Historic Bridge Management Plan for the Bayou Lafourche-Golden Meadow Bridge

Recall Number: 001030
Structure Number: 02294070100001
Parish: Lafourche
Route: LA 308
Crossing Description: Bayou Lafourche

Prepared for

Louisiana Department of Transportation and Development

Prepared by

Mead & Hunt

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March 2017

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Executive Summary

The Bayou Lafourche-Golden Meadow Bridge (Recall No. 001030) is located in the town of Golden Meadow, Lafourche Parish, Louisiana, and is owned by the State of Louisiana. The bridge was built from 1970 to 1973. It was determined to be eligible for the National Register of Historic Places (National Register) in 2013. It is significant as a movable bridge that features an important variation within the vertical lift type; namely, the bridge features centrally located drive machinery that operates the four sheaves.

The bridge carries two lanes of Louisiana Highway (LA) 308 over the bayou between LA 1 (S. Bayou Drive) on the west and LA 308 (E. Main Street) on the east. The 204-foot-long crossing consists of a central, steel, vertical lift span that is 104 feet long and is flanked by two 25-foot-long, cast-in-place, concrete approach spans with flared geometry on each side. The operating machinery, which drives the four sheaves on each corner of the lift tower, is located on a platform at the top of the central span. The operator's house is located on the northeast corner of the lift span. A timber fender system provides for an 80-foot-wide navigation channel through the bridge. When the bridge is open, approximately 73 feet of vertical clearance is provided above the high water line for Bayou Lafourche. The bridge is classified as a complex structure because it contains one vertical lift span unit. It is also classified as a fracture critical structure because of the lift span's two-girder framing system and because the lift span's steel floorbeams are spaced greater than 14 feet apart.

The bridge is in satisfactory condition overall and appears to adequately serve its purpose of carrying vehicular and pedestrian traffic over the waterway, with the ability to open to allow water navigation traffic to pass under the bridge when it is open. The major deficiency is that the paint system on the movable portion of the bridge, including the towers, has completely failed, and areas of exposed metal have moderate surface corrosion. The operation of the bridge is also satisfactory, as observed in two opening-closing cycles during the field visit, and the machinery and electrical systems are adequately maintained. With proper maintenance and rehabilitation, the Bayou Lafourche-Golden Meadow Bridge can continue to serve in its present capacity for 20 years or longer.

Any work on the bridge should proceed according to recommendations in this Historic Bridge Management Plan (Plan), which adhere to the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (Secretary's Standards), the *Management Plan for Historic Bridges Statewide* (Statewide Historic Bridge Plan), and the *Programmatic Agreement among the Federal Highway Administration, the Louisiana Department of Transportation And Development, the Advisory Council on Historic Preservation, and the Louisiana State Historic Preservation Officer Regarding Management of Historic Bridges in Louisiana* (PA).

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1. Introduction

This Plan, used in conjunction with the Statewide Historic Bridge Plan, provides guidance on the approach to preservation activities for the Bayou Lafourche-Golden Meadow Bridge (Recall No. 001030), identified as a Preservation Priority Bridge. Completion of individual management plans for Preservation Priority Bridges and the Statewide Historic Bridge Plan fulfills terms of the PA, which was executed on September 21, 2015.

The PA provides the basis and procedures for the management of historic bridges in Louisiana and outlines the procedures for the treatment of historic bridges, including Preservation Priority Bridges. In accordance with the PA, an owner seeking state or federal funding for Preservation Priority Bridges will be required by the Louisiana Department of Transportation and Development (LADOTD), in cooperation with the Louisiana State Historic Preservation Office (LASHPO) and the Federal Highway Administration (FHWA), to follow the procedures outlined in this Plan and the Statewide Historic Bridge Plan.

The Statewide Historic Bridge Plan outlines the overall approach to bridge preservation through a discussion of the collaboration of the historian and engineer, guidance on assessing preservation needs, and resources and technical guidance on maintenance and rehabilitation activities that are broadly applicable to historic bridges. A glossary of common engineering and historical terms is included in the Statewide Historic Bridge Plan.

This Plan for the Bayou Lafourche-Golden Meadow Bridge compiles and summarizes the specific historic and engineering information for this Preservation Priority Bridge. It documents the existing use and condition of the bridge, along with assessments of the preservation needs, including cost estimates. Preservation can be accomplished in two manners: preventative maintenance and rehabilitation. Maintenance includes cyclical or condition-based activities that, along with regular structural inspections, are directed toward continued structure serviceability. Rehabilitation activities are near- or long-term steps that need to be taken to preserve and in some cases restore a bridge's structural condition and serviceability. In assessing preservation activities for each Preservation Priority Bridge, a design life of 20 years was considered, which is consistent with the duration of the PA. This Plan provides the bridge owner, and other interested parties, with detailed information related to the historic nature of the bridge and the necessary background to make an informed planning decision. Recommendations within this Plan should be reviewed in 10 years following completion of the Plan to identify any needed updates or revisions.

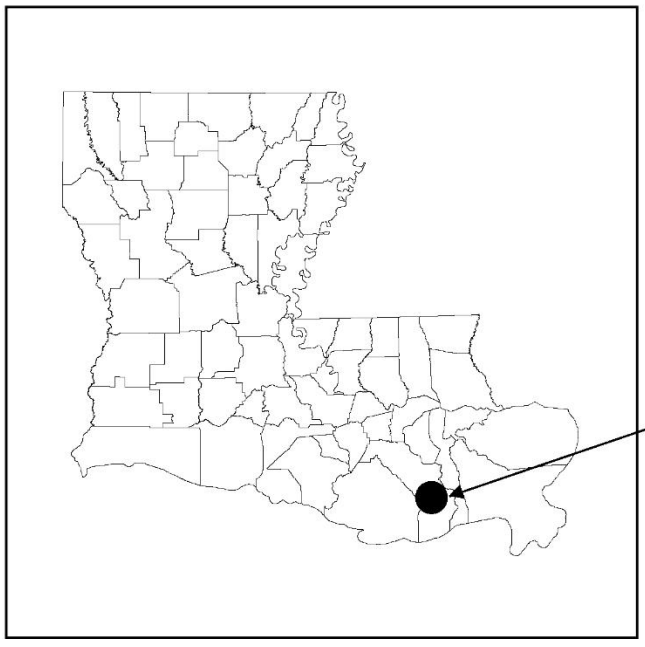
Existing bridge data sources typically available for Louisiana bridges were gathered for this Plan, and field investigation confirmed the general structural condition and character-defining features of the subject bridge. These sources include:

- The current LADOTD Bridge Inspection Report, and any other similar inspection reports
- Original bridge construction plans, any rehabilitation plans, and record as-built plans, as available
- Existing historical and documentary material related to the historic bridges

Recommendations within this Plan are consistent with the Secretary's Standards. The Secretary's Standards are basic principles created to help preserve the distinct character of a historic property and its site, while allowing for reasonable change to meet new engineering standards and codes. The Secretary's Standards recommend repairing, rather than replacing, deteriorated features whenever possible. A version of the Secretary's Standards that is specific to historic bridges is included in the Statewide Historic Bridge Plan. Following these standards is a requirement of the PA.

A bridge historian and bridge engineer from Mead & Hunt, Inc. (Mead & Hunt) jointly prepared this Plan under contract to the LADOTD. The LADOTD, FHWA, and LASHPO reviewed and provided input into the final Plan.

2. Location Map



PROJECT LOCATION
Bridge Number: 001030
Stucture Number: 02294070100001
Lafourche Parish
Route: LA 308
Crossing Description: Bayou Lafourche

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3. Historic Data

A. Identifying information

Structure Number: 02294070100001

Recall Number: 001030

LASHPO Number: 29-02416

Bridge Name: Bayou Lafourche-Golden Meadow Bridge

Date of Construction: Plans dated 1970; construction completed in 1973

Main Span Type: Movable: Lift – Span Tower

Contractor: Coastal Contractors, Inc., Baton Rouge, Louisiana

Designer/Engineer: Louisiana Department of Highways

Steward Machine Company, Birmingham, Alabama (drive machinery)
Osage Company, Pittsburgh, Pennsylvania (steel bridge flooring)

B. Description of bridge

The Bayou Lafourche-Golden Meadow Bridge carries two lanes of LA 308 across Bayou Lafourche in the city of Golden Meadow, Lafourche Parish. The average daily traffic (ADT) across the bridge is approximately 5,400 vehicles. The 204-foot-long crossing consists of a central steel vertical lift span flanked by concrete approach spans. The bridge is not load (weight) posted.

The as-built plans indicate the bridge was designed by the Louisiana Department of Highways and constructed from 1970 to 1973 by Coastal Contractors, Inc. The bridge retains nearly all elements of its original construction, including the bridge operator's house. The bridge carries LA 308 over the bayou between LA 1 (S. Bayou Drive) on the west and LA 308 (E. Main Street) on the east.

The total length of this bridge is 204 feet measured from abutment to abutment. The main span is a vertical lift span with the operating machine located on a platform on top of the movable span. The operational machinery includes four grooved steel wheels, known as sheaves, with one sheave located on top of each corner of the lift towers. Heavy steel ropes on the sheaves are attached to the movable span below, which is counterweighted at each end. The combined weight of the counterweights is equal to the weight of the lift span, and thus for movement to occur the drive machinery needs to provide only enough force to overcome friction and wind resistance. The lift span is 104 feet long as measured from centerline to centerline of the lift tower columns. The lift span consists of two main longitudinal welded

steel plate girders with transverse, rolled, steel I-beam floorbeams and eight lines of rolled, steel I-beam, longitudinal stringers. The span has a 5-inch-thick open grid steel deck with checkered metal plate sidewalks on each side.

The westerly and easterly approach spans consist of two 25-foot-long, cast-in-place concrete slab spans with flared geometry and concrete sidewalks on each side, for a total length of 50 feet. The concrete slabs are 17 inches thick. Expansion joints are provided in the concrete deck slabs above the piers and abutments. This bridge is classified as a complex bridge because of the movable span. It is also classified as a fracture critical structure because of the lift span's two-girder framing system and because its steel floorbeams are spaced greater than 14 feet apart. The bridge is not load (weight) posted.

The bridge deck features a 28-foot clear roadway width as measured between faces of the concrete sidewalk curbs. There are 5-foot-wide sidewalks located on each side of the roadway. The sidewalks are constructed of metal plates on the lift span, and cast-in-place concrete with concrete curbs on the approach spans. An original concrete barrier railing with two lines of metal tubes is located on the outside of the sidewalks on the approach spans. A two-line metal tube railing is attached to the top flanges of the main longitudinal girders of the lift span. The metal tube railing is 1 foot, 6 inches high; the top rail is 2-inch nominal diameter, and the lower tube is 5-inch nominal diameter. Traffic signals and traffic gates are provided at each end of the bridge at the intersections with LA 1 and LA 308.

The substructure for the approach spans consist of cast-in-place, reinforced-concrete abutments supported on 18-inch square precast concrete piles, and cast-in-place, reinforced-concrete piers (bents), also supported on 18-inch square precast concrete piles. The lift span and towers are supported on cast-in-place, reinforced-concrete piers supported on 24-inch square precast concrete piles.

The operator's house is located on a separate concrete-piling-supported structure in the northeast corner of the lift span, outboard of the sidewalk. It is a two-story concrete structure with a square form. The hipped roof has deep, overhanging, boxed eaves with metal vents. The first story has vertical scribed lines in the concrete. An exterior spiral stairway leads to a wraparound balcony on the second story. The balcony is a wood platform with a metal tube railing. There are no windows on the first story. A double door is centered on the east facade. Cantilevered windows wrap around the second story. There are five fixed windows on each facade, divided into two-light windows by metal frames on the lower third of the window. The house has an emblem of the brown pelican, Louisiana's state bird, centered on all facades underneath the wraparound balcony. This emblem is also found in the center of the outside surface of the concrete slabs that are located at the base of either side of the movable lift span. An emergency generator is located in the lower level of the operator's house. The bridge control panel is located in the second floor of the operator's house. The double doors on the first story have been replaced with metal panel doors (the originals had slats), a minor loss of integrity. Otherwise, it appears the house retains original cladding, balcony and railing, spiral stairway, and windows, and retains a high level of integrity.[1]

[1] Bridge Recall No. 001030, As-Built Plans (Baton Rouge, La.: State of Louisiana Department of Highways, State Project 407-01-16, 1968).

A timber fender system on each side of the bridge provides for an 80-foot-wide navigation channel through the bridge. When the bridge is open, approximately 73 feet of vertical clearance is provided above the high water line.

C. History and significance

The Bayou Lafourche-Golden Meadow Bridge, located in the southern part of Lafourche Parish, connects LA 1 and LA 308 over the Bayou Lafourche in the small town of Golden Meadow, Louisiana. The waterway of Bayou Lafourche runs through the middle of the parish, and created the unusual development pattern of a long, narrow spine of settlement, hemmed in by the bayou and the extensive swampland on either side. LA 1 and LA 308 run through the parish, parallel to the bayou, and merge into one highway, LA 1, south of Golden Meadow.

In 1950 the Louisiana Department of Highways replaced a ferry at Golden Meadow, the southernmost town in Lafourche County, with a pontoon bridge. The ferry could only handle two cars at a time and operated using a cable connected to both sides of the bayou.[2] The southern part of Lafourche Parish experienced an increase in population growth in the late 1960s. A large development of 800 homes, a shopping center, and a new school were built north of Golden Meadow in Galliano in early 1968.[3] In April of the same year the highway department began plans to replace the pontoon bridge with a movable lift bridge. In 1968 the highway department requested the right-of-entrance from the local school board across from the site of the Golden Meadow Junior School.[4] In January 1971 the completion of the new bridge became an emergency, according to Highway Department Director Leon Gary, because it was needed to replace the pontoon bridge that had been destroyed by a tow boat collision. Lafourche Parish contributed $150,000 for the new bridge from the insurance money it received for the destroyed bridge. The highway department moved a pontoon bridge from another location to handle detour traffic during the bridge construction period; the bridge was completed in 1973.[5]

Commercial traffic remains heavy on the Bayou Lafourche, which is used by the parish's leading industries of agriculture, oil, and shipbuilding. During shrimping season from May to August the Golden Meadow Bridge is a busy crossing point for boats to access the Gulf of Mexico. Fishing boats haul daily catches of saltwater fish for both local consumption and as exports. Port Fourchon, at the southern end of the parish, serves as the entrance to the Gulf and is a major oil port for domestic and foreign oil. Shipbuilding is also a prominent industry in the parish, including the construction of military vessels.[6]

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[2] Plans, Golden Meadow Pontoon Bridge Over Bayou Lafourche (Baton Rouge, La.: State of Louisiana Department of Highways, 1950).

[3] "Propose Large Shopping Center for Galliano," *The Times-Picayune*, February 25, 1968.

[4] "$552,719 in Construction Pacts Given in Lafourche," *The Times-Picayune,* April 11, 1968.

[5] "Highway Board Considers Jefferson Tract Resale," *The Times-Picayune,* January 7, 1971.

