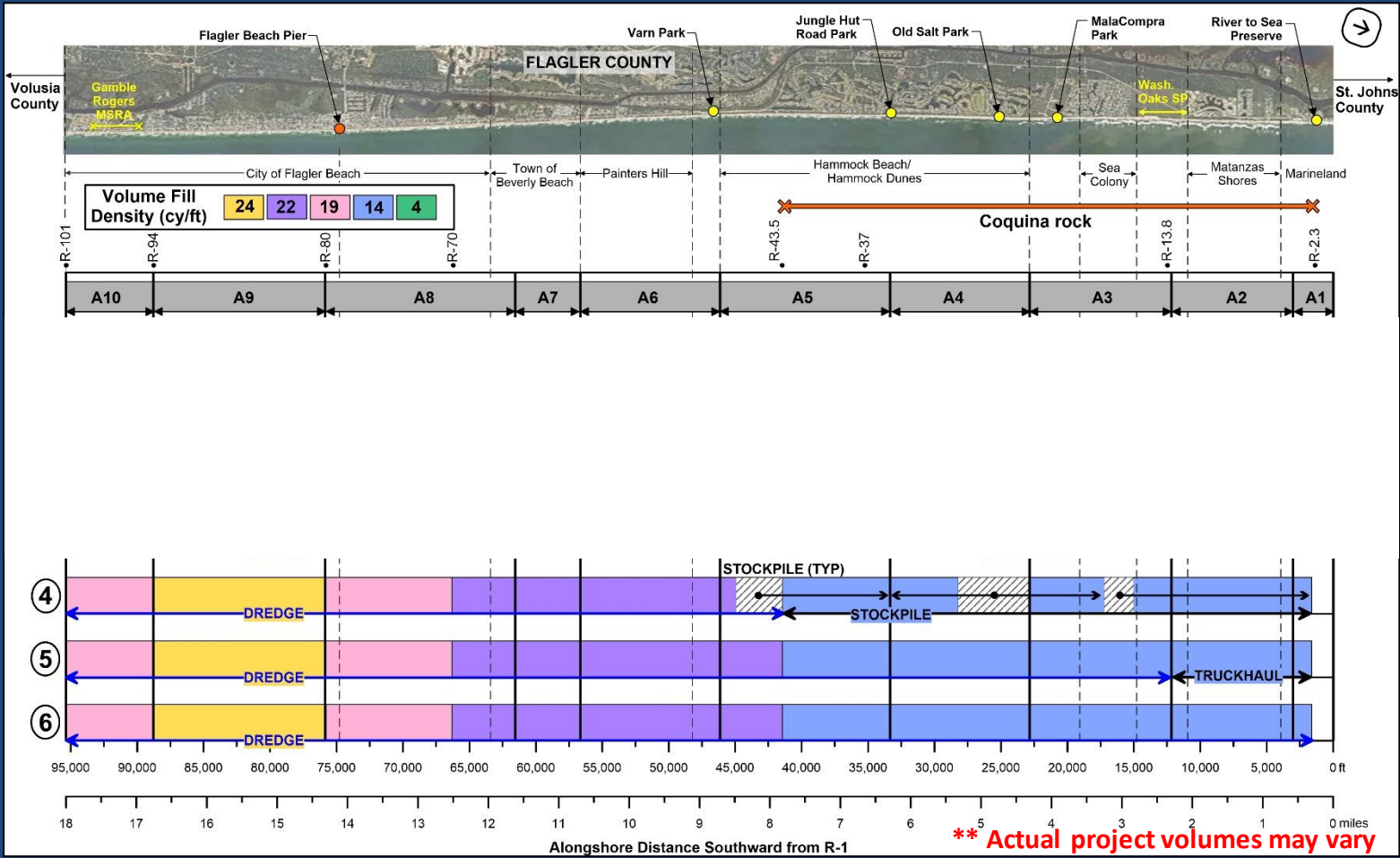
Project Alternatives



* Alternative includes impacts to coquina rock.

