SCOPE OF SERVICES

FOR

OPERATION OF THE
BLACK BAYOU CULVERTS STRUCTURE (CS-29)
By: Ivy Thibodeaux, P.E.
CPRA-LRO

I. INTRODUCTION

The Black Bayou Culverts Hydrologic Restoration Project (CS-29) is a Coastal Wetlands Planning Protection and Restoration Act (CWPPRA) project jointly funded by the Coastal Protection and Restoration Authority (CPRA) and the USDA/Natural Resources Conservation Service (NRCS). The Black Bayou Culverts Project area consists of approximately 72,378 acres in Cameron and Calcasieu parishes. The structure location is approximately 0.5 mile south of the intersection of LA State Highway 384 and the Gulf Intracoastal Waterway (GIWW) along LA Hwy. 384 in Calcasieu Parish. A Project Features Map and Vicinity Map are located in Appendix A.

The primary goal and function of the structure is to maintain water levels within the marsh interior and provide additional drainage capacity during wet conditions within the western portion of the Mermentau River Basin when Calcasieu Lake Levels allow.

II. OBJECTIVE

The objective of this scope is to provide the structure operations needed to meet these goals as well as operations which may be necessary to facilitate inspections to keep the structure functioning properly.

III. CERTIFICATE OF DEBARMENT/SUSPENSION STATUS

Contractor certifies with its execution of this agreement that it is not suspended, debarred or ineligible from entering into Contracts with any department or Agency of the Federal Government or of the State of Louisiana, or in receipt of notice of proposed debarment or suspension.

Contractor agrees to secure from any Contractor(s) and subcontractor(s) for the captioned project certification that such Contractor(s) and subcontractor(s) are not suspended, debarred or declared ineligible from entering into Contracts with any department or Agency of the Federal Government or of the State of Louisiana, or in receipt of a notice of proposed debarment or suspension.

Contractor shall provide immediate notice to the CPRA in the event of it or its Contractor(s) or any subcontractor(s) being suspended, debarred or declared ineligible by any department or Agency of the Federal Government or of the State of Louisiana, or upon receipt of a notice of a proposed debarment or suspension, either prior to or after execution of this agreement.

Upon receipt of notice of suspension, debarment, or declaration that Contractor or its Contractor(s) or any subcontractor(s) is/are ineligible to enter into Contracts with any department or Agency of the Federal Government or of the State of Louisiana, either prior to or after execution of this agreement, CPRA reserves the right to review cause for said debarment, suspension, or declaration of ineligibility, and to terminate this Contract pursuant to the terms of the article in this agreement entitled TERMINATION FOR CAUSE. Or take such other action it deems appropriate under this Contract.

IV. INSURANCE AND BONDS

The Contractor shall purchase and maintain without interruption, for the duration of the Contract, insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the Work hereunder by the Contractor, its agents, representatives, employees or subcontractors. The duration of the Contract shall be from the inception of the Contract until the date of final payment.

Minimum Scope and Limits of Insurance

1.1 Worker's Compensation

Worker's Compensation insurance shall be in compliance with the Worker's Compensation law of the State of Louisiana. Employers Liability is included with a minimum limit of $500,000 per accident/per disease/per employee. If Work is to be performed over water and involves maritime exposure, applicable LHWCA, Jones Act or other maritime law coverage shall be included and the Employers Liability limit increased to a minimum of $1,000,000. A.M. Best's insurance company rating requirement may be waived for Worker's compensation coverage only.

1.2 Commercial General Liability

Commercial General Liability insurance, including Personal and Advertising Injury Liability and Products and Completed Operations Liability, shall have a minimum limit per occurrence of $1,000,000.00 and a minimum general aggregate of $2,000,000.00. The Insurance Services Office (ISO) Commercial General Liability occurrence coverage form CG 00 01 (current form approved for use in Louisiana), or equivalent, is to be used in the policy. Claims-made form is unacceptable.

1.3 Automobile and Watercraft Liability

Automobile Liability Insurance and Watercraft Liability Insurance shall have a minimum combined single limit per occurrence of $1,000,000. ISO form number CA 00 01 (current form approved for use in Louisiana), or equivalent, is to be used in the policy. This insurance shall include third-party bodily injury and property damage liability for owned, hired and non-owned automobiles and/or watercraft. If any non-licensed motor vehicles and/or watercraft are

engaged in operations within the terms of the Contract on the site of the work to be performed thereunder, such insurance shall cover the use of any such vehicles.

NOTE: If the Contractor does not own an automobile and/or watercraft and such vehicles are utilized in the execution of the Contract, then hired and non-owned coverage is acceptable. If an automobile and/or watercraft is not utilized in the execution of the Contract, then automobile and/or watercraft coverage is not required.

1.4 Excess Umbrella

Excess Umbrella Insurance may be used to meet the minimum requirements for General Liability, Automobile Liability, and Watercraft Liability only.

1.5 Pollution Liability (*required when asbestos or other hazardous material abatement is included in the Contract)*

Pollution Liability insurance, including gradual release as well as sudden and accidental, shall have a minimum limit of not less than $1,000,000 per claim. A claims-made form will be acceptable. A policy period inception date of no later than the first day of anticipated Work under this Contract and an expiration date of no earlier than 30 days after anticipated completion of all Work under the Contract shall be provided. There shall be an extended reporting period of at least 24 months, with full reinstatement of limits, from the expiration date of the policy. The policy shall not be cancelled for any reason, except non-payment of premium.

1.6 Deductibles and Self-Insured Retentions

Any deductibles or self-insured retentions must be declared to and accepted by the Agency. The Contractor shall be responsible for all deductibles and self-insured retentions.

Other Insurance Provisions

The policies are to contain, or be endorsed to contain the following provisions:

2.1 Worker's Compensation and Employers Liability Coverage

The insurer shall agree to waive all rights of subrogation against the Agency, its officers, agents, employees and volunteers for losses arising from Work performed by the Contractor for the Agency.

2.2 Commercial General Liability and Automobile Liability

The Agency, its officers, agents, employees and volunteers shall be named as an additional insured as regards negligence by the Contractor. ISO Form CG 20 10 (for ongoing work) and CG 2037 (for completed work) (current forms approved for use in Louisiana), or equivalent, are to be used when applicable. The coverage shall contain no special limitations on the scope of protection afforded to the Agency.

The Contractor's insurance shall be primary as respects the Agency, its officers, agents, employees and volunteers for any and all losses that occur under the Contract. The coverage shall contain no special limitations on the scope of protection afforded to the Agency, its

officers, officials, employees or volunteers. Any insurance or self-insurance maintained by the Agency shall be excess and non-contributory of the Contractor's insurance.

The Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the policy limits.

2.3 All Coverages

Coverage shall not be canceled, suspended, or voided by either party (the Contractor or the insurer) or reduced in coverage or in limits except after 30 days written notice has been given to the Agency. Ten-day written notice of cancellation is acceptable for non- payment of premium. Notifications shall comply with the standard cancellation provisions in the Contractor's policy.

Neither the acceptance of the completed Work nor the payment thereof shall release the Contractor from the obligations of the insurance requirements or indemnification agreement. The insurance companies issuing the policies shall have no recourse against the Agency for payment of premiums or for assessments under any form of the policies.

Any failure of the Contractor to comply with reporting provisions of the policy shall not affect coverage provided to the Agency, its officers, agents, employees and volunteers.

2.4 Acceptability of Insurers

All required insurance shall be provided by a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located. Insurance shall be placed with insurers with an A.M. Best's rating of A-:VI or higher. This rating requirement may be waived for Worker's compensation coverage only.

If at any time an insurer issuing any such policy does not meet the minimum A.M. Best rating, the Contractor shall obtain a policy with an insurer that meets the A.M. Best rating and shall submit another certificate of insurance as required in the Contract.

2.5 Verification of Coverage

Contractor shall furnish the Agency with Certificates of Insurance reflecting proof of required coverage. The Certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. The Certificates are to be received and approved by the Agency before Work commences and upon any Contract renewal thereafter.

The Certificate Holders must be listed as follows:

State of Louisiana
Office of State Procurement
1201 N. Third St. Suite 2-160
Baton Rouge, LA 70802

State of Louisiana
Coastal Protection and Restoration Authority
150 Terrace Avenue
Baton Rouge, LA 70802
Attn: Project #

State of Louisiana
DOTD Headquarters
1201 Capitol Access Road
Baton Rouge, LA 70802
Attn: Project#

In addition to the Certificates, Contractor shall submit the declarations page and the cancellation provision endorsement for each insurance policy. The Agency reserves the right to request complete certified copies of all required insurance policies at any time.

Upon failure of the Contractor to furnish, deliver and maintain such insurance as above provided, this Contract, at the election of the Agency, may be suspended, discontinued or terminated. Failure of the Contractor to purchase and/or maintain any required insurance shall not relieve the Contractor from any liability or indemnification under the Contract.

If the Contractor does not meet the insurance requirements at policy renewal, at the option of the Agency, payment to the Contractor may be withheld until the requirements have been met, OR the Agency may pay the renewal premium and withhold such payment from any monies due the Contractor, OR the Contract may be suspended or terminated for cause.