[6] "About Lafourche, History & Parish Information," *Lafourche Parish Government,* 2016, http://www.lafourchegov.org/about-lafourche/history-parish-information.

The Bayou Lafourche-Golden Meadow Bridge is eligible for listing in the National Register under *Criterion C: Engineering* as an important variation within the vertical lift bridge type. This variation is demonstrated in the centrally located drive machinery that operates the four sheaves. This variation is typically used on narrow navigation channels with spans under 200 feet. This bridge with a span of 204 feet, is one of the longer and more recent examples. In Lafourche Parish there are five vertical lift bridges that are eligible for listing in the National Register; three are variations with central drive machinery (including this bridge) and two have machinery in each tower. The geography and occurrence of relatively small navigable waterways in the southernmost parishes of the state may explain why this variation is relatively widely used in Louisiana, but quite uncommon nationally.[7] The bridge retains good integrity and clearly conveys the significant design features of this variation within the bridge type.

D. Character-defining features

Character-defining features are prominent or distinctive aspects, qualities, or characteristics of a historic property that contribute significantly to its physical character. Features may include materials, engineering design, and structural and decorative details. Elements of the bridge that are not identified as character-defining features may be historic fabric. Historic fabric is material in a bridge that was part of original construction. It is important to consider both character-defining features and the bridge's historic fabric when planning any work.

The Bayou Lafourche-Golden Meadow Bridge has one character-defining feature: its central vertical lift span (described below). Other elements that represent the historic fabric but are not considered to be character-defining are the approach spans, including the railings; the bridge operator's house; substructure elements; and traffic gates.

The following item is the character-defining feature of this bridge:

Feature 1: Design and construction of a vertical lift span with central drive machinery
This feature includes the entire main span, comprised of a vertical lift span with the operating machinery located on a platform on top of the lift span, and the machinery to drive four sheaves, one sheave located on top of each corner of the lift towers. The lift span also consists of two main longitudinal steel girders with transverse, rolled, steel, I-beam floorbeams and five rolled, steel, I-beam, longitudinal stringers and an open grid steel deck.

[7] Mead & Hunt, Inc., *Historic Context for Louisiana Bridges: Louisiana Statewide Historic Bridge Inventory* (prepared for the Louisiana Department of Transportation and Development, December 2013), 77.

Character-defining Feature Photo 1: Design and construction of a vertical lift span with central drive machinery. The operating machinery, located at the center of a platform, drives the four sheaves on each corner of the lift towers. Note location of original operator's house on northeast quadrant of bridge.

Character-defining feature Photo 2: Vertical lift span with central drive machinery, with the platform raised, as seen from LA 308.

The following images illustrate other bridge features that are of historic fabric, meaning they are part of original construction but are not considered to be character-defining features.

Historic Fabric Photo 1: Original two-story concrete operator's house. Details visible in this photo include cantilevered windows, vertically scribed concrete, brown pelican emblem, and balcony with metal railing.

Historic Fabric Photo 2: Approach spans on the northwest side of the bridge including concrete piers, abutments, sidewalks, curbs, and railing. Metal railings have been added to the top of the concrete railings, a minor alteration that does not affect the bridge's significant features.

Historic Fabric Photo 3: Approach spans with concrete piers, abutments, curbs, sidewalk, and railing, on southeast side of the bridge.

4. Engineering Data

A. Existing conditions

(1) Structural observations

The Bayou Lafourche-Golden Meadow Bridge is in satisfactory condition overall and appears to adequately serve its purpose of carrying vehicular and pedestrian traffic over the waterway, with the ability to open to allow water navigation traffic to pass under the bridge. The operation of the bridge is also satisfactory, as observed in two opening-closing cycles during the field visit, and the machinery and electrical systems are adequately maintained. The major deficiency is that the paint system on the movable portion of the bridge, including the towers, has completely failed, and areas of exposed metal have moderate surface corrosion.

The bridge is classified as fracture critical for two reasons. First, the lift span is a two-girder system, with two longitudinal steel girders providing the primary structural framing and support. Second, the steel floorbeams of the lift span are greater than 14 feet apart. The 2014 bridge inspection report noted that fracture critical members were visually inspected, and no cracks were found. This bridge is inspected every 24 months.

The bridge is not load (weight) posted.

Approach spans

The concrete decks of the approach spans are in good condition, with some longitudinal cracking. The deck joints (expansion joints) have failed and are in poor condition, allowing water and debris to pass through to the elements below the joints. The concrete sidewalks and concrete/metal railings are in generally good condition, except at the ends of the left span in all four quadrants, the metal tube railing is bent and distorted. The concrete substructure units (abutments and piers) are in good condition. The sidewalks on the westerly approach span are misaligned, resulting in a small “step” in the sidewalk surface. The southeast portion of the easterly approach span has a large diagonal crack on the exposed face.

Lift span

The lift span and towers are generally in satisfactory condition, although the paint system has failed on all structural steel elements of the lift span and tower spans, causing minor corrosion and deterioration on all members. The open metal grid deck is in good condition with light corrosion throughout. The checkered metal plates for the sidewalks are in serious condition, mainly due to the failed paint system with extensive corrosion and section loss. There are several locations where metal plates were welded to the corroded areas of the metal sidewalk plates. The metal railings are in good condition structurally, but the paint system has begun to fail. The operating machinery is functional and generally in good condition. The sheaves, gears, bearings, and exposed machinery are rusty, but functioning properly. The operating electrical system is functional and generally in good condition. The concrete piers are in good condition.

During the site visit, the bridge operator stated that in June 2015 the motors and clutches were removed from the bridge and refurbished.

(2) Non-structural observations

Traffic gates and traffic signals are functioning properly. Heavy steel traffic barrier gates adjacent to the lift span on each side are lowered when the bridge is opened, and are in good functional and structural condition.

The operator's house is in good condition. The operator's house is a two-story concrete structure. The emergency generator is housed in the lower level. The operator and control equipment are in the upper level. The control panel for operation of the bridge is original, and fully functional. All windows and doors are functional, and a spiral stairway is used to access the upper level. The stairway is in good condition. A portable waste water treatment unit is located to the east of the operator's house.

The timber fender system is in good condition. It appears that the fender system on each side of the waterway has been maintained to provide its function of protecting the bridge from impact loading from river navigation traffic. Several of the timber members appear to have been recently replaced in each fender.

The waterway banks on each side of the bridge appear to be stable and in good condition.

(3) Serviceability observations

The ADT across the bridge is approximately 5,400 vehicles. The bridge clear roadway width of 28 feet provides for two lanes of traffic, one in each direction, without shoulders. The bridge adequately handles this traffic volume. However, because of the proximity to intersections on each end of the bridge, traffic backs up on LA 1 and LA 308 when the bridge is open. Only two or three vehicles are able to occupy the approaches to the bridge when the bridge is open.

This bridge has an operator on site 24 hours a day. The bridge is opened an average of 12 to 14 times per day during the non-shrimping season, and 50 to 60 times per day during the shrimping season (May to August). The bridge provides a shortcut for vehicular traffic in the community. Golden Meadow Middle School is located southwest of the bridge on LA 1, and to accommodate school traffic the bridge is not opened between 7:00 and 8:00 a.m. and 2:00 and 4:00 p.m. during the school year.

B. Sources of information

Plans available:	Yes, available at the LADOTD Bridge Section office
Inspection report date:	December 17, 2014
Fracture critical report date:	(included as part of routine inspection report)
Underwater inspection report:	July 2009
Date of site visit:	February 3, 2016

Condition Photo 1: Looking west from center of bridge at LA 1 intersection on west side of bridge.

Condition Photo 2: Looking east from center of bridge at LA 308 intersection on east side of bridge.

Condition Photo 3: Lift span in open position; note failed paint system on lift span and towers.

Condition Photo 4: Bridge operator's house and east approach spans at LA 308.

Condition Photo 5: Easterly approach roadway from LA 308; note bridge operator's house.

Condition Photo 6: East lift tower with bridge open.

Condition Photo 7: West lift tower pier and timber fender system, looking west.

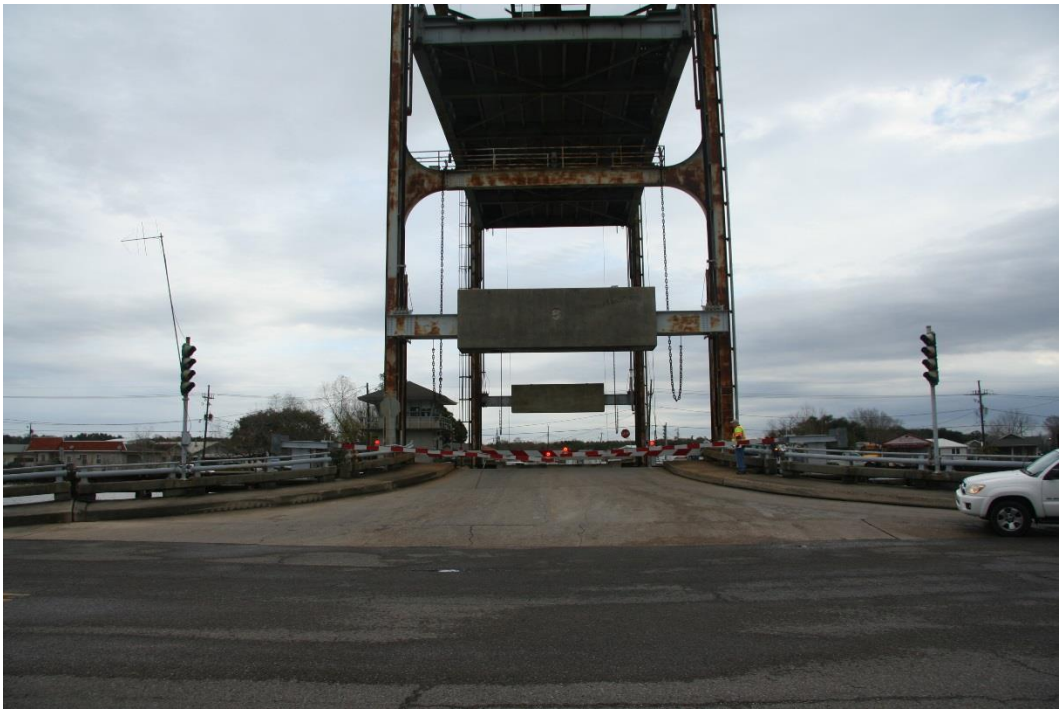
Condition Photo 8: West end of lift span; condition of damaged tubular bridge railing; traffic barrier gate is down.

Condition Photo 9: Elevation view of south side of bridge, showing bridge and navigation channel.

Condition Photo 10: West lift tower with bridge open; note holes in metal sidewalk plates.

Condition Photo 11: Operator's house and northwest tower and timber fender system.

Condition Photo 12: East lift tower and timber fender system, looking east.



Condition Photo 13: West approach roadway from LA 1, looking east.

Condition Photo 14: Sidewalk and deck joint in southwest quadrant of west approach span.

Condition Photo 15: Metal plate walkway condition, south walkway, west end.

Condition Photo 16: Control panel and inside of bridge operator's house (second floor).

Condition Photo 17: Bridge operator's house, west side, looking east.

Condition Photo 18: North side of west approach spans; note misalignment in railing.

Condition Photo 19: South side of east approach spans; note large diagonal crack.

5. Recommendations

This Preservation Priority Bridge should remain in use and can meet current and projected transportation needs for the next 20 years or more. Maintenance and rehabilitation activities should be completed in a manner consistent with the long-term preservation of this historic bridge. The Statewide Historic Bridge Plan provides additional guidance and approaches to completing maintenance and rehabilitation activities that adhere to the Secretary's Standards. Work should be conducted under the supervision of a qualified professional historian, as defined in the PA. The bridge engineer, or the bridge engineer's supervising engineer, should have demonstrated expertise in historic bridge projects and must have completed the LADOTD's historic bridge training. When developing plans and specifications for a project, the bridge engineer should follow the recommendations below.

Under the terms agreed upon in the PA, the bridge owner may undertake certain activities that are considered to be best practices without additional consultation or public notification. These activities are documented in Attachment 5 of the PA and are limited to the activities specifically noted. All recommended preventative maintenance and rehabilitation activities for this bridge are included in Attachment 5 and are not expected to alter character-defining features or historic fabric of the bridge. Some cyclical or condition-based maintenance items are noted below under Rehabilitation because they are expected to be completed as part of an overall rehabilitation project for this bridge. These activities may need to be completed as conditions dictate to promote long-term preservation of this historic bridge. Recommendations within this Plan should be reviewed in 10 years following completion of the Plan to identify any needed updates or revisions

The opinions of probable costs provided below are in 2016 dollars. The costs were developed without benefit of preliminary rehabilitation plans and are based on the above identified tasks using engineering judgment and/or gross estimates of quantities and historic unit prices and are intended to provide a programming level of estimated costs. Refinement of the probable costs is recommended once preliminary plans have been developed. The estimated preservation costs include a 10% contingency and 7% mobilization allowance of the preservation activities, excluding soft costs. Actual costs may vary significantly from those opinions of cost provided herein. Engineering design, historical consultation, and construction administration costs are not included as these may be provided by the owner or consultants.

A. Preventative maintenance

The following recommendation is for cyclical maintenance. There are no condition-based maintenance recommendations at this time, based on the bridge condition as observed during the site visit and as documented in available information.

1. Lubricate operating machinery for the bridge regularly to maintain good condition. Because this activity is routinely done, the cost is not included in the cost estimate.

B. Rehabilitation

The following are recommendations for rehabilitation. The activities listed should be performed when necessary (estimated to be within the next five years).

1. Clean and paint the entire lift span structural steel framing system, including the structural steel framing system for both towers, in accordance with the current standard cleaning and painting specification.

2. Remove and replace checkered steel plates for the sidewalks on the lift span with new plates. Galvanized checkered steel plates are recommended.

3. Remove and replace damaged steel tubular railing in the four quadrants of the lift span approaches.

4. Clean and paint the exposed operating machinery, including sheaves, shafts, speed reducers, bearings, and motors.

5. Reseal expansion joints in the concrete roadway decks for approach spans.

6. Correct the misalignment in the sidewalks of the westerly approach spans. This can be accomplished by a combination of grinding the concrete, and by using non-shrink epoxy grout to provide a smooth transition. The non-shrink grout should match the color and texture of the adjacent concrete sidewalks.

7. Repair the crack in the southeast approach span by using non-shrink epoxy grout of a color and texture to match the adjacent concrete surfaces.

