



Concrete Dome Structures - Shore Shells

TV-107

Project Status

Approved Date: 2026 **Project Area:** Coastwide
Approved Funds: 624 K **Total Est. Cost:** 4.2 M
Net Benefit After 20 Years: N/A
Status: Engineering and Design
Project Type: Demonstration
PPL #: 35

Location

The proposed project demonstration site is in Region 3, Teche/Vermilion Basin, Vermilion Parish, and intended use is Coastwide.

Problems

Much of Louisiana's gulf and bay shorelines are on former marsh platforms that have weak soils with low weight bearing capacity and are subject to erosion from exposure to wakes, waves, and currents. While traditional rock rip-rap is the standard shoreline protection technique in coastal Louisiana, tends to sink in weak soils, must be mined from distant quarries, often requires access dredging for installation, often requires a geofabric or light-weight aggregate core to distribute or lower weight density, and results in scour at the toe of the structure exposed to wave action and costs have increased in recent years. This leaves a recognized need for a more cost-effective alternative that will not compromise function.

Restoration Strategy

The project goal is to demonstrate the viable use of Concrete Dome Structures - Shore Shells™ to stop or slow shoreline erosion and potentially provide growth in areas where soils are weak and costs of traditional rock rip-rap have become cost prohibitive.

Shore Shells™ are a concrete dome structures reinforced with basalt rebar. The shape is the top-quarter of a hollow dome ~6 inches thick at the base and gradually thins to approximately 2.5 inches thick at a third to a quarter height of the dome. The structure will be 5 ft. high, and the footprint will be 22 ft. diameter (Figure: 1.) The demonstration would include three stretches of protected shoreline, ranging from 500 LF to 880 LF and proposed installation location is on the north shore of Vermilion Bay; location(s) will be finalized during Phase I (Engineering and Design).

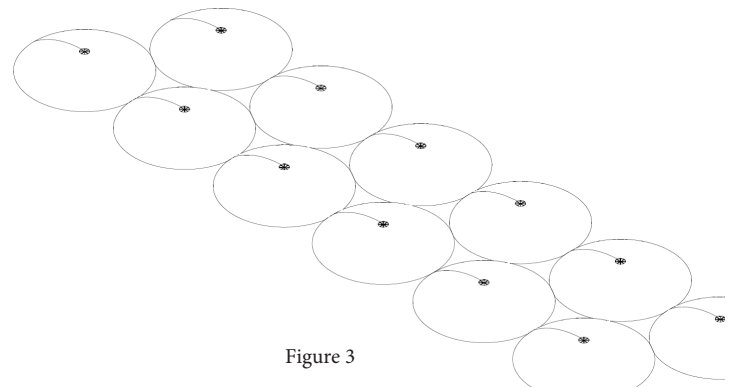


Figure 3

The structures will be installed with a double row alignment, "tightly packed" (i.e. with no spacing, see Figure: 3). Project effectiveness would be monitored and evaluated after construction according to the CWPRA workgroup recommendations.

Progress to Date

The project was authorized for Phase I Engineering and Design on January 15, 2026.

This project is on Priority Project List (PPL) 35.

For more information, please contact:



Federal Sponsor:
 Natural Resources Conservation Service
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Local Sponsor:
 Coastal Protection and Restoration Authority
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