



One Team: Relevant, Ready, Responsive and Reliable



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# National Environmental Policy Act “NEPA”

- Required for all major Federal actions
- Analyze potential impacts to the human and natural environment and investigate reasonable alternatives
- Analyses documented in Environmental Assessments (EA), Environmental Impact Statements (EIS), or Individual Environmental Reports (IER)
- Public involvement is KEY: We want to hear from you!
- **Goal: more informed decision making through public involvement**



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# Improving Hurricane Protection on the Inner Harbor Navigation Canal IER #11 Tier 2 Borgne



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# Project Purpose

Provide 100-year level of protection to the communities surrounding the Inner Harbor Navigation Canal (IHNC) from hurricane-induced storm surges by June 2011.

Provide advance measures by hurricane season 2009.



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# Where we've been

- Award largest design-build, civil works construction contract.
- IER #11 Tier 1 Decision Record signed March 14<sup>th</sup>
- Investigated alternatives for providing improved protection for the communities surrounding the IHNC





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# Where we've been

- Selected “Storm Surge Protection Structures” alternative to protect from Lake Borgne surge and Lake Pontchartrain surge
- Selected “Pontchartrain 2” and “Borgne 1” location ranges

***Borgne 1***



***Pontchartrain 2***





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# IER #11 Tier 2: Where we're going

## Two Tier 2 IERs

- **IER #11 Tier 2 Borgne:**

Alignment and design alternatives within “Borgne 1”

Public Release of Draft IER 11 Tier 2 – July '08

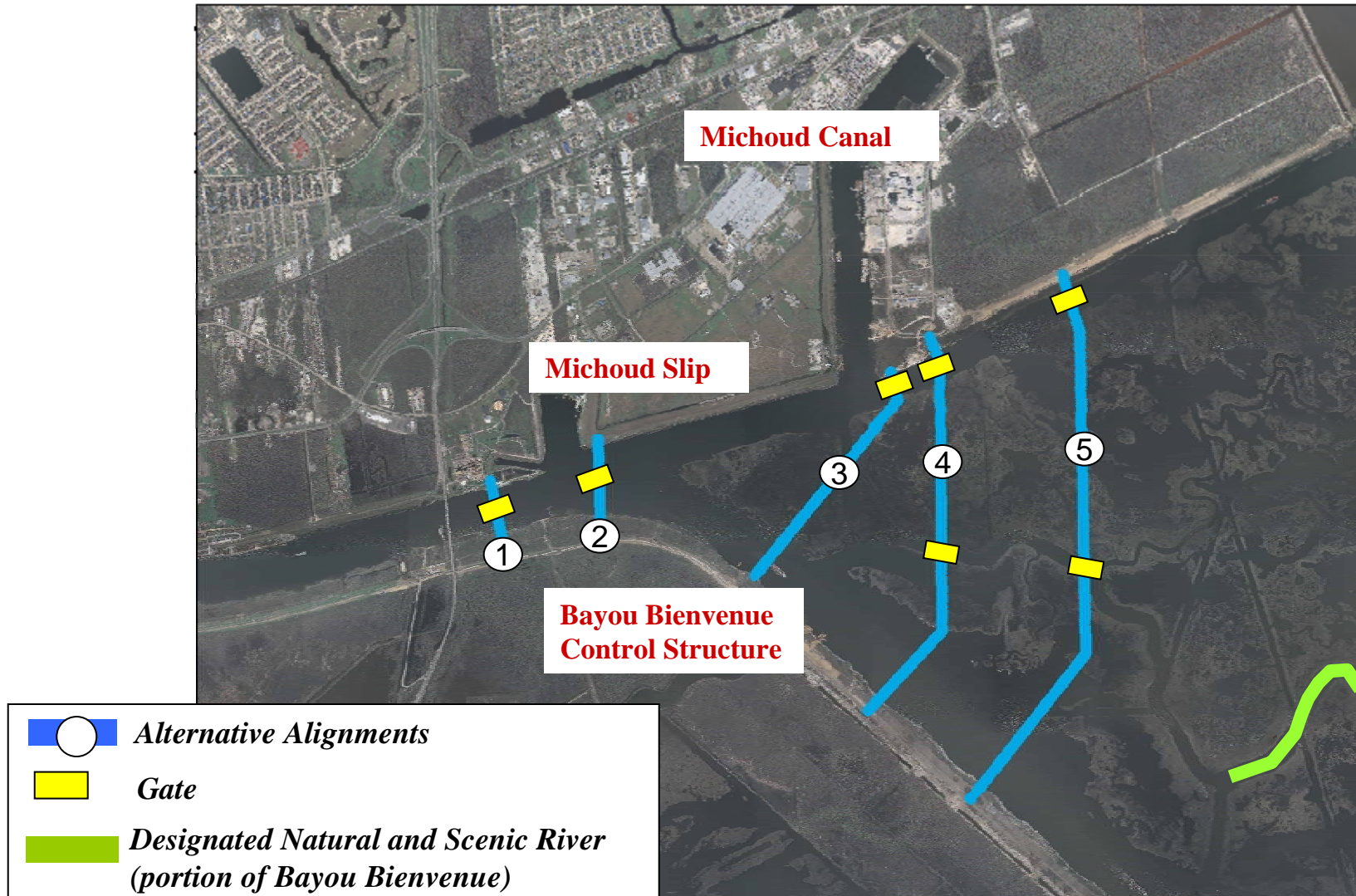
- **IER #11 Tier 2 Pontchartrain:**

Alignment and design alternatives within “Pontchartrain 2”  
(alternatives to be developed this summer)



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# IER #11 Tier 2 Borgne Alternative Alignments Overview



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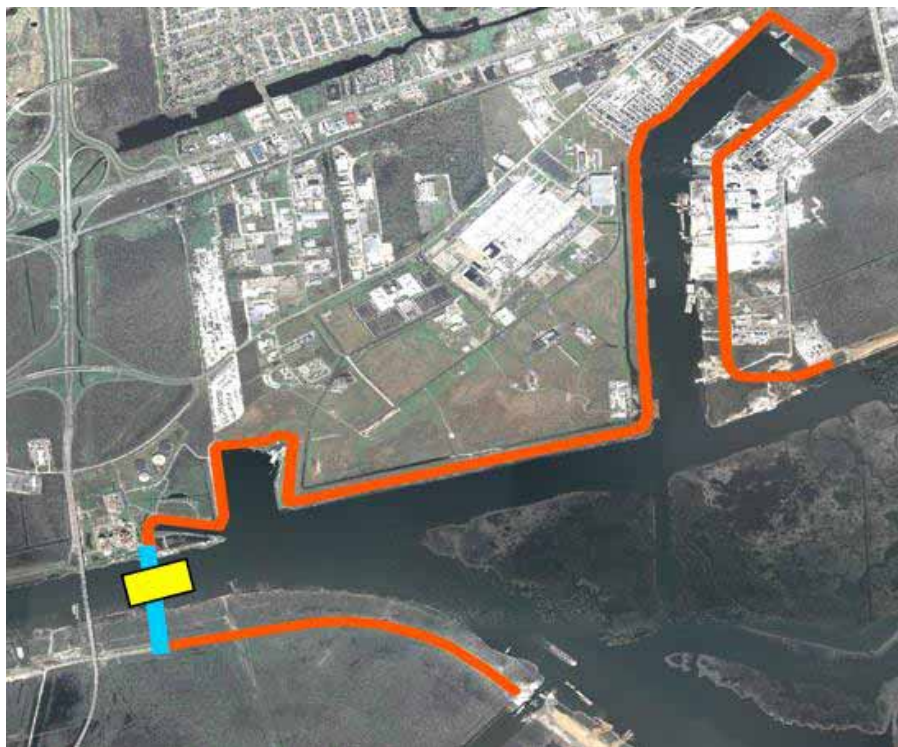




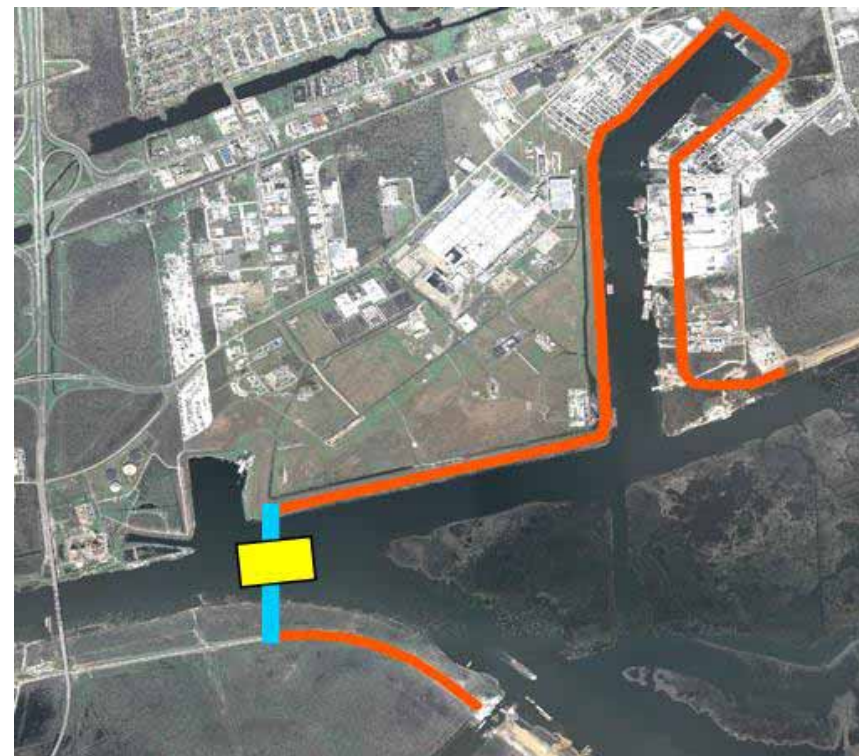
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# IER #11 Tier 2 Borgne Alternative Alignments