Bridge Recall No. 001030		Date:	5/3/2016	
Bayou Lafourche Bridge at Golden Meadow				
Opinion of Probable Costs				
Rehabilitation				
Item	**Quantity**	**Unit**	**Unit Cost**	**Total**
Clean and paint entire lift span structural steel, incl. towers & platforms (near white finish)	1	LS	$1,300,000	$1,300,000
Remove and replace checkered steel plates for walkways on the lift span with new galvanized checkered steel plates	1,310	SF	$80	$104,800
Remove and replace damaged steel tubular railing in four quadrants of approaches to lift span	60	LF	$250	$15,000
Clean and paint the exposed operating machinery, including sheaves, shafts, speed reducers, bearings and motors	1	LS	$100,000	$100,000
Reseal deck expansion joints in concrete approach spans	300	LF	$50	$15,000
Correct misalignment in the sidewalks of the westerly approach spans	1	LS	$4,000	$4,000
Repair crack in southeast approach span with non-shrink epoxy grout	1	LS	$2,500	$2,500
Temporary signs and barricades; temporary traffic control for detour	1	LS	$100,000	$100,000
Item Subtotal				$1,641,300
Contingency			10.00%	$164,130
Mobilization			7.00%	$126,380
Number of Days Bid at $5000 per day	120	Day	$5,000	$600,000
TOTAL ESTIMATED CONSTRUCTION COST				**$2,531,810**
			Round to:	**$2,532,000**

C. Identification of any anticipated design exceptions

No design exceptions were noted, nor are any design exceptions recommended.

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Appendix A. Historic Inventory Form

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Louisiana Historic Bridge Inventory

Recall Number: 001030 **Structure Number:** 02294070100001 **SHPO Number:** 29-02416

Bridge Name: LAFOURCHE BAYOU-GOLD. MEAD.

Location Data:

District: 02

Parish: Lafourche

Feature Crossed: BAYOU LAFOURCHE

Facility Carried: LA0308

Location: .01 MI NORTH OF LA 1

City, Village or Town (if applicable):

Status: Closed

Bridge Owner: State of Louisiana

Latitude: 29.389056

Longitude: -90.264722

Structural Data:

Bridge Type: Steel Vertical Lift Span

Year Built: 1970

Main Span Configuration (if applicable): Span tower

Maximum Span Length (feet): 104

Number of Spans: 1

Overall Structure Length (feet): 204

Approach Span Type (if applicable): Concrete slab

Posted Load:

Current ADT: 003800

Design and Construction Data:

Engineer or Builder:

Unknown

Bridge Plaque:

None

National Register of Historic Places Evaluation:

This tower drive with connected towers vertical lift bridge has significance as a movable bridge and as an important variation within the vertical lift bridge type. This variation is demonstrated in the location of the drive machinery at the center of a fixed span that operates the four sheaves. This configuration is uncommon nationally and represents a variation based on the small size of the navigation channel and necessary span length. The bridge retains good integrity and clearly conveys the significant design features of this variation within the bridge type. The bridge is eligible for listing in the National Register under Criterion C: Design/Engineering.

No evidence was found during research or data collection activities to indicate that this bridge possesses a direct and important association with historical events or trends. This bridge does not possess significance under Criterion A.

Within/Adjacent to Known Historic District: N/A

National Register Historic District Name: N/A

National Register Determination: Eligible

National Register Determination Date: 2013

Surveyor: Mead & Hunt, Inc.

Date Surveyed: 2013

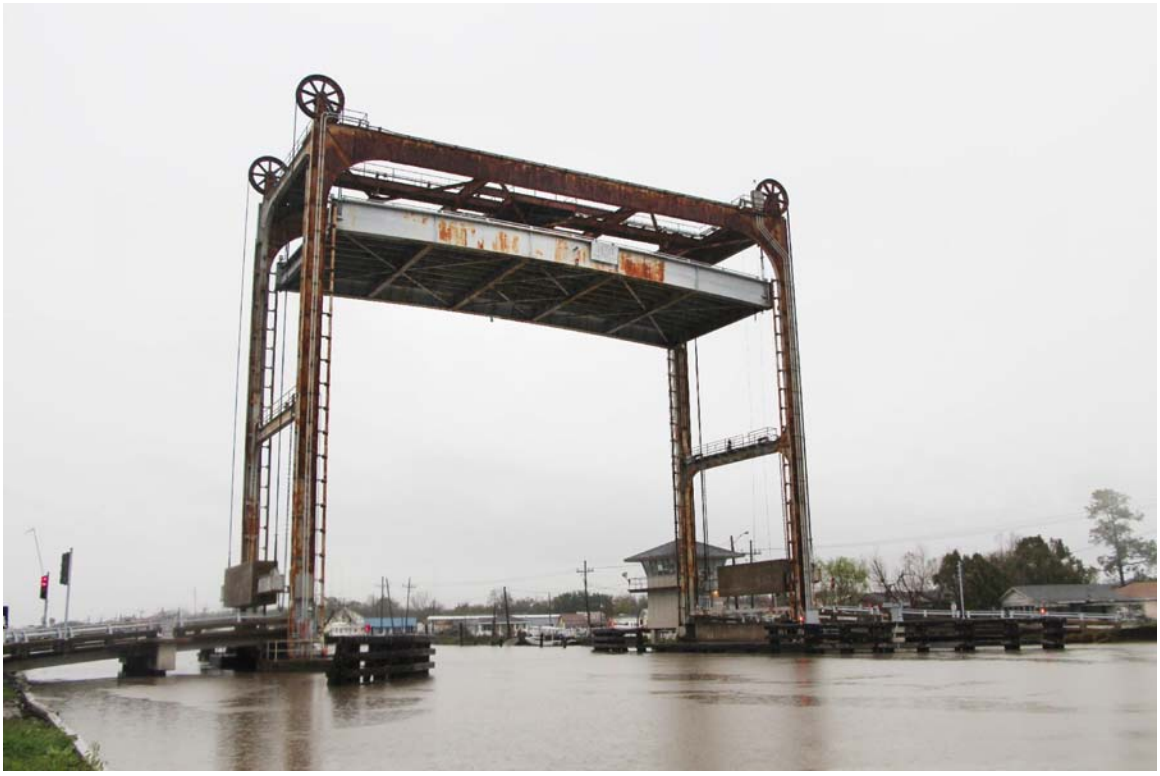
Louisiana Historic Bridge Inventory

Recall Number: 001030 **Structure Number:** 02294070100001 **Bridge Name:** LAFOURCHE BAYOU-GOLD. MEAD.

Parish: Lafourche Bridge Owner: State of Louisiana

Feature Crossed: BAYOU LAFOURCHE Facility Carried: LA0308

Photographs:



Appendix B. Select Plan Sheets

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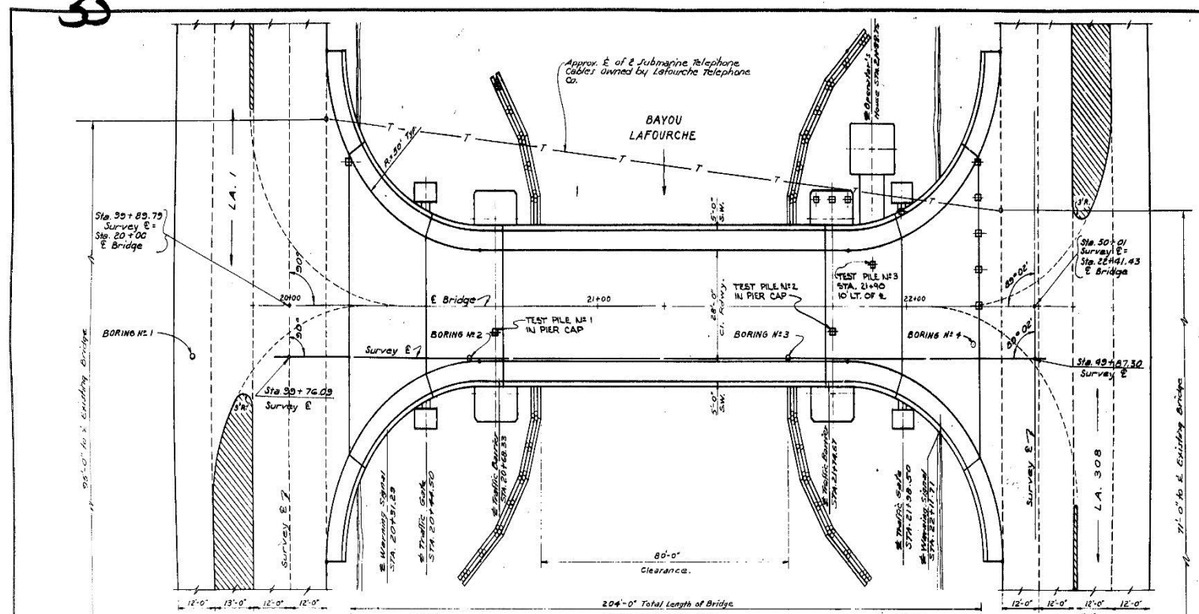
55

STATE PROJECT	PARISH	SHEET NO.
407-01-16	LAFOURCHE	4

STATE PROJECT	PARISH	SHEET NO.
407-01-17	LAFOURCHE	12



NOTE:
DATE OF CONSTRUCTION REQUIRED EACH END OF BRIDGE SEE STANDARD PLAN C.M. 37

FINISH GRADE ELEVATIONS SHOWN ARE AT ℄ ROADWAY.

NOTE:
FOR REMOVAL OF BRIDGES, REMOVAL OF FENDERS AND SEQUENCE OF CONSTRUCTION SEE SPECIAL PROVISIONS.

DATUM: MEAN SEA LEVEL

GENERAL PLAN

BAYOU LAFOURCHE BRIDGE
AT GOLDEN MEADOW
LA. HWYS. 1 & 308

DATED: AUG. 7 1968

STATE OF LOUISIANA
DEPARTMENT OF HIGHWAYS

DESIGNED	DETAILED & TAVERA	TRACED
CHECKED	CHECKED L. A. G.	CHECKED

BRIDGE DESIGN SECTION

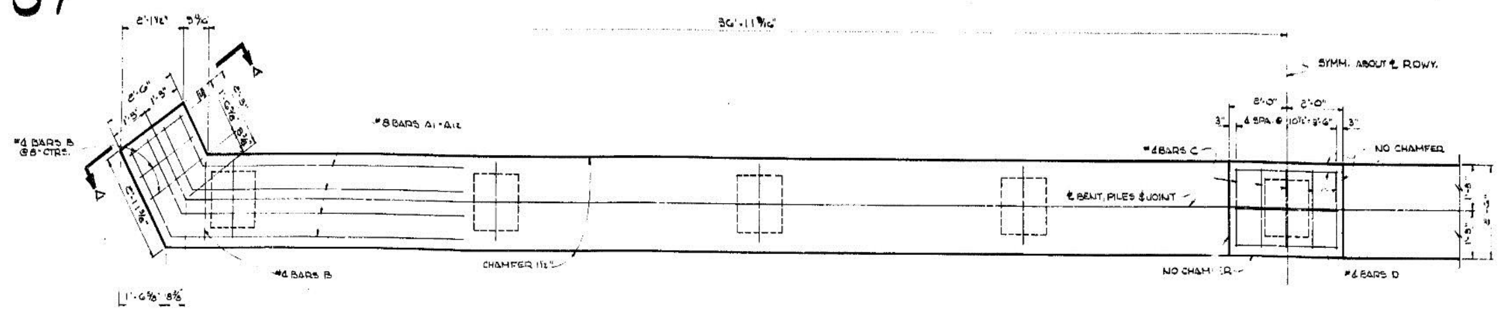
DATE	DESCRIPTION	BY

REVISIONS

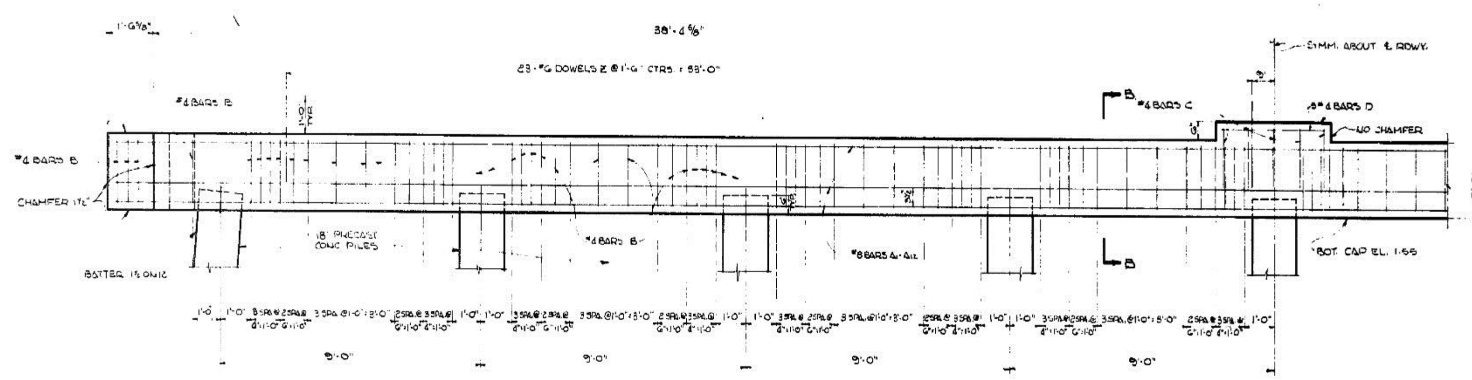
AS BUILT PLANS

57

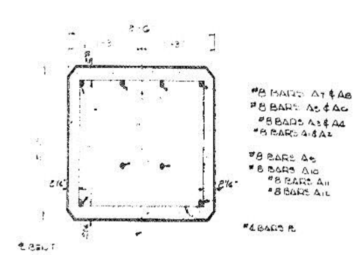
STATE PROJECT	PARISH	SHEET NO.
~~407-01-16~~	~~LAFOURCHE~~	~~8~~
407-01-17	LAFOURCHE	124



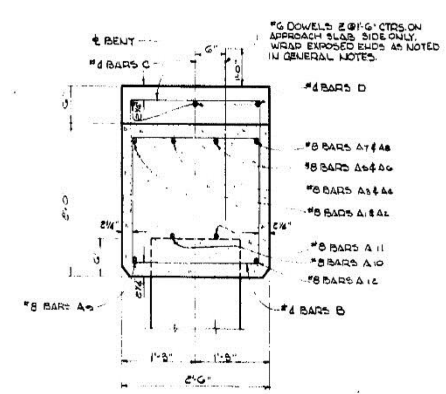
PLAN



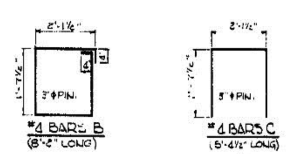
ELEVATION

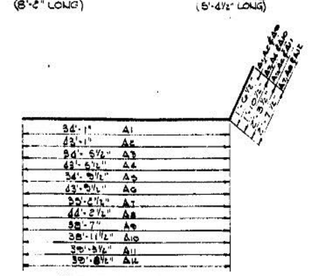


SECTION A-A



SECTION B-B





#8 BARS A1-A12

ESTIMATED QUANTITIES (ONE BENT)

