

BA-36 - Dedicated Dredging on Barataria Basin Landbridge

Dedicated Dredging on the Barataria Basin Landbridge BA-36



Phase II Request
December 6, 2006
Baton Rouge, LA



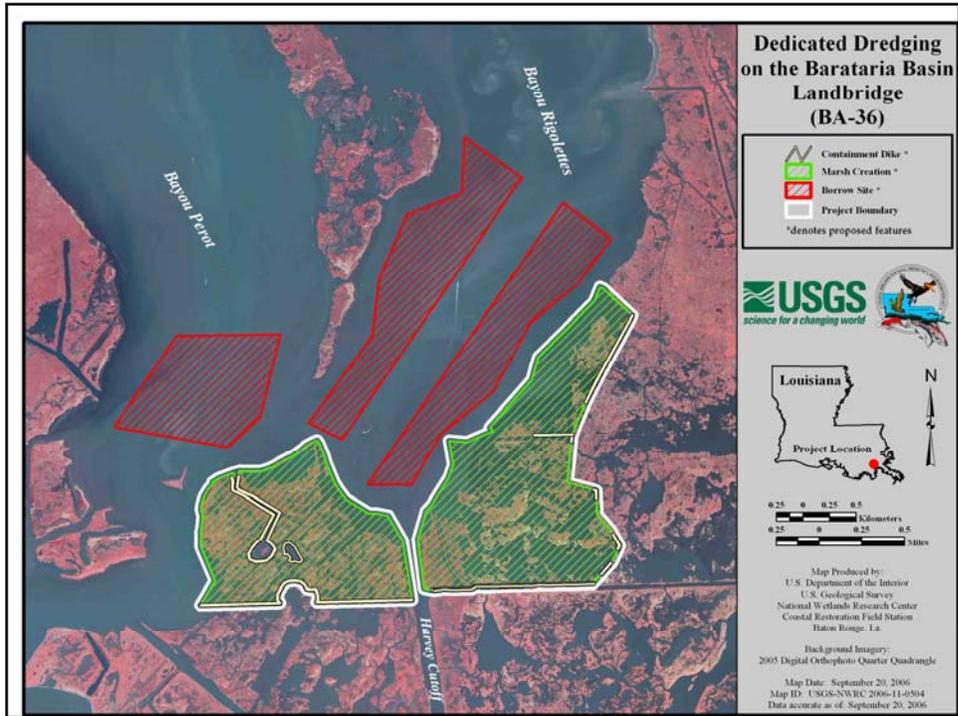
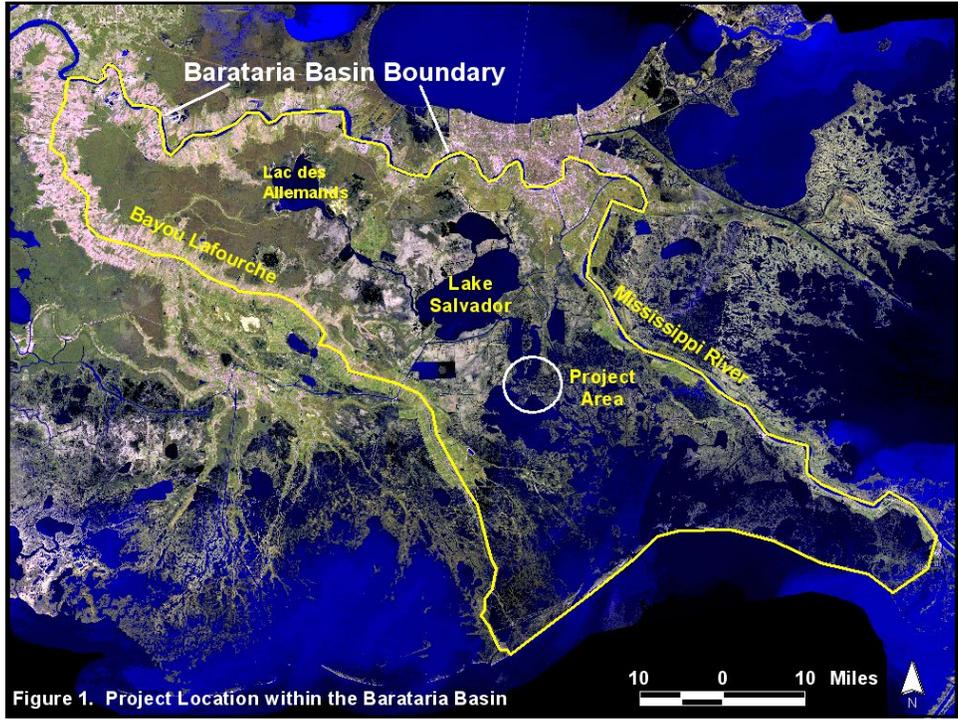
Project Overview