** Actual project volumes may vary

BMS Assumed Future Maintenance Volumes **

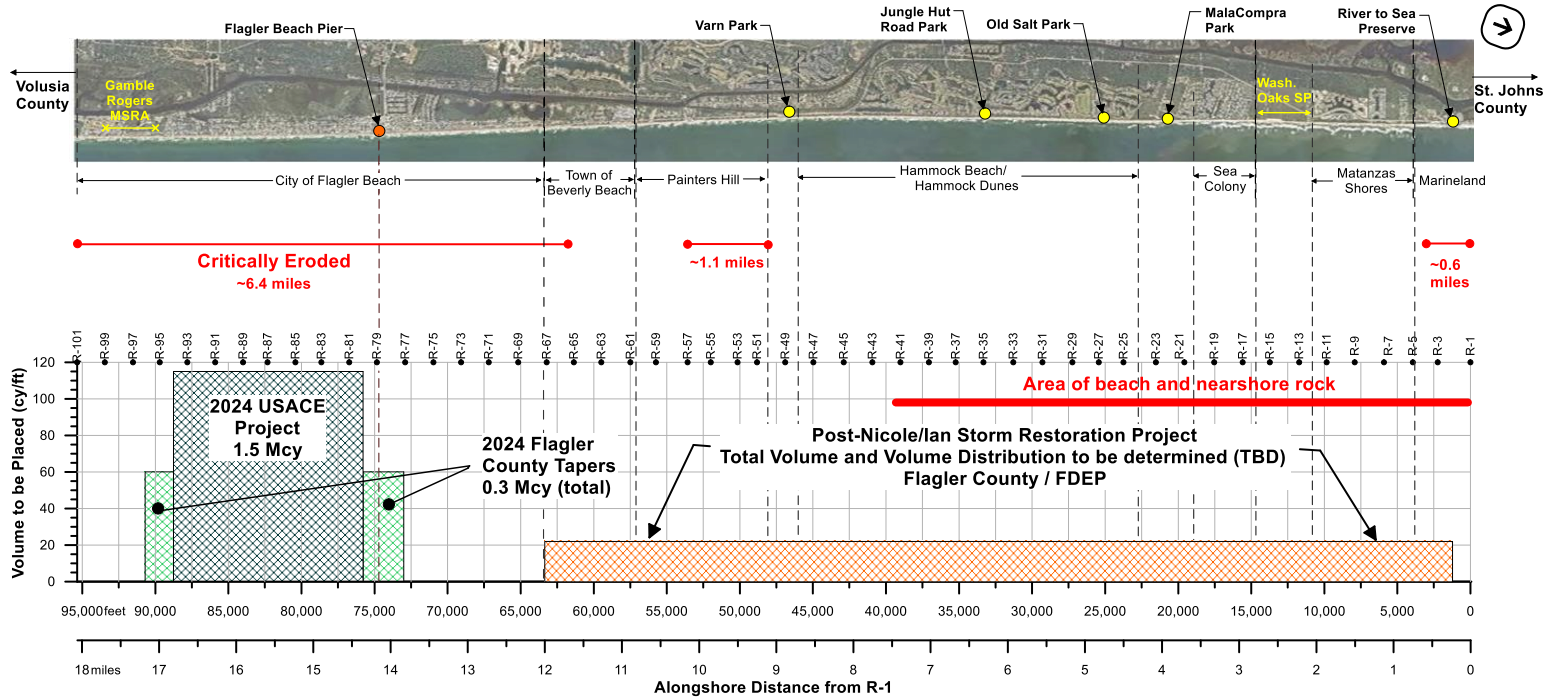


Project Alternatives

Option 7

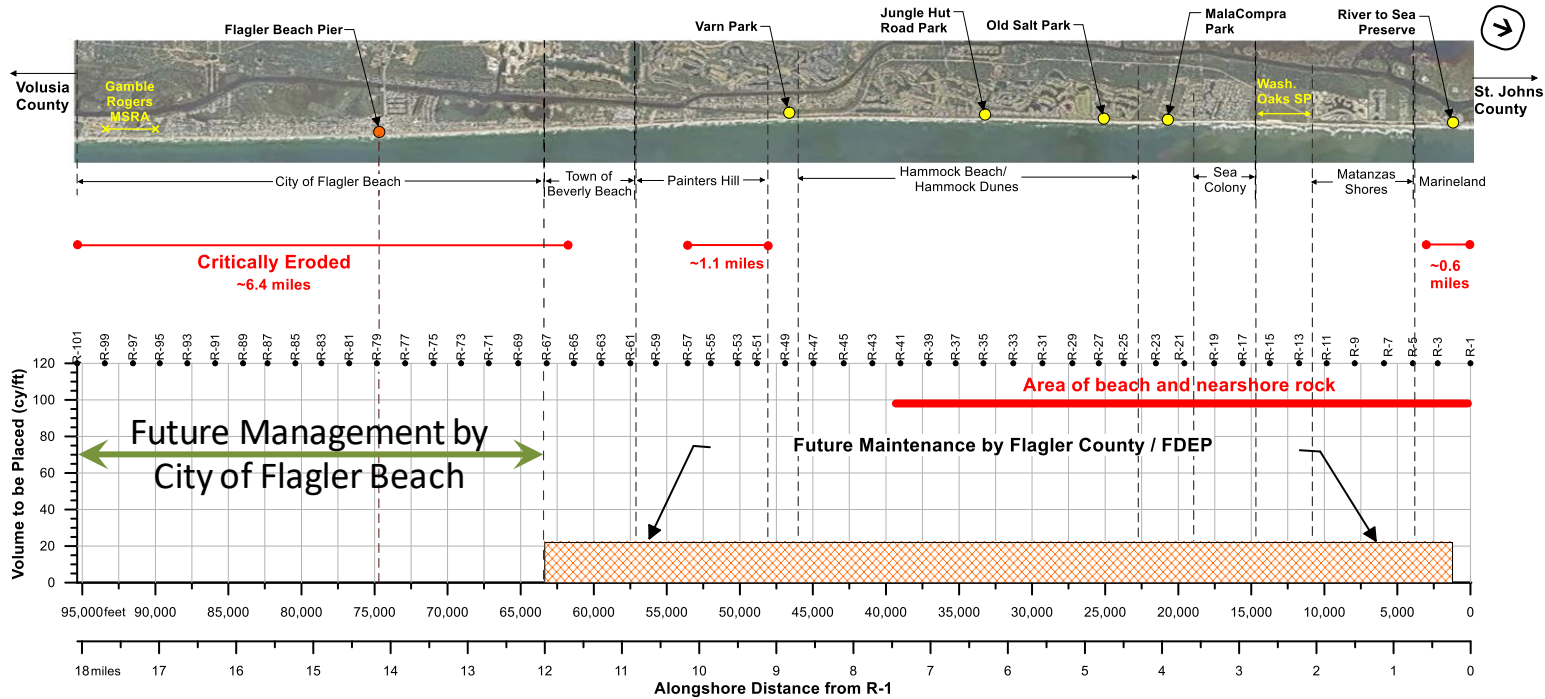
- The scope of **INITIAL** beach and dune restoration along County shoreline will be subject to (1) USACE final design and (2) assumed fill volume for Option 5 for northern 11.6 miles.
- All sand will be sourced from offshore (stockpiling and rehandling will be required along northern areas of the County to protect rock).
- Project scope along northern Flagler County will seek to **minimize** impacts to nearshore rock/hardbottom.
- Flagler County will only be responsible for **FUTURE** management and maintenance of the 11.6 miles of shoreline from the St. Johns County line (R-1) to the northern limit of the FDOT Secant wall in the Town of Beverly Beach (R-65) (reference 2019 agreement b/w Flagler County and COFB).