2.6 Subcontractors

Contractor shall include all subcontractors as insureds under its policies OR shall be responsible for verifying and maintaining the certificates provided by each subcontractor. Subcontractors shall be subject to all of the requirements stated herein. The Agency reserves the right to request copies of subcontractor's certificates at any time.

If Contractor does not verify subcontractors' insurance as described above, Agency has the right to withhold payments to the Contractor until the requirements have been met.

2.7 Worker's Compensation Indemnity

In the event Contractor is not required to provide or elects not to provide Worker's compensation coverage, the parties hereby agree that the Contractor, its owners, agents and employees will have no cause of action against, and will not assert a claim against, the State of Louisiana, its departments, agencies, agents and employees as an employer, whether pursuant to the Louisiana Worker's Compensation Act or otherwise, under any circumstance. The parties also hereby agree that the State of Louisiana, its departments, agencies, agents and employees shall in no circumstance be, or considered as, the employer or statutory employer of Contractor, its owners, agents and employees. The parties further agree that Contractor is a wholly independent Contractor and is exclusively responsible for its employees, owners, and agents. Contractor hereby agrees to protect, defend, indemnify and hold the State of Louisiana, its departments, agencies, agents and employees harmless from any such assertion or claim that may arise from the performance of this Contract.

2.8 Indemnification/Hold Harmless Agreement

Contractor agrees to protect, defend, indemnify, save, and hold harmless, the State of Louisiana, all State Departments, Agencies, Boards and Commissions, its officers, agents, servants, employees and volunteers, from and against any and all claims, damages, expenses and liability arising out of injury or death to any person or the damage, loss or destruction of any property which may occur, or in any way grow out of, any act or omission of Contractor, its agents, servants and employees, or any and all costs, expenses and/or attorney fees incurred by Contractor as a result of any claims, demands, suits or causes of action, except those claims, demands, suits or causes of action arising out of the negligence of the State of Louisiana, all State Departments, Agencies, Boards, Commissions, its officers, agents, servants, employees and volunteers.

Contractor agrees to investigate, handle, respond to, provide defense for and defend any such claims, demands, suits or causes of action at its sole expense and agrees to bear all other costs and expenses related thereto, even if the claims, demands, suits, or causes of action are groundless, false or fraudulent. The State of Louisiana may, but is not required to, consult with the Contractor in the defense of claims, but this shall not affect the Contractor's responsibility for the handling of and expenses for all claims.

V. STRUCTURE FEATURES REQUIRING OPERATIONS

The Black Bayou Culverts Structure consists of ten 10 ft. x 10 ft. concrete box culverts under LA Highway 384, which are equipped with trash racks and flapgates. Photos of the structure and various components are located in Appendix D. The typical operational setting for the structure will be in the free flapping mode, but occasional locking of the structure will be required to maintain the desired water level within the project area.

There are 10 aluminum flapgates on the downstream side (West side) of the structure on each individual box culvert. The flapgates are hinged at the top end and equipped with Styrofoam flotation blocks, neoprene seals, and locking capabilities to seal off the flow through the structure. They are estimated to weigh approximately 2000 lbs. apiece. The locking mechanism for each flapgate includes two aluminum lock pins approximately 15 feet in length and 2 ½ inches in diameter. There are three sets of locking rings on each side of the gates and frames through which the pins are threaded. Once in place, the pins are secured via two cables to a "U" bolt in the top of the structure's headwall. Each flapgate has 2 lifting cables attached to either side of the bottom of the gate. The lifting cables are secured to the same "U" bolt in the top of the structure's headwall.

When the flapgates are unlocked and free flapping, the Styrofoam blocks aid in opening the gate at minimal head differential. Each flapgate has four compartments for loading and unloading Styrofoam blocks to adjust the buoyancy of the gates. Each compartment is secured with an aluminum plate and cotter pin.

Each of the ten box culverts can be isolated for underwater work using a sluice gate. Three 10ft 4in. x 12ft 5¼in. aluminum sluice gates weighing approximately 2,100 lb. apiece have been fabricated for this purpose. The gates will typically remain in storage and only require installation when necessary to isolate an individual box culvert during underwater work. The sluice gate is lowered into a slot provided in the receiving frame adjacent to the trash screen on

the upstream side (East side) of the structure. The trash screens prevent floating debris from entering the box culverts.

VI. GENERAL OPERATIONS

A. During operation of the structure, care shall be taken in order to minimize maintenance due to neglect, vandalism, improper operation, etc. Damage to the structure due to Contractor negligence shall require repair at the Contractor's expense at no cost to the Owner. The Contractor shall provide timely oral reports to CPRA on any potential problems of vandalism, storm damage, drift, debris, or other conditions that might hinder the operation of the structure.

B. The Contractor will be informed in writing by email of the necessary Operations required. If necessary, verbal authorization may be given and followed up in writing.

C. Upon completion of an authorized Operation, the Contractor shall notify CPRA by email with the appropriate documentation of actions taken. This notice will state the time, date, and a thorough description of the actual operation performed by the Contractor at the structure.

D. Once authorized by CPRA, normal structure operations shall be completed within 48 hours after notification, unless tide conditions prohibit otherwise. The Contractor shall notify CPRA if the structure operation cannot be completed within the specified timeframe. In the case of emergency operations (e.g., abnormal rainfall events, flooding, hurricanes, etc.), structure manipulation, once authorized by designated CPRA personnel, will have to be completed within 24 hours providing appropriate tide conditions exist.

E. All operations shall be in compliance with applicable Federal, State, and Local permits.

F. Attached, **for informational purposes only,** is the Water Management Plan/Operational Schedule and Staff Gauge data sheet for this project. The GIWW-Calcasieu Lock East Staff gauge #4 is used by CPRA to monitor water levels. Historical electronic gauge data (Gauge 76880) near this locations can be viewed online at :

https://rivergages.mvr.usace.army.mil/WaterControl/stationinfo2.cfm?sid=76880

VII. ITEMS OF WORK

The primary items of work to be performed are detailed below.

A. Mobilization to and from the Structure Site:

The Contractor shall be responsible for providing all equipment, including marine equipment, labor, transportation and means necessary to mobilize and demobilize from the site for each operation. Boats are to be equipped with LDWF& USCG safety equipment. Mobilization includes obtaining the stored equipment at the Calcasieu Lock, USDA-NRCS Lake Charles Field Office, or the CPRA Lafayette Regional Office as necessary to perform an operation.

The cost for mobilization and demobilization is considered incidental to the work. No separate payment will be made for mobilization and demobilization.

B. Operations Contract Retainer and Monthly Site Visit (Bid Item No. 1):

This bid item provides for accessibility to the Contractor throughout the year. This retainer is necessary because operations are required to be executed within 48 hours and, in some cases, 24 hours from notification by CPRA. In addition, gate operations for this location are not on a defined schedule due to varying environmental conditions, and the Contractor must be available to respond when needed.

The Contractor shall perform monthly site visits to the project site and photo document field observations of the structure operation and the inlet and outlet channel condition. Photos shall include but are not limited to the following: An overview of Black Bayou directly upstream and downstream of the structure, an image of each individual gate looking down from the top of the bridge including all visible gate components above the water surface, and images taken from the structure of the lakeside Sheet pile bulkheads. All images shall be emailed to the CPRA Operations Manager, Ivy Thibodeaux, at ivy.thibodeaux@la.gov .

To establish a Contract for operation of the Black Bayou Culverts Structure, payment will be made per month under Bid Item No. I.

C. Locking/Unlocking Flapgates (Bid Item No. 2):

1. This operation will consist of one of the following:

    a. Installing pins and locking the flapgates in a closed position to maintain the water level in the project area.
    b. Removing pins to allow the flapgates to open as needed and provide additional drainage capacity in the project area.

2. During a typical event to maintain or drain water from the project area, all ten gates shall be locked or unlocked.

3. The number of structure operations per year is dependent on the water levels within the Mermentau Basin upstream of the structure. Each structure operation will be determined by CPRA as outlined in the Water Management Plan/Operational Schedule (Appendix C) with assistance from the Calcasieu Lockmaster and NRCS. The Calcasieu Lock East staff gauge will be used for determining water level trends within the basin. It is estimated that there will be an average of four structure operations per year consisting of locking or unlocking the flapgates. Payment for Locking/Unlocking the Flapgates will be made per event as indicated in Bid Item No. 2.

4. The structure operations shall be conducted by both boat and LA Hwy 384 access from atop the structure. It is anticipated that a two to three-man crew will be required to perform an operation, one man atop the structure handing down/picking up the locking pins, one man installing/pulling the pins through the locking rings from the boat, and possibly one man operating the boat.

5. After installing the pins and locking the flapgates, the Contractor shall padlock the locking pins to the structure by locking the attached cable to the "U" bolt embed in the headwall above each gate location. Padlocks will be furnished by CPRA. See photos in Appendix D for more details.

