

# New Orleans District Emergency Permit Request Action 1 June 2010

Presented By:

COL Alvin “Al” B. Lee

District Commander



®

US Army Corps of Engineers  
**BUILDING STRONG**®



# Purpose

To provide an update on the emergency permit request submitted by the State of Louisiana to construct a sand berm barrier along the coast of Louisiana to protect it against the oil spill in the Gulf of Mexico.

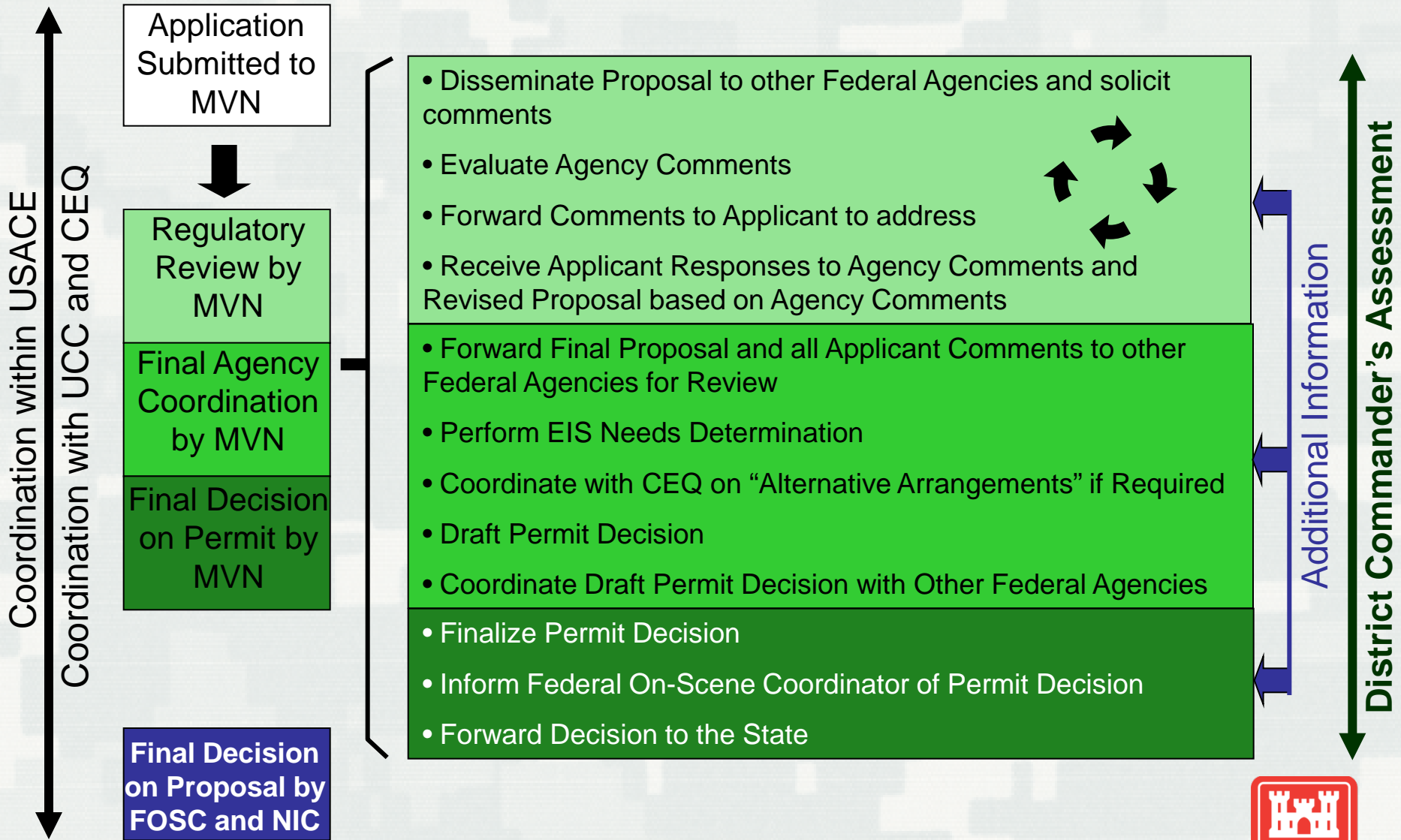


# BLUF:

A decision has been made to proffer the NOD-20 Permit for portions of the State's proposed sand barrier (W8, W9, W10, and W11) (E3 and E4).



# Work Flow Process



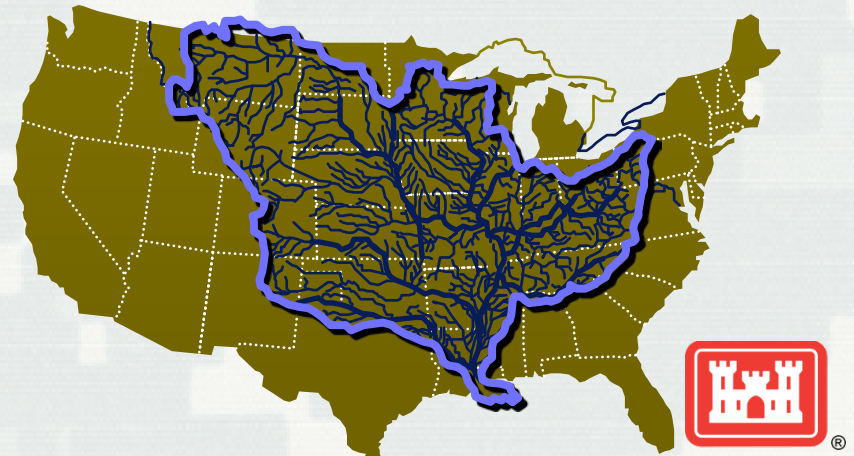
# Is this an Emergency?

- Secretary Napolitano (DHS) describes the oil spill as a spill of “national significance.” (29 APR)
- Governor Jindal (State of Louisiana) declares state of emergency due to the threat to the state’s natural resources. (29 APR)
- National Incident Command is established in response to the oil spill. (30 APR)
- President Obama calls leak “a massive and potentially unprecedented environmental disaster.” (3 MAY)
- Secretary Locke (Commerce) declares a "fishery disaster" in the seafood-producing states of Louisiana, Mississippi and Alabama due to the oil spill. (25 MAY)
- Resources Employed (as of 1 JUN 2010):
  - Personnel: 15,918
  - Boom deployed: 1,949,795 ft
  - Dispersants deployed to date: 1,001,301 gallons
  - Total Vessels Assigned: 1,688
- Estimated cost for clean-up: To Be Determined
- Estimated 12,000-19,000 barrels of oil per day leaking; total of approx 1.5M barrels



# What's at Stake in Louisiana?

- Ecosystem supporting the 3<sup>rd</sup> largest River Basin in the world.
- 5 of the top 14 ports in the US.
- 14,500 miles of coastline.
- 15% of all U.S. imported oil handled by Louisiana Off-Shore Oil Port (LOOP), which is connected to nearly 50% of nation's refining capacity.
- Home to 25% of continental U.S. commercial fisheries
- Total economic impact (dockside values + retail sales) of over \$2.4 billion annually



# Authority for NOD-20 Permit

Part 325.8(b) of Title 33, Code of Federal Regulations, gives the District Commander at New Orleans the authority to grant a general permit for certain emergency operations (designated as a NOD-20 permit). This permit authorizes work and structures under the following legislation:

Section 10 of the Rivers and Harbors Act of March 3, 1899 (33 USC 403).

Section 404 of the Clean Water Act (33 USC 1344).

This permit does not authorize any work under Section 9 of the Rivers and Harbors Act of March 3, 1899 (33 USC 404) or Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 USC 1413).

This NOD-20 permit is applicable only within the boundaries of the New Orleans District of the U.S. Army Corps of Engineers.



# What is a NOD-20 Permit?

- Established in 1982 as a General Permit for Emergency Operations specific to the New Orleans District.
- **Work authorized by this general permit is the minimum amount necessary to respond to such emergencies as oil or gas well blowouts, pipeline explosions or ruptures. Authorization under the general permit is a temporary approval to allow the applicant to perform work under emergency situations.**
- This general permit may be modified, suspended, or revoked by the District Commander any time it is found to be in the public interest to do so. (The District Commander can choose to approve only portions of a proposed action).
- This general permit does not relieve permittees from obtaining emergency permits or other approvals from any required state or local agency, or the consent of the landowner.
- Within 30 days of approval, the permittee must provide a restoration plan to restore the impacted site. Should it be in the public interest to maintain the authorized work, the permittee must apply for a Department of the Army permit within 30 days of the emergency approval.





# NOD-20 NEPA needs determination

“The statement (EIS or EA) shall briefly specify the underlying purpose and need to which agency is responding in proposing the alternatives including the proposed action.”

-- 40 CFR 1502.13

The purpose of the proposed project is to capture oil from the Deepwater Horizon oil spill. The need for the proposed project is to keep oil from entering the fragile coastal marshes and wetlands.