Location: Region 2, Barataria Basin, Jefferson Parish - 25 miles south of New Orleans and 6 miles south of Barataria/Lafitte

Problem: Over 25% of the wetlands in this mapping unit have been lost since 1932; loss rate exceeds -2.0%/yr in project area; subsidence, ponding, and shoreline erosion are the primary causes of loss

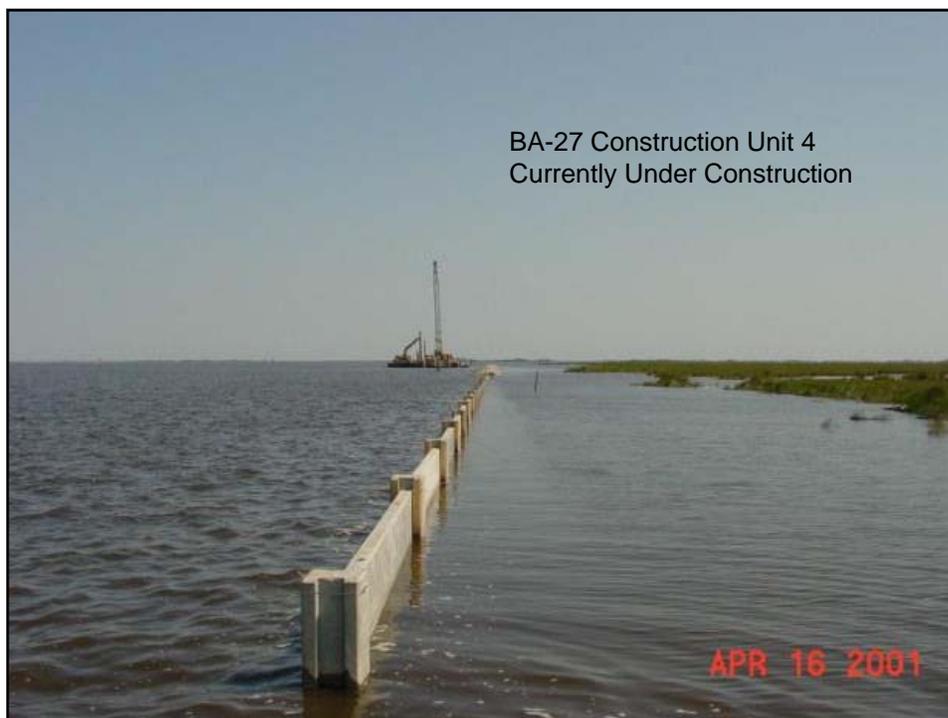
Goals:

- 1) Re-create 504 acres of marsh in open water and degraded marsh habitats
- 2) Maintain 242 net acres at the end of the project life



Project Features Overview

- 504 acres of marsh creation/nourishment; Target height of fill material is +2.5-ft NAVD88
- Containment dikes constructed to +4.0-ft NAVD88 with a 4-ft crown width and 1(V):4(H) side slopes
- Borrow sites in Bayous Perot and Rigolettes dredged to a maximum bottom elevation of -10-ft NAVD88





Project Benefits and Costs

- In total, the project will benefit 504 acres of marsh and open water habitats; 242 net acres of marsh at the end of the 20-year project life
- Wetland Value Assessment – 135 net Average Annual Habitat Units
- The Fully-Funded Cost is: \$15,842,343
Phase 2 Request is: \$15,231,142
- The Prioritization Score is: 56

Why Should We Fund This Project Now?