6. The Contractor will exercise caution when locking and unlocking the gates to prevent damage to or warping of the gates. **Gates shall only be locked and unlocked on an incoming tide such that the gates are in a normal closed position during such time.**

7. Normal structure operations are expected to occur during daylight hours. However, timing of the operation is dependent on tidal fluctuations, and therefore, it may be necessary for late evening or early morning operations. In the event of an emergency operation due to storm events, nighttime operations may be necessary, but are still dependent on tide conditions.

8. The Contractor shall be responsible for all safety precautions when working atop the structure adjacent to traffic along LA Hwy 384. The appropriate safety measures utilized for traffic control shall be in accordance with the Manual on Uniform Traffic Control Devices.

9. Payment for this item is based on the number of events actually executed as authorized and directed by CPRA.

D. Buoyancy Adjustment of Flapgates (Bid Item No. 3):

1. There may be a need to make adjustments to the Styrofoam material after the structure is in operation. The gates are currently filled with two Styrofoam blocks. CPRA will determine when any adjustment(s) is necessary to the flotation material in the gates. Accessing the Styrofoam compartment would involve removal of a cotter pin and aluminum plate.

2. One or all of the gates may be adjusted for buoyancy during each event. Payment for Buoyancy Adjustment of the Flapgates will be made per event as indicated in Bid Item No. 3.

3. Depending on the water levels, the gates may be in the locked configuration and require unpinning prior to lifting the gates to adjust the Styrofoam blocks. Unlocking and locking the gates requires proper timing to perform the operation during a slack tide or in-coming tide. Unlocking and locking the gates, if required for buoyancy adjustment, are to be included in the bid amount of the "Buoyancy Adjustment of Flapgates", Bid item No.3.

4. The actual buoyancy adjustment operation shall be conducted by both boat access and via LA Hwy 384 access atop the structure. It is anticipates that a two to three man crew will be required to facilitate the adjustment operation, one man atop the structure using a third party rental piece of equipment capable of safely lifting the gates without causing damage, one main in the boat for handling cables and installing/removing the Styrofoam blocks, and possibly one man operating the boat. Gate lifting procedures and

equipment for the buoyancy operation should consider the additional weight of the water above the gate an also the buoyancy provided by the Styrofoam blocks.

5. The buoyancy adjustment operation shall occur only during daylight hours.

6. The Contractor shall take all precautions necessary to prevent damaging or warping the gates during the lifting operation.

7. The Contractor shall be responsible for all safety precautions when working atop the structure adjacent to traffic along LA Hwy 384. The signage, flagmen, and safety measures utilized for traffic control shall be in accordance with the Manual on Uniform Traffic Control Devices. Should one lane be closed during this operations, the appropriate measures shall be taken to direct traffic. Payment for Temporary Traffic Control during lane closure shall be made through Bid Item No. 6.

8. Payment for this item is based on the number of events actually executed as authorized and directed by CPRA.

E. Lifting Flapgates for Inspection (Bid Item No. 4):

1. Once in operation, there may be a need to raise the flapgates for inspection by CPRA and NRCS to assess the structural condition of the gates, removing trapped debris, etc. Boat transportation provided by the Contractors shall be required for CPRA and NRCS to inspect the gates.

2. The gate inspection could involve lifting of one or all 10 flapgates. Payment for Lifting of the Flapgates for Inspection will be made per event as described in Bid Item No. 4.

3. Depending on the water levels, the gates may be in the locked configuration and require unpinning to perform the lifting operation. Unlocking and locking the gates require proper timing to perform the operation during a slack tide or in-coming tide. Unlocking and locking the gates for this operation, if required, are to be included in the bid amount of the " Lifting Flapgates for Inspection", Bid Item No. 4.

4. Lifting of the gate shall be conducted by both boat access and via LA Hwy 384 access atop the structure. A two to three-man crew is anticipates to perform the lifting operations, including one man atop the structure using a third-party rental piece of equipment capable of safely lifting the gates without causing damage, one man in the boat for locking or unlocking operation, and possibly one man operating the boat. Gate lifting procedures and equipment for the inspection operation should consider the additional weight of the water above the gate and also the buoyancy provided by the Styrofoam blocks.

5. The inspection shall occur only during daylight hours.

6. The Contractor shall take all precautions necessary to prevent damaging or warping the gates during the lifting operation.

7. The Contractor shall be responsible for all safety precautions when working atop the structure adjacent to traffic along LA Hwy 384. The signage, flagmen, and safety measures utilized for traffic control shall be in accordance with the Manual on Uniform Traffic Control Devices. Should one lane be closed during this operation, the appropriate measures shall be taken to direct traffic. Payment for Temporary Traffic Control during lane closure shall be made through Bid Item No. 6.

8. Payment for this item is based on the number of events actually executed as authorized and directed by CPRA.

F. Installing & Removing Sluice Gates for Inspection (Bid Item No. 5):

1. Once in operation, there may be a need to inspect or perform work underwater on the flapgates or within the box culverts by a diver. The diver and inspection work is not included in this bid item. Three sluice gates have been fabricated to isolate the box culverts as needed. The sluice gates have two lifting eyes on top to lower and raise the gate into position within the slot adjacent to the trash screen (East side of structure). Note that lowering the gate into the slot is smoother when the shackle bolts are positioned with the bolt head facing the headwall.

2. Typically, all three sluice gates would be required to be installed and removed for this operation. This work requires proper timing to perform the operation during a slack tide or incoming tide, if the flapgates are unlocked, to avoid damage to the gates. Payment for Installing & Removing the Sluice Gates for Inspection will be made per event as per Bid Item No. 5.

3. The sluice gates are stored at the USDA-NRCS Lake Charles Field Office as outlined in the Offsite Storage Section of this scope. Prior coordination with NRCS is needed to ensure access to the locked storage yard. Should the need arise to install the sluice gates, CPRA shall be involved and coordinating between the Contractor and NRCS. The Contractor will be responsible for transporting the sluice gates to and from the Structure and Storage location.

4. This operation will require a third-party rental piece of equipment capable of safely lifting and maneuvering the sluice gates without causing damage to the gates or the structure while installing and removing the sluice gates, as well as for loading and unloading the gates for transport to and from the storage location. The Contractor shall take all precautions necessary to prevent damaging or warping the sluice gates during the operation.

5. The operation shall occur only during daylight hours.

6. The Contractor shall be responsible for all safety precautions when working atop the structure adjacent to traffic along LA Hwy 384. The signage, flagmen, and safety measures utilized for traffic control shall be in accordance with the Manual on Uniform Traffic Control Devices. Should one lane be closed during this operation, the appropriate measures shall be taken to direct traffic. Payment for Temporary Traffic Control during lane closure shall be made through Bid Item No. 6.

7. Payment for this item is based on the number of events actually executed as authorized and directed by CPRA.

G. Temporary Traffic Control – One Lane Closure (Bid Item No. 6):

1. This bid item allows for payment for temporary traffic control measures implemented during a one-lane closure operation on Hwy 384. Items which will typically require temporary traffic control are lifting the flapgates for inspection, installation and removal of sluicegates and during the removal and reinstallation of flapgate assemblies where repaired by others. Temporary Traffic Control shall consist of the appropriate signage and flagmen necessary to comply with the Manual on Uniform Traffic Control Devices and in accordance with the DOTD permit. The permit will be obtained by CPRA and provided to the Contractor. See Appendix E for proposed Traffic Control Plans.

2. In accordance with the DOTD permit, the State of Louisiana and DOTS shall be named as additional insured.

3. Lane closures shall only occur during daylight hours.

4. The Contractor shall inform CPRA of the anticipated schedule for lane closure date at least three weeks in advance to allow for proper coordination with DOTD.

5. Payment for this item is based on the number of events actually executed as authorized and directed by CPRA.

H. Removal of Large Debris from Trash Rack (Bid Item No. 7):

1. This bid item allows for payment for the removal and off-site disposal of large floating or partially submerged debris (logs, lumber, trash, hurricane debris, etc.) that may have become lodged against or within the grating of trash racks at the upstream (East side) end of the structure thereby impeding flow through the structure and/or inducing additional loading/pressure on the racks that if left unattended could potentially cause damage or failure.

2. This item will be used with prior authorization from CPRA upon notification and photographic documentation by the Contractor of the presence of such debris.

3. It is anticipated that this work will be conducted via boat. However, if conditions warrant removal via LA Hwy 384 access, the Contractor shall be responsible for all safety precautions when working atop the structure adjacent to traffic along LA Hwy 384. The signage, flagmen, and safety measures utilized for traffic control shall be in accordance with the Manual on Uniform Traffic Control Devices. Should one lane be closed during this operation, the appropriate measures shall be taken to direct traffic. Payment for Temporary Traffic Control during lane closure shall be made through Bid Item No. 6.

4. Payment for this item is based on the number of events actually executed as authorized and directed by CPRA.

I. Removal and Re-Installation of Flapgate Assemblies (Bid Item No. 8)

1. This item provides for the removal of flapgate assemblies for the purposes of repairs by other and the re-installation of these assemblies after repairs have been completed.

