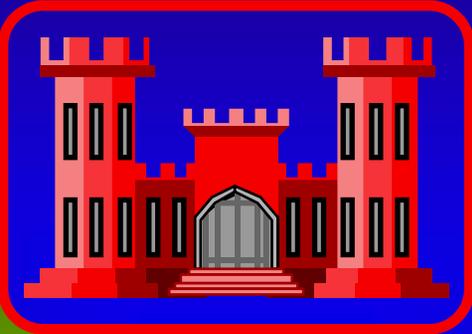




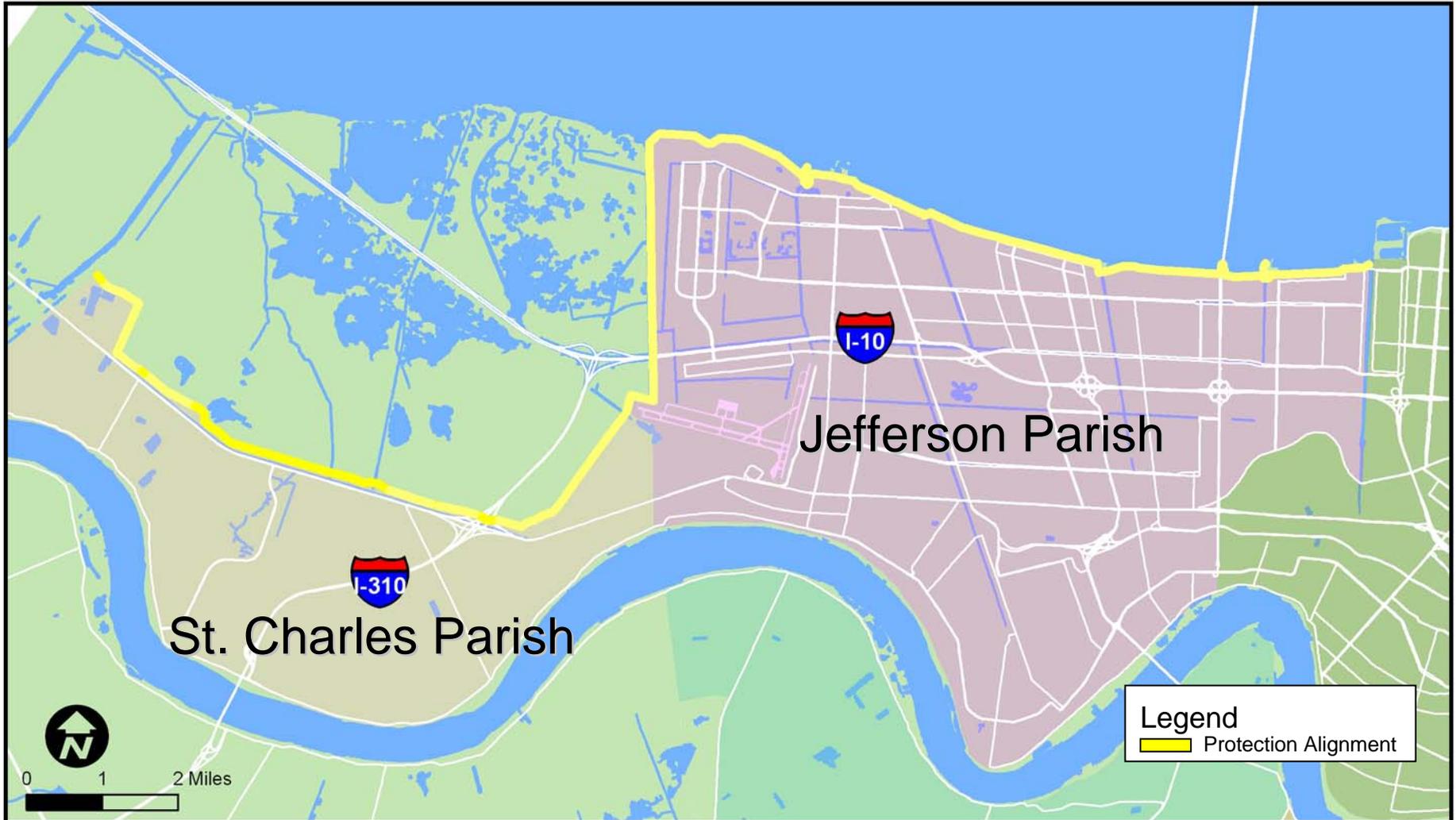
U.S. ARMY CORPS OF ENGINEERS
HURRICANE PROTECTION SYSTEM



NEW ORLEANS
DISTRICT

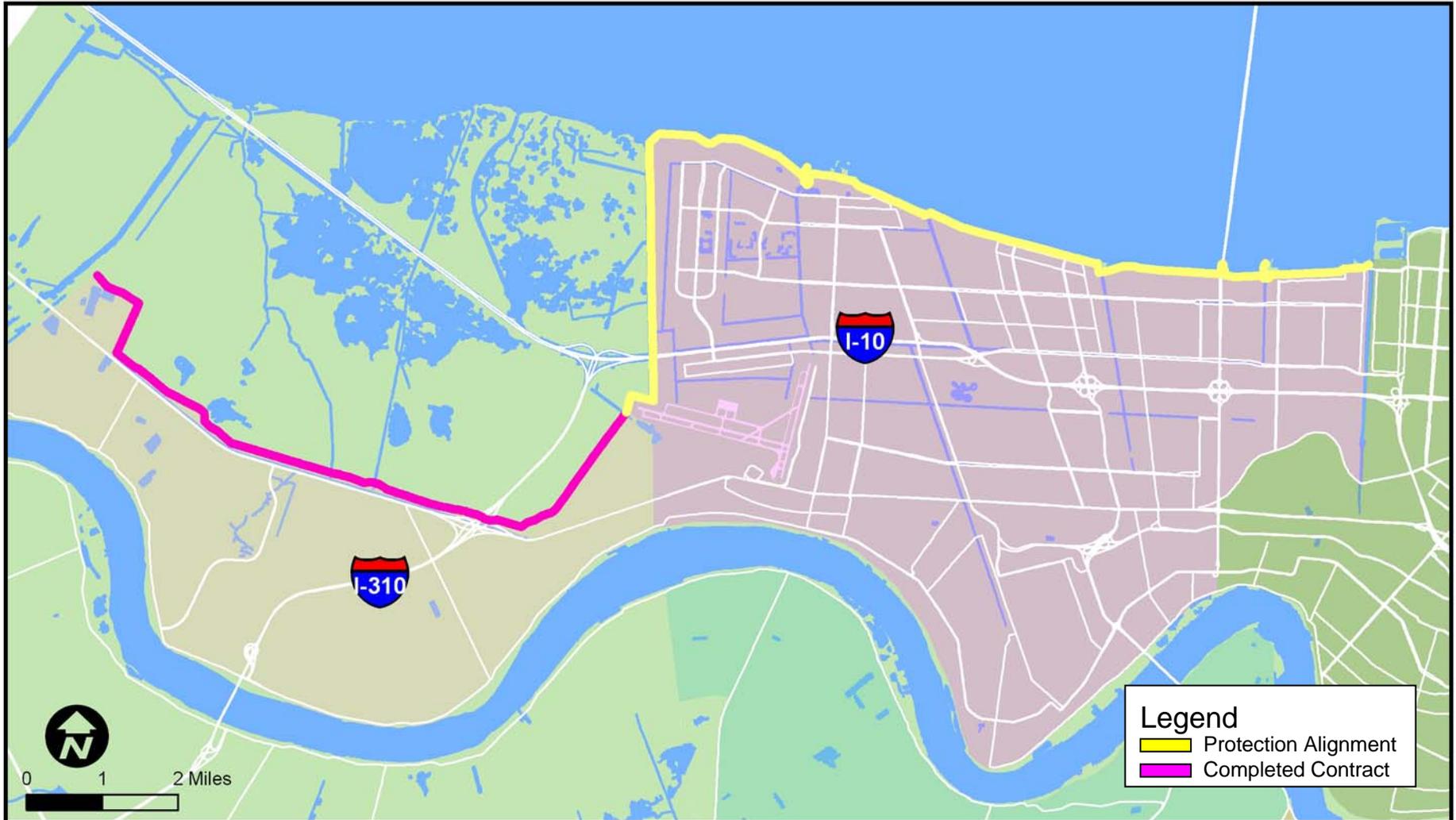
AND THE

Lake Pontchartrain and Vicinity Hurricane Protection Project



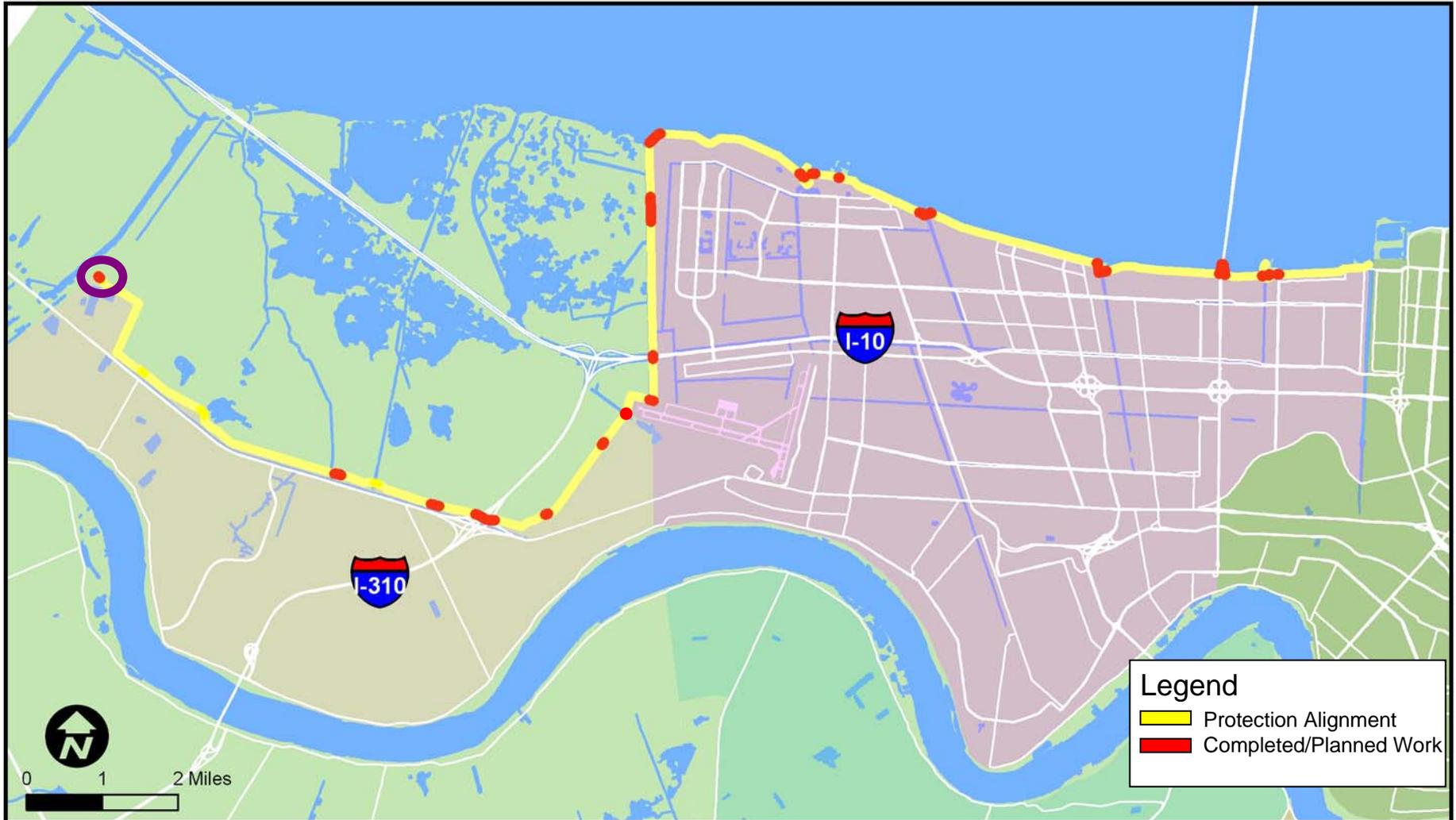
Areas Raised Immediately Post-Katrina

3.5 miles in St. Charles raised to +10.7 ft



Near-Term Risk Mitigation

Over 11,000 ft of I-wall, transitions, and structures are being reinforced or armored to increase reliability. Most will be completed before the end of the '07 hurricane season.