- Restores one of the most deteriorated areas on the Barataria Basin Landbridge
- Shoreline protection (BA-27) will protect marsh in the project area from shoreline erosion; however, interior marsh will continue to deteriorate from subsidence
- Only 6 miles from unprotected communities of Lafitte and Barataria; Only 20 miles from New Orleans Westbank
- Continues commitment to protect the Barataria Basin Landbridge; 1 of 12 projects which work synergistically to provide landscape-level benefits

Questions?

Dedicated Dredging on the Barataria
Basin Landbridge
BA-36





United States Department of the Interior

FISH AND WILDLIFE SERVICE

646 Cajundome Blvd.

Suite 400

Lafayette, Louisiana 70506

November 28, 2006

Mr. Troy Constance, Acting Chairman
CWPPRA Technical Committee
U.S. Army Corps of Engineers, New Orleans District
P.O. Box 60267
New Orleans, Louisiana 70160-0267

Dear Mr. Constance:

The U.S. Fish and Wildlife Service and Louisiana Department of Natural Resources would like to submit the Dedicated Dredging on the Barataria Basin Landbridge Project (BA-36) for Phase 2 approval. That project was approved for Phase 1 funding by the CWPPRA Task Force as part of the 11th Priority Project List. It should be noted that this request is only for a portion (Fill Site 1) of the total project. The enclosed packet includes all information required for a Phase 2 authorization request, per Section 6.j. of the CWPPRA Standard Operating Procedures manual. This Phase 2 authorization request is also being sent electronically to all CWPPRA Technical Committee and Planning and Evaluation Subcommittee members.

If you have any questions regarding this submittal, please contact Mr. Kevin Roy of this office at (337) 291-3120.

Sincerely,

/s/Russell C. Watson
Supervisor
Louisiana Field Office

Enclosures

Phase II Authorization Request

Dedicated Dredging on the Barataria Basin Landbridge

BA-36

Description of Phase I Project

The BA-36 Project was approved for Phase I funding on the 11th Priority Project List. At the time of Phase I authorization, project features included:

- 1) Hydraulic dredging in Bayous Perot and Rigolettes to create 780 acres of marsh and nourish 502 acres of existing marsh. The target elevation for the fill material was +2.3 ft NGVD;
- 2) Shoreline protection features associated with the Barataria Basin Landbridge Shoreline Protection Project (BA-27) would be used for containment along the shorelines of Bayous Perot and Rigolettes;
- 3) Earthen containment would be used around the remainder of the project perimeter where fragmented marsh does not allow adequate containment. Depending on soil stability, containment dikes would be breached upon demobilization;
- 4) Upon demobilization, the marsh platform would be aurally seeded with a mixture of browntop millet, Japanese millet and/or other species to jumpstart vegetative colonization;
- 5) Tidal channels would be dredged after construction to allow tidal exchange to interior ponds.

Specific goals of the project were to: 1) create 780 acres of emergent marsh through the deposition of dredged material into open water areas and 2) nourish/enhance 502 acres of emergent marsh by adding a layer of sediment to the marsh surface.

The Wetland Value Assessment conducted for the Phase I project estimated a benefited area of 1,282 acres and the net creation/restoration of 564 acres of marsh at the end of the project life.

At the time of Phase I approval, the fully-funded project cost was \$29,692,820. That figure included \$2,294,410 for Phase I and \$27,398,410 for Phase II. The cost breakdown for Phases I and II is presented in the following table.

Task Name	Phase I Costs	Phase II Costs
Engineering and Design	\$1,485,284	
Land Rights	\$10,640	
DNR Administration	\$413,347	\$443,188
FWS Administration	\$360,149	\$386,150
Monitoring	\$22,572	\$178,456
Corps Project Management	\$2,418	\$23,863
Construction		\$20,581,719
Contingency		\$5,145,430
Supervision and Inspection		\$511,064
Operations and Maintenance		\$128,540
Total	\$2,294,410	\$27,398,410

Overview of Phase I Tasks, Process and Issues

The following tasks were completed during Phase I:

- 1) Interagency kickoff meeting and field trip
- 2) Final Cost Share Agreement executed between FWS and DNR
- 3) Preliminary landrights
- 4) Elevation surveys for the borrow areas, fill sites, and containment sites
- 5) Magnetometer survey
- 6) Geotechnical investigation of the borrow and fill sites
- 7) 30% design review
- 8) 95% design review
- 9) Ecological Review
- 10) Final Environmental Assessment
- 11) Final construction cost estimate
- 12) Corps Section 404 permit
- 13) Overgrazing determination
- 14) Cultural resources clearance
- 15) HTRW assessment
- 16) Section 303e approval

Engineering and Design Tasks

In order to facilitate the design of the borrow and fill areas, a hydrographic and topographic survey was performed in April and May, 2003 by SJB Group, Inc. and Coastal Engineering Consultants. A magnetometer survey was performed in April and May, 2003 by SJB Group, Inc. and Alpine Ocean Seismic Survey in order to locate existing pipelines and obstructions.

A total of 19 subsurface borings were drilled within the project area by Soil Testing Engineers, Inc. in April 2003. Existing data was also utilized from 14 subsurface borings by Dames and Moore, Inc. in 1999 and six subsurface borings by Soil Testing Engineers, Inc. in 2000. The soil samples were tested in the laboratory for classification, strength, and compressibility. Settlement consolidation, cut to fill ratios, and dewatering time were estimated for the proposed dikes and hydraulic fill. A cost-benefit analysis was performed on final fill elevations of +1.5, +2.0, +2.5, +3.0, and +3.5 ft NAVD88 (all following elevations in NAVD88) using the geotechnical analysis. Slope stability analyses were also performed for the proposed containment dikes.

Design meetings were held at the 30% (December 17, 2003) and 95% (July 29, 2004) levels.

Landrights, Cultural Resources, Environmental Compliance and Other Tasks

Preliminary landrights work has proceeded smoothly and no problems are anticipated in acquiring final landrights.

Two cultural resource sites are located within the project area. However, neither site is eligible for the National Register of Historic Places. The Louisiana Department of Culture, Recreation and Tourism and the Chitimacha Tribe of Louisiana have indicated no objections to project implementation.

The Corps of Engineers Section 404 permit was issued on April 6, 2005. The Louisiana Department of Natural Resources-Coastal Management Division has determined that the project is consistent with the Louisiana Coastal Resources Program and water quality certification has been issued by the Louisiana Department of Environmental Quality.

An overgrazing determination provided by the Natural Resources Conservation Service indicated that overgrazing is not a problem in the project area. An HTRW assessment conducted by the Lafayette Field Office of the U.S. Fish and Wildlife Service indicated that no HTRW materials should be encountered during project implementation.

A final Ecological Review is available and a final Environmental Assessment was issued on November 16, 2005.

Description of the Phase II Candidate Project

The BA-36 project has been previously submitted for Phase 2 funding in January 2005 and January 2006. Since that time, the Coastal Impact Assistance Program (CIAP) was authorized by Congress in 2005 and will provide an estimated \$540 million in federal funding to Louisiana and its coastal parishes during fiscal years 2007 through 2010. To obtain CIAP funds, the state must submit an acceptable Plan

of project proposals to the Secretary of the Interior. The Plan will identify projects to be supported with the funds that will go to the state and the coastal parishes at a 65/35 percent cost ratio.

A portion (Fill Site 2) of the BA-36 project was submitted by Jefferson Parish for inclusion within the State's Plan. Although the State's Plan has not yet been released, all indications are that this portion of the BA-36 project will be included in the Plan and eventually constructed with CIAP funds.

Therefore, this Phase 2 request is only for construction of Fill Site 1 of the BA-36 project. The project sponsors (USFWS and LDNR) are hopeful that the full project will be constructed using funding from both the CWPPRA and CIAP programs.