Option 7 – Initial Construction (18 miles)



** The scope of 2024 USACE project and tapers is subject to change

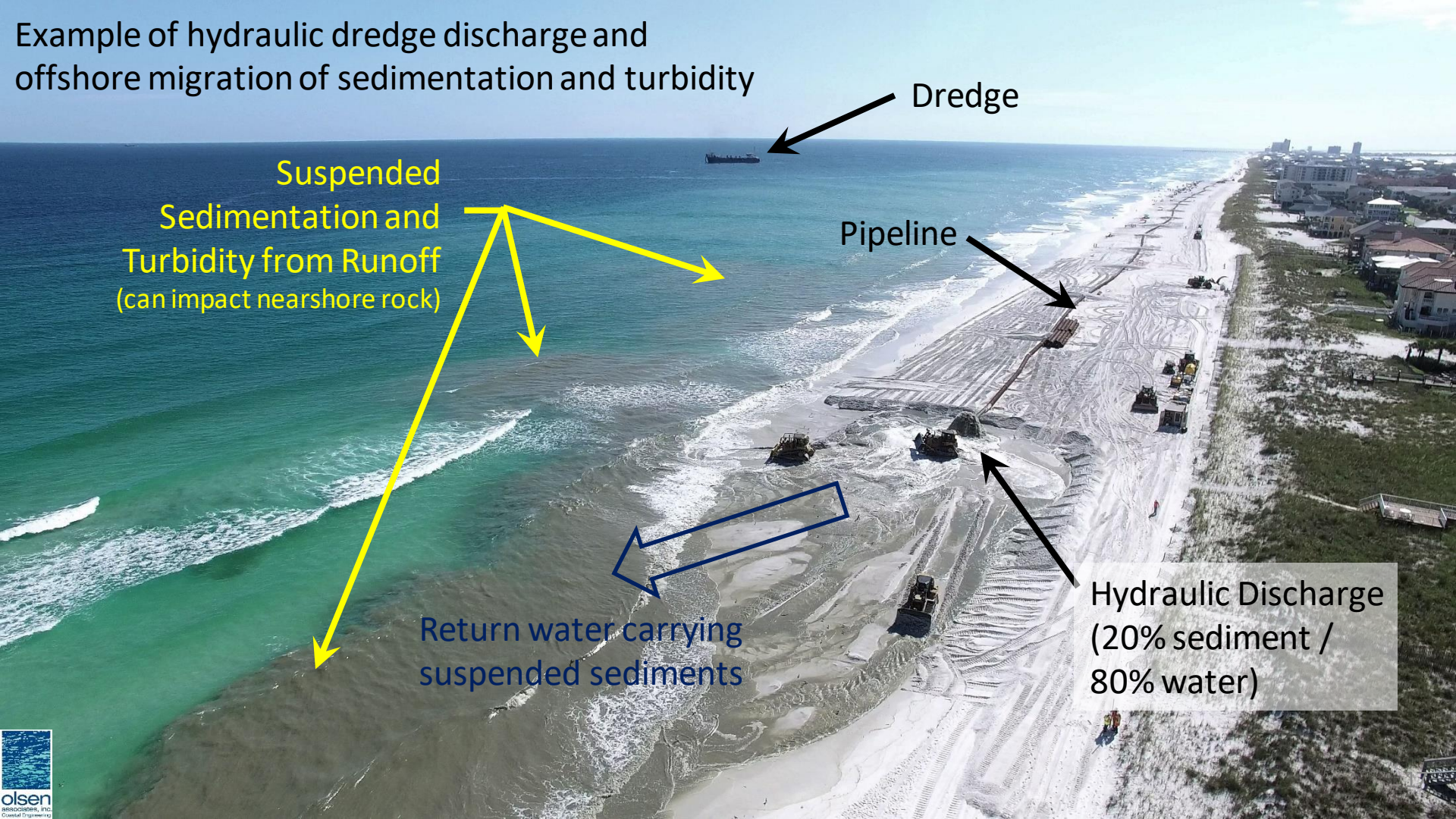
Option 7 – Future Management (11.6 miles)



Option 7 (Implementation Assumptions)

- Nearshore rock mitigation will be required where sand is placed along area with rock using hydraulic placement by dredge (Marineland (R-2.3) to Central Hammock Dunes (R-43))
- Sand stockpiling and mechanical rehandling will eliminate need for nearshore hardbottom mitigation (Marineland (R-2.3) to Central Hammock Dunes (R-43))
- Two future sand placement frequencies are considered for Option 7
 - 11 year interval (consistent with USACE)
 - 6 year interval