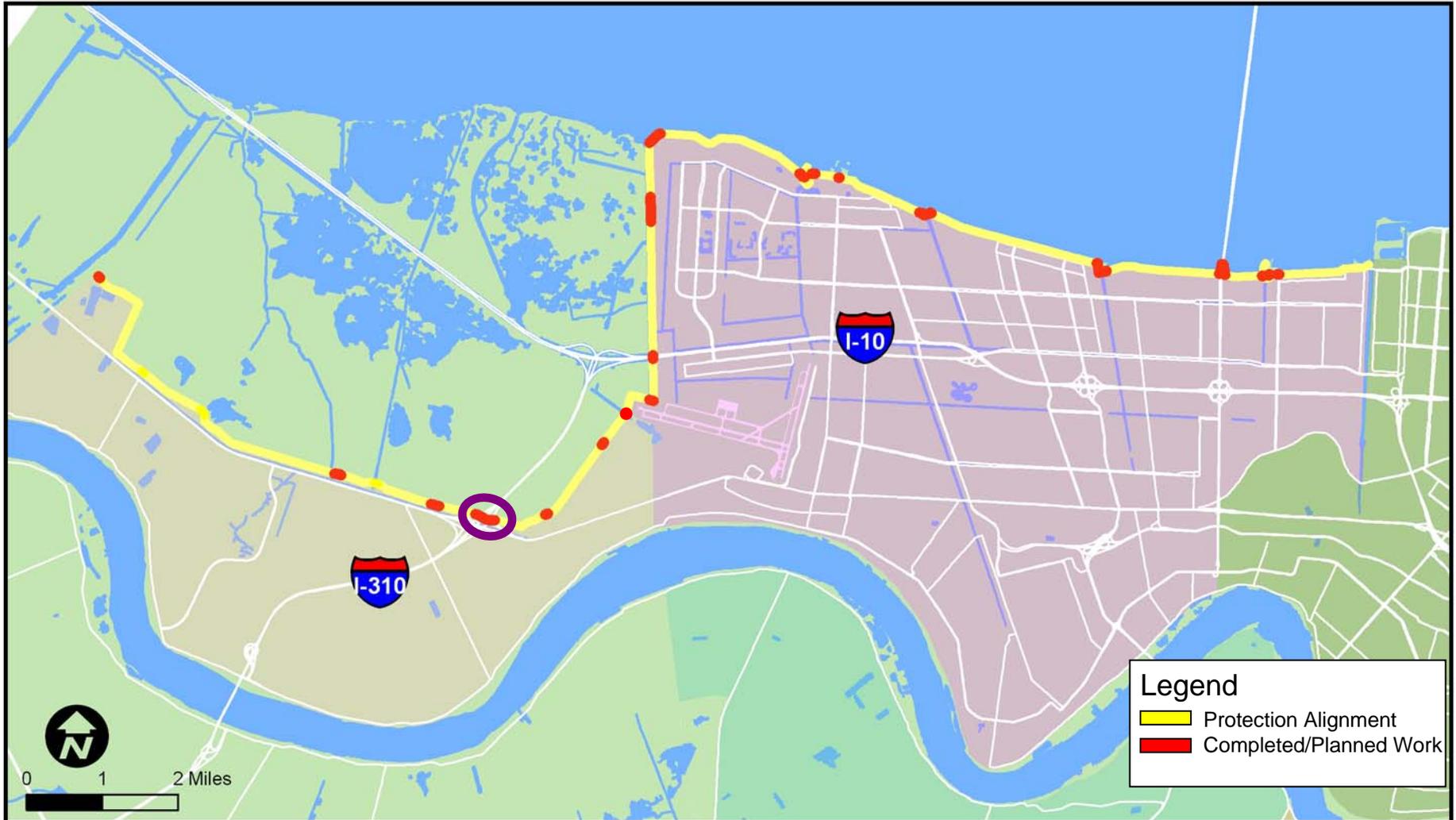
Bayou Trepagnier Pump Station



- Added earthen stability berms
- Slope paving for scour protection
- Armored transitions

Near-Term Risk Mitigation

Over 11,000 ft of I-wall, transitions, and structures are being reinforced or armored to increase reliability. Most will be completed before the end of the '07 hurricane season.



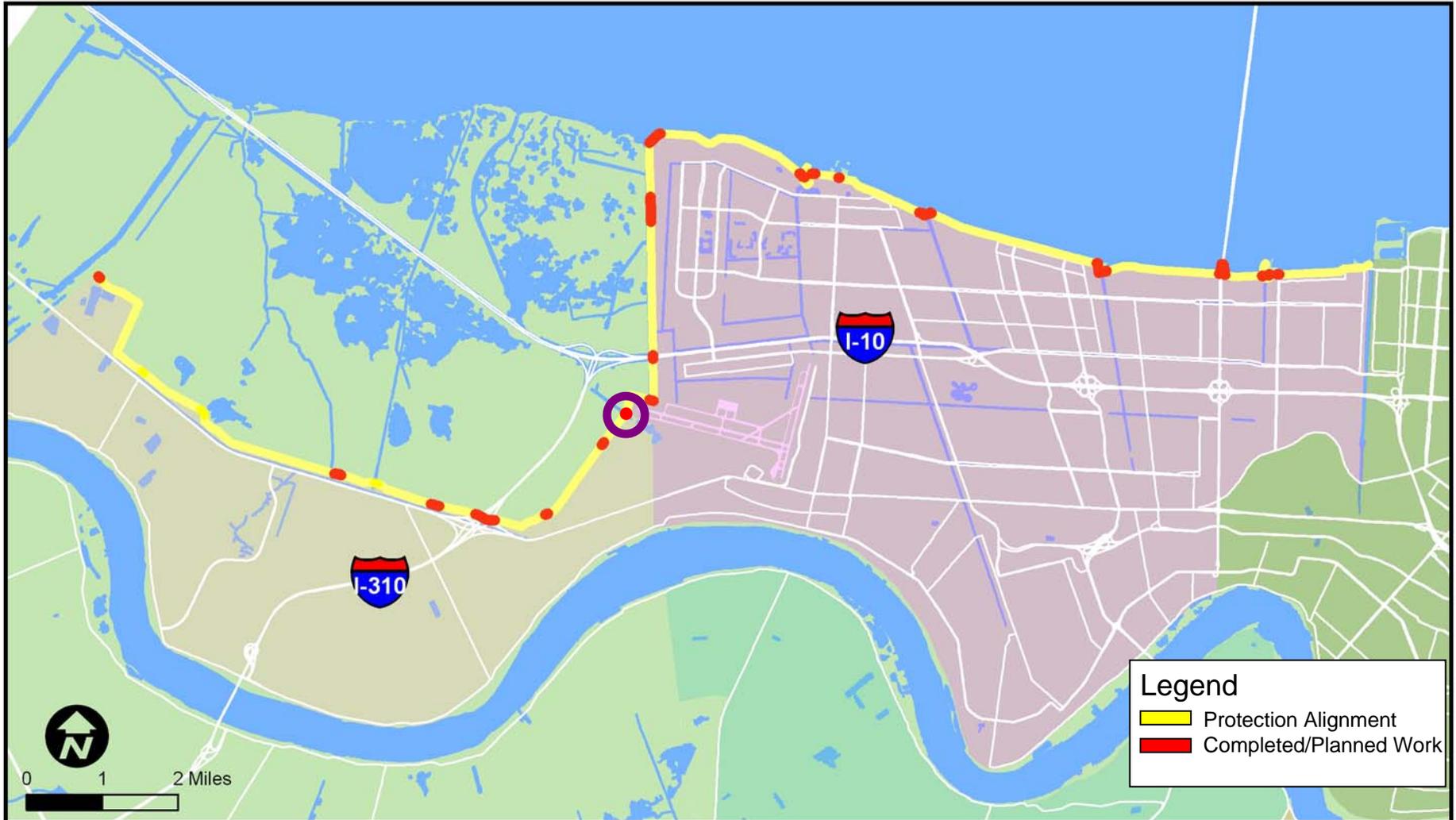
Floodwall under I-310



- Added earthen stability berms
- Slope paving for scour protection
- Armored transitions

Near-Term Risk Mitigation

Over 11,000 ft of I-wall, transitions, and structures are being reinforced or armored to increase reliability. Most will be completed before the end of the '07 hurricane season.



