

FY 2010-11 Local Government Funding Request

Project Name: Gasparilla Island Beach Erosion Control

Project Description: The project includes removal or rehabilitation of an existing groin field, placement of beachfill along 16,390 feet (3.1 miles), construction of an offshore segmented breakwater, and two T-head groins near the southern end of the island. The complete project area, from Boca Grande Pass to 17th Street, is listed as critically eroded shoreline by FDEP. Placement of 1,072,781 cubic yards and removal of the derelict groin field were completed in April 2007.

The derelict groin field was comprised of approximately thirty-five steel sheet piles, pre-cast concrete interlocking units and rubble mound groins between DEP reference monuments R-13 and R-21. Although not required by State permit conditions, the County removed twenty-seven of the derelict groins. In late 1997, the Gasparilla Island Conservation and Improvement Association (GICIA), with the assistance of Lee County and adjacent private property owners, removed approximately 900 linear feet of derelict seawall, corroded steel reinforcement and rip-rap debris from the shoreline between R-21 + 200 ft south and R-22.

The beach erosion control project extends from 17th Street (R-10 + 500 ft. south) to the south end of Gasparilla Island (R-26). These limits are consistent with the FDEP Bureau of Beaches and Coastal Systems (BBCS) recommendations as delineated in “Beach Conditions in Florida, 5th Edition, December 1993”, and the north limit of the federal beach erosion control project. Erosion rates in the project area are reported to be 7 ft/yr (“Beach Management Plan for Lee County”, Olsen Associates, Inc., April 1987). The FDEP-BBCS has designated shoreline between R-7 and R-26/Boca Grande Pass as critically eroded.

Use of Requested Program Funds: Funds requested for FY2010-11 will be used for physical monitoring of the shoreline and borrow area.

Local Government Support

Does this sponsor have dedicated support staff whose sole priority is to manage beach erosion control activities? Yes

Name	Title	Email	Percent Commitment
Robert Neal	Coastal Engineer	rneal@leegov.com	100%
Address 1:	1500 Monroe St.	Phone:	239.533.8566
Address 2:	Ft. Myers, Fl 33901	Fax:	239.485.8408

Quarterly Report Compliance:

2008-2009	End Date	Report Sent	Compliant
Qtr 1 (Sept)	Sept 30	Oct. 31	Yes
Qtr 2 (Dec)	Dec 31	Feb. 2	Yes
Qtr 3 (Mar)	Mar 31	May 8	Yes
Qtr4 (June)	June 30	Aug. 6	Yes

Revenue for the local cost share will be provided by: Local funding for the project will be obtained from special property assessments and the Lee County Tourist Development Council (TDC). The TDC provides a dedicated long term funding source through a ‘bed tax’. The tax allocates 1.65% of all revenue generated from short term or seasonal rentals (less than 6 months) for beach and shoreline improvements.

Is the funding from a dedicated long term source for this project? Yes

In order to acquire funding, a resolution from the local governmental entity must be provided by the application deadline which declares:

- Support from the Sponsor for the Proposed Project
- Willingness to serve as the Local Sponsor
- Ability to provide the full Local Cost Share
- Funding Source

Has the local sponsor resolution been attached to the application fulfilling all of these requirements? Yes

Previous State cost-share for a feasibility or design/permitting phase of this project:

The Department previously entered into a cost-share agreement in 1999 for funding of the initial restoration. The project is recommended in the Strategic Beach Management Plan and located in an area that has been designated as critically eroded shoreline by the Department.

Previous State Cost Share percentage
Construction 58.34%
Design & Permitting / Monitoring 44.78%

10-Year Project Schedule and 5-Year Estimated Budget

Does this project have Congressional Authorization? Yes

Does this project have a Federal Project Cooperative Agreement? Yes

What is the end date of the Federal Authorization? 2056

Federal cost share available for this erosion control project: 54.4%

Schedule and Budget

Year	Proposed Method	Description	Total Estimated Cost	Federal Cost Share	State Cost Share	Local Cost Share
2009/ 2010 Revalidation	Monitoring	Physical	\$34,000	\$0	\$15,225	\$18,775
2010/ 2011	-	-	\$0	\$0	\$0	\$0
2011/ 2012	Monitoring	Physical	\$34,000	\$0	\$15,225	\$18,775
2012/ 2013	Design / Permitting	JCP COE	\$560,000	\$0	\$250,768	\$309,232
2013/ 2014	Construction	Nourishment	\$15,000,000	\$6,000,000	\$5,250,600	\$3,749,400
2014/ 2015	Monitoring	Physical / Turtle	\$55,000	\$0	\$24,629	\$30,371
2015/ 2016	Monitoring	Physical / Turtle				
2016/ 2017	Monitoring	Physical / Turtle				
2017/ 2018	-	-				
2018/ 2019	Monitoring	Physical				
2019/ 2020	Design / Permitting	JCP COE				