-- The permit application



# Permit Chronology

11 MAY – USACE coordinated pre-application teleconference with state and federal agencies

**11 MAY – State submitted emergency permit request for Barrier Concept to USACE**

12-14 MAY – Interagency application review meeting held by USACE; Agency comments on Barrier Concept submitted to USACE and forwarded to State

**14 MAY – Revised Barrier Concept and responses to agency comments submitted to USACE by the State**

15-17 MAY – Revised Barrier Concept submitted to agencies for comments; Interagency application review meeting held by USACE on revised Barrier Concept; Agency comments on Revised Barrier Concept submitted to USACE and forwarded to State

17 MAY – Agency recommendations on special conditions for NOD-20 permit forwarded to USACE

18-21 MAY – Completed initial EA; Completed engineering analysis; Discussed engineering analysis results with State and forwarded additional comments to the State.

22-24 MAY - Revised initial EA based on engineering analysis results; received State's comments on engineering analysis results

24 MAY – Forwarded State's comments, final revised concept, and draft permit (with special conditions) to Agencies (NIC Interagency Solutions Group) for final comments

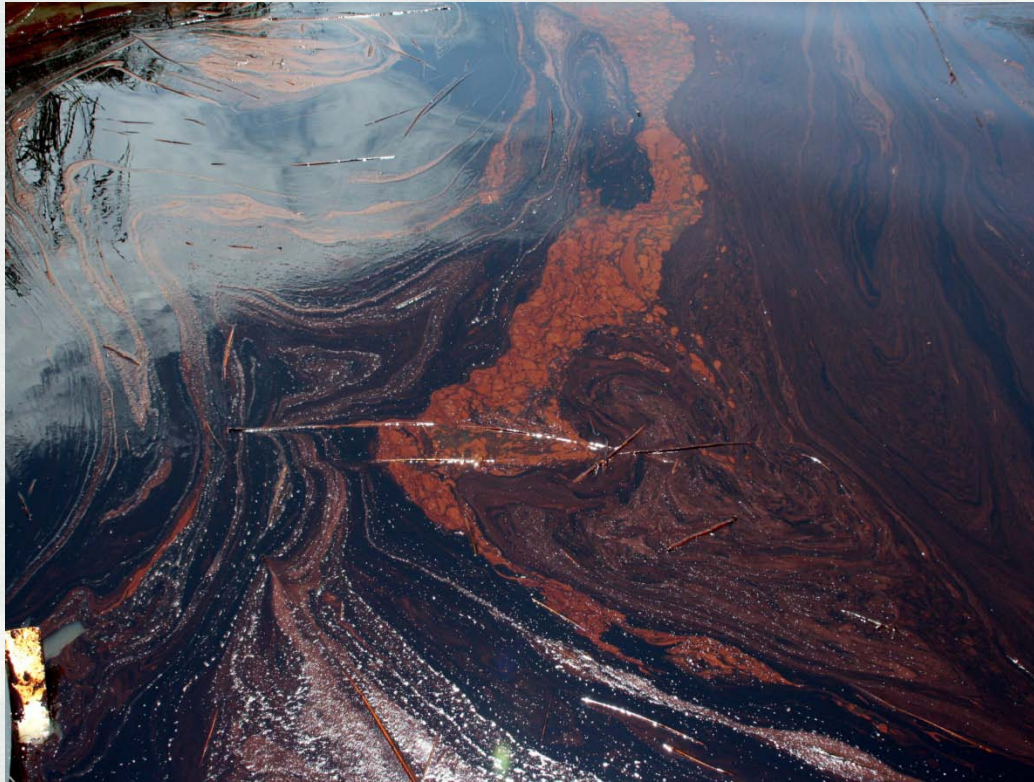
27 May – USACE receives Environmental Protection Agency comments on modified permit

27 May – USACE proffers emergency permit to state

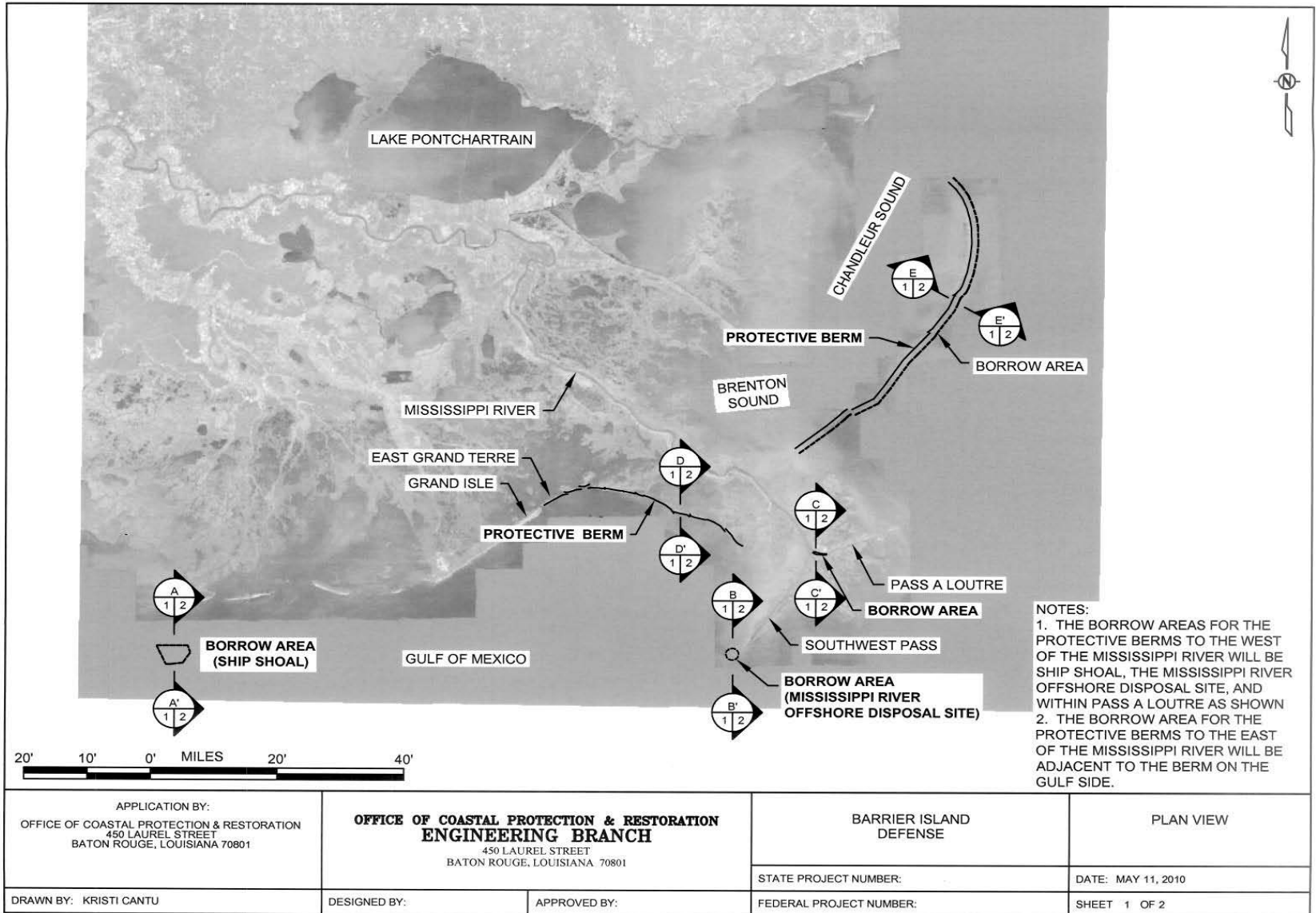
1 June – NIC Barrier Island Berm Meeting



# Engagement



# State's Original Barrier Concept



NOTES:  
 1. THE BORROW AREAS FOR THE PROTECTIVE BERMS TO THE WEST OF THE MISSISSIPPI RIVER WILL BE SHIP SHOAL, THE MISSISSIPPI RIVER OFFSHORE DISPOSAL SITE, AND WITHIN PASS A LOUTRE AS SHOWN  
 2. THE BORROW AREA FOR THE PROTECTIVE BERMS TO THE EAST OF THE MISSISSIPPI RIVER WILL BE ADJACENT TO THE BERM ON THE GULF SIDE.

APPLICATION BY: OFFICE OF COASTAL PROTECTION & RESTORATION 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801	<b>OFFICE OF COASTAL PROTECTION &amp; RESTORATION                  ENGINEERING BRANCH</b> 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801	BARRIER ISLAND DEFENSE	PLAN VIEW
DRAWN BY: KRISTI CANTU	DESIGNED BY:	APPROVED BY:	STATE PROJECT NUMBER:
FEDERAL PROJECT NUMBER:			DATE: MAY 11, 2010 SHEET 1 OF 2

