APPENDICES

Appendix A. Legislation, Reports, and Guidance

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The following Appenidx contains the following documents related to the LCA and LCA BUDMAT Programs:

Annex A: Chief's Report "Louisiana Coastal Area, Ecosystem Report," signed 31 Janury 2005

Annex B: Memorandum "SUBJECT: Implementation Guidance for Section 2039 of the Water Resources Development Act of 2007 (WRDA 2007) - Monitoring Ecosystem Restoration," signed 31- August 2009

Annex C: Memorandum "SUBJECT: Implementation Guidance for Section 7006(d) of the Water Resources Development Act of 2007 - Louisiana Coastal Area - Construction," signed 19 December 2008

Annex D: Memorandum "SUBJECT: Louisiana Coastal Area, Beneficial Use of Dredged Material, Final Programatic Study Report and Enviornmental Impact Statement," signed 12 March 2010

Annex E: Record of Decision Louisiana Coastal Area Beneficial Use of Dredged Material Program, signed 13 August 2010

Annex F: Meomrandum "SUBJECT: Louisiana Coastal Area, Beneficial Use of Dredged Material -Delegation of Auhtority and Project Partnershup Agreement Development," signed 13 August 2010

Annex G: Memorandum "SUBJECT: Implementation Guidance for Section 1030 of the Water Resources Reform and Development Act (WRDDA) of 2014, Continuing Authorities," signed 08 December 2014

The following Reports are incoporated by reference:

"Louisiana Coastal Area (LCA), Louisiana Ecosystem Restoration Study" November 2004. (http://www.mvn.usace.army.mil/Missions/Environmental/Louisiana-Coastal-Area/2004programmatic-EIS-for-the-Louisiana-Coastal-Area-projects/)

"Lousiaina Coastal Area (LCA), Louisiana Beneficial Use of Dredged Material Program, Final Programmatic Study Report and the Final Environmental Impact Statement," June 2010. (https:// www.lca.gov/Studies/budmat.aspx)

ANNEX A Chief's Report "Louisiana Coastal Area, Ecosystem Report," signed 31 Janury 2005



DEPARTMENT OF THE ARMY • OFFICE OF THE CHIEF OF ENGINEERS WASHINGTON, D.C. 20314-1000

REPLY TO ATTENTION OF: CECW-MVD (1105-2-10a)

3 1 JAN 2005

SUBJECT: Louisiana Coastal Area, Louisiana, Ecosystem Restoration

THE SECRETARY OF THE ARMY

1. I submit for transmission to Congress my report on ecosystem restoration for the Louisiana Coastal Area (LCA). It is accompanied by the report of the district and division engineers. These reports are in partial response to authority contained in resolutions adopted by the Committees on Public Works of the House of Representatives and United States Senate, dated April 19, 1967 and October 19, 1967, respectively. The resolutions requested a review of the reports of the Chief of Engineers to determine the advisability of improvements or modifications to existing improvements in the coastal area of Louisiana in the interest of hurricane protection, prevention of saltwater intrusion, preservation of fish and wildlife, prevention of erosion, and related water resources purposes. Investigations and preconstruction engineering and design activities for the LCA will continue under the authority provided by the resolutions cited above.

2. The reporting officers recommend approval of the LCA Ecosystem Restoration Program to reduce the severe wetland losses occurring along coastal Louisiana. In arriving at this recommendation, the reporting officers worked closely with other Federal agencies, the State of Louisiana, environmental groups, stakeholders, and interested parties to ensure that the program recommended for implementation best meets restoration objectives. The LCA Ecosystem Restoration Program addresses the most critical restoration needs and consists of various components that could commence implementation in the near term. The LCA Ecosystem Restoration Program includes components that the reporting officers recommend for authorization, related investigations that would continue under existing authorities, and elements that might be recommended for subsequent authorization by the investigations described herein. The LCA Ecosystem Restoration Program recommends 15 near-term features aimed at addressing the critical restoration needs. The components currently recommended for authorization include five critical near-term ecosystem restoration features, a demonstration program consisting of a series of demonstration projects, a beneficial use of dredged material program, and a science and technology program. The five critical near-term ecosystem restoration features, demonstration projects, and beneficial use of dredged material projects are all subject to the approval of feasibility level of detail decision documents by the Secretary of the Army. The analyses supporting the recommendations were based on the information and analytical tools available during the plan formulation and evaluation phase. The feasibility level of detail decision documents will identify specific sites, scales, and adaptive management measures, and will optimize features and outputs necessary to achieve the restoration objectives.

Site-specific analyses of the recommended features, demonstration projects, project modifications, and beneficial use of dredged material projects will be prepared to obtain approval by the Secretary of the Army. The following paragraphs describe the LCA Ecosystem Restoration Program components in greater detail.

3. <u>Near-Term Critical Ecosystem Restoration Features</u>. The reporting officers recommend authorization of five near-term critical ecosystem restoration features that have relatively advanced investigations and could be implemented expeditiously. Implementation of the five near-term critical ecosystem restoration features would be subject to approval of feasibility level of detail decision documents by the Secretary of the Army. The five near-term critical ecosystem restoration features include:

a. Mississippi River Gulf Outlet (MRGO) Environmental Restoration Feature. The recommended plan for the MRGO Environmental Restoration feature consists of the construction of rock breakwaters along the southern shoreline of Lake Borgne at an approximate elevation of 4.0 feet North American Vertical Datum (NAVD) for an approximate distance of 15 miles and the construction of rock breakwaters along the north bank of the MRGO at the same elevation an approximate distance of 23 miles. At October 2004 price levels, the estimated first cost is \$105,300,000. The proposed feature would protect about 6,350 acres of critical wetlands that would otherwise be lost, regardless of whether or not the authorized channel depth of the MRGO is maintained. The proposed feature would prevent the accelerated loss of marshes, ridges, bayous, ponds, aquatic grass beds, and shorelines needed for the Lake Borgne, Lake Pontchartrain, and Breton Sound estuaries. It must be emphasized that a decision on whether to maintain the MRGO navigation channel as a deep draft-shipping route has not been made. A study that is addressing maintaining deep-draft navigation is currently underway and is scheduled for completion in Fiscal Year 2005. However, this study will not ultimately resolve the question of final disposition of the MRGO. Additional studies conducted within the context of LCA will holistically evaluate alternatives considering various water resources needs of the area, and make a recommendation on MRGO based on assessment of environmental and economic benefits and impacts. The MRGO Environmental Restoration Feature will not be implemented until the indicated studies are completed and a decision on the MRGO is made, or until it is demonstrated that implementation of the MRGO Environmental Restoration Feature is justified and warranted regardless of a decision whether or not to maintain deep-draft navigation on the MRGO.

b. <u>Small Diversion at Hope Canal Feature</u>. The recommended plan for the Small Diversion at Hope Canal feature consists of two 10-foot by 10-foot gated box culverts, a 100-foot by 100-foot receiving pond reinforced with riprap, and an outflow channel approximately 27,500 feet long that would extend from the receiving pond to U.S. Interstate 10. At October 2004 price levels, the estimated first cost is \$68,600,000. The proposed feature would restore freshwater and sediment flows to the Maurepas Swamp necessary to regenerate cypress and tupelo trees and to restore productivity of 36,000 acres of critical cypress-tupelo swamp habitat.

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c. <u>Barataria Basin Barrier Shoreline Restoration Feature</u>. The recommended plan for the Barataria Basin Barrier Shoreline Restoration feature consists of dredging and placing about 9 to 10 million cubic yards (mcy) of sand to create a dune approximately 6 feet high with a shoreward berm about 1,000 feet wide along 13 miles of Caminada Shoreline. Approximately 6 mcy of material would be pumped to create about 3,000 acres of marsh, and approximately 3.4 mcy of sand would be placed at Shell Island (west) to create about 139 acres of dune and about 74 acres of marsh. Approximately 6.6 mcy of sand would be placed at Shell Island (east) to create about 223 acres of dune/berm and about 191 acres of marsh. At October 2004 price levels, the estimated first cost is \$242,600,000. The proposed feature would preserve the integrity of the western and central boundaries of Barataria Basin and protect the fragile inland marshes from encroachment by the Gulf of Mexico. It would provide a net increase of 640 acres of dune/berm habitat and 1,780 acres of saline marsh habitat at Caminada Headland and 147 acres of shoreline habitat on Shell Island.

d. <u>Small Bayou Lafourche Reintroduction Feature</u>. The recommended plan for the Small Bayou Lafourche Reintroduction feature would increase flows in the distributary to approximately 1,000 cubic feet per second (cfs) by upgrading the capacity of an existing pump and siphon facility to 340 cfs, constructing a new pump/siphon facility to pass 660 cfs, removing a fixed weir, dredging about 6.7 mcy from 55 miles of channel, constructing 3 miles of bank stabilization, installing and operating 5 monitoring stations, installing two adjustable weirs to control water levels, and constructing a sediment trap at Donaldsonville to control siltation. At October 2004 price levels, the estimated first cost is \$133,500,000. The proposed feature would provide the freshwater, sediment and nutrients needed to reduce salinity and stimulate ecologic production for 49,000 acres of wetlands and 36,000 acres of estuarine waters. The restored production would counterbalance subsidence and prevent future wetland losses.

e. <u>Medium Diversion at Myrtle Grove with Dedicated Dredging Feature</u>. The recommended plan for Medium Diversion at Myrtle Grove with Dedicated Dredging feature consists of a 2,500 to 15,000 cfs gated, box culvert diversion structure with a 2,600-foot inflow channel and a 13,000-foot outflow channel. The plan also includes dedicated dredging and placing 2 mcy of material from the Mississippi River annually for 16 years to create marsh wetlands. At October 2004 price levels, the estimated first cost is \$278,300,000. The proposed feature would provide up to 13,400 acres of new emergent marsh and prevent the loss of another 6,300 acres of marsh.

4. <u>Science & Technology (S&T) Program</u>. The reporting officers recommend a S&T Program to decrease scientific and engineering uncertainties and to further optimize efforts to achieve ecosystem restoration. The S&T Program would consist of data acquisition and analysis, monitoring, model development and application, and research. The program would improve the effectiveness of existing and proposed features. At October 2004 price levels, the S&T Program would cost an estimated \$100,000,000. The sponsor could provide its share of the S&T Program through in-kind services.

5. <u>Demonstration Program</u>. The reporting officers recommend authorization of a program to evaluate the effectiveness of advances developed by the S&T Program in field applications. The need for each demonstration project would be identified through the S&T Program, and implementation would be subject to Secretary of the Army approval of feasibility level of detail decision documents. At October 2004 price levels, the first cost of the demonstration program is estimated at \$95,000,000. Individual demonstration projects would be limited to a cost of \$25 million each.

6. <u>Beneficial Use of Dredged Material Program</u>. The reporting officers recommend a program to place dredged material to build and nourish vital coastal wetlands. At October 2004 price levels, the estimated cost of the Beneficial Use of Dredged Material program is \$100,000,000.

7. <u>Related Investigations</u>. The U.S. Army Corps of Engineers has sufficient authority to initiate a number of investigations that are recommended by the reporting officers as part of the overall LCA Ecosystem Restoration Program. The recommended investigations include the following:

a. <u>Investigations of the Near-Term Critical Ecosystem Restoration Features</u> <u>Recommended for Authorization</u>. The reporting officers recommend further investigations of each of the five near-term critical ecosystem restoration features cited above to better define and evaluate each feature and to provide a basis for the Secretary to approve proceeding with implementation. At October 2004 price levels, these investigations are estimated to cost a total of \$31,000,000.

b. <u>Investigations of Additional Near-Term Restoration Features</u>. The reporting officers recommend further investigations of the following ten restoration features, in anticipation of potentially recommending the features for future authorization as part of the LCA Ecosystem Restoration Program. At October 2004 price levels, these investigations are estimated to cost \$39,000,000. The investigations would be conducted under the existing authority cited above. These investigations include:

- Multi-purpose Operation of the Houma Canal Lock
- Terrebonne Basin Barrier-Shoreline Restorations
- Land Bridge between Caillou Lake and Gulf of Mexico
- Small Diversion at Convent/Blind River
- Amite River Diversion Canal
- Medium Diversion at White's Ditch
- Stabilization of Gulf Shoreline at Pointe Au Fer Island
- Atchafalaya River Conveyance to Northern Terrebonne Marshes
- Modification of Caernarvon Diversion
- Modification of Davis Pond Diversion

c. <u>Investigations of Project Modifications</u>. The reporting officers recommend a program to investigate the potential modification of existing water resources projects in order to further restore the Louisiana coastal ecosystem. The investigations would focus on improving the

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environmental performance of existing projects. At October 2004 price levels, the estimated cost of this program is \$10,000,000.

d. <u>Investigations of Demonstration Projects</u>. To support the demonstration program above, the reporting officers recommend investigations to further define, evaluate and recommend potential demonstration projects for implementation. The resulting decision documents would be provided to the Secretary of the Army for approval. At October 2004 price levels, the estimated cost of these investigations is \$5,000,000.

e. <u>Investigations of Other Large-Scale Concepts</u>. The reporting officers recommend investigations of certain large-scale and long-term coastal restoration concepts that could potentially be recommended for future authorization beyond the near-term plan. While the Louisiana Coastal Areas study focused on near-term restoration features that could be implemented expeditiously, it is acknowledged that there are large-scale concepts that could provide significant long-term ecosystem restoration benefits. Investigations that are being initiated in Fiscal Year 2005, will address the need to reduce coastal wetland losses and possibly achieve a net restoration. These studies and their resultant projects, if authorized and constructed, could significantly restore environmental conditions that existed prior to large-scale alteration of the natural ecosystem. At October 2004 price levels, the estimated cost of these investigations is \$60,000,000. The investigations include:

- Acadiana Bay Estuarine Restoration Study
- Upper Atchafalaya Basin Study
- Chenier Plain Freshwater Management and Allocation Reassessment Study
- Mississippi River Delta Management Study
- Mississippi River Hydrodynamic Model
- Third Delta Study

8. At October 2004 price levels, the estimated first cost of the components recommended for authorization is \$1,123,300,000. The estimated first cost of the individual components recommended for authorization are summarized below in table 1.

Table 1	
Louisiana Coastal Area, Louisiana, Ecosystem Restora	tion
Summary of Costs for the Components Recommended for Au	thorization
(October 2004 Price Levels)	
Critical Restoration Features	
Mississippi River Gulf Outlet Environmental Restoration Feature	\$ 105,300,000
Small Diversion at Hope Canal Feature	68,600,000
Barataria Basin Barrier Shoreline Restoration Feature	242,600,000
Small Bayou Lafourche Reintroduction Feature	133,500,000
Medium Diversion with Dedicated Dredging at Myrtle Grove Feature	278,300,000
Subtotal	\$ 828,300,000
Science and Technology Program	100,000,000
Demonstration Program	95,000,000
Beneficial Use of Dredged Material Program	100,000,000
Total First Cost of the Authorization Request	\$1,123,300,000

At October 2004 price levels, the estimated cost of the related investigations is \$145,000,000 as shown in table 2. These investigations, performed under existing study authorities, would further address the advisability of implementing the five critical ecosystem restoration features, modifications of existing projects, demonstration projects, ten additional ecosystem restoration features, and six future large-scale features.

Table 2	1-14.			
Louisiana Coastal Area, Louisiana, Ecosystem Rest	oration			
Summary of Costs for Related Investigations				
(October 2004 Price Level)				
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Investigations of Features Recommended for Authorization				
MRGO Environmental Restoration Feature	\$ 5,400,000			
Small Diversion at Hope Canal Feature	3,600,000			
Barataria Basin Barrier Shoreline Restoration Feature	6,000,000			
Small Bayou Lafourche Reintroduction Feature	8,000,000			
Medium Diversion with Dedicated Dredging at Myrtle Grove Feature	8,000,000			
Subtotal	\$ 31,000,000			
Investigations of Features for Future Authorization				
Multipurpose Operation of Houma Navigation Lock*	\$ -			
Terrebonne Basin Barrier Shoreline Restoration	8,700,000			
Land Bridge between Caillou Lake and the Gulf of Mexico	6,300,000			
Small Diversion at Convent/Blind River	4,400,000			
Amite River Diversion Canal Modification	500,000			
Medium Diversion at White's Ditch	5,400,000			
Gulf Shoreline at Point Au Fer Island	4,900,000			
Convey Atchafalaya River Water to Northern Terrebonne Marshes	8,200,000			
Modification of Caernarvon Diversion	300,000			
Modification of Davis Pond Diversion	300,000			
Subtotal	\$ 39,000,000			
Investigations of Modification of Existing Projects Program	\$ 10,000,000			
Investigations of Demonstration Projects	\$ 5,000,000			
(continued on next page)				

Table 2 (continued) Louisiana Coastal Area, Louisiana, Ecosystem Re Summary of Costs for Related Investigatio (October 2004 Price Level)	
Investigations of Other Large Scale Concepts Acadiana Bays Estuarine Restoration Study Upper Atchafalaya Basin Study* Chenier Plain Freshwater and Sediment Management and Allocation Reassessment Study Mississippi River Delta Management Study Mississippi River Hydrodynamic Study Third Delta Study Subtotal	\$ 7,100,000 12,000,000 15,300,000 10,300,000 <u>15,300,000</u> \$ 60,000,000
Total First Cost of Related Investigations (*Funded Separately)	\$ 145,000,000

At October 2004 price levels, the preliminary estimated first cost of the ten additional features most likely to be recommended by the investigations is estimated to be \$728,200,000 as shown in table 3.

Table 3Louisiana Coastal Area, Louisiana, Ecosystem RestorationSummary of Preliminary Costs for Features Anticipated for Future Authorization(October 2004 Price Level)		
	-=	
Multipurpose Operation of Houma Navigation Lock	\$ 18,100,000	
Terrebonne Basin Barrier Shoreline Restoration	124,600,000	
Land Bridge between Caillou Lake and the Gulf of Mexico	56,300,000	
Small Diversion at Convent/Blind River	88,000,000	
Amite River Diversion Canal Modification	5,600,000	
Medium Diversion at White's Ditch	86,100,000	
Gulf Shoreline at Point Au Fer Island	43,400,000	
Convey Atchafalaya River Water to Northern Terrebonne Marshes	221,200,000	
Modification of Caernarvon Diversion	20,700,000	
Modification of Davis Pond Diversion	64,200,000	
Total First Cost of Project Authorized in the Future	\$ 728,200,000	

At October 2004 price levels, the currently estimated overall first cost of the LCA Ecosystem Restoration Plan, which includes the components recommended for authorization, the related investigations and the ten additional future features, is \$1,996,500,000 as shown in table 4.

Table 4 Louisiana Coastal Area, Louisiana, Ecosystem Restoration Summary of All Costs for the Selected Plan (October 2004 Price Level)			
Features and Programs in the Authorization Request Investigations Already Authorized Features Anticipated for Future Authorization Total First Cost of the LCA Program			

9. Consistent with existing law and Corps policy, the reporting officers recommend that the ecosystem restoration features be cost shared in accordance with the Water Resources Development Act of 1986 (WRDA), as amended by Section 210 of WRDA of 1996. Accordingly, ecosystem restoration features would be cost shared 65 percent Federal and 35 percent non-Federal. Additionally, the reporting officers recommend that in accordance with Section 204 of WRDA 1992, cost sharing of the beneficial use of dredged material program be cost shared 75 percent Federal and 25 percent non-Federal. Also, in accordance with Section 105 of WRDA 1986, as amended, investigations (feasibility level studies) would be cost shared 50 percent Federal and 50 percent non-Federal. Table 5 shows Federal and non-Federal costs of the various features of the LCA Ecosystem Restoration Program.

While the reporting officer's recommendations on cost sharing are, as indicated, consistent with law and policy on typical ecosystem restoration projects, the Louisiana Coastal Area is a very large and complex ecosystem influenced by both natural and a variety of man made factors. Effectively and efficiently restoring this vast national treasure will require the involvement and financing of the proposed restoration measures by the Corps, the State of Louisiana, other Federal agencies, and potentially private and corporate America. Accordingly, I recommend as part of the further investigation phase that the Corps, working with other Federal agencies, develop a cross-cutting budget for funding of the LCA Ecosystem Restoration Program. The Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) has been very successful in implementing smaller scale coastal restoration measures. The cross-cutting budget development should consider incorporating CWPPRA projects for implementation under the LCA Ecosystem Restoration Program. And finally, the cross-cutting budget should also examine the allocation of project costs among the various Federal and non-Federal parties and interests involved in LCA restoration. The result of the cross-cutting budget could serve as the basis for the Corps and the Federal agencies to recommend an LCA Ecosystem Restoration Programspecific cost sharing formula for authorization by Congress.

10. <u>Non-Federal Sponsor</u>. The State of Louisiana Department of Natural Resources (LDNR) is the non-Federal cost-sharing sponsor for the recommended plan. The LDNR would fulfill all non-Federal sponsor responsibilities, including the operation, maintenance, repair, replacement and rehabilitation of the plan features.

Table 5Louisiana Coastal Area, Louisiana, Ecosystem RestorationCost Sharing (October 2004 Price Level)				
Item	Federal Cost*	Non-Federal Cost*	Total Cost	
Authorization Request				
Conditionally Authorized Projects				
PED	\$ 23,500,000	\$ 12,800,000	\$ 36,300,000	
LERR&D		183,600,000	183,600,000	
Ecosystem Restoration	514,800,000	93,600,000	_608,400,000	
Subtotal (65/35 percent)	\$ 538,300,000	\$ 290,000,000	\$ 828,300,000	
Science and Technology Program (65/35)	65,000,000	35,000,000	100,000,000	
Demonstration Project Program (65/35)	61,750,000	33,250,000	95,000,000	
Beneficial Use of Dredged Material (75/25)	75,000,000	25,000,000	100,000,000	
Subtotal of Authorization Request	\$ 740,050,000	\$ 383,250,000	\$ 1,123,300,000	
Investigations (50/50 percent)				
Conditional Authorization Features	\$ 15 500 000	£ 15 500 000	¢ 21.000.000	
Modifications of Existing Projects	\$ 15,500,000 5,000,000	\$ 15,500,000	\$ 31,000,000	
Demonstration Projects	2,500,000	5,000,000 2,500,000	10,000,000	
Features for Future Authorization	19,500,000	19,500,000	5,000,000 39,000,000	
Other Large Scale Concepts	30,000,000	30,000,000	60,000,000	
Subtotal of Related Investigations	\$ 72,500,000	\$ 72,500,000	\$ 145,000,000	
Future Authorization Projects (65/35 Percent)				
Multipurpose Operation of Houma Navigation Lock	\$ 11,800,000	\$6,300,000	\$18,100,000	
Terrebonne Basin Barrier Shoreline Restoration	81,000,000	43,600,000	124,600,000	
Land Bridge between Caillou Lake and the	36,600,000	19,700,000	56,300,000	
Gulf of Mexico	,,	.,,	,0 00,000	
Small Diversion at Convent/Blind River	57,200,000	30,800,000	88,000,000	
Amite River Diversion Canal Modification	3,600,000	2,000,000	5,600,000	
Medium Diversion at White's Ditch	56,000,000	30,100,000	86,100,000	
Gulf Shoreline at Point Au Fer Island	28,200,000	15,200,000	43,400,000	
Convey Atchafalaya River Water to Northern Terrebonne Marshes	143,800,000	77,400,000	221,200,000	
Modification of Caernarvon Diversion	13,400,000	7,300,000	20,700,000	
Modification of Davis Pond Diversion	41,700,000	22,500,000	64,200,000	
Subtotal for Future Projects	\$ 473,300,000	\$ 254,900,000	\$ 728,200,000	
Total LCA Ecosystem Restoration	\$1,285,850,000*	\$ 710,650,000*	\$1,996,500,000	

* Indicated cost sharing is consistent with law and Corps policy. The result of the cross-cutting budget could serve as the basis for the Corps and the Federal agencies to recommend a cost sharing formula for authorization by Congress.

11. While the recommendations contained in the LCA report, as further modified herein, are based on our current understanding of the coastal Louisiana ecosystem and our knowledge of ecosystem restoration as a whole, proposed restorations efforts, including the critical restoration projects, the demonstration projects, as well as the S&T Program, will significantly advance our understanding of the LCA ecosystem. To ensure that LCA ecosystem restoration objectives are realized, monitoring and adaptive management must be a critical element of LCA projects. As we learn more about what restoration measures work best in the LCA from the various investigations, monitoring and adaptive management, and as well from improved knowledge base from the S&T Program, it will be critically important to reassess, as appropriate, the recommendations contained herein. I, therefore, recommend that the Corps provide a status report to Congress every 5 years on our assessment of the successes and proposed refinements to the LCA plan, as appropriate, to ensure that restoration of coastal Louisiana remains effective, focused, and generally supported by affected stakeholders.

12. The LCA study has significantly benefited from the close involvement, coordination, and collaboration of a co-located interagency study team made up of scientists and recognized experts in ecosystem restoration. The implementation of an LCA Ecosystem Restoration Program to restore coastal Louisiana will require the continued involvement and close coordination of the State of Louisiana and Federal agencies having development, coordination and implementation responsibilities, as well as the involvement of all stakeholders. Also key to the success of the LCA Ecosystem Restoration Program is the infusion of the best available science and engineering for the proposed development and implementation of restoration plans. Accordingly, the reporting officers recommend establishment of a Science and Technology (S&T) Program and an S&T Office to advise the LCA program manager throughout plan implementation. To maintain an appropriate level of independence, the S&T Office should be managed separately from the LCA restoration program. The S&T program director should be a Federal scientist/manager. The S&T program director would be supported by a team of experts in ecosystem restoration drawn from State and Federal agencies and academia. The S&T director would provide recommendations to the LCA program manager, but the LCA program manager would retain ultimate responsibility for decisions on management and implementation of all LCA restoration activities. Building on the successful Federal agency involvement to date, I further recommend the establishment of a Washington-level Federal agencies coordinating team consisting of senior level decision makers to integrate respective programs and ensure that they are complementary to the overall LCA restoration goals and objectives.

13. Washington level review indicates that the LCA Ecosystem Restoration Program recommended by the reporting officers is environmentally justified, technically sound, cost effective and socially acceptable. The LCA Ecosystem Restoration Program conforms with essential elements of the U.S. Water Resources Council's Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies and complies with other administration and legislative policies and guidelines. Also, the views of interested parties, including Federal, State and local agencies have been considered.

14. I concur in the findings, conclusions, and recommendation of the reporting officers. Accordingly, I recommend implementation of the LCA Ecosystem Restoration Program in accordance with the reporting officers' recommended plan with such modifications as in the

discretion of the Chief of Engineers may be advisable. The recommendation is subject to cost sharing, financing, and other applicable requirements of Federal and State laws and policies, or changes in cost sharing based on the cross-cutting budget should Congress authorize a program, or project-specific cost sharing for the LCA Ecosystem Restoration Program. Accordingly, the non-Federal sponsor must agree with the following requirements prior to project implementation:

a. Provide a minimum of 50 percent of costs allocated to general investigations, studies, and feasibility-level decision documents;

b. Provide a minimum of 35 percent of total project costs allocated to ecosystem restoration/environmental protection project costs, including demonstration projects, and a minimum of 25 percent of total project costs allocated to beneficial use of dredged material, unless Congress authorizes a different cost sharing:

(1) Provide all lands, easements, and rights-of-way, including suitable borrow and dredged or excavated material disposal areas, and perform or assure the performance of all relocations determined by the Federal Government, in consultation with the non-Federal sponsor, to be necessary for the construction, operation, maintenance, repair, replacement, and rehabilitation of the project;

(2) Provide or pay to the Federal Government any additional funds needed to cover the cost of providing all retaining dikes, waste weirs, bulkheads, and embankments, including all monitoring features and stilling basins, that may be required at any dredged or excavated material disposal areas required for the construction, operation, maintenance, repair, replacement, and rehabilitation of the project;

(3) Provide, during construction, any additional funds necessary to make its total contribution attributable to ecosystem restoration/environmental protection, including demonstration projects, equal to 35 percent of total project costs, and 25 percent of the total project costs allocated to beneficial use of dredged material, unless Congress authorizes a different cost sharing;

c. Provide 35 percent of the costs allocated to the Science and Technology Program, unless Congress authorizes a different cost sharing;

d. Provide the non-Federal share of that portion of the costs of mitigation and data recovery activities associated with historic preservation that are in excess of 1 percent of the total amount authorized to be appropriated for the project;

e. Do not use Federal funds from other Federal programs, including any non-Federal contribution required as a matching share, to meet any of the non-Federal obligations for the project unless the Federal granting agency providing the Federal portion of such funds verifies in writing that the expenditure of such funds for such purpose is authorized;

f. Operate, maintain, repair, replace, and rehabilitate the project, or functional portion the project, including mitigation, at no cost to the Federal Government, in a manner compatible with

the project's authorized purposes and in accordance with applicable Federal and State laws and regulations and any specific directions prescribed by the Federal Government;

g. Give the Federal Government a right to enter, at reasonable times and in a reasonable manner, upon property that the non-Federal sponsor, now or hereafter, owns or controls for access to the project for the purpose of inspecting, operating, maintaining, repairing, replacing, rehabilitating, or completing the project. No completion, operation, maintenance, repair, replacement, or rehabilitation by the Federal Government shall relieve the non-Federal sponsor of responsibility to meet the non-Federal sponsor's obligations, or to preclude the Federal Government from pursuing any other remedy at law or equity to ensure faithful performance;

h. Hold and save the United States free from all damages arising from the construction, operation, maintenance, repair, replacement, and rehabilitation of the project and any project-related betterments, except for damages due to the fault or negligence of the United States or its contractors;

i. Perform, or cause to be performed, any investigations for hazardous substances that are determined necessary to identify the existence and extent of any hazardous substances regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Public Law 96-510, as amended (42 U.S.C. 9601-9675), that may exist in, on, or under lands, easements, or rights-of-way that the Federal Government determines to be required for the initial construction, periodic nourishment, operation, and maintenance of the project. However, for lands that the Federal Government determines to be subject to the navigation servitude, only the Federal Government shall perform such investigations unless the Federal Government provides the non-Federal sponsor with prior specific written direction, in which case the non-Federal sponsor shall perform such investigations in accordance with such written direction;

j. Assume, as between the Federal Government and the non-Federal sponsor, complete financial responsibility for all necessary cleanup and response costs of any CERCLA regulated materials located in, on, or under lands, easements, or rights-of-way that the Federal Government determines to be necessary for the initial construction, periodic nourishment, operation, or maintenance of the project;

k. Agree that, as between the Federal Government and the non-Federal sponsor, the non-Federal sponsor shall be considered the operator of the project for the purpose of CERCLA liability, and to the maximum extent practicable, operate, maintain, and repair the project in a manner that would not cause liability to arise under CERCLA;

l. Prevent obstructions of or encroachments on the project (including prescribing and enforcing regulations to prevent such obstruction or encroachments) which might reduce ecosystem restoration benefits, hinder operation and maintenance, or interfere with proper functioning of the project, such as any new developments on project lands or the addition of facilities which would degrade the benefits of the project;

m. Keep and maintain books, records, documents, and other evidence pertaining to costs and expenses incurred pursuant to the project, for a minimum of 3 years after completion of the accounting for which such books, records, documents, and other evidence is required, to the extent and in such detail as would properly reflect total costs of construction of the project, and in accordance with the standards for financial management systems set forth in the Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments at 32 Code of Federal Regulations (CFR) Section 33.20;

n. Comply with Section 221 of Public Law 91-611, Flood Control Act of 1970, as amended (42 U.S.C. 1962d-5), and Section 103 of the Water Resources Development Act of 1986, Public Law 99-662, as amended (33 U.S.C. 2213), which provides that the Secretary of the Army shall not commence the construction of any water resources project or separable element thereof, until the non-Federal sponsor has entered into a written agreement to furnish its required cooperation for the project or separable element;

o. Comply with all applicable Federal and State laws and regulations, including, but not limited to, Section 601 of the Civil Rights Act of 1964, Public Law 88-352 (42 U.S.C. 2000d), and Department of Defense Directive 5500.11 issued pursuant thereto, as well as Army Regulation 600-7, entitled "Nondiscrimination on the Basis of Handicap in Programs and Activities Assisted or Conducted by the Department of the Army," and all applicable Federal labor standards and requirements, including but not limited to 40 U.S.C. 3141- 3148 and 40 U.S.C. 3701 - 3708 (revising, codifying, and enacting without substantial change the provisions of the Davis-Bacon Act (formerly 40 U.S.C. 276a et seq.), the Contract Work Hours and Safety Standards Act (formerly 40 U.S.C. 327 et seq.) and the Copeland Anti-Kickback Act (formerly 40 U.S.C. 276c et seq.); and

p. Comply with all applicable provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, Public Law 91-646, as amended (42 U.S.C. 4601-4655), and the Uniform Regulations contained in 49 CFR Part 24, in acquiring lands, easements, and rights-of-way necessary for the initial construction, periodic nourishment, operation, and maintenance of the project, including those necessary for relocations, borrow materials, and dredged or excavated material disposal, and inform all affected persons of applicable benefits, policies, and procedures in connection with said Act.

15. The recommendation contained herein reflects the information available at this time and current departmental policies governing the formulation of individual projects. It does not reflect program and budgeting priorities inherent in the formulation of the national civil works construction program, nor the perspective of higher review levels within the executive branch. Consequently, the recommendation may be modified before it is transmitted to Congress for

authorization and execution funding. However, prior to transmittal to Congress, interested Federal agencies, the State of Louisiana, and other parties will be advised of any significant modifications and will be afforded an opportunity to comment further.

CARL A. STROCK Lieutenant General, US Army Chief of Engineers

ANNEX B

Memorandum "SUBJECT: Implementation Guidance for Section 2039 of the Water Resources Development Act of 2007 (WRDA 2007) - Monitoring Ecosystem Restoration," signed 31- August 2009



81 AUG 2009

MEMORANDUM FOR COMMANDERS, MAJOR SUBORDINATE COMMANDS

SUBJECT: Implementation Guidance for Section 2039 of the Water Resources Development Act of 2007 (WRDA 2007) – Monitoring Ecosystem Restoration

1. Section 2039 of WRDA 2007 directs the Secretary to ensure that when conducting a feasibility study for a project (or component of a project) for ecosystem restoration that the recommended project includes a plan for monitoring the success of the ecosystem restoration. The monitoring plan shall include a description of the monitoring activities, the criteria for success, and the estimated cost and duration of the monitoring as well as specify that monitoring will continue until such time as the Secretary determines that the success criteria have been met. Within a period of ten years from completion of construction of an ecosystem restoration project, monitoring shall be a cost-shared project cost. Any additional monitoring required beyond ten years will be a non-Federal responsibility. A copy of Section 2039 is enclosed.

2. Applicability. This guidance applies to specifically authorized projects or components of projects as well as to those ecosystem restoration projects initiated under the Continuing Authority Program (CAP) or other programmatic authorities.

3. Guidance.

a. Monitoring includes the systematic collection and analysis of data that provides information useful for assessing project performance, determining whether ecological success has been achieved, or whether adaptive management may be needed to attain project benefits. Development of a monitoring plan will be initiated during the plan formulation process for ecosystem restoration projects or component of a project and should focus on key indicators of project performance.

b. The monitoring plan must be described in the decision document and must include the rationale for monitoring, including key project specific parameters to be measured and how the parameters relate to achieving the desired outcomes or making a decision about the next phase of the project, the intended use(s) of the information obtained and the nature of the monitoring including duration and/or periodicity, and the disposition of the information and analysis as well as the cost of the monitoring plan, the party responsible for carrying out the monitoring plan and a project closeout plan. Monitoring plans need not be complex but the scope and duration should include the minimum monitoring actions necessary to evaluate success. The appropriateness of a monitoring plan will be reviewed as part of the decision document review including agency technical review (ATR) and independent external peer review (IEPR), as necessary. The estimated cost of the proposed monitoring program will be included in the project cost estimate and cost-shared accordingly.

CECW-PB

SUBJECT: Implementation Guidance for Section 2039 of the Water Resources Development Act of 2007 (WRDA 2007) – Monitoring Ecosystem Restoration

c. Upon completion of the construction of the ecosystem restoration project (or component of a project), monitoring for ecological success will be initiated. Monitoring will be continued until ecological success is determined. Once ecological success has been documented by the District Engineer in consultation with the Federal and State resources agencies, and a determination has been made by the Division Commander that ecological success has been achieved (may be less than ten years), no further monitoring will be required. Ecological success will be documented through an evaluation of the predicted outcomes as measured against the actual results. The law allows for but does not require a 10 year cost shared monitoring plan. Necessary monitoring for a period not to exceed 10 years will be considered a project cost and will be cost shared as a project construction cost and funded under Construction. Costs for monitoring beyond a 10 year period will be a non-Federal responsibility. Financial and implementation responsibilities for the monitoring plan will be identified in the Project Partnership Agreement. For CAP projects, or for those projects that may be authorized with an explicit dollar cap, any cost shared monitoring costs cannot increase the Federal cost beyond the authorized project limit of the CAP or other authority under which the project is being considered.

d. Contingency Plan (Adaptive Management). An adaptive management plan (i.e., a contingency plan) will be developed for all ecosystem restoration projects. The adaptive management plan must be appropriately scoped to the scale of the project. If the need for a specified adjustment is anticipated due to high uncertainty in achieving the desired outputs/results, the nature and cost of such actions should be explicitly described in the decision document for the project. The reasonableness and the cost of the adaptive management plans may indicate the need to reevaluate the formulation of the ecosystem restoration project. The information generated by the monitoring plan will be used by the District in consultation with the Federal and State resources agencies and the MSC to guide decisions on operational or structural changes (adaptive management) that may be needed to ensure that the ecosystem restoration project meets the success criteria. The adaptive management plan cost should be shown in the 06 feature code of the cost estimate.

If the results of the monitoring program support the need for physical modifications to the project, the cost of the changes will be cost shared with the non-Federal sponsor and must be concurred in by the non-Federal sponsor. The appropriate HQUSACE RIT should be advised at such time that it is determined a modification to a project is required. Any changes to the adaptive management plan approved in the decision document must be coordinated with HQUSACE at the earliest possible opportunity. If a needed change is not part of the approved adaptive management plan and is determined by HQUSACE to be a deficiency correction the annual budget guidance to initiate a study for such corrections should be followed. Significant changes to the project required to achieve ecological success and which cannot be appropriately

CECW-PB

SUBJECT: Implementation Guidance for Section 2039 of the Water Resources Development Act of 2007 (WRDA 2007) – Monitoring Ecosystem Restoration

addressed through operational changes or through the approved adaptive management plan may need to be examined under other authorities, such as Section 216, River and Harbor and Flood Control Act of 1970.

