

NEW ORLEANS DISTRICT HSDRRS PERMANENT CANAL CLOSURES AND PUMPS

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USACE New Orleans District
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US Army Corps
of Engineers®



BOTTOM LINE UP FRONT



1. USACE, in cooperation and collaboration with CPRA, FPA-East, and construction contractors, is focused on ensuring the Permanent Canal Closures and Pumps will deliver the designed level of risk reduction this 2023 Hurricane Season.
2. Each level of USACE is committed to delivering our mission as charged – permanent and sustainable closure structures with pumps that will fulfill the 35-year design life specifications.



HSDRRS PERMANENT CANAL CLOSURES AND PUMPS



- ❑ Design-Build project began in 2013; NCC issued in 2018.
- ❑ Constructed as permanent and sustainable features for preventing surge from entering three outfall canals while allowing discharge of internal drainage into Lake Pontchartrain.
- ❑ Pumps designed to have a 35-year design life.

① 17th St. PCCP



② Orleans Ave. PCCP

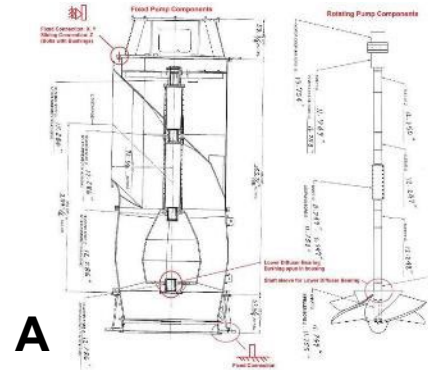


③ London Ave. PCCP





LONDON AVENUE PCCP



- A. 1,800 pump cross section
- B. Diffuser section removal
- C. Lower diffuser bearing housing with missing bolts
- D. Lower diffuser bearing housing with loose bolts
- E. Lower bearing housing with corrosion and edge loss

PCCP at London Ave. Canal Operational Status

- Designed pumping capacity: 9,000 cfs (four 1,800 cfs pumps, two 900 cfs pumps). Current capacity: 7,200 cfs.
- Maximum (nameplate) Sewerage and Water Board of New Orleans discharge capacity: 7,980 cfs.
- Required PCCP capacity for a 10-year rain event: 5,211 cfs.

- ☐ Pump #1 removed to determine cause for overheating during maintenance and test operations. Assessment identified advanced corrosion as primary cause of overheating.
- ☐ USACE has issued a contract to repair and return Pump #1 to service.
- ☐ Additional inspections will be undertaken to assess status and reliability of remaining five pumps. Pump #3 is showing increased temperatures and will be the priority inspection.



17TH ST. AND ORLEANS AVE. PCCP

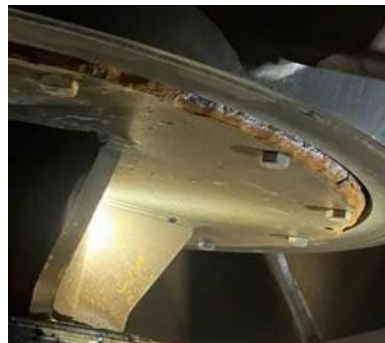
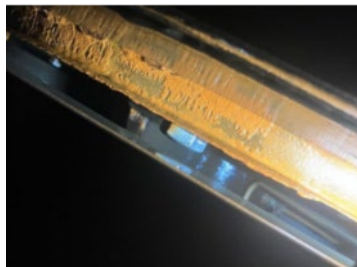


17th St. PCCP

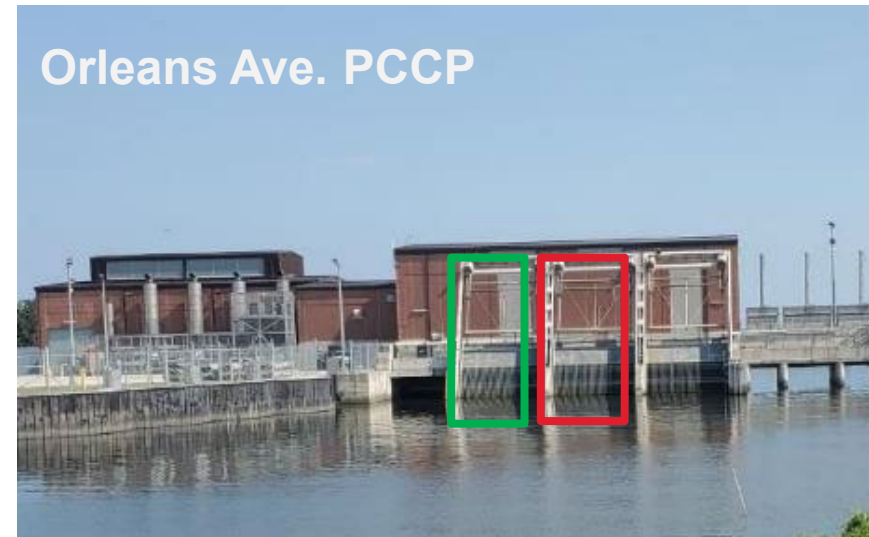


PCCP at 17th St. Canal Operational Status

- Designed pumping capacity: 12,600 cfs (six 1,800 cfs pumps, two 900 cfs pumps)
- Maximum (nameplate) Sewerage and Water Board of New Orleans discharge capacity: 10,330 cfs
- Existing PCCP pumping capacity: 12,600 cfs.
- Required PCCP capacity for a 10-year rain event: 9,527 cfs.