# State's Original Barrier Concept

## Summary:

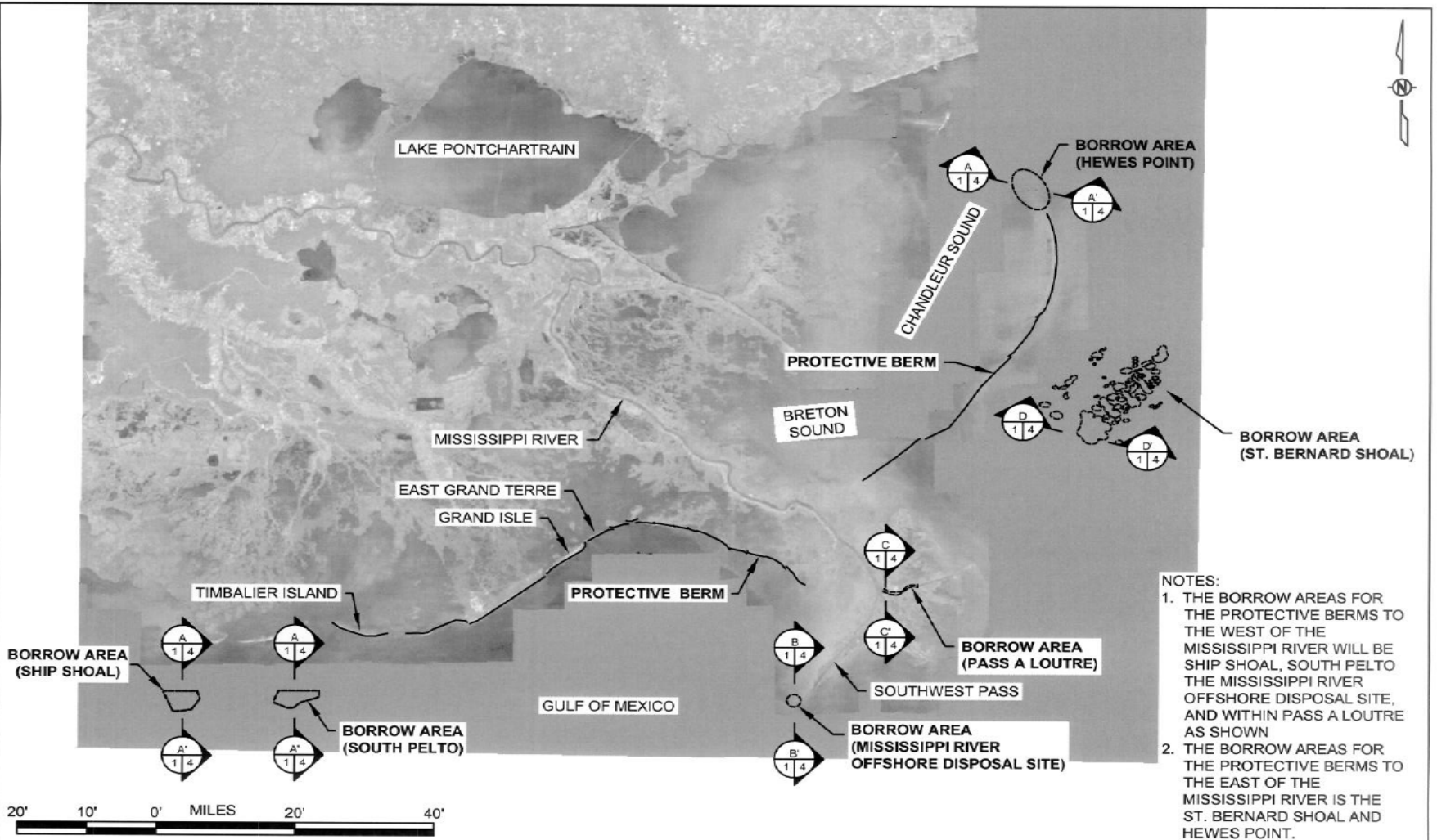
- Submitted to the District on 11 MAY 2010.
- Proposed by Plaquemines Parish and endorsed by State of LA.
- Use 12 dredges to build a sand barrier offshore using borrow material near (within 1 mile) of the existing barrier islands.
- Sand barrier would be constructed to an Elev 6.0ft; 1:25 side slope; 175-200 ft wide extending for approx 100 miles along the coast.
- Estimated borrow material required by State: 60-90 M cyds
- Estimated time to Complete by State: 4-6 months
- Estimated Cost by the State: \$2.5M/mile (\$250M)

## Major Agency Comments Received:

- Borrow locations near the islands could increase erosion of islands.
- A lot of effort over a relatively long construction period for a limited benefit.
- Could significantly impact endangered species, critical habitats, sustainable fishery stocks, and migratory birds.
- Attempting to block off tidal exchange would change net current pattern and could actually push oil into the marsh.
- Would require a Special Use Permit due to National Refuge Administration Act.
- May disrupt natural sediment transfer within littoral system.



# State's Revised Barrier Concept



- NOTES:**
1. THE BORROW AREAS FOR THE PROTECTIVE BERMS TO THE WEST OF THE MISSISSIPPI RIVER WILL BE SHIP SHOAL, SOUTH PELTO TO THE MISSISSIPPI RIVER OFFSHORE DISPOSAL SITE, AND WITHIN PASS A LOUTRE AS SHOWN
  2. THE BORROW AREAS FOR THE PROTECTIVE BERMS TO THE EAST OF THE MISSISSIPPI RIVER IS THE ST. BERNARD SHOAL AND HEWES POINT.

APPLICATION BY: OFFICE OF COASTAL PROTECTION & RESTORATION 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801		<b>OFFICE OF COASTAL PROTECTION &amp; RESTORATION          ENGINEERING BRANCH</b> 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801		BARRIER ISLAND DEFENSE		PLAN VIEW	
DRAWN BY: KRISTI CANTU		DESIGNED BY:		APPROVED BY:		STATE PROJECT NUMBER:	
				FEDERAL PROJECT NUMBER:		DATE: MAY 11, 2010 (REVISED 5/14/10)	
						SHEET 1 OF 5	

# State's Revised Barrier Concept

## Summary:

- Submitted to the District on 14 MAY 2010.
- Revised concept developed in response to received agency comments
- Would use 18 dredges (10 hopper & 8 large cutterhead dredges)
- Sand will be dredged from borrow areas outside the littoral system (Hewes Point, St Bernard Shoal, Pass-a-Loutre, etc.)
- Sand barrier would be constructed to Elev 6.0 ft; 1:25 side slope; 25-ft crown; 175-200 ft wide extending for approx 90 miles along the coast with breaks to allow tidal flow.
- Estimated borrow material required by State: 50 M cyds
- Estimated time to Complete by State: 6-9 months
- Estimated Cost by the State: \$350M

## Major Agency Comments Received:

- Still a lot of effort over a relatively long construction period for a limited benefit.
- Still could impact endangered species, critical habitats, sustainable fishery stocks, and migratory birds.
- May use borrow material intended to support future coastal restoration projects.
- Clearance of pipelines and infrastructure during dredging and material placement may require full geophysical survey.
- Would require a Special Use Permit due to National Refuge Administration Act and a Sand & Gravel Lease for uncleared borrow sites.
- Complete pilot study to validate concept
- Could adversely impact national navigation
- Disposal of contaminated sediment (dredging, placement, and on islands)



# Comments on Revised Barrier Concept based on Engineering Analysis (21 MAY)

- Proposed barrier could cause a change in the net current pattern and the movement of water in the area of Mississippi Sound and the Mississippi barrier islands. These changes could actually push/trap the oil into these areas and could also cause impacts to the salinity regime in the sound which is of great concern.
- The characteristics of the borrow material could inhibit retention and stacking at the 1:25 side slope.
- There is the possibility that hydrologic conditions and tidal flows will inhibit construction of certain project features.
- Potential of unintended consequences for Lake Borgne and Western Mississippi Sound in terms of altered tidal dynamics, salinity intrusion, and oil penetration.
- Corps will need to monitor impacts of barrier– short and long term.
- **There are portions of the Revised Barrier Concept that may be feasible to construct and could provide some benefit**





# Would a Permit be Contrary to Public Interest?

- **Is the permit being considered (NOD-20) appropriate in this situation?** Yes. The District Commander has the authority to issue this permit and it is an emergency. ✓

- **Is there a valid Purpose and Need for the proposed action?** Yes. As stated in the permit application submitted by the State, “the purpose of the proposed project is to capture oil from the Deepwater Horizon oil spill. The need for the proposed project is to keep oil from entering the coastal marshes and wetlands”. ✓

- **Do the potential benefits outweigh the potential detriments?** Yes, in certain reaches. The potential benefit of preventing oil from entering the coastal marshes outweighs the potential detriment of allowing oil to enter the coastal marshes through No Action. ✓\*

❖ **Can Permit only those Portions of Proposed Barrier concept that have potential to be beneficial.**