2. The removal of flapgates form the structure will be performed using both boat access and LA Hwy 384 access from the top of the structure. This process includes unbolting the flapgates from the structure at the hinge connections and lifting the detached gates onto the top of the bridge for transport by other to a repair facility. Prior to removal, measurements and photographs of hinge connections and backing nut locations shall be taken to ensure proper gate assembly fit and alignment upon reinstallation. Each removed gate shall be tagged with a number to guarantee that it is reinstalled in its original position.

3. The re-installation of repaired flapgates will be carried out using both boat access and LA Hwy 384 access from the structure's top. The flapgates will be lifted from a trailer/transport (by others) on the bridge and lowered into position for re-installation. After re-installation, the gates are to be tested/lifted to ensure proper fit and alignment. Locking pins shall be inserted through the locking rings to confirm the gate can be securely locked in the closed position.

4. A two to three man crew is anticipated to perform both the removal and re-installation of the flapgates. This includes on man atop the structure using a third-party rental piece of equipment capable of safely lifting the gates without causing damage, one man in the boat for the loosening/tightening of locking nuts, and possibly one man operating the boat.

5. Depending on the water levels, the gates may be in the locked configuration and require unpinning to perform the lifting operation. Unlocking and locking the gates requires proper timing to perform the operation during a slack tide or in-coming tide. Unlocking and locking the gates for this operation, if required, are to be included in the bid amount of the "Removal/Installation of Flapgates" (Bid Item No. 8). Locking pins shall be properly stored at the Calcasieu Lock for the duration of the repairs.

6. A single event consist of the removal and re-installation of flapgate assemblies. A maximum of three flapgate assemblies will be authorized for removal/re-installation per event. An allowance of one day shall be allotted for each removal and re-installation lifting operation.

7. Removal and re-installation of gate assemblies shall occur only during daylight hours.

8. The Contractor shall take all precautions necessary to prevent damaging or warping the gates during the removal and installation operation.

9. The Contractor shall be responsible for all safety precautions when working atop the structure adjacent to traffic along LA Hwy 384. The signage, flagmen, and safety measure utilized for traffic control shall be in accordance with the Manual on Uniform Traffic Control Devices. Should one lane be closed during this operation, the appropriate

measures shall be taken to direct traffic. Payment for Temporary Traffic Control during lane closure shall be made through Bid Item No. 6.

10. Repairs to the flapgates and their re-installation shall be completed within fourteen days of removal. Re-installation of all gates shall occur on the same date. Contractor shall coordinate the re-installation of gates with CPRA and provided a minimum ninety six hour notice prior to this operation.

11. Payment for this item is based on the number of events (up to three Flapgate assemblies removed and re-installed) actually executed as authorized and directed by CPRA.

VIII. OFF-SITE STORAGE

A. Locking Pins: CPRA has made arranges with the Calcasieu Lockmaster to use their facilities to store the locking pins at the Calcasieu Lock located at 3972 Calcasieu Lock Road. The Contractor is responsible for transportation of the pins to and from the structure site. The Contractor is responsible for coordinating with the Lockmaster, Charles Hebert, at 337-477-1482, for picking up and returning the equipment to the storage location.

B. Styrofoam Blocks and Padlocks: Additional padlocks and the Styrofoam blocks are stored at the CPRA Lafayette Regional Office and Boat Shed. The Contractor will notify CPRA when these items are needed to coordinate pickup.

C. Sluice Gates: The sluice gates are stored at the USDA – NRCS Lake Charles Field office location at 5417 Gerstner Memorial Drive, Lake Charles, LA 70601. The Contractor is responsible for picking up and returning the equipment to the storage location. Advance coordination with CPRA will be needed to ensure access to the NRCS storage yard.

D. If any equipment is temporarily stored elsewhere, the Contractor shall provide information to CPRA on the storage location.

IX. DELIVERABLES

The Contractor shall submit reports as follows:

A. Upon completion of an authorized operation, the Contractor shall provide the operations report shown in Appendix B.

B. Upon completion of a monthly site visit, the Contractor shall provide written confirmation of the site conditions accompanied by photo documentation.

C. Deliverables shall be sent by email to Mr. Ivy Thibodeaux, P.E., Project Manager, at ivy.thibodeaux@la.gov.

Additional Contact Information
Phone: 337-482-0680
Fax: 337-482-0687

X. PAY REQUESTS

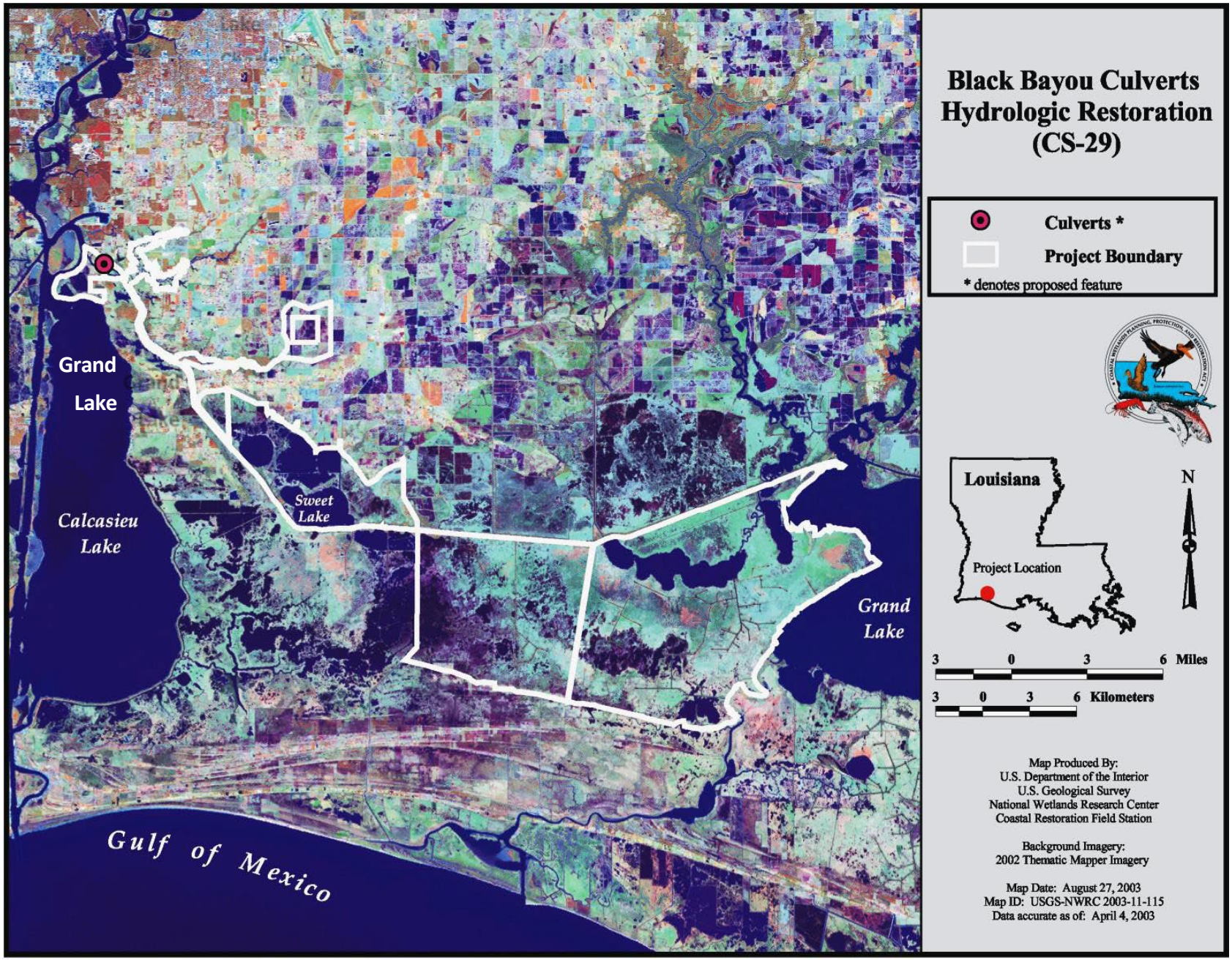
Requests payments shall be submitted to CPRA:

Attention: Ivy Thibodeaux, P.E.
CPRA, Lafayette Regional Office
P.O. Box 62027
Lafayette, LA 70596-20

Appendix A
Vicinity Map

CS-29 Black Bayou Culverts Project
Vicinity Map

Appendix A


Black Bayou Culverts
Hydrologic Restoration
(CS-29)
Culverts *
Project Boundary
* denotes proposed feature
Grand
Lake
Sweet
Lake
Calcasieu
Lake
Grand
Lake
Gulf of Mexico
Louisiana
Project Location
N
3 0 3 6 Miles
3 0 3 6 Kilometers
Map Produced By:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station
Background Imagery:
2002 Thematic Mapper Imagery
Map Date: August 27, 2003
Map ID: USGS-NWRC 2003-11-115
Data accurate as of: April 4, 2003

Appendix B
Water Management Plan/ Operational Schedule

CS-29 BLACK BAYOU CULVERTS HYDROLOGIC RESTORATION

WATER MANAGEMENT PLAN/OPERATIONAL SCHEDULE PROPOSED WATER CONTROL STRUCTURE IN THE BLACK BAYOU AREA CALCASIEU PARISH, LOUISIANA

With the construction of Louisiana Highway 384, the Black Bayou drainage path to the Calcasieu River was effectively blocked. In conjunction with the poor water relief offered by the Calcasieu Lock, the barrier created in Black Bayou has hindered the release of flood waters from the Mermentau Basin. Coupled with upstream drainage improvements, clearing of adjacent lands, subsidence, and relative sea level rise, the area is experiencing even longer periods of inundation from flood waters.