BAR	SIZE	Nº	UNIT LENGTH	TOTAL LENGTH	LOCATION
A1	#8	1	35'-6"	35'-6"	LONG. IN TOP CAP
A2	#8	1	44'-6"	44'-6"	" " " "
A3	#8	1	36'-4"	36'-4"	" " " "
A4	#8	1	45'-4"	45'-4"	" " " "
A5	#8	1	37'-1"	37'-1"	" " " "
A6	#8	1	46'-1"	46'-1"	" " " "
A7	#8	1	37'-10"	37'-10"	" " " "
A8	#8	1	46'-10"	46'-10"	" " " "
A9	#8	2	40'-2"	80'-4"	LONG. IN BOT. CAP
A10	#8	2	40'-10"	81'-8"	"
A11	#8	2	41'-7"	83'-2"	" " " "
A12	#8	2	42'-4"	84'-8"	" " " "
TOTAL Nº 8 BARS = 669'-8"			=		1791 LBS.
Z	#6	46	2'-3"	103'-6"	DOWELS IN CAP
TOTAL Nº 6 BARS = 103'-6			=		155 LBS.
B	#4	120	8'-2"	980'-0"	STIRRUPS IN CAP
C	#4	5	5'-4 1/2"	26'-11"	STIRRUPS IN RISER
D	#4	3	3'-6"	10'-6"	LONG. IN RISER
TOTAL Nº 4 BARS = 1017'-5"			=		680 LBS.
DEFORMED REINFORCING STEEL			=		2626 LBS.
CLASS "A" CONCRETE			=		14.53 CU.YDS.
AVERAGE PILE LOAD			=		30.0 TONS/PILE

BENTS 1 & 4 ✓

BAYOU LAFOURCHE BRIDGE
AT GOLDEN MEADOW
LA. HWYS. 1 & 308

DATED 9-18, 1967

DATE	DESCRIPTION	BY

REVISIONS

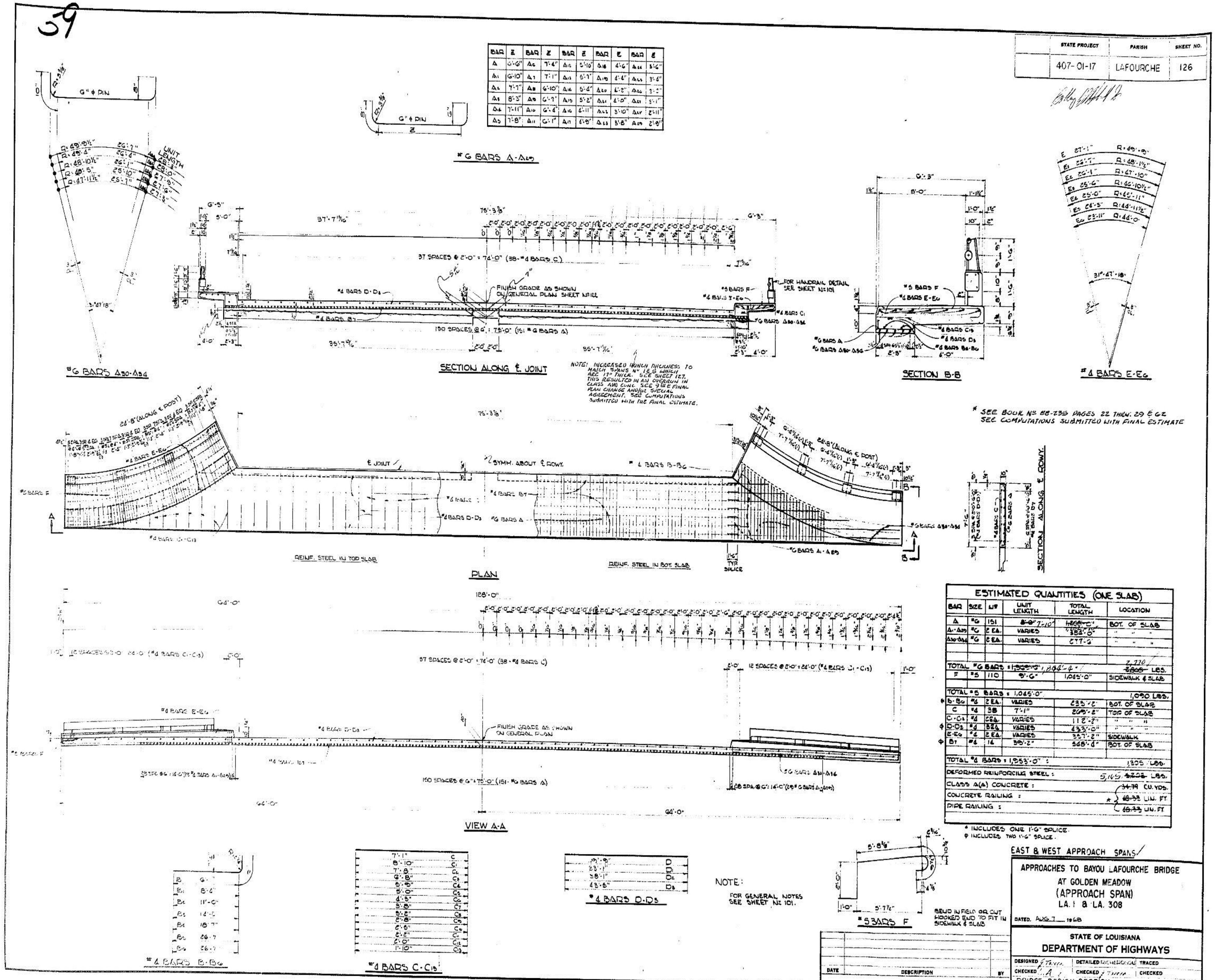
STATE OF LOUISIANA
DEPARTMENT OF HIGHWAYS

DESIGNED L.A.G. | DETAILED | TRACED
CHECKED | CHECKED | CHECKED

BRIDGE DESIGN SECTION

59

STATE PROJECT	PARISH	SHEET NO.
407-01-17	LAFOURCHE	126



BAR	Z	BAR	Z	BAR	Z	BAR	Z	BAR	Z
A	6'-6"	A6	7'-4"	A12	5'-10"	A18	4'-6"	A24	3'-6"
A1	6'-10"	A7	7'-1"	A13	5'-7"	A19	4'-4"	A25	3'-4"
A2	7'-7"	A8	6'-10"	A14	5'-4"	A20	4'-2"	A26	3'-2"
A3	8'-3"	A9	6'-7"	A15	5'-2"	A21	4'-0"	A27	3'-1"
A4	7'-11"	A10	6'-4"	A16	4'-11"	A22	3'-10"	A28	2'-11"
A5	7'-8"	A11	6'-1"	A17	4'-9"	A23	3'-8"	A29	2'-9"

#6 BARS A-A29

NOTE: INCREASED BENCH THICKNESS TO MATCH BEAMS No. 1 & 2 WHICH ARE 17" THICK. SEE SHEET 127. THIS RESULTED IN AN OVERRUN IN CLASS A(A) CONC. SEE 9 EE FINAL PLAN CHANGE AND/OR SPECIAL AGREEMENT. SEE COMPUTATIONS SUBMITTED WITH THE FINAL ESTIMATE.

* SEE BOOK No 58-236 PAGES 22 THRU 29 & 62 SEE COMPUTATIONS SUBMITTED WITH FINAL ESTIMATE

ESTIMATED QUANTITIES (ONE SLAB)

BAR	SIZE	No.	UNIT LENGTH	TOTAL LENGTH	LOCATION
A	#6	151	~~8'-0"~~ 7'-10"	~~1,208'-0"~~	BOT. OF SLAB
A1-A29	#6	2 EA.	VARIES	384'-0"	" " "
A30-A34	#6	2 EA.	VARIES	277'-2"	" " "
TOTAL #6 BARS = ~~1,869'-2"~~ 1,844'-4"					~~2,808~~ 2,770 LBS.
F	#5	110	9'-6"	1,045'-0"	SIDEWALK & SLAB
TOTAL #5 BARS = 1,045'-0"					1,090 LBS.
* B-B6	#4	2 EA.	VARIES	235'-2"	BOT. OF SLAB
C	#4	38	7'-1"	269'-2"	TOP OF SLAB
C1-C13	#4	2 EA.	VARIES	112'-2"	" " "
Φ D-D3	#4	8 EA.	VARIES	433'-0"	" " "
E-E6	#4	2 EA.	VARIES	357'-2"	SIDEWALK
Φ B7	#4	14	39'-2"	548'-4"	BOT. OF SLAB
TOTAL #4 BARS = 1,953'-0"					1,305 LBS.
DEFORMED REINFORCING STEEL :					5,165 ~~5,203~~ LBS.
CLASS A(A) CONCRETE :					~~34.79~~ CU. YDS.
CONCRETE RAILING :					* ~~48.33~~ LIN. FT.
PIPE RAILING :					~~48.33~~ LIN. FT.

* INCLUDES ONE 1'-6" SPLICE.
Φ INCLUDES TWO 1'-6" SPLICE.

NOTE:
FOR GENERAL NOTES SEE SHEET No 101.

BEND IN FIELD OR CUT HOOKED END TO FIT IN SIDEWALK & SLAB

DATE	DESCRIPTION	BY
REVISIONS		

EAST & WEST APPROACH SPANS

APPROACHES TO BAYOU LAFOURCHE BRIDGE
AT GOLDEN MEADOW
(APPROACH SPAN)
LA. 1 & LA. 308

DATED. AUG 7 1968

STATE OF LOUISIANA
DEPARTMENT OF HIGHWAYS

DESIGNED	DETAILED RICHARDSON	TRACED
CHECKED	CHECKED	CHECKED

BRIDGE DESIGN SECTION

AS BUILT PLANS

60

STATE PROJECT	PARISH	SHEET NO.
407-01-17	LAFOURCHE	12

STATE PROJECT	PARISH	SHEET NO.
407-01-16	LAFOURCHE	12

#9 BARS A23-A33

#4 BARS E-E6

#5 BARS F (LENGTH 9'-6")

SECTION ALONG ℄ JOINT

ELEVATION ALONG ℄ POSTS

#4 BARS G-G6

#4 BARS L-L11

#5 BARS L-L27

REINFORCING STEEL IN TOP OF SLAB

REINFORCING STEEL IN BOTTOM OF SLAB

PLAN VIEW

#9 BARS A1-A22

SECTION ALON ℄ JOINT

QUANTITIES FOR SPANS Nº 1 & 5 (ONE SPAN)

BAR	SIZE	Nº	UNIT LENGTH	TOTAL LENGTH	LOCATION
A	#9	75	26'-6	1987'-6"	Bottom of Slab
A1-A22	#9	2 Ea.	Varies	723'-6	" " "
A23-A33	#9	2 Ea.	Varies	416'-4	" " "
TOTAL #9 BARS = 3,169'-4" = 10,776 LBS.					
B-B27	#5	2 Ea.	Varies *	1613'-10	Bottom of Slab
F	#5	148	9'-6"	1406'-0"	Sidewalk & Slab
TOTAL #5 BARS = 3082'-10" = 5,141 LBS.					
G-G6	#4	2 Ea.	Varies	208'-0"	Top of Slab
D-D22	#4	2 Ea.	Varies	74'-6	" " "
E-E7	#4	2 Ea.	Varies	427'-10"	Sidewalk
C	#4	19	24'-6	465'-2	Top of Slab
TOTAL #4 BARS = 1847'-0" = 1,234 LBS.					
DEFORMED REINFORCING STEEL =				15,229 LBS.	
CLASS A(A) CONCRETE =				89.82 CU. YDS.	
CONCRETE RAILING				51.00 LIN. FT.	
PIPE RAILING				51.00 LIN. FT.	

* Includes One 1'-10" Splice.

SPANS Nº 1 & 5

BAYOU LAFOURCHE BRIDGE
AT GOLDEN MEADOW
LA HWYS. 1 & 308

DATED OCT. 16, 1967

STATE OF LOUISIANA
DEPARTMENT OF HIGHWAYS

DESIGNED G. T. | DETAILED R. J. S. | TRACED
CHECKED A. M. S. | CHECKED J. T. NORMAN | CHECKED

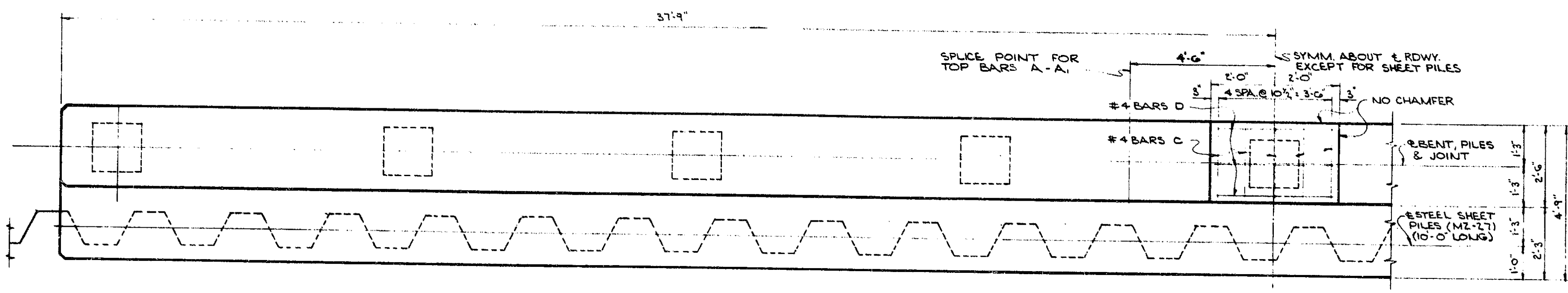
BRIDGE DESIGN SECTION

DATE	DESCRIPTION	BY
	REVISIONS	

AS BUILT PLANS

123

	STATE PROJECT	PARISH	SHEET NO.
✓	407-01-16	LAFOURCHE	8-A



PLAN

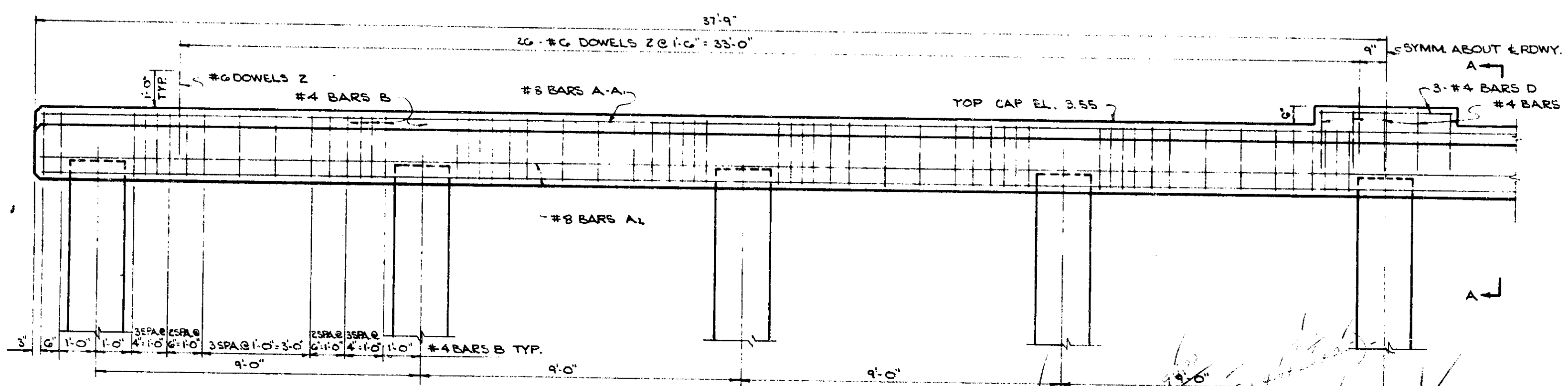
NOTE 'A'

CORNER SHEET PILE OF PROTECTION BULHEAD SHALL HAVE CUT OFF EL. = 3.5 AND SHALL BE 31'-0" LONG.