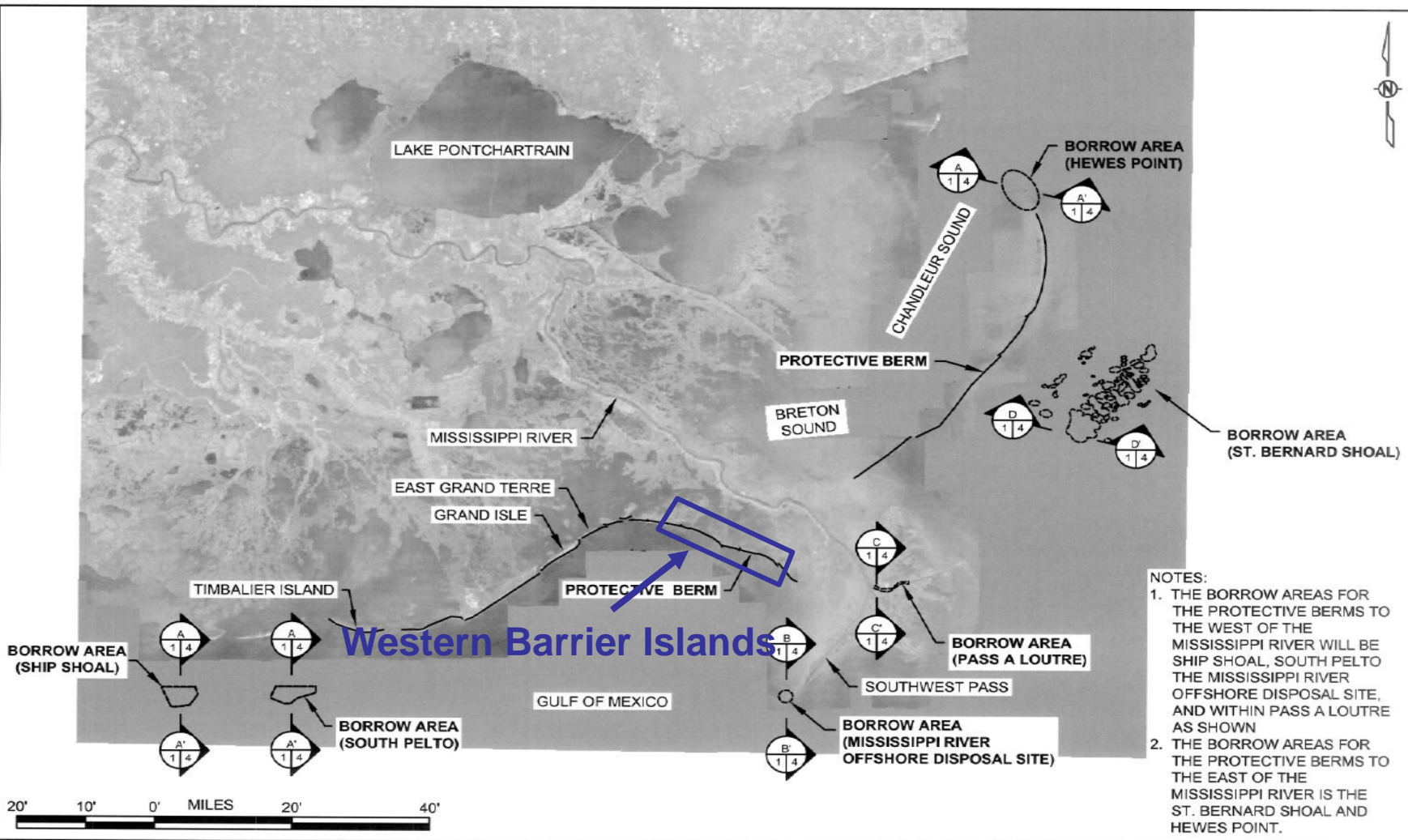
- **Will the proposed action have the potential to cause significant environmental impacts?** Uncertain at this time.

❖ **EA is complete.**

\* **Only select portions**



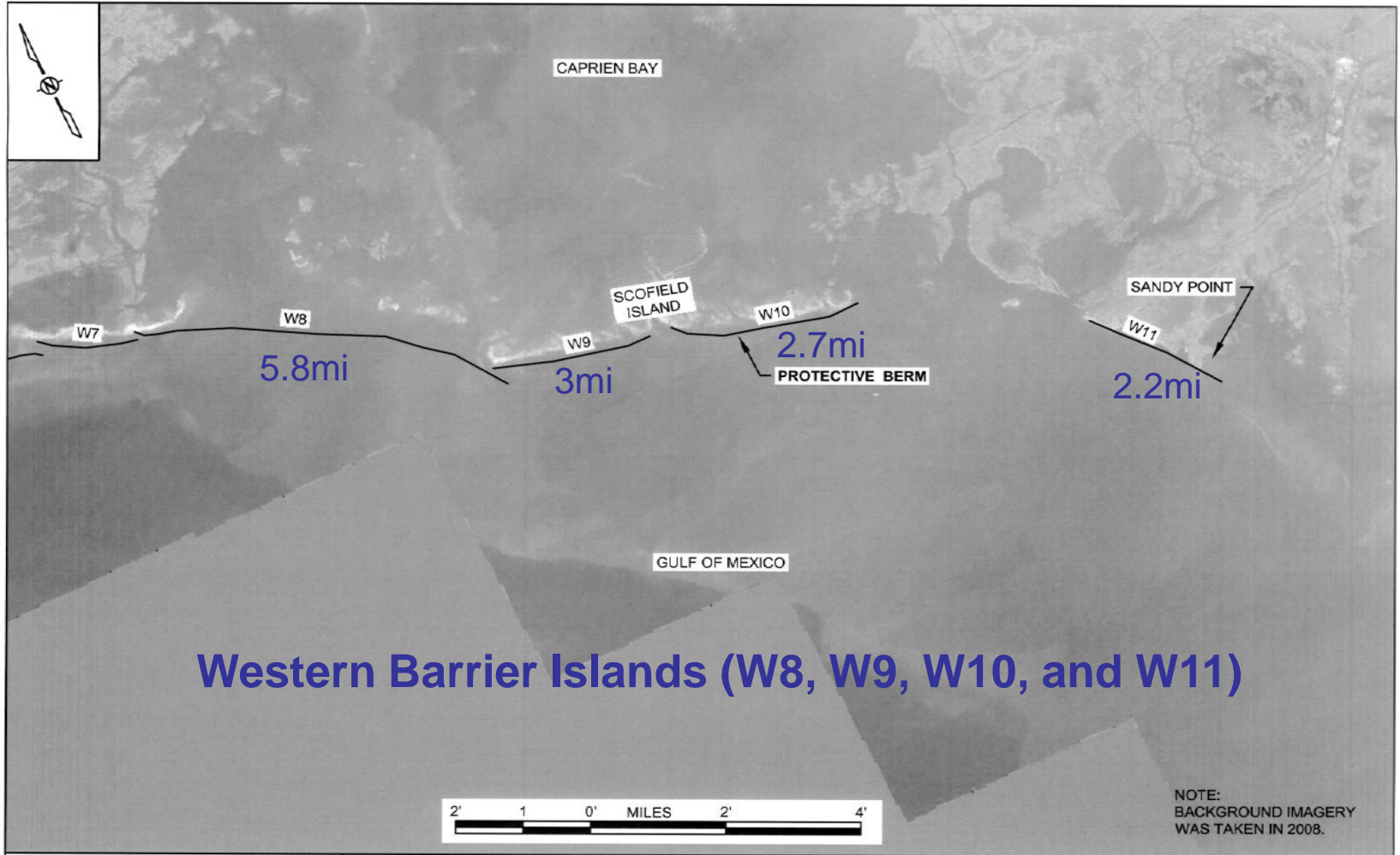
# Final Permit Proffered



- NOTES:
1. THE BORROW AREAS FOR THE PROTECTIVE BERSMS TO THE WEST OF THE MISSISSIPPI RIVER WILL BE SHIP SHOAL, SOUTH PELTO TO THE MISSISSIPPI RIVER OFFSHORE DISPOSAL SITE, AND WITHIN PASS A LOUTRE AS SHOWN
  2. THE BORROW AREAS FOR THE PROTECTIVE BERSMS TO THE EAST OF THE MISSISSIPPI RIVER IS THE ST. BERNARD SHOAL AND HEWES POINT.

APPLICATION BY: OFFICE OF COASTAL PROTECTION & RESTORATION 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801	<b>OFFICE OF COASTAL PROTECTION &amp; RESTORATION          ENGINEERING BRANCH</b> 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801	BARRIER ISLAND DEFENSE	PLAN VIEW
DRAWN BY: KRISTI CANTU	DESIGNED BY:	APPROVED BY:	STATE PROJECT NUMBER: DATE: MAY 11, 2010 (REVISED 5/14/10) FEDERAL PROJECT NUMBER: SHEET 1 OF 5