This project would re-open Black Bayou and alleviate some of the high water levels in the Mermentau Basin, as well as reduce water velocities through the Calcasieu Lock resulting in safer navigation. The removal of excess water in this area would allow an increase in emergent vegetation, while decreasing stresses on existing vegetation. The proposed flap gated structure would also maintain the deterrence of saltwater intrusion from the Calcasieu River.

Elevation observations in the marshes located near the project site revealed that the average mud line elevations were approximately +0.8 feet NAVD88. The top of the marsh plant root crown mass ranged in elevation from +0.9 feet NAVD88 to +1.2 feet NAVD88 (survey data as per On Target Surveying, Inc. and referenced in the 'Hydrologic Investigation of the Louisiana Chenier Plain' report dated October 2002). The applicant proposes to allow the structure to operate without human intervention, i.e. flap gates operating without restriction, unless the water level upstream of the structure reaches the previously stated average mud line elevation (+0.8 feet NAVD88). If this condition occurs, flow through the structure would be eliminated by manually locking closed the flap gates. A tide gauge referenced to the NAVD88 datum will be maintained upstream of the structure and the water surface elevation at this gauge will be used to determine the appropriate time for restriction of flow through the structure. The structure will remain closed until the water surface elevation at the gauge is +1.0 feet NAVD88; at which time the pins will be removed from the flap gates and the structure will be allowed to operate as designed.

STRUCTURE OPERATION SCHEDULE:

DATE	WATER LEVEL	STRUCTURE OPERATION
Jan. 1 – Dec. 31	above +0.8 ft*	Normal operation, i.e. unrestricted flap gates
Jan. 1 – Dec. 31	below +0.8 ft*	Structure closed, i.e. no flow through structure

*In the event that the water level upstream of the structure drops below +0.8 ft NAVD88 the flap gates will be closed in order to eliminate flow through the structure. After such an event, the structure will remain closed until the water level increases to +1.0 ft NAVD88, at which time the flap gate restriction will be removed and the structure will operate as designed.

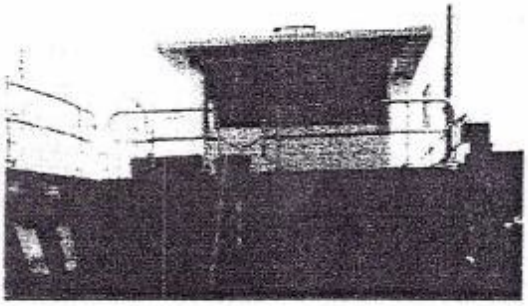
5/7/2004

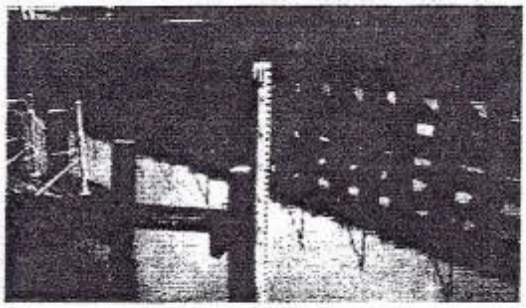
Note: The Calcasieu Lock East Gauge is used for water level monitoring within the project area. The Data Sheet to convert from the USACE gauge in MLG to the operation elevations in NAVD88 of the water management plan is included in this appendix.

Calcasieu Locks Gauge Data Sheet (2005) in NAVD88
Conversion from MLG to NAVD88 – Subtract 1.293ft

VICINITY MAP

Reproduced from USC&GS "MOSS LAKE" Quadrangle





WEST
STAFF GAUGE 3
(EXISTING)

Adjusted NAD 83 (1992) Geodetic Position (RTK)
Lat. 30°05'19.78129" N
Long. 93°17'41.39782" W

Adjusted NAD 1983 Datum(1992)
LSZ (1702) Feet (RTK)
N = 583,105.13
E = 2,660,539.46

Elevation of 7.0 foot mark on
Gauge No. 3(NAVD 88) (Feet) (RTK)
Elevation = + 5.707

EAST
STAFF GAUGE 4
(EXISTING)

Adjusted NAD 83 (1992) Geodetic Position (RTK)
Lat. 30°05'12.32111" N
Long. 93°17'28.38764" W

Adjusted NAD 1983 Datum(1992)
LSZ (1702) Feet (RTK)
N = 582,332.08
E = 2,661,669.33

Elevation of 6.0 foot mark on
Gauge No. 4 (NAVD 88) (Feet) (RTK)
Elevation = + 4.707

NGS Monument F226
(SEE ATTACHED NGS DATA SHEET)

Adjusted NAD 83 (1992) Geodetic Position (RTK)
Lat. 30°05'11.62589" N
Long. 93°17'11.66667" W

Adjusted NAD 1983 Datum(1992)
LSZ (1702) Feet (RTK)
N = 582,236.79
E = 2,663,136.84

Adjusted NAVD88 (Feet)(RTK)
Elevation = +3.377

Appendix C
Photos

Photo No. 1- CS-29 Black Bayou Culverts - East Side/Inlet

Photo No. 2 - CS-29 Black Bayou Culverts - West Side/Outlet

Photo No. 3 - CS-29 Black Bayou Culverts - West Side/Outlet

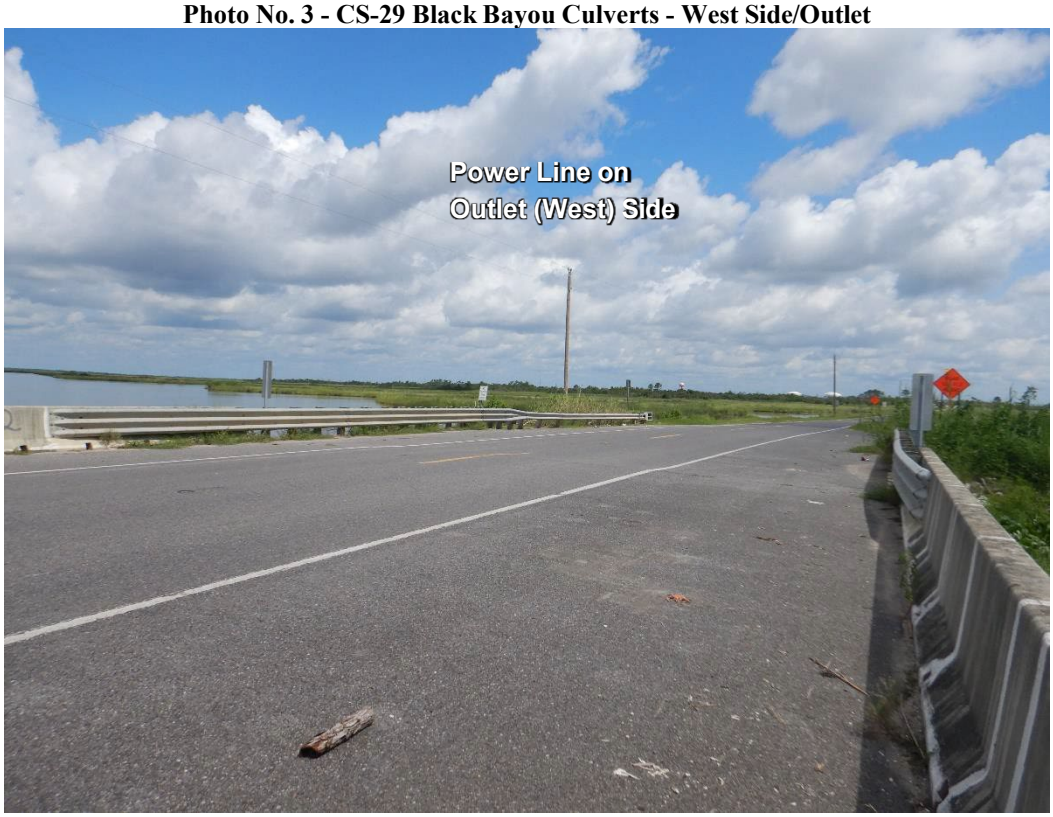


Photo No. 4 - CS-29 Black Bayou Culverts – LA Hwy. 384 Over Structure - Looking Northward