Project Features

Three areas within Bayous Perot and Rigolettes were investigated as potential sources of earthen material to create marsh in Fill Sites 1 and 2 (Figure 1). The volume required for marsh creation and the cut to fill ratio regulated the size and shape of the borrow sites. The delineation of the 3 borrow sites was expanded to the greatest extent possible given the geographical (existing marsh) and structural constraints (pipelines) in order to reduce the effective depth of cut. Minimizing the depth of cut also minimizes the change in hydraulic gradient caused by dredging. As a result of calculations, a maximum depth of cut from an average mud level elevation of -6.0 ft to elevation -10.0 ft will achieve the required volume. The typical cross section detail is shown in Figure 2.

Fill Sites 1 (Figure 1) is comprised of mostly broken marsh and open water covering approximately 504 acres. A cost-benefit analysis was performed on final fill elevations of +1.5, +2.0, +2.5, +3.0, and +3.5 ft. Given a project design life of 20 years and an existing average marsh elevation of +1.0 ft, a target elevation of +2.5 ft was selected (Figure 3). Two construction lifts are proposed to enhance consolidation through improved dewatering and placement. The initial lift will be placed above mean high water at elevation +1.0 ft and must remain dewatered for a minimum of 30 days before more fill is added. The final lift will be placed to achieve the target elevation of +2.5 ft.

In order to properly contain and dewater fill material, mandatory containment dikes are included in the design. Given a target fill elevation of +2.5 ft, the crown height of the containment dikes is set at +4.0 ft with side slopes of 4:1 (Figure 3). The containment dikes will tie into the NRCS rock dikes and concrete panels by overlapping the existing structures.