4. This guidance is effective immediately and will be incorporated into ER 1105-2-100 upon the next revision.

FOR THE COMMANDER:

THEODORE BROWN, P.E. Chief, Planning and Policy Division Directorate of Civil Works

Encl

DISTRIBUTION: COMMANDER, GREAT LAKES AND OHIO RIVER DIVISION COMMANDER, MISSISSIPPI VALLEY DIVISION COMMANDER, NORTH ATLANTIC DIVISION COMMANDER, NORTHWESTERN DIVISION COMMANDER, PACIFIC OCEAN DIVISION COMMANDER, SOUTH ATLANTIC DIVISION COMMANDER, SOUTH PACIFIC DIVISION COMMANDER, SOUTHWESTERN DIVISION CECW-LRD CECW-MVD **CECW-NWD CECW-SAD CECW-NAD CECW-SAD CECW-POD** CECW-SPD **CECW-NWD** CECC-G

SEC. 2039. MONITORING ECOSYSTEM RESTORATION.

(a) In General- In conducting a feasibility study for a project (or a component of a project) for ecosystem restoration, the Secretary shall ensure that the recommended project includes, as an integral part of the project, a plan for monitoring the success of the ecosystem restoration.

(b) Monitoring Plan- The monitoring plan shall--

(1) include a description of the monitoring activities to be carried out, the criteria for ecosystem restoration success, and the estimated cost and duration of the monitoring; and
(2) specify that the monitoring shall continue until such time as the Secretary determines that the criteria for ecosystem restoration success will be met.

(c) Cost Share- For a period of 10 years from completion of construction of a project (or a component of a project) for ecosystem restoration, the Secretary shall consider the cost of carrying out the monitoring as a project cost. If the monitoring plan under subsection (b) requires monitoring beyond the 10-year period, the cost of monitoring shall be a non-Federal responsibility.

ANNEX C

Memorandum "SUBJECT: Implementation Guidance for Section 7006(d) of the Water Resources Development Act of 2007 - Louisiana Coastal Area - Construction," signed 19 December 2008





DEC 19 2008

CECW-P

MEMORANDUM FOR COMMANDER, Mississippi Valley Division (CEMVD-PD)

SUBJECT: Implementation Guidance for Section 7006(d) of the Water Resources Development Act of 2007 – Louisiana Coastal Area - Construction

1. Section 7006(d) authorizes the Secretary, substantially in accordance with the 31 January 2005 report of the Chief of Engineers, to implement a program for the beneficial use of dredged material from federally maintained waterways in accordance with the Louisiana Coastal Area program at a total cost of \$100,000,000. A copy of Section 7006(d) is enclosed for your information.

2. The report of the Chief of Engineers dated 31 January 2005 recommends that the beneficial use of dredged material program be cost shared in accordance with Section 204 of the Water Resources Development Act (WRDA) of 1992. Section 204 has been modified by Section 2037 of WRDA 2007. In accordance with Section 2037(c) all work under the beneficial use of dredged material program will be cost shared at 65% Federal and 35% non-Federal.

3. Section 7006(d) directs that in carrying out the program the Secretary shall consider the beneficial use of sediments from the Illinois River System for wetland restoration in coastal Louisiana. The use of dredged material from the Illinois River System shall be evaluated and documented in the Louisiana Coastal Area Beneficial Use of Dredged Material Report that is submitted for review and approval.

FOR THE COMMANDER:

STEVEN L. STOCKTON, P.E. Director of Civil Works

Encl

7006. LOUISIANA COASTAL AREA - CONSTRUCTION

(d) BENEFICIAL USE OF DREDGED MATERIAL.—

(1) IN GENERAL.—The Secretary, substantially in accordance with the restoration plan, shall implement in the coastal Louisiana ecosystem a program for the beneficial use of material dredged from federally maintained waterways at a total cost of \$100,000,000.

(2) CONSIDERATION.—In carrying out the program under paragraph (1), the Secretary shall consider the beneficial use of sediment from the Illinois River System for wetlands restoration in wetlands-depleted watersheds of the coastal Louisiana ecosystem.

ANNEX D

Memorandum "SUBJECT: Louisiana Coastal Area, Beneficial Use of Dredged Material, Final Programatic Study Report and Enviornmental Impact Statement," signed 12 March 2010



DEPARTMENT OF THE ARMY U.S. ARMY CORPS OF ENGINEERS 441 G STREET, NW WASHINGTON, DC 20314-1000

MAR 1 2 2010

REPLY TO ATTENTION OF

CECW-MVD

MEMORANDUM FOR ASSISTANT SECRETARY OF THE ARMY (CIVIL WORKS)

SUBJECT: Louisiana Coastal Area, Beneficial Use of Dredged Material, Final Programmatic Study Report and Environmental Impact Statement

1. <u>Purpose</u>: To provide for your review and approval the Final Programmatic Report and Environmental Impact Statement for the Louisiana Coastal Area (LCA) Beneficial Use of Dredged Material (BUDMAT) program. Section 7006(d) of the Water Resources Development Act of 2007 (WRDA 2007) authorizes the BUDMAT program for coastal Louisiana substantially in accordance with the report of the Chief of Engineers dated 31 January 2005, also referred to as the restoration plan.

2. <u>Recommendation</u>: That the ASA(CW) approve the LCA BUDMAT Final Programmatic Report and Environmental Impact Statement and sign the Record of Decision. Consistent with Section 204 of the Continuing Authorities Program (CAP), it is further recommended that approval authority for implementing beneficial use projects under the BUDMAT Program be delegated to the Commander, Mississippi Valley Division.

3. Background:

a. The LCA Study resulted in the recommendation of the restoration plan whose goal is to reduce the current trend of degradation of the coastal ecosystem and was transmitted to your office with the report of the Chief of Engineers for the Louisiana Coastal Area, Louisiana, Ecosystem Restoration, Study dated 31 January 2005, and is included as enclosure 1.

b. The restoration plan emphasizes the use of restoration strategies that: reintroduce historical flows of river water, nutrients, and sediment to coastal wetlands; restore coastal hydrology to minimize saltwater intrusion; and maintain the structural integrity of the coastal ecosystem. Execution of the restoration plan is a critical step towards achieving and sustaining a coastal ecosystem that can support and protect the environment, economy, and culture of southern Louisiana and thus contribute to the economy and well-being of the Nation. Benefits to and effects on existing infrastructure, including navigation, hurricane and storm damage risk reduction, flood damage reduction, land transportation works, agricultural lands, and oil and gas production and distribution facilities were strongly considered in the formulation of coastal restoration plans.

SUBJECT: Louisiana Coastal Area, Beneficial Use of Dredged Material, Final Programmatic Study Report and Environmental Impact Statement

c. By letters dated 18 November 2005, the LCA Study Report and accompanying report of the Chief of Engineers dated 31 January 2005, were transmitted to Congress along with a letter from the Office of Management and Budget dated 1 November 2005 (enclosure 2 and 3).

d. The restoration plan was authorized in Title VII of the WRDA 2007. In accordance with WRDA 2007, decision documents that would provide detailed project justification, design, and implementation data are being prepared. These decision documents, which include the BUDMAT Final Programmatic Study Report and Environmental Impact Statement, would support requests for project construction and would provide the basis for the implementation of the restoration plan. Construction authorization for the BUDMAT Program is provided in WRDA 2007, Title VII, Section 7006(d).

e. The President's Budget for Fiscal Year 2011 includes \$19,000,000 for new start construction for the LCA program. These funds could be applied to the construction of authorized projects that have completed favorable Executive Branch review.

4. Discussion:

a. The Corps completed the enclosed LCA BUDMAT Final Programmatic Study Report and Environmental Impact Statement, dated January 2010, which is included as enclosure 4. The report meets the requirements of the legislation by recommending an implementation plan for a program for coastal Louisiana that beneficially uses material dredged from Federally maintained waterways and is substantially in accordance with the LCA restoration plan.

b. The BUDMAT Program includes \$100 million in programmatic authority to allow for the incremental cost for beneficial use of dredged material over a 10-year period. Funds from BUDMAT Program would be used for disposal activities associated with separate, cost-shared, individual ecosystem restoration beneficial use projects that are above and beyond the disposal activities that are covered under the USACE O&M maintenance dredging Federal standard. The Federal standard for dredged material disposal is the least costly alternative, consistent with sound engineering and scientific practices and meeting applicable Federal environmental statutes. Of the \$100 million recommended for the BUDMAT Program, approximately 15 percent i.e., \$15 million would be used for planning, engineering, and design activities, and real estate acquisition for beneficial use projects implemented under the BUDMAT Program, and the remaining \$85 million would be used for placement of dredged material within the beneficial use disposal sites.

c. The customized program alternative developed through the plan formulation process conducted for this study would utilize a proactive, streamlined approach to achieve objectives of the BUDMAT Program. Using an approach that follows the basic procedures described in the

SUBJECT: Louisiana Coastal Area, Beneficial Use of Dredged Material, Final Programmatic Study Report and Environmental Impact Statement

2007 EPA/USACE Beneficial Use Planning Manual, the multi-agency Project Delivery Team (PDT) identified potential selection criteria and evaluated their applicability for screening and selecting beneficial use projects. The PDT determined that an initial screening process was needed to identify potential projects that could be coordinated with O&M dredging, followed by two levels of evaluation criteria: first, a set of screening criteria is used to identify suitable candidate projects for design. The beneficial use projects for which planning and design efforts have been completed are then ranked by a second criteria set to determine which project will be implemented by the BUDMAT program in conjunction with O&M dredging of Federally maintained waterways. Through implementation of this program, it is expected that this beneficial use program could contribute to the attainment of up to approximately 21,000 acres of newly created wetlands.

d. Plan formulation for the customized BUDMAT program included an assessment of existing program structures to determine their ability to carry out the required functions of the BUDMAT Program. Existing program processes that fully or partially address the functional requirements for the BUDMAT program were incorporated into the customized program alternative. The customized program alternative also relies on the project planning and design processes of the Continuing Authorities Program (CAP) Section 204, which provides the appropriate level of planning and design for beneficial use projects implemented under a programmatic authorization.

e. Plan formulation also considered the beneficial use of sediment from the Illinois River System for wetlands restoration in wetlands-depleted watersheds of the coastal Louisiana ecosystem as required in WRDA 2007. The plan formulation determined that the use of sediments from the Illinois River System is cost prohibitive due to transportation costs and treatment costs for invasive species.

f. The State of Louisiana supports the LCA Beneficial Use of Dredged Material Program at the authorized 65 percent Federal, 35 percent non-Federal cost sharing, with operations, maintenance, repair, replacement and rehabilitation being a 100 percent non-Federal responsibility, as required by WRDA 2007.

g. The BUDMAT Report includes a Programmatic Environmental Impact Statement that tiers off the LCA PEIS and a draft Record of Decision is included as enclosure 5.

h. The documentation of review findings and a draft transmittal letter to the Office of Management and Budget are provided as enclosures 6 and 7.

SUBJECT: Louisiana Coastal Area, Beneficial Use of Dredged Material, Final Programmatic Study Report and Environmental Impact Statement

5. <u>Conclusions</u>:

a. I have reviewed the final Programmatic Environmental Impact Statement for the Beneficial Use of Dredged Material Program (BUDMAT) in the coastal parishes of Louisiana. Based on this review, and the views of interested agencies and the concerned public, I find the recommended plan fully addresses the planning objectives and request your approval. The plan is justified, in accordance with environmental statutes, and is in the public interest.

FOR THE COMMANDER:

Enclosures

STEVEN L. STOCKTON, P.E. Director of Civil Works

ANNEX E Record of Decision Louisiana Coastal Area Beneficial Use of Dredged Material Program, signed 13 August 2010

RECORD OF DECISION

Louisiana Coastal Area Beneficial Use of Dredged Material Program

The Louisiana Coastal Area Beneficial Use of Dredged Material (BUDMAT) Final Report and Programmatic Environmental Impact Statement (EIS), dated January 2010 and with Errata June 2010, describes the recommended program for the beneficial use of dredged material for the coastal parishes of Louisiana. Based on this report, the reviews of other Federal, State and local agencies, input from the public, and the review by my staff, I find that the plan recommended by the Director of Civil Works is technically feasible, in compliance with environmental statutes, and in the public interest.

The BUDMAT study was undertaken as a result of the authorization provided in Title VII of the Water Resources Development Act (WRDA) of 2007. The goal of the authorization was to reduce the degradation of the Louisiana coastal ecosystem. The near-term Louisiana Coastal Area (LCA) Plan that was authorized in Title VII required the preparation of a series of decision documents to provide detailed construction information. The BUDMAT report and EIS provide the basis for the implementation of an extended beneficial use of dredged material program in coastal Louisiana.

The recommended plan for the BUDMAT Program specifies the procedures to solicit, screen, plan, design and construct ecosystem restoration projects using dredged material beneficially under the authority of Section 7006(d) of WRDA 2007. This plan represents an opportunity to contribute to the LCA Program objectives, as outlined in the near-term LCA Plan. Implementation would proceed with a more detailed analysis of the potential beneficial use disposal sites, a process that would be repeated annually in coordination with the ongoing implementation of dredging activities in coastal Louisiana. It should be noted that this report was prepared prior to the Deepwater Horizon incident; however, because this report is programmatic in nature, annual beneficial use options would be evaluated based on the latest site specific data.

A broad array of management and site selection alternatives were evaluated to identify suitable procedures for the annual process of implementing restoration projects that beneficially use dredged material. A customized screening procedure was developed to evaluate restoration opportunities in coordination with dredging operations and restoration program objectives. The near-term LCA Plan estimated that approximately 21,000 acres of wetlands could be created through the 10-year, \$100 million BUDMAT Program. Due to the updated and more detailed information developed through this study, the current estimate of wetlands that could be created for the BUDMAT Program is approximately 3,400 acres. The recommended plan is consistent with the authorizing legislation and is the environmentally preferable alternative.

The draft Programmatic Study Report and Programmatic EIS was circulated for public review for 45 days on November 20, 2009. Ten comment letters were received and none expressed opposition to the proposed action. All comments were responded to in the Final EIS, which was filed with the Environmental Protection Agency on January 22, 2010. All practicable means to avoid or minimize adverse environmental effects have been incorporated into the recommended plan. Because the BUDMAT Program would result in an overall benefit to the environment, no compensatory mitigation is proposed. National Environmental Policy Act environmental documents will be prepared for individual projects proposed under the BUDMAT Program, once specific sites are selected. Monitoring and adaptive management would be performed to ensure performance, as needed.

Technical, environmental, economic, and risk criteria used in the formulation of alternative plans were those specified in the Water Resource Council's 1983 <u>Economic and Environmental Principles and Guidelines for Water and Related Land Resources</u> <u>Implementation Studies</u>. All applicable laws, Executive Orders, regulations and local government plans were considered in the evaluation of alternatives. Based on review of these evaluations, I find that the public interest would be best served by implementing the recommended plan. This Record of Decision completes the National Environmental Policy Act process.

Date /3, 20/0

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Jo-Ellen Darcy Assistant Secretary of the Army (Civil Works)

ANNEX F

Meomrandum "SUBJECT: Louisiana Coastal Area, Beneficial Use of Dredged Material -Delegation of Auhtority and Project Partnershup Agreement Development," signed 13 August 2010



DEPARTMENT OF THE ARMY OFFICE OF THE ASSISTANT SECRETARY CIVIL WORKS 108 ARMY PENTAGON WASHINGTON DC 20310-0108

AUG 1 3 2010

MEMORANDUM FOR DEPUTY COMMANDING GENERAL FOR CIVIL AND EMERGENCY OPERATIONS

SUBJECT: Louisiana Coastal Area, Beneficial Use of Dredged Material – Delegation of Authority and Project Partnership Agreement Development

Your memorandum of March 12, 2010 transmitted the Beneficial Use of Dredged Material (BUDMAT) program report to me for review and approval. I have done so and provided the report to Congress with Administration support. You also requested that I delegate approval authority for implementing the BUDMAT program to the Commander, Mississippi Valley Division (MVD).

I delegate approval authority to the MVD Commander, subject to a per-project limitation on the Federal investment for this delegation to \$15 million. In the event that a BUDMAT project exceeds this amount, you must retain approval authority.

Execution of BUDMAT projects would be streamlined by the development of a model Project Partnership Agreement. My office is available to work with you in the development of such a model agreement.

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Assistant Secretary of the Army (Civil Works)


ANNEX G

Memorandum "SUBJECT: Implementation Guidance for Section 1030 of the Water Resources Reform and Development Act (WRDDA) of 2014, Continuing Authorities," signed 08 December 2014



REPLY TO ATTENTION OF DEPARTMENT OF THE ARMY U.S. ARMY CORPS OF ENGINEERS 441 G STREET, NW WASHINGTON, DC 20314-1000

DEC 0 3 2014

CECW-P

MEMORANDUM FOR Commanders, Major Subordinate Commands

SUBJECT: Implementation Guidance for Section 1030 of the Water Resources Reform and Development Act (WRRDA) of 2014, Continuing Authorities

1. Section 1030 of WRRDA 2014 increases the programmatic limits and per project limits for certain Continuing Authority Program (CAP) authorities and for the Flood Plain Management Services (FPMS) Program. In addition, Section 1030 requires that the Secretary publish in the Federal Register the criteria used for prioritizing the annual funding for CAP projects and on an annual basis the status of each CAP project. A copy of Section 1030 is enclosed.

2. The annual programmatic limits and per-project limits on federal participation are increased for the following CAP authorities, as noted below. The increased federal per-project limits will be applied only to those Section 14, Section 107, Section 111, Section 204, Section 205, Section 206, and Section 1135 projects whose initial federal construction contract was or will be awarded on or after 10 June 2014.

a. Section 107 of the River and Harbor Act of 1960, as amended (33 U.S.C. 577). The annual program limit increases from \$35 million to \$50 million and the federal perproject limit increases from \$7 million to \$10 million.

b. Section 111 of the River and Harbor Act of 1968, as amended (33 U.S.C. 426i). The federal per-project limit increases from \$5 million to \$10 million.

c. Section 204 of the Water Resources Development Act of 1992, as amended (33 U.S.C. 2326). The annual program limit increases from \$30 million to \$50 million and the federal per-project limit increases from \$5 million to \$10 million

d. Section 205 of the Flood Control Act of 1948, as amended (33 U.S.C. 701s). The federal per-project limit increases from \$7 million to \$10 million.

e. Section 1135 of the Water Resources Development Act of 1986, as amended (33 U.S.C. 2309a). The federal per-project limit increases from \$5 million to \$10 million.

f. Section 206 of the Water Resources Development Act of 1996, as amended (33 U.S.C. 2330). The federal per-project limit increases from \$5 million to \$10 million.

SUBJECT: Implementation Guidance for Section 1030 of the Water Resources Reform and Development Act (WRRDA) of 2014, Continuing Authorities

g. Section 14 of the Flood Control Act of 1946, as amended (33 U.S.C. 701r). The annual program limit increases from \$15 million to \$20 million and the federal perproject limit increases from \$1.5 million to \$5 million.

3. Section 1030(f)(1) of WRRDA 2014 raises the amount of the non-federal contribution that may be provided through in-kind contributions for Section 1135 projects from 80 percent to 100 percent.

4. The CAP Feasibility Cost Sharing Agreement and the Project Partnership Agreement (PPA) models that address these authorites have been updated. Whether an existing agreement needs to be amended as a result of Section 1030 should be determined by the following:

a. Existing agreements do not need to be amended soley to reflect the increased annual program limits.

b. Existing PPAs for Section 14, Section 107, Section 111, Section 204, Section 205, Section 206, and Section 1135 projects, whose initial federal construction contract was awarded on or after 10 June 2014, should be amended to reflect the applicable increased federal per-project limit. Review and approval of an amendment for this purpose is delegated to the MSC Commander and may not be further delegated. The District Commander is authorized to execute the amendment after its approval.

c. Executed PPAs for Section 1135 projects whose initial federal construction contract was awarded on or after 10 June 2014 should be amended to reflect the increased amount of in-kind contributions allowed. Review and approval of an amendment for this purpose is delegated to the MSC Commander and may not be further delegated. The District Commander is authorized to execute the amendment after its approval.

5. Section 1030(d) of WRRDA 2014 amends Section 2037 of WRDA 2007, which amended Section 204 of WRDA 1992, to provide that the WRDA 2007 cost sharing amendment does not apply to any beneficial use of dredged material project authorized in WRDA 2007 if a report of the Chief of Engineers for the project was completed prior to the date of enactment of WRDA 2007. For those projects, the cost sharing for the beneficial use of dredged material is 75 percent federal and 25 percent non-Federal. Those projects include Hamilton Airfield Wetlands Ecosystem Restoration Expansion, California, authorized by Section 3018 of WRDA 2007; Poplar Island Expansion, Maryland, authorized by Section 3087 of WRDA 2007; and, Louisiana Coastal Area Beneficial Use of Dredged Material, Louisiana, authorized by Section 7006(d) of WRDA 2007.

SUBJECT: Implementation Guidance for Section 1030 of the Water Resources Reform and Development Act (WRRDA) of 2014, Continuing Authorities

6. Sections 1030(a) (2) and (3) of WRRDA 2014 require that the Secretary publish in the Federal Register the criteria used for prioritizing the annual funding for CAP projects and on an annual basis the status of each CAP project. The information on status of CAP projects will include the name and a short description of each active CAP project, the cost estimate to complete each active CAP project, and the funding available in that fiscal year for each CAP authority. This information is also to be provided to the Senate Committee on Environment and Public Works and the House Committee on Transportation and Infrastructure. CECW-IP is responsible for these activities.

7. Section 1030(h) of WRRDA 2014 amends Section 206 of the Flood Control Act of 1970 to increase the program limit for the FPMS Program from \$15 million to \$50 million. The existing guidance on FPMS in ER 1105-2-100, Appendix G, should continue to be followed.

8. This will be incorporated into ER 1105-2-100, Appendix F, when it is updated.

Encl

THEODÖRE A. BROWN, P.E. Chief, Planning and Policy Directorate of Civil Works

DISTRIBUTION: Division Commanders: Great Lakes and Ohio River Division (CELRD) Mississippi Valley Division (CEMVD) (Former Lower Mississippi Valley Division) North Atlantic Division (CENAD) Northwestern Division (CENWD) Pacific Ocean Division (CEPOD) South Atlantic Division (CESAD) South Pacific Division (CESPD) Southwestern Division (CESWD) SUBJECT: Implementation Guidance for Section 1030 of the Water Resources Reform and Development Act (WRRDA) of 2014, Continuing Authorities

SEC. 1030. CONTINUING AUTHORITY.

(a) CONTINUING AUTHORITY PROGRAMS.—

(1) DEFINITION OF CONTINUING AUTHORITY PROGRAM

PROJECT.—In this subsection, the term "continuing authority

program" means 1 of the following authorities:

(A) Section 205 of the Flood Control Act of 1948 (33 U.S.C. 701s).

(B) Section 111 of the River and Harbor Act of 1968 (33 U.S.C. 426i).

(C) Section 206 of the Water Resources Development Act of 1996 (33 U.S.C. 2330).

(D) Section 1135 of the Water Resources Development Act of 1986 (33 U.S.C. 2309a).

(E) Section 107 of the River and Harbor Act of 1960

(33 U.S.C. 577).

(F) Section 3 of the Act of August 13, 1946 (33 U.S.C. 426g).

(G) Section 14 of the Flood Control Act of 1946 (33 U.S.C. 701r).

(H) Section 103 of the River and Harbor Act of 1962 (Public Law 87–874; 76 Stat. 1178).

(I) Section 204(e) of the Water Resources Development Act of 1992 (33 U.S.C. 2326(e)).

(J) Section 208 of the Flood Control Act of 1958 (33 U.S.C. 701b–8a).

(K) Section 104(a) of the River and Harbor Act of 1958 (33 U.S.C. 610(a)).

(2) PRIORITIZATION.—Not later than 1 year after the date of enactment of this Act, the Secretary shall publish in the Federal Register and on a publicly available website, the criteria the Secretary uses for prioritizing annual funding for continuing authority program projects.

(3) ANNUAL REPORT.—Not later than 1 year after the date of enactment of this Act and each year thereafter, the Secretary shall publish in the Federal Register and on a publicly available website, a report on the status of each continuing authority program, which, at a minimum, shall include—

(A) the name and a short description of each active

continuing authority program project;

(B) the cost estimate to complete each active project; and

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(C) the funding available in that fiscal year for each continuing authority program. (4) CONGRESSIONAL NOTIFICATION -- On publication in the Federal Register under paragraphs (2) and (3), the Secretary shall submit to the Committee on Environment and Public Works of the Senate and the Committee on Transportation and Infrastructure of the House of Representatives a copy of all information published under those paragraphs. (b) SMALL RIVER AND HARBOR IMPROVEMENT PROJECTS.—Section 107 of the River and Harbor Act of 1960 (33 U.S.C. 577) is amended— (1) in subsection (a), by striking "\$35,000,000" and inserting "\$50,000,000"; and (2) in subsection (b), by striking "\$7,000,000" and inserting "\$10,000,000". H. R. 3080-40 (c) SHORE DAMAGE PREVENTION OR MITIGATION.—Section 111(c) of the River and Harbor Act of 1968 (33 U.S.C. 426i(c)) is amended by striking "\$5,000,000" and inserting "\$10,000,000". (d) REGIONAL SEDIMENT MANAGEMENT.--(1) IN GENERAL.—Section 204 of the Water Resources Development Act of 1992 (33 U.S.C. 2326) is amended-(A) in subsection (c)(1)(C), by striking "\$5,000,000" and inserting "\$10,000,000"; and (B) in subsection (g), by striking "\$30,000,000" and inserting "\$50,000,000". (2) APPLICABILITY.—Section 2037 of the Water Resources Development Act of 2007 (121 Stat. 1094) is amended by adding at the end the following: "(c) APPLICABILITY.—The amendment made by subsection (a) shall not apply to any project authorized under this Act if a report of the Chief of Engineers for the project was completed prior to the date of enactment of this Act." (e) SMALL FLOOD CONTROL PROJECTS.—Section 205 of the Flood Control Act of 1948 (33 U.S.C. 701s) is amended in the third sentence by striking "\$7,000,000" and inserting "\$10,000,000". (f) PROJECT MODIFICATIONS FOR IMPROVEMENT OF ENVIRONMENT.-Section 1135(d) of the Water Resources Development Act of 1986 (33 U.S.C. 2309a(d)) is amended-(1) in the second sentence, by striking "Not more than

80 percent of the non-Federal share may be" and inserting

"The non-Federal share may be provided"; and

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(2) in the third sentence, by striking "\$5,000,000" and inserting "\$10,000,000".

(g) AQUATIC ECOSYSTEM RESTORATION.—Section 206(d) of the Water Resources Development Act of 1996 (33 U.S.C. 2330(d)) is amended by striking "\$5,000,000" and inserting "\$10,000,000". (h) FLOODPLAIN MANAGEMENT SERVICES.—Section 206(d) of the Flood Control Act of 1960 (33 U.S.C. 709a(d)) is amended by striking "\$15,000,000" and inserting "\$50,000,000".

(i) EMERGENCY STREAMBANK AND SHORELINE PROTECTION.— Section 14 of the Flood Control Act of 1946 (33 U.S.C. 701r) is amended—

(1) by striking "\$15,000,000" and inserting "\$20,000,000"; and

(2) by striking "\$1,500,000" and inserting "\$5,000,000".

Appendix B. Environmental

Annex A: DRAFT Finding of No Significant Impact (FONSI)



Regional Planning and Environment Division South Environmental Planning Branch

DRAFT FINDING OF NO SIGNIFICANT IMPACT (FONSI)

DRAFT INTEGRATED DESIGN AND IMPLEMENTATION REPORT AND SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT (SEA 542.B) LOUISIANA COASTAL AREA BENEFICIAL USE OF DREDGED MATERIAL PROGRAM AT TIGER PASS 2 PROJECT PLAQUEMINES PARISH, LOUISIANA

Description of the Proposed Action. The U.S. Army Corps of Engineers (USACE), Mississippi River Valley Regional Planning and Environmental Division South (RPEDS), has prepared this Draft Integrated Design and Implementation Report (DIR) and Supplemental Environmental Assessment 542.B (DIR/SEA 542.B) to evaluate the potential impacts associated with the beneficial use of up to 2,000,000 cubic yards (CY) of dredged material removed from the Hopper Dredge Disposal Area (HDDA) to construct an approximately 6,800 foot long, 30 acre (18.54 AAHUs) ridge backed by an approximately 500 foot wide, 92 acre (38.08 AAHUs) marsh platform. Due to existing pipelines at the site, the ridge and marsh platform constructed by the Project would be non-continuous. The Project would extend the initial LCA BUDMAT Tiger Pass Project an additional 8,700 (non-continuous) feet westward. The Project Area is located on the western side of the Mississippi River, adjacent to Spanish Pass, downstream of its intersection with Tiger Pass near Venice, in lower Plaquemines Parish, Louisiana approximately 12 miles above Head of Passes, Southwest Pass, and South Pass. DIR/SEA 542.B is attached hereto and incorporated herein by reference.

The Proposed Action is an individual Beneficial Use of Dredged Material Program (BUDMAT) project to be implemented pursuant to Title VII of the Water Resources Development Act of 2007 (WRDA 2007) which authorized an ecosystem restoration program for the Louisiana Coastal Area (LCA) substantially in accordance the January 31, 2005 Report of the Chief of Engineers. Section 7006(d) of WRDA 2007 specifically authorizes the LCA BUDMAT Program for the beneficial use of material dredged from federally maintained waterways in the coastal Louisiana ecosystem. The LCA BUDMAT Program, January 2010, Final Programmatic Study Report and Programmatic Environmental Impact Statement (2010 LCA BUDMAT Report and PEIS), a component

of the broader-scale 2004 LCA Ecosystem Restoration Study Report and Programmatic Environmental Impact Statement (2004 LCA Study and PEIS), was approved by the Director of Civil Works on March 12, 2010, and the Assistant Secretary of the Army, Civil Works, signed a Record of Decision dated August 13, 2010. DIR/SEA 542.B tiers off of the 2004 LCA Study and PEIS and the 2010 LCA BUDMAT Report and PEIS.

Factors Considered in Determination. CEMVN has assessed the impacts of the No Action and the Proposed Action alternatives on important resources, including but not limited to wetlands, wildlife, aquatic resources/fisheries, essential fish habitat, threatened and endangered species, water and sediment quality, air quality, cultural resources, recreational resources, and visual resources (aesthetics). No significant adverse impacts were identified for any of these important resources. No impacts have been identified that would require compensatory mitigation and all reasonable means of avoiding and minimizing adverse environmental effects have been adopted. The Proposed Action should result in an overall net benefit to wetland resources in the Project Area, through the restoration and creation of emergent wetland habitat which is of a higher value to fish and wildlife resources than the existing open water.

<u>Coastal Zone Management Act of 1972:</u> The Coastal Zone Management Act (CZMA) requires that "each federal agency conducting or supporting activities directly affecting the coastal zone shall conduct or support those activities in a manner which is, to the maximum extent practicable, consistent with approved state management programs." In accordance with Section 307, a Consistency Determination was requested on February 28, 2018 for the Proposed Action. A Consistency Determination was received on May 16, 2018.

<u>Clean Water Act of 1972 – Section 401 and Section 404</u>: The Clean Water Act (CWA) sets and maintains goals and standards for water quality and purity. Section 401 requires a Water Quality Certification from the Louisiana Department of Environmental Quality (LDEQ) that a proposed project does not violate established effluent limitations and water quality standards. State Water Quality Certification was received on April 30, 2018.</u>

As required by Section 404(b)(1) of the CWA, an evaluation to assess the short- and longterm impacts associated with the discharge of dredged and fill materials into waters of the United States resulting from this Project has been completed. The Section 404(b)(1) public notice was mailed out for a public review at the same time as the draft DIR/SEA 542.B.

National Historic Preservation Act of 1966: Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended, requires Federal agencies to take into account the effects of their undertakings on historic properties and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertakings. The procedures in 36 CFR Part 800 define how Federal agencies meet these statutory responsibilities. The Section 106 process seeks to balance historic preservation concerns with the needs of Federal undertakings through consultation

among the agency official and other parties with an interest in the effects of the undertaking on historic properties, including the State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officer (THPO) and any Tribe that attaches religious or cultural significance to historic properties that may be affected by an undertaking. The goal of consultation is to identify historic properties potentially affected by the undertaking, assess its effects and seek ways to avoid, minimize or mitigate any adverse effects on historic properties. Consultation pursuant to Section 106 has been completed and a finding of no historic properties affected, was coordinated with a letter dated November 3, 2017 to the SHPO and the tribes. SHPO concurred with this determination on November 30, 2017. The Choctaw Nation of Oklahoma concurred via email dated December 5, 2017. To date, no other responses have been received from the tribes. In accordance with 36 CFR 800.4 (d)(1)(i), CEMVN has fulfilled its consultation responsibilities under the NHPA.

Endangered Species Act of 1973: The Endangered Species Act (ESA) is designed to protect and recover threatened or endangered species of fish, wildlife and plants. The United States Fish and Wildlife Service (USFWS) identified five federally threatened or endangered species — the Pallid sturgeon, West Indian manatee, piping plover, red knot, and sea turtles — that are known to occur or believed to occur within the vicinity of the Project Area. No plants were identified as being threatened or endangered in the Project Area. On February 23, 2018, USFWS reviewed this project for effects to Federal trust resources under their jurisdiction and currently protected by the ESA, finding that the project, as proposed, is not likely to adversely affect these resources. This fulfills the requirements under Section 7(a)(2) of the ESA.

<u>Migratory Bird Treaty Act</u>: The Project Area is known to support colonial nesting water birds (e.g., herons, egrets, ibis, night-herons and roseate spoonbills). Based on review of existing data, preliminary field surveys, and with the implementation of USFWS guidelines identified in Section 9 of the DIR/SEA 542.B, the CEMVN finds that the Proposed Action would have no effect on colonial nesting water birds.

<u>Magnuson-Stevens Fisheries Conservation and Management Act:</u> The Magnuson-Stevens Fishery Conservation and Management Act (the Act), as amended, addresses the authorized responsibilities for the protection of Essential Fish Habitat (EFH) by National Marine Fisheries Service (NMFS) in association with regional fishery management councils. The NMFS has a findings with the CEMVN on the fulfillment of coordination requirements under provisions of the Act. In those findings, the CEMVN and NMFS have agreed to complete EFH coordination requirements for Federal civil works projects through the review and comment on NEPA documents prepared for those projects. The draft DIR/SEA 542.B was provided to the NMFS for review and comment at the same time that it was released for public review.

<u>Tribal Consultation</u>: The National Environmental Policy Act (NEPA), Section 106 of the National Historic Preservation Act, EO 13175 ("Consultation and Coordination with Indian Tribal Governments"), the American Indian Religious Freedom Act, and related

statutes and policies have a consultation component. In accordance with CEMVN's responsibilities under NEPA, Section 106, and EO 13175, CEMVN offered the following federally-recognized Indian Tribes the opportunity to review and comment on the potential of the Proposed Action to significantly affect protected tribal resources, tribal rights, or Indian lands: the Alabama-Coushatta Tribe of Texas, the Caddo Nation of Oklahoma, the Chitimacha Tribe of Louisiana, the Choctaw Nation of Oklahoma, the Coushatta Tribe of Louisiana, the Jena Band of Choctaw Indians, the Mississippi Band of Choctaw Indians, the Muscogee (Creek) Nation, the Seminole Nation of Oklahoma, the Seminole Tribe of Florida, and the Tunica-Biloxi Tribe of Louisiana via letter on November 3, 2017 with a determination of "No Historic Properties Affected." Letters were mailed to the tribal leaders and to Tribal Historic Preservation Offices, requesting input regarding the proposed action. The Choctaw Nation of Oklahoma concurred with the finding of "no historic properties affected" via email dated December 5, 2017. As of ______, no other responses have been received from the tribes.

Fish and Wildlife Coordination Act of 1934: The Fish and Wildlife Coordination Act (FWCA) provides authority for the USFWS involvement in evaluating impacts to fish and wildlife from proposed water resource development projects. It requires that fish and wildlife resources receive equal consideration to other project features. It requires Federal agencies that construct, license or permit water resource development projects to first consult with the USFWS, NMFS and state resource agencies regarding the impacts on fish and wildlife resources and measures to mitigate these impacts. Section 2(b) requires the USFWS to produce a Coordination Act Report (CAR) that details existing fish and wildlife resources in a project area, potential impacts due to a proposed project, and recommendations for a project. The USFWS provided a Draft CAR with project specific recommendations on February 8, 2018. CEMVN has reviewed the draft CAR, and its project-specific environmental design recommendations have been incorporated into the draft FONSI.

Environmental Design Commitments. The following commitments, as recommended by the USFWS and NMFS, are an integral part of the Proposed Action:

- 1) Any design changes that may cause potential impacts to the human environment would be evaluated to determine whether additional NEPA analysis would be required.
- 2) If any unrecorded cultural resources are determined to exist within the project area boundaries, a CEMVN archeologist would be notified and consultation with the SHPO and THPO would occur.
- 3) Consideration will be given in the design of project features and timing of construction in an effort to avoid adverse impacts to wading bird colonies. A qualified biologist will inspect the proposed work site for the presence of undocumented nesting colonies during the nesting season.

- 4) For areas containing nesting wading birds (i.e., herons, egrets, night-herons, ibis, and roseate spoonbills), anhingas, and/or cormorants, all activity occurring within 1,000 feet of a nesting colony would be restricted to the non-nesting period. For nesting brown pelicans activity should be avoided within 2,000 feet of the colony. Activity would be restricted within 650 feet of black skimmers, gulls, and terns.
- 5) All on-site personnel are responsible for observing water-related activities for the presence of manatee(s). All work, equipment, and vessel operation should cease if a manatee is spotted within a 50-foot radius (buffer zone) of the active work area. Once the manatee has left the buffer zone of its own accord (manatees must not be herded or harassed into leaving), or after 30 minutes have passed without additional sightings of manatee(s) in the buffer zone, in-water work can resume under careful observation for manatee(s).
- 6) Access corridors across existing wetlands would be avoided or minimized to the extent practicable. Impacted wetlands would be restored to a substrate elevation similar to the surrounding marsh following completion of construction. Flotation access channels in open water will be backfilled upon project completion. If needed, at CEMVN's discretion, post-construction surveys (e.g., centerline surveys) would be taken to ensure access channels have been adequately backfilled.
- 7) Containment dikes would be breached or degraded to the settled elevation of the disposal area, if necessary. The final design elevations of the earthen retention dikes will be determined based on a detailed in situ soil analysis. Depending on soil conditions and the nature of the dredged material, the dikes could be designed in a manner to avoid the need for degrading in out years. The perimeter dikes would be expected to settle over time.
- 8) To the extent possible to achieve the desired project, CEMVN would minimize impacts to SAVs.

ESA consultation would be reinitiated if the proposed project features change significantly, or are not implemented within one year of the last ESA consultation with USFWS.

<u>Public Involvement</u>. The Proposed Action is undergoing coordination with appropriate federal, state, and local agencies. The draft DIR/SEA 542.B was distributed for public review and comment on ______.