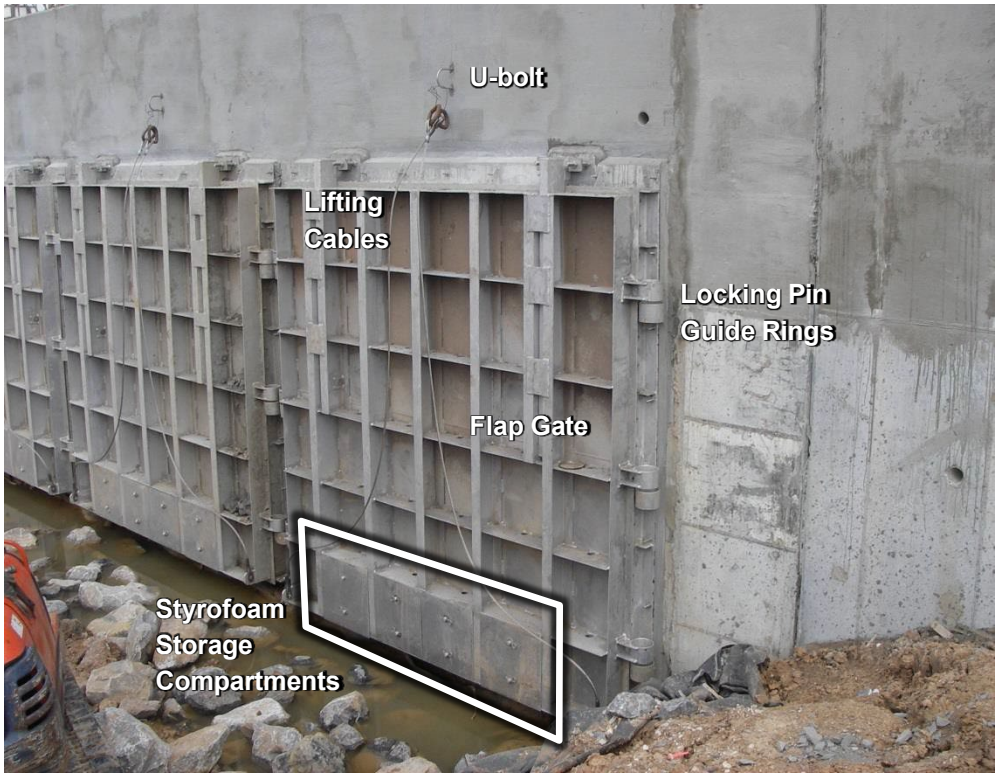


Photo No. 5 - CS-29 Black Bayou Culverts - West Side – Dewatered
Flap Gate, Styrofoam Storage Compartments, Cables, Locking Pin Guide Rings, U-bolt in Headwall

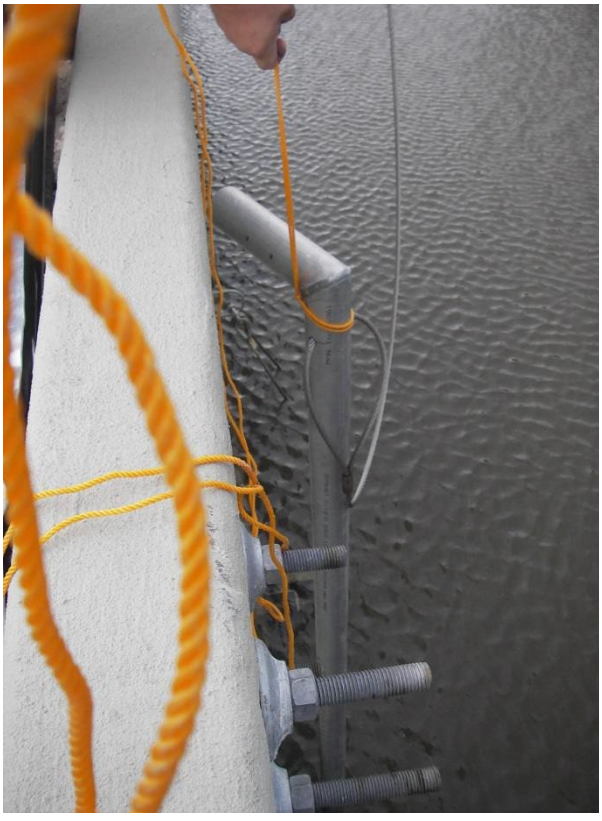


Photo No. 6 - CS-29 Black Bayou Culverts –
West Side Locking Pins

Photo No. 7 - CS-29 Black Bayou Culverts – Locking Pins Storage Location – Calcasieu Lock

Photo No. 8 - CS-29 Black Bayou Culverts – Lifting Flap Gates for Inspection

Photo No. 9 - CS-29 Black Bayou Culverts – Lifting Flap Gates for Inspection

Photo No. 10 - CS-29 Black Bayou Culverts – Lifting Flap Gates for Inspection

Photo No. 11 - CS-29 Black Bayou Culverts –Sluice Gate Storage Location

Photo No. 12 - CS-29 Black Bayou Culverts –Sluice Gate Storage Location

Photo No. 13 - CS-29 Black Bayou Culverts – Installing Sluice Gate for Test Fit

Photo No. 14 - CS-29 Black Bayou Culverts – Installing Sluice Gate for Test Fit

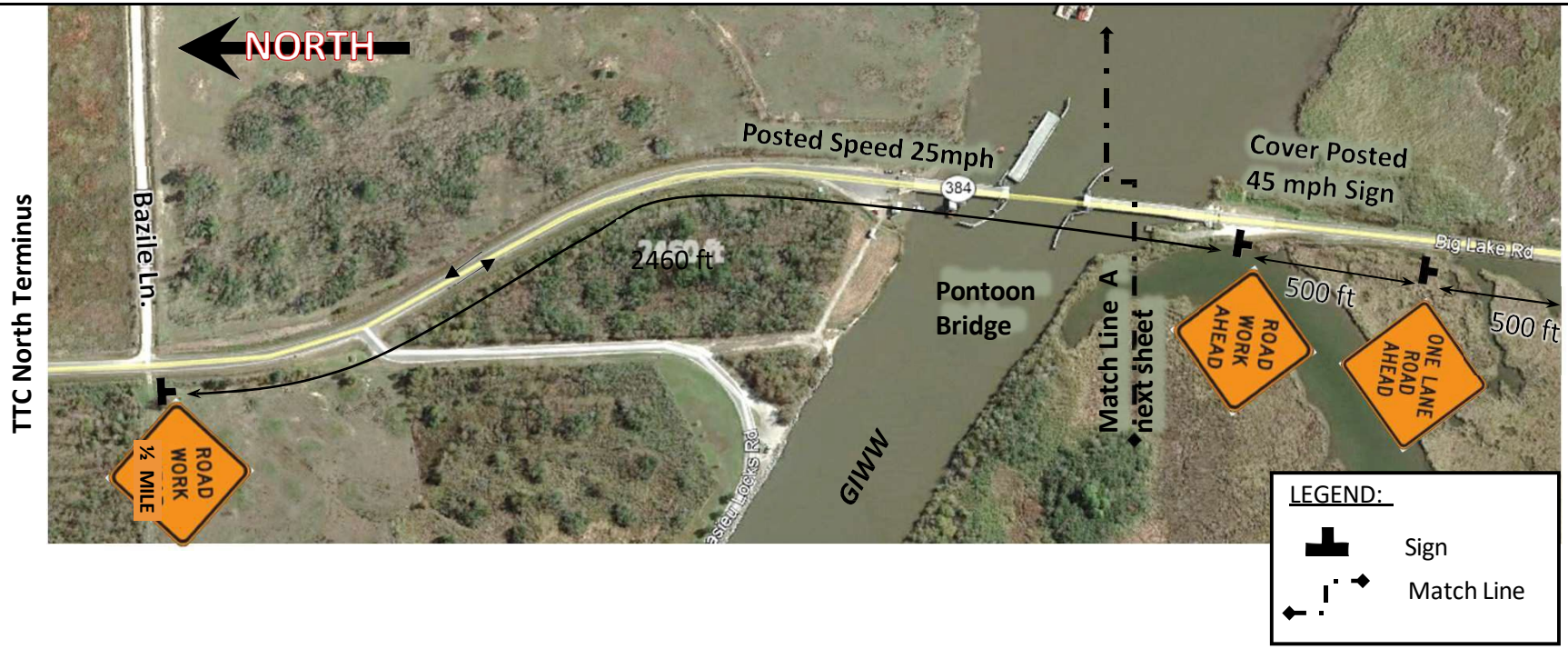
Appendix D
Temporary Traffic Control Plans

(Subject to Change Per LADOTD Review and Approval)

Typical Southbound Lane Closure – Flap Gate Operation

(Subject to Change Per LADOTD Review and Approval)