## Alignment 1



## Alignment 2



-  Levees & Floodwalls to be Raised
-  Alternative Alignments
-  Gate

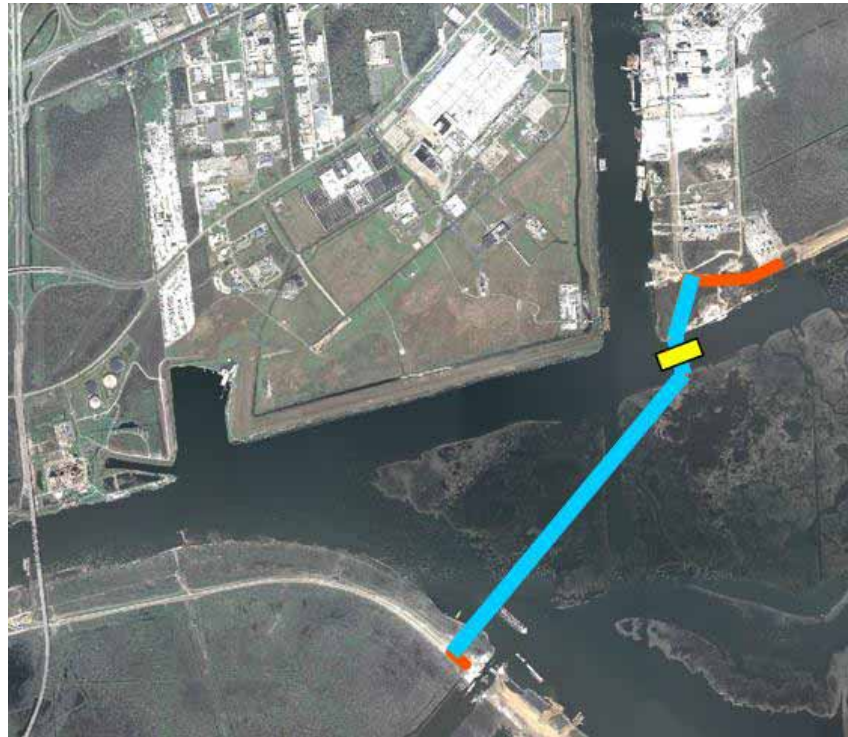
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# IER #11 Tier 2 Borgne Alternative Alignments

## Alignment 3



## Alignment 4 & 5



- |                                                                                     |                                  |
|-------------------------------------------------------------------------------------|----------------------------------|
|  | Levees & Floodwalls to be Raised |
|  | Alternative Alignments           |
|  | Gate                             |

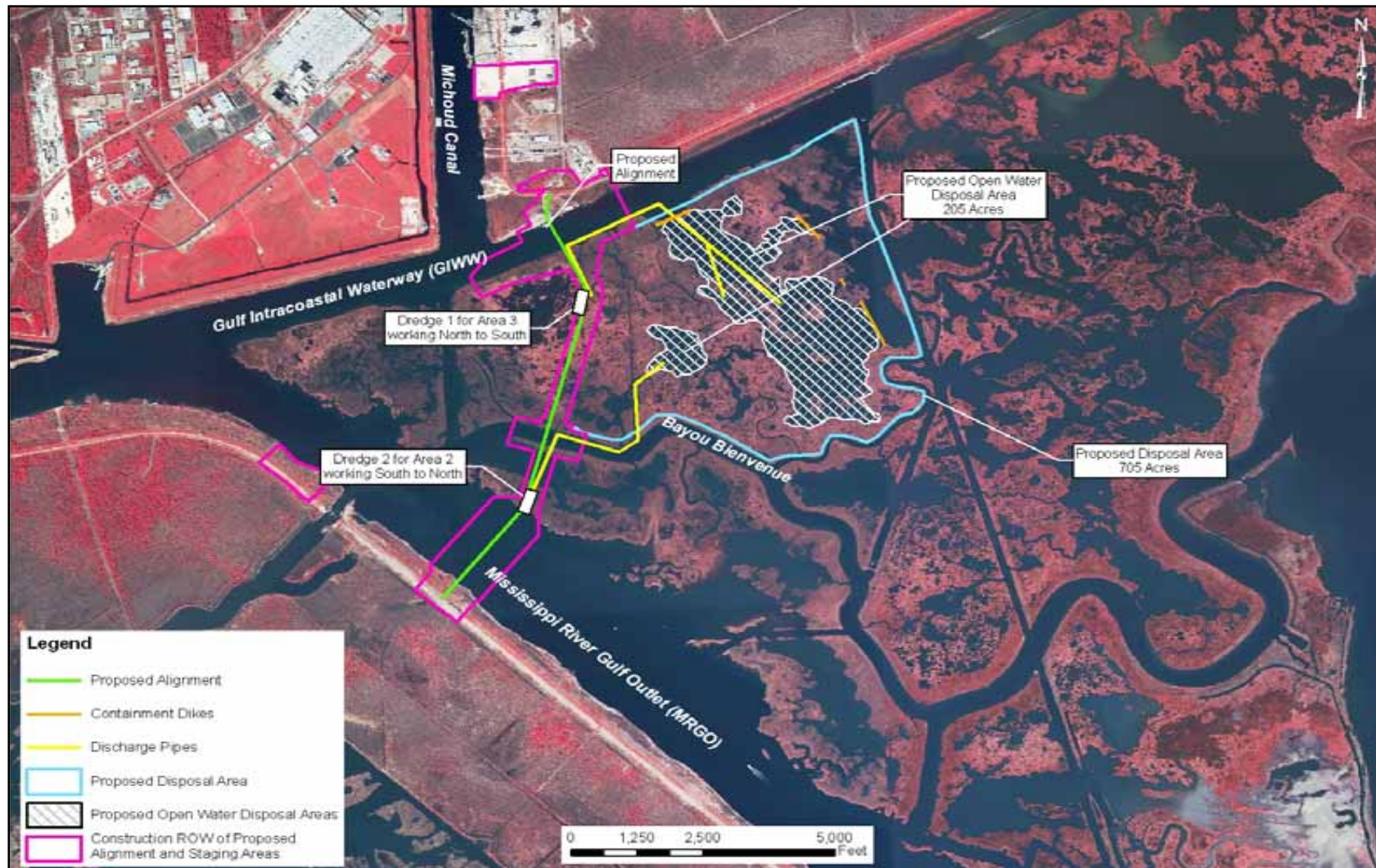
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# Proposed Alignment with Beneficial Use Disposal Areas and Dredge Pipes

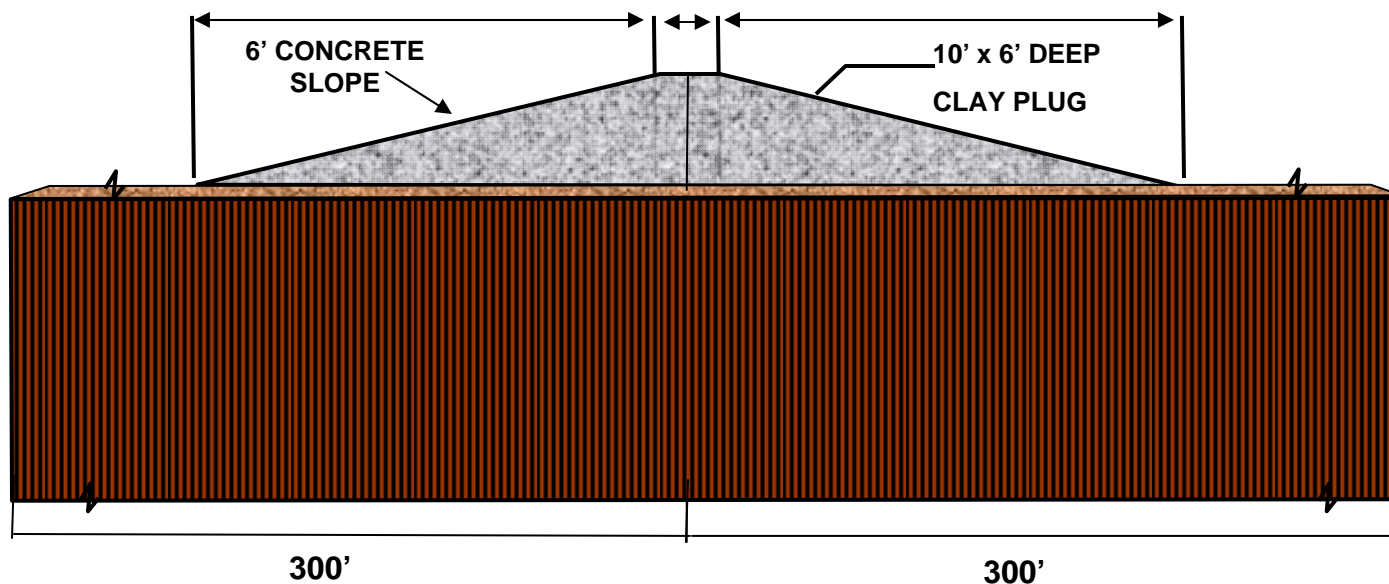


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# IER #11 Tier 2 Borgne Alternatives Geotextile levee