ESTIMATED QUANTITIES

BAR	SIZE	Nº	UNIT LENGTH	TOTAL LENGTH	LOCATION
A	#8	4	34'-7"	138'-4	LONG. IN TOP CAP
A1	#8	4	43'-7"	174'-4"	" " " "
A2	#8	8	39'-1"	312'-8"	LONG. IN BOT. CAP
TOTAL #8 BARS				= 625'-4"	= 1670 LBS.
Z	#6	92	2'-3"	207'-0"	DOWELS IN CAP
TOTAL #6 BARS				= 207'-0"	= 310 LBS.
B	#4	116	8'-2"	947'-4"	STIRRUPS IN CAP
C	#4	5	5'-4½"	26'-11"	RISER
D	#4	3	3'-6"	10'-6"	RISER
E*	#4	4	76'-8"	306'-8"	LONG. IN CAP
F	#4	101	7'-4"	740'-8"	STIRRUPS IN CAP
TOTAL #4 BARS				= 2032'-1"	= 1357 LBS
DEFORMED REINFORCING STEEL					= 3337 LBS.
CLASS 'A' CONCRETE					~~23.23~~ = ~~23.07~~ CU.YDS.
STEEL SHEET PILES					= 912 SQ.FT.
AVERAGE PILE LOAD					= 30.0 TONS/PILE

* LENGTH INCLUDES ONE 1'-6" SPLICE



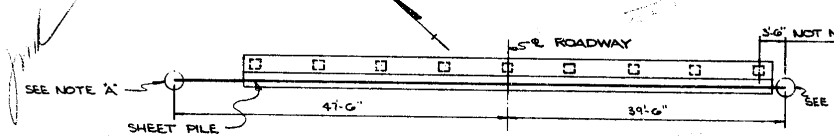
ELEVATION

(SHEET PILES, #4 BARS E & F NOT SHOWN FOR CLARITY)

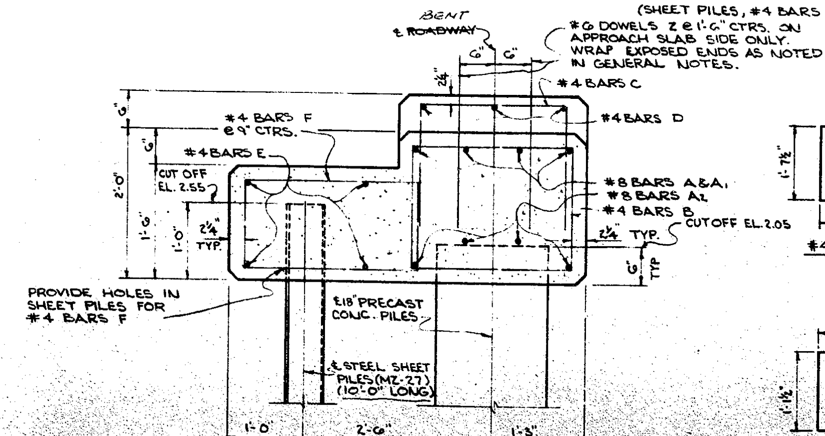
NOTES:

FOR GENERAL NOTES SEE SHEET Nº 2.

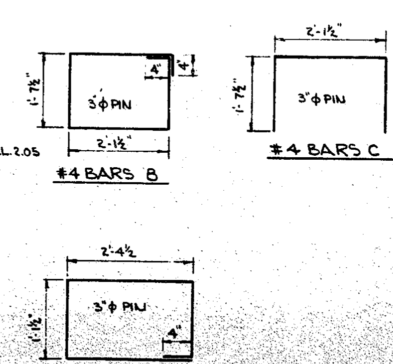
STEEL SHEET PILE CODE MARKING SHOWN IS FOR USS STEEL SHEET PILING. APPROVED PILING OF OTHER MANUFACTURERS SIMILAR TO USS STEEL SHEET PILING MAY BE USED. STEEL SHEET PILING SHALL CONFORM TO THE REQUIREMENTS OF A.S.T.M. DESIGNATION A 328. PRIOR TO DRIVING BOTH FACES OF THE TOP FIVE (5) FEET OF THE SHEET PILES SHALL BE CLEANED IN ACCORDANCE WITH STEEL STRUCTURES PAINTING COUNCIL STANDARD SP-10, NEAR WHITE BLAST CLEANING, AND PAINTED WITH TWO (2) COATS OF COAL TAR EPOXY (TARSET) OR APPROVED EQUAL. AFTER DRIVING THE CONTRACTOR SHALL REPAIR ALL DAMAGES TO THE EQOXY PAINT SYSTEM BY RECLEANING AND RECOATING THE DAMGED PORTIONS WITH THE SAME EPOXY PAINT SYSTEM. ALL COATING SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.

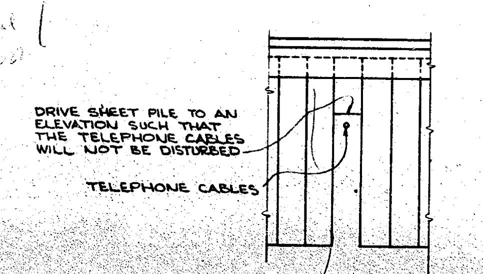


SCHEMATIC SHOWING EXTENSION OF SHEET PILES



SECTION A-A





SHEET PILE DETAIL @ TELEPHONE CABLES

(APPROXIMATE LOCATION OF CABLES STA. 50+25 AND STA. 50+37)

BENT Nº4

DATE	DESCRIPTION	BY
11-6-68	NEW SHEET ADDED	L.A.G.

REVISIONS

BAYOU LAFOURCHE BRIDGE AT GOLDEN MEADOW

LA. HWYS 1 & 308

DATED OCT. 24 19 68

STATE OF LOUISIANA

DEPARTMENT OF HIGHWAYS

DESIGNED | DETAILED | TRACED

CHECKED | CHECKED | CHECKED

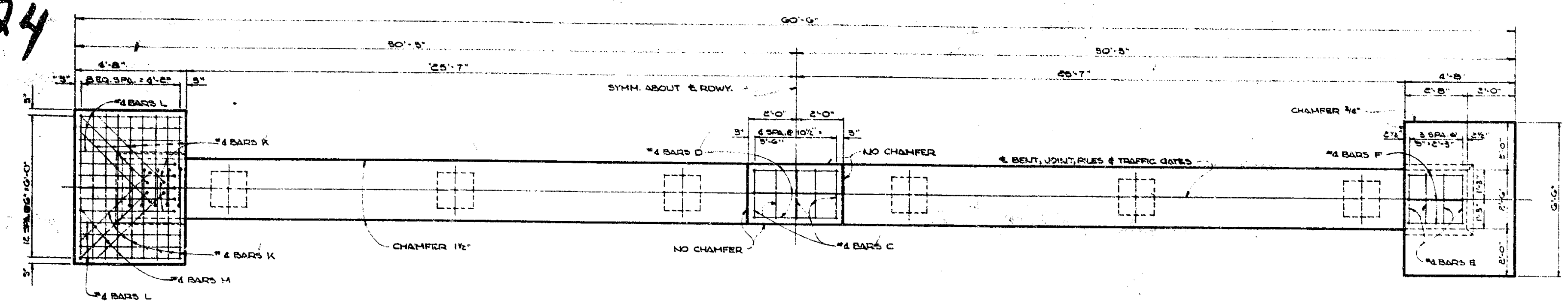
BRIDGE DESIGN SECTION

AS BUILT PLANS

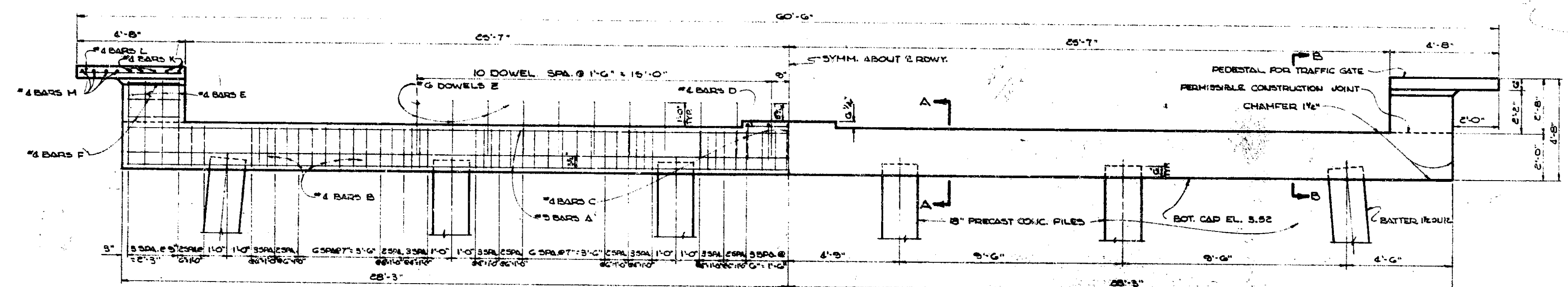
124

STATE PROJECT	PARISH	SHEET NO.
407-01-16	LAFOURCHE	9

W. D. Tabor



PLAN



ELEVATION

NOTE:
ANCHOR BOLTS AND CONDUIT HOLES FOR CONDUIT FOR TRAFFIC GATES TO BE LOCATED IN THE FIELD. SIZE AND LOCATION OF ANCHOR BOLTS TO BE OBTAINED FROM MANUFACTURER'S CERTIFIED DRAWINGS. ANCHOR BOLTS TO BE EMBEDDED 9" MIN. IN CONCRETE. ALL ANCHOR BOLTS TO BE HOT-DIPPED GALVANIZED (ASTM 123). NO DIRECT PAYMENT WILL BE MADE FOR ANCHOR BOLTS AND CORED HOLES. SEE SHEET S-8 FOR ADDITIONAL INFORMATION.

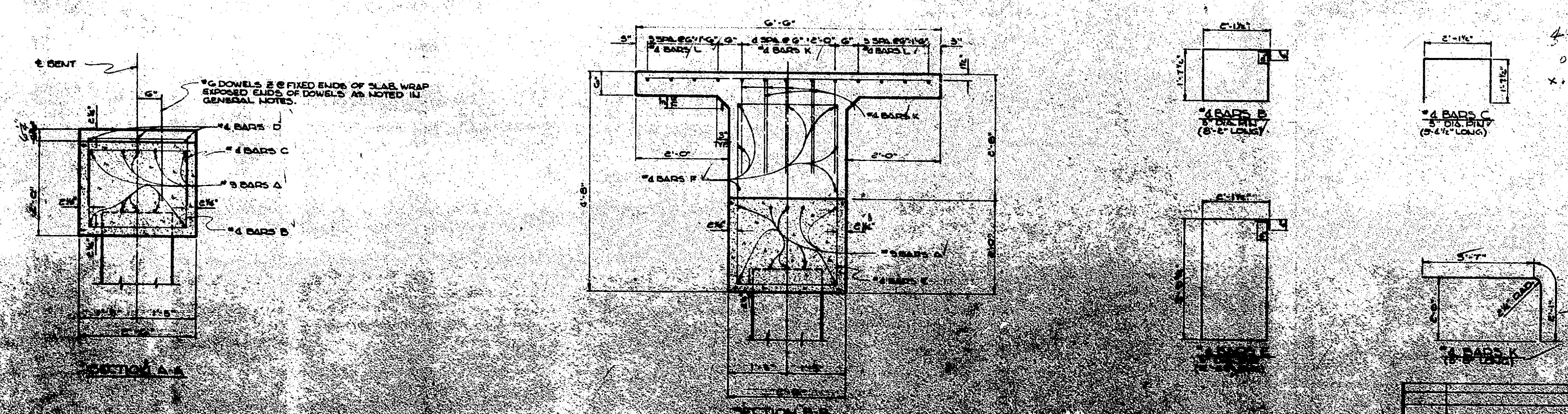
ESTIMATED QUANTITIES (ONE BENT)

BAR	SIZE	Nº	UNIT LENGTH	TOTAL LENGTH	LOCATION
A	#5	10	56'-2"	561'-8"	LONG. IN CAP
TOTAL #5 BARS = 561'-8" =				1916	LBS.
Z (BENT #2)	#6	22	2'-3"	49'-6	DOWELS IN CAP
Z (BENT #3)	#6	44	2'-3"	99'-0"	DOWELS IN CAP
TOTAL #6 BARS = ~~49'-6~~ 148'-6" =				74	LBS.
B	#4	89	8'-2"	~~726'-10"~~	STIRRUPS IN CAP
C	#4	5	5'-4½"	26'-11"	STIRRUPS IN RISER
D	#4	3	3'-8"	11'-0"	LONG. IN RISER
E	#4	8	12'-6½"	100'-4"	STIRRUPS IN GATE BASE
F	#4	14	2'-4"	32'-8"	LONG. IN GATE BASE
K	#4	42	5'-8"	238'-0"	PEDESTAL
L	#4	16	4'-4"	69'-4"	PEDESTAL
M	#4	8	6'-2"	49'-4"	PEDESTAL
TOTAL #4 BARS ~~1260'-8"~~ 1254'-5" =				838 ~~840~~	LBS.
DEFORMED REINFORCING STEEL =				(#2) 2822 ~~2846~~ (#3) 2896	LBS.
CLASS "A" CONCRETE =				12.62	CU. YDS.
AVERAGE PILE LOAD =				39.0	TONS/PILE

FOR GENERAL NOTES SEE SHEET Nº 2.