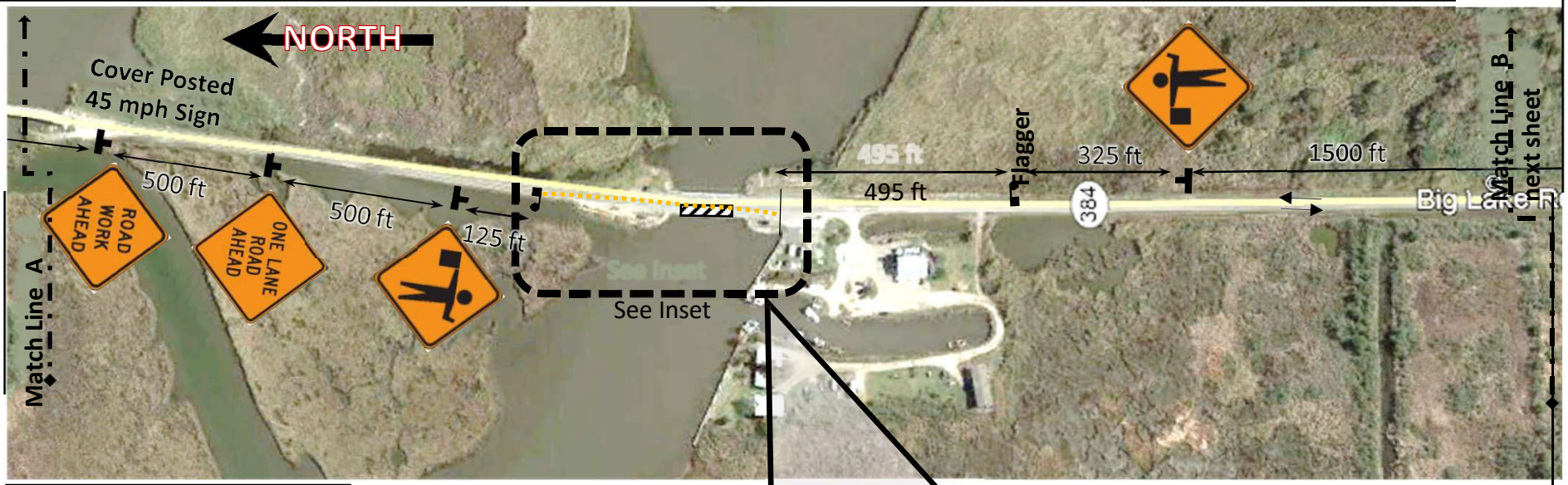
Black Bayou Culverts Hydrologic Restoration Project (CS-29), Calcasieu Parish
Temporary Traffic Control for Structure Operations – Flap Gates
One Lane, Two-Way Traffic – Southbound Lane & Shoulder Closure



Notes:

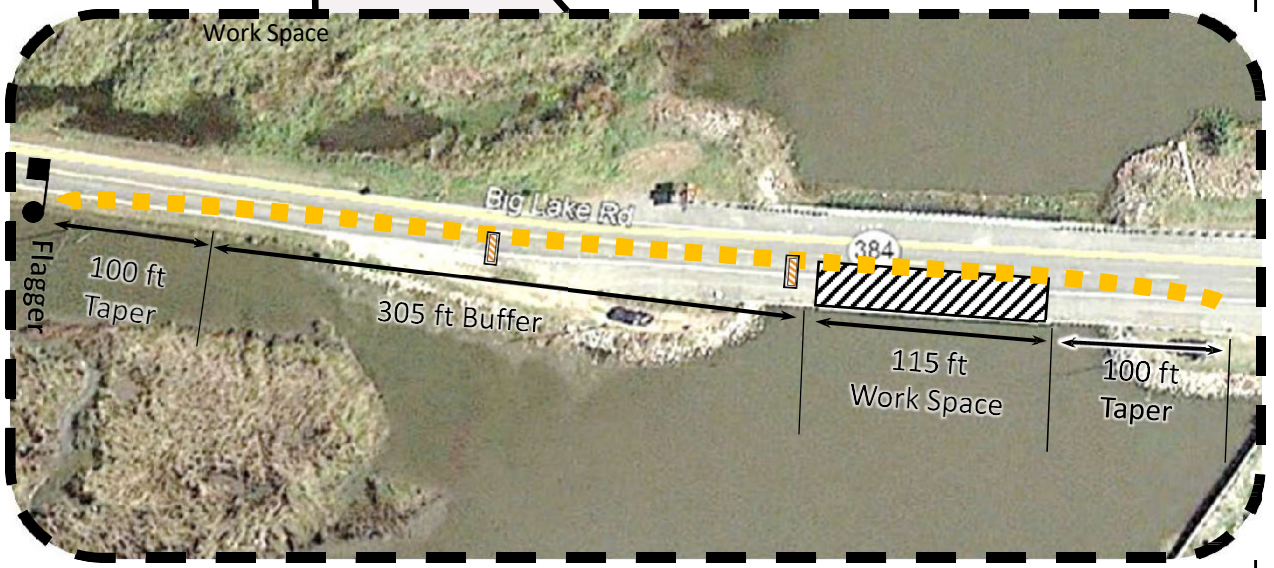
1. The Water Control Structure Operation at Black Bayou is expected to take less than 3 hours during daylight hours. The operation is required to be performed during slack tides or outgoing tides. The Structure Operation to inspect the aluminum flapgates weighing 2100 lb each will require a crane truck. Chocking boards will be used between the road surface and the foot of the truck's stabilizing arms. Attention is required to avoid overhanging power lines on the West side of the highway. No excavation will take place during this Operation.
2. The workspace is 115ft in length and consists of the Southbound shoulder and one travel lane of Hwy 384. The crane truck will be limited to this workspace. No vehicles will be parked in the workspace or along the side of the highway. Oncoming traffic is visible to flaggers and drivers from both directions.
3. The Temporary Traffic Control zone will begin on the North at Bazile Lane and proceed to the Southern terminus at Lake Breeze Rd. The Traffic Control shown is for a typical daytime lane closure. Mobilization of TTC devices will begin on the North Terminus and are to be laid out in accordance with the plan proceeding south.
4. Delays are not expected due to the limited amount of traffic, however, priority will be given to Southbound traffic to avoid any interference with the Pontoon Bridge Operation at the GIWW.
5. The Design and Application of all signs, pavement markings, channelizing devices, and warning signs shall conform to the 2009 Edition of the Manual on Uniform Traffic Control Devices and project specific specifications. DOTD will have the authority to require the contractor to adjust the TTC plan as required by new conditions or changing circumstances.
6. All existing traffic control devices that do not apply to the TTC zone shall be covered during implementation of the TTC plan.
7. DOTD TTC Standard Details TTC-00 (A), TTC-00 (B), TTC-00 (C), TTC-00 (D), TTC-04 shall be applied where requirements are not specifically called out on project specific details.

Black Bayou Culverts Hydrologic Restoration Project (CS-29), Calcasieu Parish
Temporary Traffic Control for Structure Operations – Flap Gates
One Lane, Two-Way Traffic – Southbound Lane & Shoulder Closure



LEGEND

- 36 inch Cones
- Type III Barricade
- Sign
- Flagger
- Match Line



Notes:
1. Channelizing – 36” Cones are to be placed 20ft on center in taper and 80 ft on center in tangent.

Black Bayou Culverts Hydrologic Restoration Project (CS-29), Calcasieu Parish
Temporary Traffic Control for Structure Operations – Flap Gates
One Lane, Two-Way Traffic – Southbound Lane & Shoulder Closure

LEGEND
Sign
Match Line

Notes:
1. This stretch of highway is not posted. Assumed 55mph.

Typical Northbound Closure Plan - Trash Rack Clearing and Sluice Gate Installations

(Subject to Change Per LADOTD Review and Approval)

Black Bayou Culverts Hydrologic Restoration Project (CS-29), Calcasieu Parish
Temporary Traffic Control for Structure Operations – Sluice Gates
One Lane, Two-Way Traffic – Northbound Lane & Shoulder Closure