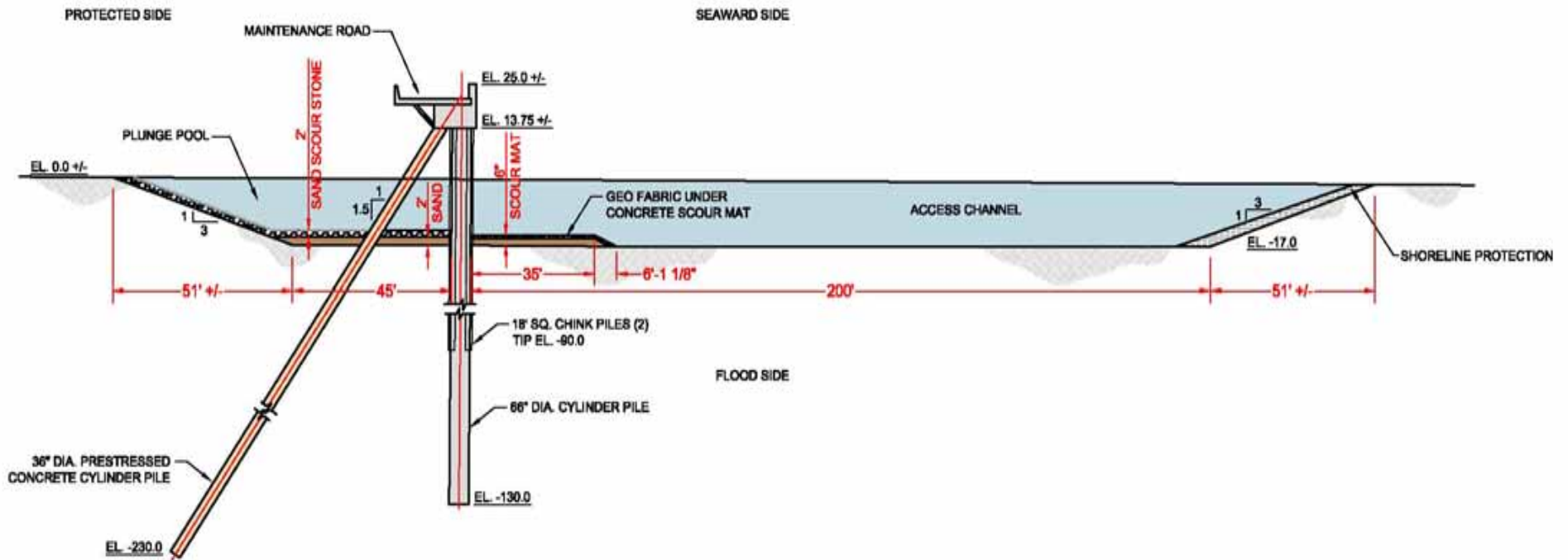


**NOT TO SCALE**



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# Floodwall



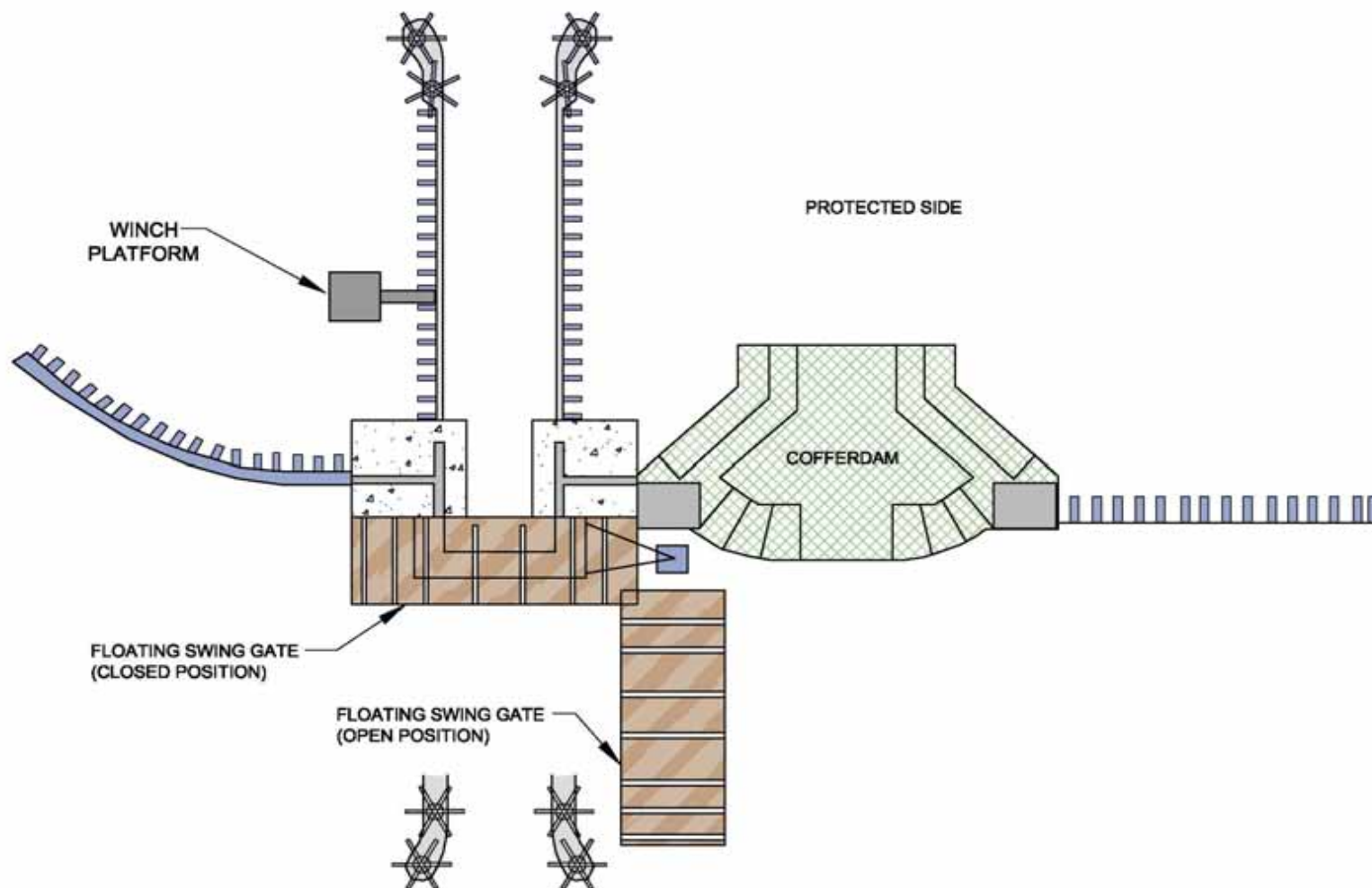
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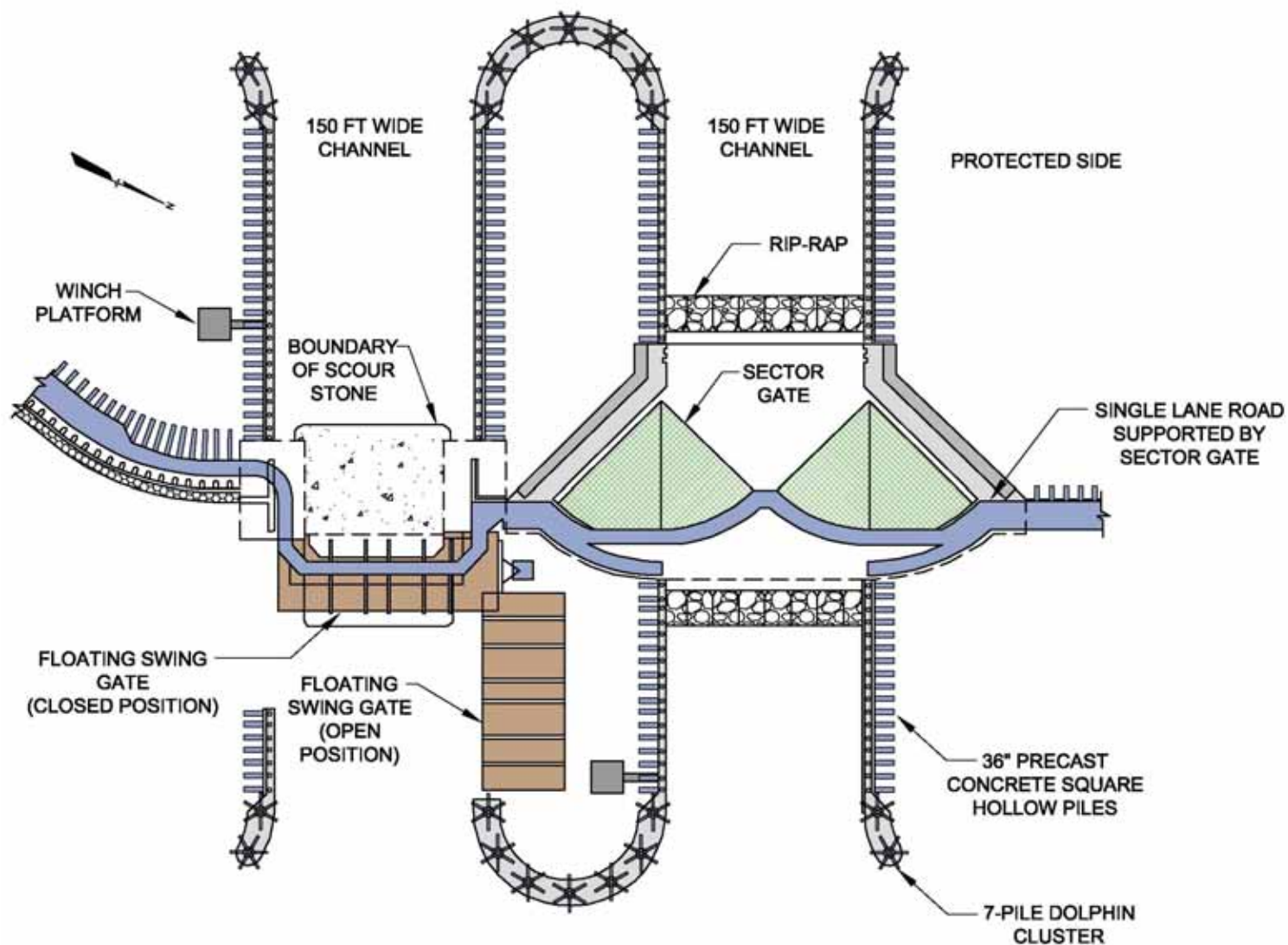
# Advanced Measure Cofferddam & Swing Gate Design on the GIWW