$5.65 \times 2.04 \times 2.5 + 4 \times 2.5 \times 1.5262 + 2 \times 2.1667 \times 2.5 \times 2.6667$

$4.6667 \times 1.5 \times 6.5 \times 2.0 + 2.5 \times 2.0 \times 1.125 \times 2.5 + 2 \times 2.9167 \times .82 \times .25) - (6 \times 1.5 \times 2.0.5) = \frac{340.4}{27} = 12.62$



BENTS 2 & 3

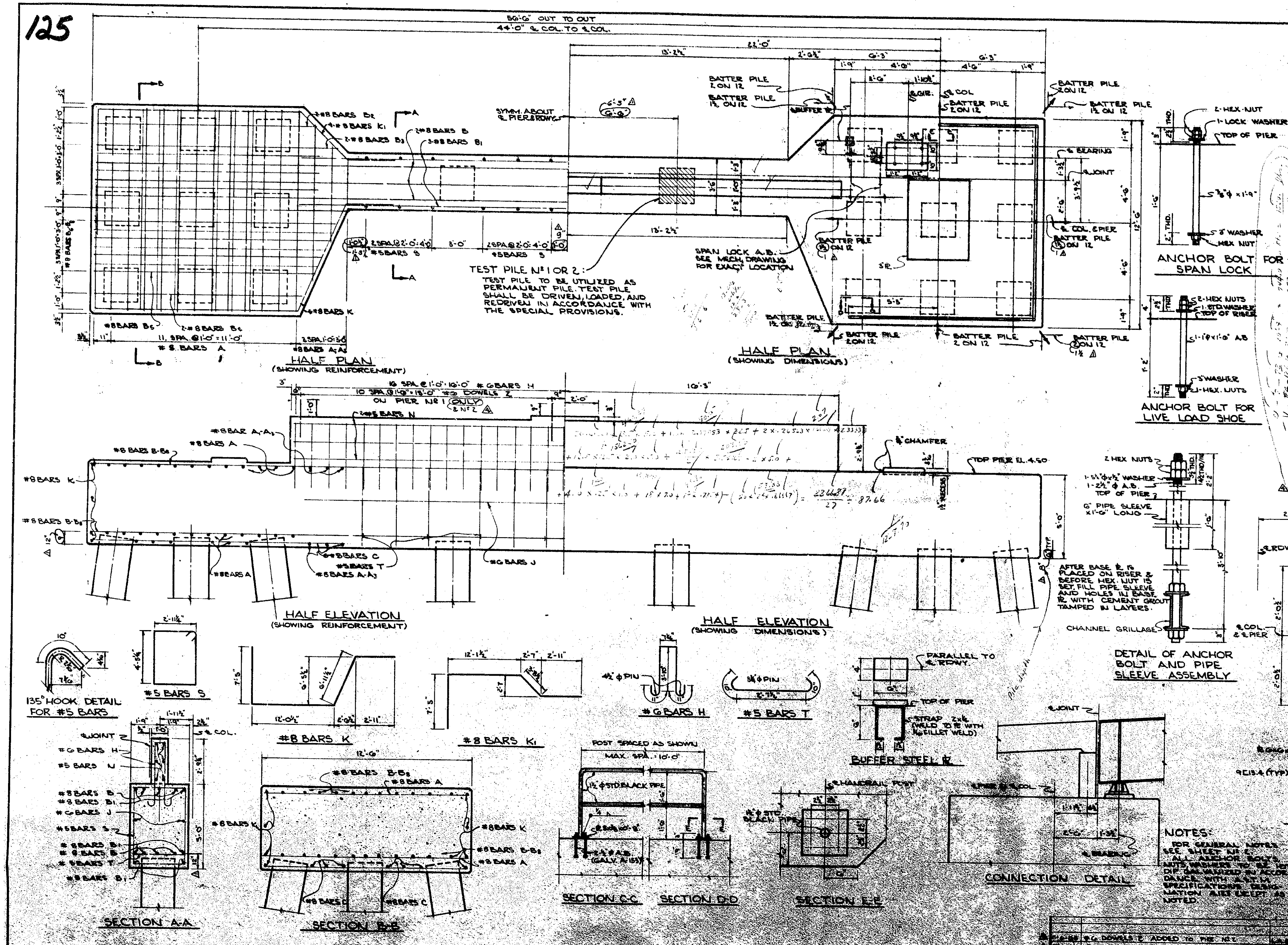
BAYOU LAFOURCHE BRIDGE
AT GOLDEN MEADOW

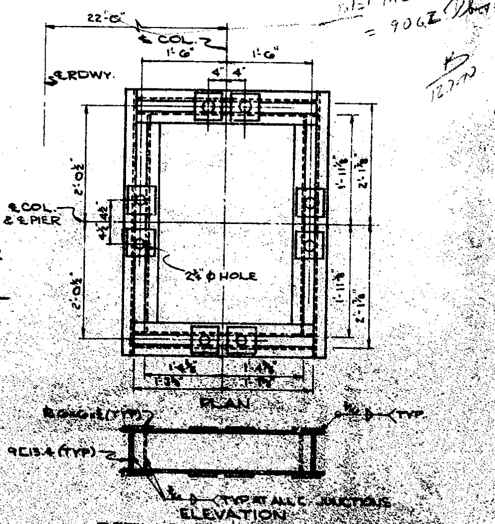
STATE OF LOUISIANA
DEPARTMENT OF HIGHWAYS

BRIDGE DESIGN SECTION

125

	STATE PROJECT	PARISH	SHEET NO.
✓	407-01-16	LAFOURCHE	10





BILL OF MATERIAL FOR ONE PIER					
BAR	SIZE	Nº	UNIT LENGTH	TOTAL LENGTH	LOCATION
A	#8	60	12'-0"	720'-0"	TOP & BOT. TRANSV.
A1	#8	4	8'-9"	35'-0"	" " " "
A2	#8	4	5'-3"	21'-0"	" " " "
A3	#8	4	3'-0"	12'-0"	" " " "
B	#8	6	58'-11"*	353'-6"	TOP & BOT. LONGIT.
B1	#8	6	32'-2"	193'-0"	" " " "
B2	#8	4	13'-3"	53'-0"	" " " "
B3	#8	4	14'-6"	58'-0"	" " " "
B4	#8	4	12'-6"	50'-0"	" " " "
B5	#8	4	13'-1"	52'-4"	" " " "
B6	#8	4	13'-5"	53'-8"	" " " "
B7	#8	4	13'-10"	55'-4"	" " " "
B8	#8	4	14'-2"	56'-8"	" " " "
C	#8	12	13'-5"	161'-0"	BOT. TRANSV.
K	#8	8	29'-4"	234'-8"	STRAP AROUND PIER
K1	#8	8	26'-1½"	209'-0"	" " "
TOTAL #8 BARS = 2318'-2"				=	9190 LBS.
H	#6	33	10'-1"	332'-9"	STIRRUP IN WALL
J	#6	2	32'-2"	64'-4"	LONGIT. ON SIDES
Z	#6	22	2'-3"	49'-6"	DOWELS IN WALL
TOTAL #6 BARS = 446'-7"				=	671 LBS.
N	#5	6	32'-2"	193'-0"	LONGIT. IN WALL
S	#5	12	16'-5"	197'-0"	STIRRUP
T	#5	8	4'-3½"	34'-4"	TIE
TOTAL #5 BARS = 424'-4"					443 LBS.
CLASS "A" CONCRETE					87.68 = 94.56 CU.YDS.
DEFORMED REINFORCING STEEL					9503 LBS.
STRUCTURAL CARBON STEEL (A-36):					3638 LBS.
MAX. PILE LOAD					= 42.4 T/PILE

* LENGTH INCLUDES ONE 2'-11" SPLICE.

total incl. plugs = 9062

PIERS Nº 1 & 2

BAYOU LAFOURCHE BRIDGE
AT GOLDEN MEADOW
LA. HWYS 1 & 308

STATE OF LOUISIANA
DEPARTMENT OF HIGHWAYS
BRIDGE DESIGN SECTION

	DATE	DESCRIPTION	BY
1		#6 DOWELS Z ADDED TO PIER Nº 2	
2		General	

REVISIONS

AS BUILT PLANS

130

	STATE PROJECT	PARISH	SHEET NO.
✓	407-01-16	LAFOURCHE	15

NOTE A MAXIMUM OF 3 SHOP WEB SPLICES WILL BE PERMITTED AT POINTS 22' OR MORE FROM ENDS OF THE GIRDER AND AT LOCATIONS APPROVED BY THE BRIDGE DESIGN ENGINEER.

HALF INSIDE ELEVATION OF LIFT SPAN GIRDER

101'-5" ℄ BEARING TO ℄ BEARING
80'-8 1/2" TO ℄ SPAN
103'-10" OUT TO OUT GIRDER
104'-0" ℄ JOINT TO ℄ JOINT
40'-3" ℄ GIRDER TO ℄ GIRDER
20'-1 1/2"
28'-0" CLEAR RDWY.
14'-0"

HALF SECTION THRU ROADWAY AT FLOOR BEAM

PLAN OF DECK FRAMING AND LATERAL SYSTEM

SECTION A-A (GRID DECK NOT SHOWN)

SECTION THRU SIDEWALK BETWEEN FLOORBEAMS

SECTION B-B

PLAN OF SIDEWALK AT FLOORBEAM

LIFTING HEAD FOR WIRE ROPES (FOR COMPLETE ASSEMBLY, SEE MACH. DETAILS)

CONNECTION DETAIL FOR LATERAL BRACING AT FLOORBEAMS NO. 1 & 1'

CONNECTION DETAIL FOR LATERAL BRACING AT FLOORBEAMS NO. 2 & 2'

SECTION C-C

SECTION D-D

CONNECTION DETAIL FOR LATERAL BRACING AT ℄ SPAN

SECTION G-G

CONNECTION DETAIL AT TOWER

DETAIL OF PL 10X10X 3/8 (BASE FOR HANDRAIL PIPE BRACKETS) STRUCTURAL CARBON STEEL (A-36)

PART INSIDE ELEVATION OF PIPE HANDRAIL AT GIRDER ENDS

PLAN VIEW AT FIXED END OF SPAN SHOWING SPAN GUIDE AND BUFFER CONNECTION

SECTION E-E

SECTION F-F

LIVE LOAD SHOE LAYOUT

LIVE LOAD SHOE

BASE PLATE

SOLE PLATE

ESTIMATED QUANTITIES (VERTICAL LIFT SPAN)

OPEN GRID BRIDGE FLOORING	2901 SQ. FT.
MANGANESE VANADIUM STEEL (A-441)	60,908 LBS.
STRUCTURAL CARBON STEEL (A-36)	121,923 LBS.
PIPE HANDRAIL	204.83 LIN. FT.

NOTE: STEEL TO BE STRUCTURAL CARBON STEEL (A-36) EXCEPT AS NOTED.

FOR GENERAL NOTES AND MISCELLANEOUS DETAILS SEE SHEET NO. 2

104' VERTICAL LIFT SPAN

BAYOU LAFOURCHE BRIDGE AT GOLDEN MEADOW
LA. HWYS. 1 & 308

AS BUILT PLANS

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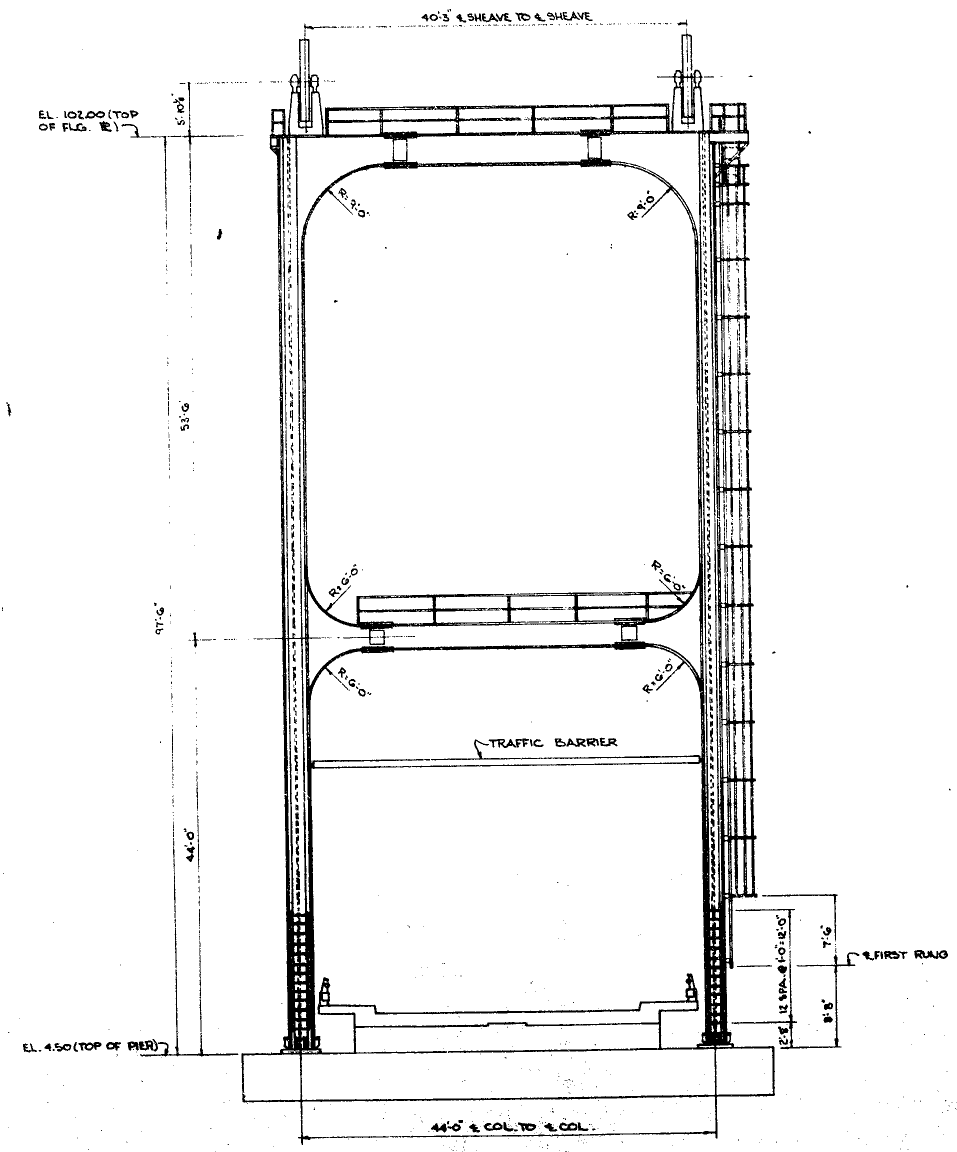
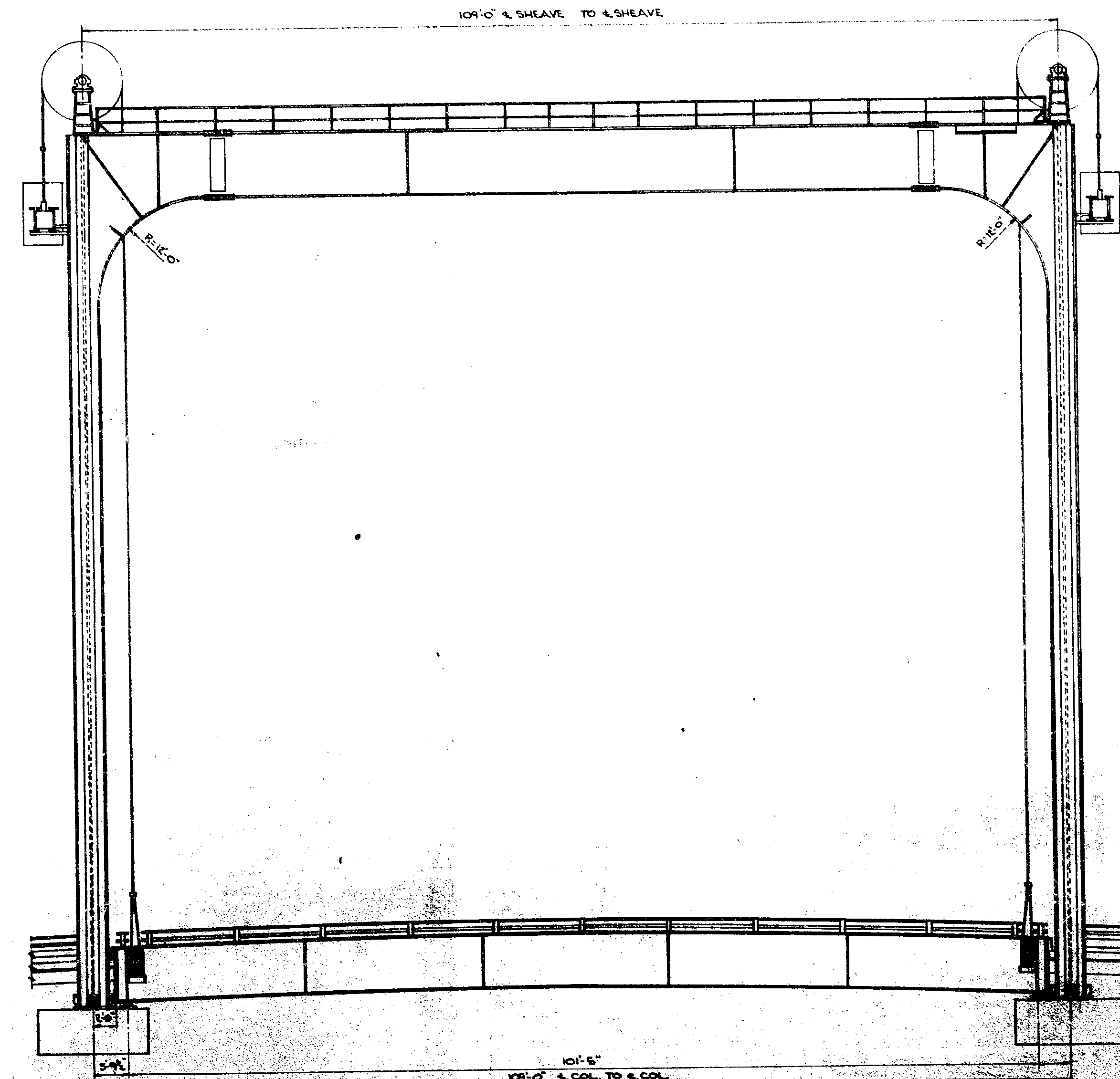
STATE PROJECT	PARISH	SHEET NO.
407-01-16	LAFOURCHE	16