Conclusion. CEMVN has assessed the potential environmental impacts of the Proposed Action and has determined that the action, if implemented, would have beneficial environmental effects through the creation of wetland habitats as detailed in DIR/SEA 542.B. Based on DIR/SEA 542.B, a review of agency and other comments received following the publication and distribution of Draft DIR/SEA 542.B, and the implementation

of the environmental design commitments listed above, the District Engineer has determined that the Proposed Action would have no significant impact on the human environment. Therefore, an Environmental Impact Statement will not be prepared.

Date

Michael N. Clancy Colonel, U.S. Army District Commander Annex B: Louisiana Coastal Area Beneficial Use of Dredge Material Programmatic EIS, 2010

(http://www.mvn.usace.army.mil/Portals/56/docs/environmental/LCA/LCA_BUDMAT_Final_EIS_Jan_19_2010.pdf)

Annex C: Louisiana Coastal Area, Louisiana, Ecosystem Restoration PEIS, 2005 Record of Decision, signed 18 November 2005

http://www.mvn.usace.army.mil/Missions/Environmental/Louisiana-Coastal-Area/2004-programmatic-EIS-for-the-Louisiana-Coastal-Area-projects/)

Annex D: DRAFT Wetland Value Assessment (WVA) Project Information Sheet (PIS), prepared January 30, 2018.

Wetland Value Assessment Project Information Sheet

January 30, 2018

Prepared for:

US Army Corps of Engineers (NOD)

Prepared by

U.S. Fish and Wildlife Service

Project Name: Tiger Pass 2 LCA BUDMAT Habitat Creation

Project Alternative: Spanish Pass Ridge Expansion

Project Type(s): Marsh Creation and Ridge Restoration

Project Area: Plaquemines Parish, Louisiana.

Project Goal:

This BUDMAT program project is intended to create habitat for fish and wildlife with dredged material from the Baptiste Collette navigation channel. Approximately 6,466 feet of Spanish Pass ridge and backside marsh platform would be constructed to compliment the initial 5,000 feet that is currently under construction for Tiger Pass 1. The proposed ridge would be constructed to an elevation of +6.5-feet NAVD88 with a crown width of 80 feet and a 200-foot wide base. The 29.7-acre ridge would be backed by an approximately 106-acre marsh platform, creating a total project area of 136 acres.

Habitat Assessment Method

The WVA operates under the assumption that optimal conditions for general fish and wildlife habitat within a given coastal wetland type can be characterized, and that existing or predicted conditions can be compared to that optimum to provide an index of habitat quality. Habitat quality is estimated or expressed through the use of a mathematical model developed specifically for each wetland type. Each model consists of 1) a list of variables that are considered important in characterizing fish and wildlife habitat, 2) a Suitability Index graph for each variable, which defines the assumed relationship between habitat quality (Suitability Index) and different variable values, and 3) a mathematical formula that combines Suitability Index for each variable into a single value for wetland habitat quality; that single value is referred to as the Habitat Suitability Index, or HSI.

The procedure for evaluating project benefits on fish and wildlife habitats, the WVA model, uses a series of variables that are intended to capture the most important conditions and functional values of a particular habitat. Values for these variables are derived for existing conditions and are estimated for conditions projected into the future if no restoration efforts are applied (i.e., future-without-project), and for conditions projected into the future if the proposed restoration project is implemented (i.e., future-with-project), providing an index of quality or habitat suitability of the habitat for the given time period. The HIS is combined with the acres of habitat to get a number that is referred to as "habitat units". Expected project benefits are estimated as the difference in habitat units between the future-with-project (FWP) and future-without project (FWOP). To allow comparison of WVA benefits to costs for overall project evaluation, total benefits are averaged over a 50-year period, with the result reported as Average Annual Habitat Units (AAHUs).

The WVA model for marsh habitat attempts to assess the suitability of each habitat type for providing resting, foraging, breeding, and nursery habitat to a diverse assemblage of fish and wildlife species. While the model does not specifically assess other wetland functions and values such as storm-surge protection, floodwater storage, water quality improvement, nutrient import/export, and aesthetics, it can be generally assumed that these functions and values are positively correlated with fish and wildlife habitat quality.

Existing Site Conditions

The project area is the open water and surrounding fresh/intermediate marsh near Tiger Pass in the Lower Mississippi River Delta. The vegetation in the vicinity of the Spanish Pass Ridge Expansion alternative is classified as intermediate marsh and receives riverine input. Emergent plant species include: smooth cordgrass, Walter's millet, *Schoenoplectus pungens, Nelumbo lutea*. Submerged aquatic vegetation, such as *Myriophyllum spicatum, Heteranthera dubia, Ceratophyllum demersum, Najas guadalupensis, Potamogeton nodosus* are also common in the lower elevation intertidal and shallow subtidal portions of the project area. The two major soil types in the project area are commonly found together and are classified as Balize and Larose soils (BA) (Trahan 1987). Both soil types are level and very poorly drained. They are flooded by Mississippi River water most of the time and support freshwater marshes.

Land Loss

USGS calculated a historical loss rate for the disposal polygons using a hyper-temporal analysis for the period 1985 to 2016. That analysis utilized TM satellite scenes. The Fish and Wildlife Service calculated land loss rate using the same USGS Land/Water data, but with a different regression (land acres:time). The loss rate during that period was -1.42% per year. That rate was used to calculate land/water values over the life of the project.

Sea Level Rise Effects

Land loss rates estimated by the Service were adjusted by the projected effects of the medium relative sea level rise (RSLR) scenario for these analyses. The nearest water level gauge to the project area that is listed for use with the sea-level change curve calculator on the corpsclimate.us website is the one at Venice. The estimated subsidence rate is 21.3 mm/yr. The Eustatic sea level rise was assumed to be 1.7 mm/yr.

Fresh/Intermediate Marsh

Variable V₁₋Percent of wetland area covered by emergent vegetation

Existing Conditions - Acres of emergent marsh were digitized using 2015 DOQQ images. Three years of loss were applied to the 2015 land acreage (using MIM spreadsheet) to arrive at TY0 (2018) project acreages.

FWOP

	Spanish Pass Marsh					
		acres	%			
TY0	Marsh	4.76	4.5	TY0		
TY1	Marsh	4.63	4.4	TY1		
TY3	Marsh	4.36	4.1	TY3		
TY5	Marsh	4.10	3.9	TY5		
TY6	Marsh	3.96	3.7	TY6		
TY25	Marsh	1.32	1.2	TY25		
TY50	Marsh	0.00	0.0	TY50		

Spanish Pass Ridge							
	acres %						
TY0	Marsh	6.75	22.7				
TY1	Marsh	6.56	22.1				
TY3	Marsh	6.19	20.8				
TY5	Marsh	5.81	19.6				
TY6	Marsh	5.62	18.9				
TY25	Marsh	1.87	6.3				
TY50	Marsh	0.00	0.0				

%

22.7

0

0

0

0

0

0

FWP – For Spanish Pass Marsh, we used the MIM spreadsheet with assumptions derived from the LPV & WBV HSDRRS MITIGATION: WETLAND VALUE ASSESSMENT (WVA) MODEL ASSUMPTIONS AND RELATED GUIDANCE (Revised/Updated: 3 March 2012). For year 3, we used fresh marsh assumptions (50% credit) because of the fresh water influence of the river during the growing season. For Spanish Pass Ridge, we assumed construction of the ridge would eliminate all marsh habitat.

	Spanish Pa	ss Marsh			Spanish Pa	ass Ridge
		acres	%			acres
TY0	Marsh	4.76	4.5	TY0	Marsh	6.75
TY1	Marsh	14.63	13.8	TY1	Marsh	0
TY3	Marsh	53.65	50.6	TY3	Marsh	0
TY5	Marsh	101.22	95.6	TY5	Marsh	0
TY6	Marsh	100.37	94.8	TY6	Marsh	0
TY25	Marsh	81.65	77.1	TY25	Marsh	0
TY50	Marsh	44.35	41.9	TY50	Marsh	0

Variable V₂₋Percent of open water covered by submerged aquatic vegetation (SAV)

Existing Conditions – On September 13, 2017, a site visit was conducted by the Corps, NMFS, and USFWS personnel. SAV occurring within the project area was estimated.

FWOP– For Spanish Pass Marsh, we used assumptions derived from the LPV & WBV HSDRRS MITIGATION: WETLAND VALUE ASSESSMENT (WVA) MODEL ASSUMPTIONS AND RELATED GUIDANCE (Revised/Updated: 3 March 2012). For TY25, we assumed a linear relationship between TY0 and TY50 and selected the midpoint. For Spanish Pass Ridge, we assumed construction of the ridge would eliminate all SAVs.

-	Spanish Pass Marsh		-	ish Pass tidge
	% SAV			% SAV
TY0	0		TY0	0
TY1	0		TY1	0
TY3	0		TY3	0
TY5	0		TY5	0
TY6	0		TY6	0
TY25	0		TY25	0
TY50	0		TY50	0

FWP– When the marsh land platform is constructed, any existing SAV would be buried. Until the created marsh platform settles to marsh elevation it is assumed that very little open water exists to support SAV growth. Standard civil works assumptions were applied for all target years.

Spanish Pass Marsh		-	ish Pass idge
	% SAV		% SAV
TY0	0	TY0	0
TY1	0	TY1	0
TY3	0	TY3	0
TY5	0	TY5	0
TY6	15	TY6	0
TY25	15	TY25	0
TY50	7.5	TY50	0

Variable V₃-Marsh edge and interspersion

Existing Conditions – Interspersion classes varied between areas and were determined utilizing aerial imagery and ArcMap GIS 10.3.1 software.

FWOP- The percent emergent marsh was used to determine the interspersion class.

Spanish	Spanish Pass Marsh			Spanish Pass Ridge		
	Class	%			Class	%
TY0	5	100		TY0	5	100
TY1	5	100		TY1	5	100
TY3	5	100		TY3	5	100
TY5	5	100		TY5	5	100
TY6	5	100		TY6	5	100
TY25	5	100		TY25	5	100
TY50	5	100		TY50	5	100

FWP– For Spanish Pass Marsh, the standard civil works marsh creation assumptions were used until TY6. After TY6, projections were guided by the amount of marsh acres predicted by the land loss spreadsheet model. For Spanish Pass Ridge, we assumed it would remain a solid landform throughout the period of analysis.

Spanish	Spanish Pass Marsh			Spanish Pass Ridge		
	Class	%			Class	%
TY0	5	100		TY0	5	100
TY1	5	100		TY1	5	100
TY3	3	100		TY3	5	100
	1	50				
TY5	3	50		TY5	5	100
TY6	1	100		TY6	5	100
TY25	2	100		TY25	5	100
TY50	3	100		TY50	5	100

<u>Variable V₄₋Percent of open water area <=1.5 feet deep in relation to marsh surface</u>

Existing Conditions – On September 13, 2017, a site visit was conducted by the Corps, NMFS, and USFWS personnel. Water depths were measured in transects and the data was corrected using the nearby CRMS 0163 gage data. The number of data points \leq 1.5ft were divided by the total number of data points to calculate the percentage of shallow open water.

FWOP– TY0 is based on collected data and assumed to remain the same through TY6. According to the standard Civil Works assumptions applied for marsh creation, 1/3 of the SOW would become non-shallow at TY50. We assumed a linear relationship between TY6 and TY50 to calculate the TY25 value.

Spanish Pass Marsh		Spa	Spanish Pass Ridge		
	Water ≤ 1.5 ft (%)		Water ≤ 1.5 ft (%)		
TY0	31.82	TY0	31.82		

TY1	31.82	TY1	31.82
TY3	31.82	TY3	31.82
TY5	31.82	TY5	31.82
TY6	31.82	TY6	31.82
TY25	27.24	TY25	27.24
TY50	21.21	TY50	21.21

FWP– For the areas created by placement of dredged material, the project land platform would be built to a subaerial elevation with dredged material. 100% of marsh that is lost is assumed to become shallow open water (<= 1.5 feet deep) from TY1-TY6. According to the standard Civil Works assumptions applied for marsh creation, 1/6 of the SOW would become non-shallow at TY50. We assumed a linear relationship between TY6 and TY50 to calculate the TY25 value. For Spanish Pass Ridge, we assume it is supratidal from TY1-TY50.

Spar	Spanish Pass Marsh		Spanish Pass Ridge		
Water ≤ 1.5 ft (%)			Water \leq 1.5ft (%)		
TY0	31.82	TY0	31.82		
TY1	100	TY1	0		
TY3	100	TY3	0		
TY5	100	TY5	0		
TY6	100	TY6	0		
TY25	92.8	TY25	0		
TY50	83.33	TY50	0		

Variable V5 - Salinity

Existing conditions– The Tiger Pass BUDMAT project area is located near the Gulf of Mexico, but receives continuous freshwater input from the Mississippi River. An estimate for area salinity was calculated from data recorded at CRMS0163 which is in the vicinity of the project area. The mean annual growing season salinity recorded at CRMS0163 was 1.48 ppt.

FWOP and FWP- Existing conditions are expected to persist.

Both Areas			
	Salinity (ppt)		
TY0-TY50	1.48		

Variable V6 – Aquatic organism access

Existing conditions – The project area is not currently impounded or hydrologically controlled by any structures.

FWOP – Existing conditions are expected to persist.

Spanish Pass Marsh		Spanish Pass R	idge
TY0-TY50	1	TY0-TY50	1

FWP – Based on standard civil works assumptions, the marsh creation area receives an access value of 1.0 at TY5 due to settling of the marsh platform, formation of tidal channels, and gapping of the containment dikes. For Spanish Pass Ridge, we assume zero aquatic access after construction because it is supratidal.

Spanish Pass Marsh			
TY0	1		
TY1	0		
TY3	0		
TY5	1		
TY6	1		
TY25	1		
TY50	1		

Spanish Pass Ridge		
TY0	1.00	
TY1	0	
TY3	0	
TY5	0	
TY6	0	
TY25	0	
TY50	0	

Coastal Chenier/Ridge

We used 29.69 acres of ridge for the calculations at TY1 and TY3. We used the land loss (MIM) spreadsheet to calculate the acres of ridge remaining at TY20 (25.53 acres) and TY50 (16.33 acres).

FWOP - Existing conditions are expected to persist.

FWP

Variable V₁₋Tree Canopy Cover (%)

Assumptions:

• The assumptions evaluated in other restoration efforts and observed field studies are identified in the Tables below. These assumptions were also considered in determining the values at each of the target years for all three variables. For year 20, we assumed that willows would have colonized the site and there would be 60% canopy closure. This was comparable to the average canopy closure of the studies in the table. We assumed this percent canopy closure would persist throughout the period of analysis.

Previous V1 values for Percent Canopy Tree Cover FWP taken from other WV	VAs and literature.
--	---------------------

	MRGO (USACE 2010)	B. Dupont Phase 0 (NMFS 2008a)	Grand Liard Phase 0 (NMFS 2008b)	Monte Dissertation (Monte 1978)
TY 1	0	0	0	0
TY3	0	0	0	0
TY20	40 (TY25)	80	80	30

FWP

TY00%TY10%TY2060%TY5060%

Variable V2_Shrub/Midstory Cover (%)

Assumptions:

• For TY1-TY20, we used averages from the table below. We assumed the TY20 percent shrub/midstory cover would persist throughout the period of analysis.

	MRGO (USACE 2010)	B. Dupont Phase 0 (NMFS 2008a)	Grand Liard (NMFS 2008b)	Monte Dissertation (Monte 1978)
TY1	0	0	0	20
TY3	20	3	0	30
TY20	65 (TY25)	60	60	50

Previous V2 values for Shrub/Midstory Cover (%) FWP taken from other WVAs and literature.

<u>FWP</u>

TY00%TY15%TY313%TY2059%TY5059%

Variable V_{3 –} Species Diversity (#)

Assumptions:

• We used Monte's dissertation because it documented natural recruitment in areas that had not been planted.

Assumptions for V3 (Species Diversity) FWP taken from other WVAs and literature.

	MRGO (USACE 2010)	B. Dupont Phase 0 (NMFS 2007)	Grand Liard NMFS (2008)	Monte Dissertation (Monte 1978)
TY 1	0	0	0	4
TY3	6	6	10	8
TY20	13 (ty25)	13	13	9

FWP

TYO 0

TY1 4

TY3 8

TY20 9 TY50 9

Summary of benefits in AAHUs for Spanish Pass Marsh and Ridge

TOTAL BENEFITS IN AAHUS DUE TO PROJECT

A. Emergent Marsh Habitat Net AAHUs (39.24 – 1.16) =	38.08
B. Ridge Habitat Net AAHUs =	18.54
Net Benefits =	56.62

Annex E: Agency Coordination

• Tribal Consultation – Letter submitted to tribes on November 3, 2017 with a determination of "No Historic Properties Affected"; The Choctaw Nation of Oklahoma concurred via email on December 5, 2017. As of February 16, 2018, no other responses have been received from the tribes.



DEPARTMENT OF THE ARMY CORPS OF ENGINEERS, NEW ORLEANS DISTRICT 7400 LEAKE AVENUE NEW ORLEANS, LOUISIANA 70118

NOV 0 3 2017

Regional Planning and Environment Division, South Environmental Planning Branch

Leonard M. Harjo, Principal Chief Seminole Nation of Oklahoma P.O. Box 1498 Wewoka, OK 74884

Subject: Louisiana Coastal Authority Beneficial Use of Dredged Material Tiger Pass 2 Project, Plaquemines Parish, Louisiana.

Dear Principal Chief Harjo:

The U.S. Army Corps of Engineers, New Orleans District (CEMVN) proposes to use dredge material from the Baptiste Collette Canal to create and restore marsh in the proximity of Tiger Pass and Spanish Pass. The Area of Potential Effect (APE) for this undertaking includes the Tiger Pass disposal area and the routinely maintained Baptiste Collette Canal. The Tiger Pass 2 project is located southwest of Venice, Latitude 29.263406°, Longitude -89.401822°, Plaquemines Parish, Louisiana.

In partial fulfillment of responsibilities under Executive Order 13175, the National Environmental Policy Act, and Section 106 of the National Historic Preservation Act, the CEMVN offers you the opportunity to review and comment on the potential of the proposed action described in this letter to significantly affect protected tribal resources, tribal rights, or Indian lands.

Description of the Undertaking

Baptiste Collette Canal is proposed to be dredged as part of its routine maintenance. The dredged materials would be placed adjacent to the previously approved Tiger Pass 1 Project (Enclosure 1) to create an additional 5,000' of ridge and marsh platform. The only difference between the initial Tiger Pass 1 project and this expansion, proposed under LCA BUDMAT – Tiger Pass 2, would be the source of borrow to be utilized for construction of phase 2 of the ridge and marsh platform. The USACE made a determination of No historic properties affected for the original Tiger Pass 1 project. The SHPO's office concurred with the USACE's determination on May 20, 2015 (Enclosure 2).

Area of Potential Effects (APE)

This area is a part of the Balize Delta formation, and at between approximately 1000 – 500 years old is relatively recent in geologic terms. The Baptiste Collette Canal has been previously surveyed for cultural resources (Nowak et al. 2010; 22-5290), and has seen disturbance by regular maintenance and dredging for years.

Identification and Evaluation

Background research and literature review was conducted by CEMVN staff in September and October of 2017. Historic Properties within the APE were identified based on a review of the National Register of Historic Places (NRHP) database, the Louisiana Cultural Resources Map, historic map research, and a review of cultural resources survey reports and cultural resources discussions found in previous Environmental Assessment documents. The information regarding historic properties identified within the APE was evaluated by CEMVN staff using the National Register (NR) Criteria for evaluation as defined at 36 CFR § 60.4.

The literature review revealed that there have been five cultural resource surveys that resulted in the identification of one archaeological sites and no standing structures, listed or eligible for the NRHP within 0.5 miles of the borrow area. The proposed marsh creation areas for this project have not been directly surveyed for cultural resources, but are considered very low potential areas to contain undiscovered cultural resources, because of the recent nature of the land as well as the erosion and subsidence that has been affecting it. The USACE previously concluded that no cultural resources survey is necessary for this proposed project marsh creation area with SHPO's concurrence. The five reports on file with the SHPO are 22-0073, 22-2358, 22-560, 22-5290, and 22-2680. The recorded archaeological site (16PL79) is a historic camp site from either the late 19th or early 20th century based on material recovered from the site. The site was first identified in the 1979 survey 22-560 and has not been evaluated for the NRHP eligibility. Site 16PL79 is located outside of the borrow sites APE.

Based on the information presented in this letter, CEMVN has determined that there are no historic properties as defined in 36 CFR 800.16(I) within the APE. Therefore, CEMVN has determined a finding of <u>No Historic Properties Affected</u> for this undertaking and is submitting it to you for your review and comment. CEMVN requests your comments within 30 days

We look forward to your concurrence with this determination. Should you have any questions or need additional information regarding this undertaking, please contact Noah Fulmer at 504-862-1983, or by email at <u>noah.j.fulmer@usace.army.mil</u>, or Trent Stockton, Archeologist and Tribal Liaison; U.S. Army Corps of Engineers, New Orleans District at (504) 862-2550; <u>trent.c.stockton@usace.army.mil</u>.

An electronic copy of this letter with enclosures will be provided to Ms. Natalie Harjo, Tribal Historic Preservation Officer, Seminole Nation of Oklahoma, <u>harjo.n@sno-nsn.gov</u> and Mr. Mickey Douglas, Environmental Protection Office, Seminole Nation of Oklahoma, <u>douglas.m@sno-nsn.gov</u>.

Sincerely,

Marshell K. Hanen

Marshall K. Harper Chief, Environmental Planning Branch

Enclosure(s)



DEPARTMENT OF THE ARMY CORPS OF ENGINEERS, NEW ORLEANS DISTRICT 7400 LEAKE AVENUE NEW ORLEANS, LOUISIANA 70118

NOV 0 3 2017

Regional Planning and Environment Division, South Environmental Planning Branch

O'Neil J. Darden, Jr., Chairman Chitimacha Tribe of Louisiana P.O. Box 661 Charenton, LA 70523

Subject: Louisiana Coastal Authority Beneficial Use of Dredged Material Tiger Pass 2 Project, Plaquemines Parish, Louisiana.

Dear Chairman Darden:

The U.S. Army Corps of Engineers, New Orleans District (CEMVN) proposes to use dredge material from the Baptiste Collette Canal to create and restore marsh in the proximity of Tiger Pass and Spanish Pass. The Area of Potential Effect (APE) for this undertaking includes the Tiger Pass disposal area and the routinely maintained Baptiste Collette Canal. The Tiger Pass 2 project is located southwest of Venice, Latitude 29.263406°, Longitude -89.401822°, Plaquemines Parish, Louisiana.

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We look forward to your concurrence with this determination. Should you have any questions or need additional information regarding this undertaking, please contact Noah Fulmer at 504-862-1983, or by email at <u>noah.j.fulmer@usace.army.mil</u>, or Trent Stockton, Archeologist and Tribal Liaison; U.S. Army Corps of Engineers, New Orleans District at (504) 862-2550; <u>trent.c.stockton@usace.army.mil</u>.

An electronic copy of this letter with enclosures will be provided to Mrs. Kimberly Walden, M. Ed., Cultural Director/Tribal Historic Preservation Officer, Chitimacha Tribe of Louisiana, kswalden@chitimacha.gov.

Sincerely,

Marshall K. Hopen

Marshall K. Harper Chief, Environmental Planning Branch

Enclosure(s)



DEPARTMENT OF THE ARMY CORPS OF ENGINEERS, NEW ORLEANS DISTRICT 7400 LEAKE AVENUE NEW ORLEANS, LOUISIANA 70118

NOV 0 3 2017

REPLY TO ATTENTION OF

Regional Planning and Environment Division, South Environmental Planning Branch

B. Cheryl Smith, Principal Chief Jena Band of Choctaw Indians P.O. Box 14 Jena, LA 71342

Subject: Louisiana Coastal Authority Beneficial Use of Dredged Material Tiger Pass 2 Project, Plaquemines Parish, Louisiana.

Dear Principal Chief Smith:

The U.S. Army Corps of Engineers, New Orleans District (CEMVN) proposes to use dredge material from the Baptiste Collette Canal to create and restore marsh in the proximity of Tiger Pass and Spanish Pass. The Area of Potential Effect (APE) for this undertaking includes the Tiger Pass disposal area and the routinely maintained Baptiste Collette Canal. The Tiger Pass 2 project is located southwest of Venice, Latitude 29.263406°, Longitude -89.401822°, Plaquemines Parish, Louisiana.

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An electronic copy of this letter with enclosures will be provided to Mrs. Alina Shively, Tribal Historic Preservation Officer, Jena Band of Choctaw Indians, <u>ashively@jenachoctaw.org</u>.

Sincerely,

Mashall K. Hone

Marshall K. Harper Chief, Environmental Planning Branch

Enclosure(s)



DEPARTMENT OF THE ARMY CORPS OF ENGINEERS, NEW ORLEANS DISTRICT 7400 LEAKE AVENUE NEW ORLEANS, LOUISIANA 70118 NOV 03 2017

Regional Planning and Environment Division, South Environmental Planning Branch

Tamara Francis-Fourkiller, Chairman/THPO Caddo Nation of Oklahoma 117 Memorial Lane P.O. Box 487 Binger, OK 73009

Subject: Louisiana Coastal Authority Beneficial Use of Dredged Material Tiger Pass 2 Project, Plaquemines Parish, Louisiana.

Dear Chairman Francis-Fourkiller:

The U.S. Army Corps of Engineers, New Orleans District (CEMVN) proposes to use dredge material from the Baptiste Collette Canal to create and restore marsh in the proximity of Tiger Pass and Spanish Pass. The Area of Potential Effect (APE) for this undertaking includes the Tiger Pass disposal area and the routinely maintained Baptiste Collette Canal. The Tiger Pass 2 project is located southwest of Venice, Latitude 29.263406°, Longitude -89.401822°, Plaquemines Parish, Louisiana.

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We look forward to your concurrence with this determination. Should you have any questions or need additional information regarding this undertaking, please contact Noah Fulmer at 504-862-1983, or by email at <u>noah.j.fulmer@usace.army.mil</u>, or Trent Stockton, Archeologist and Tribal Liaison; U.S. Army Corps of Engineers, New Orleans District at (504) 862-2550; <u>trent.c.stockton@usace.army.mil</u>.

An electronic copy of this letter with enclosures will be provided to Chairman Francis-Fourkiller, Chairman/Tribal Historic Preservation Officer, Caddo Nation of Oklahoma, tffourkiller.cn@gmail.com.

Sincerely,

Marshall K. Harper Chief, Environmental Planning Branch

Enclosure(s)



DEPARTMENT OF THE ARMY CORPS OF ENGINEERS, NEW ORLEANS DISTRICT 7400 LEAKE AVENUE NEW ORLEANS, LOUISIANA 70118

NOV 0 3 2017

REPLY TO ATTENTION OF

Regional Planning and Environment Division, South Environmental Planning Branch

James Floyd, Principal Chief Attn: Historic and Cultural Preservation Office Muscogee (Creek) Nation P.O. Box 580 Okmulgee, OK 74447

Subject: Louisiana Coastal Authority Beneficial Use of Dredged Material Tiger Pass 2 Project, Plaquemines Parish, Louisiana.

Dear Chairman Barbry:

The U.S. Army Corps of Engineers, New Orleans District (CEMVN) proposes to use dredge material from the Baptiste Collette Canal to create and restore marsh in the proximity of Tiger Pass and Spanish Pass. The Area of Potential Effect (APE) for this undertaking includes the Tiger Pass disposal area and the routinely maintained Baptiste Collette Canal. The Tiger Pass 2 project is located southwest of Venice, Latitude 29.263406°, Longitude -89.401822°, Plaquemines Parish, Louisiana.

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An electronic copy of this letter with enclosures will be provided to Ms. RaeLynn Butler, Tribal Historic Preservation Officer, raebutler@mcn-nsn.gov, and Ms. Odette Freeman, ofreeman@mcn-nsn.gov.

Sincerely,

Maskall K. Have

Marshall K. Harper Chief, Environmental Planning Branch

Enclosure(s)


DEPARTMENT OF THE ARMY CORPS OF ENGINEERS, NEW ORLEANS DISTRICT 7400 LEAKE AVENUE NEW ORLEANS, LOUISIANA 70118 NOV 03 2017

REPLY TO ATTENTION OF

Regional Planning and Environment Division, South Environmental Planning Branch

Mikko Colabe III Clem Sylestine, Principal Chief Alabama-Coushatta Tribe of Texas 571 State Park Rd 56 Livingston, TX 77351

Subject: Louisiana Coastal Authority Beneficial Use of Dredged Material Tiger Pass 2 Project, Plaquemines Parish, Louisiana.

Dear Principal Chief Sylestine:

The U.S. Army Corps of Engineers, New Orleans District (CEMVN) proposes to use dredge material from the Baptiste Collette Canal to create and restore marsh in the proximity of Tiger Pass and Spanish Pass. The Area of Potential Effect (APE) for this undertaking includes the Tiger Pass disposal area and the routinely maintained Baptiste Collette Canal. The Tiger Pass 2 project is located southwest of Venice, Latitude 29.263406°, Longitude -89.401822°, Plaquemines Parish, Louisiana.

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An electronic copy of this letter with enclosures will be provided to Mr. Bryant J. Celestine, Historic Preservation Officer, Alabama Coushatta Tribe of Texas, <u>celestine.bryant@actribe.org</u>.

Sincerely,

Marshall K. Haven

Marshall K. Harper Chief, Environmental Planning Branch

Enclosure(s)



DEPARTMENT OF THE ARMY CORPS OF ENGINEERS, NEW ORLEANS DISTRICT 7400 LEAKE AVENUE NEW ORLEANS, LOUISIANA 70118

NOV 0 3 2017

REPLY TO ATTENTION OF

Regional Planning and Environment Division, South Environmental Planning Branch

James Billie, Chairman Seminole Tribe of Florida 6300 Stirling Road Hollywood, FL 33024

Subject: Louisiana Coastal Authority Beneficial Use of Dredged Material Tiger Pass 2 Project, Plaquemines Parish, Louisiana.

Dear Chairman Billie:

The U.S. Army Corps of Engineers, New Orleans District (CEMVN) proposes to use dredge material from the Baptiste Collette Canal to create and restore marsh in the proximity of Tiger Pass and Spanish Pass. The Area of Potential Effect (APE) for this undertaking includes the Tiger Pass disposal area and the routinely maintained Baptiste Collette Canal. The Tiger Pass 2 project is located southwest of Venice, Latitude 29.263406°, Longitude -89.401822°, Plaquemines Parish, Louisiana.

In partial fulfillment of responsibilities under Executive Order 13175, the National Environmental Policy Act, and Section 106 of the National Historic Preservation Act, the CEMVN offers you the opportunity to review and comment on the potential of the proposed action described in this letter to significantly affect protected tribal resources, tribal rights, or Indian lands.

Description of the Undertaking

Baptiste Collette Canal is proposed to be dredged as part of its routine maintenance. The dredged materials would be placed adjacent to the previously approved Tiger Pass 1 Project (Enclosure 1) to create an additional 5,000' of ridge and marsh platform. The only difference between the initial Tiger Pass 1 project and this expansion, proposed under LCA BUDMAT – Tiger Pass 2, would be the source of borrow to be utilized for construction of phase 2 of the ridge and marsh platform. The USACE made a determination of No historic properties affected for the original Tiger Pass 1 project. The SHPO's office concurred with the USACE's determination on May 20, 2015 (Enclosure 2).

Area of Potential Effects (APE)

This area is a part of the Balize Delta formation, and at between approximately 1000 – 500 years old is relatively recent in geologic terms. The Baptiste Collette Canal has been previously surveyed for cultural resources (Nowak et al. 2010; 22-5290), and has seen disturbance by regular maintenance and dredging for years.

Identification and Evaluation

Background research and literature review was conducted by CEMVN staff in September and October of 2017. Historic Properties within the APE were identified based on a review of the National Register of Historic Places (NRHP) database, the Louisiana Cultural Resources Map, historic map research, and a review of cultural resources survey reports and cultural resources discussions found in previous Environmental Assessment documents. The information regarding historic properties identified within the APE was evaluated by CEMVN staff using the National Register (NR) Criteria for evaluation as defined at 36 CFR § 60.4.

The literature review revealed that there have been five cultural resource surveys that resulted in the identification of one archaeological sites and no standing structures, listed or eligible for the NRHP within 0.5 miles of the borrow area. The proposed marsh creation areas for this project have not been directly surveyed for cultural resources, but are considered very low potential areas to contain undiscovered cultural resources, because of the recent nature of the land as well as the erosion and subsidence that has been affecting it. The USACE previously concluded that no cultural resources survey is necessary for this proposed project marsh creation area with SHPO's concurrence. The five reports on file with the SHPO are 22-0073, 22-2358, 22-560, 22-5290, and 22-2680. The recorded archaeological site (16PL79) is a historic camp site from either the late 19th or early 20th century based on material recovered from the site. The site was first identified in the 1979 survey 22-560 and has not been evaluated for the NRHP eligibility. Site 16PL79 is located outside of the borrow sites APE.

Based on the information presented in this letter, CEMVN has determined that there are no historic properties as defined in 36 CFR 800.16(I) within the APE. Therefore, CEMVN has determined a finding of <u>No Historic Properties Affected</u> for this undertaking and is submitting it to you for your review and comment. CEMVN requests your comments within 30 days

We look forward to your concurrence with this determination. Should you have any questions or need additional information regarding this undertaking, please contact Noah Fulmer at 504-862-1983, or by email at <u>noah.j.fulmer@usace.army.mil</u>, or Trent Stockton, Archeologist and Tribal Liaison; U.S. Army Corps of Engineers, New Orleans District at (504) 862-2550; <u>trent.c.stockton@usace.army.mil</u>.

An electronic copy of this letter with enclosures will be provided to Dr. Paul N. Backhouse, Tribal Historic Preservation Officer, Seminole Tribe of Florida, <u>paulbackhouse@semtribe.com</u>; Ms. Anne Mullins, Deputy Tribal Historic Preservation Officer, <u>annemullins@semtribe.com</u>; Mr. Bradley Mueller, Compliance Review Supervisor, <u>bradleymueller@semtribe.com</u>; and Mr. Andrew Weidman, Compliance Review Data Analyst, <u>andrewweidman@semtribe.com</u>.

Sincerely,

Marshell K. Haven

Marshall K. Harper Chief, Environmental Planning Branch

Enclosure(s)



DEPARTMENT OF THE ARMY CORPS OF ENGINEERS, NEW ORLEANS DISTRICT 7400 LEAKE AVENUE NEW ORLEANS, LOUISIANA 70118 NOV 0 3 2017

REPLY TO ATTENTION OF

Regional Planning and Environment Division, South Environmental Planning Branch

Joey Barbry, Chairman Tunica-Biloxi Tribe of Louisiana P.O. Box 1589 Marksville, LA 71351

Subject: Louisiana Coastal Authority Beneficial Use of Dredged Material Tiger Pass 2 Project, Plaquemines Parish, Louisiana.

Dear Chairman Barbry:

The U.S. Army Corps of Engineers, New Orleans District (CEMVN) proposes to use dredge material from the Baptiste Collette Canal to create and restore marsh in the proximity of Tiger Pass and Spanish Pass. The Area of Potential Effect (APE) for this undertaking includes the Tiger Pass disposal area and the routinely maintained Baptiste Collette Canal. The Tiger Pass 2 project is located southwest of Venice, Latitude 29.263406°, Longitude -89.401822°, Plaquemines Parish, Louisiana.

In partial fulfillment of responsibilities under Executive Order 13175, the National Environmental Policy Act, and Section 106 of the National Historic Preservation Act, the CEMVN offers you the opportunity to review and comment on the potential of the proposed action described in this letter to significantly affect protected tribal resources, tribal rights, or Indian lands.

Description of the Undertaking

Baptiste Collette Canal is proposed to be dredged as part of its routine maintenance. The dredged materials would be placed adjacent to the previously approved Tiger Pass 1 Project (Enclosure 1) to create an additional 5,000' of ridge and marsh platform. The only difference between the initial Tiger Pass 1 project and this expansion, proposed under LCA BUDMAT – Tiger Pass 2, would be the source of borrow to be utilized for construction of phase 2 of the ridge and marsh platform. The USACE made a determination of No historic properties affected for the original Tiger Pass 1 project. The SHPO's office concurred with the USACE's determination on May 20, 2015 (Enclosure 2).

Area of Potential Effects (APE)

This area is a part of the Balize Delta formation, and at between approximately 1000 – 500 years old is relatively recent in geologic terms. The Baptiste Collette Canal has been previously surveyed for cultural resources (Nowak et al. 2010; 22-5290), and has seen disturbance by regular maintenance and dredging for years.

Identification and Evaluation

Background research and literature review was conducted by CEMVN staff in September and October of 2017. Historic Properties within the APE were identified based on a review of the National Register of Historic Places (NRHP) database, the Louisiana Cultural Resources Map, historic map research, and a review of cultural resources survey reports and cultural resources discussions found in previous Environmental Assessment documents. The information regarding historic properties identified within the APE was evaluated by CEMVN staff using the National Register (NR) Criteria for evaluation as defined at 36 CFR § 60.4.

The literature review revealed that there have been five cultural resource surveys that resulted in the identification of one archaeological sites and no standing structures, listed or eligible for the NRHP within 0.5 miles of the borrow area. The proposed marsh creation areas for this project have not been directly surveyed for cultural resources, but are considered very low potential areas to contain undiscovered cultural resources, because of the recent nature of the land as well as the erosion and subsidence that has been affecting it. The USACE previously concluded that no cultural resources survey is necessary for this proposed project marsh creation area with SHPO's concurrence. The five reports on file with the SHPO are 22-0073, 22-2358, 22-560, 22-5290, and 22-2680. The recorded archaeological site (16PL79) is a historic camp site from either the late 19th or early 20th century based on material recovered from the site. The site was first identified in the 1979 survey 22-560 and has not been evaluated for the NRHP eligibility. Site 16PL79 is located outside of the borrow sites APE.

Based on the information presented in this letter, CEMVN has determined that there are no historic properties as defined in 36 CFR 800.16(I) within the APE. Therefore, CEMVN has determined a finding of <u>No Historic Properties Affected</u> for this undertaking and is submitting it to you for your review and comment. CEMVN requests your comments within 30 days

We look forward to your concurrence with this determination. Should you have any questions or need additional information regarding this undertaking, please contact Noah Fulmer at 504-862-1983, or by email at <u>noah.j.fulmer@usace.army.mil</u>, or Trent Stockton, Archeologist and Tribal Liaison; U.S. Army Corps of Engineers, New Orleans District at (504) 862-2550; <u>trent.c.stockton@usace.army.mil</u>.

