



Morganza to the Gulf, Louisiana, Hurricane and Storm Damage Risk Reduction Project SEIS



Appendix M – Draft Water Control Plan

December 2025

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Morganza to the Gulf of Mexico, Louisiana

Water Control Structure Operations Plan

The following is an operation plan for the navigation gates, flood gates, and environmental control structures that are incorporated into the Morganza to the Gulf (MTG) Levee System. The following plan must be routinely reevaluated, at least every 5 years, by USACE New Orleans District. Updates may include, but are not limited to, increasing trigger water surface elevations to account for sea level rise, updating closure/reopening procedure for specific environmental conditions such as salinity, sedimentation, or impacts to wetlands, and updating instantaneous gages that are acceptable for use in determining closure or reopening of structures and gates.

Acceptable Use

All real-time water surface elevations used to determine closure or reopening should be read at the location of the structure or gate. If there is not a gage at the structure or gate location, the following gages are acceptable to use to retrieve instantaneous stages in and around the MTG Levee System. It is imperative that the stages obtained from the USGS website are converted to water surface elevations in NAVD88 (if necessary) using the conversion published on the gage's page, which is also listed below. Gages both internal of and external to the MTG Levee System may be used to determine a closure, but only gages external of the MTG Levee System may be used to determine reopening. No structure or gate can be closed or reopened when the pressure head differential exceeds the design capability. Additionally, no structure or gate can be reopened until the storm force winds have dropped to a level which is safe for personnel to access the area and operate the machinery.

Gages internal of the MTG Levee System:

[USGS 07381150 Bayou Lafourche at Lockport, LA](#)

- Subtract 3.9 feet from the stage to get elevation in NAVD88

[USGS 07381355 Company Canal at Salt Barrier near Lockport, LA](#)

- Subtract 1.18 feet from the stage to get elevation in NAVD88

[USGS 07381324 Bayou Grand Caillou at Dulac, LA](#)

- Add 0.36 feet from the stage to get elevation in NAVD88

Gages external to the MTG Levee System:

[USGS 073813498 Caillou Bay SW of Cocodrie, LA](#)

- Subtract 0.41 feet from the stage to get elevation in NAVD88

[USGS 292952090565300 CRMS 0411-H01-RT](#)

- Subtract 0.91 feet from the stage to get elevation in NAVD88

[USGS 07381349 – Caillou Lake \(Sister Lake\) SW of Dulac, LA](#)

- Subtract 1.03 feet from the stage to get elevation in NAVD88

[USGS 07380330 Bayou Perot at Point Legard near Cutoff, LA](#)

- Add 1.67 feet to the stage to get elevation in NAVD88

Operating Plan

Table 1 includes operation guidance for the structures located within each levee reach shown in Figure 1. The system is designed to be closed to prevent interior flooding due to elevated exterior water levels. While storm surge from a named storm is the most common cause of elevated exterior water levels, other conditions, such as Atchafalaya River flooding, may also necessitate closure to prevent interior flooding. The structures will be closed if either 1) a named storm is in the Gulf of Mexico that is threatening the Louisiana coast, or 2) a water surface elevation trigger is reached (levee reach and structure dependent; guidelines are in Table 1). Historic gage data from the USGS, USACE, and CRMS was utilized to approximate appropriate water surface elevation triggers. For each group of levee reaches, the selected trigger water surface elevations (2.5 and 3.0 ft. NAVD88) correspond to annual exceedance probabilities that lie between those of 50% (2-year) and 20% (5-year) AEPs, as estimated using CHS-LA (Coastal Hazards System – Louisiana) for storm surge probabilities in the basin.