Mapping- Maps are provided as attachments.

Maps should be to scale at a minimum of 1"=200'

Mapping elements include:

- Project Boundary with Critically Eroded Shoreline
- Range Monuments
- Beach Access and Parking- Primary and Secondary, including access widths.
- Public Lodging Establishments- locations and length of property boundaries along project Shoreline.
- Comprehensive Plan designations of Commercial and Recreational Facilities and associated property boundaries along the project shoreline.

Length of Project Boundary in Feet: 16,390 ft

Length of commercial or recreational property fronting the project shoreline:
5,738 FT

Percentage of project shoreline designated as commercial or recreational property
35%

Eligibility: Access Points and Public Lodging Establishments:

Location/Name	Address	R-Mon	Type of Access	Width of Access/ Frontage	Total units or parking spaces	No. Public	Eligible shoreline
17 th Street		R10.5	Secondary	50	12	12	683
14 th Street		R-11	Secondary	50	18	18	1,000
11 th Street		R-11.75	Secondary	50	23	23	1,237
7 th Street		R-13	Secondary	50	50	50	1,422
3 rd Street		R14.5	Secondary	50	41	41	1,657
Sandspur Park / Federal Park		R-17	Secondary	1,320	41	41	3,481
Seagrape Park		R-24	Primary	3,705	110	110	5,127

Additional Ranking Criteria

Will this project enhance or increase the longevity of a previously-constructed project?

Yes

Will this project nourish a previously restored shoreline?

Yes

Rate of Erosion as determined by the Bureau based on long term data (ft/yr)

7 ft/yr

Severity of erosion:

The entire project area has been designated as critically eroded by the FDEP. The island has a north-south orientation, but offshore bottom irregularities and the ebb shoal at Boca Grande Pass cause increased wave energy; consequently, persistent beach erosion occurs at several locations along the island. The most severely impacted area (R-15 to R-19) experienced an average erosion rate of 11.2 feet per year from 1991 to 2002. Continued erosion over the decades has necessitated the construction of seawalls along approximately 45% of the gulf-front properties in the project area.

Shoreline development within the project area consists of approximately 1,351 linear feet (7.7%) of multifamily and hotel/motel structures and 6,334 feet (36%) of public beach access. The entire project area contains only four vacant parcels with a total of 245 feet of shoreline (or 1.4% of the total project area). Approximately 5,600 feet of State Road 771 (Gulf Boulevard) lies seaward of the Coastal Construction Control Line.

Throughout the project area, there were many seawalls with little or no emergent beach fronting them. Several derelict groins fronting the walls were non-functional (no sand in the system), and a few of the seawalls were incapable of sustaining severe storm impacts without substantial structural as well as upland damage. FDEP Division of Recreation and Parks, with assistance from private organizations, restored the seawall fronting the roadway immediately north of Belcher Road in 2004

Project Benefits:

Public beach access consists of approximately 990 feet of federal park property and 4,129 feet of state recreation area. A total of 642 public parking spaces are available within one-quarter mile

of the thirty-six access sites within the project boundaries. Although the Island is largely residential, a recent analysis determined the annual recreational beach benefits within the project area to total \$2.2 Million. The project provided increased beach width, which corresponds, to increased storm protection benefits, increased recreational area, and increased habitat for loggerhead and green turtles and numerous species of shore and wading birds.

Use of Innovative Applications of existing technologies: Conventional hydraulic dredging technology is expected for this project.