Example of hydraulic dredge discharge and offshore migration of sedimentation and turbidity



Dredge

Pipeline

Suspended Sedimentation and Turbidity from Runoff (can impact nearshore rock)

Return water carrying suspended sediments

Hydraulic Discharge (20% sediment / 80% water)

Example of mechanical placement of dry sand

- Controlled placement
- No hydraulic discharge
- No return water runoff
- Minimal suspended sediments



Probable Cost Development

- Initial project volume along 11.6 miles is based upon Option 5 assumption (BMS, 2022)
- 10 acres of rock mitigation for hydraulic dredging approach (actual amount will be subject to engineering and permitting)
- Market conditions and similar projects
 - \$4,700,000 for dredge mob/demob **
 - \$14-\$18 per cubic yard for sand placement by dredge **
 - \$50 per cubic yard for offshore sand stockpiling and rehandling
- Planning, Design, Engineering, Construction (6% of construction cost)
- 10% Contingency
- Monitoring \$500,000 per year (northern 11.6 miles)

(** consistent with 2023 USACE cost estimate)

Option 7 – Scope Summary

Option	Initial Volume (cy) *			Renourish Interval (yrs)	Future Volume (cy) **			Assumed Hardbottom Mitigation
	Hydraulic	Stockpile/ Rehandle	Total		Hydraulic	Stockpile/ Rehandle	Total	Area (acres)
7 (11 yrs / mit)	3,178,000	138,950	3,316,950	11	968,000	144,500	1,112,500	10
7 (11 yrs / no mit)	2,480,600	836,350	3,316,950	11	550,000	562,500	1,112,500	0
7 (6 yrs / mit)	3,178,000	138,950	3,316,950	6	528,000	79,000	607,000	10
7 (6 yrs / no mit)	2,480,600	836,350	3,316,950	6	300,000	307,000	607,000	0

* Initial volume includes 1,615,000 cy for the USACE project in COFB

** Future volume is only for northern 11.6 miles of County shoreline (R-2.3 to R-65).

Values could be 14% to 58% higher with future SLR effects (BMS, 2022)

Planning values only. All values subject to change following detailed engineering and permitting.

Initial Cost Summary (Total and EAC)

Option	Initial Construction Cost				
	Initial Cost	Distribution of Initial Cost			
		USACE	FDEP/ FEMA Cat G*	Flagler County	FDOT
7 (11 yrs / mit)	\$ 98,980,500	\$ 17,680,000	\$ 41,000,000	\$ 26,575,500	\$ 13,725,000
7 (11 yrs / no mit)	\$ 96,785,300	\$ 17,680,000	\$ 41,000,000	\$ 24,380,300	\$ 13,725,000
7 (6 yrs / mit)	\$ 98,980,500	\$ 17,680,000	\$ 41,000,000	\$ 26,575,500	\$ 13,725,000
7 (6 yrs / no mit)	\$ 96,785,300	\$ 17,680,000	\$ 41,000,000	\$ 24,380,300	\$ 13,725,000
			* Post-Ian/Nicole Recovery funds		

Project scope where nearshore rocks exists will likely need to be reduced if Flagler County funding is not available