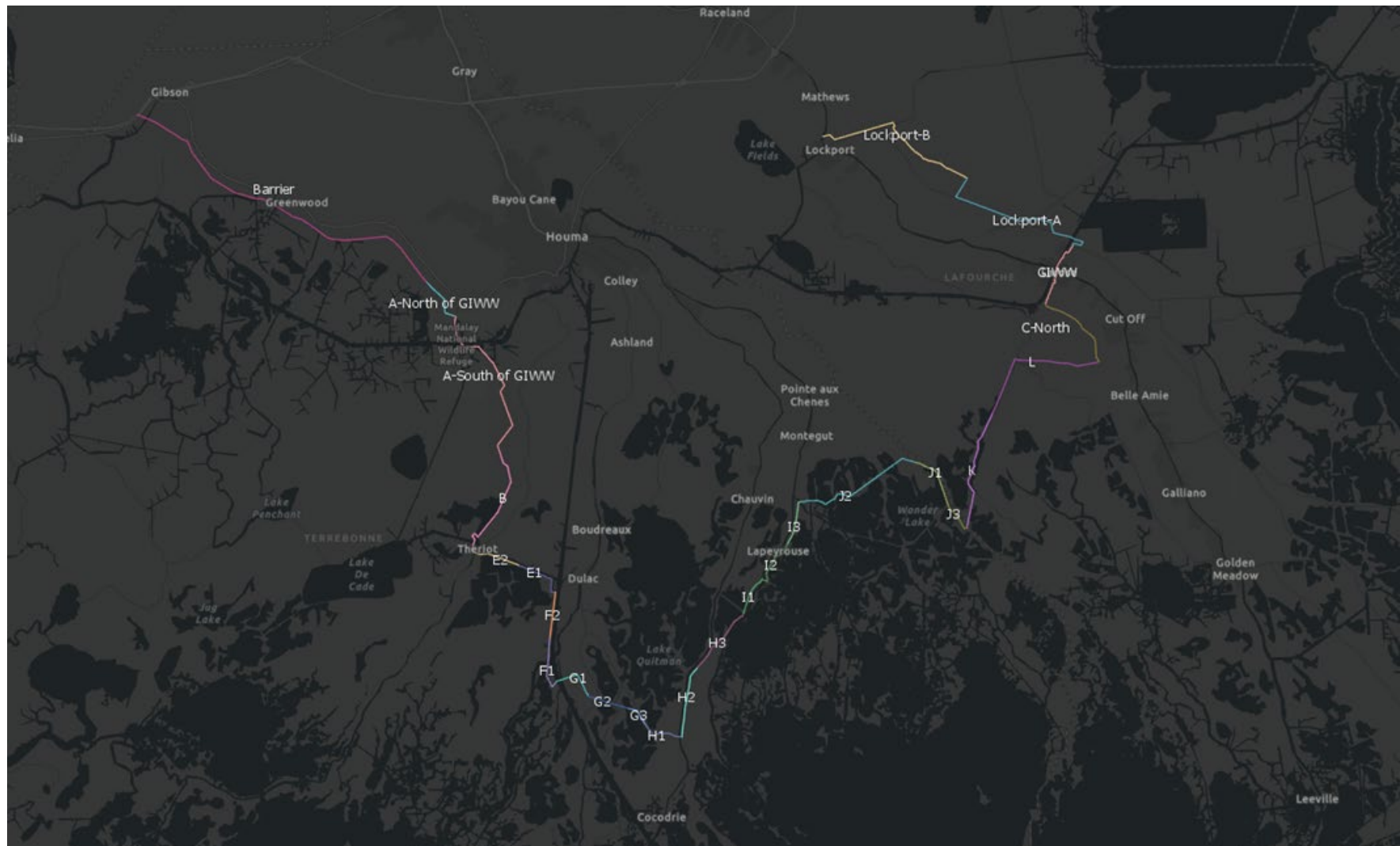


Figure 1: Morganza to the Gulf Levee Reaches



Figure 2: Gage Monitoring Locations

Table 1: Morganza to the Gulf Structure Operation Guidance

Reach Name	Structures/Gates	Closure Conditions ³	Reopening Conditions
Barrier Reach	Bayou Black Floodgate Shell Canal West Floodgate (Stoplog Gate) Shell Canal East Floodgate NAFTA Canal Environmental Control Structures	1. A named storm is in the Gulf of Mexico that is threatening the Louisiana coast, <u>OR</u> 2. The water surface elevation measured at the gate/structure location reaches +3.0 ft NAVD88	1. The water surface elevation on the outside of the gate/environmental control structure drops below +3.0 ft NAVD88 , <u>AND (for ONLY Navigation Gates)</u> 1. The NHC small craft advisory no longer applies to the area, 2. The channel has been cleared of debris or obstructions so that navigation can safely resume.
Reach A North of GIWW	Environmental Control Structures		
Reach A South of GIWW	Minors Canal Floodgate GIWW West ¹ Environmental Control Structures		
Reach B	Marmande Canal Floodgate (Stoplog Gate) Falgout Canal Floodgate ¹	1. A named storm is in the Gulf of Mexico that is threatening the Louisiana coast, <u>OR (for ONLY Navigation Gates)</u> 2. The water surface elevation measured at the gate location reaches +2.5 ft NAVD88 , <u>OR (for ONLY Environmental Control Structures)</u> 2. The water surface elevation measured at the structure location (or nearest approved instantaneous gage) reaches +3.0 ft NAVD88 .	1. The water surface elevation measured on the exterior of the System at the gate location drops below +2.5 ft NAVD88 , <u>OR</u> 1. The water surface elevation measured on the exterior of the System at the environmental control structure location drops below +3.0 ft NAVD88 , <u>AND (for ONLY Navigation Gates)</u> 1. The NHC small craft advisory no longer applies to the area, 2. The channel has been cleared of debris or obstructions so that navigation can safely resume.
Reach E (1&2)	Bayou Dularge Floodgate Environmental Control Structures		