Nourishment Interval (years):

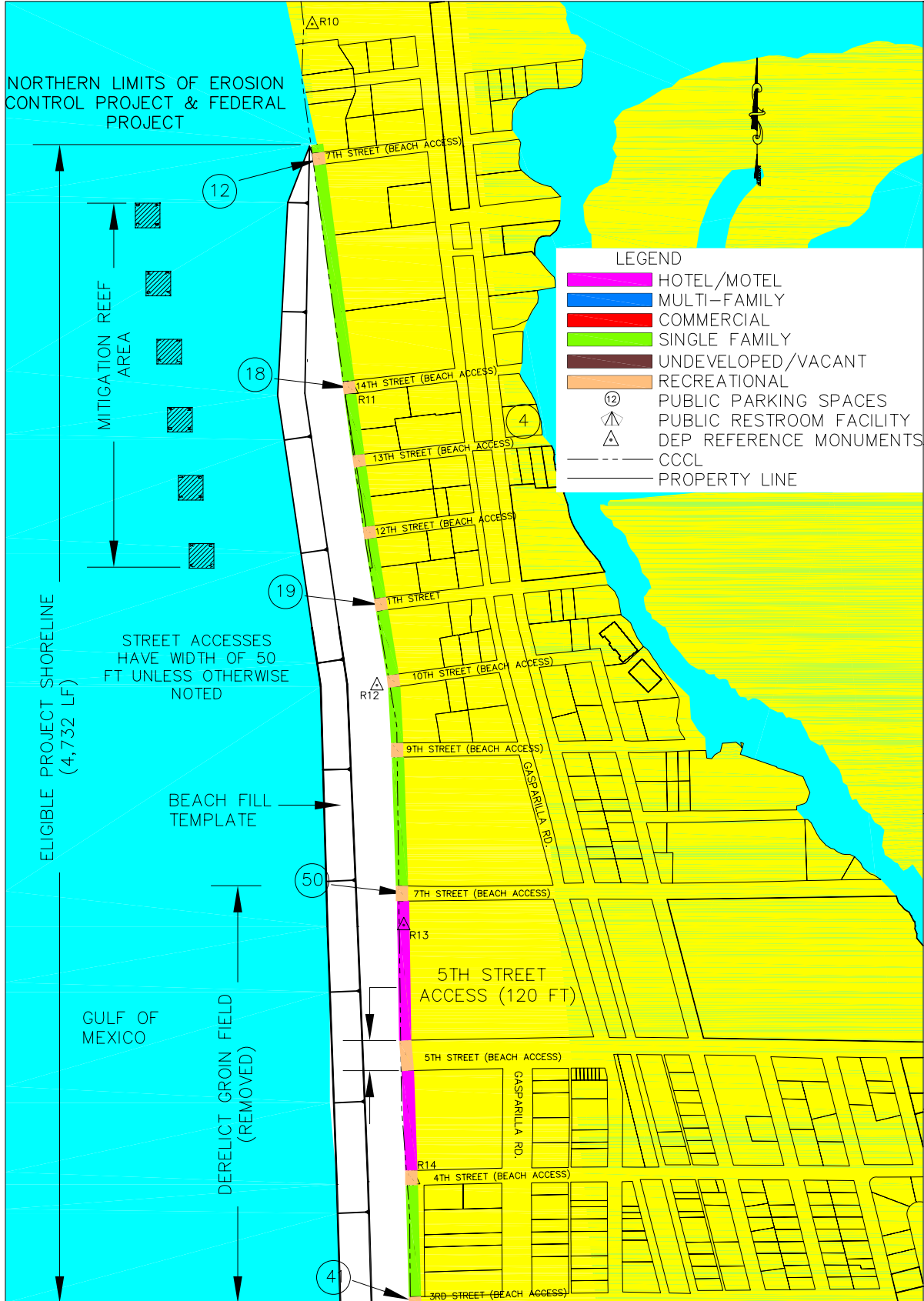
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Project Performance

A comprehensive beach management plan is an economically preferable approach to restoring the County's beaches. A measured 1,072,781 cubic yards of sand were placed along the 3.2 miles of critically eroded shoreline immediately north of Boca Grande Pass. The construction of an offshore segmented breakwater and two T-head groins near the southern end of the island was found to not to be economically justified based on the shoreline performance with the beachfill.

An inlet management plan has not been prepared for Boca Grande Pass, but experience with other major maintained inlets throughout Florida indicates that the entire project area is within the inlet's zone of influence. The proposed project components are consistent with state goals to mitigate inlet-induced erosion.