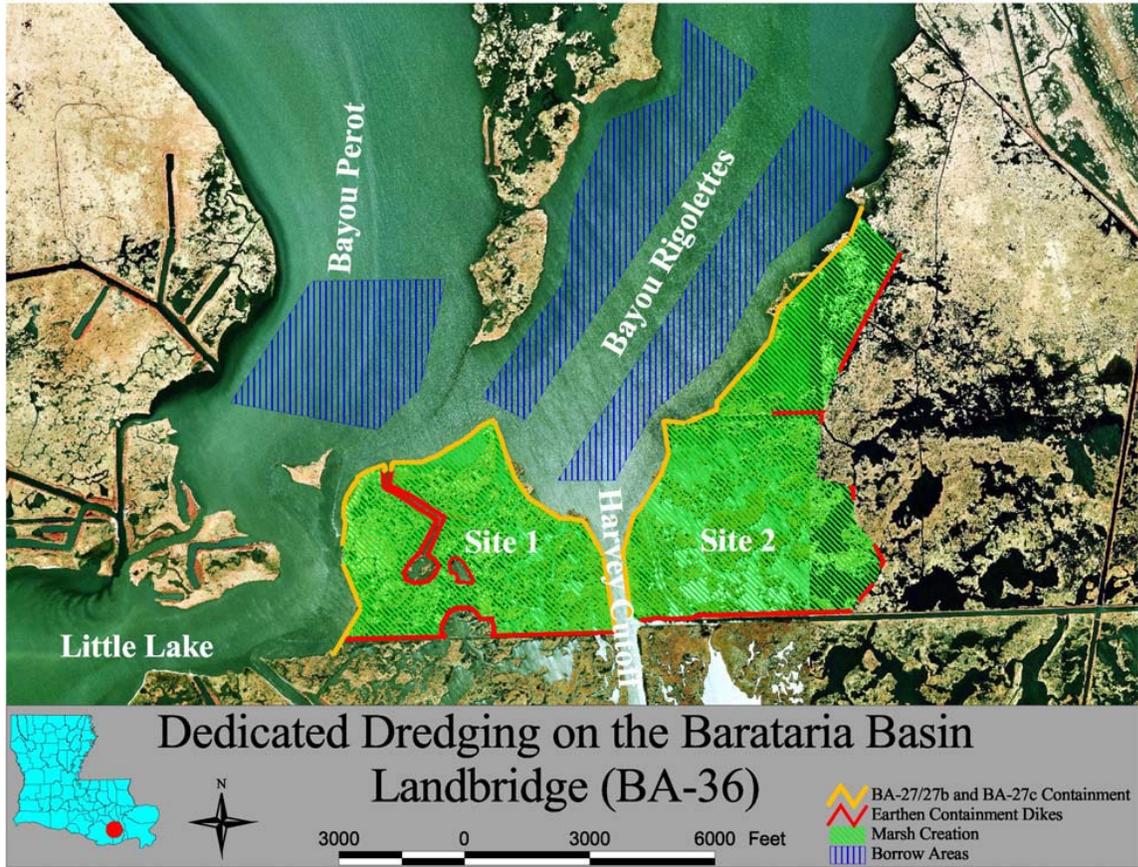


Figure 1 – Locations of Borrow and Fill Sites

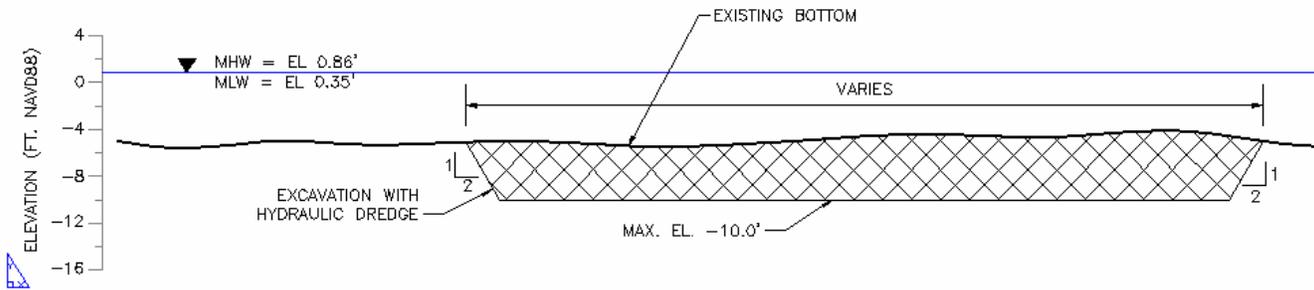


Figure 2 – Typical Cross Section of Borrow Areas

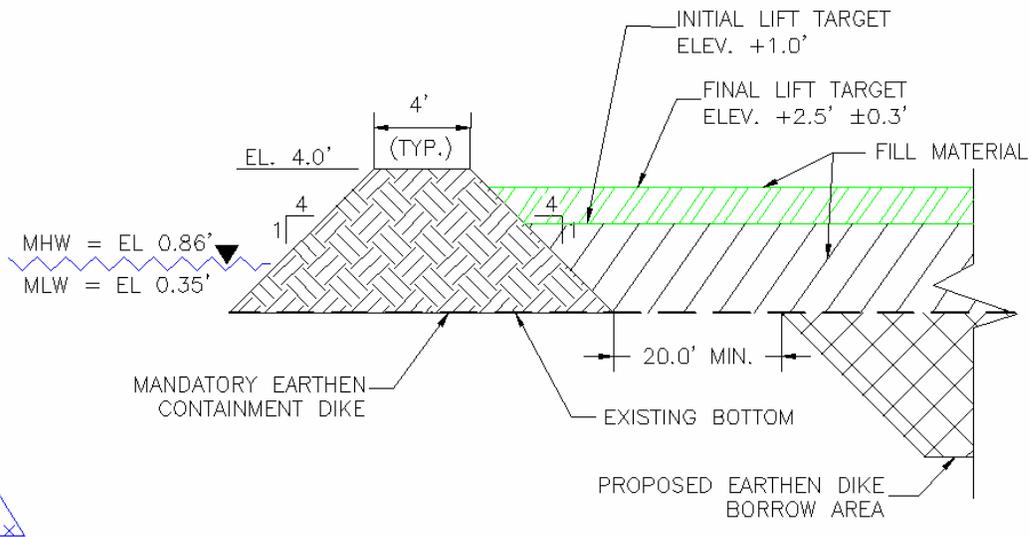


Figure 3 – Typical Cross Section of Mandatory Earthen Containment Dikes

Internal earthen training dikes will be used in conjunction with the other containment structures to create containment cells in order to properly maintain and dewater the fill material. The training dikes will have 4:1 side slopes with a 2 ft wide crown set at the same target elevation as the fill (+2.5 ft) to ensure proper containment height and eliminate the need for future degrading (Figure 4). The location and alignment of the training dikes will be determined in the field by the construction contractor and pre-approved by the construction inspector.