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# GIWW Sector and Swing Gate

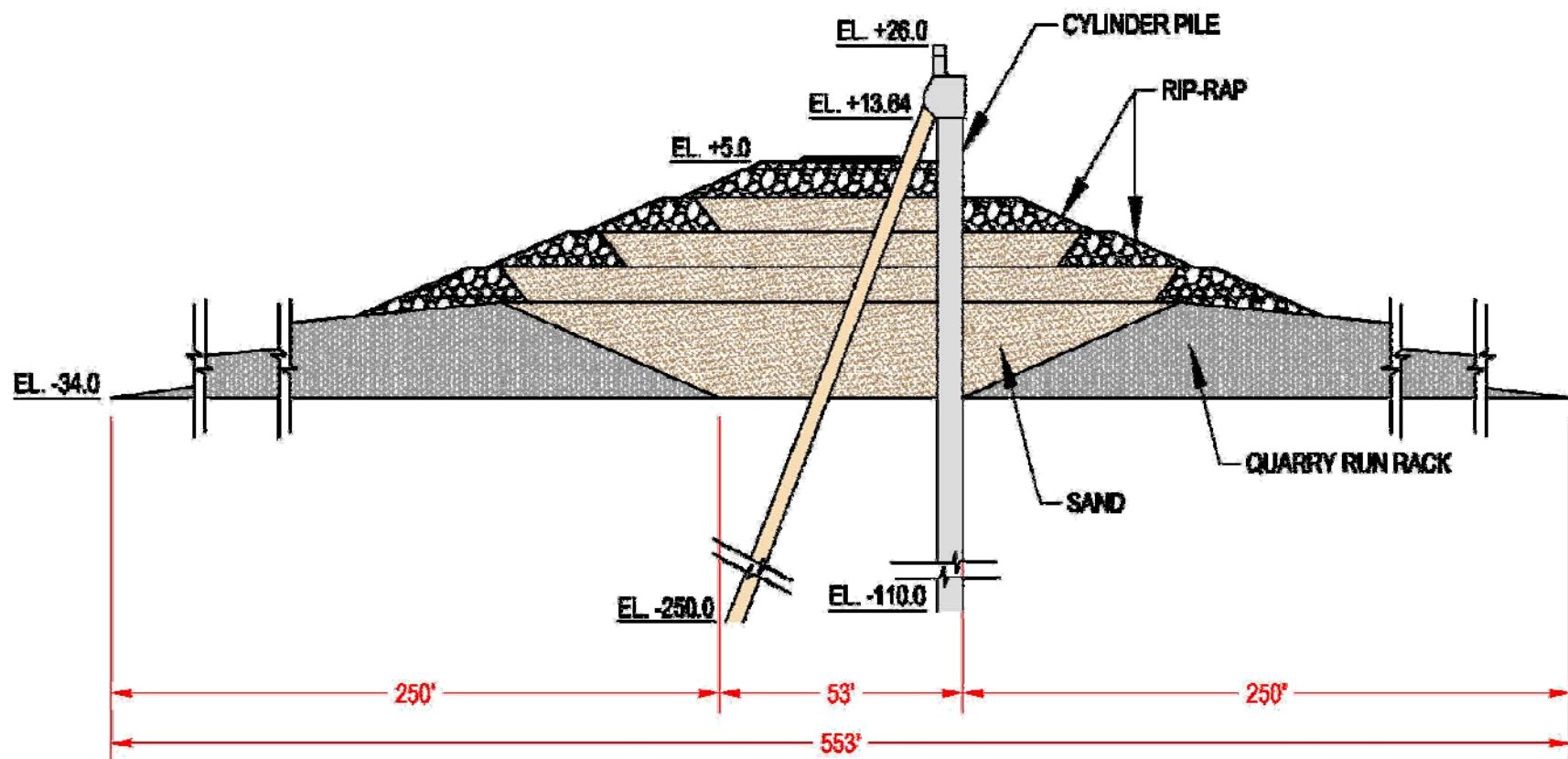


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# MRGO Closure



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# Vertical Lift Gate







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## **IER #4**

# **New Orleans Lakefront Levees & Floodwalls**

**Purpose and Need: Provide for the  
100-year Level of the Hurricane  
and Storm Damage Risk Reduction  
System**





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# Status

## Where We Are:

- March/April '07: NEPA Process began with Public Scoping Meetings
- **Nov '07 through July '08:** Developing alternatives and conducting impacts analysis and soliciting public input

## Where We Are Going:

- August '08: Release Draft IER #4
- Sept '08: End of 30-day Public Review, Make Final Decision – District Commander signs final IER document

# New Orleans Lakefront Levee - Current Construction: Phase 1 of 100-year level of protection



**LPV 102**  
**Topaz Street to Orleans Avenue:**

*Contract Awarded*  
*3 Oct '07*

**99% Complete**

**LPV 103**  
**Orleans Avenue Canal to London Avenue Canal:**

*Contract Awarded*  
*3 Dec '07*

**72% Complete**

**LPV 104**  
**London Avenue Canal to IHNC:**

*Contract Awarded*  
*13 July '07*

**99% Complete**

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# New Orleans Lakefront Levee Phase 1A & 2 of 100-year Level of Protection



- Modifications or replacement of floodwalls / gates
- Additional embankment work to meet new design criteria
- Raise Road Ramps
- Armoring of transitions & utility crossings

# New Orleans Lakefront Levee Phase 1A & 2 of 100-year Level of Protection



<p><b>LPV 101.02</b> 17th Street Canal to Topaz Street:</p>	<p><b>LPV 103.01A</b> Orleans Canal to London</p>	<p><b>LPV 103.01A2</b> Topaz to London Canal</p>	<p><b>LPV 104.01</b> London Canal to IHNC:</p>	<p><b>LPV 104.02</b> London Canal to IHNC:</p>
<p>Contract Award: Q3 '09</p>	<p>Contract Award: Q4 '08</p>	<p>Contract Award: Q4 '08</p>	<p>Contract Award: Q4 '08</p>	<p>Contract Award: Q4 '09</p>
<p>Duration: 25 months</p>	<p>Duration: 12 months</p>	<p>Duration: 14 months</p>	<p>Duration: 14 months</p>	<p>Duration: 18 months</p>