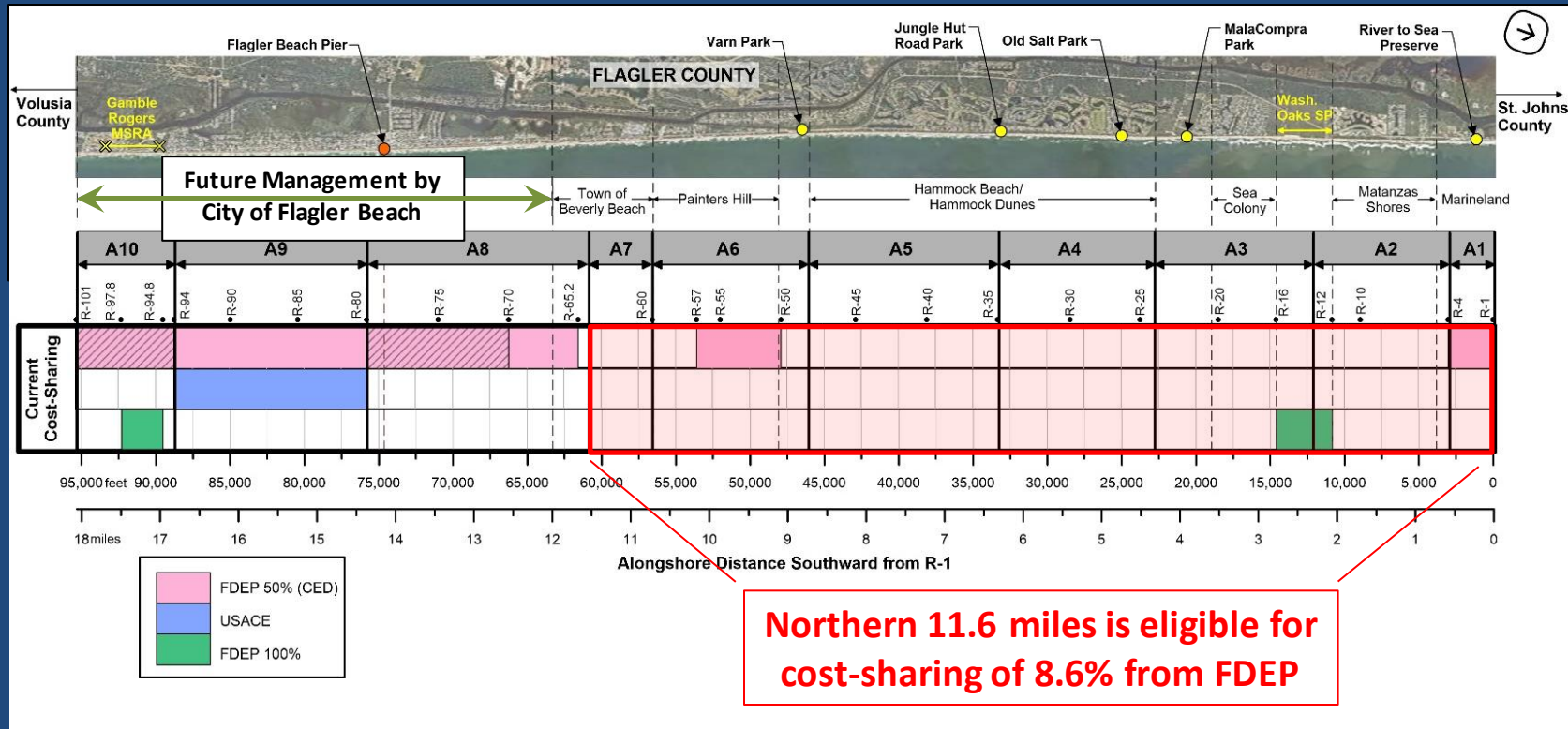
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Future Cost Summary (Total and EAC)

Option	Future Construction Cost / Each Event (11.6 miles)				
	Future Event Cost	Distribution of Future Cost			
		USACE	FDEP	Flagler County	FDOT
7 (11 yrs / mit)	\$ 34,513,000	\$ -	\$ 2,968,000	\$ 31,545,000	\$ -
7 (11 yrs / no mit)	\$ 49,293,000	\$ -	\$ 4,239,000	\$ 45,054,000	\$ -
7 (6 yrs / mit)	\$ 20,643,000	\$ -	\$ 1,775,000	\$ 18,868,000	\$ -
7 (6 yrs / no mit)	\$ 29,150,000	\$ -	\$ 2,507,000	\$ 26,643,000	\$ -

Planning values only. All values subject to change following detailed engineering and permitting.