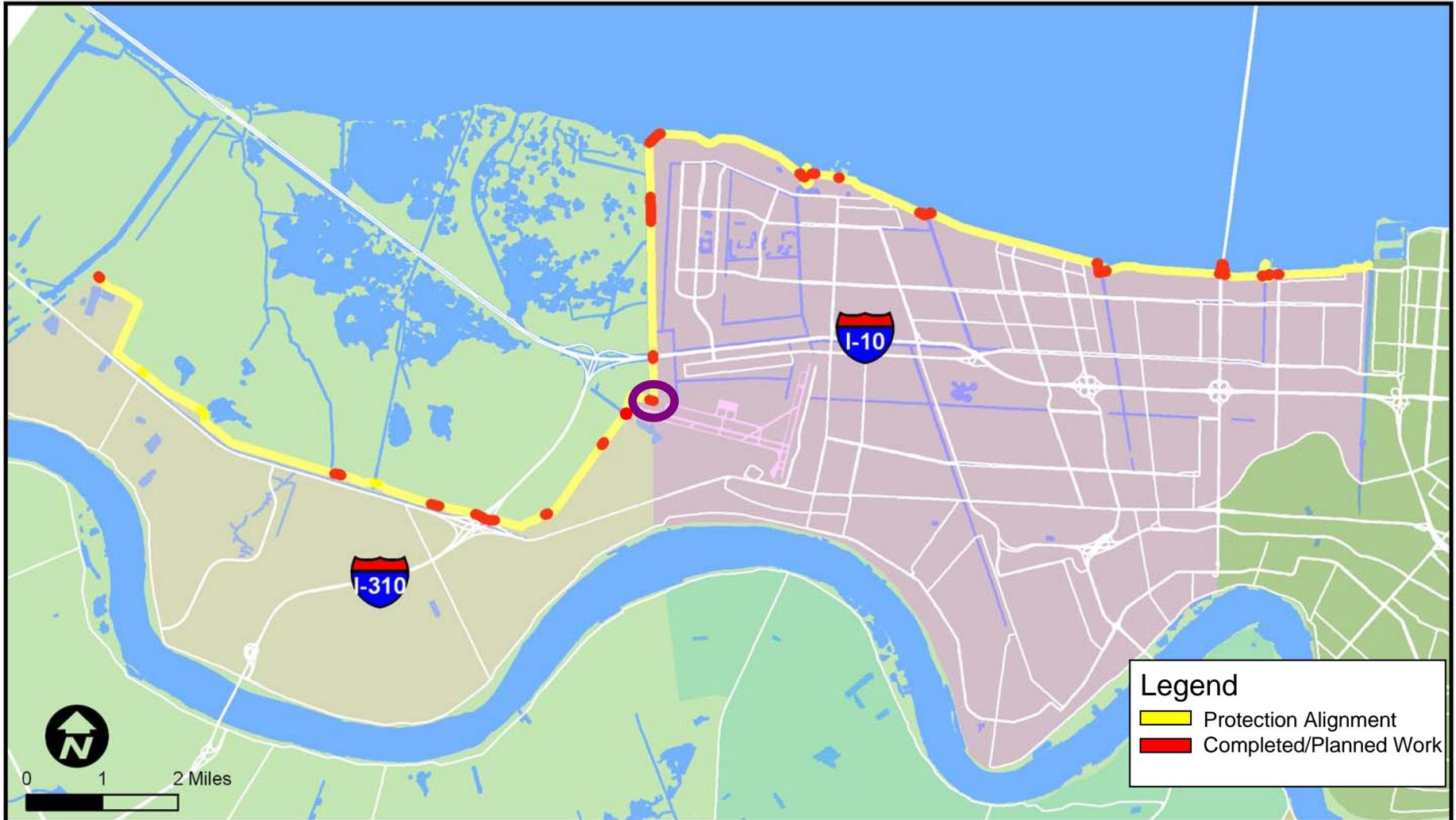
Canadian National Railroad Gate



- Added earthen stability berms
- Slope paving for scour protection
- Armored transitions

Near-Term Risk Mitigation

Over 11,000 ft of I-wall, transitions, and structures are being reinforced or armored to increase reliability. Most will be completed before the end of the '07 hurricane season.



West Return Floodwall at Airport

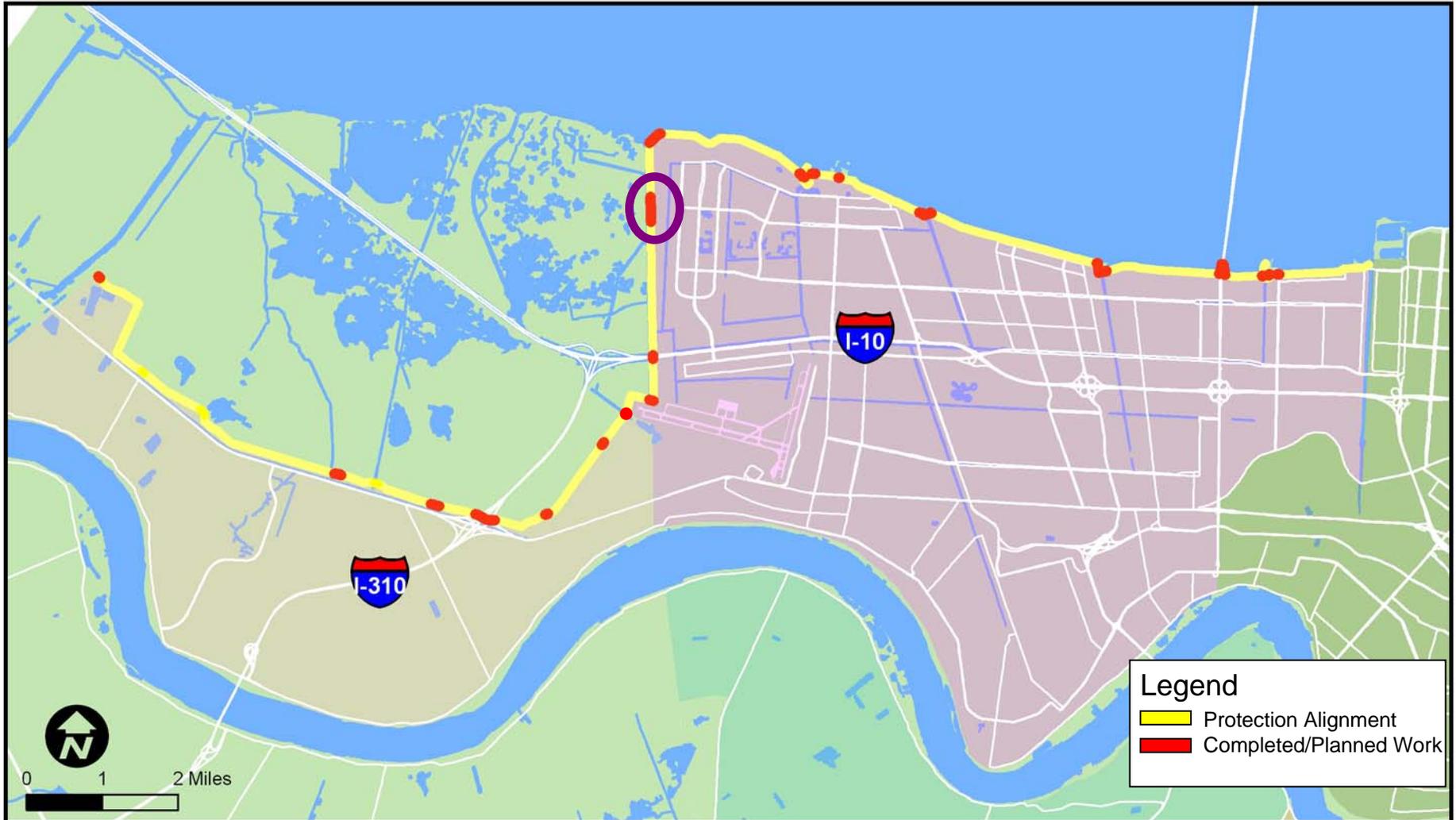


- Removed old sheet piling
- Drove new 60 ft PZ-35 sheet piling
- Slope paving for scour protection
- Armored transitions
- Filled in low area on airport property



Near-Term Risk Mitigation

Over 11,000 ft of I-wall, transitions, and structures are being reinforced or armored to increase reliability. Most will be completed before the end of the '07 hurricane season.



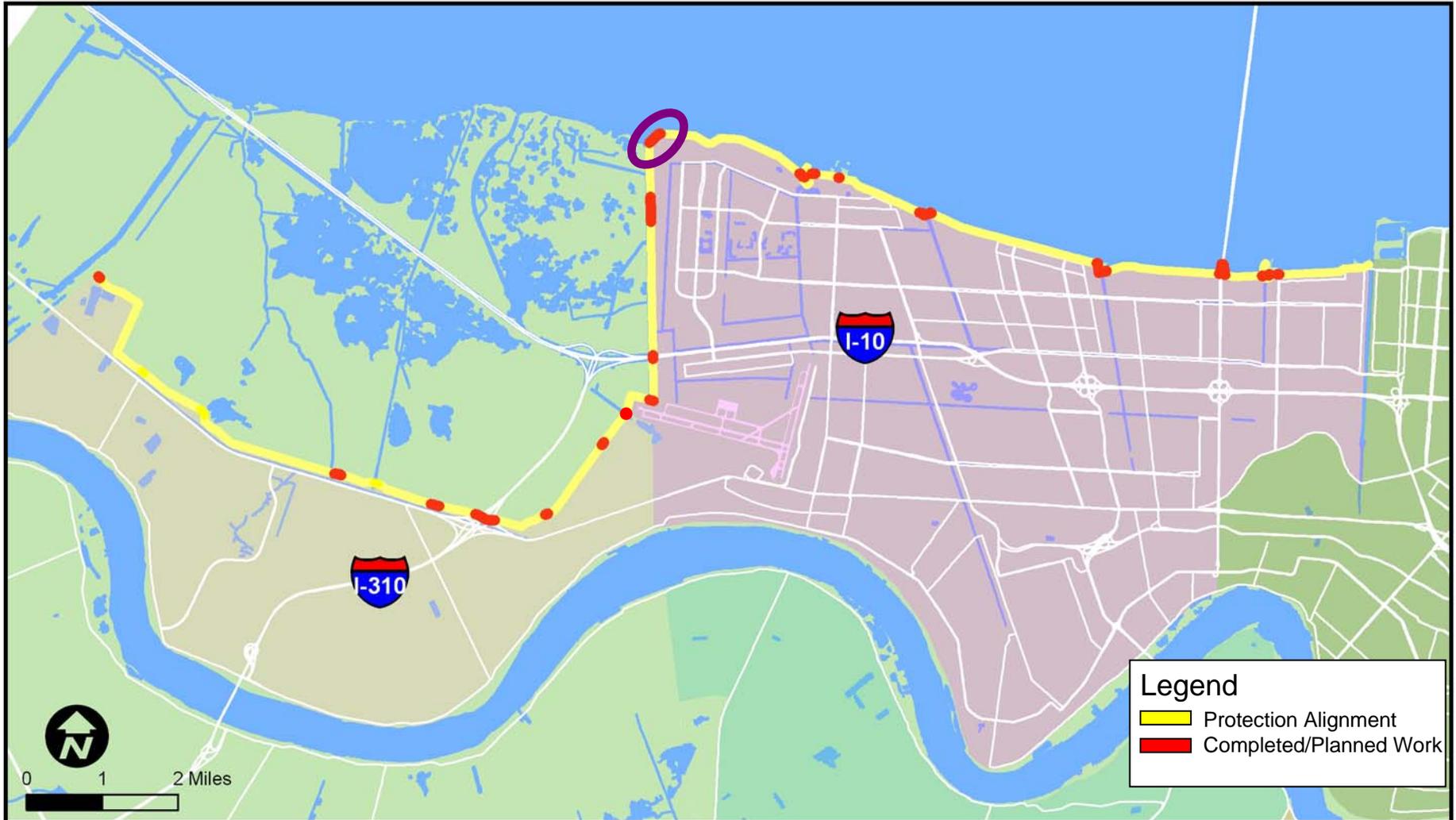
West Return – Vintage Floodwall



- Drove new 60 ft PZ-35 sheet piling offset from original wall
- Slope paving for scour protection

Near-Term Risk Mitigation

Over 11,000 ft of I-wall, transitions, and structures are being reinforced or armored to increase reliability. Most will be completed before the end of the '07 hurricane season.