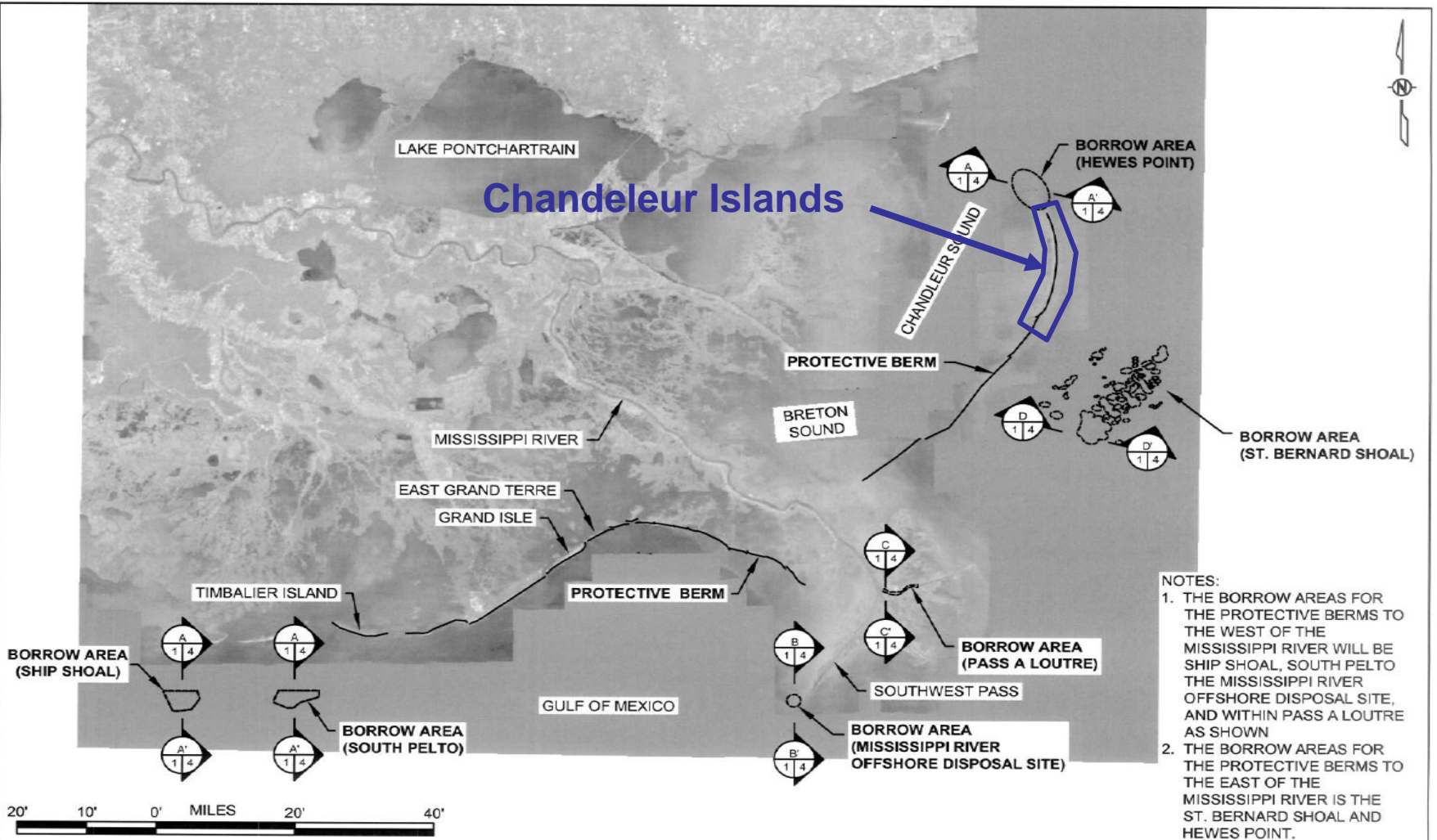
# Final Permit Proffered



## Western Barrier Islands (W8, W9, W10, and W11)

APPLICATION BY: OFFICE OF COASTAL PROTECTION & RESTORATION 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801		<b>OFFICE OF COASTAL PROTECTION &amp; RESTORATION          ENGINEERING BRANCH</b> 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801		BARRIER ISLAND DEFENSE		WESTERN REACHES	
DRAWN BY: KRISTI CANTU		DESIGNED BY:		APPROVED BY:		STATE PROJECT NUMBER:	
						DATE: MAY 24, 2010	
						FEDERAL PROJECT NUMBER:	
						SHEET 1 OF 2	

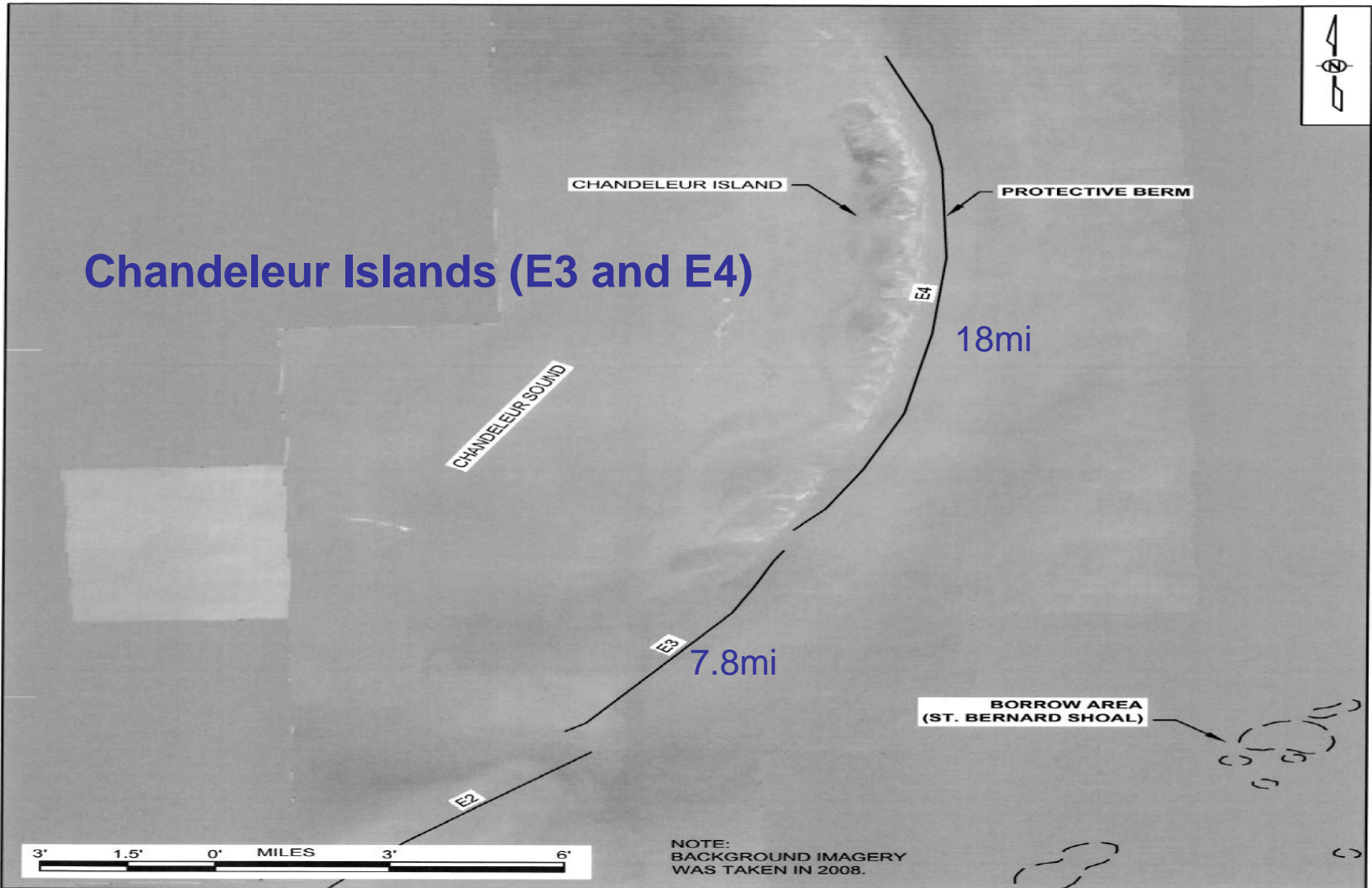
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- NOTES:
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DRAWN BY: KRISTI CANTU	DESIGNED BY:	APPROVED BY:	STATE PROJECT NUMBER:  FEDERAL PROJECT NUMBER:
			DATE: MAY 11, 2010 (REVISED 5/14/10)  SHEET 1 OF 5

# Final Permit Proffered



APPLICATION BY: OCPB 450 LAUREL STREET BATON ROUGE, LA	<b>OFFICE OF COASTAL PROTECTION &amp; RESTORATION          ENGINEERING BRANCH</b> 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801	BARRIER ISLAND DEFENCE	EASTERN REACHES
DRAWN BY: KRISTI CANTU	DESIGNED BY:	APPROVED BY:	STATE PROJECT NUMBER: FEDERAL PROJECT NUMBER:
		DATE: MAY 24, 2010 SHEET 2 OF 2	

# Final Permit

## Summary:

- Approved portions based on engineering analysis results.
- Would allow the State to start constructing a portion of their Revised Barrier Concept in an area with best potential for benefit.
- Permit contains 2 provisions and 33 specified conditions and would be effective for 30 days once issued.

## More Info

- Borrow material required: TBD by State
- Time to Complete: TBD by State
- Cost: TBD by State

## Major Agency Comments Received:

- Agencies provided recommendations on specified conditions on 17 MAY.
- No additional substantive comments provided.



# Applicable Environmental Laws

- National Environmental Policy Act (NEPA)
- Clean Water Act (CWA)
- Migratory Bird Treaty Act (MBTA)
- Coastal Barrier Resource Act (COBRA)
- Endangered Species Act (ESA)
- National Refuge Administration Act (NRAA)
- Wilderness Act
- Magnuson-Stevens Act [Essential Fish Habitat (EFH)]
- Marine Mammal Protection Act (MMPA)
- National Historic Preservation Act



# Path Forward

## Implementation of Protection Sand Berm NIC Demo Project

- State of LA must accept, sign, and return permit to USACE
- State of LA is the permittee and is responsible for implementation and adherence to all terms and conditions of permit
- State ensures that borrow sites and stockpile areas located in state waters are environmentally cleared by the Corps of Engineers prior to commencement of work. If borrow sites are located in OCS waters, clearance must be obtained from MMS
- State must establish monitoring protocols with USACE prior to commencement to document project success/impacts.
- State must request release of any U.S. flagged dredges currently under contract to USACE.
- State will provide best estimate of when dredges will be on site and commencing work
- Any changes in the permit must be recognized by the State and approved by USACE
- USACE will provide QA for regulatory and environmental compliance on behalf of the U.S. Government.