Orleans Ave. PCCP



PCCP at Orleans Ave. Canal Operational Status

- Designed pumping capacity: 2,700 cfs (three 900 cfs pumps)
- Maximum (nameplate) Sewerage and Water Board of New Orleans discharge capacity: 2,690 cfs
- Existing PCCP pumping capacity: 2,700 cfs.
- Required PCCP capacity for a 10-year rain event: 2,455 cfs.

- ❑ Inspection of 900 cfs pumps at Orleans Avenue to be completed week of March 13, 2023. Inspections of 1,800 pumps will begin with arrival of 1,800 cfs stoplogs (anticipate the week of March 20, 2023).
- ❑ Initial inspections at 17th St. and Orleans Ave. do not indicate same level of corrosion as with London pump #1 nor potential failure risk for the 2023 Hurricane Season.



CONTINGENCY ALTERNATIVES



Evaluation of options if PCCP pump capacity is less than Sewerage and Water Board pumping discharge

Alternative 1: Modified Operations

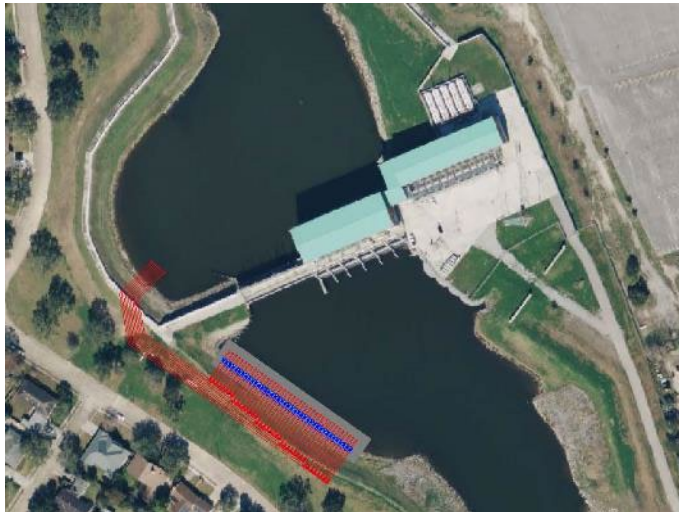
- London Ave.: Increase gate close trigger from 3' to 4.5' and rising in Lake Pontchartrain.
- 17th St.: Increase gate close trigger from 4' to 5' and rising in Lake Pontchartrain
- Orleans Ave.: Increase gate close trigger from 4' to 5' and rising in Lake Pontchartrain.

Alternative 2: Temporary Pump Support

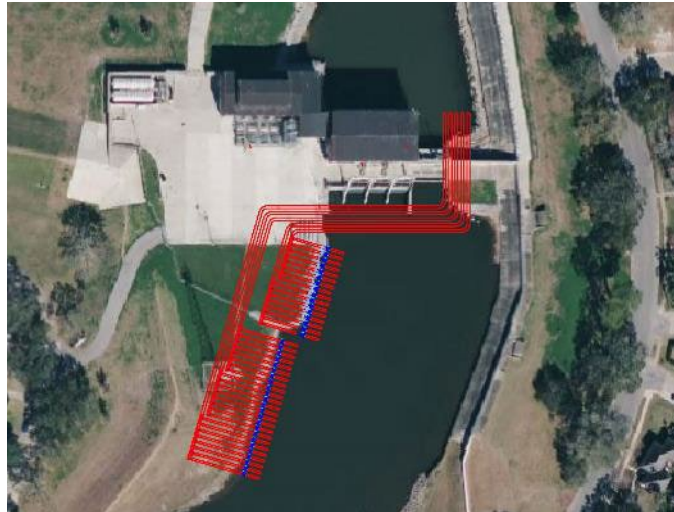
- Preliminary concept requiring design and geotechnical evaluation.
- Forty 25 cfs submersible hydraulic pumps (640 to 1000 cfs of additional pump capacity).

Alternative 3: Combination of alternatives 1 and 2.

London Ave. PCCP



Orleans Ave. PCCP



17th St. PCCP





Inspection and assessment

- Complete inspection assessments (being accomplished by the design-builder).
- Identify root cause for advanced corrosion.
- Obtain HQUSACE concurrence with revised Design Deficiency.

Temporary repairs

- Complete temporary repairs prior to 01 June 2023.

Long-term repairs

- Develop scope and estimate for design.
- Solidify funding for permanent fix.
- Complete design for permanent fix to ensure 35-year life.
- Execute contract (anticipate construction to potentially last >2 years due to likely limiting of work outside hurricane season).