Correspondence from the Department places Boca Grande Pass in a category labeled 'Studies not yet initiated.' Therefore, it is not possible to provide an assessment of the project's consistency with an *adopted* inlet management plan at this time. It is possible that the need for the groin field, which was constructed by private interests to mitigate for erosional impacts to the Gulf of Mexico shoreline, was a result of adverse effects attributable to Boca Grande Pass on the sediment budget along this segment of the Island



TITLE: LONG RANGE BUDGET PLAN
 2010 / 11 SUBMITTAL
 GASPARILLA ISLAND
 EROSION CONTROL PROJECT

NATURAL RESOURCES DIV
 1500 Monroe St. Fort Myers, Florida 33901
 Ph. (239) 533-8109/10 Fax: (239) 485-8408

LEE COUNTY
 SOUTH WEST FLORIDA

FILE: S:\NATRES\MARINE\BEACHMANAGEMENT\
 DEP_LONG_RANGE_PLAN\09SUBMITTAL\
 DRAWINGS\GASPARILLA.dwg
 DESIGN:
 DRAWN:
 APPROVED:

SCALE:
 1"=600'
 SHEET:
 01 OF 04

MATCHLINE - 3RD STREET
 SEE SHT. 2 OF 4

LEGEND

- HOTEL/MOTEL
- MULTI-FAMILY
- COMMERCIAL
- SINGLE FAMILY
- UNDEVELOPED/VACANT
- RECREATIONAL
- PUBLIC PARKING SPACES
- PUBLIC RESTROOM FACILITY
- DEP REFERENCE MONUMENTS
- CCCL
- PROPERTY LINE

STREET ACCESSES HAVE WIDTH OF 50 FT UNLESS OTHERWISE NOTED

BEACH FILL TEMPLATE

DERELICT GROIN FIELD (REMOVED)

GULF OF MEXICO

ELIGIBLE PROJECT SHORELINE (4,732 LF)

NORTHERN LIMITS OF EROSION CONTROL PROJECT & FEDERAL PROJECT

MITIGATION REEF AREA

7TH STREET (BEACH ACCESS)

14TH STREET (BEACH ACCESS)

13TH STREET (BEACH ACCESS)

12TH STREET (BEACH ACCESS)

11TH STREET

10TH STREET (BEACH ACCESS)

9TH STREET (BEACH ACCESS)

7TH STREET (BEACH ACCESS)

5TH STREET ACCESS (120 FT)

5TH STREET (BEACH ACCESS)

4TH STREET (BEACH ACCESS)

3RD STREET (BEACH ACCESS)