# Path Forward

## Implementation of Protection Sand Berm Project as authorized by USACE

- State must establish monitoring protocols with USACE prior to commencement to document project success/impacts
- State ensures that borrow sites and stockpile areas within State waters are environmentally cleared by USACE. If any borrow sites located in OCS waters, clearance must be obtained from MMS
- State must obtain Special Use Permit from Breton National Wildlife Refuge prior to commencement of work
- State must submit a final permit application within 30 days of emergency permit issuance
- State must provide USACE with all preconstruction documentation as specified in special conditions of the emergency permit
- State must request release of any dredges currently under contract to the Corps.
- Any changes in the permit must be requested by the State and approved by USACE
- State will provide best estimate of when dredges will be on site and commencing work



**Rough Order of Magnitude  
provided at the request  
of the  
National Incident Commander**



# Rough Order of Magnitude Project Cost – 1:25 Slopes Protective Berm Quantities

Quantities are for a 1 on 25 side slopes (65 CY/LF)

Reach	Berm Length (miles)	Berm Quantity (CY)	Borrow Pit	Estimated Cost	S & A Costs	Operations								
						Duration (months)	# of Hopper Dredges	Hopper Daily Prod. (CY/Day/Dredge)	Excavation Quantity (CY)	# of Dredge Days	# of Cutter Dredges	CSD Daily Prod. (CY/Day/Dredge)	Excavation Quantity (CY)	# of Dredge Days
E3	7.8	2,676,960	St. Bernard Shoals	\$58,893,120.00	\$988,000.00	13	5	12,100	10,038,600	166	1	30,000	4,015,440	134
E4 - South	13	4,461,600	St. Bernard Shoals	\$98,155,200.00	\$1,596,000.00	21	5	12,100	16,731,000	277	1	30,000	6,692,400	223
E4 - North	5	1,716,000	Hewes Point	\$31,791,168.00	\$456,000.00	6	-----	-----	-----	-----	1	30,000	4,290,000	143
<b>East Total</b>	<b>25.8</b>	<b>8,854,560</b>		<b>\$188,839,488</b>	<b>\$3,040,000</b>		<b>10</b>		<b>26,769,600</b>	<b>442</b>	<b>3</b>		<b>14,997,840</b>	<b>500</b>
W8	5.8	1,990,560	Pass a Loure	\$99,528,000.00	\$760,000.00	10	5	4,400	7,464,600	339	1	30,000	2,985,840	100
W9	3	1,029,600	Pass a Loure	\$51,480,000.00	\$456,000.00	6	5	4,400	3,861,000	176	1	30,000	1,544,400	51
W10	2.7	926,640	Pass a Loure	\$46,332,000.00	\$380,000.00	5	5	4,400	3,474,900	158	1	30,000	1,389,960	46
W11	2.2	755,040	Pass a Loure	\$37,752,000.00	\$228,000.00	3	5	4,400	2,831,400	129	1	30,000	1,132,560	38
<b>West Total</b>	<b>13.7</b>	<b>4,701,840</b>		<b>\$235,092,000</b>	<b>\$1,824,000</b>		<b>20</b>		<b>17,631,900</b>	<b>801</b>	<b>4</b>		<b>7,052,760</b>	<b>235</b>
<b>Grand Total</b>	<b>39.5</b>	<b>13,556,400</b>		<b>\$423,931,488</b>	<b>\$4,864,000</b>		<b>30</b>		<b>44,401,500</b>	<b>1,244</b>	<b>7</b>		<b>22,050,600</b>	<b>735</b>

Notes:

1) Estimated Cost includes Prorated Mobilization & Demobilization.



# Rough Order of Magnitude Project Cost – 1:50 Slopes

Quantities are for a 1 on 50 side slopes (124 CY/LF)

Reach	Berm Length (miles)	Berm Quantity (CY)	Borrow Pit	Estimated Cost	S & A Costs	Operations								
						Duration (months)	# of Hopper Dredges	Hopper Daily Prod. (CY/Day/Dredge)	Excavation Quantity (CY)	# of Dredge Days	# of Cutter Dredges	CSD Daily Prod. (CY/Day/Dredge)	Excavation Quantity (CY)	# of Dredge Days
E3	7.8	5,106,816	St. Bernard Shoals	\$112,349,952.00	\$608,000.00	8	5	12,100	13,788,403	228	1	30,000	6,894,202	230
E4 - South	13	8,511,360	St. Bernard Shoals	\$187,249,920.00	\$1,064,000.00	14	5	12,100	22,980,672	380	1	30,000	11,490,336	383
E4 - North	5	3,273,600	Hewes Point	\$31,791,168.00	\$456,000.00	6	-----	-----	-----	-----	1	30,000	4,910,400	164
<b>East Total</b>	<b>25.8</b>	<b>16,891,776</b>		<b>\$331,391,040</b>	<b>\$2,128,000</b>		<b>10</b>		<b>36,769,075</b>	<b>608</b>	<b>3</b>		<b>23,294,938</b>	<b>776</b>

W8	5.8	3,797,376	Pass a Loutre	\$189,868,800.00	\$1,216,000.00	16	5	4,400	10,252,915	466	1	30,000	5,126,458	171
W9	3	1,964,160	Pass a Loutre	\$98,208,000.00	\$684,000.00	9	5	4,400	5,303,232	241	1	30,000	2,651,616	88
W10	2.7	1,767,744	Pass a Loutre	\$88,387,200.00	\$592,040.00	8	5	4,400	4,772,909	217	1	30,000	2,386,454	80
W11	2.2	1,440,384	Pass a Loutre	\$72,019,200.00	\$489,440.00	6	5	4,400	3,889,037	177	1	30,000	1,944,518	65
<b>West Total</b>	<b>13.7</b>	<b>8,969,664</b>		<b>\$448,483,200</b>	<b>\$2,981,480</b>		<b>20</b>		<b>24,218,093</b>	<b>1,101</b>	<b>4</b>		<b>12,109,046</b>	<b>404</b>

<b>Grand Total</b>	<b>39.5</b>	<b>25,861,440</b>		<b>\$779,874,240</b>	<b>\$5,109,480</b>		<b>30</b>		<b>60,987,168</b>	<b>1,709</b>	<b>7</b>		<b>35,403,984</b>	<b>1,180</b>
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- Notes:  
 1) Estimated Cost includes Prorated Mobilization & Demobilization.  
 2) Contingency is 50% based on the risk that the 1 on 50 could become a 1 on 80.

Durations				
Reach	Mob/Prelay	Dredge/Haul	Pump to Shore	Total
E3	0.5	7.8	dredge & haul governs	8.3
E4-South	0.5	13	dredge & haul governs	13.5
E4-North	0.5	5.58	dredge & haul governs	6.08
W8	0.5	15.66	dredge & haul governs	16.16
W9	0.5	8.1	dredge & haul governs	8.6
W10	0.5	7.29	dredge & haul governs	7.79
W11	0.5	5.94	dredge & haul governs	6.44

west 2.7 months/mile  
 east 1 months/mile

mob/demo/setup allow 14 days  
 prelay of pipe assume done same time as initial stockpiling of material



# Rough Order of Magnitude Project Cost – 1:80 Slopes

Quantities are for a 1 on 80 side slopes (196 CY/LF)

Reach	Berm Length (miles)	Berm Quantity (CY)	Borrow Pit	Estimated Cost	S & A Costs	Operations								
						Duration (months)	# of Hopper Dredges	Hopper Daily Prod. (CY/Day/Dredge)	Excavation Quantity (CY)	# of Dredge Days	# of Cutter Dredges	CSD Daily Prod. (CY/Day/Dredge)	Excavation Quantity (CY)	# of Dredge Days
E3	7.8	8,072,064	St. Bernard Shoals	\$177,585,408.00	\$912,000.00	12	5	12,100	21,794,573	360	1	30,000	10,897,286	363
E4 - South	13	13,453,440	St. Bernard Shoals	\$295,975,680.00	\$1,520,000.00	20	5	12,100	36,324,288	600	1	30,000	18,162,144	605
E4 - North	5	5,174,400	Hewes Point	\$31,791,168.00	\$456,000.00	9	-----	-----	-----		1	29,000	7,761,600	268
<b>East Total</b>	<b>25.8</b>	<b>26,699,904</b>		<b>\$505,352,256</b>	<b>\$2,888,000</b>		<b>10</b>		<b>58,118,861</b>	<b>961</b>	<b>3</b>		<b>36,821,030</b>	<b>1,236</b>

W8	5.8	6,002,304	Pass a Loutre	\$300,115,200.00	\$1,900,000.00	25	5	4,400	16,206,221	737	1	30,000	8,103,110	270
W9	3	3,104,640	Pass a Loutre	\$155,232,000.00	\$988,000.00	13	5	4,400	8,382,528	381	1	30,000	4,191,264	140
W10	2.7	2,794,176	Pass a Loutre	\$139,708,800.00	\$899,840.00	12	5	4,400	7,544,275	343	1	30,000	3,772,138	126
W11	2.2	2,276,736	Pass a Loutre	\$113,836,800.00	\$740,240.00	10	5	4,400	6,147,187	279	1	30,000	3,073,594	102
<b>West Total</b>	<b>13.7</b>	<b>14,177,856</b>		<b>\$708,892,800</b>	<b>\$4,528,080</b>		<b>20</b>		<b>38,280,211</b>	<b>1,740</b>	<b>4</b>		<b>19,140,106</b>	<b>638</b>

<b>Grand Total</b>	<b>39.5</b>	<b>40,877,760</b>		<b>\$1,214,245,056</b>	<b>\$7,416,080</b>		<b>30</b>		<b>96,399,072</b>	<b>2,701</b>	<b>7</b>		<b>55,961,136</b>	<b>1,874</b>
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Notes:

- 1) Estimated Cost includes Prorated Mobilization & Demobilization.
- 2) Island Class Hoppers were assumed for operations.