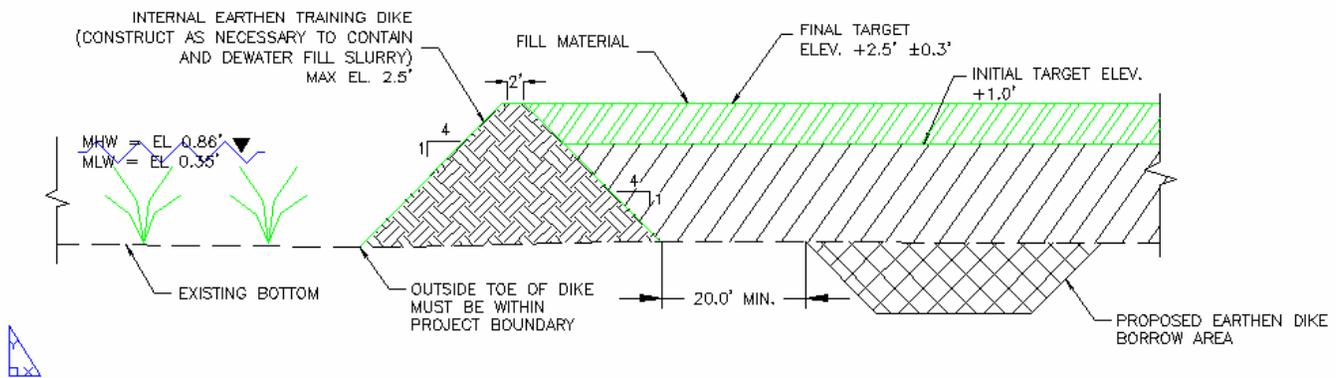


Figure 4 – Typical Cross Section of Internal Earthen Training Dikes

Three existing ponds and one canal within Fill Site 1 (Figure 1) will remain in their existing condition as requested by the landowner. Mandatory earthen containment dikes will be constructed around the perimeters of the ponds and canal.

Updated Assessment of Benefits

A revised Wetland Value Assessment for the full project was prepared and reviewed by the Environmental Work Group. The total project area decreased from 1,282 acres to 1,245 acres. Total net acres protected/created/restored by the project increased from 564 acres (Phase 1 project) to 605 acres (Phase 2 project). Net Average Annual Habitat Units decreased from 339 to 337.

Benefits for constructing Fill Site 1 consist of 242 total net acres protected/created/restored over the project life. Net Average Annual Habitat Units total 135.

Modifications to the Phase 1 Project

Final design features are essentially unchanged from the original Phase 1 project. The following changes are noteworthy: 1) additional containment dikes have been added at the landowner's request to retain three ponds in Fill Site 1, 2) additional containment dikes have been added at the landowner's request in Fill Site 2 along the southern boundary to prevent the filling of a small trenasse used for boat access to hunting sites, 3) marsh nourishment has been omitted as a project feature and fill heights (+2.5 ft) are the same throughout the project area, 4) aerial seeding of vegetation has been omitted as a project feature, 5) dredging of tidal access channels omitted, and 6) containment dikes have been added around the entire perimeter of the project area so that shoreline protection features of the BA-27 project are no longer being used for containment of dredged material.

Current Cost Estimate

The revised fully-funded cost for Fill Site 1 prepared by the CWPPRA Economics Work Group is **\$15,842,343**.

Checklist of Phase Two Requirements

A. List of Project Goals and Strategies.

The goals of the project are to: 1) create 504 acres of emergent marsh through the deposition of dredged material into open water and fragmented marsh and 2) provide a net benefit of 242 acres of marsh at the end of the 20-year project life.

B. A Statement that the Cost Sharing Agreement between the Lead Agency and the Local Sponsor has been executed for Phase I.

A Cost Share Agreement between the U.S. Fish and Wildlife Service and Louisiana Department of Natural Resources was executed on April 3, 2002. A draft amendment, authorizing construction, operation, maintenance, and monitoring, to the Cost Share Agreement has been prepared.

C. Notification from the State or the Corps that landrights will be finalized in a short period of

time after Phase 2 approval.