Contingency operations

- Finish refinement of plan (keep flexible as ground situation changes).



OUTREACH AND ENGAGEMENT



Inspection and repair timeline (subject to change)

900cfs pump inspections underway (Orleans and 17th)

900cfs pump inspections complete

MARCH 2023

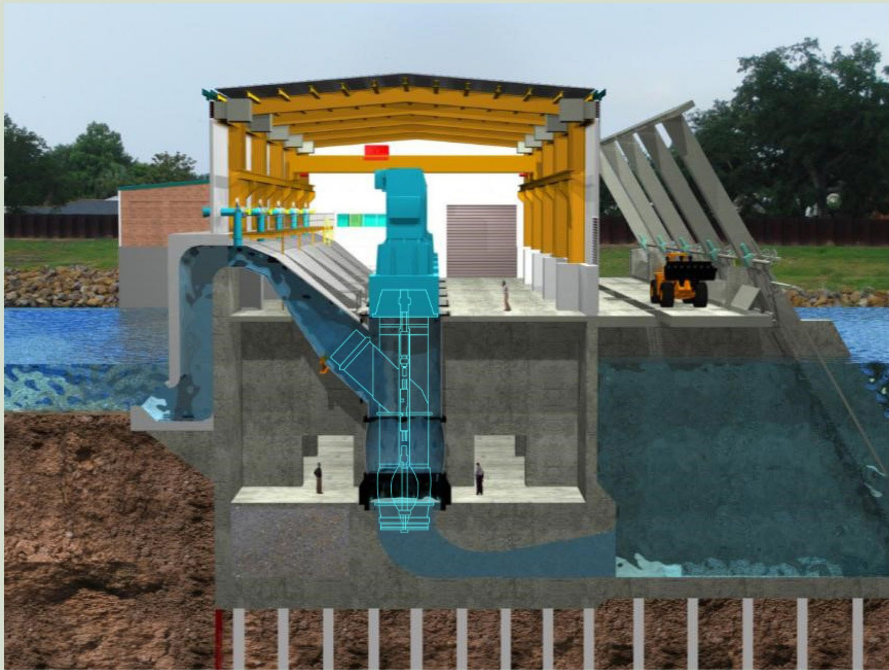
APRIL 2023

MAY 2023

London Ave. Pump #1 repairs underway

1,800cfs inspections to begin (with stoplog arrival)

1,800cfs inspections complete

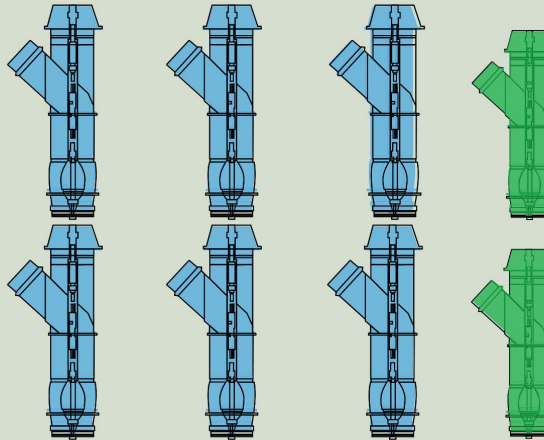


Pump Inspection and Repair Tracker

USACE and its partners are inspecting each of the 16 remaining PCCP pumps for deterioration and the ability to perform as designed this hurricane season. Once visual inspection of each pump is complete, USACE will work with its partners to identify the best path forward. Concurrently, USACE has issued a contract for full repair of London Ave. Pump #1.

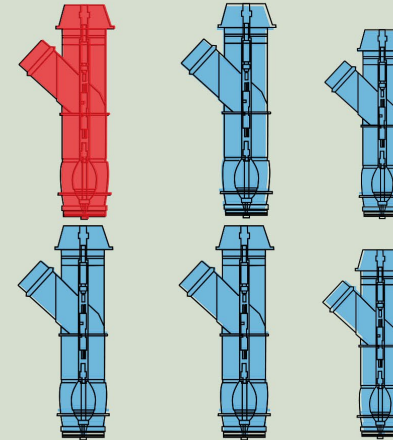
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17th Street: 8 Pumps
(Six 1,800 cfs, two 900 cfs)



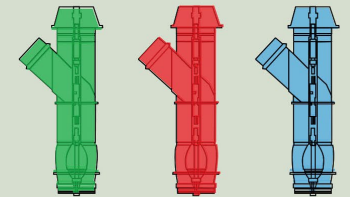
②

London Ave.: 6 Pumps
(Four 1,800 cfs, two 900 cfs)



③

Orleans Ave.: 3 Pumps
(Three 900 cfs)



Blue: Inspection pending; pump online
Green: Inspection complete; pump online
Orange: Inspection underway; pump offline
Red: Repairs underway; pump offline

As of 09 March 2023

Cooperation, Collaboration and Communication

- ❑ Ensure open and transparent communication throughout the process.
- ❑ Provide regular and recurring updates to partners, stakeholders and the public directly as well as through traditional and social media channels.



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