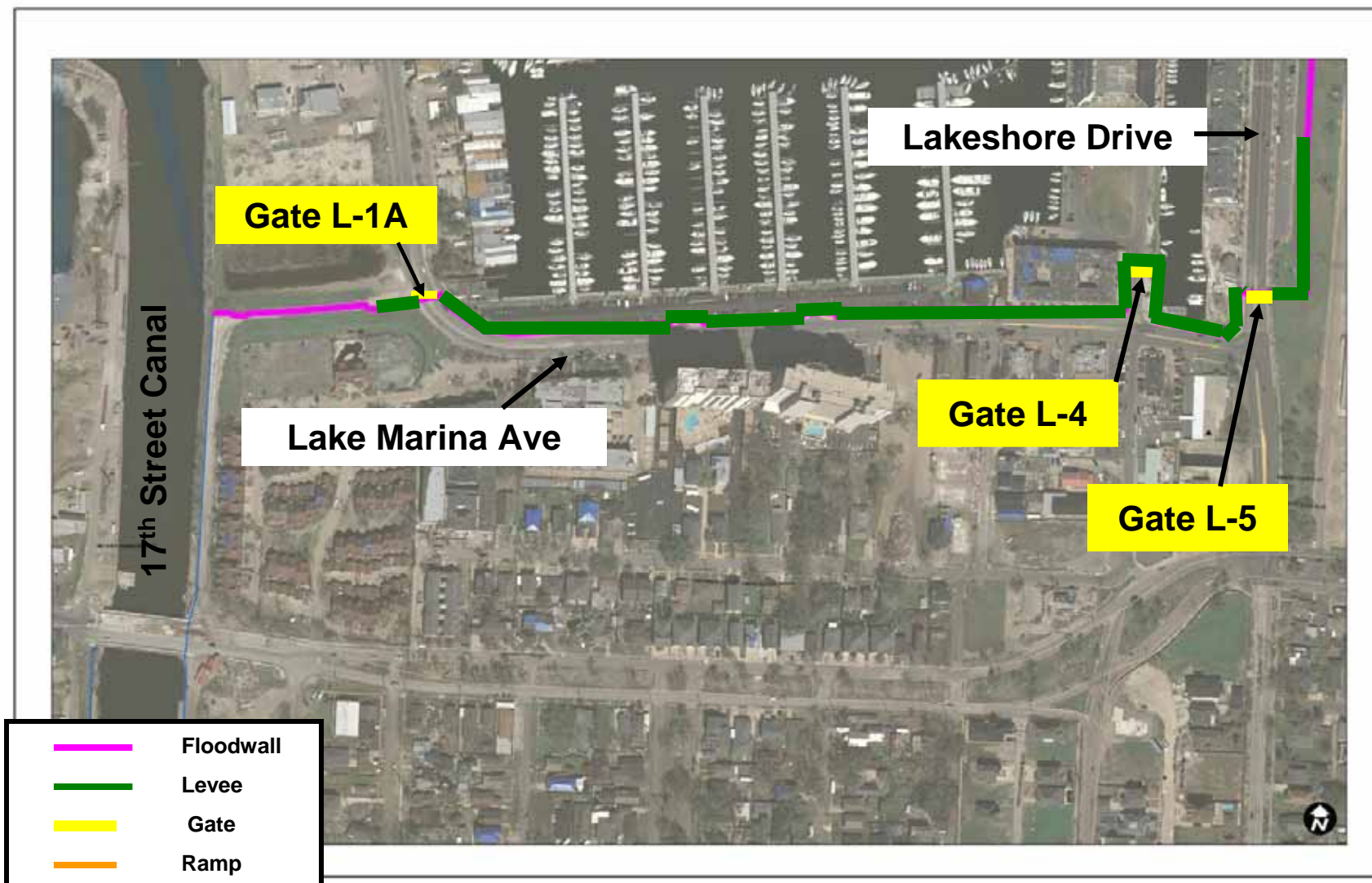




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# IER #4 LPV 101.02

## 17<sup>th</sup> St. Canal to Topaz St.



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# IER #4 LPV 101.02

## 17<sup>th</sup> St. Canal to Topaz St.

- **West End Levee**
  - Construct floodwall above existing levee
  - Raise levee
- **Existing Floodwall between gates L-1A and L-5**
  - Retrofit / Replace
  - Raise Lake Marina Ave
  - Realignment of floodwall to marina seawall
- **Gate L-1A**
  - Remove and replace existing gate
  - Remove gate and replace with ramp



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# IER #4 LPV 101.02

## 17<sup>th</sup> St. Canal to Topaz St.

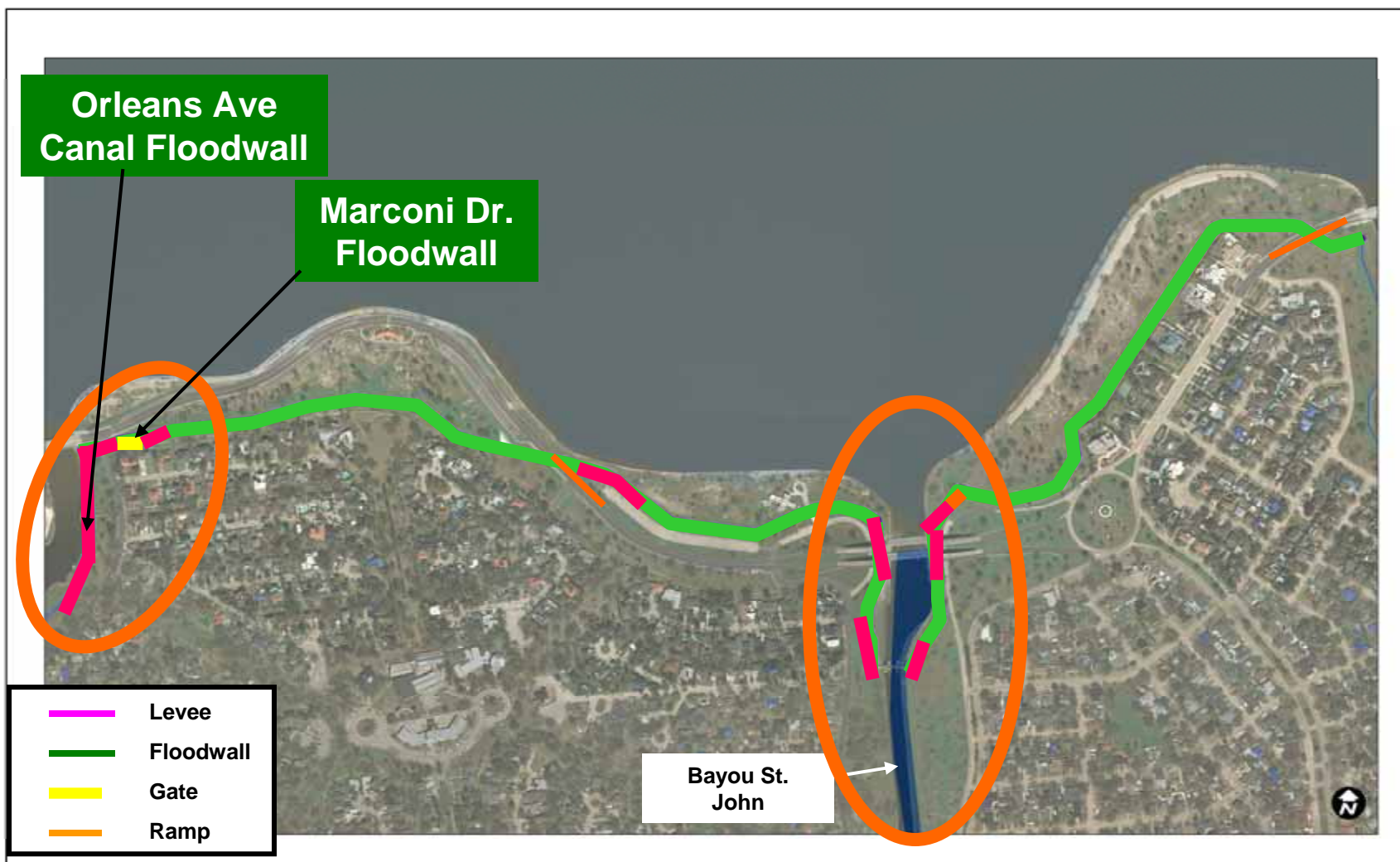
- **Gate L-4 and Floodwalls along Pontchartrain Blvd**
  - Realign HPS and construct new floodwall and gate L-4A adjacent to Lake Marina Ave.
  - Remove floodwall and gate L-4 and replace on existing alignment
- **East End Levee between Topaz Street and Gate L5**
  - Construct floodwall above existing levee
  - Raise levee with and without supplemental retaining walls



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# IER #4 LPV 103.01A1

## Orleans Canal to London Ave



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# IER #4 LPV 103.01A1

## Orleans Canal to London Ave

- Marconi Drive Floodwall
  - Retrofit/Replace
  - Remove Flood Gate; Construct New Levee
- Orleans Ave Canal Floodwall
- Bayou St. John Floodwall & Sector Gate Structure
  - Raise existing sector gate structure; modify or replace existing adjacent T-walls and levees
  - Construct new embankment closure structure with sluice gates
  - Construct new sector gate structure