An electronic copy of this letter with enclosures will be provided to Mr. Earl J. Barbry, Jr., Cultural Director, Tunica-Biloxi Tribe of Louisiana, <u>earlii@tunica.org</u>.

Sincerely,

Mauld K. Hopen

Marshall K. Harper Chief, Environmental Planning Branch

Enclosure(s)



DEPARTMENT OF THE ARMY CORPS OF ENGINEERS, NEW ORLEANS DISTRICT 7400 LEAKE AVENUE NEW ORLEANS, LOUISIANA 70118

NOV 0 3 2017

REPLY TO ATTENTION OF

Regional Planning and Environment Division, South Environmental Planning Branch

Phyliss J. Anderson, Chief Mississippi Band of Choctaw Indians P.O. Box 6257 Choctaw, MS 39350

Subject: Louisiana Coastal Authority Beneficial Use of Dredged Material Tiger Pass 2 Project, Plaquemines Parish, Louisiana.

Dear Chief Anderson:

The U.S. Army Corps of Engineers, New Orleans District (CEMVN) proposes to use dredge material from the Baptiste Collette Canal to create and restore marsh in the proximity of Tiger Pass and Spanish Pass. The Area of Potential Effect (APE) for this undertaking includes the Tiger Pass disposal area and the routinely maintained Baptiste Collette Canal. The Tiger Pass 2 project is located southwest of Venice, Latitude 29.263406°, Longitude -89.401822°, Plaquemines Parish, Louisiana.

In partial fulfillment of responsibilities under Executive Order 13175, the National Environmental Policy Act, and Section 106 of the National Historic Preservation Act, the CEMVN offers you the opportunity to review and comment on the potential of the proposed action described in this letter to significantly affect protected tribal resources, tribal rights, or Indian lands.

Description of the Undertaking

Baptiste Collette Canal is proposed to be dredged as part of its routine maintenance. The dredged materials would be placed adjacent to the previously approved Tiger Pass 1 Project (Enclosure 1) to create an additional 5,000' of ridge and marsh platform. The only difference between the initial Tiger Pass 1 project and this expansion, proposed under LCA BUDMAT – Tiger Pass 2, would be the source of borrow to be utilized for construction of phase 2 of the ridge and marsh platform. The USACE made a determination of No historic properties affected for the original Tiger Pass 1 project. The SHPO's office concurred with the USACE's determination on May 20, 2015 (Enclosure 2).

Area of Potential Effects (APE)

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Identification and Evaluation

Background research and literature review was conducted by CEMVN staff in September and October of 2017. Historic Properties within the APE were identified based on a review of the National Register of Historic Places (NRHP) database, the Louisiana Cultural Resources Map, historic map research, and a review of cultural resources survey reports and cultural resources discussions found in previous Environmental Assessment documents. The information regarding historic properties identified within the APE was evaluated by CEMVN staff using the National Register (NR) Criteria for evaluation as defined at 36 CFR § 60.4.

The literature review revealed that there have been five cultural resource surveys that resulted in the identification of one archaeological sites and no standing structures, listed or eligible for the NRHP within 0.5 miles of the borrow area. The proposed marsh creation areas for this project have not been directly surveyed for cultural resources, but are considered very low potential areas to contain undiscovered cultural resources, because of the recent nature of the land as well as the erosion and subsidence that has been affecting it. The USACE previously concluded that no cultural resources survey is necessary for this proposed project marsh creation area with SHPO's concurrence. The five reports on file with the SHPO are 22-0073, 22-2358, 22-560, 22-5290, and 22-2680. The recorded archaeological site (16PL79) is a historic camp site from either the late 19th or early 20th century based on material recovered from the site. The site was first identified in the 1979 survey 22-560 and has not been evaluated for the NRHP eligibility. Site 16PL79 is located outside of the borrow sites APE.

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We look forward to your concurrence with this determination. Should you have any questions or need additional information regarding this undertaking, please contact Noah Fulmer at 504-862-1983, or by email at <u>noah.j.fulmer@usace.army.mil</u>, or Trent Stockton, Archeologist and Tribal Liaison; U.S. Army Corps of Engineers, New Orleans District at (504) 862-2550; <u>trent.c.stockton@usace.army.mil</u>.

An electronic copy of this letter with enclosures will be provided to Mr. Kenneth H. Carleton, Tribal Historic Preservation Officer/Archaeologist, Mississippi Band of Choctaw Indians, kcarleton@choctaw.org.

Sincerely,

Marshall K. Hone

Marshall K. Harper Chief, Environmental Planning Branch

Enclosure(s)



DEPARTMENT OF THE ARMY CORPS OF ENGINEERS, NEW ORLEANS DISTRICT 7400 LEAKE AVENUE NEW ORLEANS, LOUISIANA 70118 NOV 03 2017

Regional Planning and Environment Division, Sou

Environment Division, South Environmental Planning Branch

Lovelin Poncho, Chief Coushatta Tribe of Louisiana P.O. Box 818 Elton, LA 70532

Subject: Louisiana Coastal Authority Beneficial Use of Dredged Material Tiger Pass 2 Project, Plaquemines Parish, Louisiana.

Dear Chief Poncho:

The U.S. Army Corps of Engineers, New Orleans District (CEMVN) proposes to use dredge material from the Baptiste Collette Canal to create and restore marsh in the proximity of Tiger Pass and Spanish Pass. The Area of Potential Effect (APE) for this undertaking includes the Tiger Pass disposal area and the routinely maintained Baptiste Collette Canal. The Tiger Pass 2 project is located southwest of Venice, Latitude 29.263406°, Longitude -89.401822°, Plaquemines Parish, Louisiana.

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An electronic copy of this letter with enclosures will be provided to Dr. Linda Langley, Tribal Historic Preservation Officer, Coushatta Tribe of Louisiana, <u>llangley@mcneese.edu</u>, and Mr. Michael Tarpley, Deputy Tribal Historic Preservation Officer, Coushatta Tribe of Louisiana, <u>kokua.aina57@gmail.com</u>.

Sincerely,

Marshall K. Honer

Marshall K. Harper Chief, Environmental Planning Branch

Enclosure(s)



DEPARTMENT OF THE ARMY CORPS OF ENGINEERS, NEW ORLEANS DISTRICT 7400 LEAKE AVENUE NEW ORLEANS, LOUISIANA 70118

NOV 0 3 2017

REPLY TO ATTENTION OF

Regional Planning and Environment Division, South Environmental Planning Branch

Gary Batton, Chief Attn: Choctaw Nation Historic Preservation Department Choctaw Nation of Oklahoma P.O. Box 1210 Durant, OK 74702-1210

Subject: Louisiana Coastal Authority Beneficial Use of Dredged Material Tiger Pass 2 Project, Plaquemines Parish, Louisiana.

Dear Chief Batton:

The U.S. Army Corps of Engineers, New Orleans District (CEMVN) proposes to use dredge material from the Baptiste Collette Canal to create and restore marsh in the proximity of Tiger Pass and Spanish Pass. The Area of Potential Effect (APE) for this undertaking includes the Tiger Pass disposal area and the routinely maintained Baptiste Collette Canal. The Tiger Pass 2 project is located southwest of Venice, Latitude 29.263406°, Longitude -89.401822°, Plaquemines Parish, Louisiana.

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We look forward to your concurrence with this determination. Should you have any questions or need additional information regarding this undertaking, please contact Noah Fulmer at 504-862-1983, or by email at <u>noah.j.fulmer@usace.army.mil</u>, or Trent Stockton, Archeologist and Tribal Liaison; U.S. Army Corps of Engineers, New Orleans District at (504) 862-2550; <u>trent.c.stockton@usace.army.mil</u>.

An electronic copy of this letter with enclosures will be provided to Dr. Ian Thompson, Director/Tribal Historic Preservation Officer, Choctaw Nation of Oklahoma, ithompson@choctawnation.com and Ms. Lindsey Bilyeu, NHPA Section 106 Reviewer, Choctaw Nation of Oklahoma, Ibilyeu@choctawnation.com.

Sincerely,

Maskell K. Hopen

Marshall K. Harper Chief, Environmental Planning Branch

Enclosure(s)

Mr. Fulmer,

The Choctaw Nation of Oklahoma thanks the USACE, New Orleans District, for the correspondence regarding the above referenced project. Plaquemines Parish lies in our area of historic interest. The Choctaw Nation is unaware of any Choctaw cultural or sacred sites located in the immediate project area. The Choctaw Nation Historic Preservation Department concurs with the finding of "no historic properties affected". However, we ask that work be stopped and our office contacted immediately in the event that Native American artifacts or human remains are encountered.

If you have any questions, please contact me.

Thank you,

Lindsey D. Bilyeu, MS Senior Compliance Review Officer Historic Preservation Department Choctaw Nation of Oklahoma P.O. Box 1210 Durant, OK 74702 580-924-8280 ext. 2631

-----Original Message-----From: Fulmer, Noah J CIV USARMY CEMVN (US) [mailto:Noah.J.Fulmer@usace.army.mil] Sent: Monday, November 06, 2017 12:02 PM To: Ian Thompson <ithompson@choctawnation.com>; Lindsey Bilyeu <lbilyeu@choctawnation.com> Subject: Tigerpass 2 Project

Halito!

WARNING: External email. Please verify sender before opening attachments or clicking on links.

Good morning,

The U.S. Army Corps of Engineers, New Orleans District (CEMVN) is evaluating the potential impacts associated with the placement and beneficial use of dredged material from the Baptiste Collette Canal to create and restore marsh in the proximity of Tiger Pass and Spanish Pass. The Area of Potential Effect (APE) for this undertaking includes the Tiger Pass disposal area and the routinely maintained Baptiste Collette Canal.

The proposed undertaking consists of the dredging of Baptiste Collette Canal as part of its routine maintenance. The dredged materials would be placed adjacent to the previously approved Tiger Pass 1 Project to create an additional 5,000' of ridge and marsh platform.

CEMVN coordinated a "no historic properties affected" finding with the Louisiana State Historic Preservation Office (SHPO) in a letter dated November 3, 2017. No additional cultural resources investigations are recommended for the proposed undertaking, and we request that your office provide your opinion on the Section 106 finding of "no historic properties affected." We look forward to receiving your comments within 30 days. Thank you, Noah Fulmer

Noah J. Fulmer Archaeologist U.S. Army Corps of Engineers, New Orleans District 504-862-1983

This message is intended only for the use of the individual or entity to which it is addressed and may contain information that is privileged, confidential and exempt from disclosure. If you have received this message in error, you are hereby notified that we do not consent to any reading, dissemination, distribution or copying of this message. If you have received this communication in error, please notify the sender immediately and destroy the transmitted information. Please note that any view or opinions presented in this email are solely those of the author and do not necessarily represent those of the Choctaw Nation.

• State Historic Preservation Office Response – Letter submitted to SHPO on November 3, 2017 with a determination of "No Historic Properties Affected"; SHPO concurred on November 30, 2017.



DEPARTMENT OF THE ARMY CORPS OF ENGINEERS, NEW ORLEANS DISTRICT 7400 LEAKE AVENUE NEW ORLEANS, LOUISIANA 70118

NOV 0 3 2017

Regional Planning and Environment Division, South Environmental Planning Branch

Ms. Kristin P. Saunders State Historic Preservation Officer P.O. Box 44247 Baton Rouge, Louisiana 70804

Subject: Louisiana Coastal Authority Beneficial Use of Dredged Material Tiger Pass 2 Project, Plaquemines Parish, Louisiana.

Dear Ms. Saunders:

The U.S. Army Corps of Engineers, New Orleans District (CEMVN) proposes to use dredge material from the Baptiste Collette Canal to create and restore marsh in the proximity of Tiger Pass and Spanish Pass. The Area of Potential Effect (APE) for this undertaking includes the Tiger Pass disposal area and the routinely maintained Baptiste Collette Canal. The Tiger Pass 2 project is located southwest of Venice, Latitude 29.263406°, Longitude - 89.401822°, Plaquemines Parish, Louisiana.

In partial fulfillment of responsibilities under the National Environmental Policy Act and Section 106 of the National Historic Preservation Act, the U.S. Army Corps of Engineers, New Orleans District (CEMVN), offers you the opportunity to review and comment on the potential of the proposed action described in this letter to affect historic properties.

Description of the Undertaking

Baptiste Collette Canal is proposed to be dredged as part of routine maintenance of the canal. The dredged materials would be placed adjacent to the previously approved Tiger Pass 1 Project (Enclosure 1) to create an additional 5,000 feet of ridge and marsh platform. The only difference between the initial Tiger Pass 1 project and this expansion, proposed under LCA BUDMAT – Tiger Pass 2, would be the source of borrow to be utilized for construction of phase 2 of the ridge and marsh platform. The USACE made a determination of No historic properties affected for the original Tiger Pass 1 project. The SHPO's office concurred with the USACE's determination on May 20, 2015 (Enclosure 2).

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This area is a part of the Balize Delta formation, and at between approximately 1000 – 500 years old is relatively recent in geologic terms. The Baptiste Collette Canal has been previously surveyed for cultural resources (Nowak et al. 2010; 22-5290), and disturbance by regular maintenance and dredging activities has occurred over several years.

Identification and Evaluation

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Based on the information presented in this letter, CEMVN has determined that there are no historic properties as defined in 36 CFR 800.16(I) within the APE. Therefore, CEMVN has determined a finding of <u>No Historic Properties Affected</u> for this undertaking and is submitting it to you for your review and comment. CEMVN requests your comments within 30 days

We look forward to your concurrence with this determination. Should you have any questions or need additional information regarding this undertaking, please contact Noah Fulmer at 504-862-1983, or by email at <u>noah.j.fulmer@usace.army.mil</u>, with any questions or concerns you may have regarding this project.

Sincerely,

Marshell K. Hanen

MARSHALL K. HARPER Chief, Environmental Planning Branch

Enclosures

From:	Fulmer, Noah J CIV USARMY CEMVN (US)
To:	DCRT Section 106
Subject:	Tigerpass 2 project
Date:	Monday, November 06, 2017 12:41:58 PM
Attachments:	Signed SHPO Letter.pdf
	Enclosure 1 Tiger Pass.pdf
	Enclosure 2 SHPO response no affected.pdf

Good morning,

The U.S. Army Corps of Engineers, New Orleans District (CEMVN) is evaluating the potential impacts associated with the placement and beneficial use of dredged material from the Baptiste Collette Canal to create and restore marsh in the proximity of Tiger Pass and Spanish Pass. The Area of Potential Effect (APE) for this undertaking includes the Tiger Pass disposal area and the routinely maintained Baptiste Collette Canal.

The proposed undertaking consists of the dredging of Baptiste Collette Canal as part of its routine maintenance. The dredged materials would be placed adjacent to the previously approved Tiger Pass 1 Project to create an additional 5,000' of ridge and marsh platform.

No additional cultural resources investigations are recommended for the proposed undertaking, and we request that your office provide your opinion on the Section 106 finding of "no historic properties affected." We look forward to receiving your comments within 30 days.

Thank you, Noah Fulmer

Noah J. Fulmer Archaeologist U.S. Army Corps of Engineers, New Orleans District 504-862-1983

> No known historic properties will be affected by this undertaking. Therefore, our office has no objection to the implementation of this project. This effect determination could change should new information come to our attention.

Katen P. Sanders

Kristin P. Sanders Deputy State Historic Preservation Officer

Date 11/30/2017

• Department of Environmental Quality, Water Quality Certificate – State Water Quality Certification was submitted on March 2, 2018 and by e-mail from the Louisiana Department of Quality, dated April 30, 2018 concurred with modification of existing WQC 151210-02, stating that the Water Quality Certification WQC 151210-02 is valid.



REPLY TO ATTENTION OF

MAR 0 2 2018

Regional Planning and Environmental Division South New Orleans Environmental Branch

Scott Guilliams Administrator, Water Permits Division PO Box 4313 Baton Rouge, LA 70821-4313 Phone: (225) 219-9371 Fax: (225) 219-3309

Dear Mr. Guilliams:

Pursuant to Section 401 of the Clean Water Act, the U.S. Army Corps of Engineers, New Orleans District, requests water quality certification modification for Draft Integrated Design and Implementation Report and Supplemental Environmental Assessment (SEA) #542.B Louisiana Coastal Area Beneficial Use of Dredged Material Program At Tiger Pass II Plaquemines Parish, Louisiana. SEA #542.B describes the proposed extension of the initial marsh and ridge restoration project that is currently under construction.

Two water certificates were issued previously for this project: 1) WQC 151210-02/AI 84834/CER 2016001, approved October 3, 2016; and 2) NFL EIS WQC 1-01/AI 84834/CER 20150001, approved February 1, 2016.

Please review the enclosed documents. If questions arise, please contact Patrick Smith at 504-862-1583, or by email at Patrick.W.Smith@usace.army.mil.

Sincerely,

Marshell K. Hazer

Marshall K. Harper Chief, Environmental Planning Branch

Encl

APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT

(33 CFR 325)

OMB APPROVAL NO. 0710-003 Expires October 1996

Public reporting burden for this collection of information is estimated to average 5 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this hurden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters Service Directorate of Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0710-0003), Washington, DC 20503, Please DO NOT RETURN your form to either of those addresses. Completed applications must be submitted to the District Engineer having jurisdiction over the location of the proposed activity.

PRIVICY ACT STATEMENT

Inthority: 333 SC 401. Section 10: 1413. Section 404. Principal Purpose: These laws require permits authorizing activities in: or affecting, navigable waters of the United States: the discharge of dredged of fill material intowaters of the United States, and the transportation of dredged material for the purpose of dumping it into ocean waters. Routine Uses: Information provided on this form will be used in evaluating the application or a permit. Disclosure: Disclosure of requested information is voluntary. If information is not provided, however, the permit application cannot be processed nor can a permit be issued.

One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned.

(ITEMS THRU 4 TO BE FILLED BY THE CORPS)				
1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETED	
(ITEMS BELOW TO BE FILLE	D BY APPLICANT)			
5. APPLICANT'S NAME U.S. Army Corps of Engineers. New Orleans District		8. AUTHORIZED AGENT'S NAME AND TITLE (an agent is r Same as Applicant	iot required)	
6. APPLICANT'S ADDRESS Regional Planning and Unvironment Division, South (TAIVN-PDN-CFP 7400 Leake Ave: New Orleans, LA 70118-3651, ATTN: Patrick Smith		9. AGENT'S ADDRESS		
* APPLICANT'S PHONE NOS. IU. IREA CODE.		10. AGENT'S PHONE NOS AU, IREA CODE		
a. Residence		a. Residence		
b. Business (504) 862-1583		h Business		
11. STATEMENT OF AUTHORIZATION				
Manshall K. Hague 03/02/18 APPLICANT'S SIGNATURE				
NAME LOCATION AND DESCRIPTION OF PROJECT OR ACTIVITY				
12. PROJECT NAME OR TITLE (see instructions)				
Louisiana Coastal Area Beneticial Use of Dredged Material Program At Tiger Pass II Plaquemines Parish, Louisiana				
13. NAME OF WATERBODY, 1	F KNOWN (if applicable)	14. PROJECT STREET ADDRESS ((t applicable)		
Yellow Conton Bay				
15. LOCATION OF PROJECT		8		
Plaquemmes Louisa COUNTY STATE	una.			

16. OTHER LOCATION DESCRIPTIONS, IF KNOWN, (see instructions)

The Louisiana Coastal Area Beneficial Use of Dredged Material Program at Tiger Pass II Plaquemines Parish, Louisiana (Tiger Pass II) is located in the vicinity of Tiger Pass at a location adjacent to Spanish Pass approximately 12 miles above Head of Passes. Southwest Pass, and South Pass near Venice, Louisiana.

17. DIRECTIONS TO THE SHE

18. Nature of Activity (Description of protect-include all features.)

Spanish Pass Ridge and Marsh Restoration Extension

The Tiger Pass II project consists of approximately 6.800-feet of ridge and 7.800-feet of marsh platform that would be constructed immediately adjacent to and complimenting the Louisiana Beneficial Use of Dredged Material Program (BUDMAT) at Figer Pass in Plaquemines, Louisiana (Initial Tiger Pass Project) (Figure 1, below). The entire Tiger Pass II project length along the ridge face of the project is approximately 9.000-feet. However, due to active oil and gas pipelines located within the project area, there are several breaks in the ridge. This results in a non-uniform and noncontiguous construction platform; with a ridge length of approximately 6.800-feet and a marsh platform length of approximately 7.800-feet. This project would be similar in design to that developed for the initial Spanish Pass project that is currently under construction. The ridge would be constructed with a crown width of 80-feet and a 200-foot wide base. The crown elevation would measure +6.5-feet NAVD88 with TV on 2011 side slopes, down to elevation +3.5-feet NAVD88. The earthen ridge would be backed by an intermediate marsh platform measuring approximately 500-feet in width constructed to an initial fill height of +3.5-feet NAVD88. The Tiger Pass II project would entail the placement of approximately 2.000,000 cubic yards of material to be dredged from the USACE hopper dredge disposal area (HDDA), located where Pass a Loutre meets the Mississippi River Ship Channel.

Retention Dikes and Retention Dike Borrow

Earthen retention dikes will be needed in order to facilitate construction of the ridge and marsh platforms and will be allowed to settle and or erode, as well as vegetate naturally over time. If necessary, these retention dikes would be later breached or degraded to the settled elevations of the disposal area by the non-federal sponsor. The retention dikes would be constructed to a crown width of 5-feet, crown elevation of -5-feet NAVD88, and side slopes no steeper than IV on 411. The dikes to be constructed along the south side of the ridge would also include a berm (approximately 25-feet in width), to be constructed to elevation 0.0-feet NAVD88, and with slopes no steeper than IV on 411. The dikes to be constructed here the natural ground tapproximately -3.5-feet NAVD88) on a slope of the retention dike, extend at elevation 0.0-feet NAVD88, and then the into the natural ground tapproximately -3.5-feet NAVD88) on a slope no steeper than IV on 411. The above referenced berm width, side slopes and ground elevations would be verified by geotechnical investigations, testing and design, as well as surveys, to be performed for the proposed ridge and marsh platform expansion.

Borrow for construction of the retention dikes would be obtained from an adjacent borrow site and would come either from within or outside of the proposed ridge and marsh platform footprint. However, borrow excavation or placement would not be allowed within any pipeline corridors. Additionally, borrow excavation outside of the marsh creation in existing wetlands would not be allowed.

Figure 2 provides the general design details associated with the ridge and marsh platform, as well as proposed borrow locations and dimensions for retention dike construction.

Pipeline Utility Corridors

There are several pipeline utility corridors that pass through the Spanish Pass expansion that is proposed here (Figure 3). To avoid impacts to pipelines, no-work corridors will be established at each pipeline crossing location between each section of the proposed ridge expansion. With the exception of allowable placement of dreage till over the pipelines to provide a land bridge for equipment access, no work will be performed within 50-feet of any pipelines, unless they have been abandoned in place and the pipeline owner has consented to construction over their pipeline(s). The outside toes of the earthen retention dikes that are to be constructed adjacent to and parallel to the pipelines would occur outside of the no-work corridors.

Dredge Material Transport Method

A cutterhead suction dredge could be used to load hopper barges utilizing a spider barge. The arms of a spider barge are designed to optimize loading characteristics and production efficiency by loading the sediment into the hopper barges via multiple arms which allow for concurrent loading of multiple barges. This also allows for the cutterhead dredge to continue operating without having to shut down while awaiting for the arrival of offloaded barges. Once loaded, the hopper barges could be transported by tugboat to the designated pump-out location on the left descending bank of Grand Pass approximately 0.5 miles downstream of its intersection with the Mississippi River outside the navigation channel. At this point two different methods to transport the material from the pump-out location are being considered. An off-loader could be used to empty the barges, or if a shallow hopper dredge with hopper pump-out capabilities is used for transit to the pump-out station, the hopper dredge could then be pumped out at the designated offloading site. For either method, the material would be transported via a temporary submerged pipeline across Grand Pass using a pipeline corridor to a jack-and-bored cutvert under Tide Water Road. The pipeline corridor and the jack-and-bored cutvert begin considered here are both and currently in use to transport material for the initial Tiger Pass Project.

The planned pipeline route from Grand Pass to Haliburton Road is the same as used for current construction. The pipeline would exit Grand Pass approximately 800-feet upstream of the intersection of Grand and Tiger Passes. From this bankline access point the pipeline would travel to

Haliburton Road within an allowable 45-foot access corridor. The dredge discharge pipeline would then travel along the north side of Haliburton Road and be placed within the existing drainage canal paralleling the road. A small triangular staging area is proposed at the pipelines intersection with Haliburton Road to accommodate pipeline and /or equipment offloading and reloading.

The dredge pipeline would cross under Tide Water Road via a 42-inch easing that was bored under the road during the initial LCA BUDMAT Tiger Pass project. The dredge pipeline would then travel either to Spanish Pass at Spanish Pass Road, or via the open waters of Yellow Cotton Bay that has yet to be assessed. This unassessed reach of pipeline corridor is currently defined as a 500-foot wide direct route from the bored easing location to Spanish Pass, thus minimizing the original pipeline length required for construction of Tiger Pass II by approximately 2,000 linear feet. The Contractor would not be allowed to use this entire 500-foot width, but would select the most beneficial 100-foot wide alignment within the larger corridor (Figure 4). The proposed maximum extent of the pipeline corridor is approximately 57 acres; the maximum extent of the 100-foot wide construction area for the pipeline consists of less than 20 acres of nearly entirely open water. Approximately 0.7 acres of marsh adjacent to Tide Water Road would be temporarily impacted by the dredge pipeline during construction. If available, dredged material could be deposited to nourish the impacted area adjacent to Tide Water Road after construction is complete. Upon reaching Spanish Pass, the dredge pipeline and all construction equipment would remain within the banks of Spanish Pass itself. It is not expected that any utilities or pipelines would be impacted along the access route, or within the entire ridge area. Delivery of dredge material to the project area would be in a manner that would avoid impacting pipeline rights-of-way and utilities passing through the access route.

The proposed route would not require the dredge material pipeline to traverse across any levees, federal or otherwise. The construction equipment would access the site primarily through open water bodies in order to minimize damage to existing wetlands.

Refurbishment of a staging area, located at the west end of Spanish Pass Road and adjacent to Spanish Pass, and previously cleared and constructed during the initial BUDMAT Tiger Pass project, would possibly be required. The staging area, comprised of crushed stone aggregate, was constructed under the initial BUDMAT project and measures approximately 75-feet in width and 75-feet in length, and impacted approximately 1.3 acres of intermediate marsh. The staging area will remain in place for future use.

19. Project Purpose (Describe the reason or purpose of the project, (see instruction.)

Maintenance dredging of the Gulf of Mexico entrance channels to the Mississippi River is needed to ensure safe passage of commercial shipping from the Gulf to upriver ports of call. The Southwest Pass of the Mississippi River is the principal shipping channel between the Gulf of Mexico and the Head of Passes, where Southwest Pass and two other distributary channels. South Pass and Pass a Loutre, split from the main stem of the Mississippi River. The approximately 22-mile-long Southwest Pass navigation channel is currently maintained at a depth of (-) 45-ft mean low Gulf (MLG) to provide deep-draft access to the New Orleans – Baton Rouge port corridor and its associated commerce and industries.

Hopper-dredged material removed from the reach between Venice and Mile 11.0 below Head of Passes is hauled and deposited into a location in the river located just above the Head of Passes, called the Hopper Dredge Disposal Area (HDDA).

Management of the HDDA involves maintaining sufficient depths in the area to allow continuous use by hopper dredges during routine maintenance dredging of Southwest Pass. When the site is nearly full, dredged material is excavated using a hydraulic cutterhead dredge and moved to permanent beneficial use-disposal locations, thereby maintaining storage capacity in the HDDA so that maintenance dredging in Southwest Pass may continue uninterrupted. When hydraulic cutterhead dredges are occasionally used in Southwest Pass, dredged material is placed unconfined in shallow open-water areas on either side of the channel for wetlands creation and development.

USE BLOCKS 20-22 IF DREDGED AND OR FILL MATERIAL IS TO BE DISCHARGED.

20. Reason(s) for Discharge

Activities like the proposed activity that are conducted under the Louisiana Coastal Area Beneficial Use of Disposal Material program would optimize the use of dredged materials resulting from the maintenance of these federally maintained navigation channels for ecosystem restoration beneficial use projects that are above and beyond the disposal activities that are covered under the USACE operations and maintenance (O&M) dredging Federal Standard or the base disposal plan for a navigation project (identified as the least costly environmentally compliant alternative that is consistent with sound engineering standards).

21. Typetsi of Material Being Discharged and the Amount of Each Type in Cubic Yards.

Approximately 2.000.000 cubic yards of material from the Hopper Dredge Disposal Area located near the Head of Passes in the Mississippi River as identified by the Federal Standard.

22 Surface Area in Acres of Wetlands or Other Waters Filled (see instructions)

Approximately 131.24 acres, including 6.75 of existing marsh and 124.49 of open water,

23. Is Any Portion of the Work Already Complete's Yes No. A. IF YES, DESCRIBE THE COMPLETED WORK

24. Addresses of Adjoining Property Owners, Lessees, Etc., Whose Property Adjoins the Waterbody (I) more than can be entered here, please attach a supplemental list.

25. List of Other Certifications or Approvals Denials Received from other Federal. State or Local Agencies for Work Described in This Application.

AGENCY TYPE APPROVAL IDENTIFICATION NO. DATE APPLIED DATE APPROVED DATE DENIED

To the best of my knowledge the proposed activity described in my permit application complies with and will be conducted in a manner that is consistent with the LA Coastal management Program.

*Would include but is not restricted to zoning, building and flood plain perints.

26. Application is hereby made for a permit or permits to authorize the work described in this application. Teertify that the information in this application is complete and accurate. This there exists that I possess the authority to undertake the work described herem or an acting as the duly authorized agent of the applicant.

Marshell K. Hayer SIGNATURE OF APPLICANT

03/02/18

SIGN ITURE OF THINT

D.1TE

The application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a didy authorized agent if the statement in block 11 has been tilled out and signed.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency The United States knowingly and willfully falsifies, conceals, or covers up by any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statement or entry, shall be fined not more than \$10,000 or imprisoned not more than five years, or both.

LCA BUDMAT - Tiger Pass II Project Vellow 0 attude Tiger Pass 2 Marsh Tiger Pass 2 Pidge Tiger Pass 1 Army Corps of Engineer New Orleans District 141 Conic 91 2001W 31 18101W 30 42101W 28 30101W

Figure 1: Tiger Pass Extension Project Area



Figure 2: Proposed Retention Dike and Borrow Design for Dike Construction



Figure 3: Pipeline locations relative to an early approximate location of the proposed project extension and the project area currently under construction



Figure 4: Primary and Alternate Dredge Material Transportation Route

From:	Elizabeth Hill
To:	Morris, Michael A CIV USARMY CEMVD (US)
Cc:	Smith, Patrick W CIV USARMY CEMVN (US)
Subject:	[Non-DoD Source] RE: Modification to Agency Interest number 84834, Water Quality Certification 151210-02 (UNCLASSIFIED)
Date:	Monday, April 30, 2018 1:33:33 PM

Mike:

The application for modification of WQC 151210-02 has been reviewed and it has been determined that this modification does not propose any additional impacts to water quality. Water Quality Certification WQC 151210-02 is valid for the Tiger Pass project. The administrative record has been updated to include the modification and Draft Integrated Design and Implementation Report and Supplemental Environmental Assessment (SEA) #542.B.

-----Original Message-----From: Morris, Michael A CIV USARMY CEMVD (US) [mailto:Michael.A.Morris@usace.army.mil] Sent: Friday, April 27, 2018 9:18 AM To: Elizabeth Hill Cc: Smith, Patrick W CIV USARMY CEMVN (US) Subject: FW: Modification to Agency Interest number 84834, Water Quality Certification 151210-02 (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Hello Elizabeth,

I'm working with Patrick on Tiger Pass II and I'm just doing a follow up on the WQC. Can you please respond back ASAP with an answer.

Thanks, Mike Morris Environmental Resource Specialist USACE New Orleans District Michael.A.Morris@USACE.army.mil 504-862-1963

-----Original Message-----From: Smith, Patrick W CIV USARMY CEMVN (US) Sent: Thursday, April 26, 2018 9:47 AM To: Morris, Michael A CIV USARMY CEMVD (US) <Michael.A.Morris@usace.army.mil> Subject: FW: Modification to Agency Interest number 84834, Water Quality Certification 151210-02 (UNCLASSIFIED)

DEQ email for WQC

Patrick Smith, PhD Environmental Resource Specialist Coastal Environmental Planning, RPEDS US Army Corps of Engineers, New Orleans District Office: (504) 862-1583

-----Original Message-----From: Smith, Patrick W CIV USARMY CEMVN (US) Sent: Friday, March 2, 2018 2:35 PM To: Elizabeth Hill <Elizabeth.Hill@la.gov> Cc: Naquin, Patricia Shoucair (Trish) CIV USARMY CEMVN (US) <patricia.leroux@usace.army.mil> Subject: Modification to Agency Interest number 84834, Water Quality Certification 151210-02 (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Hello Elizabeth,

I hope you are having a nice Friday. Pursuant to Section 401 of the Clean Water Act, the U.S. Army Corps of Engineers, New Orleans District, requests water quality certification modification for Draft Integrated Design and Implementation Report and Supplemental Environmental Assessment (SEA) #542.B Louisiana Coastal Area Beneficial Use of Dredged Material Program At Tiger Pass II Plaquemines Parish, Louisiana. Attached should be two items:

1. A copy of the signed Modification Application that was mailed today; and 2. An unsigned .pdf of the Modification Application.

An unsigned copy was attached because this version may be easier to read. The original signed version was mailed to

Scott Guilliams Administrator, Water Permits Division PO Box 4313 Baton Rouge, LA 70821-4313

Please review the enclosed documents. If questions arise, please contact Patrick Smith at 504-862-1583, or by email at Patrick.W.Smith@usace.army.mil.

Thanks, Patrick CLASSIFICATION: UNCLASSIFIED CLASSIFICATION: UNCLASSIFIED Department of Natural Resources, Coastal Zone Consistency – In accordance with Section 307, a Consistency Determination was submitted on February 28, 2018 to Louisiana Department of Natural Resources (DNR) for the Proposed Action. On May 16, 2018, DNR concurred that the Proposed Action is consistent with the Louisiana Coastal Resources Program in accordance with Section 307 (c) of the CZMA.



State of Louisiana department of natural resources office of coastal management

May 16, 2018

Patrick Smith U.S. Army Corps of Engineers New Orleans District P.O. Box 60267 New Orleans, LA 70160-0267 *Via e-mail:* Patrick.W.Smith@usace.army.mil

RE: C20150185 Mod 04, Coastal Zone Consistency
New Orleans District, Corps of Engineers
Direct Federal Action
Tiger Pass 2 / Spanish Pass Ridge Extension LCA BUDMAT project
Plaquemines Parish, Louisiana

Dear Dr. Smith:

The above referenced project has been reviewed for consistency with the Louisiana Coastal Resources Program in accordance with Section 307 (c) of the Coastal Zone Management Act of 1972, as amended. The project, as proposed in this application, is consistent with the LCRP.

If you have any questions concerning this determination please contact Jeff Harris of the Consistency Section at (225) 342-7949 or jeff.harris@la.gov.

Sincerely,

<u>/S/ Charles Reulet</u> Administrator Interagency Affairs/Field Services Division

CR/SK/jdh

cc: Dave Butler, LDWF Frank Cole, OCM FI Robert Spears, Plaquemines Parish

- U.S. Fish and Wildlife Service
 - Fish and Wildlife Coordination Act A draft Coordination Act Report has been submitted. Draft responses have been completed and further coordination with USFWS will occur (see Appendix G).
 - Endangered Species Act of 1973 coordination with the USFWS under Section 7 of the Endangered Species has been completed and USFWS found that the project is not likely to adversely effect trust resources.

To: Joseph Ranson, USFWS 646 Cajundome Blvd., Suite 400 Lafayette, LA 70506 Fax: (337) 291-3139 This project has been reviewed for effects to Federal trust resources under our jurisdiction and currently protected by the Endangered Species Act of 1973 (Act). The project, as proposed, () Will have no effect on those resources () Will have no effect on those resources () Is not likely to adversely effect these resources () Supervisor 23 Fcb / 8 Supervisor Date Louisiana Ecological Services Office

From: Patrick Smith FAX: (504) 862-2088 Date: February 23, 2018

Subject: T&E Species concurrence for the Louisiana Coastal Area, Beneficial Use of Dredged Material Program at Tiger Pass II, Plaquemines Parish, Louisiana Project

;

Dear Mr. Ranson:

Attention: David Walther

The U.S. Army Corps of Engineers (USACE), New Orleans District has proposed Supplemental Environmental Assessment (SEA) #542.B titled "Louisiana Coastal Area, Beneficial Use of Dredged Material Program at Tiger Pass II, Plaquemines Parish, Louisiana." The SEA is being prepared to address actions proposed under the Louisiana Coastal Area Beneficial Use of Dredged Material program, which has an approved Programmatic Environmental Impact Statement (EIS) entitled *Louisiana Coastal Area Beneficial Use of Dredge Material Programmatic EIS* and Record of Decision dated 13 August 2010. The first phase of this project, SEA #542.A titled "Tiger Pass Marsh/Ridge Restoration Tier 2 Louisiana Coastal Area (LCA) Beneficial Use of Dredged Material Program (BUDMAT)", is currently under construction and the USFWS determined that the project was not likely to adversely affect Federal trust resources currently protected by the Endangered Species Act of 1973 via letter dated 28 September 2016.

The document herein proposes continued construction of a ridge restoration project at Spanish Pass which was originally proposed as part of the State's 2012 Coastal Master Plan and Plaquemines Parish Ridge Restoration Program. The proposed action would involve restoration of a historic ridge that has subsided and eroded over time. The feature would include construction of an approximately 6,800-foot (ft) long ridge backed by a 500-ft wide marsh platform that would serve as a means to reduce wave energy on the leevvard side of the marsh.

Project Description

Spanish Pass Ridge Restoration

The Spanish Pass Ridge Restoration project alternative was originally proposed as part of the State's 2012 Coastal Master Plan and Plaquemines Parish Ridge Restoration Program. The project calls for the placement of dredge material on the site of a submerged former natural ridge that ran along the banks of Spanish Pass. The first phase of this project is currently under construction and the USFWS determined that the project was not likely to adversely affect Federal trust resources currently protected by the Endangered Species Act of 1973 via letter dated 28 September 2016.