Cost-sharing Opportunities



Option 7 Future Maintenance Cost (\$/yr equivalent)

Option	Equivalent Annual Cost (EAC) (\$/year) (Planning Period: 50 years - Discount Rate: 2.25%)				
	Total	USACE	FDEP	Flagler County	FDOT
7 (11 yrs / mit)	\$ 3,066,700	\$ -	\$ 263,700	\$ 2,802,900	\$ -
7 (11 yrs / no mit)	\$ 4,182,000	\$ -	\$ 359,700	\$ 3,822,300	\$ -
7 (6 yrs / mit)	\$ 3,602,500	\$ -	\$ 309,800	\$ 3,292,700	\$ -
7 (6 yrs / no mit)	\$ 4,912,800	\$ -	\$ 422,500	\$ 4,490,300	\$ -
Future maintenance of northern 11.6 miles only starting after initial construction					

Planning values only. All values subject to change following detailed engineering and permitting.

Funding Opportunities

- Tourist Development Tax
 - Special Assessments (MSTU, MSBU)
 - Special Taxing District
 - Beach Erosion Control District, DCDD, etc.
 - Bonds
 - Other sources such as County General Revenue, Local Option Sales Tax, etc...
-
- FEMA Post-Disaster Public Assistance Funding
 - Public Law 84-99, Emergency Response to Natural Disasters

Implementation Tasks Identified in the BMS

- Establish Governance/Administration (County, Special District, other)
- Identify/Establish Local Funding Source
- Initiate Detailed Design Investigation
- Expand Offshore Sand Borrow Area
- Map Coquina Rock Outcropping (northern 7.6 miles of shoreline)
- Pursue Regulatory permits
- Pursue Long-term easements
- Develop County-wide Public Beach Access and Parking inventory
- Petition FDEP to Reassess Critical Erosion Eligibility (annually)
- Assess Potential Benefit of New USACE Feasibility Study

Immediate Next Steps Identified in the BMS

- Initiate discussion about program administration – who will lead?
- Commission funding study
 - Test community interest in the program and willingness to pay
- Commission data collection to expand offshore sand borrow area
 - Essential activity with benefit to overall program
- Commission parking and access inventory
- Request a new Federal feasibility study
- Pursue easements along northern 11.6 miles of shoreline

Immediate Next Steps **Complete/Underway**

- Initiate discussion about program administration (who will lead?)
- Commission funding study
 - Test community interest in the program and willingness to pay
- Commission data collection to expand offshore sand borrow area
 - Essential activity with benefit to overall program
- Commission parking and access inventory
- Request a new Federal feasibility study
- Pursue easements along northern 11.6 miles of shoreline



SUGGESTED OBJECTIVES OF A BEACH MANAGEMENT PLAN

- **Acknowledge** that implementation of a comprehensive beach management plan for the County's Atlantic Ocean shoreline is in the interest of Flagler County.
- **Restore, enhance, maintain, preserve, and protect** the beach and dune system through beach and dune restoration and periodic renourishment.
- **Maximize** the amount of sand volume placed and maintained along the County's beach and dune within regulatory and financial constraints.
- **Protect** life and property and act as a buffer from coastal erosion, storm surges, elevated wave conditions, coastal flooding, and sea level rise.
- **Provide** habitat for the numerous species of plants and animals that rely upon a healthy beach and dune system.
- **Protect** beach and nearshore hardbottom habitat, a marine resource unique to Flagler County.



SUGGESTED OBJECTIVES OF A BEACH MANAGEMENT PLAN

- **Prioritize** the recreational benefits of a healthy beach system.
- **Seek** to expand public access.
- **Maximize** Federal and State cost-sharing opportunities.
- **Establish** a dedicated local funding source to implement and sustain a comprehensive beach and dune management program.
- **Secure** easements that support the intent and purpose of the beach management plan.
- **Recognize** that there is a finite amount of beach compatible sand offshore of Flagler County and it is in the best interest of Flagler County to protect and preserve this resource.



BEACH MANAGEMENT PLAN

Next Steps...

- **Identify and confirm** with all affected stakeholders, the county's beach management goals and priorities.
- **Incorporate** findings of the Beach Management Study into a Beach Management Plan
- **Adopt** agreed upon Beach Management Plan
- **Direct** staff to initiate efforts to implement the adopted Beach Management Plan



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