FWS has received verbal notification from DNR that landrights will be finalized in a relatively short time after Phase 2 approval.

D. A favorable Preliminary Design Review (30% Design Level). The Preliminary Design shall include completion of surveys, borings, geotechnical investigations, data analysis review, hydrologic data collection and analysis, modeling (if necessary), and development of preliminary designs.

A 30% design meeting was held on December 17, 2003, and resulted in favorable reviews of the project design with minor modifications. DNR and FWS agreed on the project design and to proceed with project implementation.

E. Final Project Design Review (95% Design Level). Upon completion of a favorable review of the preliminary design, the Project plans and specifications shall be developed and formalized to incorporate elements from the Preliminary Design and the Preliminary Design Review. Final Project Design Review (95%) must be successfully completed prior to seeking Technical Committee approval.

A 95% design meeting was held on July 29, 2004, and resulted in favorable reviews of the project design with minor modifications. DNR and FWS agreed on the project design and to proceed with project implementation.

F. A draft of the Environmental Assessment, as required under the National Environmental Policy Act must be submitted thirty days before the request for Phase 2 approval.

A final EA was issued on November 16, 2005.

G. A written summary of the findings of the Ecological Review (See Appendix B).

The following paragraph is from the Recommendations section of the August 12, 2004 final Ecological Review:

Based on the investigation of similar restoration projects and a review of engineering principles, the LDNR project team feels that the proposed strategies of the Dedicated Dredging on the Barataria Basin Landbridge project will likely achieve the desired ecological goals for the majority of the 20 year project life. At this time, the Louisiana Department of Natural Resources, Coastal Restoration Division recommends that the Dedicated Dredging on the Barataria Basin Landbridge project be considered for CWPPRA Phase 2 authorization.

H. Application for and/or issuance of the public notices for permits. If a permit has not been received by the agency, a notice from the Corps of when the permit may be issued.

The FWS was issued a Section 404 permit from the Corps of Engineers on April 6, 2005.

I. A hazardous, toxic and radiological waste (HTRW) assessment, if required, has been prepared.

An HTRW assessment/contaminants screening was conducted by the FWS Lafayette Field Office's Environmental Contaminants Specialist. It was concluded that project implementation would not encounter any of the known wells or associated oil and gas facilities in the project area and that re-suspension of contaminants from sediment disturbance is not expected. Based on available information, further study is not warranted.

J. Section 303(e) approval from the Corps.

Section 303(e) approval was granted by the Corps via letter dated August 4, 2004.

K. Overgrazing determination from the NRCS (if necessary).

An overgrazing determination was issued on January 12, 2004 by the NRCS and indicated that overgrazing would not be a problem in the project area.

L. Revised cost estimate of Phase 2 activities, based on the revised Project design.

Funding/Budget information:

- 1.) - Specific Phase Two funding request (updated construction cost estimate, three years of monitoring and O&M, etc.)
- 2.) - Fully funded, 20-year cost projection with anticipated schedule of expenditures

The specific Phase 2 funding request (updated construction estimate and three years of monitoring and O&M) is \$15,231,142. The revised fully-funded cost of the project is \$15,842,343. The revised budget sheets, with the anticipated schedule of expenditures, are provided in Attachment 1.

M. A Wetland Value Assessment, reviewed and approved by the Environmental Work Group.

A revised Wetland Value Assessment for the full project was prepared and reviewed by the Environmental Work Group. Benefits for Site 1, which totals 504 acres, include 242 net acres and 135 net average annual habitat units.

N. A breakdown of the Prioritization Criteria ranking score, finalized and agreed-upon by all agencies during the 95% design review.

The following Prioritization Criteria scores were reviewed and agreed upon by the Environmental and Engineering Workgroups.

Criteria	Score	Weight	Final Score
Cost Effectiveness	2.5	2	5

Area of Need	10	1.5	15
Implementability	10	1.5	15
Certainty of Benefits	7	1	7
Sustainability of Benefits	4	1	4
HGM – Riverine Input	0	1	0
HGM – Sediment Input	0	1	0
HGM – Landscape Features	10	1	10
Total Score			56

Attachment 1