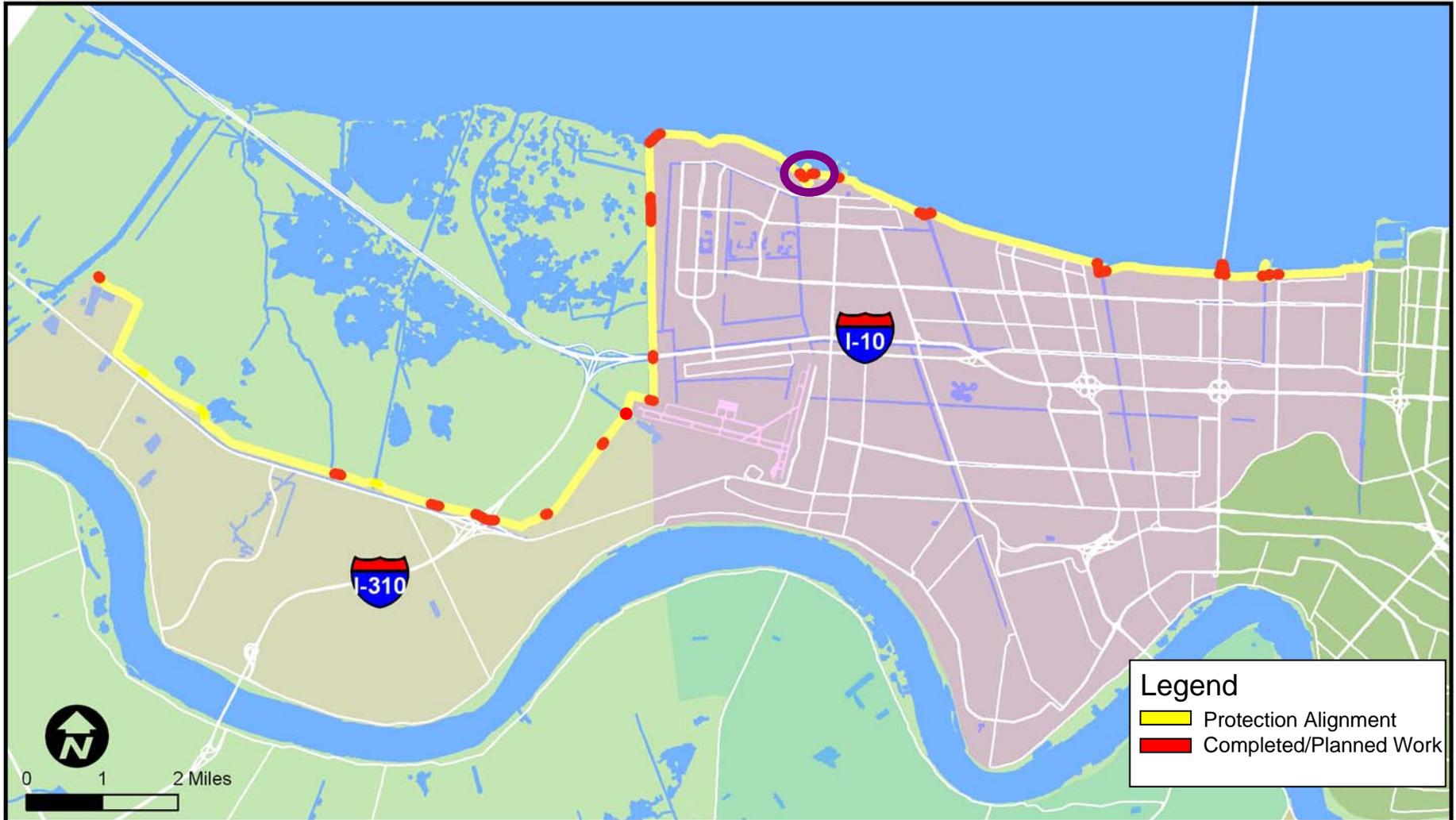
Kenner Recurve I-wall



- Armored transitions
- Slope paving for scour protection
- Placed additional fill against floodwall

Near-Term Risk Mitigation

Over 11,000 ft of I-wall, transitions, and structures are being reinforced or armored to increase reliability. Most will be completed before the end of the '07 hurricane season.



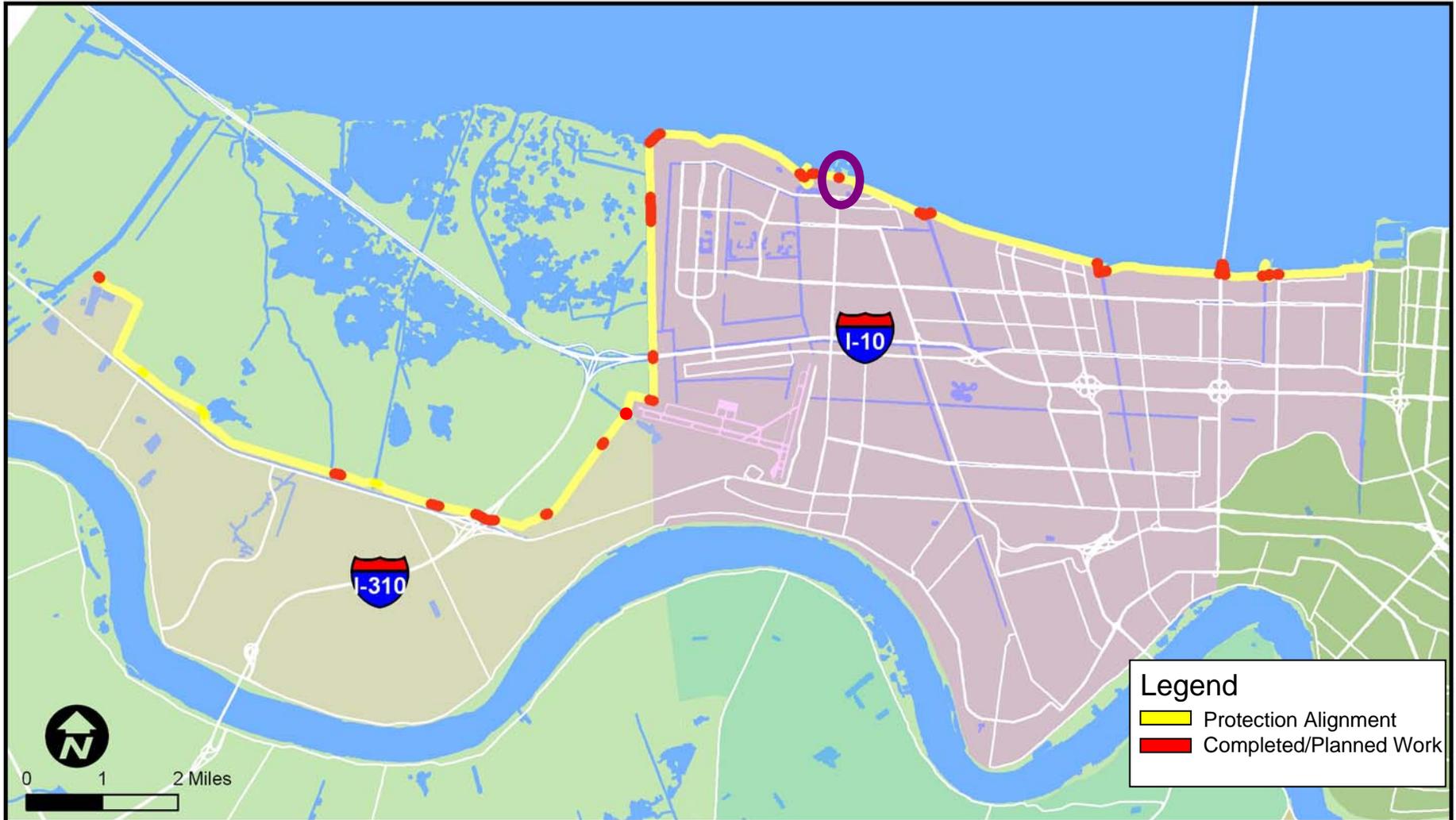
Duncan PS #4 Tie-ins



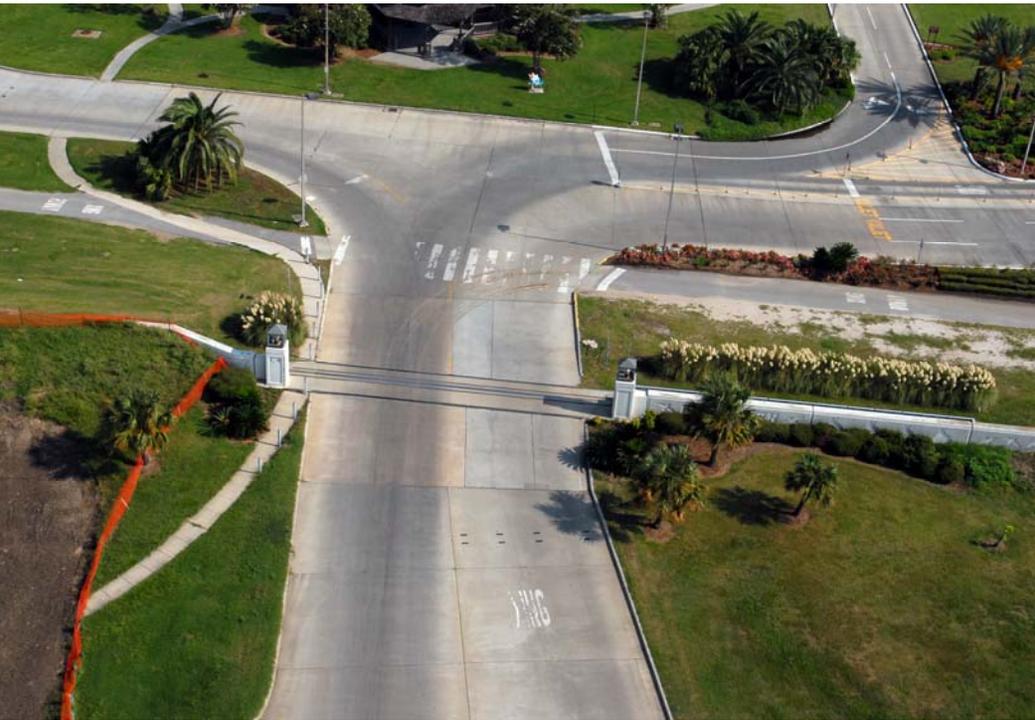
- Slope paving for scour protection
- Armored transitions
- Placed additional material against floodwall

Near-Term Risk Mitigation

Over 11,000 ft of I-wall, transitions, and structures are being reinforced or armored to increase reliability. Most will be completed before the end of the '07 hurricane season.



