

MANCHAC BAYOU BRIDGE

HAER No. LA-40

(Bridge Recall No. 052140)

Carries Louisiana Highway 73 (LA 73) over Bayou Manchac between Baton Rouge (East Baton Rouge Parish) and Prairieville (Ascension Parish)

Baton Rouge

East Baton Rouge Parish

Louisiana

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

FIELD RECORDS

HISTORIC AMERICAN ENGINEERING RECORD

National Park Service

U.S. Department of the Interior

1849 C Street, NW

Washington, DC 20240

HISTORIC AMERICAN ENGINEERING RECORD
MANCHAC BAYOU BRIDGE
(Bridge Recall No. 052140)

HAER No. LA-40

Location: Carries Louisiana Highway 73 (LA 73) over Bayou Manchac between Baton Rouge (East Baton Rouge Parish) and Prairieville (Ascension Parish).

The Manchac Bayou Bridge (Bridge Recall No. 052140) is located at latitude 30.34405, longitude - 90.983283.¹ The coordinate represents the northwest corner of the bridge. It was obtained in 2016 by plotting its location in Google Earth. The location has no restriction on its release to the public.

Present Owner: State of Louisiana.

Present Use: Vehicular traffic.

Significance: This pony truss bridge has significance as an example of a distinctive truss subtype: a Warren pony truss with polygonal top chords and verticals. The distinctive features that convey its engineering significance are its three Warren truss spans, comprised of vertical and diagonal members to withstand both tensile and compressive forces and a polygonal top chord. This bridge exhibits added guardrail that results in a minor loss of integrity, but the bridge is able to convey its significant truss design features. The bridge was determined eligible for listing in the National Register of Historic Places (National Register) in 2013 under *Criterion C: Design/Engineering* at the state level of significance.²

Historian: Chad Moffett, Senior Cultural Resources Specialist; Mead & Hunt, Inc. (Mead & Hunt); 2017.

Project Information: This documentation was prepared as mitigation to fulfill Stipulation IX.5 of 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*, dated August 18, 2015, and executed September 21, 2015. The Louisiana Department of Transportation and Development (LADOTD) retained Mead & Hunt to prepare this document. It was prepared by senior cultural resource expert Chad Moffett of Mead & Hunt. Dietrich Floeter completed the photography.

¹ The bridge is also known as Structure No. 61170770400001.

² Mead & Hunt, Inc., *National Register Eligibility Determination Report, Pre-1971 Louisiana Highway Bridges* (prepared for the Louisiana Department of Transportation and Development, September 2013).

Part I. Historical Information

A. Physical History:

1. **Date(s) of construction:** 1931.
2. **Engineer:** Louisiana Highway Commission (LHC).
3. **Builder/Contractor/Supplier:** The Missouri Valley Bridge & Iron Co. of Leavenworth, Kansas, served as fabricator for the bridge, while W.H. Groome and Sons of Fayette, Mississippi, served as contractor.
4. **Original plans and construction:** Photocopies of the original plan sheets for the superstructure bank protection, substructure, and elements of the bridge are available in the General Files room at the LADOTD's Baton Rouge headquarters. The bridge's main span truss spans were built according to LHC Standard Plan Sheet B-2-222 for an 80'-0" riveted Warren truss with a 24-foot clear roadway, dated November 1929. The project plans were approved by Harry B. Henderlite, State Highway Engineer, on November 25, 1929, with revisions dated February 4, 1930, and March 24, 1930.³
5. **Alterations and additions:** The bridge has undergone minimal alterations, which include an asphalt roadway overlay of the concrete deck and a modern guard rail attached to the original railing.

B. Historical Context:

Historical background

The Manchac Bayou Bridge straddles two parishes—East Baton Rouge Parish to the north and Ascension Parish to the south—and is located between Baton Rouge to the northwest and New Orleans further to the southeast. At the time of its construction, the bridge carried the Baton Rouge-New Orleans Airline Highway, an important route connecting the two cities and carrying traffic to and from the airport.⁴

The section of the Baton Rouge-New Orleans Airline Highway from Baton Rouge to Gramercy was improved by the LHC and included the construction of the Manchac Bayou Bridge with bids opening for

³ Louisiana Highway Commission, "Plan and Profile of Proposed Bayou Manchac Bridge at Hope Villa," 1929, As-built plans, available in the General Files room, Louisiana Department of Transportation and Development, Baton Rouge, La.; the LADOTD also lists the standard plan as "S-L-T-35."