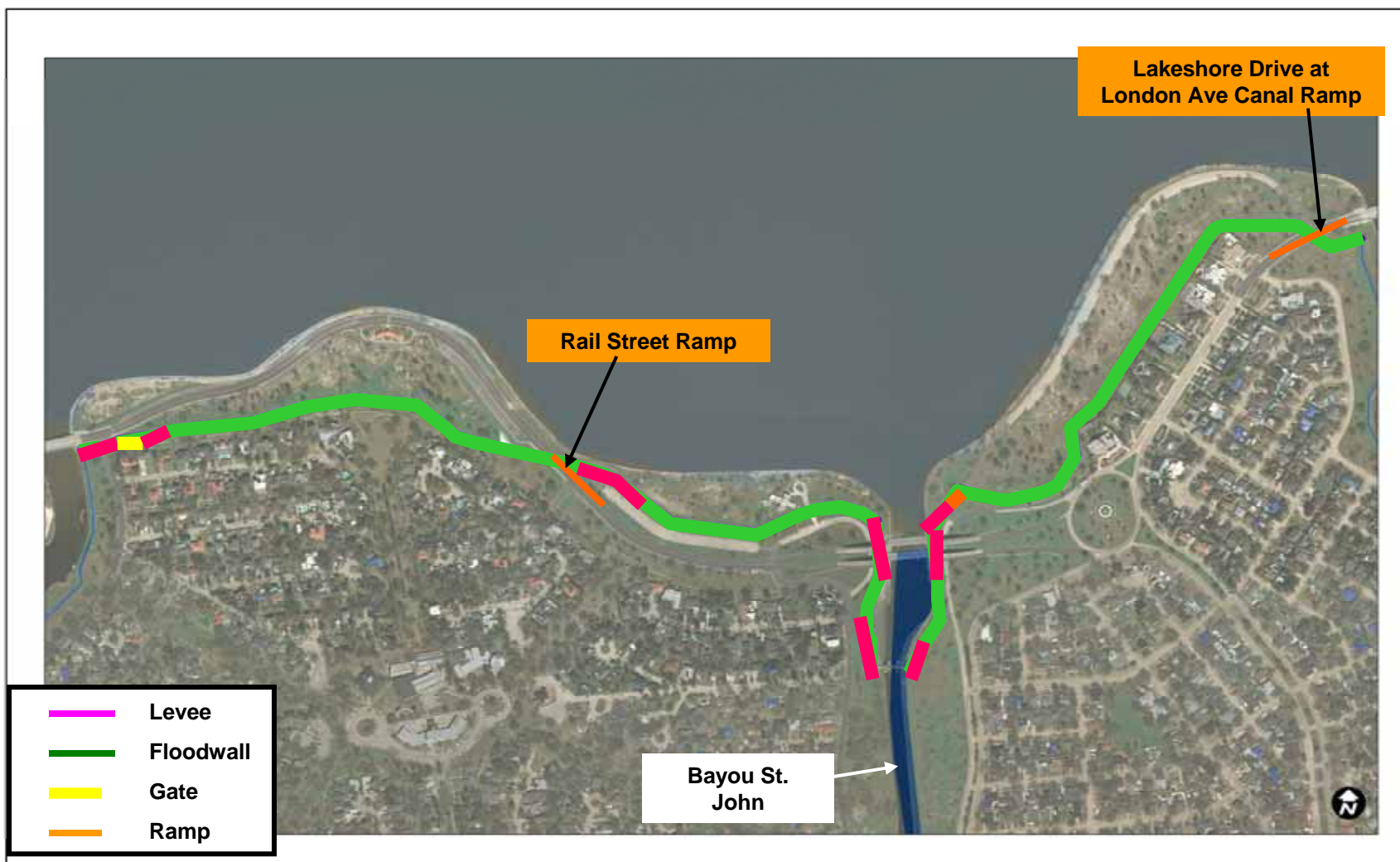




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# IER #4 LPV 103.01A2

## Orleans Canal to London Ave



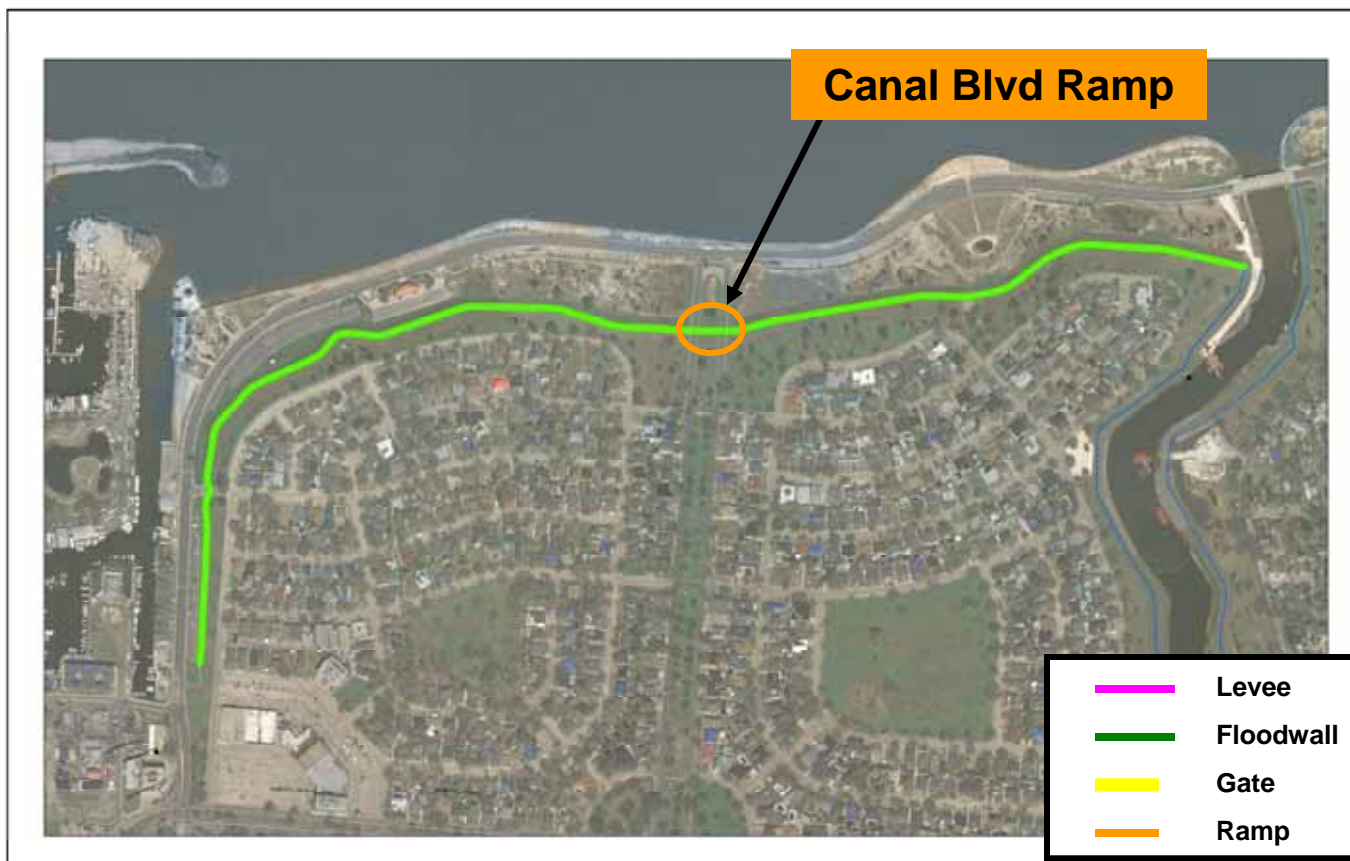
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# IER #4 LPV 103.01A2

## Canal Blvd Ramp



- **Canal Blvd Ramp**
  - Raise Ramp
  - Construct New Flood Gate

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# IER #4 LPV 103.01A2

## Orleans Canal to London Ave

- **Canal Blvd Ramp**
  - Raise Ramp
  - Construct new floodgate
- **Rail Street Ramp**
  - Raise Ramp
  - Construct new floodgate
- **Lakeshore Drive at London Ave Canal Ramp**
  - Raise Ramp
  - Construct new floodgate