This second phase would mirror the design developed for the initial Spanish Pass project that is currently under construction. The created feature would consist of another approximately 6,800-feet of ridge and 7,800-feet of marsh platform that would be constructed immediately adjacent to and to compliment the initial Spanish Pass Ridge and Marsh Restoration project. (Figure 1) The entire project length along the ridge face of the project is approximately 9,000-feet. However, due to numerous active oil and gas pipelines located within the project area, there are several breaks in the ridge resulting in a non-uniform and noncontiguous construction platform; therefore, the length of the ridge with the breaks excluded is approximately 6,800-feet and the length of the marsh platform is approximately 7,800-feet. This second phase would mirror the design developed for the initial Spanish Pass project that is currently under construction. The ridge will be constructed with a crown width of 80-feet and a 200-foot wide base. The crown elevation would measure +6.5-feet NAVD88 with 1V on 20H side slopes, down to elevation +3.5feet NAVD88. The earthen ridge would be backed by an intermediate marsh platform measuring approximately 500-feet in width constructed to an initial fill height of +3.5-feet NAVD88. Tiger Pass 2 would entail the placement of approximately 2,000,000 cubic yards (CYS) of material to be dredged from the USACE hopper dredge disposal area (HDDA), located at the mouth of Pass a Loutre where it meets the Mississippi River Ship Channel.

Retention Dikes and Retention Dike Borrow

Earthen retention dikes will be needed in order to facilitate construction of the ridge and marsh platforms and will be allowed to settle and/or erode, as well as vegetate naturally over time. If necessary, these retention dikes would be later breached or degraded to the settled elevations of the disposal area by the non-federal sponsor. The retention dikes would be constructed to a crown width of 5-feet, crown elevation of +5-feet NAVD88, and side slopes no steeper than 1V on 4H. The dikes to be constructed along the south side of the ridge would also include a berm (approximately 25-feet in width), to be constructed to elevation 0.0-feet NAVD88, and with slopes no steeper than 1V on 4H. The berm would tie into the southern slope of the retention dike, extend at elevation 0.0-feet NAVD88, and then tie into the natural ground (approximately -3.5-feet NAVD88) on a slope no steeper than 1V on 4H. The above referenced berm width, side slopes and ground elevations will be verified by geotechnical investigations, testing and design, as well as surveys, to be performed for the proposed ridge and marsh platform expansion.

Borrow for construction of the retention dikes would be obtained from an adjacent borrow site and would come either from within or outside of the proposed ridge and marsh platform footprint. However, borrow excavation or placement would not be allowed within any pipeline corridors. Additionally, borrow excavation outside of the marsh creation in existing wetlands would not be allowed.

Figure 2 provides the general design details associated with the ridge and marsh platform, as well as proposed borrow locations and dimensions for retention dike construction.

Pipeline/ Utility Corridors

There are several pipeline/utility corridors that will pass through the Spanish Pass expansion that is proposed under the TP-2 project. (Figure 3) To avoid impacts to pipelines, no-work corridors will be established at each pipeline crossing location between each section of the proposed ridge expansion. With the exception of allowable placement of dredge fill over the pipelines to provide a land bridge for equipment access, no work will be performed within 50-feet of any pipelines, unless they have been abandoned in place and the pipeline owner has consented to construction over their pipeline(s). The no work area includes the outside toes of the earthen retention dikes that are to be constructed adjacent to and parallel to the pipelines.

Dredge Material Transport Method

A cutterhead suction dredge could be used to load hopper barges utilizing a spider barge. Once loaded, the hopper barges would be transported by tugboat to the designated pump-out location on the left descending bank of Grand Pass outside the navigation channel, approximately 0.5 miles inside its intersection with the Mississippi River. At this point an off-loader would be used to empty the barges, and transport the material via a temporary submerged pipeline across Grand Pass using the same pipeline corridor as Tiger Pass 1 to the jack-and-bored culvert under Tide Water Road. The arms of a spider barge are designed to optimize loading characteristics and production efficiency by loading the sediment into the hopper barges via multiple arms which allow for concurrent loading of multiple barges. This also allows for the cutterhead dredge to continue operating without having to shut down while awaiting for the arrival of offloaded barges. This alternative could also entail the loading of a hopper dredge with hopper pump-out capability. In this case, a shallow hopper dredge could be loaded with dredged material and then transit to Grand Pass at which point the dredged material within the hopper dredge would then be pumped out via the pipeline at the designated offloading site.

The planned pipeline route from Grand Pass to Haliburton Road is the same as used for current construction. The pipeline will exit Grand Pass approximately 800-feet upstream of the intersection of Grand and Tiger Passes. From this bankline access point the pipeline will snake its way directly to Haliburton Road within an allowable 45-foot access corridor. The dredge discharge pipeline would then travel along the north side of Haliburton Road and be placed within the existing drainage canal paralleling the road. A small triangular staging area is proposed at the pipelines intersection with Haliburton Road to accommodate pipeline and /or equipment offloading and reloading.

The dredge pipeline would then cross under Tide Water Road via a 42-inch casing that was bored under the road during the initial LCA BUDMAT Tiger Pass project. The dredge pipeline would then travel either to Spanish Pass at Spanish Pass Road, or via the open waters of Yellow Cotton Bay that has yet to be assessed. This unassessed reach of pipeline corridor is currently defined as a 500-foot wide direct route from the bored casing location to Spanish Pass, thus minimizing the original pipeline length required for construction of Tiger Pass 2 by approximately 2,000 linear feet. The Contractor would not be allowed to use this entire 500-foot width, but would select the most beneficial 100-
foot wide alignment within the larger corridor. (Figure 4) The proposed maximum extent of the pipeline corridor is approximately 57 acres; the maximum extent of the 100-foot wide construction area for the pipeline consists of less than 20 acres of nearly entirely open water. Approximately 0.7 acres of marsh adjacent to Tide Water Road would be temporarily impacted by the dredge pipeline during construction. If available, dredged material could be deposited in the impacted area adjacent to Tide Water Road after construction is complete. Upon reaching Spanish Pass, the dredge pipeline and all construction equipment would remain within the banks of Spanish Pass itself. It is not expected that any utilities or pipelines would be impacted along the access route, or within the entire ridge area. Delivery of dredge material to the project area would be in a manner that would avoid impacting pipeline rights-of-way and utilities passing through the access route.

The proposed route would not require the dredge material pipeline to traverse across any levees, federal or otherwise. The construction equipment would access the site primarily through open water bodies in order to minimize damage to existing wetlands.

Refurbishment of a staging area, located at the west end of Spanish Pass Road and adjacent to Spanish Pass, and previously cleared and constructed during the initial BUDMAT Tiger Pass project, would possibly be required. The staging area, comprised of crushed stone aggregate, was constructed under the initial BUDMAT project and measures approximately 75-feet in width and 75-feet in length, and impacted approximately 1.3 acres of intermediate marsh. The staging area will remain in place for future use.

Occurrence of Protected, Threatened and Endangered Species

Various species protected under the Endangered Species Act (ESA), Bald and Golden Eagle Protection Act (BGEPA), and the Migratory Bird Treaty Act (MBTA) are known to occur in the project vicinity. Protected species that may occur in the project vicinity include colonial nesting water/wading birds including the formerly listed brown pelican (*Pelecanus occidentalis*), various raptors including the formerly listed bald eagle (*Haliaeetus leucocephalus*) and peregrine falcon (*Falco peregrines*). Federally-listed threatened and endangered species that could be encountered in the project area are the endangered pallid sturgeon (*Scaphirhynchus albus*), the threatened West Indian manatee (*Trichechus manatus*), the threatened piping plover (*Charadrius melodus*), and the threatened red knot (*Calidris canutus rufa*), and sea turtles. The USACE would consult with the NMFS regarding sea turtles.

Pallid Sturgeon

The pallid sturgeon is an endangered, bottom-oriented, fish that inhabits large river systems from Montana to Louisiana. Within this range, pallid sturgeon tend to select main channel habitats in the Mississippi River and main channel areas with islands or sand bars in the upper Missouri River. In Louisiana it occurs in the Atchafalaya and Mississippi Rivers, and below Lock and Dam Number 3 on the Red River (with known concentrations

in the vicinity of the Old River Control Structure Complex). The pallid sturgeon is adapted to large, free-flowing, turbid rivers with a diverse assemblage of physical characteristics that are in a constant state of change. Many life history details and subsequent habitat requirements of this fish are not known. However, the pallid sturgeon is believed to utilize Louisiana riverine habitat during reproductive stages of its life cycle. Habitat loss through river channelization and dams has adversely affected this species throughout its range.

The following is recommended to minimize potential impacts to pallid sturgeon associated with dredging to ensure protection of the pallid sturgeon:

- The cutterhead should remain completely buried in the bottom material during dredging operations. If pumping water through the cutterhead is necessary to dislodge material or to clean the pumps or cutterhead, etc., the pumping rate should be reduced to the lowest rate possible until the cutterhead is at middepth, where the pumping rate can then be increase; and
- 2. During dredging, the pumping rates should be reduced to the slowest speed feasible while the cutterhead is descending to the channel bottom.

West Indian Manatee

The threatened West Indian manatee is known to regularly occur in parts of coastal Louisiana, but is infrequent within the vicinity of the current project area. Based on data maintained by the Louisiana Natural Heritage Program (LNHP), over 80 percent of reported manatee sightings (1999-2011) in Louisiana have occurred from the months of June through December. During in-water work in areas that potentially support manatees all personnel associated with the project would be instructed about the potential presence of manatees, manatee speed zones, and the need to avoid collisions with and injury to manatees. All personnel would be advised that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act of 1972 and the Endangered Species Act of 1973. Additionally, personnel would be instructed not to attempt to feed or otherwise interact with the animal, although passively taking pictures or video would be acceptable. The following conservation measures would be included in all contracts and plans and specifications for in-water work in areas where the manatee may occur.

All on-site personnel are responsible for observing water-related activities for the presence of manatee(s). The following is recommended to minimize potential impacts to manatees in areas of their potential presence:

 All work, equipment, and vessel operation should cease if a manatee is spotted within a 50-foot radius (buffer zone) of the active work area. Once the manatee has left the buffer zone on its own accord (manatees must not be herded or harassed into leaving), or after 30 minutes have passed without additional sightings of manatee(s) in the buffer zone, in-water work can resume under careful observation for manatee(s).

- 2. If a manatee(s) is sighted in or near the project area, all vessels associated with the project should operate at "no wake/idle" speeds within the construction area and at all times while in waters where the draft of the vessel provides less than a four-foot clearance from the bottom. Vessels should follow routes of deep water whenever possible.
- 3. If used, siltation or turbidity barriers should be properly secured, made of material in which manatees cannot become entangled, and be monitored to avoid manatee entrapment or impeding their movement.
- 4. Temporary signs concerning manatees should be posted prior to and during all in-water project activities and removed upon completion. Each vessel involved in construction activities should display at the vessel control station or in a prominent location, visible to all employees operating the vessel, a temporary sign at least 81/2 " X 11" reading language similar to the following: "CAUTION BOATERS: MANATEE AREA/ IDLE SPEED IS REQUIRED IN CONSRUCTION AREA AND WHERE THERE IS LESS THAN FOUR FOOT BOTTOM CLEARANCE WHEN MANATEE IS PRESENT". A second temporary sign measuring $8\frac{1}{2}$ " X 11" should be posted at a location prominently visible to all personnel engaged in water-related activities and should read language similar to the following: "CAUTION: MANATEE AREA/ EQUIPMENT MUST BE SHUTDOWN IMMEDIATELY IF A MANATEE COMES WITHIN 50 FEET OF OPERATION".
- 5. Collisions with, injury to, or sightings of manatees should be immediately reported to the United States Fish and Wildlife Service's (USFWS) Louisiana Ecological Services Office (337/291-3100) and the Louisiana Department of Wildlife and Fisheries, Natural Heritage Program (225/765-2821). The nature of the call (i.e., report of an incident, manatee sighting, etc.); time of incident/sighting; and the approximate location, including the latitude and longitude coordinates, if possible, should be provided.

Piping Plovers

The piping plover, federally listed as a threatened species, is a small (7 inches long), pale, sandcolored shorebird that winters in coastal Louisiana and may be present for 8 to 10 months annually. Piping plovers arrive from their northern breeding grounds as early as late July and remain until late March or April. Piping plovers forage on intertidal beaches, mudflats, sand flats, algal flats, and wash-over passes with no or very sparse emergent vegetation. They roost in unvegetated or sparsely vegetated areas. They also forage and roost in wrack (i.e., seaweed or other marine vegetation) deposited on beaches. In most areas, wintering piping plovers are dependent on a mosaic of sites distributed throughout the landscape, because the suitability of a particular site for foraging or roosting is dependent on local weather and tidal conditions. Plovers move among sites as environmental conditions change, and studies have indicated that they generally remain within a 2-mile area. Major threats to this species include the loss and degradation of habitat due to development, disturbance by humans and pets, and predation.

On July 10, 2001, USFWS designated critical habitat for wintering piping plovers (Federal Register Volume 66, No. 132); a map of the seven critical habitat units in Louisiana can be found at http://criticalhabitat.fws.gov/crithab. Based on the information provided, the proposed action would not be located within any designated critical habitat units; therefore, no critical habitat would be affected.

Red Knots

The red knot, federally listed as a threatened species, is a medium-sized shorebird about 9 to 11 inches (23 to 28 centimeters) in length with a proportionately small head, small eyes, short neck, and short legs. The red knot breeds in the central Canadian arctic but is found in Louisiana during spring and fall migrations and the winter months (generally September through May). During migration and on their wintering grounds, red knots forage along sandy beaches, tidal mudflats, salt marshes, and peat banks. Observations along the Texas coast indicate that red knots forage on beaches, oyster reefs, and exposed bay bottoms, and they roost on high sand flats, reefs, and other sites protected from high tides. Major threats to this species along the Gulf of Mexico include the loss and degradation of habitat due to erosion, shoreline stabilization, and development; disturbance by humans and pets; and predation. Currently, there is no critical habitat designated for Red Knots in coastal Louisiana.

Colonial Nesting Waterbirds

The brown pelican (Pelecanus occidentalis), a year-round resident of coastal Louisiana that may occur in the project area, was removed from the Federal List of Endangered and Threatened Wildlife (i.e., "delisted") by USFWS on November 17, 2009. Despite its delisting, brown pelicans - and other colonial nesting wading birds and seabirds - remain protected under the Migratory Bird Treaty Act. Portions of the proposed project area may contain habitats commonly inhabited by colonial nesting wading birds and seabirds. To minimize disturbance to pelicans and other colonial nesting birds and seabirds potentially occurring in the project area, the USACE would observe restrictions on activity provided by the USFWS, Lafayette, Louisiana Ecological Services Office. Special operating conditions addressing pelicans and other colonial nesting wading birds and seabirds (including reporting presence of birds and/or nests; nowork distance restrictions-2000 feet for brown pelicans, 1000 feet for colonial nesting wading birds, and 650 feet for terns, gulls, and black skimmers; bird nesting prevention and avoidance measures; marking discovered nests) would be included in the USACE's plans and specifications developed prior to dredging and disposal activities. In addition, dredging and disposal activities would be restricted to non-nesting periods for colonial nesting wading birds and seabirds when practicable.

Essential Fish Habitat

The project may be located within an area identified as Essential Fish Habitat (EFH) by the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA,

Magnuson-Stevens Act; P.L. 104-297). The USACE would consult with the NMFS regarding EFH.

Species of Management Concern

Species of fish, wildlife, and plants labeled as "S1" and S2" by the Louisiana Department of Wildlife and Fisheries are extremely and very rare species, respectively, that are vulnerable to extirpation in Louisiana. These species, along with those identified as priority species by the Gulf Coast Joint Venture are species of management concern. Continued population declines could result in these species becoming candidates for listing under the Endangered Species Act. Some of these species may also be referred to as at-risk species; USFWS has defined at-risk species as those species that have either been proposed for listing, are candidates for listing, or have been petitioned for listing.

Species of concern which use the study area include Wilson's plover, gull-billed tern, reddish egret, black skimmer, and peregrine falcon. Species of concern that would use study area's fresh, intermediate, brackish and saline marsh habitat and adjacent open waters, include the Louisianaeyed silk moth, glossy ibis, seaside sparrow, black rail, mottled duck, and the peregrine falcon.

Conclusion and Determination

Although threatened or endangered species may occur within the general project vicinity, their presence within the proposed project areas is unlikely. The proposed project area does not contain critical habitat for federally-listed species.

We believe that the project, as planned, is not likely to adversely affect federally-listed threatened or endangered species. Colonial nesting water/wading birds, the brown pelican, and other species of concerns mentioned in this document are not likely to be impacted by the proposed action. Please review this plan and inform us whether or not you agree with our determination. If there are any questions about the project or if any additional information is needed please contact Patrick Smith by phone at (504) 862-1544 or by email at Patrick.W.Smith@usace.army.mil.

Figures



Figure 1: Tiger Pass Extension Project Area



Figure 2: Proposed Retention Dike and Borrow Design for Dike Construction



Figure 3: Pipeline locations relative to an early approximate location of the proposed project extension and the project area currently under construction



Figure 4: Primary and Alternate Dredge Material Transportation Route

• National Marine Fisheries Service – Coordination under the Magnuson-Stevens Fishery Conservation and Management Act is ongoing. The NMFS would receive a copy of this EA during the public comment period. Annex F: DRAFT 404(B)(1) Determination



US Army Corps of Engineers, New Orleans District

To:	File
From:	Whitney Hickerson, CEMVN-ED-H
CC:	
Date:	09 February 2018
Re:	LCA BUDMAT – Tiger Pass 2, Spanish Pass Extension Project

A short form 404 (b)(1) evaluation of the Federal actions for the subject project was performed by ED-HW for water quality impacts. Existing data were used to make factual determinations for the subject actions. The following summarizes the review process and comments noted:

I. Subpart B – Review of Compliance

a. 230.10 (b) (1): After consideration of disposal site dilution and dispersion, there are no expected violations of State water quality from the proposed Federal actions.

II. Subpart C – Physical and Chemical Characteristics of the Aquatic Ecosystem

a. 230.20 - Substrate Impacts: The proposed project would generate changes in the physical, chemical, and biological characteristics of substrate at the project site. Placement of dredged material from the Mississippi River Head of Passes Hopper Dredge Disposal Area (HDDA) would alter project site substrate elevations, converting open water and marsh to marsh and ridge. Organisms adapted to aquatic habitat would be replaced by organisms adapted to aquatic or terrestrial habitat that recolonize the project site owing to alterations in substrate elevations.

Sediment from the HDDA has been described as sandy silt, while the project site contains a combination of Balize and Larose soils and dredged and frequently flooded aquents (USDA 2016). Balize and Larose soils are characterized as level and poorly drained mineral soils (USDA 2000). Surface layers of these soil types are dark gray and dark grayish brown, very fluid muck, mucky clay and silt loam, while underlying layers are dark gray and gray slightly to very fluid clay, silt, and silty clay loam. Dredged and frequently flooded aquents are characterized as level, poorly drained soils forming in hydraulically deposited fill material dredged from nearby marshes during the construction and maintenance of waterways. Aquents are slightly saline or

saline throughout, and are typically stratified throughout with mucky, clayey, loamy, and sandy layers, and are firm in the upper strata and slightly to very fluid in the lower strata. The aquents at the project site may be from the placement of dredged material excavated for the construction of nearby oil exploration canals. Therefore, it appears there are some physical differences between project site soils and dredged material proposed for ridge and marsh platform construction.

Placement of dredged material and material excavated at the project site for dike construction is expected to smother sessile benthic organisms at the project site. Following construction of the project and establishment of vegetation at the project site, these organisms would be replaced by organisms adapted to aquatic or terrestrial habitat that recolonize the project site.

Please see content addressing 230.61 (a) for HDDA vicinity sediment evaluation results. Based on findings of these sediment evaluations, chemical and biological substrate impacts of the proposed project are expected to be minor.

Overall, substrate impacts of the proposed project are expected to be byproduct of what is considered to be beneficial habitat modification. Due to high local subsidence rates, global sea-level rise, wind-induced wave energy, and tropical activity that occasions the area, the proposed project is expected to eventually disappear, as the proposed project would be subject to these forces of nature and eventually erode and submerge.

b. 230.21 – Suspended Particulates/Turbidity Impacts: The proposed project includes the mechanical excavation of waterbottom material at the project site for the construction of earthen retention dikes, and use of the retention dikes for the confinement of hydraulically dredged material pumped into the project features for their construction. Therefore, the project is expected to generate localized increases in turbidity in the vicinity of the project site during construction activities, as well as following rainfall events until dredged material has consolidated and vegetation has established at the site.

The project site is close to the Mississippi River, which contains turbid waters with seasonally high suspended sediment concentrations. In addition, due to the soil types and large fetches in the project site vicinity, it is likely that vicinity waters can become very turbid in windy conditions. Localized increases in turbidity at the project site are therefore expected to be minor relative to background concentrations in the vicinity.

c. 230.22 – Water Column Impacts: The proposed project includes the mechanical excavation of waterbottom material at the project site for the construction of earthen retention dikes, and use of the retention dikes for the confinement of hydraulically dredged material pumped into the project site. Therefore, the proposed project is expected to generate localized water column impacts in the vicinity of the project site during construction activities, as well as following rainfall events until dredged material has consolidated and vegetation has established at the site.

Please see content addressing 230.61 (a) for HDDA vicinity sediment evaluation results. Based on findings of these sediment evaluations, water column impacts of the proposed project are expected to be temporary and minor.

- d. 230.23 Alteration of Current Patterns and Water Circulation: The proposed project would locally alter current patterns and water circulation, by creating a hydraulic barrier in an area consisting largely of open water. There are no expected negative consequences due to the alteration of current patterns and water circulation in the project area. The project will locally reduce the fetch of open waterbodies over its lifetime.
- e. 230.24 Alteration of Normal Water Fluctuations/Hydroperiod: The proposed project would have a negligible impact on the hydrology of surrounding surface waters, which are large open water expanses connected to the Gulf of Mexico.
- f. 230.25 Alteration of Salinity Gradients: Project area salinity gradients are largely determined by the interaction between Mississippi River and Gulf of Mexico waters (e.g., see Swenson and Turner 1998). Due to the small footprint of the proposed project in relation to the area influenced by this interaction, as well as its location (e.g., it is not obstructing any large channels through which flow large volumes of Mississippi River and/or Gulf of Mexico waters), the project is not anticipated to alter salinity gradients.

III. Subpart F – Human Use Characteristics

a. 230.50 – Effects on Municipal and Private Water Supplies: The nearest municipal or private water supply is located in the Mississippi River, approximately 40 miles upstream from the project site. Due to the small scale of the proposed project and its distance from the nearest drinking water intake, the project is not expected to impact any municipal or private water supplies.

IV. Subpart G – Evaluation of Dredged or Fill Material

a. 230.61 (a) – Considerations in Evaluating the Biological Availability of Possible Contaminants in Dredged or Fill Material: The most recent sediment evaluation that includes sediment samples collected within and in the immediate vicinity of the HDDA was completed in 2009 (PBS&J 2009). For the evaluation, several water and sediment samples were collected from the HDDA in November and December of 2008. Water, elutriate, and sediment chemistry analyses were performed on these samples. Parameters included in analyses were the metals lead, mercury, nickel, and vanadium; polychlorinated biphenyls (PCBs; congeners and total arochlors); seventeen different polycyclic aromatic hydrocarbon (PAH) compounds; and oil mixtures (diesel and gasoline range organics, and oil and grease). In addition, sediment samples were tested for grain size distribution. Lead, nickel, and vanadium were detected in water samples, as well as elutriates derived from sediment and water samples. In all cases, detected concentrations were below both acute and chronic U.S. Environmental Protection Agency (EPA) and Louisiana Department of Environmental Quality (LDEQ) freshwater water quality criteria for aquatic life (USEPA 2016, LDEQ 2016).

Lead, nickel, vanadium, fluoranthene, pyrene, and oil and grease were detected in sediment samples. Comparison of sediment chemistry results to National Oceanic and Atmospheric Administration (NOAA) sediment screening benchmarks revealed three of six samples collected within and in the immediate vicinity of the HDDA contained nickel concentrations above freshwater sediment screening benchmarks indicative of low probability of effects on benthic organisms (NOAA 2008).

Most sediment samples collected in the vicinity of the HDDA contained a sand content of 40-80%, silt content of 3-30%, and clay content of 7-26%, although two of the eight samples collected contained very low sand content (2-3%), silt content of 36-40%, and clay content of 58-62%.

Following the BP Gulf of Mexico oil spill in 2010, a sediment evaluation was conducted that included several navigation channels in the vicinity of the HDDA, to ascertain the possible effects of the BP Gulf of Mexico oil spill on the sediment quality of channel waterbottoms, which are dredged for waterway navigation purposes (USACE-MVN 2010). Sediment samples were collected in August 2010 for analysis of several compounds associated with oil contamination, including sixteen PAHs, and diesel, gasoline, and oil range organics. Comparison between sediment chemistry results and applicable sediment screening benchmarks revealed no exceedences of freshwater Threshold Effects Level (TEL) or Probable Effects Level (PEL) benchmarks for South Pass and Tiger Pass sediment samples, and the exceedence of the freshwater/saltwater TEL for dibenz(a,h)anthracene for one sediment sample collected from Batiste Collette, located on the opposite side of the Mississippi River from Venice.

A sediment evaluation was also completed for lower Southwest Pass, in 2011 (PBS&J 2011). Water, sediment, and biota samples were collected in October 2010 for analysis of water, elutriate, and sediment chemistry, 10-day benthic toxicity (test organisms *L. plumulosis* and *A. bahia*), 4-day water column toxicity (test organisms: *A. bahia* and *M. beryllina*), and 28-day bioaccumulation (test organisms: *N. virens* and *M. nasuta*). Chemical analysis included fifteen metals; twenty one pesticides/PAHs; fifty six semivolatile organic compounds; and conventional parameters including ammonia, cyanide, total organic carbon, total petroleum hydrocarbons, and percent solids. In addition, sediment samples were tested for grain size distribution.

Several water samples contained concentrations of copper that exceeded EPA and LDEQ marine acute and chronic criteria. Curiously, elutriates did not exceed criteria for copper, and copper was only detected in one of seven samples. Two of seven

elutriate samples had total ammonia concentrations that exceeded EPA marine acute aquatic life criteria for unionized ammonia; upon further review, if was found that estimated unionized ammonia concentrations for these samples were just below conservative EPA acute freshwater and marine aquatic life criteria (USEPA 1989, 2013).

Sediment chemistry results revealed several samples contained concentrations of nickel, acenaphthene, benzo(a)anthracene, benzo(a)pyrene, chrysene, fluoranthene, fluorine, phenanthrene, and pyrene that exceeded NOAA freshwater and saltwater sediment screening benchmarks indicative of low probability of effects on benthic organisms. In addition, one of the ten sediment samples had concentrations of arsenic that exceeded freshwater sediment screening benchmarks indicative of low probability of effects on benthic organisms.

Results of benthic toxicity, water column toxicity, and bioaccumulation testing suggest that disposal of dredged material was not expected to have significant adverse effects on aquatic organisms. It should be noted that water column toxicity test results suggested that a dilution factor of 100 would be required for dredged material effluent to not have adverse effects on water column organisms. In addition, for one *N. virens* bioaccumulation testing replicate, tissue concentrations of nickel from organisms exposed to Southwest Pass channel sediments were significantly higher than concentrations from organisms exposed to reference control sediments, suggesting some bioaccumulation of nickel for organisms exposed to channel sediments. Considering the findings of sediment chemistry results from PBS&J (2009, 2011), it may be possible that sediment from navigation channels in the vicinity of the Mississippi River Head of Passes (HOP) contain elevated levels of nickel.

Most sediment samples collected in lower Southwest Pass contained a sand content of 40-77%, silt content of 14-37%, and clay content of 7-22%, although three of the ten samples collected contained very low sand content (6-15%), silt content of 49-64%, and clay content of 30-45%.

An additional sediment evaluation for Southwest Pass is currently in preparation, and the results of the evaluation will be incorporated into this section if the completion date for the evaluation occurs before the final version of the Spanish Pass ridge restoration project 404(b)(1) evaluation is complete.

Review of U.S. Coast Guard National Response Center spill reports filed from 2006 to October 2016 reveals that there were approximately forty small (50 gallons or less) spills in the Mississippi River HOP region since 2006, and one spill of approximately 200 gallons that occurred in Tiger Pass (USCG 2016). Most of the small spills were approximately 10 gallons or less. The larger spill the occurred in Tiger Pass happened in January of 2006.

Appropriate references: See references

b. An evaluation of the appropriate information in VI(a) above indicates that there is reason to believe the proposed dredge or fill material is not a carrier of contaminants, or the material meets the testing exclusion criteria: Yes

V. Disposal Site Delineation

- *a.* 230.11 (f) Considerations in Evaluating the Disposal Site: The proposed project includes confinement dikes. It is located in the lowermost Barataria Estuary, where there is frequent exchange of Mississippi River water and saltwater from the Gulf of Mexico. It is surrounded by large expanses of open water.
- b. An evaluation of the appropriate factors in V(a) above indicates that the disposal site and/or size of mixing zone are acceptable: Yes.

VI. Subpart H - Actions to Minimize Adverse Effects

All appropriate and practicable steps have been taken, through application of the recommendations of 230.70 - 230.77 to ensure minimal adverse effects of the proposed discharge: If practical or already a design element of the proposed project, maximizing the hydraulic distance between the dredged material inflow point and effluent weir for each confined project feature would help ensure the dissipation of unionized ammonia to levels well below EPA aquatic life criteria.

VII. Factual Determinations

A review of appropriate information as identified in items I - VI above indicates that there is minimal potential for short- or long-term environmental effects of the proposed discharge:

- a. Physical substrate at the disposal site (review sections II, IV, V, and VI above): Yes
- b. Water circulation, fluctuation and salinity (review sections II, IV, V, and VI): Yes
- c. Suspended particulates (review sections II, IV, V, and VI): Yes
- d. Contaminant availability (review sections II, IV, and V): Yes

VIII. References

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- c. Post, Buckley, Schuh & Jernigan, Inc. (PBS&J). 2009. Contaminant Assessment, Mississippi River, Baton Rouge to the Gulf of Mexico, Louisiana, Southwest Pass. Prepared for the U.S. Army Corps of Engineers, Galveston District, and the U.S. Army Corps of Engineers, New Orleans District. Contract W912HY-05-D-001, Delivery Order 0065.
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- e. Swenson, E.M. and R.E. Turner. 1998. *Past, Present and Probable Future Salinity Variations in the Barataria Estuarine System*. Baton Rouge, LA: Louisiana State University, Coastal Ecology Institute, Center for Coastal, Energy, and Environmental Resources.
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- k. U.S. Environmental Protection Agency (USEPA). 2013. Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater <u>https://www.epa.gov/sites/production/files/2015-08/documents/aquatic-life-ambient-water-quality-criteria-for-ammonia-freshwater-2013.pdf</u>. Last accessed November 17, 2016.

1. U.S. Environmental Protection Agency (USEPA). 2016. *National Recommended Water Quality Criteria – Aquatic Life Criteria Table*. <u>https://www.epa.gov/wqc/national-recommended-water-quality-criteria-aquatic-life-criteria-table</u>. Last accessed October 27, 2016. The following short form 404(b)(1) evaluation follows the format designed by the Office of the Chief of Engineers, (OCE). As a measure to avoid unnecessary paperwork and to streamline regulation procedures while fulfilling the spirit and intent of environmental statutes, New Orleans District is using this format for all proposed project elements requiring 404 evaluation, but involving no adverse significant impacts.

PROJECT TITLE. LCA BUDMAT at Tiger Pass 2 Project

PROJECT DESCRIPTION.

Previously Approved Plan – LCA BUDMAT at Tiger Pass Project: the initial LCA BUDMAT at Tiger Pass Project utilized approximately 1,700,000 cubic yards (CY) of material dredged from the USACE hopper dredge disposal area (HDDA), to construct an approximately 5,000 foot long non-continuous ridge, backed by an approximately 500 foot wide marsh platform at Spanish Pass. The project was evaluated in EA #542, and modifications to the original project design were evaluated in SEA #542.A.

Proposed LCA BUDMAT Plan – LCA BUDMAT at Tiger Pass 2 Project : the LCA BUDMAT at Tiger Pass 2 Project would utilize up to 2,000,000 CY of material dredged from the HDDA to construct approximately 6,800 feet of ridge (29.8 acres) and approximately 91.6 acres of marsh platform to compliment the initial LCA BUDMAT Tiger Pass Project. The Project would extend the initial LCA BUDMAT Tiger Pass Project an additional 8,700 (non-continuous) feet westward. Due to numerous active oil and gas pipelines located within the project area, there are several breaks in the ridge resulting in a non-uniform and noncontiguous construction platform; therefore, the length of the ridge with the breaks excluded is approximately 6,800 feet. The Project would mirror the design developed for the initial LCA BUDMAT Tiger Pass Project. Figure 1 shows a theoretical cross section of the Project

Retention Dikes and Retention Dike Borrow: Earthen retention dikes would be needed in order to facilitate construction of the ridge and marsh platforms, and would be allowed to settle and/or erode, as well as vegetate naturally over time. If necessary, these retention dikes would be later breached or degraded to the settled elevations of the disposal area by the non-federal sponsor. The retention dikes would be constructed to a crown width of 5 feet, crown elevation of +5 feet NAVD88, and side slopes no steeper than 1V on 4H. The dikes to be constructed along the south side of the ridge would also include a berm (approximately 25 feet in width), to be constructed to elevation 0.0 feet NAVD88, and with slopes no steeper than 1V on 4H. The berm would tie into the southern slope of the retention dike, extend at elevation 0.0 feet NAVD88, and then tie into the water bottom (approximately -3.5 feet NAVD88) on a slope no steeper than 1V on 4H. The above referenced berm width, side slopes and ground elevations would be verified by geotechnical investigations , testing and design, as well as surveys, to be performed for the proposed ridge and marsh platform expansion.

Borrow for construction of the retention dikes would be obtained from an adjacent borrow site and would come either from within or outside of the proposed ridge and marsh platform footprint. However, borrow excavation or placement would not be allowed within any pipeline corridors. Approximately 11.3 acres could be used for borrow to construct retention dikes north of the project footprint and outside of the Spanish Pass. Approximately 11.5 acres could be used for borrow south of the project footprint and within Spanish Pass. Borrow excavation would not be allowed where existing wetlands are present for areas outside of the project footprint.

Figure 2 below provides the general design details associated with the ridge and marsh platform, as well as proposed borrow locations and dimensions for retention dike construction.

Pipeline/ Utility Corridors: Several pipeline/utility corridors pass through the proposed project site. To avoid impacts to pipelines, no-work corridors would be established at each pipeline crossing location between each section of the proposed ridge expansion. With the exception of allowable placement of dredge fill over the pipelines to provide a land bridge for equipment access, no work would be performed within 50 feet of any pipelines, unless they have been abandoned in place and the pipeline owner has consented to construction over their pipeline(s). The no work area includes the outside toes of the earthen retention dikes that are to be constructed adjacent to and parallel to the pipelines.

Proposed Plan: The proposed ridge and marsh platform would begin approximately 2.5 miles west of LA Hwy 23 in Venice, LA and continue to the west along the north side of Spanish Pass. All elevations listed are considered to be

post-construction and it is expected that the ridge crown would settle to an elevation of approximately +6.0 feet NAVD88 within 1-2 years of completion of construction

The marsh would also be divided into sections to avoid existing pipeline corridors, which would be 27.2, 84.3, and 38.0 acres from west to east for a total project footprint or total diked footprint of 149.5 acres. The marsh platform would be constructed to an initial fill height of +3.5 feet NAVD88 and would be surrounded by a perimeter retention dike. All elevations listed are considered to be post-construction and it is expected that the marsh platform would settle/dewater to an elevation of approximately +2.0 feet NAVD88, within 10 years of completion of construction. See Table 1 below for approximate acreages of relevant project features.

Table 1. This table summarizes area calculations for relevant features for this Proposed Action, including estimated existing	
marsh acres within the Project Site.	

Feature Description	WEST Cell	MIDDL E Cell	EAST Cell	TOTAL	NOTES:
Total Diked footprint	27.2	84.3	38.0	149.5	Entire Impacted fill area, based on outer toe of dike alignment
Marsh Platform*	15.8	49.9	25.9	91.6	Area within total diked footprint that would be filled to target marsh elevation. Excludes ridge and retention dike.
Restored Ridge*	4.9	19.7	5.2	29.8	Area within total diked footprint that is filled above target marsh to restore ridge
Retention Dike*	6.5	14.7	6.9	28.1	Acreage of retention dikes within total diked footprint
Existing Marsh	4.0	17.2	1.7	22.9	Existing marsh within the total diked footprint
Exterior Borrow North	1.1	5.8	4.4	11.3	Exterior borrow source outside of Spanish Pass and north of the total diked footprint
Exterior Borrow South	1.9	7.7	1.9	11.5	Exterior borrow source inside of Spanish Pass and north of the total diked footprint

*Components of the Total Diked Area

The construction of this project could use as much as 2,000,000 CY of silty sandy material that would be obtained during dredging of the Hopper Dredge Disposal Area (HDDA), located at the Head of Passes of the Mississippi River Bird's Foot Delta. The material would be transported to Spanish Pass to extend the ridge and marsh platform, constructed under the previous LCA BUDMAT Tiger Pass Project, an additional 8,700 feet westward of non-continuous construction including gaps, or 6,800 feet of restored ridge excluding gaps. The new ridge and marsh platform would mimic the design used for the initial Tiger Pass Project. Ingress and egress of construction personnel and some equipment to the project site would be allowed via Spanish Pass, beginning at Spanish Pass road off of La Hwy 23, at a previously cleared staging area.

Dredge Material Transport Method: There are two (2) options available to transport material from the hopper dredge disposal area (HDDA) to the proposed ridge and marsh restoration site via barge haul.

1. This option would be done using a cutterhead dredge in the HDDA that pumps material into hopper barges. Once the hopper barge is filled with dredged material, it would be transported by tugboat to a DDMTS located in open water along the bankline of Grand Pass. From that location, dredged material would be hydraulically removed from the hopper barge via the DDMTS and pumped through a discharge pipeline that lies submerged across Grand Pass until it comes onto land at an existing slip at the end of Haliburton Road. From the slip at Haliburton Road to the project site, material would be transported via discharge pipeline to the Project Area. All discharge pipeline is temporary. 2. This option would use a hopper dredge with pump-out capability. A shallow hopper dredge could be loaded with dredged material and then transit to Grand Pass, at which point the material within the hopper dredge would then be pumped out and discharged through a discharge pipeline at the Haliburton Road slip. From the slip at Haliburton Road to the project site, material would be transported via discharge pipeline to the Project Area. All discharge pipeline is temporary.

At the slip at Haliburton Road, the dredge discharge pipeline would then travel along the north side of Haliburton Road and be placed within the existing drainage canal paralleling the road. Impacts to traffic on Haliburton Road would be minimal during dredged material disposal operations. A small triangular staging area is proposed at the pipelines intersection with Haliburton Road to accommodate pipeline and /or equipment offloading and reloading.

