

FY2022/2023 Local Government Funding Request

Final Inlet Project Assessment

Project Name	Ft. Pierce Inlet Management Plan Implementation
Local Sponsor	St. Lucie County Erosion District

Initial Assessment	8/6/2021
Group Assessment	8/18/2021
Draft Assessment	8/31/2021
Final Review	9/29/2021

Project Description
The Ft. Pierce Inlet is located between DEP monuments R33 and R34 in St. Lucie County. It consists of the restoration and maintenance of 2.3 miles of shoreline immediately south of the inlet. The Ft. Pierce Inlet Management Plan (IMP) was adopted in 1997. A draft feasibility study to evaluate sand bypassing alternatives was completed in 2003 and in 2008 and 2009, survey and modeling efforts were completed to evaluate, recommend, and design the deposition basin (sand trap) alternative. The design and permitting of the sand trap was completed in 2019 and the construction bidding process was completed in 2021 for phase I of the sand trap construction. An updated sediment budget report was submitted to the Department in 2021, with the intent to update the IMP. The funding request is for additional construction funds for phase I of the sand trap construction and year one post-construction monitoring. Staff have determined that the project is eligible for a 75% state cost share for the Construction phase and 50% state cost share for the Monitoring phase.

Funds will be used for (list project phase, specify which phase is reimbursement, if applicable)
Construction and Monitoring

State cost share %	75% and 50%
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Project Budget Table					
	State %	Federal	State	Local	Total
Feasibility	0.00%	\$0	\$0	\$0	\$0
Design	0.00%	\$0	\$0	\$0	\$0
Construction	75.00%	\$0	\$1,080,000	\$360,000	\$1,440,000
Year 1 Monitoring	50.00%	\$0	\$27,500	\$27,500	\$55,000
Year 2+ Monitoring	0.00%	\$0	\$0	\$0	\$0
Total Project Costs		\$0	\$1,107,500	\$387,500	\$1,495,000

TOTAL PROJECT SCORE (80 points)	38
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Sand reaching the inlet (10 points)	Score	2
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Local Sponsor: 112,000 cy/yr (Olsen 2018). Estimated that 40,000 cy/yr passes through north jetty. Metric should consider all sands reaching the inlet and not just those that pass through.

Department: The volume of sand reaching the updrift boundary of the inlet is 40,000 cy/yr (Olsen 2018). Notwithstanding the accretion occurring on the updrift beaches north of the inlet, which may or may not be entirely attributed to the effects of the inlet, the plain reading of paragraph 161.142(2)(a), F.S., leads to this conclusion when there is no other qualifying language.

Volume of sand: 40,000

Severity of erosion (10 points)	Score	10
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Local Sponsor: 130,000 cy/yr (CPE 1996)

Department: The annual target bypassing is 130,000 cy to the south (IMP 1997; 136,500 cy/yr from Olsen 2018).

Target bypassing volume: 130,000

Balancing the sediment budget (10 points)	Score	0.9
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Local Sponsor: Annual average bypass since IMP adoption: 11,713 cy. Updated sediment budget report submitted in 2018. Supplemental near-shore borrow area report completed in 2019. Summary Report for all recent inlet efforts is under final review.

Department: The annual target bypassing is 130,000 cy to the south. For the 24 year period from adoption of the IMP in 1997 through 2020 the inlet has bypassed 9.0% of this target for a shortfall of 118,286 cy/yr.

CEG calculated value: 11,714 cy/yr

Increased bypassing improvements (10 points)	Score	3.4
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Local Sponsor: Proposed increased bypassing: 90,000 cy/yr. Two sand trap alternatives: 1) 348,00 cy/every two years (174,00 cy/yr); 2) 180,000 cy/ every two yrs (90,000 cy/yr). Consensus to proceed with alternative 2) with the application of the sand bypassing basin to test the construction of a small scale basin with a capacity of 60,000 cy. (pilot project) prior to a full-scale basin construction.

Department:

The application is for phase 1 of the sand bypassing basin to test the construction of a small scale basin with a capacity of 60,000 cy that is anticipated to increase bypassing by 40,000 cy/year. The unmet annual bypassing objective is 118,286 cy (130,000 cy less 11,714 cy). The 40,000 cy annualized increase in bypassing divided by the unmet annual bypassing objective of 118,286, multiplied by 10, yields 3.4 points for this ranking criterion.

CEG calculated value:

$$40,000 / 118,286 * 10$$

Cost-effectiveness of using inlet sand (10 points)	Score	3.3
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Local Sponsor:

Yes, proposed project is for the construction of a major inlet management project component.

Department:

Verified, but an opinion of probable cost per unit volume of the inlet and all other sand sources, certified by a licensed professional engineer, was not submitted with the application materials and is therefore not eligible for the award of points.

Department:

Evaluation of this criteria requires an opinion of probable cost certified by a licensed professional engineer. The preliminary design and permitting final project report (Taylor, 2010) provides a summary of the initial construction cost, periodic dredging costs and annualized costs. Using the cost data for Basin Alternative 2 for offshore disposal of non-beach compatible sediment, the annualized cost of sand bypassing from the impoundment basin is \$15.33 per cubic yard. The comparable unit cost of sand from an offshore source as noted in the funding application is \$19.66. Hence, the score for this criterion is $[1 - (15.33/19.66)] \times 15 = 3.3$

Inlet Management Plans

Existing IMP (5 points)	Score	5
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Local Sponsor:

Yes

Department:

Verified, adopted IMP in 1997

Updated IMP (5 points)	Score	5
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Local Sponsor:

Yes

Department:

Verified, the County has updated the sediment budget and has a Department-approved study within last 5 years.

New IMP (10 points)	Score	0
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Local Sponsor: No

Department: Verified

Enhanced longevity of proximate beach projects (10 points)	Score	2.5
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Local Sponsor: Since 1998, 252,147 cy of sand have been placed (annualized beach nourishment volume)

Department: For the 24 years since the 1997 IMP adoption, there has been 4,957,302 cy placed at the Fort Pierce Shore Protection Project to the south of the inlet for a 206,554 cy/yr yearly rate. Of the total, 281,126 cy or 11,714 cy/yr were from inlet bypassing. The proposed increase of 40,000 cy/yr would yield an annual bypass of 51,714 cy/yr which is 25.0% of the total yearly rate.

CEG calculated value: 25%

Criteria in 161.101(14) applicable to inlets

Active permits (1 point)	Score	1
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Local Sponsor: Yes, state and federal permits active.

Department: Verified.

Federal funds available (3 points)	Score	0
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Local Sponsor: No

Department: Verified

Total amount of previous state funding (4 points)	Score	2.9
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Local Sponsor: N/A

Department: Fiscal year 2012/2013 through 2021/2022

Total funds: \$3,214,055.75

Secured local funds (2 points)	Score	2
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Local Sponsor: Yes, draft resolution submitted

Department: Verified

Department: Signed Resolution submitted for the award of two points.