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# Existing Alignment



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# Future Alignment



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# Existing Alignment



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# Future Alignment

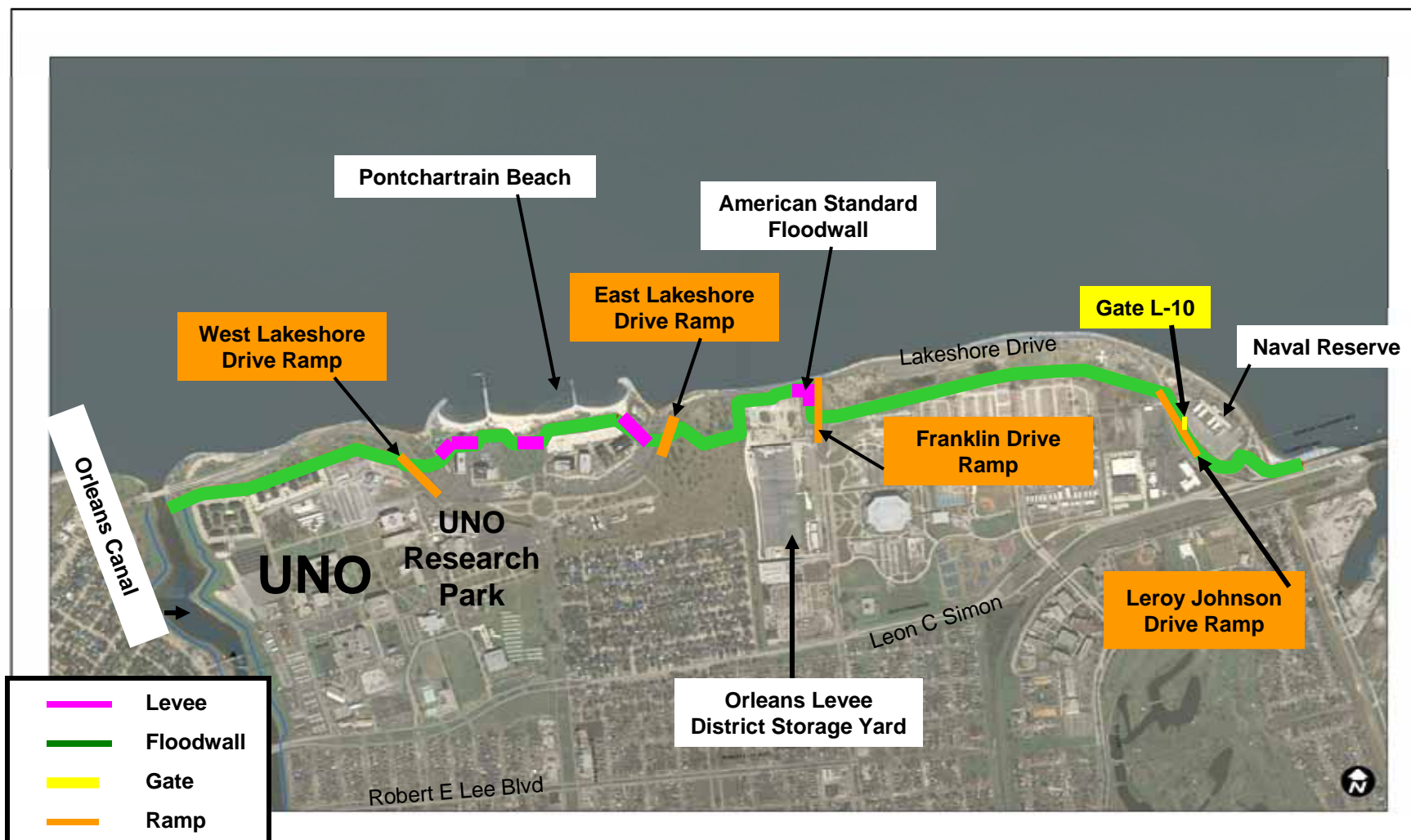


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# IER #4 LPV 104.01 London Ave Canal to IHNC



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# IER #4 LPV 104.01

## London Ave Canal to IHNC

- **Lakeshore Drive ramps east / west of UNO research facility**
  - Raise Ramp
  - Construct Gated closure
- **Pontchartrain Beach**
  - Convert I-wall to L-wall on current alignment
  - Remove gates and replace with new floodwall
  - Remove floodwall and gates and replace with levee section
- **American Standard Floodwall**
  - Convert I-wall to L-wall; leave T-wall as is
  - Construct new floodwall
  - Remove floodwall and replace with levee section



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# IER #4 LPV 104.01

## London Ave Canal to IHNC

- **Leroy Johnson Drive Ramp / Franklin Ave Ramp**
  - Raise Ramp
  - Construct gated closure
  
- **Gate L-10**
  - Construct new gate
  - Remove gate and replace with levee section



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# IER #4 LPV 104.02

## London Ave Canal to IHNC

- **UNO Access Ramp**
- **Seabrook Floodwall**



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# IER #5

## Permanent Protection System for the Outfall Canals



### Purpose and Need

Protect City of New Orleans and Jefferson Parish from storm surge-induced flooding through the 17th St, Orleans Ave, and London Ave Canals, while not impeding the ability of the area's internal drainage system to remove storm water.





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# Status

## Where We Are:

- March/April 07: NEPA Process began with Public Scoping Meetings
- April 07 through Nov 07: Alternatives developed
- **Nov 07 through present: Conduct Impacts Analysis, continue Solicitation of Public Input as part of Draft IER #5**

## Where We Are Going:

- Review and evaluate all input and finalize Draft IER
- **TBD: Release Draft IER #5 (including proposed action alternative and site locations) for 30-day public comment period**
- Corps to hold a public meeting during 30-day public comment period; date To Be Determined
- **TBD: Make Final Decision - District Commander signs the IER document.**
- Initiate procurement process to bring on D/B Contractor



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# 6<sup>th</sup> Supplemental

- The Supplemental Appropriations Act of 2008 has just been enacted into law on 30 June 08.
- We are in the process of reviewing the legislation and any implications it may have on the current project.



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# How we collected input

## Public Input

- Frequent public meetings
- Numerous meetings with interested parties
- Numerous emails, phone calls, letters, petition, resolutions
- Partnering sessions with potential non-federal sponsors
- Alternatives selection workshop



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# How we collected input

## Technical Input

- Senior Review Panel
- Monthly interagency team meetings
- Analysis of Impacts to important resources (human and natural)
- Engineering support team





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# Public Comments

## IER 5 OUTFALL CANAL PERMANENT PUMP STATIONS WRITTEN PUBLIC COMMENTS AND CONCERNS

As of 7/1/08

	17th St.	Orleans Ave.	London Ave.	General	Total
Mouth of the Canal	3	48	13	67	131
South of Robert E. Lee		80	1		81
Pump to the River	27				27
Petition signatures for Pump to the River	758				758
<i>Specific Sites</i>					
Save Coconut Beach	3				3
Place Pumps At UNO			5		5
Save 2 Tony's Petition	1270				1270
<b>Totals</b>	<b>1276</b>	<b>128</b>	<b>19</b>	<b>67</b>	<b>2275</b>

General Comments for Mouth of Canal contain the names of all 3 canals

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# Snapshot of Public Comments

- Avoid or minimize destruction of wetlands and non-wet bottomland hardwoods
- Avoid taking of public lands and green space
- Avoid disruption of neighborhoods
- For and against locating pump station along Bellaire Dr.
- For and against use of UNO properties
- Opposition to taking of Il Tony's Restaurant



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# Snapshot of Public Comments

- Avoid disruption of re-development of West End
- Disruption of Coconut Beach hampers recreational opportunities
- Pump stations should blend into the neighborhood
- Protection first, aesthetics second
- Hoey's Basin Pump to the River should be implemented
- Pump station at or in the lake is safest location
- Pump station at lake detracts from neighborhood quality of life and property values



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# Site Alternative Evaluation Criteria

- Reliability/Risk
- Constructability
- Real Estate
- Costs – Construction & RE
- Natural Environmental Impacts
- Land use

“Each site alternative meets the 100-year protection level standards – equal in level of protection provided”





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# Site Alternative Evaluation Criteria

## Reliability and Risk:

- **Reliability:**  
The ability of a system or component to perform its required functions under stated conditions for a specified period of time
- **Risk:**  
The measure of harm or loss associated with an action. For this particular situation, risk is the likelihood of loss of life or property as a result of flooding caused by hurricane events.



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# Site Alternative Evaluation Criteria

- **Constructability:**

Relative difficulty to construct considering engineering and/or construction complexity.

Examples include:

- Safety risk during construction
- Space restrictions
- Geotechnical issues
- Availability of utilities
- Traffic impacts



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# Site Alternative Evaluation Criteria

- **Real Estate**

Time frame associated with acquiring property

- Public Land
- Existing Rights of Way
- Privately Owned Parcels

- **Costs – Construction & RE**

Total cost for constructing the pump station and flood protection system (100 yr) and associated cost required to acquire RE



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# Site Alternative Evaluation Criteria

- **Natural Environmental Impacts:**
  - Waters of the U.S.
  - Hydrology
  - Water Quality
  - Wildlife
  - T&E Species
  - Cultural Resources





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# Site Alternative Evaluation Criteria

- Existing Land Use:

Consideration of impacts to land use, i.e. parks, green space, residential, commercial, educational, recreational areas, and historical areas.



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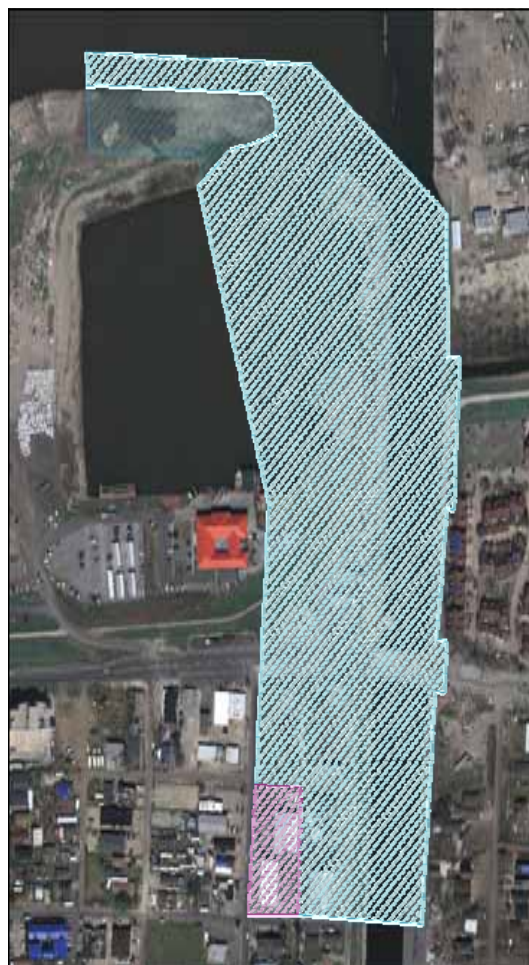
# 17<sup>th</sup> Street Site Locations

(Locations shown are not to the same scale)

## Location A



## Location B



## Location C



Permanent



Temporary



Minimize Impacts









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# Orleans Ave. Site Locations (Not to Scale)



Permanent   
Temporary 

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# Orleans Ave. Site Locations

(Locations shown are not to the same scale)