Reach F (1&2)	Bayou Grand Caillou Floodgate ¹ HNC Lock Complex ²		
Reach G (1-3)	Four Point Bayou Floodgate (Stoplog Gate) Environmental Control Structures		
Reach H (1-3)	Bayou Petit Caillou Floodgate ¹ Placid Canal Floodgate ¹ Environmental Control Structures		
Reach I (1-3)	Bush Canal Floodgate ¹ Bayou Terrebonne Floodgate Humble Canal Floodgate		
Reach J (1-3)	Bayou Pointe Aux Chenes Floodgate ¹ Environmental Control Structures		
Reach K	Environmental Control Structures		
Reach L	Grand Bayou Floodgate ¹ Proposed Structure at Bayou Blue		
GIWW Reach	Larose Floodgate		
Lockport Reach A	GIWW East ¹	1. A named storm is in the Gulf of Mexico that is threatening the Louisiana coast, <u>OR</u> 2. The water surface elevation measured at the gate/structure location reaches +3.0 ft NAVD88	1. The water surface elevation on the outside of the gate/environmental control structure drops below +3.0 ft NAVD88 , <u>AND (for ONLY Navigation Gates)</u> 1. The NHC small craft advisory no longer applies to the area, 2. The channel has been cleared of debris or obstructions so that navigation can safely resume.
Lockport Reach B	Environmental Control Structures		
Reach J	Environmental Control Structure #1 and #2	Managed according to current LA Wildlife and Fisheries Permit.	Managed according to current LA Wildlife and Fisheries Permit.

Notes:

- 1. Structure contains culverts within or adjacent to the floodgate for continued flow passage when the gate is closed. Most culverts include a flap gate and/or sluice gate that can also be closed if the closure conditions are reached.
- 2. HNC Lock Complex has additional criteria for acceptable closure, see “**Error! Reference source not found.**” section.
- 3. All water surface elevations should be read at the gate or structure location to satisfy closure conditions. If the gate or structure does not have a gage on location, the water surface elevation must be taken from an approved gage. See “**Acceptable Use**” section, above, for approved gages.
- 4. NHC = National Hurricane Center