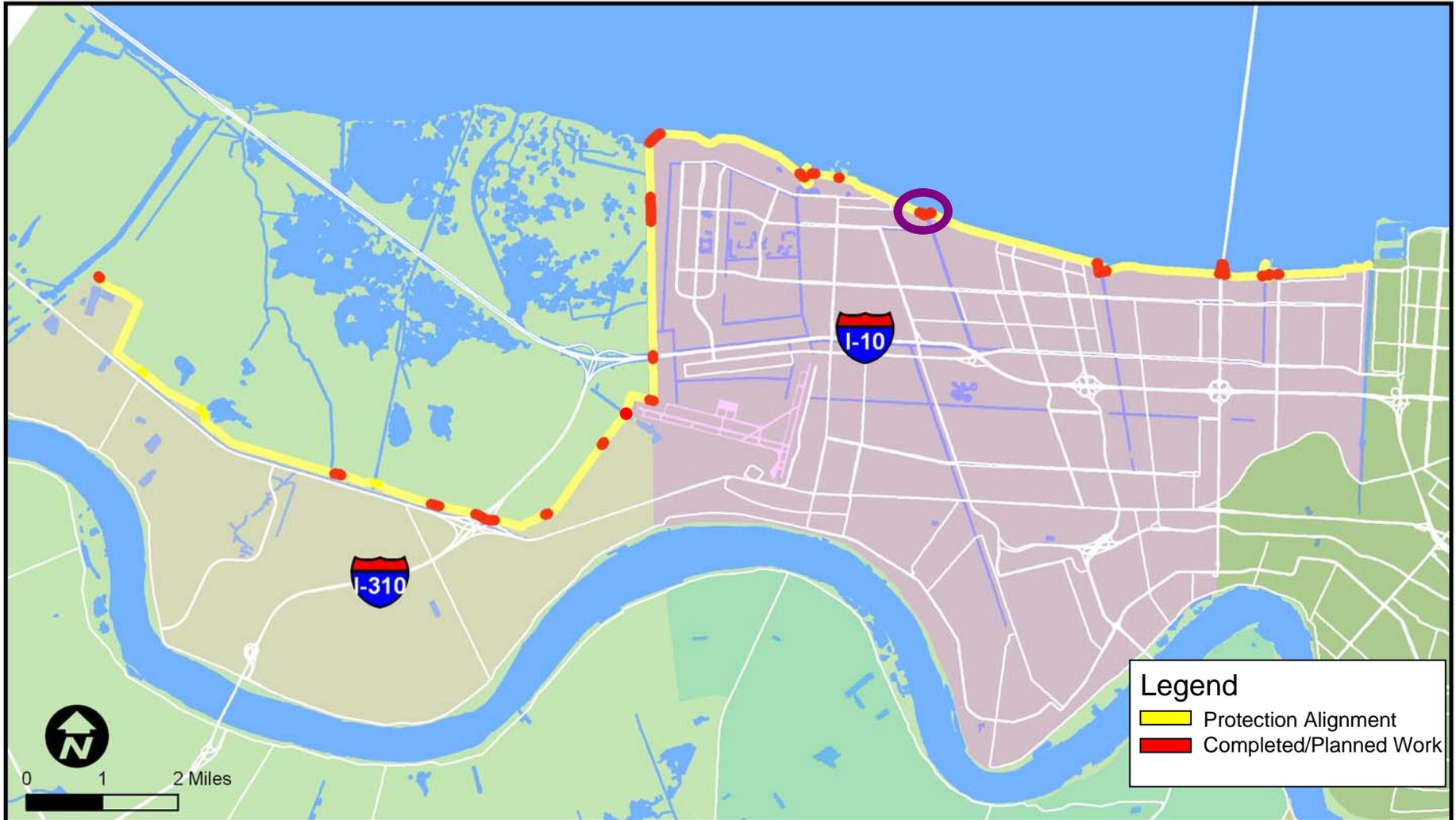
Gate at Williams Blvd



- Slope paving for scour protection
- Armored transitions

Near-Term Risk Mitigation

Over 11,000 ft of I-wall, transitions, and structures are being reinforced or armored to increase reliability. Most will be completed before the end of the '07 hurricane season.



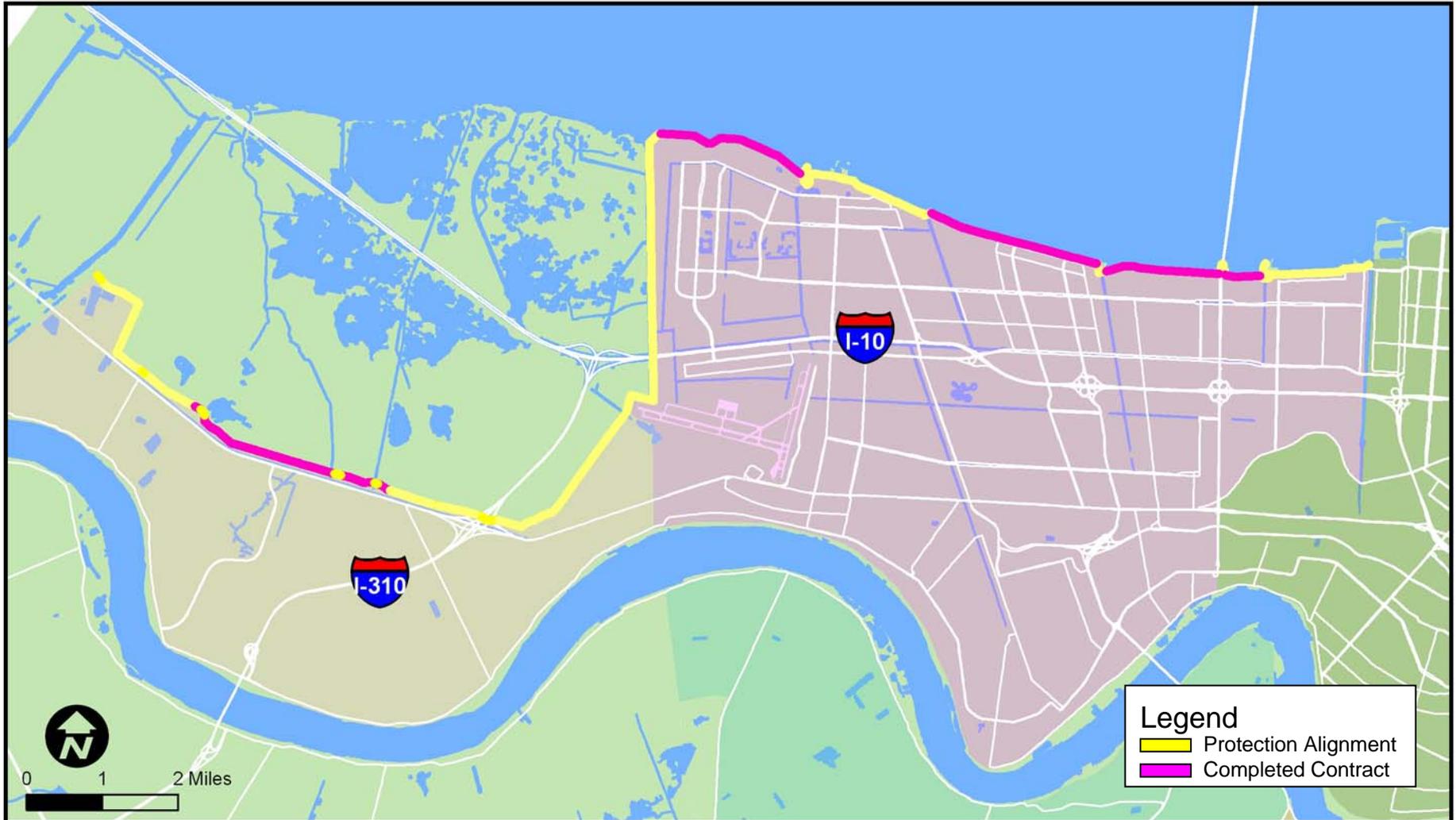
Elmwood PS #3 Tie-ins



- Removed old sheet piling
- Drove new 60 ft PZ-35 sheet piling
- Armored transitions
- Slope paving for scour protection

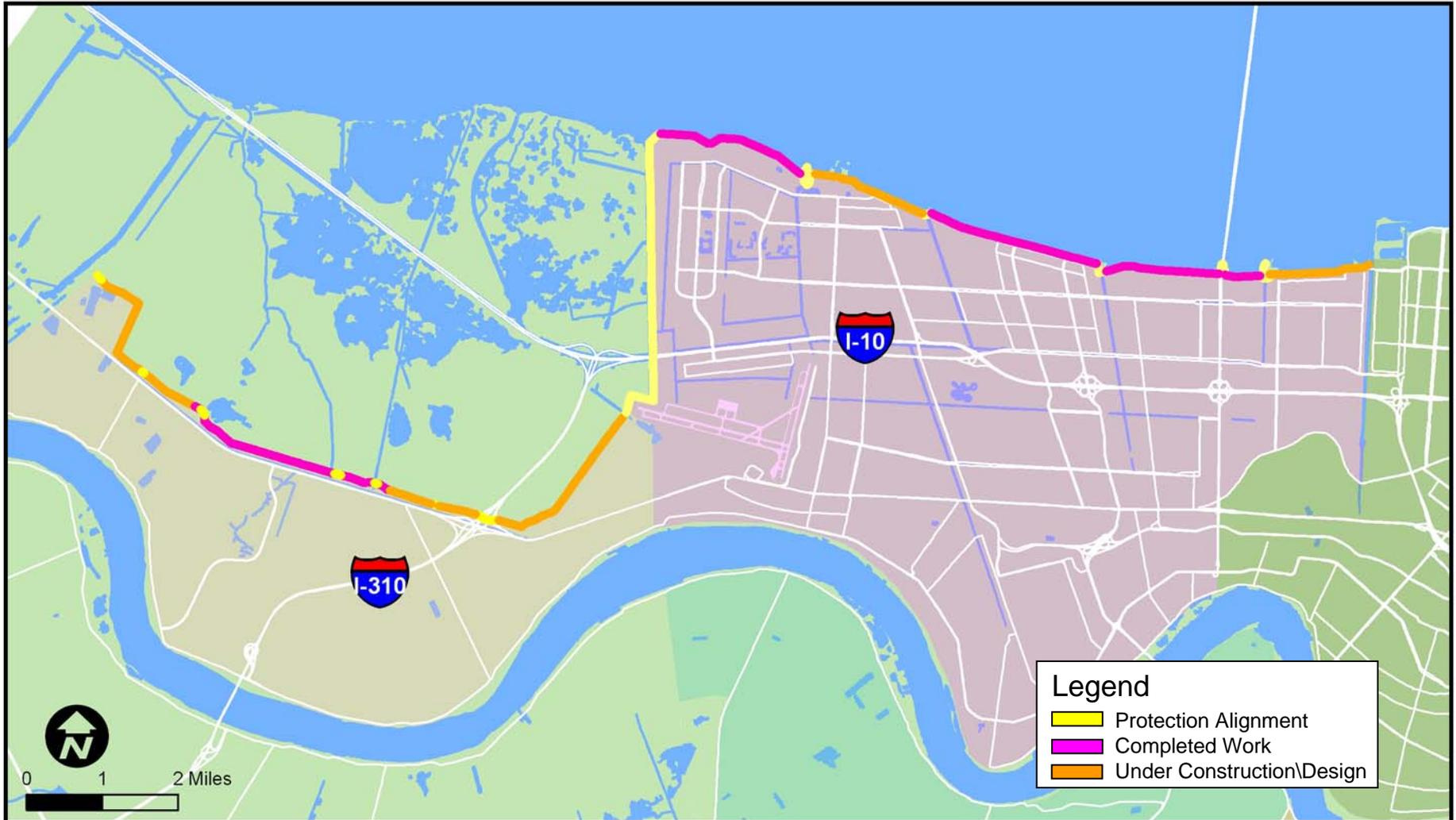
Levees Raised to Previously Authorized Elevation