R10

R11

R12

R13

R14

12

18

19

50

4

4

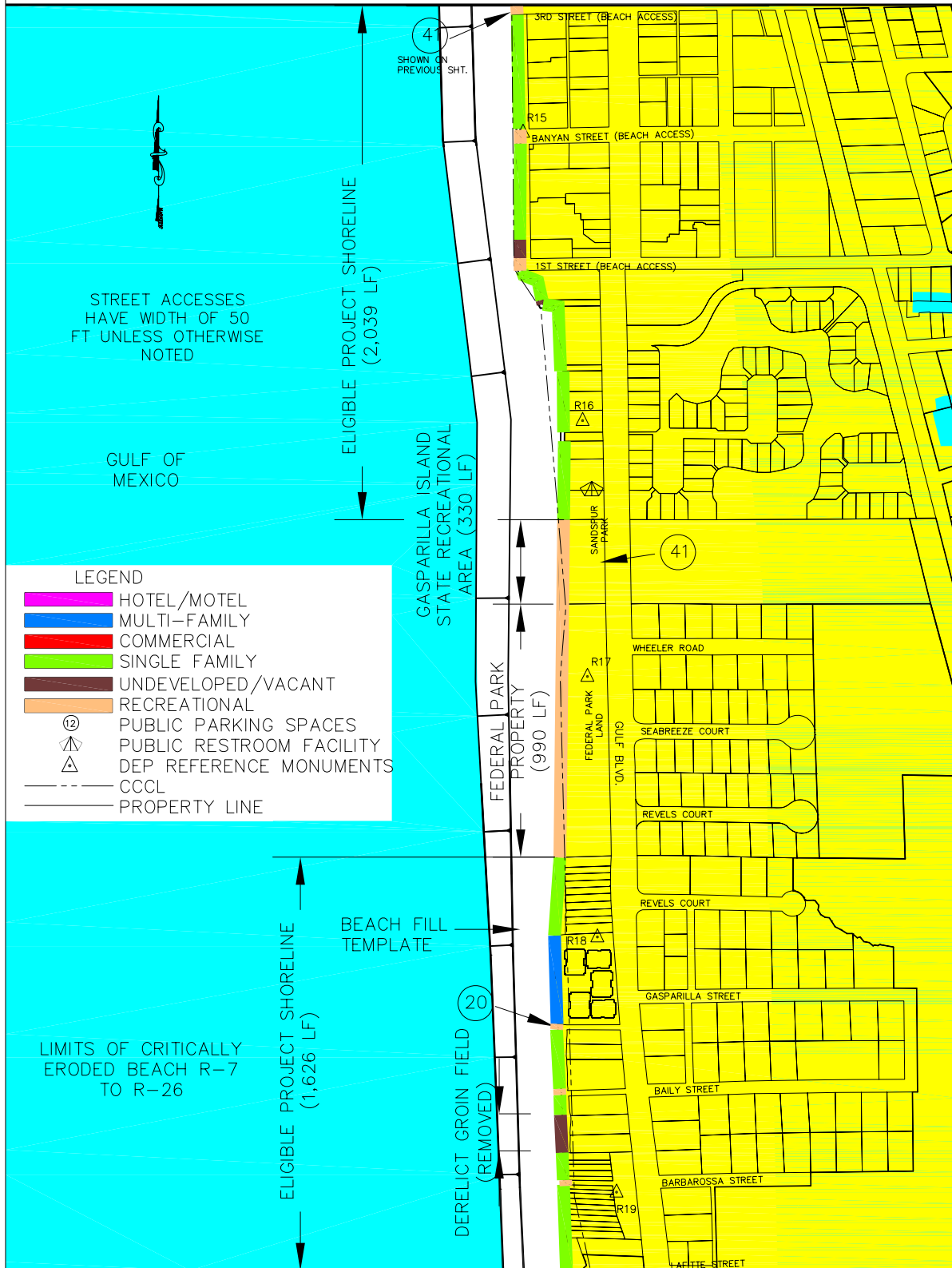
0' 300' 600' 1200'

GRAPHIC SCALE IN FEET

NOTES:

1. SHORELINE LENGTH MEASURED ALONG CCCL.
2. CCCL AND PLAT INFORMATION PROVIDED BY LEE COUNTY PROPERTY APPRAISER'S OFFICE.
3. DNR MONUMENT LOCATIONS PROVIDED BY FDEP.
4. REF. ATTACHED SHT. FOR ELIGIBILITY CALCULATION.

MATCHLINE - 3RD STREET
SEE SHT. 1 OF 4



STREET ACCESSES
HAVE WIDTH OF 50
FT UNLESS OTHERWISE
NOTED

GULF OF
MEXICO

LEGEND

- HOTEL/MOTEL
- MULTI-FAMILY
- COMMERCIAL
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- PROPERTY LINE

LIMITS OF CRITICALLY
ERODED BEACH R-7
TO R-26

ELIGIBLE PROJECT SHORELINE
(1,626 LF)

BEACH FILL
TEMPLATE

DERELICT GROIN FIELD
(REMOVED)

GASPARILLA ISLAND
STATE RECREATIONAL
AREA (330 LF)

FEDERAL PARK
PROPERTY
(990 LF)

MATCHLINE - LAFITTE ST.
SEE SHT. 3 OF 4

0' 300' 600' 1200'