The dredge pipeline would then cross under Tide Water Road via a 42-inch casing that was bored under the road during the initial LCA BUDMAT Tiger Pass project. Upon exiting the casing under Tide Water Road, the pipeline could travel via one of two access corridors. For both options, the reach of pipeline corridor is currently defined as a 200 foot wide direct route from the bored casing location to Spanish Pass, of which the contractor would be limited to using 100 feet. Impacts to marsh within these corridors would be temporary. Upon completion of dredging and disposal activities, any use of either access corridor that results in impacts to existing marsh would be backfilled to approximately the elevation of the surrounding marsh and not to exceed approximately +3 feet NAVD88 in an effort to restore these degraded corridors to pre-project marsh elevations.

The proposed alternative routes would not require the dredge material pipeline to traverse across any levees, federal or otherwise. The construction equipment would access the site primarily through open water bodies in order to minimize damage to existing wetlands.

Refurbishment of a staging area, located at the west end of Spanish Pass Road and adjacent to Spanish Pass, and previously cleared and constructed during the initial LCA BUDMAT Tiger Pass project, would possibly be required. The staging area, comprised of crushed stone aggregate, was constructed under the initial BUDMAT project and measures approximately 75 feet in width and 75 feet in length, and impacted approximately 1.3 acres of marsh. The staging area would remain in place for future use.

Although the O&M Federal Standard limitations would not apply to the project addressed in this report, the final placement of material being pumped through the dredge pipeline would otherwise be handled in a manner similar to the handling of dredged materials for the normal O&M dredging of the HDDA when it disposes of materials in the Delta National Wildlife Refuge. (DNWR), the Pass A Loutre Wildlife Management Area (PALWLMA), and the open waters of West Bay.



Figure 1



Figure 2. Project site plan view



Figure 3. Off-loading area, pipeline route, and staging area plan view

Final² 1. Review of Compliance (§230.10 (a)-(d)). Preliminary¹ A review of this project indicates that: a. The discharge represents the least environmentally damaging practicable alternative and if in a special aquatic site, the activity associated with the discharge must have direct access or proximity to, or be located in the aquatic ecosystem to fulfill its basic purpose (if no, see section 2 and information YES NO* YES NO gathered for environmental assessment alternative); b. The activity does not appear to: (1) violate applicable state water quality standards or effluent standards prohibited under Section 307 of the Clean Water Act; (2) jeopardize the existence of Federally listed endangered or threatened species or their habitat; and (3) violate requirements of any Federally designated marine sanctuary (if no, see section 2b and check responses from resource and water quality FOR (1) ONLY certifying agencies); YES NO* YES NO c. The activity will not cause or contribute to significant degradation of waters of the United States including adverse effects on human health, life stages of organisms dependent on the aquatic ecosystem, ecosystem diversity, productivity and stability, and recreational, esthetic, and economic values (if no, NO* YES YES NO see section 2); d. Appropriate and practicable steps have been taken to minimize potential adverse impacts of the discharge on the aquatic ecosystem (if no, see section 5). YES NO* YES NO

Encl 1

2. <u>Technical Evaluation Factors (Subparts C-F)</u>.

a. Physical and Chemical Characteristics of the Aquatic Ecosystem (Subpart C).

- (1) Substrate impacts.
- (2) Suspended particulates/turbidity impacts.
- (3) Water column impacts.
- (4) Alteration of current patterns and water circulation.
- (5) Alteration of normal water fluctuations/ hydroperiod.
- (6) Alteration of salinity gradients.

b. Biological Characteristics of the Aquatic Ecosystem (Subpart D).

- (1) Effect on threatened/endangered species and their habitat.
- (2) Effect on the aquatic food web.
- (3) Effect on other wildlife (mammals, birds, reptiles, and amphibians).
- c. Special Aquatic Sites (Subpart E).
- (1) Sanctuaries and refuges.
- (2) Wetlands.
- (3) Mud flats.
- (4) Vegetated shallows.
- (5) Coral reefs.
- (6) Riffle and pool complexes.

d. Human Use Characteristics (Subpart F).

- (1) Effects on municipal and private water supplies.
- (2) Recreational and commercial fisheries impacts.
- (3) Effects on water-related recreation.
- (4) Esthetic impacts.
- (5) Effects on parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar preserves.

<u>Remarks</u>. Where a check is placed under the significant category, the preparer has attached explanation.

	Х
Х	
Х	
	Х
Х	
Х	

Not Significant

Х	
Х	
Х	

Х		
	Х	
	Х	
	Х	
Х		
Х		

Х		
	Х	
	Х	
	Х	
х		

N/A

Significant*

3. Evaluation of Dredged or Fill Material (Subpart G).³

a. The following information has been considered in evaluating the biological availability of possible contaminants in dredged or fill material.

∂	
(1) Physical characteristics	Х
(2) Hydrography in relation to known or anticipated sources of contaminants	x
(3) Results from previous testing of the material or similar material in the	
vicinity of the project	х
(4) Known, significant sources of persistent pesticides from land runoff or	x
percolation	
(5) Spill records for petroleum products or designated (Section 311 of CWA)	
hazardous substances	Х
(6) Other public records of significant introduction of contaminants from	x
industries, municipalities, or other sources	
(7) Known existence of substantial material deposits of substances which could	x
be released in harmful quantities to the aquatic environment by man-induced	
discharge activities	
(8) Other sources (specify)	

Appropriate references: See memorandum (Encl 2)

b. An evaluation of the appropriate information in 3a above indicates that there is reason to believe the proposed dredge or fill material is not a carrier of contaminants, or the material meets the testing exclusion criteria.



4. Disposal Site Delineation (§230.11(f)).

a. The following factors, as appropriate, have been considered in evaluating the disposal site.

(1) Depth of water at disposal site	х
(2) Current velocity, direction, and variability at disposal site	х
(3) Degree of turbulence	х
(4) Water column stratification	Х
(5) Discharge vessel speed and direction	
(6) Rate of discharge	
(7) Dredged material characteristics (constituents, amount, and type of	
material, settling velocities)	X
(8) Number of discharges per unit of time	
(9) Other factors affecting rates and patterns of mixing (specify)	

Appropriate references:

b. An evaluation of the appropriate factors in 4a above indicates that the disposal site and/or size of mixing zone are acceptable.



5. Actions to Minimize Adverse Effects (Subpart H).

All appropriate and practicable steps have been taken, through application of the recommendations of §230.70-230.77 to ensure minimal adverse effects of the proposed discharge.



6. Factual Determination (§230.11).

A review of appropriate information as identified in items 2-5 above indicates that there is minimal potential for short- or long-term environmental effects of the proposed discharge as related to:

a.	Physical substrate at the disposal site (review sections 2a, 3, 4, and 5 above).	YES	NO*
b.	Water circulation, fluctuation and salinity (review sections 2a, 3, 4, and 5).	YES	NO*
c.	Suspended particulates/turbidity (review sections 2a, 3, 4, and 5)	YES	NO*
d.	Contaminant availability (review sections 2a, 3, and 4).	YES	NO*
e.	Aquatic ecosystem structure and function (review sections 2b and c, 3, and 5).	YES	NO*
f.	Disposal site (review sections 2, 4, and 5).	YES	NO*
g.	Cumulative impact on the aquatic ecosystem.	YES	NO*
h.	Secondary impacts on the aquatic ecosystem.	YES	NO*

*A negative, significant, or unknown response indicates that the project may not be in compliance with the Section 404(b)(1) Guidelines.

¹Negative responses to three or more of the compliance criteria at this stage indicates that the proposed projects <u>may</u> not be evaluated using this "short form procedure". Care should be used in assessing pertinent portions of the technical information of items 2a-d, before completing the final review of compliance.

²Negative responses to one of the compliance criteria at this stage indicates that the proposed project does not comply with the guidelines. If the economics of navigation and anchorage of Section 404(b)(2) are to be evaluated in the decision-making process, the "short form" evaluation process is inappropriate.

³If the dredged or fill material cannot be excluded from individual testing, the "short form" evaluation process is inappropriate.

7. Evaluation Responsibility.

a. This evaluation was prepared by:

Name: Patrick Smith, PhD Position: Environmental Resource Specialist Organization: U.S. Army Corps of Engineers, New Orleans District Date: March 1, 2018

b. Water Quality evaluation was prepared by:

Name: Whitney Hickerson Position: Hydraulic Engineer Organization: U.S. Army Corps of Engineers, New Orleans District Date: 02/09/2018

c. Water Quality evaluation was reviewed by:

Name: Eric Glisch Position: Environmental Engineer Organization: U.S. Army Corps of Engineers, New Orleans District Date: 02/01/2018

8. Findings.

a. The proposed disposal site for discharge of dredged or fill material complies with the	
Section 404(b)(1) guidelines	•

b. The proposed disposal site for discharge of dredged or fill material complies with the Section 404(b)(1) guidelines with the inclusion of the following conditions

c. The proposed disposal site for discharge of dredged or fill material does not comply with the Section 404(b)(1) guidelines for the following reason(s):

- (1) There is a less damaging practicable alternative
- (2) The proposed discharge will result in significant degradation of the aquatic ecosystem
- (3) The proposed discharge does not include all practicable and appropriate measures to minimize potential harm to the aquatic ecosystem

Date:

Chief, Environmental Planning and Compliance Branch

Appendix C. NFS Letter of Intent and Statement of Financial Capability This will be included in the final report.

Appendix D. Relocations Summary

Available Upon Request due to size of the file.

Appendix E. LCA BUDMAT at Tiger Pass 2, Draft 2017 Geotechnical Report

Based on similarities between Tiger Pass 2 and the immediately adjacent and recently constructed Tiger Pass project, it is assumed site conditions are similar. However, a geotechnical investigation is ongoing. Conclusions from the investigation would be made available in a Geo-technical Report at a later date.

Appendix F. Cost Certification and Total Project Cost Summary Cost Certification, Total Project Cost Summary, and the Abbreviated Risk Analysis will be included in the final report.

Appendix G. US Fish and Wildlife Draft Coordination Report



United States Department of the Interior

FISH AND WILDLIFE SERVICE 646 Cajundome Blvd. Suite 400 Lafayette, Louisiana 70506



February 8, 2018

Colonel Michael N. Clancy District Commander U.S. Army Corps of Engineers Post Office Box 60267 New Orleans, Louisiana 70160-0267

Dear Colonel Clancy:

The U.S. Army Corps of Engineers (USACE), New Orleans District has proposed Supplemental Environmental Assessment (SEA) #542.B titled "Louisiana Coastal Area, Beneficial Use of Dredged Material Program at Tiger Pass II, Plaquemines Parish, Louisiana." That SEA evaluates the potential impacts associated with beneficially using dredged material removed from the Mississippi River's hopper dredge disposal area (HDDA) to create marsh and ridge habitat in a designated disposal area along Spanish Pass. The original Environmental Assessment was for the construction of the Tiger Pass I project, which involved approximately 5,000 linear feet of marsh and ridge restoration along Spanish Pass. This report contains an analysis of the impacts on fish and wildlife resources that would result from the implementation of the newly proposed project and provides recommendations to minimize adverse project impacts while maximizing beneficial project impacts on those resources. This draft report has been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), and a copy of the report will be provided to the National Marine Fisheries Service (NMFS) and the Louisiana Department of Wildlife and Fisheries (LDWF) for review and their comments will be included in our final report.

Wetland deterioration in the Mississippi River Delta (MRD) has been caused by anthropogenic factors, such as leveeing, canal dredging, gas and oil exploration, as well as natural processes such as eustatic sea level rise, subsidence, saltwater intrusion, and erosion. The Louisiana Coastal Area (LCA) Beneficial Use of Dredged Material (BUDMAT) program was created to help fund the beneficial use of dredged material from federally-maintained waterways in coastal Louisiana. The program is only utilized for ecosystem restoration projects that are beyond the scope of disposal activities covered under the USACE's Operations and Maintenance (O&M) dredging program Federal Standard. The program is authorized at \$100 million, and funds have been appropriated for the Tiger Pass II project in partnership with the Plaquemines Parish Government.

The objectives for the Tiger Pass II project are to create coastal forested ridge and emergent marsh habitat adjacent to Spanish Pass in coordination with the USACE's O&M dredging program. Spanish Pass ridge restoration was originally proposed as part of the State's 2012 Coastal Master

Plan and Plaquemines Parish Ridge Restoration Program. Since Spanish Pass was cut off from the Mississippi River by levees, the historic ridge has subsided and eroded through time. The proposed project would be constructed using dredged material removed during routine maintenance of the HDDA, which is located at the mouth of Pass a Loutre where it meets the Mississippi River Ship Channel. That material would be hauled via barge to an offload area before being pumped through pipelines to a disposal site outside of the Federal Standard. The area identified for the Tiger Pass II project is located north of Venice, LA approximately 2.5 miles west of the Mississippi River's west bank. It would be immediately adjacent to, and an extension of, the Tiger Pass I marsh and ridge restoration project at Spanish Pass.

STUDY AREA

The Tiger Pass II project area is located in the northern part of the West Bay subdelta of the MRD, in extreme southeast Plaquemines Parish, Louisiana. The project area is the open water and surrounding marsh of Spanish Pass, a remnant distributary. The vegetation in the study area is classified as fresh and intermediate marsh (O'Neil 1949, Chabreck and Linscombe 1997, Sasser et al. 2008). Parts of the area receive riverine input and support many species of emergent and submerged vegetation. Emergent plant species include: smooth cordgrass, Walter's millet, giant cutgrass, wild rice, elephant ear, freshwater three square, and water lotus. Submerged aquatic vegetation (SAV), such as Eurasian watermilfoil, water stargrass, coontail, southern naiad, longleaf pondweed is also common in the lower elevation intertidal and shallow subtidal portions of the project area. Black willow and eastern baccharis occur along the higher-elevation areas. The two major soil types in the project area are commonly found together and are classified as Balize and Larose soils (BA). Both soil types are level and very poorly drained. They are flooded by Mississippi River water most of the time and support freshwater marshes. Subsidence in the area is high, and substantial sediment has not been deposited in the area since the original land formation of the West Bay subdelta. During periods of low river flow and/or strong south winds, gulf water intrudes and temporarily increases the salinity of the area.

FISH AND WILDLIFE RESOURCES

The fresh and intermediate marshes in the project area provide habitat for federal trust species including wading birds, waterfowl, and neotropical migrants. Freshwater and estuarine fish and crustacean species are abundant. Marsh in the project area provides important habitat for the growth and production of estuarine-dependent species such as blue crab, white shrimp, brown shrimp, Gulf menhaden, Atlantic croaker, spot, red drum, black drum, sand seatrout, spotted seatrout, southern flounder, striped mullet, and other finfishes. Commercial shrimp harvests have been positively correlated with the area of tidal emergent wetlands (Turner 1977 and 1982). Future commercial harvests of shrimp and other fishes and shellfishes would likely be adversely impacted by losses in marsh habitat (Turner 1982). Other wildlife includes alligators, swamp rabbit, nutria, muskrat, mink, river otter, raccoon, white-tailed deer, and coyote.

FUTURE FISH AND WILDLIFE RESOURCES

The MRD is generally experiencing high rates of land loss due to subsidence, erosion, etc., with localized areas of stability and marsh progradation. The loss of marsh acreage would result in less foraging, protection, nesting, etc., resources for fish and wildlife. Localized areas would maintain
existing marsh or have an increase due to sedimentation and will continue to support fish and wildlife, but the MRD in general would experience decreased abundances of fish and wildlife.

Threatened and Endangered Species and Migratory Birds

Federally-listed threatened and endangered species that could be encountered in the project area are the endangered pallid sturgeon (*Scaphirhynchus albus*), the threatened West Indian manatee (*Trichechus manatus*), the threatened piping plover (*Charadrius melodus*), and the threatened red knot (*Calidris canutus rufa*), and sea turtles. The USACE should consult with the NMFS regarding sea turtles. The USACE should consult with the Service for all other species and include any Service-recommended protective measures in their work plan.

The pallid sturgeon is an endangered, bottom-oriented, fish that inhabits large river systems from Montana to Louisiana. Within this range, pallid sturgeon tend to select main channel habitats in the Mississippi River and main channel areas with islands or sand bars in the upper Missouri River. In Louisiana it occurs in the Atchafalaya and Mississippi Rivers, and below Lock and Dam Number 3 on the Red River (with known concentrations in the vicinity of the Old River Control Structure Complex). The pallid sturgeon is adapted to large, free-flowing, turbid rivers with a diverse assemblage of physical characteristics that are in a constant state of change. Many life history details and subsequent habitat requirements of this fish are not known. However, the pallid sturgeon is believed to utilize Louisiana riverine habitat during reproductive stages of its life cycle. Habitat loss through river channelization and dams has adversely affected this species throughout its range.

Entrainment issues associated with dredging operations in the Mississippi and Atchafalaya Rivers and through diversion structures off the Mississippi River are two potential effects that should be addressed in future planning studies and/or in analyzing current project effects. We recommend the following to minimize potential impacts to pallid sturgeon associated with dredging to ensure protection of the pallid sturgeon: (1) the cutterhead should remain completely buried in the bottom material during dredging operations. If pumping water through the cutterhead is necessary to dislodge material or to clean the pumps or cutterhead, etc., the pumping rate should be reduced to the lowest rate possible until the cutterhead is at mid-depth, where the pumping rate can then be increase; (2) during dredging, the pumping rates should be reduced to the slowest speed feasible while the cutterhead is descending to the channel bottom.

The threatened West Indian manatee is known to regularly occur in Lakes Pontchartrain and Maurepas and their associated coastal waters and streams. It also can be found less regularly in other Louisiana coastal areas, most likely while the average water temperature is warm. Based on data maintained by the Louisiana Natural Heritage Program (LNHP), over 80 percent of reported manatee sightings (1999-2011) in Louisiana have occurred from the months of June through December. Manatee occurrences in Louisiana appear to be increasing and they have been regularly reported in the Amite, Blind, Tchefuncte, and Tickfaw Rivers, and in canals within the adjacent coastal marshes of southeastern Louisiana. Manatees may also infrequently be observed in the Mississippi River and coastal areas of southwestern Louisiana. Cold weather and outbreaks of red tide may adversely affect these animals. However, human activity is the primary cause for declines in species number due to collisions with boats and barges, entrapment in flood control structures, poaching, habitat loss, and pollution.

During in-water work in areas that potentially support manatees all personnel associated with the project should be instructed about the potential presence of manatees, manatee speed zones, and the need to avoid collisions with and injury to manatees. All personnel should be advised that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act of 1972 and the Endangered Species Act of 1973. Additionally, personnel should be instructed not to attempt to feed or otherwise interact with the animal, although passively taking pictures or video would be acceptable. The following conservation measures should be included in all contracts and plans and specifications for in-water work in areas where the manatee may occur.

- All on-site personnel are responsible for observing water-related activities for the presence of manatee(s). We recommend the following to minimize potential impacts to manatees in areas of their potential presence:
- All work, equipment, and vessel operation should cease if a manatee is spotted within a 50foot radius (buffer zone) of the active work area. Once the manatee has left the buffer zone on its own accord (manatees must not be herded or harassed into leaving), or after 30 minutes have passed without additional sightings of manatee(s) in the buffer zone, in-water work can resume under careful observation for manatee(s).
- If a manatee(s) is sighted in or near the project area, all vessels associated with the project should operate at "no wake/idle" speeds within the construction area and at all times while in waters where the draft of the vessel provides less than a four-foot clearance from the bottom. Vessels should follow routes of deep water whenever possible.
- If used, siltation or turbidity barriers should be properly secured, made of material in which manatees cannot become entangled, and be monitored to avoid manatee entrapment or impeding their movement.
- Temporary signs concerning manatees should be posted prior to and during all in-water project activities and removed upon completion. Each vessel involved in construction activities should display at the vessel control station or in a prominent location, visible to all employees operating the vessel, a temporary sign at least 8¹/₂ " X 11" reading language similar to the following: "CAUTION BOATERS: MANATEE AREA/ IDLE SPEED IS REQUIRED IN CONSRUCTION AREA AND WHERE THERE IS LESS THAN FOUR FOOT BOTTOM CLEARANCE WHEN MANATEE IS PRESENT". A second temporary sign measuring 8¹/₂ " X 11" should be posted at a location prominently visible to all personnel engaged in water-related activities and should read language similar to the following: "CAUTION: MANATEE AREA/ EQUIPMENT MUST BE SHUTDOWN IMMEDIATELY IF A MANATEE COMES WITHIN 50 FEET OF OPERATION".
- Collisions with, injury to, or sightings of manatees should be immediately reported to the Service's Louisiana Ecological Services Office (337/291-3100) and the Louisiana Department of Wildlife and Fisheries, Natural Heritage Program (225/765-2821). Please provide the nature of the call (i.e., report of an incident, manatee sighting, etc.); time of incident/sighting; and the approximate location, including the latitude and longitude coordinates, if possible.

The piping plover, federally listed as a threatened species, is a small (7 inches long), pale, sandcolored shorebird that winters in coastal Louisiana and may be present for 8 to 10 months annually. Piping plovers arrive from their northern breeding grounds as early as late July and remain until late March or April. They feed on polychaete marine worms, various crustaceans, insects and their larvae, and bivalve mollusks that they peck from the top of or just beneath the sand. Piping plovers forage on intertidal beaches, mudflats, sand flats, algal flats, and wash-over passes with no or very sparse emergent vegetation. They roost in unvegetated or sparsely vegetated areas, which may have debris, detritus, or micro-topographic relief offering refuge to plovers from high winds and cold weather. They also forage and roost in wrack (i.e., seaweed or other marine vegetation) deposited on beaches. In most areas, wintering piping plovers are dependent on a mosaic of sites distributed throughout the landscape, because the suitability of a particular site for foraging or roosting is dependent on local weather and tidal conditions. Plovers move among sites as environmental conditions change, and studies have indicated that they generally remain within a 2-mile area. Major threats to this species include the loss and degradation of habitat due to development, disturbance by humans and pets, and predation.

On July 10, 2001, the Service designated critical habitat for wintering piping plovers (Federal Register Volume 66, No. 132); a map of the seven critical habitat units in Louisiana can be found at <u>http://criticalhabitat.fws.gov/crithab</u>. Based on the information provided, the proposed action would not be located within any designated critical habitat units; therefore, no critical habitat would be affected.

The red knot, federally listed as a threatened species, is a medium-sized shorebird about 9 to 11 inches (23 to 28 centimeters) in length with a proportionately small head, small eyes, short neck, and short legs. The black bill tapers steadily from a relatively thick base to a relatively fine tip; bill length is not much longer than head length. Legs are typically dark gray to black, but sometimes greenish in juveniles or older birds in non-breeding plumage. Non-breeding plumage is dusky gray above and whitish below. The red knot breeds in the central Canadian arctic but is found in Louisiana during spring and fall migrations and the winter months (generally September through May).

During migration and on their wintering grounds, red knots forage along sandy beaches, tidal mudflats, salt marshes, and peat banks. Observations along the Texas coast indicate that red knots forage on beaches, oyster reefs, and exposed bay bottoms, and they roost on high sand flats, reefs, and other sites protected from high tides. In wintering and migration habitats, red knots commonly forage on bivalves, gastropods, and crustaceans. Coquina clams (*Donax variabilis*), a frequent and often important food resource for red knots, are common along many gulf beaches. Major threats to this species along the Gulf of Mexico include the loss and degradation of habitat due to erosion, shoreline stabilization, and development; disturbance by humans and pets; and predation.

The brown pelican (*Pelecanus occidentalis*), a year-round resident of coastal Louisiana that may occur in the project area, was removed from the Federal List of Endangered and Threatened Wildlife (i.e., "delisted") by the Service on November 17, 2009. Despite its delisting, brown pelicans - and other colonial nesting wading birds and seabirds - remain protected under the Migratory Bird Treaty Act. Portions of the proposed project area may contain habitats commonly inhabited by colonial nesting wading birds and seabirds. To minimize disturbance to pelicans and other colonial nesting birds potentially occurring in the project area, the USACE

would observe restrictions on activity provided by the Fish and Wildlife Service, Lafayette, Louisiana Ecological Services Office. Special operating conditions addressing pelicans and other colonial nesting wading birds and seabirds (including reporting presence of birds and/or nests; no-work distance restrictions—2000 feet for brown pelicans, 1000 feet for colonial nesting wading birds, and 650 feet for terns, gulls, and black skimmers; bird nesting prevention and avoidance measures; marking discovered nests) would be included in the USACE's plans and specifications developed prior to dredging and disposal activities. In addition, dredging and disposal activities would be restricted to non-nesting periods for colonial nesting wading birds and seabirds when practicable.

Essential Fish Habitat

The project may be located within an area identified as Essential Fish Habitat (EFH) by the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA, Magnuson-Stevens Act; P.L. 104-297). The USACE should consult with the NMFS regarding EFH.

Species of Management Concern

Species of fish, wildlife, and plants labeled as "S1" and S2" by the Louisiana Department of Wildlife and Fisheries are extremely and very rare species, respectively, that are vulnerable to extirpation in Louisiana. These species, along with those identified as priority species by the Gulf Coast Joint Venture are species of management concern. Continued population declines could result in these species becoming candidates for listing under the Endangered Species Act. Some of these species may also be referred to as at-risk species; the Service has defined at-risk species as those species that have either been proposed for listing, are candidates for listing, or have been petitioned for listing.

Species of concern which use the study area include Wilson's plover, gull-billed tern, reddish egret, black skimmer, and peregrine falcon. Species of concern that would use study area's fresh, intermediate, brackish and saline marsh habitat and adjacent open waters, include the Louisianaeyed silk moth, glossy ibis, seaside sparrow, black rail, mottled duck, and the peregrine falcon.

DESCRIPTION OF TENTATIVELY SELECTED PLAN AND EVALUATED ALTERNATIVES

Through coordination between the USACE's Project Development Team (PDT), the non-federal sponsor (Plaquemines Parish), and natural resource agencies, the following alternatives were compared:

1) Tentatively Selected Plan (TSP): Spanish Pass Ridge Expansion

Under the LCA BUDMAT – Tiger Pass II project, approximately 6,200 linear feet of ridge and marsh platform would be constructed along Spanish Pass to compliment the initial 5,000 feet currently being constructed for the Tiger Pass I project (contract 16-C-0054). The ridge would be constructed to an elevation of +6.5 feet North American Vertical Datum 1988 (NAVD88) with a 200-feet wide base, mirroring the design developed for Tiger Pass I. The entire earthen ridge (29.7 acres) would be backed by a marsh platform (105.92 acres) constructed to +3.5 feet NAVD88, creating a total project footprint of approximately 136 acres. The construction of these features would impact 11.51 acres of existing marsh within the fill footprint. The total project area spans over 8,000 feet along Spanish Pass but includes three breaks where active oil and gas pipelines cross the site.

Approximately 2,000,000 cubic yards (CYS) of material would be dredged from the HDDA for project construction. It would be hauled via barge to an offload area before being pumped through pipelines to the disposal site. Approximately 0.5-acre of marsh would be temporarily impacted in the access right-of-way. The final placement of material being pumped through the pipeline would be handled in a manner similar to the handling of dredged materials for the normal O&M dredging of the HDDA when it disposes of materials in the Delta National Wildlife Refuge, the Pass A Loutre Wildlife Management Area, and the open waters of West Bay. This BUDMAT plan would involve the construction of earthen retention dikes and spill box weirs at select sites. These retention features would be required in order to maximize retention of the dredged fill for the development of the wetlands, as well as to prevent the material from entering adjacent lands, waterways, and pipeline rights-of-way.

2) Red Pass Ridge Restoration

This alternative would restore a portion of the remnant ridge (23 acres) along Red Pass and fortify broken marsh immediately north of the ridge within two proposed marsh creation sites (72.56 acres). The created feature would include a ridge approximately 5,000-ft long constructed to an elevation of +6.5-ft NAVD88 with a 200-ft wide base. The ridge would begin on the right descending bank of Red Pass just west of the Red Pass/Pass Tante Phine junction. In addition to the ridge restoration, there are two proposed marsh creation sites that would be constructed to a height of +3.5-ft NAVD88. The project footprint would total approximately 96 acres and impact 36.05 acres of existing marsh. Project construction would require 1,500,000 cubic yards of dredged material.

3) No Action Alternative

The restoration project would not be constructed.

EVALUATION METHODS FOR SELECTED PLAN AND ALTERNATIVES

Wetland Value Assessment (WVA)

Evaluations of the effects of the alternatives to fish and wildlife resources were conducted using the WVA methodology. Implementation of the WVA requires that habitat quality and quantity (acreage) are measured for baseline conditions, and predicted for future without-project and future with-project conditions. Each WVA model utilizes an assemblage of variables considered important to the suitability of that habitat type to support a diversity of fish and wildlife species. The WVA provides a quantitative estimate of project-related impacts to fish and wildlife resources; however, the WVA is based on separate models for bottomland hardwoods, chenier/coastal ridge, fresh/intermediate marsh, brackish marsh, and saline marsh. Although, the WVA may not include every environmental or behavioral variable that could limit populations below their habitat potential, it is widely acknowledged to provide a cost-effective means of assessing restoration measures in coastal wetland communities.

The WVA models operate under the assumption that optimal conditions for fish and wildlife habitat within a given coastal wetland type can be characterized, and that existing or predicted conditions can be compared to that optimum to provide an index of habitat quality. Habitat quality is estimated and expressed through the use of a mathematical model developed specifically for each wetland type. Each model consists of: (1) a list of variables that are considered important in characterizing community-level fish and wildlife habitat values; (2) a Suitability Index graph

for each variable, which defines the assumed relationship between habitat quality (Suitability Index) and different variable values; and, (3) a mathematical formula that combines the Suitability Indices for each variable into a single value for wetland habitat quality, termed the Habitat Suitability Index (HSI).

The product of an HSI value and the acreage of available habitat for a given target year is known as the Habitat Unit (HU) and is the basic unit for measuring project effects on fish and wildlife habitat. HUs are annualized over the project life to determine the Average Annual Habitat Units (AAHUs) available for each habitat type. The change (increase or decrease) in AAHUs for each future with-project scenario, compared to future without-project conditions, provides a measure of anticipated impacts. A net gain in AAHUs indicates that the project is beneficial to the fish and wildlife community within that habitat type; a net loss of AAHUs indicates that the project would adversely impact fish and wildlife resources.

The initial WVA used to compare the two action alternatives was not an approved model. Since the selection of the TSP, a USACE approved model became available and was used in the most recent calculations of AAHUs for the Spanish Pass Ridge Expansion. The Red Pass Ridge Restoration alternative was not re-evaluated with the approved WVA model since it had already been dropped from consideration.

IMPACTS OF SELECTED PLAN AND ALTERNATIVES

Because both of the action alternatives include placement of dredged material in shallow water bottoms, they would impact benthic and slower moving aquatic demersal organisms; however, shallow water bottom habitat area is increasing relative to emergent marsh area and coastal islands in most of coastal Louisiana. The construction of the TSP or the other ridge/marsh alternative would impact remnant degraded marsh but they would create new ridge habitat and emergent marsh with greater refugia and forage benefits than open water bottoms and would increase the overall net habitat value of the area. The projected effects of the alternatives are summarized in Table 1.

generated.					
Alternative	Marsh restoration area (acres)	Net marsh AAHUs	Ridge restoration area (acres)	Net ridge AAHUs	Total project AAHUs
Spanish Pass Ridge Expansion (TSP)	106	38.08	30	18.54	56.62
Red Pass Ridge Restoration	73	8.8	23	14.74	23.54

Table 1. Tiger Pass II BUDMAT alternatives with associated acres and net AAHUs that would be generated.

SERVICE POSITION AND RECOMMENDATIONS

The Service's analysis of project alternatives considered for the study area has shown the potential for beneficial effects on fish and wildlife resources. Construction of the TSP (Spanish Pass Ridge Expansion) would result in 30 acres of forested ridge and 106 acres of intermediate marsh with a net total 56.62 AAHUs. The Service supports this habitat creation project provided the following

fish and wildlife conservation measures are implemented concurrently with project implementation to help ensure that fish and wildlife conservation is maximized:

- 1. Avoid adverse impacts to water bird colonies through careful design of project features and timing of construction. We recommend that a qualified biologist inspect the proposed work site for the presence of undocumented nesting colonies during the nesting season. For areas containing nesting wading birds (i.e., herons, egrets, night-herons, ibis, and roseate spoonbills), anhingas, and/or cormorants, all activity occurring within 1,000 feet of a nesting colony should be restricted to the non-nesting period. For nesting brown pelicans activity should be avoided within 2,000 feet of the colony. Activity is restricted within 650 feet of black skimmers, gulls, and terns.
- 2. The impacts to Essential Fishery Habitat should be discussed with the National Marine Fisheries Service to determine if the project complies with the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA), Magnuson-Stevens Act; P.L. 104-297, as amended) and its implementing regulations.
- 3. Access corridors across existing wetlands should be avoided if possible. Impacted wetlands should be restored to a substrate elevation similar to the surrounding marsh. Flotation access channels in open water should be backfilled upon project completion. Post-construction surveys (e.g., centerline surveys) should be taken to ensure access channels have been adequately backfilled. That information should be provided to the natural resource agencies for review.
- 4. To ensure that dredged material is placed to each particular habitat's specified elevations, we recommend that the USACE use an updated NAVD88 datum (i.e., current geoid) consistent with the NAVD88 datum that is referenced for the elevations of existing marsh and water level in the project area.
- 5. If containment dikes are constructed, they should be breached or degraded to the settled elevations of the disposal area. Such breaches should be undertaken after consolidation of the dredged sediments and vegetative colonization of the exposed soil surface, or a maximum of 2 years after construction.
- 6. The Service recognizes the value of submerged aquatic vegetation (SAV) habitat to fish and wildlife, including Federal trust resource species. If SAV is encountered, the USACE should avoid these areas if possible and utilize unvegetated open water areas for marsh creation.
- 7. Further detailed planning of project features (e.g., Design Documentation Report, Engineering Documentation Report, Plans and Specifications, Water Control Plans, or other similar documents) should be coordinated with the Service, NMFS, LDWF, EPA and LDNR. The Service shall be provided an opportunity to review and submit recommendations on the all work addressed in those reports.
- 8. Any proposed change in project features or plans should be coordinated in advance with the Service, NMFS, LDWF, and LDNR.

- 9. The LCA BUDMAT program specifies that monitoring and adaptive management plans are required for beneficial use habitat creation projects. The USACE should coordinate with the Service during development of those plans.
- 10. ESA consultation should be reinitiated should the proposed project features change significantly or are not implemented within one year of the last ESA consultation with this office to ensure that the proposed project does not adversely affect any federally listed threatened or endangered species or their habitat.

We appreciate the opportunity to assist in the development of and provide comments on the Tiger Pass II BUDMAT project. We look forward to your response to our recommendations and to future coordination to further protect fish and wildlife resources as more specific plans are developed. If you need further assistance or have questions regarding this letter, please contact Seth Bordelon (337/291-3138) of this office.

Sincerely,

Joseph A. Ranson Field Supervisor Louisiana Ecological Services Office

cc: USACE, NOD, New Orleans, LA (Attn: Mr. Michael Morris) EPA, Dallas, TX NMFS, Baton Rouge, LA FWS, Southeast Refuge Complex, Lacombe, LA (Attn: Mr. James Harris) LDWF, Baton Rouge, LA LDNR, CMD, Baton Rouge, LA CPRA, Baton Rouge, LA

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Appendix H. Real Estate Plan

REAL ESTATE PLAN

Louisiana Coastal Area Beneficial Use of Dredged Material Program Tiger Pass 2 Plaquemines Parish, Louisiana

May, 2018

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- 19 NFS RISKS
- 20 OTHER RELEVANT REAL ESTATE ISSUES

EXHIBIT A –FIXED TERM ECOSYSTEM RESTORATION EASEMENT (NON-STANDARD ESTATE)

EXHIBIT B – NON-MATERIAL DEVIATION (TEMPORARY WORK AREA AND PIPELINE EASEMENT)

- EXHIBIT C BASELINE COST ESTIMATE / CHART OF ACCOUNTS
- EXHIBIT D NOTIFICATION OF RISK
- EXHIBIT E La. R.S. 49:215.5.5 (2017)

1 PURPOSE OF REAL ESTATE PLAN

This Real Estate Plan (REP) sets forth the real estate requirements and costs for the implementation and construction of the Tentatively Selected Plan as described in greater detail in the Integrated Design and Implementation Report and Supplemental Environmental Assessment #542.B (Draft Integrated DIR/SEA) for the Louisiana Coastal Area (LCA), Beneficial Use of Dredged Material (BUDMAT) Program Tiger Pass 2 Project in Plaquemines Parish, Louisiana (Project). The lands, easements and rights-of-way required for the Project are outlined in this Real Estate Plan in accordance with the requirements of Engineering Regulation (ER) 405-1-12. The information contained herein is tentative and preliminary in nature and intended for planning purposes only.

A. PROJECT PURPOSE

The \$100 million Louisiana Coastal Area Beneficial Use of Dredged Material Program was authorized by Title VII, Section 7006(d) of the Water Resources Development Act of 2007 (PL 110-114) on 8 November 2007, in accordance with the Report of the Chief of Engineers dated 31 January 2005. The Final Programmatic Study Report and Environmental Impact Statement dated January 2010 was approved by the Assistant Secretary of the Army for Civil Works (ASA (CW)) on 13 August 2010. The LCA BUDMAT Program consists of the beneficial use of materials dredged from authorized federal navigation projects for purposes of ecosystem restoration with separate, cost-shared, individual ecosystem restoration projects with individual LCA BUDMAT project costs that are above and beyond the USACE Operation and Maintenance (O&M) dredging Federal Standard.

The Draft Integrated DIR/SEA proposes a Tentatively Selected Plan (TSP) for approval as an individual BUDMAT project to be implemented under the LCA BUDMAT Program. The TSP is intended to maximize and optimize the beneficial use of dredged material for ecosystem restoration purposes by depositing the dredged material in a manner that will maximize habitat output, above the current limitations imposed by the Federal Standard on the applicable federal navigation project which will be the source of the dredged material.

The New Orleans District (CEMVN) has completed the initial Project design with the Plaquemines Parish Government of Louisiana, who is the Non-Federal Sponsor (NFS), pursuant to the executed Project Design Agreement dated 16 May 2017. After the Final Integrated DIR/SEA #542.B (decision document) is approved, the Department of the Army will proceed with the execution of a Project Partnership Agreement (PPA) with the NFS.

Loss of coastal marsh in the state of Louisiana continues at a rapid rate due to a number of factors, which include but are not limited to erosion, subsidence, saltwater intrusion and sea level change. The future without project (FWOP or No Action Alternative) condition is likely to continue on a path of general habitat and resource degradation, except in those areas where dredged material from navigation channel maintenance events are placed in a manner conducive to coastal habitat restoration.

In lieu of placing the dredged material from the USACE hopper dredge disposal area (HDDA) within the federal standard sites, the material would be transported to Spanish Pass in order to extend the initial ridge and marsh platform currently under construction under LCA BUDMAT Tiger Pass Project.