- 6.3 miles completed in Jefferson Parish
- 2.2 miles completed in St. Charles



Levees Raised to Previously Authorized Elevation

- 3.5 miles in design in Jefferson Parish
- 6 miles in St. Charles currently under construction





US Army Corps
of Engineers®
New Orleans District



100 yr Alternatives St. Charles Parish IER-01

St. Charles Parish 100 year alternatives



Levee Alternatives

- Add a second layer of geotextile with the levee enlargement to keep construction within existing Right-Of-Way
- No additional geotextile layer with levee enlargement, which would require additional Right-Of-Way

Drainage Structures

- Replace existing structures with new adjacent drainage structures

Floodwalls

- Replace existing I-walls with inverted T-walls
- Reduce new floodwall height requirements where necessary with breakwaters



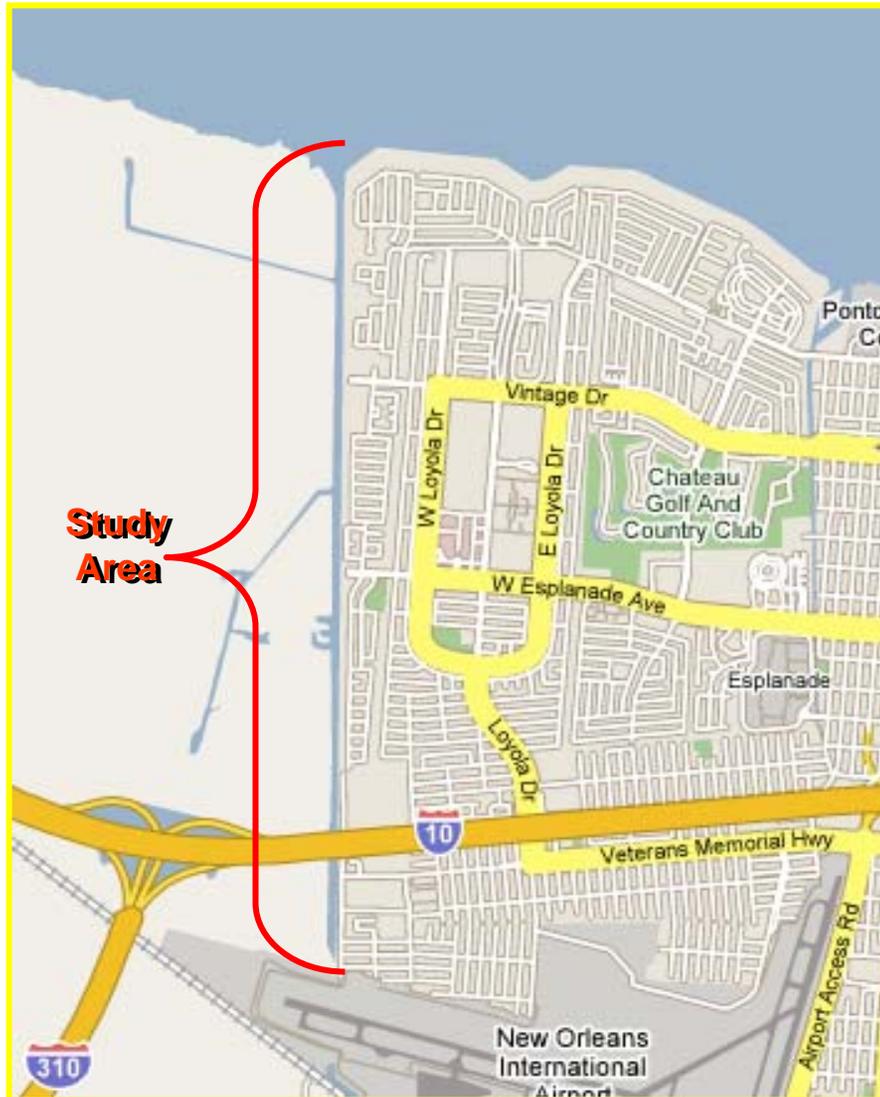
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of Engineers®**

100 yr Alternatives Jefferson Parish - West Return Wall IER-02

West Return Floodwall



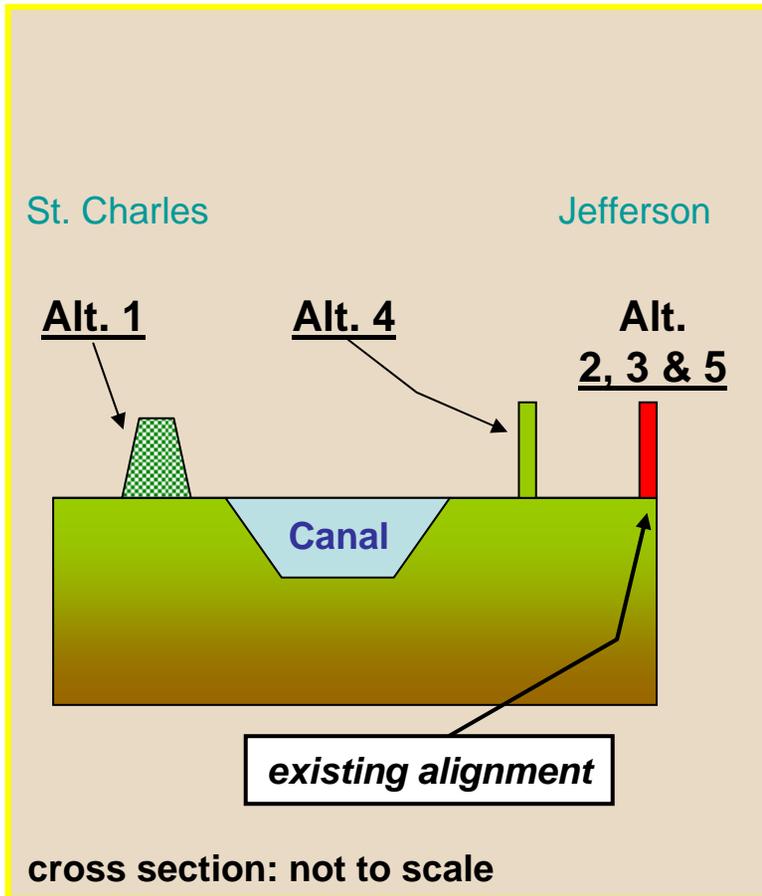
West Return Floodwall Alternatives Evaluation



Study Area: New Orleans International Airport to the Jefferson Lakefront Levee

- Evaluation of Alternative Designs complete - Oct 07
- Scheduled Start of Construction – Dec 08

West Return Floodwall Alternatives Evaluation



Alternative 1: Earthen levee (St. Charles side of existing alignment)

Alternative 2: Modification of existing floodwalls by adding additional wall height (current alignment)

Alternative 3: Remove existing wall and replace with new wall (current alignment)

Alternative 4: New wall parallel to existing wall (canal side of existing alignment)

Alternative 5: Remove existing wall but reuse pile foundation for new wall (current alignment)