### Location C



### Location D



Permanent	
Temporary	

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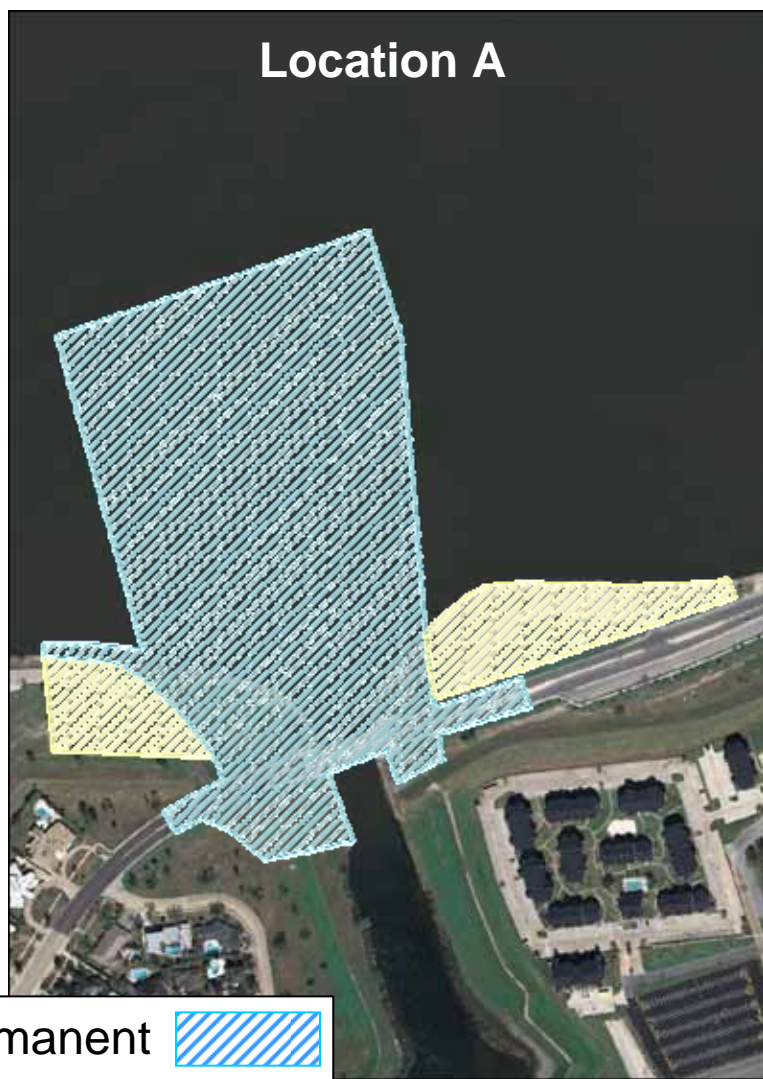




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# London Ave. Site Locations

(Locations shown are not to the same scale)



Permanent	
Temporary	

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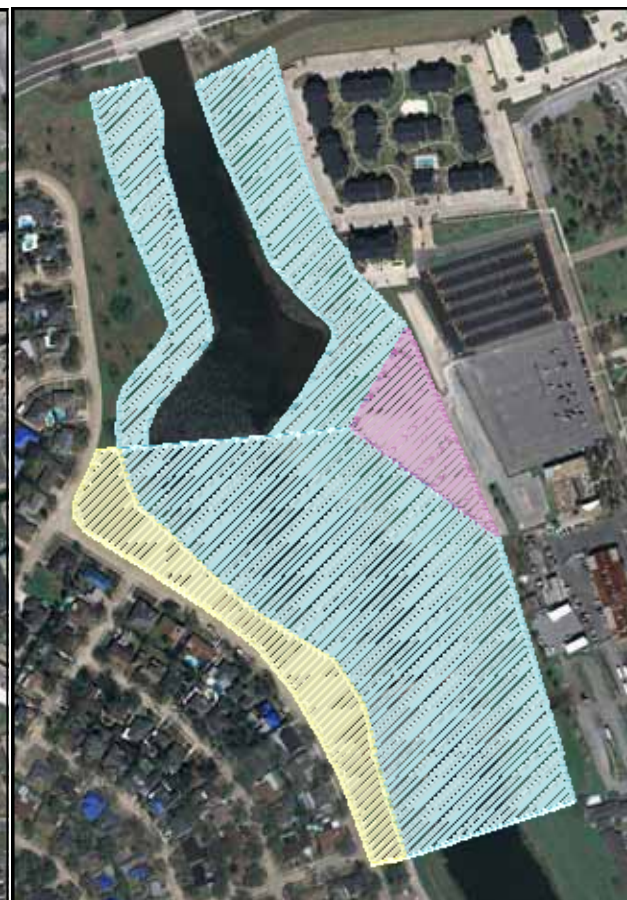
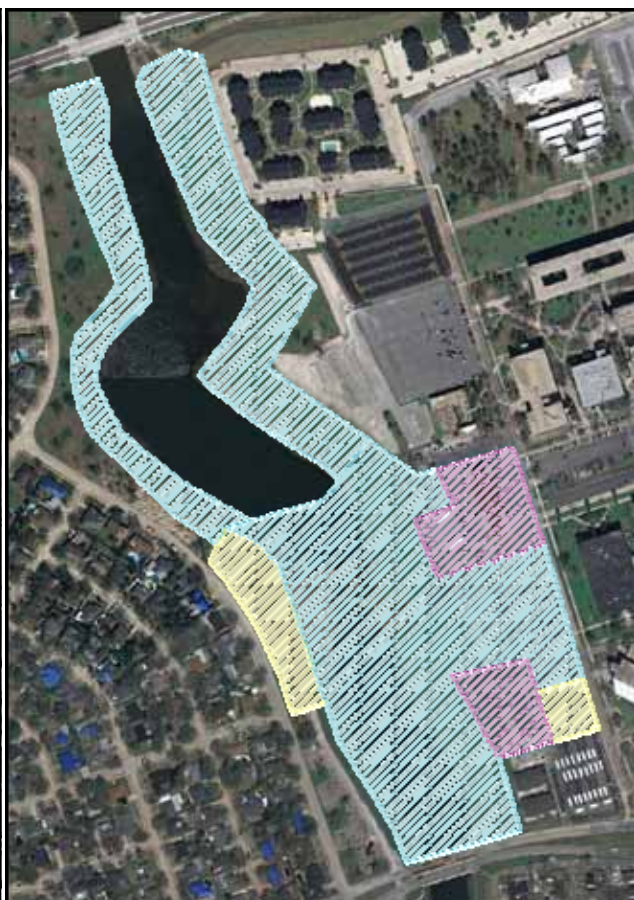
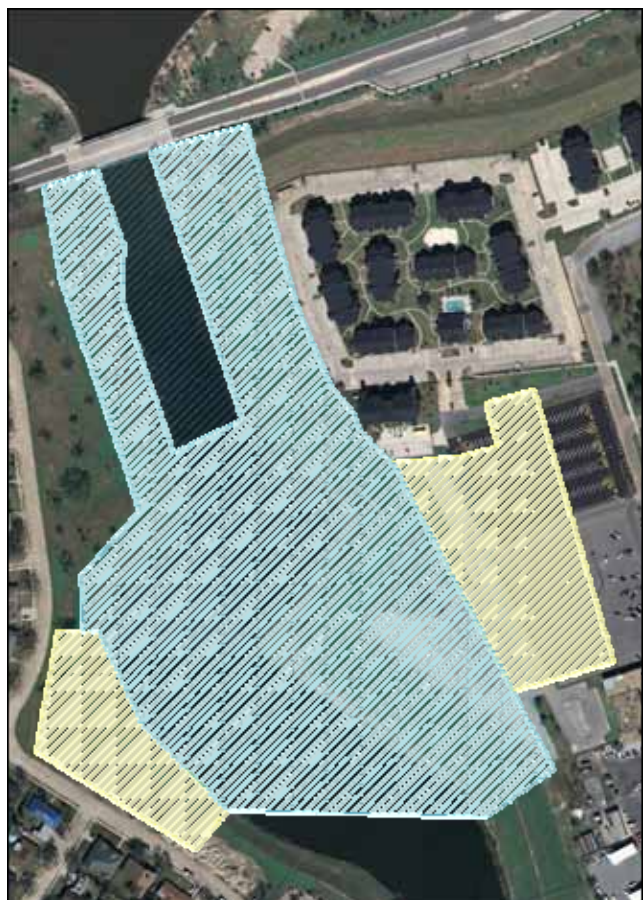
# London Ave. Site Locations

(Locations shown are not to the same scale)

## Location C

## Location D

## Location E



Permanent



Temporary



Minimize Impacts





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# Opportunities for Public Input

- Monthly Public Meetings throughout New Orleans Metro Area
  - Make sure to sign in tonight to get on our meeting notification mailing list
- Comments can be submitted at any time at [www.nolaenvironmental.gov](http://www.nolaenvironmental.gov)
- Individual Environmental Reports (IER) 30-day Public Review

**Questions and comments regarding Hurricane Protection Projects should be addressed to:**

**Gib Owen**

**PM-RS**

**P.O. Box 60267**

**New Orleans, LA 70160-0267**

**Telephone: 504-862-1337**

**E-mail: [mynenvironmental@usace.army.mil](mailto:mynenvironmental@usace.army.mil)**