Durations				
Reach	Mob/Prelay	Dredge/Haul	Pump to Shore	Total
E3	0.5	11.856	dredge & haul governs	<b>12.36</b>
E4-South	0.5	19.76	dredge & haul governs	<b>20.26</b>
E4-North	0.5	8.81	dredge & haul governs	<b>9.31</b>
W8	0.5	24.36	dredge & haul governs	<b>24.86</b>
W9	0.5	12.6	dredge & haul governs	<b>13.1</b>
W10	0.5	11.34	dredge & haul governs	<b>11.84</b>
W11	0.5	9.24	dredge & haul governs	<b>9.74</b>

west 4.2 months/mile  
east 1.52 months/mile

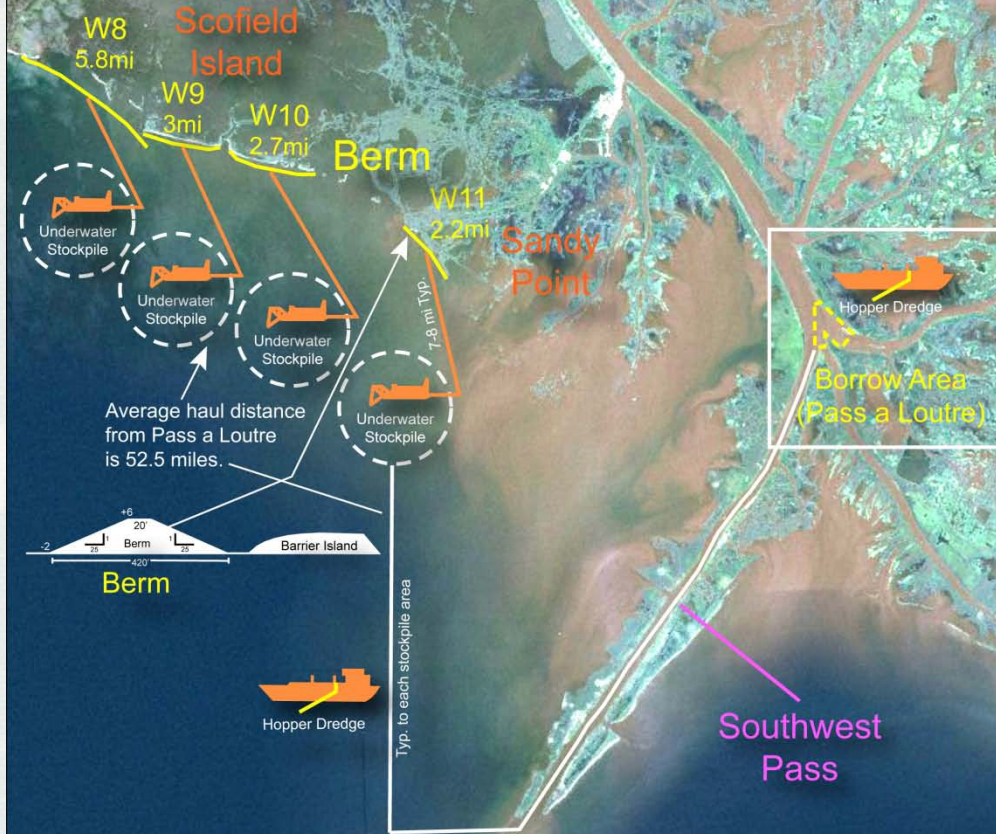
mob/demo/setup allow 14 days  
prelay of pipe assume done same time as initial stockpiling of material



# West Barrier Islands - Berm Construction

## W8, W9, W10 and W11

Breton Sound



NOTE: Material for berm construction is double-handled: i.e., dredging in the borrow area with transport and dumping in underwater stockpile; and dredging stockpile for berm placement.

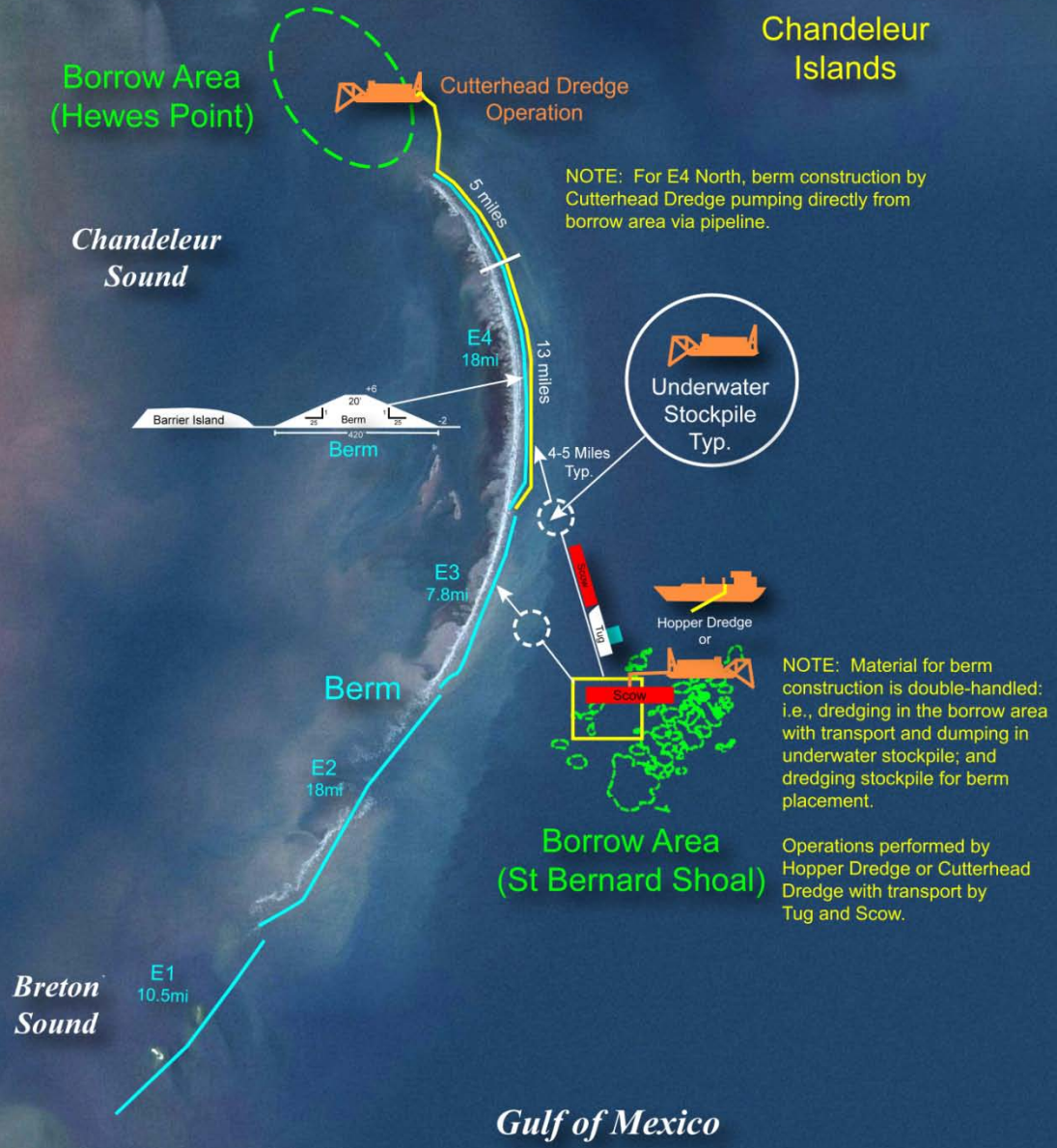
Operations performed by Cutterhead Dredge, with transport by Hopper Dredge.