SECTION THRU ROADWAY AT TOWER



SIDE ELEVATION OF TOWER

MATERIALS IN TOWERS
~~STRUCTURAL CARBON STEEL~~
See letter from Bridge Design
Dated 5-1-69

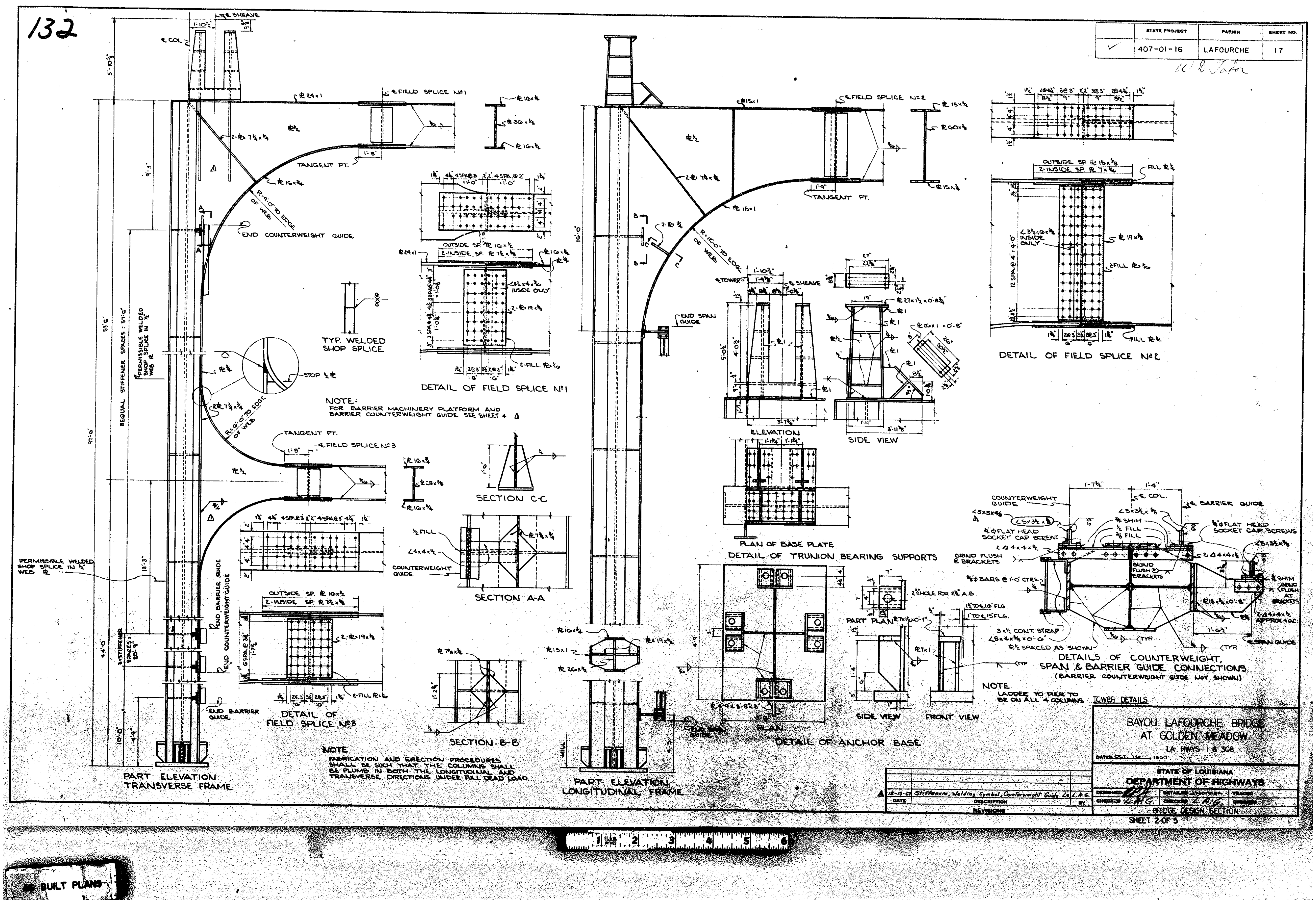
TOWER DETAILS

BAYOU LAFOURCHE BRIDGE
AT GOLDEN MEADOW
LA. HWYS. 1 & 308

STATE OF LOUISIANA
DEPARTMENT OF HIGHWAYS

DATE	DESCRIPTION	BY
	REVISIONS	

AS BUILT PLANS


132
STATE PROJECT 407-01-16 PARISH LAFOURCHE SHEET NO. 17
PART ELEVATION TRANSVERSE FRAME
PART ELEVATION LONGITUDINAL FRAME
DETAIL OF FIELD SPLICE No1
DETAIL OF FIELD SPLICE No2
DETAIL OF FIELD SPLICE No3
TYP. WELDED SHOP SPLICE
SECTION C-C
SECTION A-A
SECTION B-B
TANGENT PT.
END COUNTERWEIGHT GUIDE
END BARRIER GUIDE
END SPAN GUIDE
NOTE: FOR BARRIER MACHINERY PLATFORM AND BARRIER COUNTERWEIGHT GUIDE SEE SHEET 4
NOTE: FABRICATION AND ERECTION PROCEDURES SHALL BE SUCH THAT THE COLUMNS SHALL BE PLUMB IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS UNDER FULL DEAD LOAD.
PERMISSIBLE WELDED SHOP SPLICE IN ½" WEB ℞
ELEVATION
SIDE VIEW
PLAN OF BASE PLATE
DETAIL OF TRUNION BEARING SUPPORTS
PLAN
DETAIL OF ANCHOR BASE
PART PLAN
SIDE VIEW
FRONT VIEW
NOTE: LADDER TO PIER TO BE ON ALL 4 COLUMNS
DETAILS OF COUNTERWEIGHT, SPAN & BARRIER GUIDE CONNECTIONS (BARRIER COUNTERWEIGHT GUIDE NOT SHOWN)
TOWER DETAILS
BAYOU LAFOURCHE BRIDGE AT GOLDEN MEADOW
LA. HWYS. 1 & 308
STATE OF LOUISIANA
DEPARTMENT OF HIGHWAYS
BRIDGE DESIGN SECTION
SHEET 2 OF 5
REVISIONS
AS BUILT PLANS

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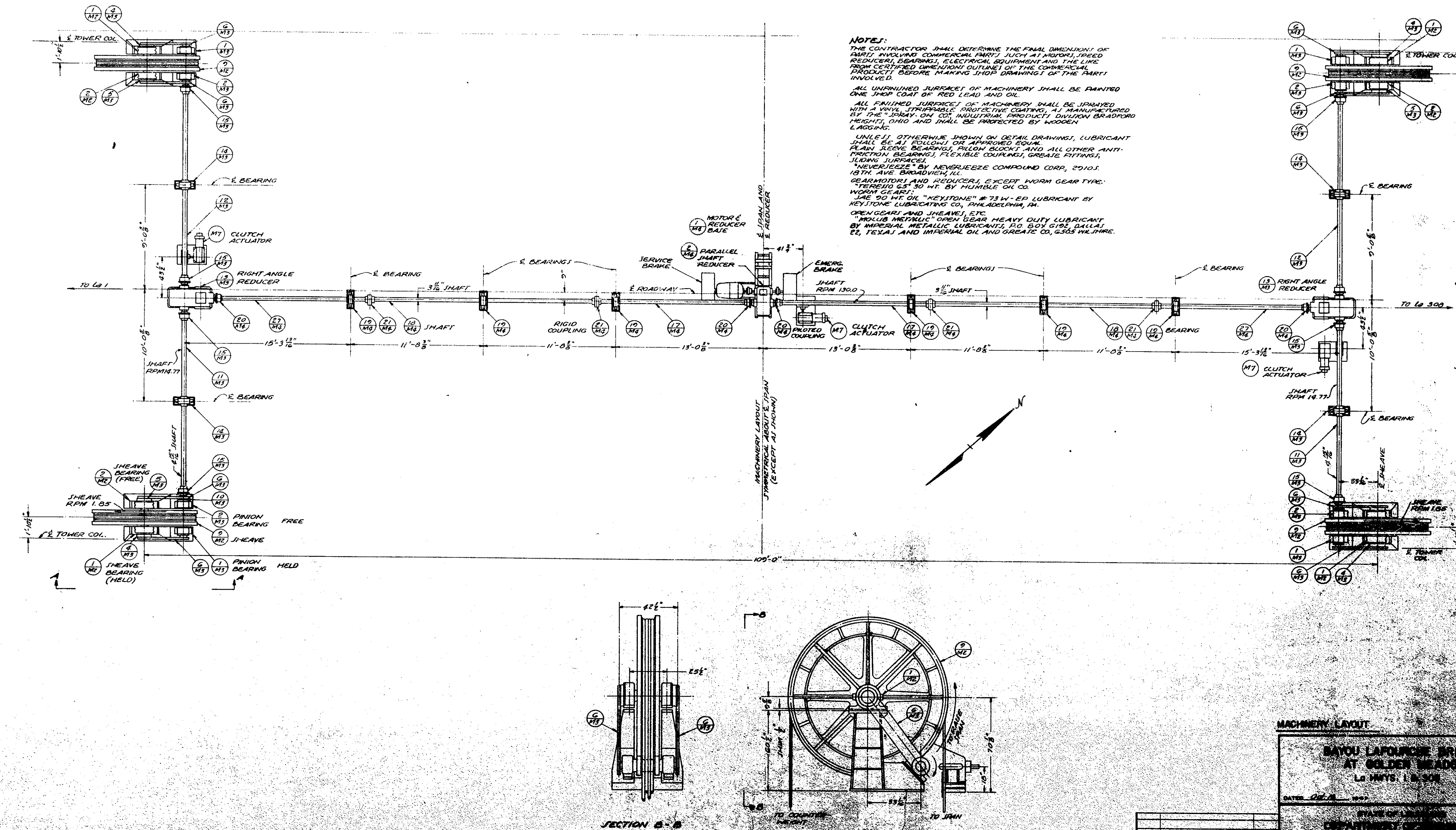
	STATE PROJECT	PARISH	SHEET NO.
	407-01-16	LAFOURCHE	22

W D Tubor



NOTES:

THE CONTRACTOR SHALL DETERMINE THE FINAL DIMENSIONS OF PARTS INVOLVING COMMERCIAL PARTS SUCH AS MOTORS, SPEED REDUCERS, BEARINGS, ELECTRICAL EQUIPMENT AND THE LIKE FROM CERTIFIED DIMENSIONS OUTLINES OF THE COMMERCIAL PRODUCTS BEFORE MAKING SHOP DRAWINGS OF THE PARTS INVOLVED.

ALL UNFINISHED SURFACES OF MACHINERY SHALL BE PAINTED ONE SHOP COAT OF RED LEAD AND OIL.

ALL FINISHED SURFACES OF MACHINERY SHALL BE SPRAYED WITH A VINYL STRIPPABLE PROTECTIVE COATING, AS MANUFACTURED BY THE "SPRAY-ON CO." INDUSTRIAL PRODUCTS DIVISION BRADFORD HEIGHTS, OHIO AND SHALL BE PROTECTED BY WOODEN LAGGING.

UNLESS OTHERWISE SHOWN ON DETAIL DRAWINGS, LUBRICANT SHALL BE AS FOLLOWS OR APPROVED EQUAL.
PLAIN SLEEVE BEARINGS, PILLOW BLOCKS AND ALL OTHER ANTI-FRICTION BEARINGS, FLEXIBLE COUPLINGS, GREASE FITTINGS, SLIDING SURFACES.
"NEVERSEEZE" BY NEVERSEEZE COMPOUND CORP., 2910 S. 18TH. AVE. BROADVIEW, ILL.
GEARMOTORS AND REDUCERS, EXCEPT WORM GEAR TYPE:
"TERESSO 65" 30 WT. BY HUMBLE OIL CO.
WORM GEARS:
SAE 90 WT. OIL "KEYSTONE" #73 W-EP LUBRICANT BY KEYSTONE LUBRICATING CO., PHILADELPHIA, PA.

OPEN GEARS AND SHEAVES, ETC.
"MOLUB METALLIC" OPEN GEAR HEAVY DUTY LUBRICANT BY IMPERIAL METALLIC LUBRICANTS, P.O. BOX 6192, DALLAS 22, TEXAS AND IMPERIAL OIL AND GREASE CO., 6505 WILSHIRE.