At this stage of the design process, it is anticipated that approximately 2,000,000 cubic yards of material to be dredged from the HDDA, located at the mouth of Pass a Loutre where it meets the Mississippi River Ship Channel, will be deposited into the proposed marsh and ridge creation and restoration area(s).

B. **PROJECT LOCATION**

This Project is located in southeastern Louisiana, in Plaquemines Parish near Venice on the west side of the Mississippi River (see Figure 1 Project Location Area Map below - "BUDMAT Project 6. Tiger Pass 2"). The proposed ridge expansion would begin approximately 2.5 miles west of LA Hwy 23 in Venice, Louisiana and continue to the west along the north side of Spanish Pass.



Figure 1 – Project Location Area Map

The first 5,000 feet of the Spanish Pass ridge and backside marsh platform (Tiger Pass Project) is being constructed under USACE contract. The Tiger Pass Project provides the restoration of an approximately 5,000-foot long non-continuous ridge, backed by an approximately 500-foot wide intermediate marsh platform using approximately 1,700,000 cubic yards (CYS) of material dredged from the USACE hopper dredge disposal area (HDDA).

Under the LCA BUDMAT Tiger Pass 2 Project, another 6,800 feet of ridge and marsh platform would be constructed to compliment the initial 5,000 feet being built and will mirror the design. The entire length along the ridge face of the Project is over 8,700 feet in length. However, due to numerous active oil and gas pipelines located within the Project Area, there are several breaks in the ridge; therefore the noncontiguous length of the ridge with the breaks excluded is approximately 6,800 feet.

C. PROJECT AUTHORITY

The Report of the Chief of Engineers dated 31 January 2005 (2005 Chief's Report) approved the Near-Term Plan substantially in accordance with the 2004 LCA Study and a Record of Decision signed 18 November 2005. Title VII of the Water Resources Development Act of 2007 (WRDA 2007) (PL 110-114) authorized an ecosystem restoration Program for the LCA substantially in accordance with the Near-Term Plan identified in the 2005 Chief's Report, and Section 7006(d) specifically authorizes the LCA BUMDAT Program for the beneficial use of material dredged from federally maintained waterways in the coastal Louisiana ecosystem at a total cost of \$100,000,000. (See Final Integrated DIR and EA, "Project Authority" Section). The Design Agreement between the Department of Army and the Non-Federal Sponsor, the Plaquemines Parish Government for the Project was executed on 16 May 2017.

The DIR states a TSP for the Project to be implemented as part of the LCA BUDMAT Program for a proposed ridge restoration and marsh creation and restoration project, to be constructed from the placement of dredged material removed from the federally maintained hopper dredge disposal area (HDDA), located near the Head of Passes in the Mississippi River which has been identified as the Federal Standard. The dredged material deposited in the HDDA will be sourced from the routine maintenance dredging of the Mississippi River (including Southwest Pass, and South Pass), in accordance with the Mississippi River Baton Rouge to the Gulf of Mexico Federal Navigation Project, which is authorized under the Rivers and Harbors Act of 1945 (PL 79-14); Rivers and Harbors Act of 1962 (PL 87-874); the Supplemental Appropriations Act of 1985 (PL 99-88); and the Water Resources Development Act of 1986 (PL 99-662), as amended.

2 DESCRIPTION OF THE TENTATIVELY SELECTED PLAN AND LANDS, EASEMENTS, RIGHTS-OF-WAY, RELOCATIONS AND DISPOSAL SITES

Description	Acreage	Estate to be Acquired				
Access – includes proposed maximum extent of pipeline corridor (Halliburton Rd. / drainage canal / Yellow Cotton Bay)	57	Temporary Work Area and Pipeline Easemen				
Staging Area – Halliburton Rd.	1.3	Temporary Work Area and Pipeline Easement				
Staging Area – West End of Spanish	1.3	Temporary Work Area and Pipeline Easement				
Pass Road						
Marsh Platform, Restored Ridge,	149.5	Ecosystem Restoration Easement (non-				
Retention Dikes and Borrow		standard)				
Eigure 2 $-$ LEPPD to Acquire						

Figure 2 – LERRD to Acquire

Staging Area

Refurbishment of a staging area located at the west end of Spanish Pass Road and adjacent to Spanish Pass (previously cleared and constructed during the initial Tiger Pass Project) would possibly be required. The staging area is comprised of crushed stone aggregate and measures approximately 75' x 75' and impacted approximately 1.3 acres of intermediate marsh. The area will remain in place for future use.

A small triangular 1.3 acre staging area is proposed at the pipelines intersection with Haliburton Road to accommodate equipment offloading and reloading.

<u>Access</u>

Ingress and egress of construction personnel and some equipment to the Project site would be allowed via Spanish Pass, beginning at Spanish Pass Road off LA Hwy 23 at a previously cleared staging area.

<u>Dredge Material Transport Method – There are two options for transporting dredge material from the HDDA to a slip at Haliburton Road via barge haul</u>

- A cutterhead suction dredge in the HDDA would be used to load hopper barges. The hopper barge, once filled with dredged material, would be transported by tugboat into a designated off-loader location along the bankline of Grand Pass. From that location, dredged material would be hydraulically removed from the hopper barge and pumped through a discharge pipeline submerged across Grand Pass to land at an existing slip at the end of Haliburton Road. From the slip at Haliburton Road to the project site, material would be transported via discharge pipeline to the Project Area.
- 2. A shallow hopper dredge (without pump-out capability) could be loaded with dredged material and then transported to Grand Pass, at which point the material within the hopper dredge would be pumped out via the temporary pipeline at the Haliburton Road slip. From the slip at Haliburton Road, the material would be transported via discharge pipeline to the Project Area.

At the slip at the end of Haliburton Road the dredge discharge pipeline would then travel along the north side of Haliburton Road and be placed within the existing drainage canal adjacent to and paralleling the road. Impacts to traffic on Haliburton Road would be minimal during dredged material disposal operations. The dredge pipeline would then cross under Tide Water Road via a 42-inch casing bored under the road during the Tiger Pass Project.

Upon exiting the casing under Tide Water Road, the pipeline could travel via one of two access corridors. For both options, the reach of pipeline corridor is currently defined as a 200 foot wide direct route from the bored casing to Spanish Pass, of which the contractor would be limited to using 100 feet. Impacts to the marsh within these corridors would be temporary. Upon completion of dredging and disposal activities, any use of either access corridor that results in impacts to existing marsh would be backfilled to restore these corridors to pre-project marsh elevations.

To access the project site via the open waters between Tide Water Road and Spanish Pass, there is one pipeline access corridor that has temporary impacts estimated to be 1.1 acres.

Another, new pipeline access corridor is primarily in the open water of Yellow Cotton Bay between Spanish Pass and Tide Water Road and is 20.25 acres at the 100 foot width. Potential temporary impacts to existing marsh at a maximum would be approximately .96 acres on the eastern side within the 200 foot to allow the contractor to go around existing marsh islands to enter Spanish Pass. No impacts to wetlands would be allowed on the western end of the new alternate corridor.

No impacts to existing pipeline right of ways would be allowed for either corridor. The proposed route would not require the dredge material pipeline to traverse across any levees, federal or otherwise. The construction equipment would access the site primarily through open water bodies in order to minimize damage to existing wetlands.

Upon completion of the contract, the dredge pipeline would be removed. Traffic on the road shall remain unimpeded with the exception of temporary partial road closures to accommodate pipeline and /or equipment offloading and reloading.

Ridge and Marsh Platform

The proposed ridge would begin approximately 2.5 miles west of LA Hwy 23 in Venice, LA and continue to the west along the north side of Spanish Pass. The marsh would be divided into (non-continuous) sections to avoid existing pipelines corridors, from west to east, section acreages would be 27.2, 84.3 and 38.0 for a total project footprint of 149.5 acres.

The new ridge and marsh platform would mimic the design used for the initial Tiger Pass.

Retention Dikes and Borrow

Earthen retention dikes will be needed in order to facilitate construction of the ridge and marsh platforms. Borrow material for construction of the retention dikes would be obtained from an adjacent borrow site, coming from within or outside of the proposed ridge and marsh platform footprint or immediately adjacent to the site where allowed. However, borrow excavation or placement would not be allowed within any pipeline corridors.

3 NON-FEDERAL SPONSOR OWNED LERRD

Pursuant to the requirements of the PPA, the NFS must acquire the lands, easements, rights-of-way, relocations, and disposal areas (LERRD) needed for the construction, operation, and maintenance of the Project and to ensure that such real property interests are retained in public ownership for uses compatible with the authorized purposes of the Project. In order to implement this Project, the NFS will need to acquire estates in privately-owned tracts of land as shown in Section 2 above and in Figure 2 - LERRD to Acquire. Some lands near the private landowners are considered state-owned water bottoms (including the ridge and marsh restoration sites, pipeline corridors, staging areas, etc.)

This NFS recently served as a co-NFS on the successful LCA BUDMAT Program, Tiger Pass Project in Plaquemines Parish, Louisiana. The NFS acquired approximately 78 acres of fee excluding minerals (with Restriction on Use of the Surface) estate for the ridge and marsh creation and restoration area for Tiger Pass that is immediately east of the Tiger Pass 2 ridge and marsh creation and restoration area. The LERRD acquired in fee for Tiger Pass Project will not be a part of this Tiger Pass 2 Project.

In addition, sections of the dredged pipeline and related equipment will traverse portions of the state-owned water bottoms in Spanish Pass. The NFS will obtain a Grant of Particular Use for these state-owned water bottoms.

4 ESTATES

(a) Temporary Work Area and Pipeline Easement. The MVN District Chief and Mississippi Valley Division of Real Estate approved a non-material deviation from the standard Temporary Work Area Easement on 12 February 2018. The approved estate is attached as **Exhibit B**.

(b) Fixed Term Ecosystem Restoration Easement (Non-Standard Estate). CEMVN acknowledges that it is USACE policy to acquire fee simple title for ecosystem restoration projects; this ensures complete and permanent control over the future use of lands and fully protects the interest of the Government. However, USACE regulations also indicate that a lesser interest, such as a specific type of easement, may be appropriate depending on the operational requirements of the project and other circumstances relevant to project implementation, including landowner preference (EP 1165-2-502, Paragraph 17b.).

CEMVN proposes the acquisition of an Ecosystem Restoration Easement, a Non-Standard Easement (NSE) for this Project, and as a result, CEMVN submitted a formal request to MVD and HQUSACE on March 23, 2018 for a deviation from fee acquisition and the approval of a fixed term Ecosystem Restoration Easement in lieu of fee for this Project. Please see **Exhibit A** of this REP for the proposed Ecosystem Restoration Easement. This Request was submitted to MVD and HQUSACE for approval in compliance with the requirements of the MEMORANDUMS, CEMVD-PD-SP, dated 2 December 2009 and 11 July 2014, SUBJECT: "Submissions of Requests for Approval of Non-Standard Estates and Deviations from Guidelines as to Appropriate Interest to Acquire".

This Project involves the <u>one-time</u> beneficial use placement of dredged material sourced from <u>one</u> routine operation and maintenance dredging cycle of the federal navigation project. The deposited dredged material will be allowed to naturally vegetate, and no additional placement of dredged material is authorized even if the marsh and ridges that are created and restored through the beneficial use of dredged material in the construction of this Project were to subside in the future. It is the opinion of the PDT, that acquisition of fee title is not necessary to accomplish the construction and operation and maintenance of the Project, and that those requirements can be accomplished through the acquisition of an ecosystem restoration easement which clearly defines the rights needed for the Project and which sustains the Federal investment.

The same fixed term Ecosystem Restoration Easement proposed for this Project was submitted for approval by CEMVN to MVD and HQUSACE in 2017 for the LCA BUDMAT Houma Navigation Canal Project in Terrebonne Parish, Louisiana. The fixed term Ecosystem Restoration Easement NSE for the Houma Navigation Canal Project was approved by HQUSACE on April 2, 2018. Both of the proposed Ecosystem Restoration Easements will only terminate if the Project is ever de-authorized by the federal government. In addition, it should also be noted that a non-standard Ecosystem Restoration Easement for the LCA Barataria Basin Barrier Shoreline Restoration Project, (CEMCVN) was approved by USACE in November 2013.

5 EXISTING FEDERAL PROJECTS WITHIN LERRD REQUIRED FOR THE PROJECT

Mississippi River Maintenance Dredging Projects – The federally maintained hopper dredge disposal area (HDDA), located near the Head of Passes in the Mississippi River has been identified as the Federal Standard. The dredged material deposited in the HDDA will be sourced from the routine maintenance dredging of the Mississippi River (including Southwest Pass, and South Pass), in accordance with the Mississippi River, Baton Rouge to the Gulf of Mexico Federal Navigation Project, which is authorized under the Rivers and Harbors Act of

1945 (PL 79-14); Rivers and Harbors Act of 1962 (PL 87-874); the Supplemental Appropriations Act of 1985 (PL 99-88); and the Water Resources Development Act of 1986 (PL 99-662), as amended. Annual operation and maintenance of the authorized federal navigation project involves dredging and disposal activities. USACE asserts the federal navigation servitude over areas located within the Mississippi River, as well as areas located below the Federal ordinary high water mark, and holds Right of Entry over areas along the banks of the river as part of this annual dredging program. At present, USACE does not assert the federal navigation servitude for purposes of ecosystem restoration, unless the ecosystem restoration activities are performed concurrently with the actions associated with the construction, operation or maintenance of an authorized federal navigation project. In that event, the rights obtained for the maintenance of the authorized navigation project under the Federal navigation servitude will be extended to the implementation of the ecosystem restoration actions, but only in those areas where the rights of way needed for the ecosystem restoration project are the same as those needed for the maintenance operations on the federal navigation project.

6 FEDERALLY-OWNED LANDS WITHIN LERRD REQUIRED FOR THE PROJECT

There are no federally-owned lands within LERRD required for the Project area. The Venice, Louisiana USACE Sub-Office located at 43020 LA Hwy 23, Venice, Louisiana, is in the vicinity of this Project.

7 FEDERAL NAVIGATION SERVITUDE

The federal navigation servitude is the dominant right of the Federal Government under the Commerce Clause of the U.S. Constitution to use, control and regulate the navigable waters of the United States and submerged lands thereunder for various commerce-related purposes. The federal navigation project is located within the navigable waters of the United States, and the material situated within the HDDA represents materials dredged as a part of the O&M dredging of the federal navigation project. Because the dredging of the federal navigation project is conducted under the federal navigation servitude and lies below the ordinary high water mark, no estates will need to be acquired for the dredging activities associated with the federal navigation project.

Although the TSP consists of submerged marsh, the State of Louisiana has not made a formal claim that these areas are State-owned lands/waterbodies. These sites are inundated and/or navigable, but they are not utilized in aid of commerce, thereby negating the ability of USACE to assert the navigation servitude. Moreover, the areas of the Project to be utilized for ridge and marsh restoration and creation, borrow, access, retention dikes, closures, and staging areas are for the purposes of ecosystem restoration, so the federal navigation servitude will not be asserted for the Project at this time. In the event that the Project activities for ecosystem restoration activities are performed concurrently with the actions associated with the construction, operation or maintenance of the federal navigation project, the rights obtained for the maintenance of the federal navigation project, but only in those areas where the rights of way needed for this Project are the same as those needed for the federal navigation project.



Figure 3 - Tentatively Selected Plan (TSP) Map



Figure 4 – TSP Dredge Material Pipeline Access Map



Figure 5 – Pipeline/Utility Location Map

9 INDUCED FLOODING

There will be no induced flooding as a result of this Project.

10 BASELINE COST ESTIMATE / CHART OF ACCOUNTS (COAS)

The estimated total cost for the LERRD required for the implementation of the Project is \$705,100.00. This cost reflects the land costs and acquisition costs for the landowners that would be impacted by the construction of the Project. Land payment costs include a 30% contingency (rounded) to account for any minor changes during Preconstruction, Engineering and Design. Administrative costs are those associated with acquiring real estate interests. Real Estate costs do not exceed 10% of total Project costs; therefore a cost estimate was provided by the CEMVN, Appraisal Branch in lieu of a gross appraisal. Estimated real estate costs (Chart of Accounts) are shown in **Exhibit C**.

Real Estate Land Payments	\$525, ⁻	100.00
Administrative Costs	\$180,0	00.00
PL 91-646 Assistance Payments	\$	00.00

11 UNIFORM RELOCATION ASSISTANCE (PL 91-646, TITLE II AS AMENDED)

There are no residential, commercial or other habitable structures located within the areas to be utilized in the implementation and construction of the TSP. Therefore, the provisions under Title II of Public Law 91-646, as amended, are not applicable to this Project.

12 MINERAL/TIMBER/ROW CROP ACTIVITY

The Louisiana Department of Natural Resources provides a Strategic Online Natural Resources Information System (SONRIS), which contains up-to-date information on oil and gas activity in the State of Louisiana. A review of the information maintained by SONRIS indicates that although there are oil and gas wells within the Project Area, there are no wells located within the footprint of the TSP. The TSP footprint was revised to avoid gas pipelines. Furthermore, there are no crops or merchantable timber affected by the Project.

13 NON-FEDERAL SPONSOR ASSESSMENT

The NFS Capability Assessment is being reviewed and will be included in the Final Real Estate Plan. The NFS has experience in real estate acquisition, has the legal authority to acquire and hold title to real property for project purposes, and has the ability to contract staff with sufficient real estate acquisition experience for this Project. The authority of the NFS to acquire property by any acquisition method (including eminent domain) was significantly limited (but not prohibited) in 2017 with the legislative adoption of additional provisions to existing Louisiana Revised Statute (La R.S.) 49:214.5.5, entitled "Private property and public rights" which restricts the NFS's ability to acquire fee or full ownership interests in real property for integrated coastal protection to the two (2) circumstances set forth in paragraphs below of La. R.S. 49:215.5.5 (2017).

La. R.S. 49:214.5.5 entitled "Private property and public rights" provides in pertinent part in Section C as follows: "Notwithstanding any law or provision to the contrary, no full ownership interest in property shall be acquired for integrated coastal protection through any method by the state of Louisiana, the Coastal Protection and Restoration Authority, a levee district, a levee authority, <u>a sponsoring authority</u>, <u>a political subdivision</u>, or any other state, local, or federal entity, or their agents or employees, including but not limited to compensatory mitigation and ecosystem restoration purposes, unless such interest is voluntarily offered and agreed to in writing by owners with at least seventy-five percent ownership in the property or such entity seeking to acquire the property proves by clear and convincing evidence in a court of competent jurisdiction that a full ownership interest is the minimum interest necessary to carry out the purposes of integrated coastal protection for the specific project for which it is acquired." (Emphasis added).

A copy of La. R.S. 49:215.5.5 (2017) is attached hereto as **Exhibit E** for informational purposes.

Chapter 12 of ER 405-1-12, paragraph 12-10 states: "Because a non-Federal sponsor is generally responsible for acquiring lands, easements, and rights-of-way pursuant to state law and procedure, full coordination and consultation with the non-Federal sponsor must occur prior to the Government's determination of the interest and estate required for a cost shared project. These efforts should begin in the early stages of plan formulation and continue, as appropriate, to the conclusion of the acquisition process." CEMVN contacted the NFS as required by the foregoing Regulation regarding the real estate rights to be acquired for this Project and to obtain the NFS's input on the proposed Ecosystem Restoration Easement. Although a fee estate was obtained for the Tiger Pass Project, the NFS strongly objects to the acquisition of fee for this Project. The NFS contends that a lessor interest in real estate should be

acquired in lieu of fee and is willing to exercise eminent domain to acquire the proposed Ecosystem Restoration Easement if necessary.

Acquisition of an easement estate is less costly than acquisition of a fee estate. Based on a cost comparison prepared by the CEMVN Appraisal Branch, the cost to acquire the proposed Ecosystem Restoration Easement would be less per acre than the cost to acquire a fee simple estate. These costs do include administrative costs of acquisition and assume that either estate could be acquired through negotiations. The real estate cost for the proposed Ecosystem Restoration Easement is approximately 25% less costly. If the fee simple estate had to be acquired by condemnation (assuming the NFS were willing to pursue that), the cost of acquisition would increase by approximately \$50,000. This would represent an approximately 57% higher cost for the fee estate.

14 ZONING ORDINANCES

There will be no application or enactment of zoning ordinances in lieu of, or to facilitate, acquisition of real estate interests in connection with this Project.

15 ACQUISITION SCHEDULE

The following acquisition schedule is based on the premise that the Project will impact approximately six private landowners. A detailed acquisition schedule will be prepared once the 95% plans and specifications for the Project are prepared. The schedule below provides the total amount of time to complete the acquisition of real estate rights for the construction of the Project based on the information available at this time. This schedule is only for purposes of this Draft Integrated DIR/SEA.

TOD, Mapping	1 month
Obtain Title & Appraisals	3 months
Negotiations	2 months
Closing	2 months
Eminent Domain Proceedings	9 months

16 FACILITY/UTILITY RELOCATIONS

There are five pipelines that pass through the Project Area. To avoid impacts to pipelines, no-work corridors will be established at each pipeline crossing location between each the containment areas. CEMVN Engineering Division's Design Services Branch has determined that the existing pipelines within the TSP will not be impacted, and there are no other facilities or utilities of any kind in the Project Area that will be impacted. Necessary precautions will be taken to avoid impacting all pipelines in the Project Area. Pipeline owners will be notified prior to construction.

Pipeline Facilities in the area of Tentatively Selected Plan				
Owner	Quantity	Size	Description	
Plains All American	1	6"	CRD, R	
Plains All American	1	12"	CRD, A	
Gulf South	1	12"	NG, A	
Abandoned	1	6"	ABD	
Chevron	1	6"	NG, D	
Chevron	1	12"	CRD, A	
Phillips 66	1	8"	NG, A	
Chevron	1	4"	NG, A	
High Point (American Midstream)	1	22"	NG, A	
Texas Eastern (Enbridge)	1	36"	NG, A	
Gulf South	1	30"	NG, A	

ANY CONCLUSION OR CATEGORIZATION CONTAINED IN THIS REPORT THAT AN ITEM IS A UTILITY OR FACILITY RELOCATION TO BE PERFORMED BY THE NON-FEDERAL SPONSOR AS PART OF ITS LERRD RESPONSIBILITIES IS PRELIMINARY ONLY. THE GOVERNMENT WILL MAKE A FINAL DETERMINATION OF THE RELOCATIONS NECESSARY FOR THE CONSTRUCTION, OPERATION AND MAINTENANCE OF THE PROJECT AFTER FURTHER ANALYSIS AND COMPLETION AND APPROVAL OF AN FINAL ATTORNEY'S OPINION OF COMPENSABILITY FOR EACH OF THE IMPACTED UTILITIES AND FACILITIES.

17 HAZARDOUS, TOXIC AND RADIOACTIVE WASTE

The Draft Integrated DIR/SEA evaluated the potential direct, indirect and cumulative impacts of the implementation of the TSP and has it is anticipated that the final findings will show that there will be no significant adverse environmental impacts, and that the risk of encountering hazardous, toxic or radioactive material will be low.

18 LANDOWNER CONCERNS

Plaquemines Parish Government will contact the landowners impacted in the Project Area where the proposed Ecosystem Restoration Easement will be acquired. It was concluded by Plaquemines Parish and CEMVN PDT members that a public town hall meeting will not be necessary due to LERRD not being acquired in fee and the small number of land owners in the Project Area. The residents of Plaquemines Parish and the impacted landowners desire to retain the right to use their properties for hunting, fishing, and other outdoor recreation activities which the PDT has determined will not impact the Project and its features, goals and purposes. The PDT has concluded that typical recreational uses of the lands in the Project Area would not negatively impact the Project or prevent the creation or regeneration of marsh. The proposed Ecosystem Restoration Easement includes specific restrictions to further ensure the protection of the created and restored ridge and marsh.

19 NFS RISKS

The NFS was notified in writing of the risks of acquiring LERRD before execution of the PPA. This letter, dated January 22, 2018, is attached in **Exhibit D** of this REP.

20 OTHER RELEVANT REAL ESTATE ISSUES

Regarding oyster leases, a review of SONRIS by Louisiana Department of Natural Resources indicates there are no oyster leases within the Project Area. No oyster leases will be acquired as a result of this Project.

Date: May 21, 2018

Prepared By:

Reviewed and Recommended By:

Pamela M. Fischer Realty Specialist, Appraisal Branch USACE - New Orleans District Huey J. Marceaux Chief, Appraisal Branch USACE – New Orleans District

Approved By:

USACE - New Orleans District

EXHIBIT A

Fixed Term Ecosystem Restoration Easement (Non-Standard Estate)

Ecosystem Restoration Easement Louisiana Coastal Area Beneficial Use of Dredged Material Program Tiger Pass 2 Project Plaquemines Parish, Louisiana

An assignable right, servitude, and ecosystem restoration easement ("Easement") on, over, and across [the land described in **Schedule A**] [Tract Nos. , , and ,] ("Property" or "Easement Area") to the extent hereinafter set forth, for the construction, operation, maintenance, repair, replacement, rehabilitation, monitoring, and adaptive management of marsh and wetland habitat and related ecosystem restoration features, constructed in connection with the Louisiana Coastal Area, Beneficial Use of Dredged Material Program, Tiger Pass 2 Project ("Project" including "Project features and purposes"), generally authorized by Section 7006 (d) Title VII of the Water Resources Development Act of 2007, (Public Law 110-114), to be implemented on the Property and to prevent any use of the Property that will impair, contravene, and/or interfere with the integrity, features, and/or purposes of the Project. In the event the Project is de-authorized by the federal government, this Easement and all rights granted hereunder shall terminate. The Grantee shall have the right to construct, operate, maintain, repair, replace, rehabilitate, monitor, and adaptively manage the Project on the Property, which rights shall include the right to: (a) excavate and deposit dredged material, sediment, and/or other beneficial materials on the Property; (b) accomplish any alterations or contours on the Property to accommodate the materials deposited on the Property in connection with the Project and to perform necessary work for the prevention or remediation of damages to marsh, wetlands, habitat restoration, or other natural values; (c) install, construct, store, alter, maintain, repair, replace, relocate, and remove dikes, berms, fencing, monitoring devices, equipment, supplies, materials, warning or informational signs, notices, markers and other similar items related to the Project; (d) conduct surveys, borings, inspections, investigations, monitoring, adaptive management practices, and similar activities to evaluate the effectiveness of the Project, and/or to enhance, extend, periodically replenish and maintain the material deposited or placed on the Property, and/or to determine if the Grantor, or its successors, heirs, and assigns are complying with the covenants and prohibitions contained in this Easement; (e) plant, cause the growth of, nourish, replenish, manage, and maintain vegetation and control or remove invasive species; (f) prohibit human habitation on and the public use and occupancy of the Property that is detrimental to, or inconsistent with the Easement rights hereby acquired or the purposes and/or features of the Project; (g) proceed at law or in equity to enforce the provisions of this Easement to prevent the occurrence or re-occurrence of any of the prohibited activities set forth herein, and/or require the restoration of areas or features of the Property or the Project that may be damaged by any activity inconsistent with this Easement; and (h) prohibit any activity on, or use of, the Property that is detrimental to, or inconsistent with, the Easement rights hereby acquired or the purposes and/or features of the Project.

Without limiting the generality of the foregoing, the following activities and uses are expressly prohibited: (a) constructing, locating, placing, or installing any structure, building, or improvement of any kind including without limitation, boat ramps, docks, piers,

utilities, pipelines, cables, trails, footbridges, roads, signs, billboards, hunting blinds, communication facilities, towers and conduits, aircraft landing strips, and other similar facilities; (b) any industrial, commercial, residential, and/or agricultural uses, including but not limited to, all methods of production and management of livestock (no housing, feeding, training, or maintaining), crops, orchards, trees and other vegetation (no horticultural or floricultural activities) or aquiculture, except as otherwise provided for herein; (c) the use or operation of vehicles and watercraft, including but not limited to, marsh/swamp buggies, air boats, off-road vehicles, 4-wheel drive vehicles, all-terrain vehicles, and other similar vehicles; (d) the use of the surface of the Property for the exploration, drilling, mining, production, development, extraction, excavation or removal of oil, gas, hydrocarbons, petroleum products, coal, or other minerals, soil, sand, gravel, rock, loam, peat, or sod; (e) filling, excavating, dredging, removing, channeling, leveling, diking, draining, impounding, diverting water, or any other alteration to the surface of the Property; (f) landfilling, dumping, and placing substances or materials such as trash, waste, sewerage, debris, soil or other fill material, or unsightly or offensive materials on the Property; (g) planting, mowing, removing, defoliating, destroying, burning, trimming, or cutting of trees, shrubs, underbrush or other vegetation or any other means of altering grasslands, marshlands, wetlands, or other natural habitat; (h) the use and application of fertilizers, chemicals, pesticides or biological controls; (i) disturbing or interfering with nesting or brood-rearing activities of migratory birds, threatened or endangered species, and other critical habitat; and (i) any and all activities that are detrimental to erosion control, soil conservation, wetlands, marsh, cheniers, ridges, fish and wildlife habitat preservation, ecosystem restoration, or the Project purposes.

The Grantor reserves unto itself, and its heirs, successors, and assigns, transferees or lessees all such rights and privileges in the Property that may be used without interfering with or abridging the rights and Easement rights hereby acquired or the purposes or features of the Project; subject to existing easements for public roads, highways, public utilities, railroads and pipelines. Such reservation shall include, but not be limited to the rights to engage in aquaculture uses and to engage in and conduct the following recreational activities and uses: (a) hunting and trapping, including fur-bearing animals, (b) alligator egg harvesting, (c) fishing, crabbing, shrimping, and oystering, provided however that such activities, uses, occupation, and enjoyment of the Property shall not unreasonably interfere with the lawful rights and activities of the Grantee pursuant to this Agreement. The Grantor expressly reserves the right to directional drill, from adjacent waters and/or lands not subject to this Easement, for the purpose of extracting oil, gas, hydrocarbons, petroleum products, coal, or minerals from beneath the surface of the Property subject to this Easement, provided that such directional drilling does not impact or interfere with the Project features or purposes.

EXHIBIT B

NON-MATERIAL DEVIATION

(TEMPORARY WORK AREA AND PIPELINE EASEMENT)

TEMPORARY WORK AREA AND PIPELINE EASEMENT

A temporary easement and right-of-way in, on, over and across (the land described in Schedule A) (Tracts Nos. _____, ____ and _____), for a period not to exceed

_______, beginning with date possession of the land is granted to the United States, for use by the United States, its representatives, agents, and contractors as a work area, including the right to move, store and remove equipment and supplies, and erect and remove temporary structures on the land and to perform any other work necessary and incident to the construction of the <u>Tiger Pass 2</u> Project, including the right to construct, operate, maintain, repair, replace, and/or remove (a) dredged material pipeline(s) and appurtenances thereto, together with the right to trim, cut, fell and remove therefrom all trees, underbrush, obstructions, and any other vegetation, structures, or obstacles within the limits of the right-of-way; reserving, however, to the landowners, their heirs and assigns, all such rights and privileges as may be used without interfering with or abridging the rights and easement hereby acquired; subject, however, to existing easements for public roads and highways, public utilities, railroads and pipelines.

In accordance with paragraph 12-9 c. of ER 405-1-12, the District Chief of Real Estate may approve a non-standard estate if it serves the intended project purpose, substantially conforms with and does not materially deviate from a corresponding standard estate, and does not increase the costs or potential liability of the Government. The foregoing estate complies with those requirements as it achieves the project purpose in as narrow a manner as practical, and is a minor modification of the standard Temporary Work Area Easement, adding the following words from the Standard Pipeline Easement, "including the right to construct, operate, maintain, repair, replace, and/or remove (a) dredged material pipeline(s) and appurtenances thereto."

Reviewed by:

ROSELLI.KAREN.ELISE.139245 Dignality reginal by ROSELLIKAREN ELISE 1392454609 DN C-USE OV USE Commentant our DOD, our POL dev USA

Karen Roselli Assistant District Counsel New Orleans District

Approved by:

Linda Labure

Chief, Real Estate Division New Orleans District EXHIBIT C

BASELINE COST ESTIMATE / CHART OF ACCOUNTS

CEMVN-REE REAL ESTATE DIVISION

Chart of Accounts Template

TOTAL PROJECT COSTS						
TOTAL PROJECT COSTS						COST
TOTAL PROJECT COSTS	-				ROUNDED	705,100
Land I Lande I Land I				547,900	157,210	705,110
LANDS AND DAMAGES		CONTINGENCY	PROJECT	547,900	157,210	705,110
			COST			
ACQUISITIONS (includes cost of TOD(\$500), mapping(\$1,500), title search(\$2,500), negotiations(\$4,000))						
BY GOVERNMENT	0					
BY LOCAL SPONSOR (LS) \$7,500 per owner x 6 =	45,000			-		
BY GOVT ON BEHALF OF LS	0	0	0	10		
REVIEW OF LS \$5,000 per owner x 6 =	30,000	7,500	37,500			
CONDEMNATIONS (this cost is incurred either by the Fed Gov or by th LS not both - estimate 1/3 of owners will be condemned) * Note this is in addition to the Negotiation costs-do not reduce the number of owners in acquisition by the number of owners in condemnation	e					
BY GOVERNMENT \$10,000 per owner	0	0	0	<u></u>		
BY LS \$10,000 per owner X 2 =	20,000	5,000	25,000			
BY GOVT ON BEHALF OF LS	0					
REVIEW OF LS	0	0	0	17		
APPRAISAL (cost of appraisal reports and review of reports)						
BY GOVT (IN HOUSE)	0	0	0			
BY GOVT (CONTRACT)	0	0	0			
BY LS Ask Appraiser for Guidance Wetland/Residential \$3,500 per owner X 5 - Commercial/Industrial \$6,500 per owner x 1 =	24,000	6,000	30,000			
BY GOVT ON BEHALF OF LS	0	0	0			
REVIEW OF LS \$1,750 per owner x 6 =	10,500	2,630	13,130	-		
TEMPORARY PERMITS/LICENSES/RIGHTS-OF-ENTRY				1		
BY GOVERNMENT \$5,000 per owner x 2 =	10,000	2,500	12,500			
BY LS	0					
BY GOVT ON BEHALF OF LS	0	0.50		45		
REVIEW OF LS	0					
OTHER	0			44		
DAMAGE CLAIMS	0	0	0			
REAL ESTATE PAYMENTS						
LAND PAYMENTS (value from gross appraisal only fill in by Governm						
BY GOVERNMENT	0					
BY GOVT ON BEHALF OF LS	403,900			C		
REVIEW OF LS	0					
		1 1100				
PL 91-646 ASSISTANCE PAYMENTS (cost of moving personal property BY GOVERNMENT	, residentia		-		tablishment)	
BY GOVERNMENT BY LS	0					
BY GOVT ON BEHALF OF LS	0					
REVIEW OF LS	0					
LERRD CREDITING						
ADMINISTRATIVE COSTS (By Gov't and L.S.) \$750 per owner x 6 =	4,500	1,130	5,630			
				0		
ASSUMES 6 LANDOWNERS	-					

EXHIBIT D

NOTIFICATION OF RISK



DEPARTMENT OF THE ARMY CORPS OF ENGINEERS, NEW ORLEANS DISTRICT 7400 LEAKE AVENUE NEW ORLEANS, LOUISIANA 70118-3651

January 22, 2018

REPLY TO ATTENTION OF Real Estate Division

L. V. Cooley, IV Special Assistant Parish Attorney Plaquemines Parish Government 8056 Highway 23, Suite 200 Belle Chasse, LA 70037

Dear Mr. Cooley,

The intent of this letter is to formally advise Plaquemines Parish Government (PPG) as potential Non-Federal Sponsor for the Louisiana Coastal Area (LCA), Beneficial Use of Dredged Material (BUDMAT), Tiger Pass 2, Plaquemines Parish, Louisiana Project, of the risks associated with land acquisition prior to the execution of a Project Partnership Agreement (PPA) or prior to the Government's formal notice to proceed with acquisition.

If a Non-Federal Sponsor deems it necessary to commence acquisition prior to an executed PPA or the Government's notice to proceed with acquisition, the Non-Federal sponsor assumes full and sole responsibility for any and all costs, responsibility, or liability arising out of the acquisition effort. Generally, these risks include, but may not be limited to, the following:

- a. Congress may not appropriate funds to construct the proposed project;
- b. The proposed project may otherwise not be funded or approved for construction;
- c. A PPA mutually agreeable to the Non-Federal Sponsor and the Government may not be executed and implemented;
- d. The Non-Federal sponsor may incur liability and expense by virtue of its ownership of contaminated lands, or interests therein, whether such liability should arise out of local, state, or Federal laws or regulations including liability arising out of CERCLA, as amended;
- e. The Non-Federal Sponsor may acquire interests or estates that are later determined by the Government to be inappropriate, insufficient or otherwise not required for the project;

- f. The Non-Federal Sponsor may initially acquire insufficient or excessive real property acreage which may result in additional negotiations and/or benefit payments under P.L. 91-646 as well as the payment of additional fair market value to affected landowners which could have been avoided by delaying acquisition until after PPA execution and the Government's notice to commence acquisition and performance of LERRD; and
- g. The Non-Federal Sponsor may incur costs or expenses in connection with its decision to acquire or perform LERRD in advance of the executed PPA and the Government's notice to proceed which may not be creditable under the provisions of P.L. 99-662 or the PPA.

If you have any questions or need additional information, please contact Ms. Pamela Fischer at (504) 862-1157 or pamela.fischer@usace.army.mil.

Sincerely,

amp Huy Huey J. Marceaux

Chief, Appraisal Branch

EXHIBIT E

La. R.S. 49:215.5.5 (2017)
LA Law Print

RS 49:214.5.5

§214.5.5. Private property and public rights

A. Recognizing that a substantial majority of the coastal lands in Louisiana are privately owned, it is anticipated that a significant portion of the integrated coastal protection projects funded through the Coastal Protection and Restoration Fund either will occur on or in some manner affect private property.

B. No rights whatsoever shall be created in the public, whether such rights be in the nature of ownership, servitude, or use, with respect to any private lands or waters utilized, enhanced, created, or otherwise affected by activities of any governmental agency, local, state, or federal, or any person contracting with same for the performance of any activities, funded in whole or in part, by expenditures from the Coastal Protection and Restoration Fund or expenditures of federal funds. In the event legal proceedings are instituted by any person seeking recognition of a right of ownership, servitude, or use in or over private property solely on the basis of the expenditure of funds from the Coastal Protection and Restoration Fund, the state shall indemnify and hold harmless the owner of such property for any cost, expense, or loss related to such proceeding, including court costs and attorney fees.