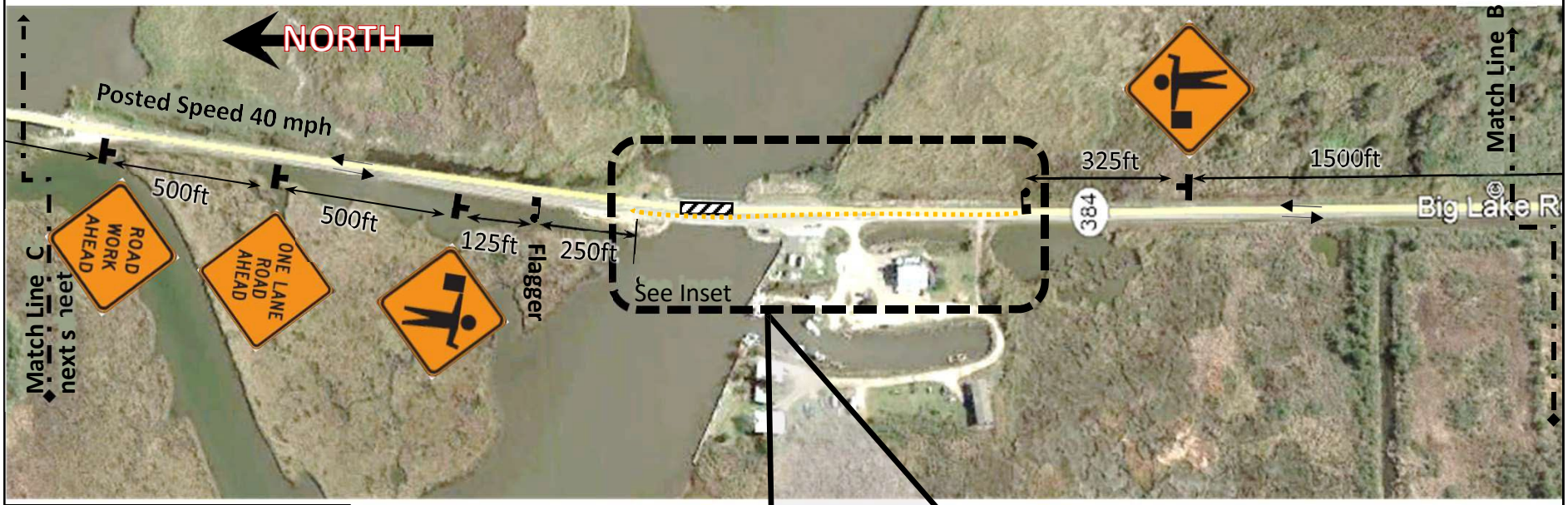
LEGEND

Sign

Match Line

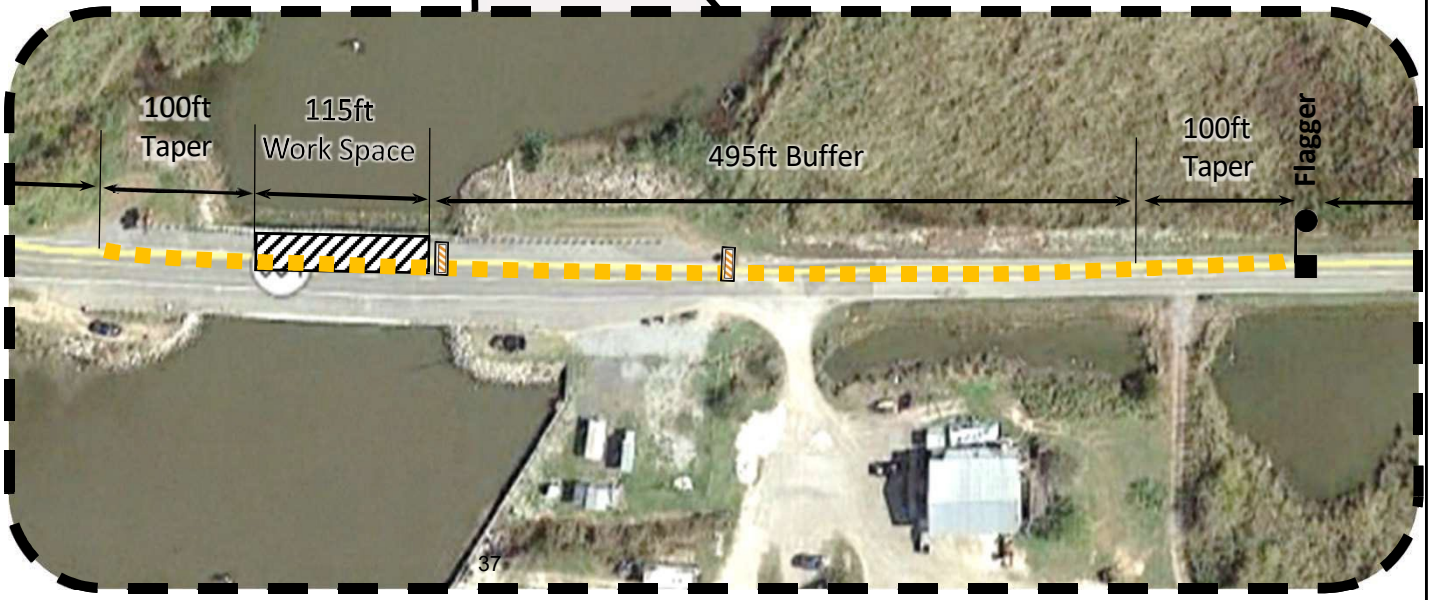
Notes:
1. This stretch of highway is not posted. Assumed 55mph.

Black Bayou Culverts Hydrologic Restoration Project (CS-29), Calcasieu Parish
Temporary Traffic Control for Structure Operations – Sluice Gates
One Lane, Two-Way Traffic – Northbound Lane & Shoulder Closure



LEGEND:

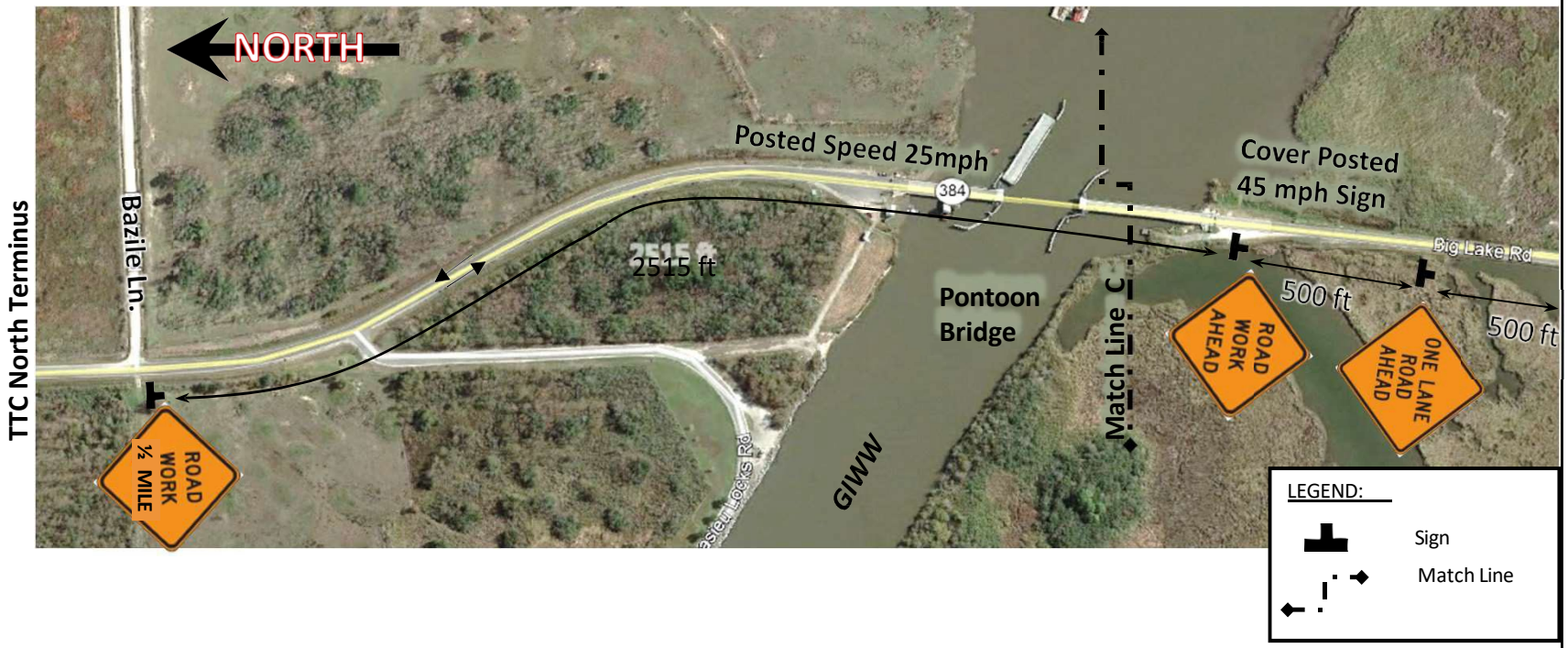
- Work Space
- 36 inch Cones
- Type III Barricade
- Sign
- Flagger
- Match Line



Notes:

1. Channelizing – 36" Cones are to be placed 20ft on center in taper and 80ft on center in tangent.

Black Bayou Culverts Hydrologic Restoration Project (CS-29), Calcasieu Parish
Temporary Traffic Control for Structure Operations – Sluice Gates
One Lane, Two-Way Traffic – Northbound Lane & Shoulder Closure



Notes:

1. The Water Control Structure Operation at Black Bayou is expected to take less than 3 hours during daylight hours. The operation is required to be performed during slack tides or incoming tides. The Structure Operation to install the aluminum sluice gates weighing 2100 lb each will require a crane truck. Chocking boards will be used between the road surface and the foot of the truck's stabilizing arms. Attention is required to avoid overhanging power lines on the West side of the highway. No excavation will take place during this Operation.
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4. Delays are not expected due to the limited amount of traffic, however, priority will be given to Southbound traffic to avoid any interference with the Pontoon Bridge Operation at the GIWW.
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6. All existing traffic control devices that do not apply to the TTC zone shall be covered during implementation of the TTC plan.
7. DOTD TTC Standard Details TTC-00 (A), TTC-00 (B), TTC-00 (C), TTC-00 (D), TTC-04 shall be applied where requirements are not specifically called out on project specific details.

BLACK BAYOU CULVERTS (CS-29)

OPERATIONS REPORT

DATE: _____ **TIME:** _____ **PERSONNEL:** _____

WEATHER CONDITIONS: _____

TIDE CONDITIONS: _____

GATE NO. *	GATE STATUS		No. of Styrofoam Blocks	COMMENTS
	Locked	Unlocked		
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

*** Gates are numbered from North to South.**

OTHER OBSERVATIONS: _____

_____

_____

_____