

Shoreacres Shoreline Restoration and Environmental Improvements

Project Contact:

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Project Summary:

Location: Miramar Park on Galveston Bay in Shoreacres
29°34'01.29"N, 95°01'06.15"W
Duration: 18 months
Total CIAP funds requested: \$250,000
Estimated CIAP costs per calendar Year: \$250,000 (2009)

Project Description:

The Miramar Park project will address the historical shoreline erosion experienced along this publicly owned waterfront section of Galveston Bay. This project is to protect approximately 3,075 feet of shoreline; to protect approximately 14 acres of public park land; and, restore approximately four acres of park land lost as a result of erosion from Hurricane Ike. Preserving this open space will maintain the recreational value of Miramar Park and guard against damage and/or loss of Miramar Drive and other critical infrastructure.

The pace of erosion has been significant--a comparison of 1958 and 2002 shorelines indicates a loss of approximately 200 feet inland along the entire length of Miramar Park. The prior study indicates erosion was caused not only by natural wave action but also aggravated by ship wakes that have grown larger and more frequent, as the size and number of ships serving the Port of Houston Ship Channel and Bayport facilities continue to increase. Subsidence also affected erosion in this area, but has recently been minimized by limiting the extraction of ground water. An additional 200 feet of land at the north third of Miramar Park was lost as a result of Hurricane Ike, and this area will also be restored. Currently, the preferred alternative includes concrete revetments (with piers) to protect the shoreline at the transition of marsh to shore. A revetment would prevent the tremendous damage created when Hurricane Ike displaced the riprap onto the road and private property west of the shoreline.

This project will also protect public access and infrastructure by replacing marginally effective riprap with a combination of concrete revetment and concrete rock filled stainless steel gabion breakwaters. Completion will improve water safety during recreational activities, e.g. boating and fishing. In addition to erosion control, the construction will provide increased storm surge protection and help prevent the erosional impacts of cargo ships and tanker wakes on the Park shoreline. Following completion, there will be increased recreational and educational opportunities, improved water quality, and, overall improvement of safety and community quality of life.

The phase for which CIAP funding is being sought is for construction engineering services and permit applications. The City has conducted a preliminary assessment of needs with the selection of a preferred alternative, including survey of residents and public meetings. The project will consist of the following tasks: conceptual design and public coordination, permitting, preliminary and final engineering design, environmental assessment, and permit applications. Deliverables include construction design, contractor performance requirements, preparation of bid specifications, and all documents for permit applications. These deliverables could be completed in 14-16 months.

Service contract(s) will be awarded in accordance with Harris County Purchasing Procedures, which require a competitive bid or "Request for Proposal" for purchases over \$25,000. A bid usually takes between 6-8 weeks to complete, from generating the specifications, awarding the contract in Commissioners' Court, based on the lowest bid, and issuing a Purchase Order. CIAP funds will be used for the following design elements: the design and placement specifications for concrete revetments, as well as the design and placement specifications for concrete or rock-filled, stainless steel breakwater, shoreline marsh restoration, and restoration of the shoreline. The preferred alternative is a concrete revetment placed at the shoreline; placement of concrete rock filled stainless steel breakwater elements offshore; marsh restoration between the shoreline and breakwater; and restoration of the bay shoreline. Shoreacres will also seek funding for construction in future CIAP funding cycles.

Authorized Use #1:

Projects and activities for the conservation, protection, or restoration of coastal areas, including wetland.

This project will result in protection of a section of shoreline and prevention of erosion. Accomplishing the objectives of this project will improve water quality and the quality of fish habitat along that section of shoreline. The shoreline of Miramar Park has been damaged by the boat wakes and other human activities, in addition to damage suffered as a result of Hurricane Ike. Trash has accumulated in the water and along the shoreline. Vegetation has been damaged by some uses. The project will restore and protect the Miramar Beach shoreline, as well as signage and other educational efforts aimed at reduced damaging behavior in the future.