C. Notwithstanding any law or provision to the contrary, no full ownership interest in property shall be acquired for integrated coastal protection through any method by the state of Louisiana, the Coastal Protection and Restoration Authority, a levee district, a levee authority, a sponsoring authority, a political subdivision, or any other state, local, or federal entity, or their agents or employees, including but not limited to compensatory mitigation and ecosystem restoration purposes, unless such interest is voluntarily offered and agreed to in writing by owners with at least seventy-five percent ownership in the property or such entity seeking to acquire the property proves by clear and convincing evidence in a court of competent jurisdiction that a full ownership interest is the minimum interest necessary to carry out the purposes of integrated coastal protection for the specific project for which it is acquired.

D. Access rights, rights of use, servitudes, easements, or other property interests acquired for integrated coastal protection through any method by the state of Louisiana, the Coastal Protection and Restoration Authority, a levee district, a levee authority, a sponsoring authority, a political subdivision, or any other state, local, or federal entity, or their agents or employees, including but not limited to compensatory mitigation and ecosystem restoration purposes, shall be for a fixed term only and shall not be acquired in perpetuity unless such acquisition in perpetuity is voluntarily offered and agreed to in writing by owners with at least seventy-five percent ownership in the property. Furthermore, no fixed term for any access rights, rights of use, servitudes, easements, or other property interests acquired for integrated coastal protection shall exceed the life of the integrated coastal protection project for which it is acquired unless such term is voluntarily offered and agreed to in writing by owners with at least seventy-five percent ownership by owners with at least seventy-five percent ownership by owners with at least seventy-five percent ownership in the property interests acquired for integrated coastal protection shall exceed the life of the integrated coastal protection project for which it is acquired unless such term is voluntarily offered and agreed to in writing by owners with at least seventy-five percent ownership in the property.

E. The provisions of this Section shall not authorize acquisition of privately owned mineral interests and the reservation of mineral interests shall be as provided in R.S. 31:149. Additionally, any interest in property acquired under this Section shall not transfer to the acquiring entity any claims, causes of action, or litigious rights existing prior to the date of the acquisition but shall not extinguish the rights of the owners of the property to exercise such claims, causes of action, or litigious rights on the date of acquisition. Acts 2009, No. 523, §3, eff. July 10, 2009; Acts 2017, No. 199, §1, eff. June 14, 2017.

http://legis.la.gov/legis/LawPrint.aspx?d=672073

Appendix I. DQC & ATR Certification

Certification Completion Statements will be included with the final report

Appendix J. Value Engineering Study



U.S. ARMY CORPS OF ENGINEERS NEW ORLEANS DISTRICT

BENEFICIAL USE OF DREDGED MATERIAL HOUMA NAVIGATION CANAL AND TIGER PASS 2 SOUTH LOUISIANA DESIGN PHASE VALUE ENGINEERING REPORT



June 2017

CEMVN-VE-17-04

BENEFICIAL USE OF DREDGED MATERIAL HOUMA NAVIGATION CANAL AND TIGER PASS 2 SOUTH LOUISIANA DESIGN PHASE VALUE ENGINEERING REPORT

JUNE 2017

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BENEFICIAL USE OF DREDGED MATERIAL HOUMA NAVIGATION CANAL AND TIGER PASS 2 SOUTH LOUISIANA DESIGN PHASE VALUE ENGINEERING REPORT

EXECUTIVE SUMMARY

INTRODUCTION

This report contains the results of the Value Engineering (VE) Workshop that was performed 20 – 22 June 2017, at the New Orleans District Office. The USACE sanctioned six-step Value Engineering Job Plan was used to facilitate and document the workshop (see **Appendix A** – Value Engineering Job Plan and Workshop Agenda). The objective of this workshop was to incorporate VE analysis into the development of the project design to improve performance and/or cost-effectiveness.

The subject projects are the proposed Houma Navigation Canal and Tiger Pass 2 components of the Beneficial Use of Dredged Material (BUDMAT) parent project (see Project Description Below).

The primary VE Team was comprised of subject matter experts from the New Orleans and Charleston Districts. Key members of the project delivery team (PDT) including representatives from the local sponsor and their consultants also participated in the study. A roster of workshop participants can be found as **Appendix B**. As part of the workshop, the Team identified important project issues and established project performance attributes that were used to measure the viability of un-screened ideas (ref. **Appendix C**). A function analysis (F.A.S.T.) diagram was developed and is illustrated in **Appendix D**. 'Brainstormed' project improvement ideas were compiled and screened. **Appendix E** lists all ideas (Speculation List) categorized by their disposition (developed or not developed).

In addition to consulting PDT members throughout the workshop, the VE Team reviewed a number of current/recent design documents, notes and graphics, meeting minutes and other pertinent information.

PROJECT DESCRIPTION



(General BUDMAT Project)

Louisiana is losing coastal wetlands at an alarming rate. Restoring these wetlands is imperative to protecting the state's coastal ecosystems and abundant resources from devastating storms and hurricanes. One option for restoring coastal wetlands and reducing land loss is the beneficial use of dredged material.

The U.S. Army Corps of Engineers, New Orleans District (MVN) has the largest annual navigation channel Operations & Maintenance (O&M) program in the nation (see above map of Federal Navigation channels under MVN maintenance authority). The premise of the BUDMAT program is to find opportunities to utilize dredged material over and beyond least-cost disposal to accomplish environmental restoration. Such projects are in accordance with the Louisiana State Coastal Restoration Master Plan.

BUDMAT projects successfully completed over the past two years include the restoration of marsh near West Bay in the lower reach of the main channel of the Mississippi River and ridge restoration in the vicinity of Tiger Pass (Tiger Pass 1) where dredged material was also transported and placed from the lower MS River.

Two projects described below are currently under development and are the focus of this VE study. Further project information can be found in project information presentation files located in **Appendix F.**

(Houma Navigation Canal)

The current project calls for using sediment material from maintenance dredging of the Houma Navigation Canal system (Federal Navigation Channels) to create marsh and restore wetlands outside of the normal boundaries of O&M disposal. To date, a number of various measures and alternatives have been identified and evaluated. In addition to 'No Action' two alternatives are under further consideration – one, restoring approximately 50 acres of marsh (Area 1) and two, adding a second location (Area 1A) with a goal of restoring a total of about 96 acres (see below project map).

It is anticipated that dredging would be performed via cutterhead units with material pumping to the placement locations (s). Current budget amount for this work is \$6 million. This cost represents the net difference in least cost placement versus placement to the desired location.



CURRENT MARSH RESTORATION ALTERNATIVES FOR HNC SITE 1 (~50 ACRES) AND SITES 1 AND 1A (~96 ACRES TOTAL)

(Tiger Pass 2)

The proposed work for Tiger Pass 2 (TP2) consists of dredging, transportation and placement of approximately two million cubic yards of sediment from the Baptiste Collette Channel and transport to Spanish Pass Ridge to create approximately one-mile of ridge and marsh habitat (see below map). It is currently anticipated that dredging and transportation would be performed by cutterhead units with ~ 10-miles of pipeline pumping to the placement location.

The work will essentially be a continuation of Tiger Pass 1 (TP1) ridge and marsh restoration. A typical cross-section of the recently completed TP1 work is shown below. Current BUDMAT budget amount for TP2 work is \$9 million. This cost represents the net difference in least cost placement versus placement to the desired location(s).



PROPOSED TIGER PASS 2 PROJECT LOCATION MAP



TYPICAL CROSS-SECTION FOR TIGER PASS 1 RIDGE AND MARSH

SUMMARY OF VE RESULTS

(Major Findings)

Houma Navigation Canal:

- Achieving the desired goal of creating marsh habitat for 20-year sustainment may be difficult at the target sites due to both poor soil conditions at the sites and anticipated fine/light solids density dredged material form the Houma Navigation Canal (HNC). Adjusting the project scope may be considered to accommodate these circumstances. Changing the design marsh sustainment period to 10-years and/or completely filling in Site 1 and using Site 1A as an overflow area appear to be more likely to be attainable.

- Additional, extensive testing of HNC bottom material should be performed to reduce site filling uncertainties and the possible use of internal cells and/or baffle systems should be allowed to further enhance dredged material fill de-watering.

- Consideration should be given to changing the source of fill material from the current bay reaches of the HNC to the bar reaches through Cat Island Pass. Dredged material would have to be barged at a relative increased cost to the target sites from this location but it would be of superior quality as a course fill material given the source location along the coast. Given the issues and uncertainties with the currently planned use of bar channel material, the alternate use of bar dredged material may ultimately be a more cost-effective option.

Tiger Pass 2:

- It is likely that dredged material will be barged from the work reaches in the Baptiste Collette channel to the proposed off-load location on the opposing (west) bank of the Mississippi River. As such, lateral channel space large enough to accommodate dredging and barge loading in Baptiste Collette will be necessary. Such space may not exist along the entire work area. A work plan should be identified where barges/dredge plant can adequately maneuver and/or pump to etc. The possibility of allowing the contractor to temporarily dredge a wider channel in the work area to facilitate barge transport of dredged material should also be considered.

- The land and right-of-way created and/or purchased by the State for the eminent construction of Tiger Pass 1 is currently planned for access use for Tiger Pass 2. However, state law may prohibit the passage of vehicles and equipment on coastal lands unless provisions are made to assure that no damage is done/un-repaired. This should be fully investigated with the State to see what provisions and/or waivers may be required or if re-routing access to the Tiger Pass 2 fill site would be needed.

(List of VE Recommendations)

Houma Navigation Canal:

1. Consider designing for a 10-year marsh life in lieu of 20-year

2. Consider dredged material placement only into Site 1 while using Site 1A as a secondary overflow and lower the containment dike height on the north side of Site 1

3. Allow contractor to construct internal cells within Sites 1 & 1A to facilitate material consolidation

4. Allow use of internal finger dikes and/or other baffle systems to enhance settlement

- 5. Perform extensive sediment tests for HNC material
- 6. Increase contract duration for construction
- 7. Use rental contract for HNC
- 8. Use best value contract for HNC

9. Barge, haul and off-load dredged material from the HNC Cat Island Pass Reach through O&M Dredging

Tiger Pass 2:

10. Identify barge loading area(s) to allow proper maneuvering in Baptiste Collette

11. Address and get waiver to allow equipment passage on state owned land created/purchased for Tiger Pass 1 access

VALUE ENGINEERING RECOMMENDATIONS

The VE Team identified **(11)** items that are believed to either improve project performance and/or cost-effectiveness. Recommendations are further developed and documented below.

The reader should note that these recommendations were developed in a very short period of time and are intended to present conceptual measures for consideration. Further evaluation and design is required to substantiate each recommendation and provide rationale for its implementation or rejection.

Also, a number of recommendations may 'conflict' with others. That is to say that one idea cannot be implemented with the other. No decision as to preference was made by the VE Team and all options are presented for further consideration by the PDT.

(Houma Navigation Canal)

1. Consider desianing for a 10-year marsh life in lieu of 20-year – There are two main issues that will be problematic and pose uncertainties in successfully constructing the proposed marsh creation sites to the desired elevation to support a 20-year marsh habitat in a single project. The first is the poor physical surface and/or top of water-bottom soil conditions inside the areas that will make it necessary to excavate as much as 10-feet below the surface and/or water bottom to obtain soil material of suitable strength to build containment dikes at the currently required height of +6.50-feet above Mean Low Water (MLW). This would likely require more expensive dragline or heavy back-hoe equipment versus front end earth movers used in dike building when top level soils are suitable for construction. The other hurdle is the light solids density of the material to be dredged from the HNC for fill placement. The dredged material will have a high water content and relatively slow settling rate. This may require three lifts to achieve the target post job fill elevation. Special considerations must also be given to production rate (too fast and material will be too thin for fill), water de-canting control in the sites and the fact that several reaches of the HNC may have material too fine for site fill use.

The current plan is to place material from the HNC into Sites 1 and 1A to an elevation that will provide marsh habitat for 20 years. Pending additional geotechnical sampling and analysis of the dredged material, this 20-year marsh goal is expected to require a containment dike height of approximately 6½ feet above MLW and a final material placement height of approximately 4½ feet above MLW (see below drawing). Because of the high silt/clay content of the dredged material, achieving an initial dredged material slurry height of 4½ feet MLW is expected to require the material to be placed in 2 or 3 "lifts" with a 7 to 10-day consolidation/settling period between each lift. During this settling/consolidation period, the dredge is expected to either be placed in a stand-by mode (which results in cost inefficiencies), or it would be directed to discharge dredged material into the normal open water disposal areas alongside the navigation channel (which results in less dredged material being available for beneficial use).

Shortening the projected marsh habitat life to a 10-year goal would allow for a lower targeted dredged material placement height within the site, which would allow fewer "lifts" of dredged material and/or lower containment dike height (see second drawing below). A lower containment dike height would save time and money during dike construction. Fewer lifts of dredged material would reduce either dredge stand-by time, or reduce the amount of dredged material that is not used beneficially, or both.





2. Consider dredged material placement only into Site 1 while using Site 1A as a secondary overflow and lower the containment dike height on the north side of Site 1 –

The current plan is to place dredged material from the Houma Navigation Canal into both Sites 1 and 1A (see below map) for the purpose of marsh restoration. Site 1 is approximately 50 acres in size, while Site 1A is approximately 46 acres in size. Site 1A is surrounded on roughly 3 sides by oyster leases that must be protected from sediment runoff, which is a significant concern because of the high silt/clay content of the dredged material. Site 1 does not have any oyster leases in the immediate vicinity of the site. Containment dikes (constructed to an elevation of approximately 6½ feet MLW) with outflow weir boxes or spillways are planned for the entire perimeter of both sites in order to contain the sediments within the sites.

Given the issues and uncertainty of successful completion of filling both of these sites to the desired 20-year marsh life post job elevation, an alternate approach that considers completing one site and using the adjacent as an overflow basin may be practical and cost-efficient. If dredged material was only placed in Site 1, then Site 1A could be used as a large overflow basin which would act as a secondary sediment containment basin. Although there are oyster leases immediately adjacent to Site 1A, since it is being used as a secondary/overflow basin, the dike around Site 1A would likely not need to be constructed to the 6½-foot MLW height of the main dike around Site 1. Using only Site 1, would also allow the containment berm around the northern and eastern sides of Site 1 to be constructed as overflow berms (see second map) to allow water and any suspended sediment to flow into the existing marsh immediately surrounding Site 1, which would re-nourish/enhance this marsh. Lowering the height of large sections of the containment dikes around the two sites would save time and money during dike construction.



CURRENT SITE FILL PLAN



PROPOSED SITE FILL PLAN

3. Allow contractor to construct internal cells within Sites 1 & 1A to facilitate material

<u>consolidation -</u> The current plan is for the Contractor to construct primary containment dikes around the perimeter of sites 1 and 1A to create two separate containment sites with weirs/weir boxes installed at multiple locations around within the primary containment dikes. Ideally, the weirs/weir boxes are placed as far from the dredge slurry discharge pipe (as practically possible) so the turbid flow can calm, allowing the sediment(s) to fallout and sink in the water column (sedimentation). The dredge slurry effluent can then be skimmed (~ ideally top 0.3 ft; flow thickness is dependent on weir width) and discharged into the surrounding marsh with minimal suspended solids remaining in the effluent.

In order to better facilitate material consolidation it is proposed that the contractor be allowed to construct interior cross-dikes in order to create multiple containment cells/discharge points within Site 1 & 1A. An example of this concept is shown in the below maps – the first with all external discharge points from each cell, the second with internal weirs and limited external discharge locations.

Using internal cells would potentially reduce a long-term dredge standby to allow site to drain and would then give the contractor more flexibility to create a placement / dewatering / consolidation plan. The contractor would essentially be able to "round-robin" sub-containment areas; move to new containment cell to continue production while other cell(s) are dewatering. This method would also potentially increase material settlement via creating smaller cells with shorter fill and dewatering times. The contractor could also setup sites such that smaller cells dewater into the next, thus creating multiple skimming sites within the site and diffusing the turbid slurry as it progresses cell-to-cell (i.e. most of the turbidity will exist in the initial/main discharge cell).

This method would, however, increases front-end contract cost as more time/equipment would be needed to create additional interior dikes and to install weirs. Also, additional maintenance would be needed through the life of the project to ensure interior containment dikes do not breach/fail.

This proposal has the potential to increase the quality of the project by allowing the contractor more flexibility within the containment sites, while potentially creating a better sedimentation environment. Use of internal cells should not be a contract requirement but the specifications should allow the contractor to construct them if he determines that it would be an overall more efficient method to achieve the project fill requirements.



EXAMPLE OF PROPOSED USE OF INTERNAL CELLS WITH INDIVIDUAL CELL EXTERNAL DISCHARGE



EXAMPLE OF PROPOSED USE OF INTERNAL CELLS WITH LIMITED EXTERNAL DISCHARGE

4. Allow use of internal finger dikes and/or other baffle systems to enhance settlement -

The current plan is for the Contractor to construct primary containment dikes around the perimeter of sites 1 and 1A to create two separate containment sites with weirs/weir boxes installed at multiple locations around within the primary containment dikes. Ideally, the weirs/weir boxes are placed as far from the dredge slurry discharge pipe (as practically possible) so the turbid flow can calm, allowing the sediment(s) to fallout and sink in the water column (sedimentation). The dredge slurry effluent can then be skimmed (~ ideally top 0.3 ft; flow thickness is dependent on weir width) and discharged into the surrounding marsh with minimal suspended solids remaining in the effluent. The current plan has a direct flow path from the discharge to the dewatering point; meaning the flow path is only as long as the width/length of the containment area (see layout map below).

An alternate to creating internal cells described in the above recommendation, the contractor could also be allowed to construct interior finger dikes, baffles, etc. in order to lengthen the flow path of the dredge slurry from the discharge point to the dewatering point, thus allowing more time for sedimentation. This alternative would allow the contractor to use materials other than in-situ earthen borrow material (i.e. hay bales, core logs, etc.) to lengthen the flow path of the slurry (reference second layout map). By creating a longer flow path, the contractor could find an efficiency by causing a higher percentage of sedimentation from the same volume of slurry discharged. Due to the relatively small size of the containment areas and the unfavorable material composition, this proposal has the potential to increase the quality of the project by increasing the likelihood for sedimentation to occur. If the contractor is able to create a longer flow path with alternative materials (i.e. hay bales, core logs, etc.) it should pose a relatively minor cost increase with respect to materials and anchoring.



CURRENT PLAN OF OPEN PLACEMENT SITES



EXAMPLE OF PROPOSED USE OF INTERNAL FLOW BAFFLING

5. Perform extensive sediment tests for HNC material – Given the far less than desirable anticipated HNC dredged material density and its critical impact to required fill lifts and perhaps dredging production rate, it is imperative that an appropriate level of testing and analysis be performed to limit uncertainty risk. As such the VE Team recommends and supports current additional work to conduct further sampling and testing of channel material from all job reaches of the HNC.

6. Increase contract duration for construction – While channel maintenance depth is important in the HNC (and Baptiste Collette) there would not likely be the urgent navigation need to complete maintenance dredging in as little time as possible as would be the case in the Mississippi River. Given the additional required transportation and material placement actions associated with filling both the HNC and Tiger Pass 2 sites work duration will be significantly longer than current practice. More important is the fact that other non-traditional dredging and transportation techniques may ultimately be more efficient to certain contractors but may require an even longer job duration. As such it is recommended that the construction period be established at a maximum, but reasonable duration. Note that this also applies to the Tiger Pass 2 project.

7. Use rental contract for HNC - As currently planned, there will be a significant level of uncertainty in actualized dredged material density and settling characteristics. This will likely impact dredging production rates and possibly the number of required filling lifts to achieve the specified fill elevation of the proposed marsh creation sites. It is also anticipated that the Government will likely have to make several field change decisions and direct the contractor to take such action, not limited to not using certain channel reaches for fill and/or reduce pumping rates to better densify the slurry.

Given the nature of this project use of a standard unit price contract would pose significant risk to the contractor that would then be reflected in bid price and/or manifest itself in a contract claim. As such it may be more appropriate and cost-efficient to utilize a rental type contract for this project.

8. Use best value contract for HNC - Regardless of whether a standard unit price or rental contract is utilized the project will require that the contractor have adequate skill and experience to both address probable dredging field adjustments and perhaps more important, have adequate experience and capability to construct required retaining dikes given the need to use borrow located +/- 10-feet below unsuitable in-situ surface soil. It is therefore highly recommended that a combined price and Best Value type contract be utilized for this work.

This type of contract allows consideration of contractor (and sub-contractor) experience and expertise to determine a comprehensive bid selection. This type of contract has successfully,

and is currently being used for most (all current?) Southeast Louisiana Flood Control (SELA) projects. Recommend reference to these contracts as a basis for preparing a Best Value award contract for the proposed HNC BUDMAT work as currently proposed.

9. Barge, haul and offload dredged material from the HNC Cat Island Pass Reach through O&M

<u>**Dredging**</u> - For this alternative, material would be hydraulically dredged from Cat Island Pass and loaded into barges which would then be transported 13 to 16.5 miles upstream along the Houma Navigation Canal to an offloading area in the vicinity of Mile 12 adjacent to the target marsh creation areas 1 and 1A (see below map).

Approximately 1,000,000 gross cubic yards (cy) of material would be dredged from the Cat Island Pass bar channel and utilized for beneficial use to create marsh at the HNC BUDMAT Sites 1 and 1A. The material would be placed to an elevation conducive to marsh creation. (Approximately +4' NAVD88) Hopper barges would be loaded with the material dredged from the Cat Island Pass and then transported to the off-loading location adjacent to the west bank of the HNC at Mile 12.0. The dredge material would then be pumped to the sites via an off-loader and the material placed within Site 1 (Approx. 49.8 Acres) first followed by Site 1A (Approx. 45.9 Acres). Retention dikes would be constructed to assure that dredged material is confined to the marsh creation sites. However, some material will be allowed to overflow upon adjacent marshes between Site 1 and the existing pipeline canals that bound Sites 1 and 1A. Material required for dike construction would come from within the marsh creation sites themselves.

Approximately 1,000,000 gross cy would be dredged from the channel during maintenance dredging to -22' MLG by 300' bottom width and 1 on 2 side slopes. As this is an O&M navigation project, the contractor will have to have sufficient barges on hand at all times to assure that dredging operations proceed unimpeded. However, as the Cat Island Pass area is susceptible to high seas, there will be times when dredging and barge loading operations will be impacted and will have to temporarily cease until weather conditions and seas permit remobilization back to the site and allow for work to re-convene.

The primary advantage of this alternative is the fact that dredged material from Cat Island Pass is of far better quality as a fill material given larger grain size per coastal influence. This material will consolidate faster versus the fine material upstream in the navigation channel. The estimated incremental cost as compared to the current dredging practice (Federal Standard) is approximately \$8 million for 1 million cy of dredging (see cost estimate calculations below). This cost may be competitive to the current plan of using upstream borrow sources and could even be less expensive given the probable reduction in fill application lifts given the improved material quality.

The major drawback to this option is that there currently a higher navigational need to dredge the bay channel now and not the bar channel. Given limited funding, use of bar channel material may not be in accordance with FY17/18 navigation maintenance plans and therefore may have to wait until the future.

<u>Estimated Cost Comparison to Current Dredge Placement Practice – (Federal Standard):</u> NOTE: Use **1 million CY** of material for cost comparison

Current Practice – Single point discharges west of the channel:

Mob-Demob ~ \$ 1,200,000

Dredging ~ \$6.0/CY @ 1,000,000 CYS = \$6,000,000

Total initial cost = \$1,200,000 + \$6,000,000 = **\$7,200,000**

<u>Alternative BUDMAT alternative recommendation – Barge Hauling and Off-Loading for Marsh</u> <u>Creation at Sites 1 and 1A:</u> Mob-Demob ~ \$ 3,000,000

Dredging ~ \$10/CY @ 1,000,000 CYS = \$10,000,000

Dike Construction ~ 13,000 LF @ \$120/ LF = \$1,560,000

Geotextile ~ 75,000 SQ YDS @ \$6.50/ YD = \$487,500

Total initial cost = \$3,000,000 + \$10,000,000 + \$1,560,000 + \$487,500 = \$15,047,500

INCREMENTAL COST ABOVE FED STANDARD ~ \$7,847,500. (Say \$8 Million)



CAT ISLAND PASS REACH OF HOUMA NAVIGATION CANAL

<u>Estimated Cost Comparison to Current Dredge Placement Practice – (Federal Standard):</u> NOTE: Use **1 million CY** of material for cost comparison

<u>Current Practice – Single point discharges west of the channel:</u>

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Total initial cost = \$3,000,000 + \$10,000,000 + \$1,560,000 + \$487,500 = \$15,047,500

INCREMENTAL COST ABOVE FED STANDARD ~ \$7,847,500. (Say \$8 Million)

(Tiger Pass 2)

10. Identify barge loading area(s) to allow proper maneuvering in Baptiste Collette -

While construction of the Phase 2 Spanish Pass Ridge assumes dredged material removed from Baptiste Collette would be used to construct environmental restoration features, it is unresolved how the dredged material would be transported from the channel to the restoration site. Given the significant depth of the Mississippi River at Baptiste Collette it is probable that the use of a cutterhead dredge and spider barge to load hopper barges for transport to an unloading area would be deployed. To maintain dredge production, spider barges are capable of loading hopper barges on either side of the plant. An ideal spider barge loading operation would involve a sequenced procession of barges. While a hopper barge is loaded on the starboard side of the spider barge, another hopper barge would be positioned on the port side of the spider barge. When loading of the starboard-positioned hopper is complete, loading of the port-positioned hopper would commence. The loaded starboard hopper would then be moved from the site and the next hopper barge in series would be positioned on the starboard side of the plant. Such sequencing involves a number of hopper barges and tugboats operating at the same time with sufficient space for safe and efficient maneuvering. The location of the loading area should be evaluated during the development of plans and specs with consideration of vessel size and maneuvering space.

The below drawing illustrates the assumption that a spider barge would be approximately 210feet long and 60-feet wide; hopper barges would be 260-feet long and 50-feet wide; and helper tug boats would be 80-feet long and 25-feet wide. Maneuvering space on either side of the plant would allow for a 70-foot offset from a fixed boundary (either jetty stone, channel margins, or inadequate depth) to accommodate tugs as they help move the hopper barges into position. In this example, a minimum width of 300 feet would be required for the spider barge loading area. Actual dimensions of the loading area may vary depending on the availability of equipment.

There appears to be three general channel segments, as listed below and shown on the following map, that may accommodate a loading area with an estimated 300-foot width:

(1) Inland Segment. The pass south of station 260 to its intersection with the river does not require dredging (exceeds authorized dimensions) with bank to bank widths of 750 feet or more, and may have sufficient space to accommodate the loading area with passage of normal traffic. The channel between stations 260 and 330 has an insufficient width for the loading area (generally, 150-feet wide or less).

(2) Jetty Segment. The channel between stations 330 and 390 is bordered by jetties set 500-feet apart. Depth within this segment generally exceeds -15-feet and would be sufficient to accommodate the loading area with possible passage of normal traffic.

(3) Bar Channel Segment. The channel beyond station 390 to station 520 may be described as a 250-foot wide trough running through the bar channel shallows (generally -8 feet or less), and does not have sufficient space for the loading area. The loading area could be set beyond Mile 10, but would be in unprotected waters.



EXAMPLE OF A SPIDER BARGE LOADING OPERATION WITH APPROXIMATE VESSEL DIMENSIONS AND OFFSETS



POSSIBLE REACHES THAT MAY ACCOMMODATE BARGE LOADING

11. Address and get waiver to allow equipment passage on state owned land

<u>created/purchased for Tiger Pass 1 access -</u> The current plan envisions Tiger Pass Phase 2 construction of the Spanish Pass Ridge to begin and tie-in with the presumably completed Phase 1 ridge. A construction access route for Phase 1 extends from the relic Spanish Pass Road westward to a protected canal and thence to the eastern limit of construction. Additionally, the Phase 1 pipeline access route from Tiger / Grand Pass follows Haliburton Road, passes through a recently installed culvert under Tide Water Road and an adjacent marsh corridor, and connects to the construction access route at the terminus of Spanish Pass Road. It is likely that these Phase 1 construction and pipeline access corridors would be proposed for Phase 2 construction, and that tracked vehicles and dredge pipeline would use the completed Phase 1 ridge to access the Phase 2 construction site (see map below).

There is some uncertainty as to the ownership of lands created during Phase 1. While landowners have been identified within the construction template, the state of Louisiana may consider areas converted from open water to land as state lands or dual claimed lands with the current landowner. Construction of the Phase 1 ridge with funding partially provided by the state may further such claims, and the constructed project may be identified by the Louisiana Coastal Protection and Restoration Authority (CPRA) as a feature of "an integrated coastal protection project".

In 2012, Louisiana Code section §RS 38.213 (*Riding or hauling on levees prohibited*) was amended to include integrated coastal protection features and prohibits riding, driving, or hauling unless "ample provision has been made to guard against any damage to which the integrated coastal protection projects may thereby be exposed from wear, tear, and abuse." For any access proposed under Phase 2 construction, such provisions against wear and tear would need to be proposed to - and permissions granted by - the CPRA or relevant parish boards for any equipment or pipeline access across the Phase 1 Spanish Pass Ridge.

Recommend that coordination (with possible waiver request) with the CPRA and Plaquemines Parish for construction access be pursued during development of the Feasibility Report for Phase 2 construction, and that plans and specs for Phase 2 construction be developed during this coordination to identify either equipment access needs across the Phase 1 Ridge or an alternate route to the Phase 2 construction site.



TIGER PASS PHASE 1 AND 2 CONSTRUCTION BOUNDARIES WITH PROBABLE (CURRENTLY ASSUMED) ACCESS ROUTES

APPENDIX A - VALUE ENGINEERING JOB PLAN AND WORKSHOP AGENDA

VALUE ENGINEERING JOB PLAN AND WORKSHOP AGENDA

This workshop was conducted using the six-phase Value Engineering Job Plan as sanctioned by USACE and SAVE International. This process, as listed below, was executed as part of daily activities as described in the following Workshop Agenda:

USACE VALUE ENGINEERING JOB PLAN

(Information Phase)

At the beginning of the study, the project team presents current planning and design status of the project. This includes a general overview and various project requirements. Project details are presented as appropriate. Discussion with the VE Team enhances the Team's knowledge and understanding of the project. A field trip to the project site may also be included as part of information gathering.

(Function Analysis Phase)

Key to the VE process is the Function Analysis Process. Analyzing the functional requirements of a project is essential to assuring an owner that the project has been designed to meet the stated criteria and its need and purpose. The analysis of these functions is a primary element in a value study, and is used to develop alternatives. This procedure is beneficial to the team, as it forces the participants to think in terms of functions and their relative value in meeting the project's need and purpose. This facilitates a deeper understanding of the project.

(Creativity Phase)

The Creativity Phase involves identifying and listing creative ideas. During this phase, the team participates in a brainstorming session to identify as many means as possible to provide the necessary project functions. Judgment of the ideas is not permitted in order to generate a broad range of ideas.

(Evaluation Phase)

The purpose of the Evaluation Phase was to systematically assess the potential impacts of ideas generated during the Creativity Phase relative to their potential for value improvement. Each idea is evaluated in terms of its potential impact to cost and overall project performance. Once each idea is fully evaluated, it is given a rating to identify whether it would be carried forward and developed as an alternative, presented as a design suggestion, dismissed from further consideration or is already being done.

(Development Phase)

During the Development Phase, ideas passing evaluation are expanded and developed into value alternatives. The development process considers such things as the impact to performance, cost, constructability, and schedule of the alternative concepts relative to the baseline concept. This analysis

is prepared as appropriate for each alternative, and the information may include an initial cost and life-cycle cost comparisons. Each alternative describes the baseline concept and proposed changes and includes a technical discussion. Sketches and calculations may also be included for each alternative as appropriate.

(Presentation Phase)

The VE Workshop concludes with a preliminary presentation of the value team's assessment of the project and value alternatives. The presentation provides an opportunity for the owner, project team, and stakeholders to preview the alternatives and develop an understanding of the rationale behind them.

ALL MEETING AT THE CORP DISTRICT OFFICE, ROOM 251 - COMPUTER LAB

Tuesday, 20 June 2017

<u>9:00 am</u> – 4:30 pm

Information Phase:

Introductions

Overview of VE process and workshop schedule (by VE Facilitator) Presentation(s) of overall project (by Project Manager(s) Corps and/or Sponsors)

Presentation(s) of project technical features (by Functional Team Leaders) Identification and listing of project issues, constraints and other pertinent items

Identify and document 'Performance Attributes'

Function Analysis Phase:

Identify project functions Prepare F.A.S.T. diagram

Wednesday 9:00 am – 5:00 pm

> *Creativity Phase:* Conduct 'brainstorming' session and list ideas

Analysis Phase:

Evaluate, screen and select ideas for further consideration Assign development write-up

Thursday

9:00am – 5:00 pm

Development Phase: Develop and document recommendations

TBD Presentation Phase:

Out-brief presentation to be held at a later date

APPENDIX B: WORKSHOP PARTICIPANT ROSTER

BUDMAT FY17 HNC AND TP2 VALUE ENGINEERING WORKSHOP ATTENDANCE (6/20-22/2017)				
NAME	ORGANIZATION	<u>E-MAIL</u>	PHONE	
	Co-facilitator			
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(*) primary VE team			Page 1 of 2	

BUDMAT FY17 HNC AND TP2 VALUE ENGINEERING WORKSHOP ATTENDANCE (6/20-22/2017)				
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APPENDIX C: PROJECT ISSUES AND PERFORMANCE ATTRIBUTES

As part of a comprehensive value analysis process, project issues were identified and discussed by the VE Team, PDT and Local Sponsors. Directly addressing these issues was included referred to as part of the Creativity Phase along with individual project functions in the F.A.S.T. diagram illustrated in **Appendix D**.

The nine 'evaluation criteria' used by the PDT in screening alternative measures were established as VE 'Performance Attributes' used as a means of determining idea viability.

(Project Issues)

- 1. Loss of natural sediment transport to, and retention in, coastal marshes
- 2. Loss of critical coastal geomorphic features due to erosion, subsidence, and sea level change
- 3. Loss of coastal marshes due to erosion, subsidence, saltwater intrusion, and sea level change.
- 4. Must operate within existing authorized Federal navigation channels
- 5. Funding limitations
- 6. Sediment transport limitations
- 7. Dredge source material type (high water content) HNC
- 8. Hazardous, toxic, and radioactive waste concerns (pending)
- 9. (Deleted)
- 10. Threatened and endangered species
- 11. Oyster leases
- 12. Dike material must be obtained deeper than surface
- 13. Some channel reaches have less suitable material
- 14. Distance out in bar (TP)
- 15. Don't know quality of borrow material (HNC)

16. May require contractor to limit productivity to obtain slurry quality

- 17. Need further geotech analysis
- 18. We still need to determine consolidation rates
- 19. Real estate uncertainties
- 20. Funding to dredge channel amount uncertainty.
- 21. Large and deep borrow pits for dikes cannot be fully re-filled
- 22. Uncertainty with P/L crossing and discharge effluent filling (HNC)
- 23. Equipment type and access uncertainties and limitations

24. Space to operate dredge and barge etc. in relatively narrow channel (150 – 250'); shallow beyond channel (TP)

25. Assuming use of TP1 but may use a different route; is there time to get permits for an alternate route (contractor has done for Calcasieu)

26. Depth of river from Baptiste Collette to west bank (is very deep).

27. Barge staging area for TP1 may not be available

28. Address delta for distance transport vs beneficial use currently as federal standard (are we properly discounting loss (delay) of new 'bird islands') See previous LCA documentation (?)

29. Prohibition of use of certain equipment on state owned land for TP1.

(Performance Attributes)

The VE Team used the following evaluation criteria, also defined in the VE process as 'performance attributes', that were established by the PDT in screening project alternative measures:

Improve:

- Protection of critical landscape features
- Relative cost-effectiveness
- Synergy with other restoration projects
- Implementation
- Schedule
- Awardability; maintain bidding competition

- Constructability (particularly as it relates to poor material quality; dikes, order of work, equipment, etc.)

- Site access; r-o-w restrictions

⁻ Legal sufficiency

APPENDIX D: FUNCTION ANALYSIS SYSTEM TECHNIQUE (F.A.S.T.) DIAGRAM



APPENDIX E: SPECULATION LIST

		BUDMAT FY17 HNC AND TIGER PASS PH 2 VE SPECULATION LIST
===	==	
AR		Allow contractor to use interal cells to enhance de-watering
AR	28	Use interior dikes as baffles in HNC (consider hay bales, etc. in lieu of earthen)
W/28		Use meandering berms to lenghten dewatering path
AR	39	Consider 10-yr marsh in lieu of a 20-yr marsh
W/39		Reduce containment dike height (freeboard) for HNC
AR	41	Do Site 1 only (in this phase); Site 1 with Site 1A as secondary (overflow)
W/41		Use screening methods on north side and lower weir/dikes (HNC)
AR	4	Barge material from Cat Island Pass
AR		Locate barge loading area to allow proper manuvering in Baptiste Collette
AR		Address and get waiver to allow equipment passage on state owned land for TP1 Increase contract duration for construction
AR		Perform extensive sediment tests for HNC material
AR	23 38	Use best value contract for HNC
AR AR	2	Use rental contract for HNC
X	1	Dredge downstream material first to best fill in borrow pits (Tiger Pass)
x	3	Barge material from Atchafalaya
X	5	Don't require dike construction - make solution a performance contract
X	7	De-water the material at the dredge site and barge to pump off station
X	8	Construct access from HNC for mechanical off loading
Х	9	Use of a large bucket instead of a cutter head
Х	10	Restrict traffic in Baptiste Collette and Grand Pass during construction
Х	11	Use different containment method instead of dikes
Х	12	Tiger Pass - discharge material upland
Х		Allow hopper dredge for Baptiste Collette
Х	15	De-water the material and haul in dry
Х	16	HNC - use existing pipeline spoil banks as perimeter dikes
Х	17	Use additives to help consolidate material
Х	21	Buy out oyster leases along the HNC
Х	22	Futher expand the multiple funding sources
Х	24	Spread mobilization costs by partnering with other projects
Х	26	Utilize spray discharge in lieu of hydraulic pipe
Х	27	Add barrier structures
Х	31	Use spillways with erosion control devices core logs/hay bales in lieu of weir box
Х		Improve retention dikes to provide elevated roadway (TP)
Х	34	Can HNC not be all in one; i.e., place base now with later lifts
Х	35	Address improvement in federal standard (bird islands) vs ridge/marsh at long distance
Х	37	Use design-build contract for HNC
X	40	Use Site 1 and use spoil bank as containment
X	42	Separate dike and dredging contracts (HNC)
XBD	6 19	Allow contractor to design training dikes to establish elevation
XBD	18 30	Don't fill in access channels outside of containment dikes; use as inverted breakwaters Use multiple weir locations
XBD XBD	32	Optimize Tiger Pass ridge height
XBD	52	optimize riger tass hage height

AR = Alternative Recommendation; X = Idea Eliminated; XBD = Being Done; 'w/xx' = Combin Item