DATE	DESCRIPTION	BY
	REVISIONS	

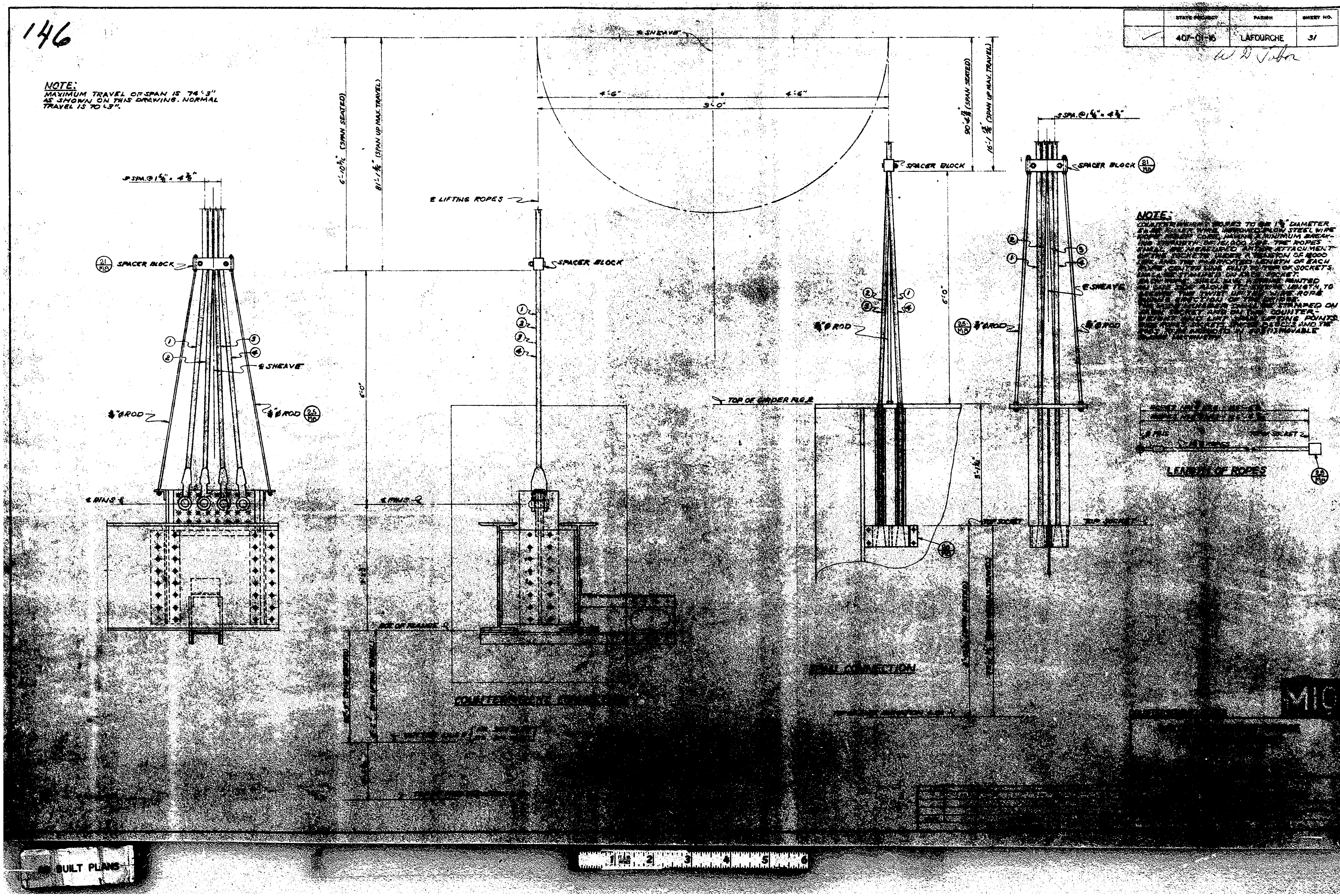
MACHINERY LAYOUT

BAYOU LAFOURCHE BRIDGE
AT GOLDEN MEADOW
La HWYS. 1 & 308

DATED Oct. 18 1967

STATE OF LOUISIANA
DEPARTMENT OF HIGHWAYS

DESIGNED
CHECKED


146
STATE PROJECT
PARISH
SHEET NO.
407-01-16
LAFOURCHE
31
NOTE:
MAXIMUM TRAVEL OF SPAN IS 74'-3" AS SHOWN ON THIS DRAWING. NORMAL TRAVEL IS 70'-3".
SPACER BLOCK
℄ SHEAVE
℄ PINS
℄ LIFTING ROPES
4'-6"
9'-0"
(SPAN SEATED)
(SPAN UP MAX. TRAVEL)
6'-0"
TOP OF GIRDER FLG.
NOTE:
DIAMETER
STEEL WIRE
MINIMUM BREAK-
THE ROPES
ATTACHMENT
EACH
SOCKETS
STAMPED ON
COUNTER-
POINTS
LENGTH OF ROPES
M10
BUILT PLANS

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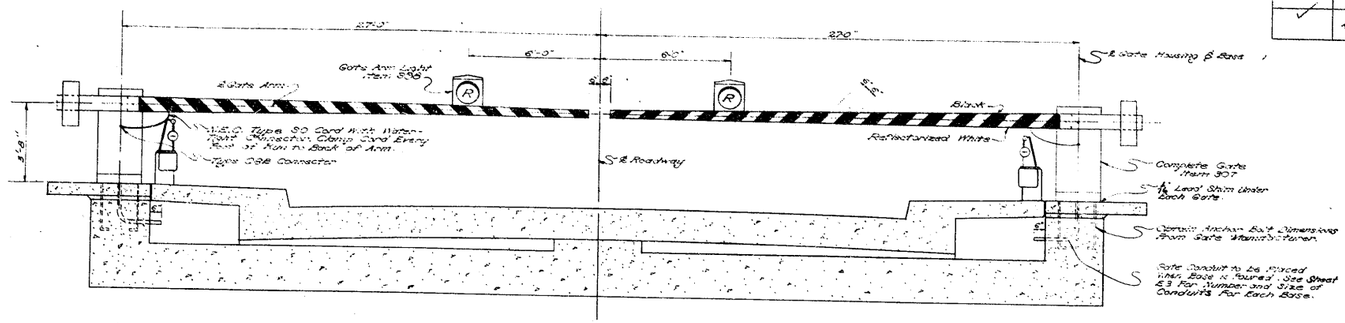
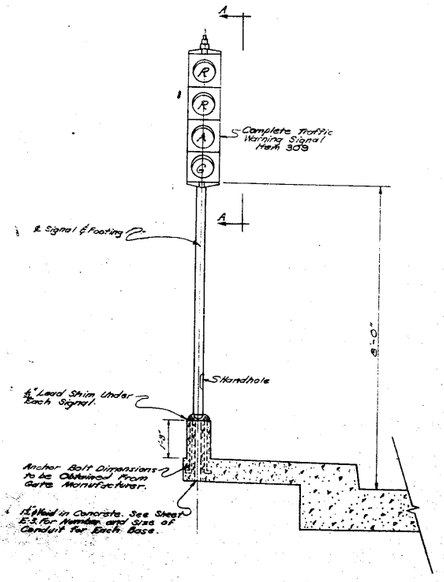
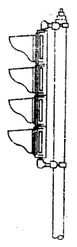
	STATE PROJECT	PARISH	SHEET NO.
✓	407-01-16	LAFOURCHE	46



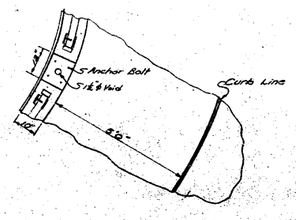
TYPICAL SECTION OF GATES ON APPROACHES
See General Plan For Location



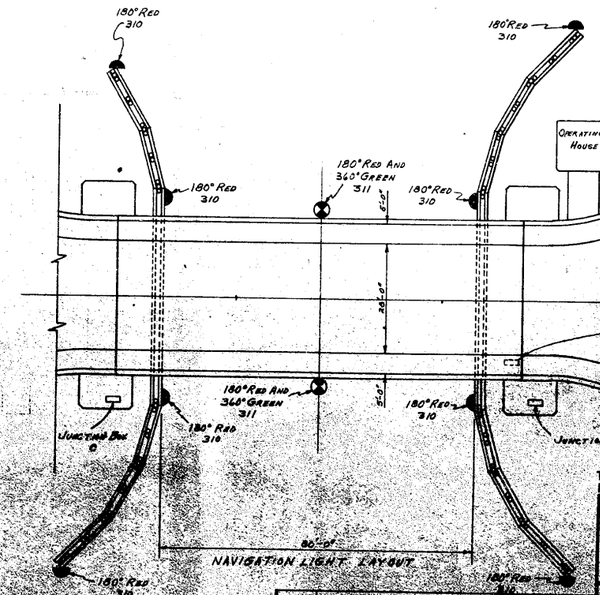
TYPICAL SECTION OF TRAFFIC SIGNAL
See General Plan For Location



SECTION "A-A"



PLAN VIEW OF TRAFFIC SIGNAL FOOTING
See General Plan For Location



NAVIGATION LIGHT LAYOUT

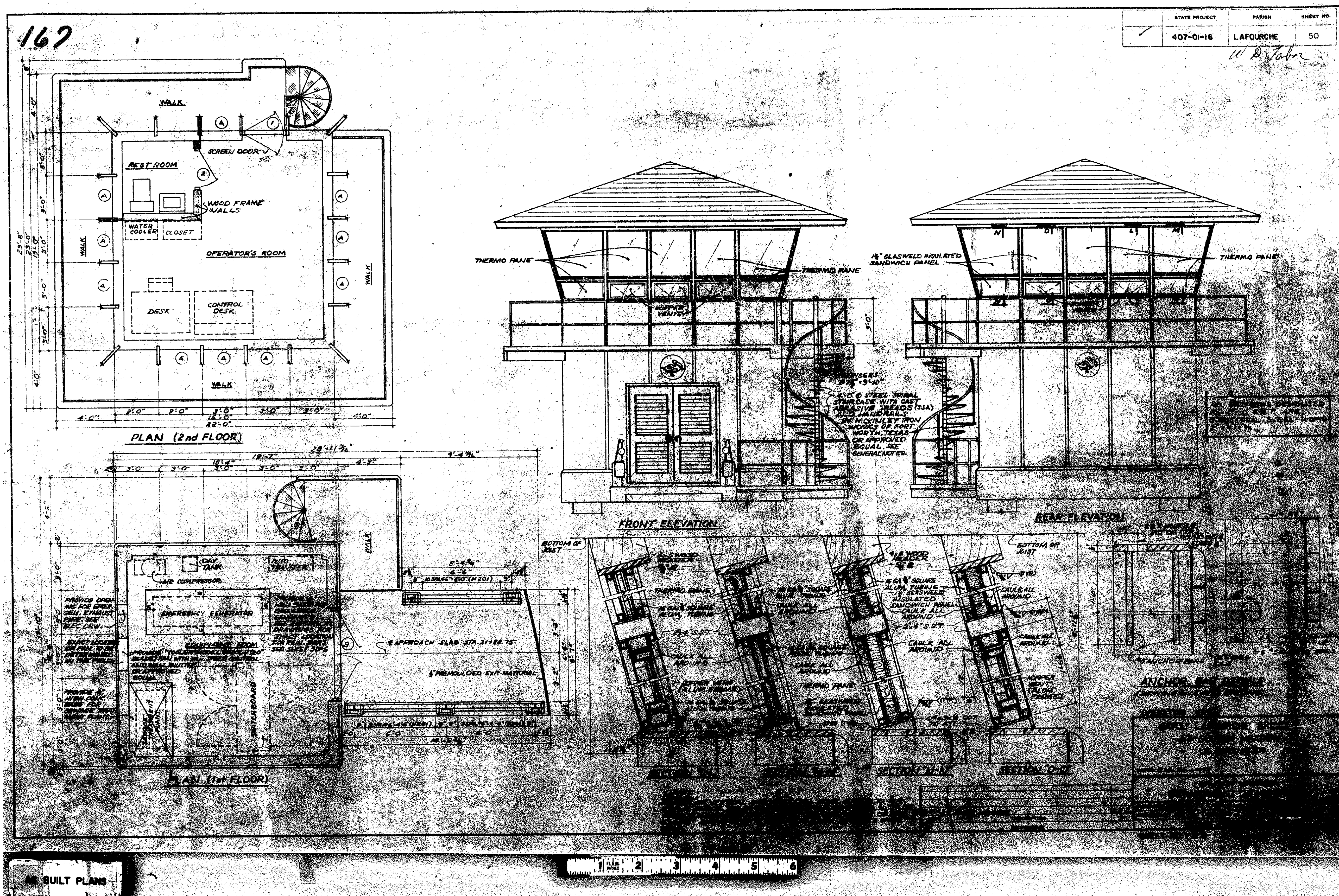
Anchor Bolt Note:
All Anchor Bolts to be Hot Dip Galvanized.

AS BUILT PLANS

TRAFFIC GATES, TRAFFIC SIGNALS, NAVIGATION LIGHTS

E8

BAYOU LAFOURCHE BRIDGE
AT GOLDEN MEADOW
LA HWY. 1 & S.P.R.R.



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STATE PROJECT
PARISH
SHEET NO.
407-01-16
LAFOURCHE
50
W D Tabor
PLAN (2nd FLOOR)
WALK
REST ROOM
SCREEN DOOR
WOOD FRAME WALLS
WATER COOLER
CLOSET
OPERATOR'S ROOM
DESK
CONTROL DESK
23'-8"
23'-0"
15'-0"
4'-0"
3'-0"
THERMO PANE
1½" GLASWELD INSULATED SANDWICH PANEL
HOPPER VENTS
RISERS
4'-0" Ø STEEL SPIRAL STAIRCASE WITH CAST ABRASIVE TREADS (SSA) AND HANDRAILS BY MCKINLEY IRON WORKS OF FORT WORTH, TEXAS OR APPROVED EQUAL. SEE GENERAL NOTES.
FRONT ELEVATION
REAR ELEVATION
PLAN (1st FLOOR)
DAY TANK
AUTO. TRANSFER
AIR COMPRESSOR
EMERGENCY GENERATOR
EQUIPMENT ROOM
SWITCHBOARD
PROVIDE OPENING FOR EMER. GEN. EXHAUST PIPE. SEE ELEC. DRW.
℄ APPROACH SLAB STA. 21+88.75
½" PREMOULDED EXP. MATERIAL
28'-11 5/16"
19'-7"
15'-4"
4'-9"
9'-4 5/16"
BOTTOM OF JOIST
CAULK ALL AROUND
2x4 S.S.T.
16 GA. ¾" SQUARE ALUM. TUBING
SECTION "N-N"
SECTION "O-O"
ANCHOR BAR DETAILS
AS BUILT PLANS