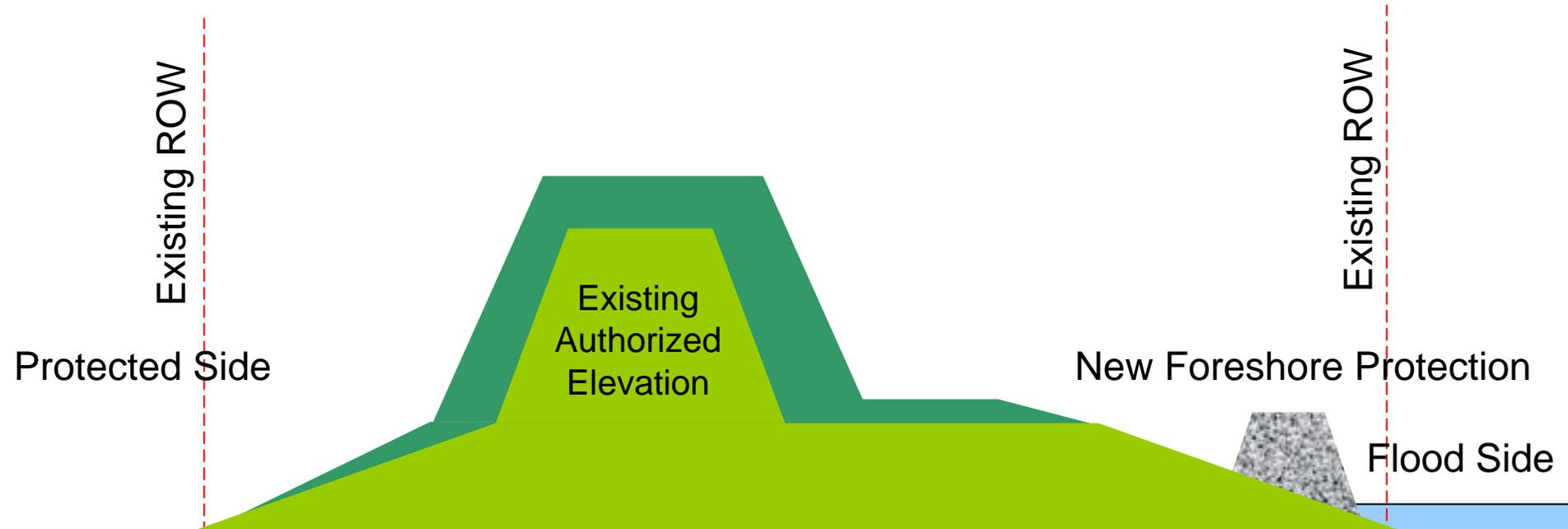
**US Army Corps
of Engineers®**

100 yr Alternatives Jefferson Parish – Lakefront IER-03



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100 yr Alternative 1

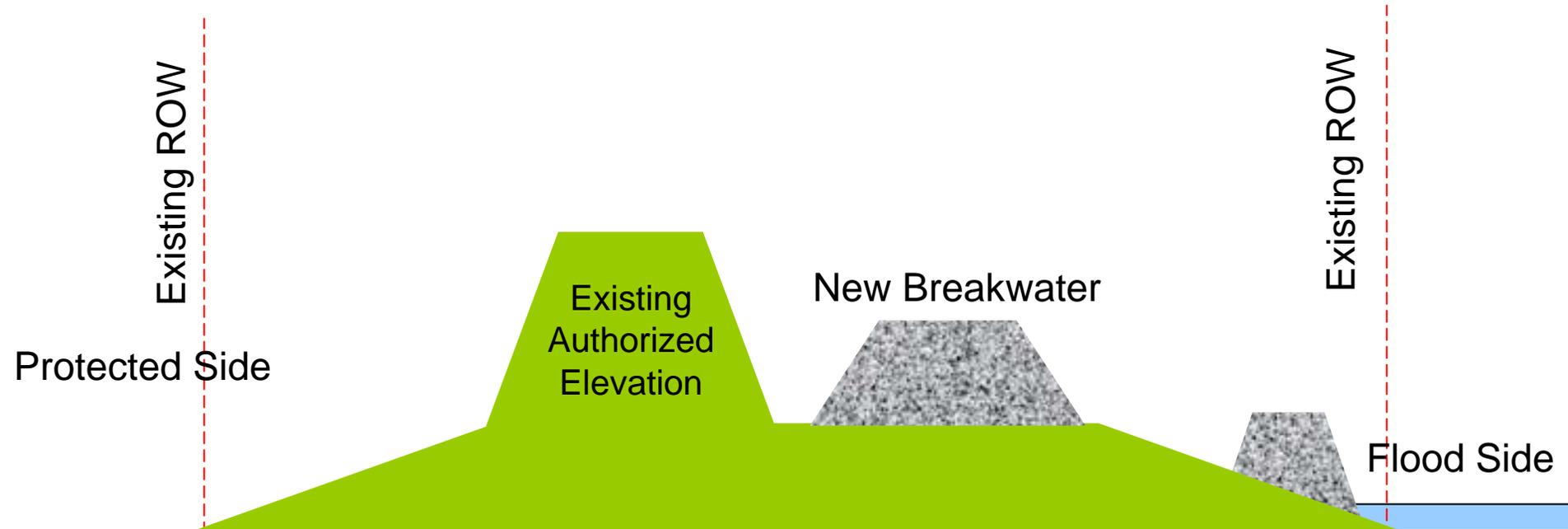


ROW = Right of Way



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100 yr Alternative 2



New Foreshore Protection

ROW = Right of Way

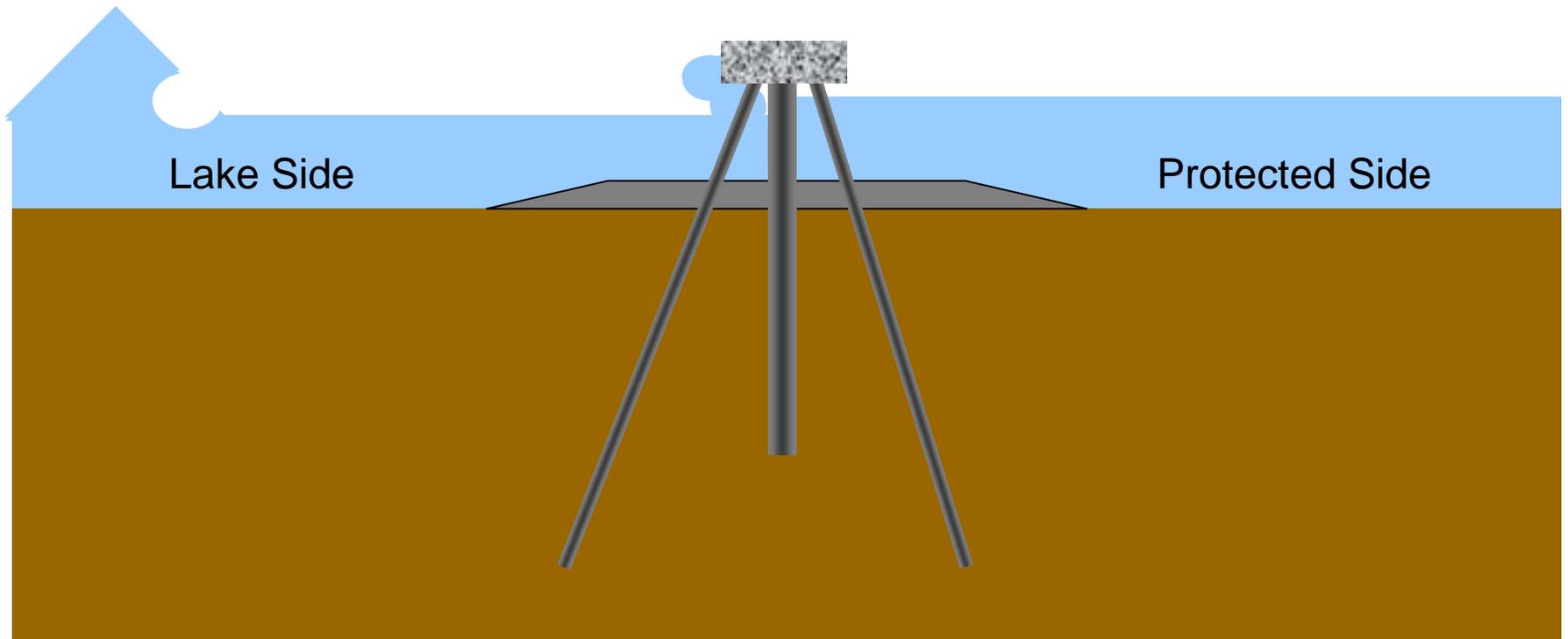
Breakwater Suburban PS #2





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of Engineers®

Typical Section of Breakwater



Fronting Protection Elmwood PS #3

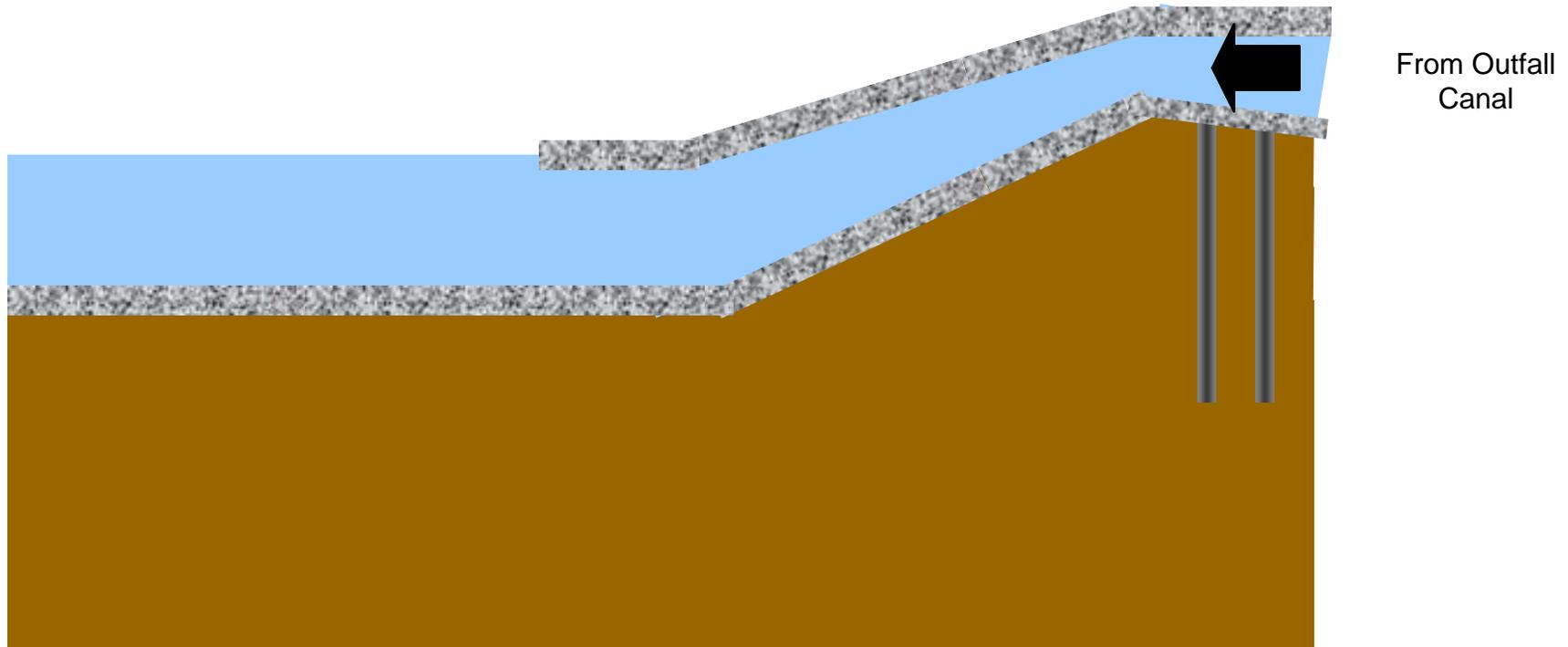


Typical Fronting Protection Jefferson Parish Horizontal Pumps

Current Configuration



US Army Corps
of Engineers®



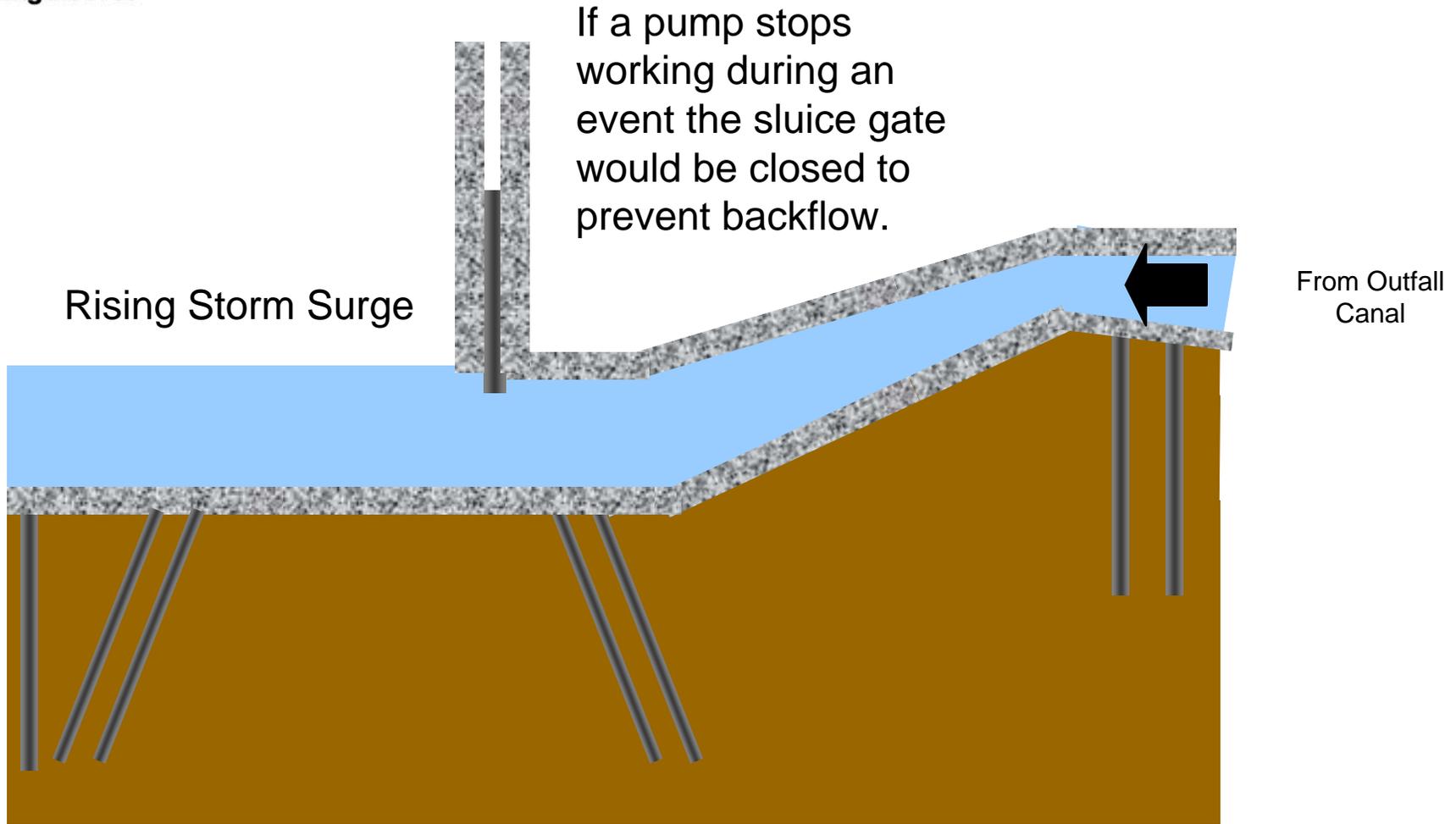
One Team: Relevant, Ready, Responsive, Reliable