Gulf of Mexico



LDING STRONG®

# Chandeleur Islands - Berm Construction E3 and E4

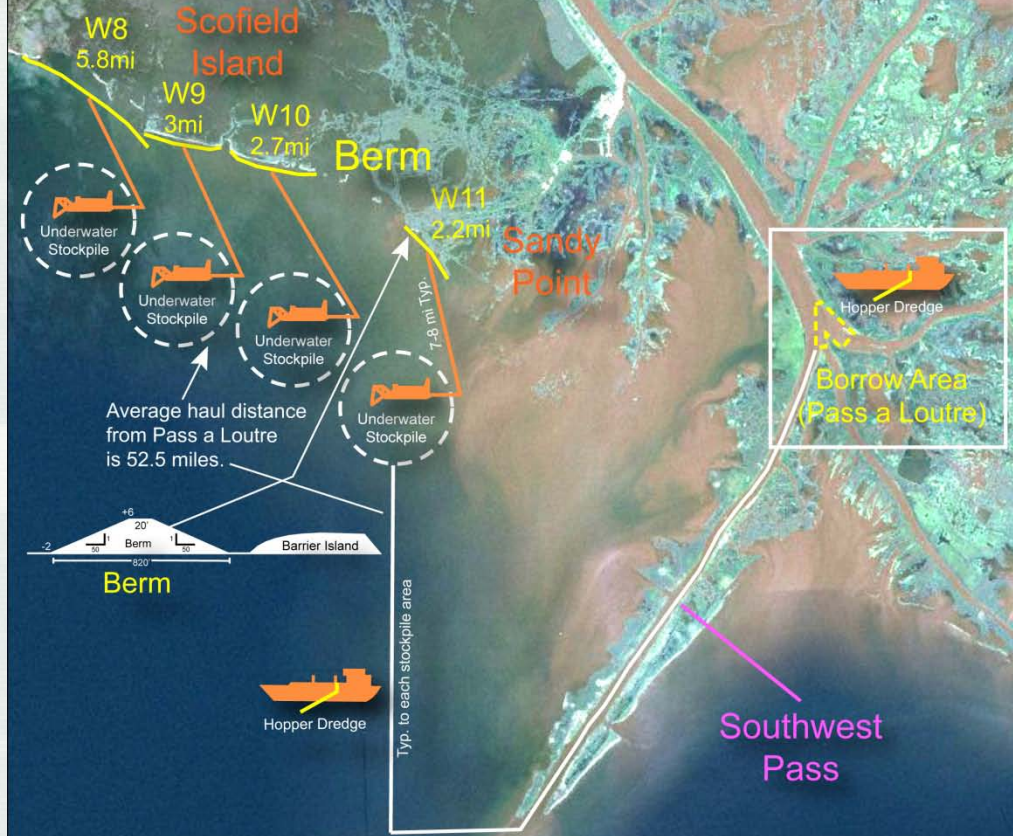


**LDING STRONG®**

# West Barrier Islands - Berm Construction

## W8, W9, W10 and W11

Breton Sound



NOTE: Material for berm construction is double-handled: i.e., dredging in the borrow area with transport and dumping in underwater stockpile; and dredging stockpile for berm placement.

Operations performed by Cutterhead Dredge, with transport by Hopper Dredge.

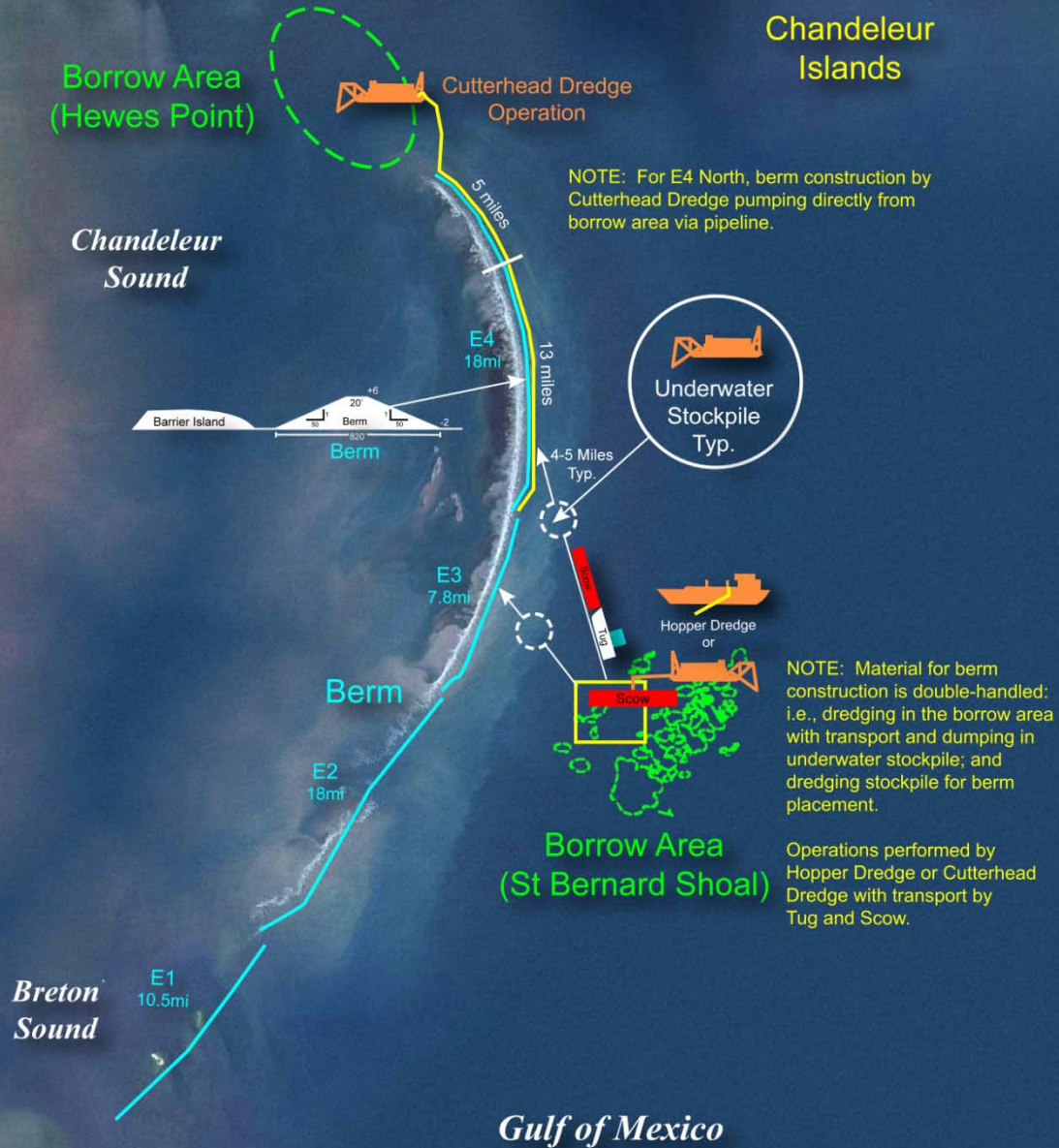
Gulf of Mexico



UILDING STRONG®



# Chandeleur Islands - Berm Construction E3 and E4



**LDING STRONG®**

# Permit Provisions and Specified Conditions

## Two provisions:

1. **Limited to specific proposed segments:** Only authorized reaches (E3-4, W8-11) in a manner to minimize adverse impacts.
2. **Subject to emergency permit terms:** Subject to emergency permit terms, with formal application in 30 days.

## 33 Specified Conditions:

1. **Property Rights:** No property rights conveyed, or injury to property rights.
2. **No federal liabilities:** Excepting federal actions taken under OPA in DWH response.
3. **Water Quality Standards:** Meet standards and Best Mgt Practices.
4. **Permit may be revoked:** For the public interest or if terms/conditions revoked.
5. **Data accuracy:** Federal government will rely on data, inaccurate data may result in permit being revoked.
6. **Damages for permit change/revocation:** Change or revocation of permit no basis for claim against federal government.
7. **All other laws/regulations:** Must be followed.
8. **USACE inspection:** Periodic inspection allowed.



# Permit Specified Conditions (Cont.)

9. **Navigation:** No interference, installation of lights, signals, signs by permittee.
10. **Borrow site limitations:** Only segment of Pass a Loutre borrow site allowed
11. **Borrow site coordination:** Coordinated with MMS, USGS, USACE (MVN Regulatory), EPA, USFWS, NMFS, and other concerned federal/state agencies.
12. **Notice to Mariners:** Coordinate with USCG for BNTM for vessel activities.
13. **Pipelines and Submerged Objects:** Permittee must identify and avoid.
14. **Berm Removal/Relocation:** May be required at permittee's expense if interferes with navigation.
15. **Cannot interfere with aquatic movement/migration:** Of indigenous or migratory species.
16. **Piping plover intertidal foraging habitat avoidance:** 100 foot setback required from mean low-low to foot of berm.
17. **Equipment out of intertidal to dune/vegetation line**
18. **Best Management Practice to protect seagrass beds**
19. **Minimize impacts:** to natural sediment transport, fish migration, salinity regimes.
20. **No blockage of tidal inlets** to maximum extent practicable.



# Permit Specified Conditions (Cont.)

21. **Bird rookery setbacks:** Rookeries of specific species require 650-2000' setbacks from Sept – Mar/April (specified by species) with monitoring by USFWS observer.
22. **Trustee/Service Consultations:** Required before/during/after with NMFS, USFWS, and USGS for Essential Fish Habitat and Endangered Species Act.
23. **Cultural Resource Protection:** Consultation required, and work must cease if new historic/prehistoric cultural resources discovered.
24. **Historic Protection:** Reporting of unknown historic or archeological items.
25. **Tribal cultural materials:** Area is aboriginal Chitimacha homelands, tribe contact required if cultural materials are discovered.
26. **No boundary change:** No new claims authorized, no boundary changes.
27. **No statement on spill response applicability:** Permit does not address applicability to response.
28. **Construction schedule and timeline:** Due prior to commencing work.
29. **Weekly conference call:** With interested parties.
30. **Survey of berm alignment:** Due prior to initiating work.



# Permit Specified Conditions (Cont.)

- 31. **Monitoring plan:** Specific requirements in consultation with USACE and other interested parties.
- 32. **Aerial photography:** Required every two weeks.
- 33. **Effective date of permit:** Upon receipt by USACE of copy signed by permittee agreeing to and accepting conditions.