GRAPHIC SCALE IN FEET

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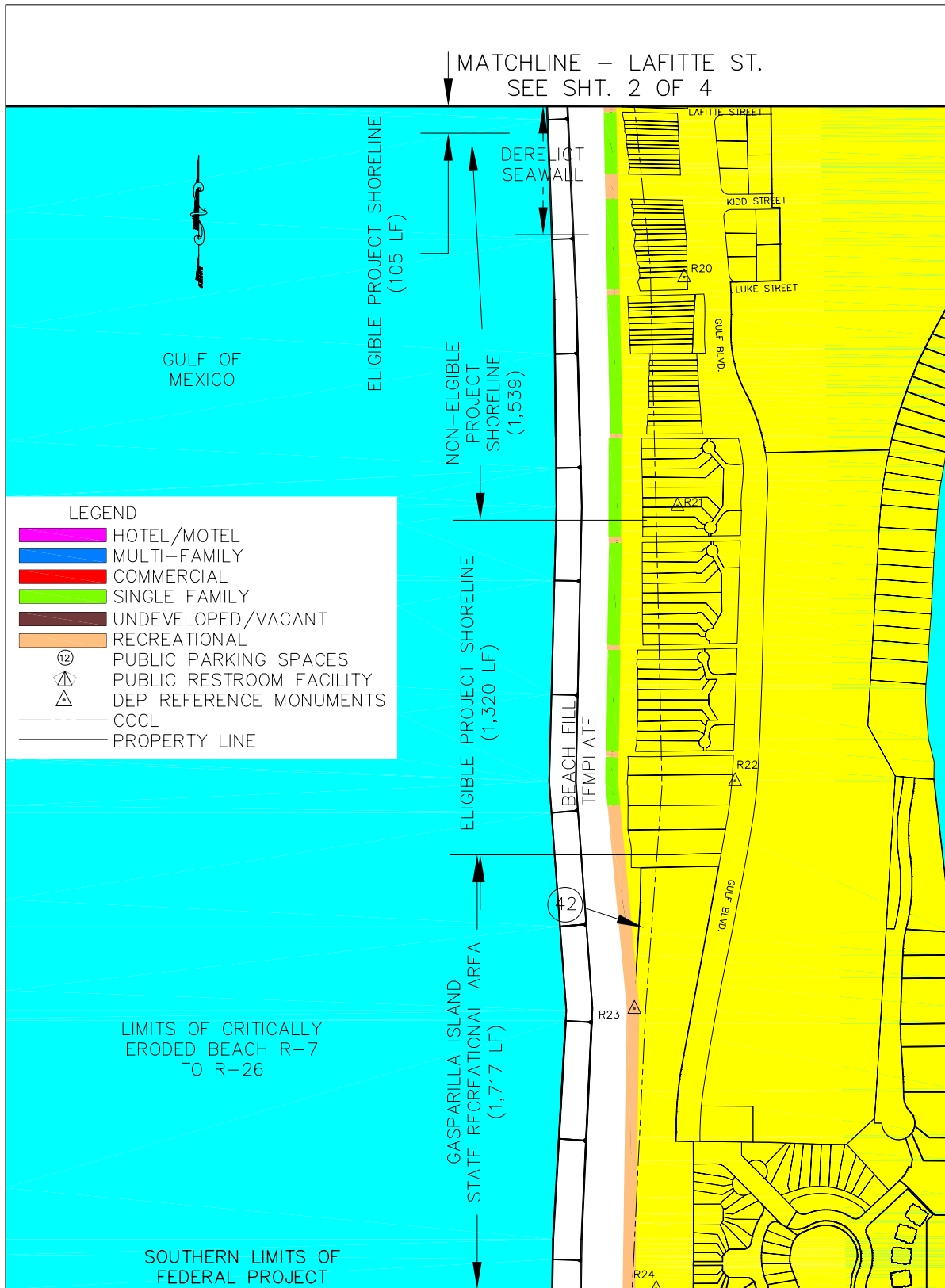
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APPROVED:

SCALE:

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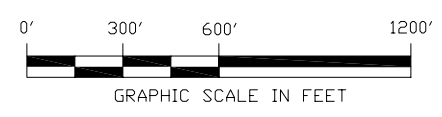
SHEET:

02 OF 04



MATCHLINE - R24
SEE SHT. 4 OF 4

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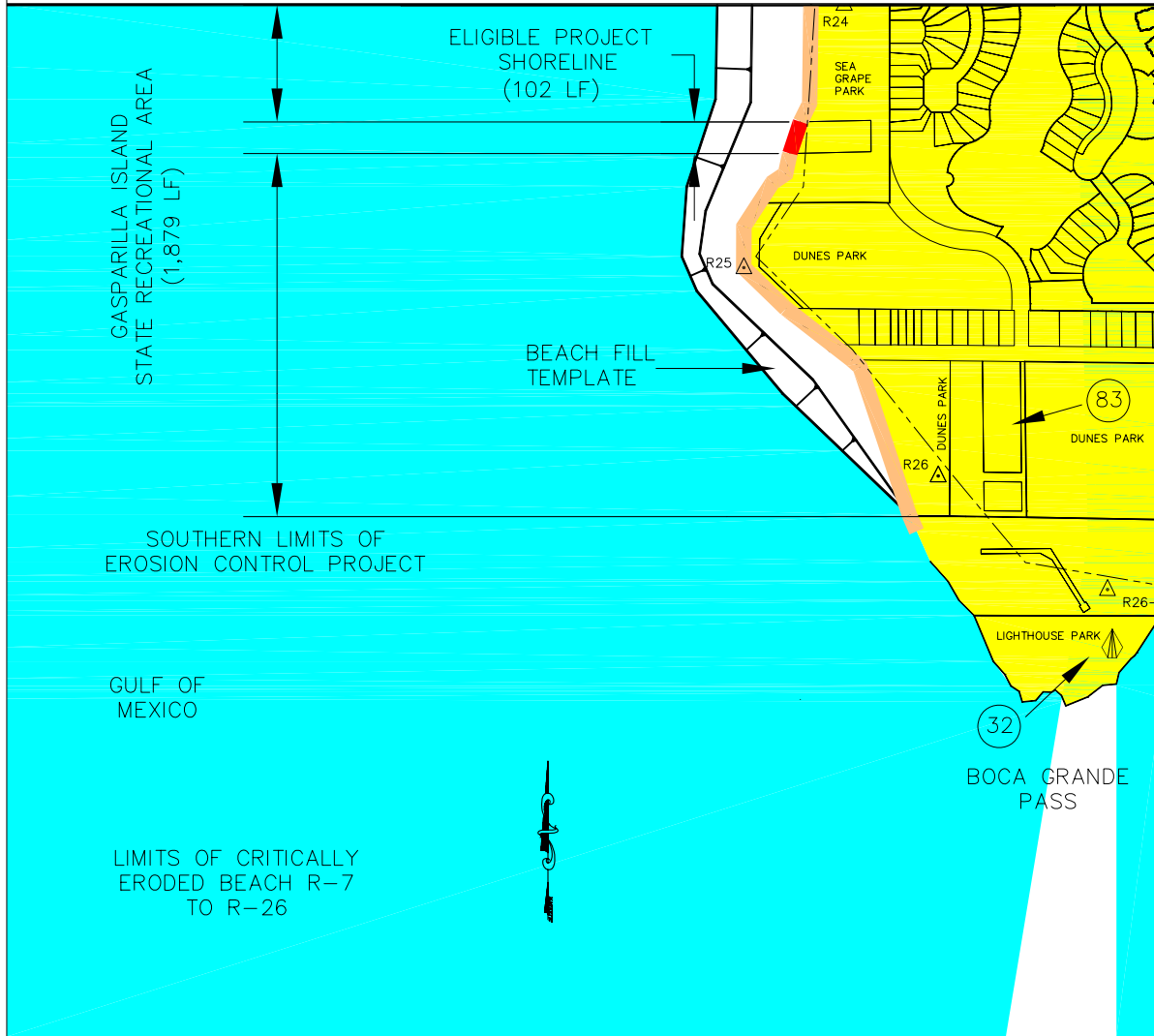
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MATCHLINE – R24
SEE SHT. 3 OF 4



GASPARILLA ISLAND
STATE RECREATIONAL AREA
(1,879 LF)

ELIGIBLE PROJECT
SHORELINE
(102 LF)

BEACH FILL
TEMPLATE

SOUTHERN LIMITS OF
EROSION CONTROL PROJECT

GULF OF
MEXICO

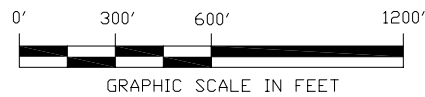
LIMITS OF CRITICALLY
ERODED BEACH R-7
TO R-26

BOCA GRANDE
PASS

LEGEND

- HOTEL/MOTEL
- MULTI-FAMILY
- COMMERCIAL
- SINGLE FAMILY
- UNDEVELOPED/VACANT
- RECREATIONAL
- 12 PUBLIC PARKING SPACES
- ♠ PUBLIC RESTROOM FACILITY
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