Typical Fronting Protection Jefferson Parish Horizontal Pumps

100 yr Protection



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of Engineers®

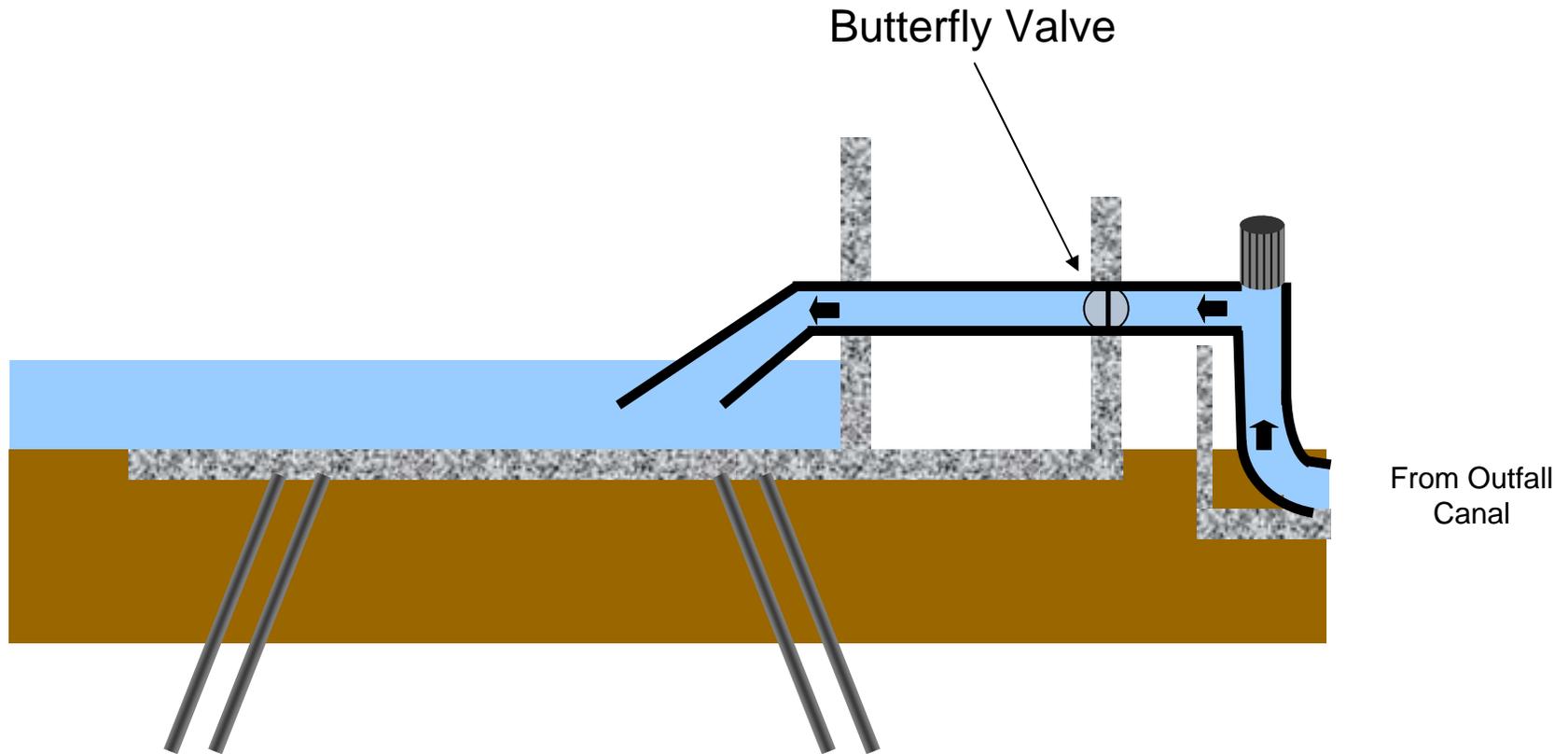


Typical Fronting Protection Vertical Pumps



US Army Corps
of Engineers®

If a pump stops working during an event the butterfly valve would be closed to prevent backflow.



Outfall Canal Closures and Permanent Pump Stations IER #5



Purpose and Need

To protect the City of New Orleans and Jefferson Parish from storm surge-induced flooding through the 17th Street, Orleans Avenue, and London Avenue Canals, while not impeding the ability of the area's internal drainage system to function.

Alternatives

- 1) No Action**
- 2) Elevate homes and businesses according to FEMA guidelines**
- 3) Pontchartrain Barrier System**
- 4) Improve Parallel Protection**
- 5) Canal Closure and Pumps**

Alternative 4: Improve Parallel Protection

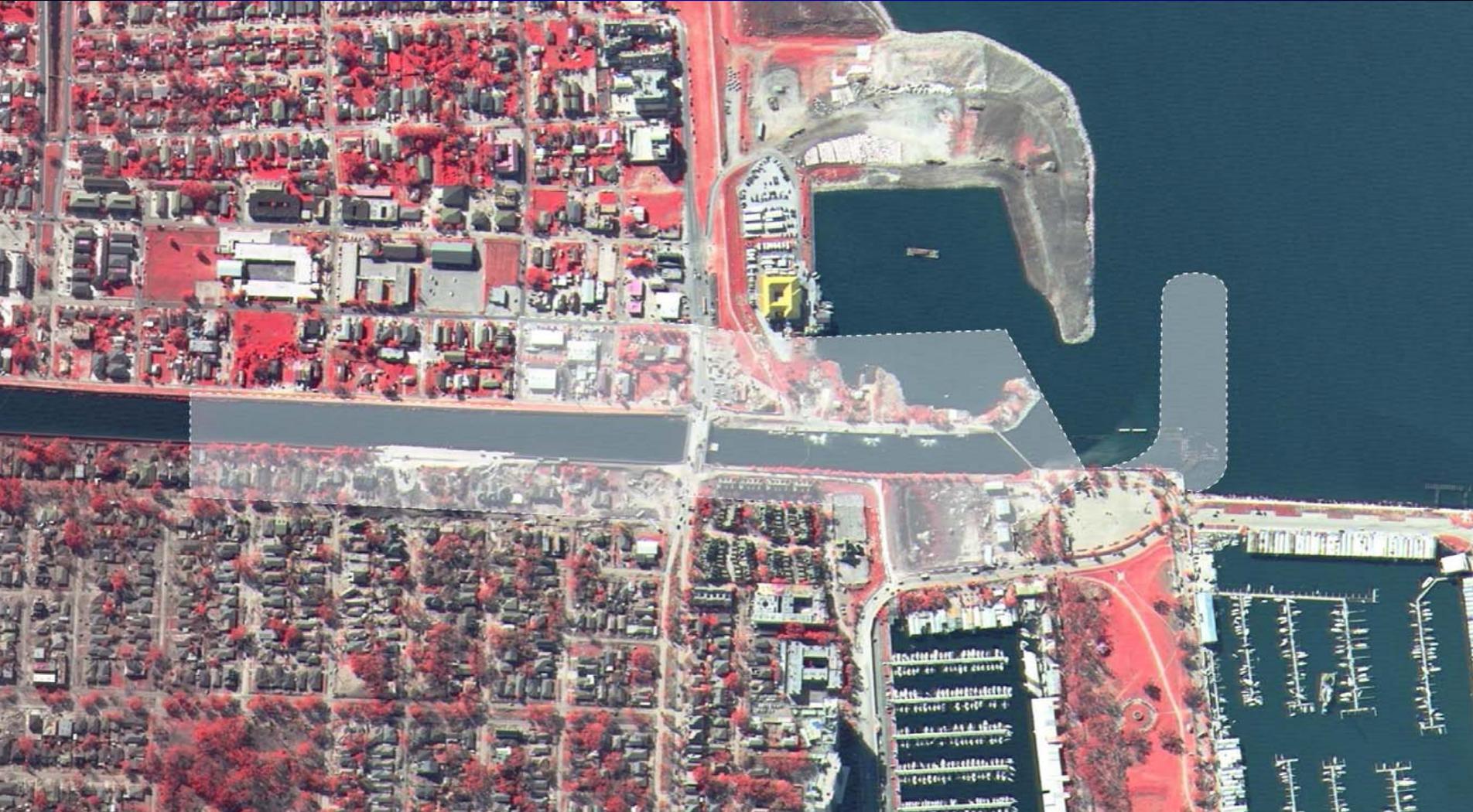
- **Upgrade floodwalls along canals to provide 100-year flood protection**
- **Variations of this alternative include:**
 - **Concrete-lined canals and removal of Interim Control Structures (ICS)**
 - **Improved existing drainage pump station capacity**
 - **Removal of ICS pumps only, keep ICS gates in place**

Alternative 5: Canal Closure and Pumps

- **Provides pumps and closure structures at or near the lakefront**
- **Possible variations of this alternative include:**
 - **New permanent pump stations to operate in series with existing S&WB pump stations**
 - **Convert Interim Control Structures to permanent facility**
 - **Pressurized system/Box culvert**
 - **New permanent pump stations and lowered canals; existing S&WB pump stations removed or bypassed**
- **Could also include various interior drainage system improvements to reduce required pumping capacity at permanent pump stations (example: Hoey's Basin "Pump to the River")**

Individual Environmental Report (IER) #5 Outfall Canal Closures and Permanent Pump Stations Alternative

Range of Possible Permanent Pump Station Locations 17th Street Canal



Individual Environmental Report (IER) #5

Outfall Canal Closures and Permanent Pump Stations Alternative

17th Street Canal Conceptual Alternative Site Locations

Alternative A



Alternative B



Alternative C





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Discussion

One Team: Relevant, Ready, Responsive, Reliable