⁴ Louisiana Highway Commission, "Plan and Profile of Proposed Bayou Manchac Bridge at Hope Villa"; "Airline Highway Beyond Gramercy To Be Ready Soon," *The Times-Picayune*, October 19, 1930; Mead & Hunt, Inc., *Historic Context for Louisiana Bridges* (prepared for the Louisiana Department of Transportation and Development, December 2013), 3, 14.

construction of the bridge on January 21, 1930.⁵ Shop drawings indicate truss members were fabricated by the Missouri Valley Bridge and Iron Company of Leavenworth, Kansas, in 1930 and included the use of rolled steel beams and “lead red” paint. Shop inspection was completed by the Pittsburg Testing Laboratory.⁶ The bridge’s three truss spans and two approach spans were erected on-site by contractor W.H. Groome and Sons, of Fayette, Mississippi, in 1931.⁷ The bridge was completed by the LHC as part of Federal Aid Project Number 168-B and State Bond Project J-1201, with the design approved on November 25, 1929, and revised on February 4, 1930, and March 24, 1930. The total length of the bridge is 324'-5" while the overall project that included the approach roadway extended approximately 1,024'.⁸ In 1930 the LHC allocated \$34,488.43 for construction of the project; in 1931 it awarded a contract for the project; and the fifth biennial report of the LHC indicates the project included the use of state bonds with a final construction amount of \$75,581.77.⁹

When complete, the new bridge replaced a previous movable “steel draw bridge” with timber approach spans that carried traffic across the bayou just west of the new bridge. The new Manchac Bayou Bridge carried the Baton Rouge-New Orleans Airline Highway, a portion of the Jefferson Highway, and was designated for a time as U.S. Highway (US) 61.¹⁰ The completion of the bridge in 1931 and the connection it provided between Baton Rouge and New Orleans along the Baton Rouge-New Orleans Airline Highway was prominently noted after its construction, with aerial photographs of the bridge displayed in *The Times-Picayune* in 1931 and the *State Times Morning Advocate* in 1932.¹¹ After its construction, a photograph showing all five spans of the bridge was featured in the sixth biennial report of the Louisiana Highway Commission.¹² The opening of the bridge to vehicles at 2:00 p.m. on April 7, 1931, was discussed in the *State Times Morning Advocate*, which noted it had a 24'0" clear roadway and “is so constructed that it will not interfere with any water traffic on the bayou.”¹³

⁵ “Airline Highway Beyond Gramercy To Be Ready Soon”; “To Open Bids on January 21 For Manchac Bridge,” *State Times*, December 23, 1929.

⁶ Louisiana Highway Commission, “3-80'-00” x 24'-00” – Riveted Steel Spans, Bayou Manchac Bridge,” Shop drawings, available in the General Files room, Louisiana Department of Transportation and Development, Baton Rouge, La.

⁷ “New Hope Villa Span Is Thrown Open to Traffic,” *State Times Morning Advocate*, April 8, 1931.

⁸ Louisiana Highway Commission, “Plan and Profile of Proposed Bayou Manchac Bridge at Hope Villa.”

⁹ Louisiana Highway Commission, *Fifth Biennial Report of the Louisiana Highway Commission of the State of Louisiana* (Baton Rouge, La.: Louisiana Highway Commission, 1930), 370; Louisiana Highway Commission, *Sixth Biennial Report of the Louisiana Highway Commission of the State of Louisiana* (Baton Rouge, La.: Louisiana Highway Commission, 1932), 413.

¹⁰ Louisiana Highway Commission, “Plan and Profile of Proposed Bayou Manchac Bridge at Hope Villa”; “Airline Highway Beyond Gramercy To Be Ready Soon”; Mead & Hunt, Inc., *Historic Context for Louisiana Bridges*, 3, 14.

¹¹ “New Bridge on Airline Highway,” *The Times-Picayune*, June 14, 1931; “\$25,000,000 Bridges are Placed Under Contract in State in Past Ten Years,” *State Times Morning Advocate*, May 16, 1932.

¹² Louisiana Highway Commission, *Sixth Biennial Report of the Louisiana Highway Commission of the State of Louisiana*, 408-411.

¹³ “New Hope Villa Span Is Thrown Open to Traffic.”

Designation of the Baton Rouge-New Orleans Airline Highway at this location lasted approximately 20 years. According to the Louisiana state police, by 1952 a 3-mile stretch of the highway that included the Manchac Bayou Bridge was deemed the most dangerous stretch of highway in the state in terms of accidents. Many of the accidents were attributed to the narrow width of the bridge. In the early 1950s the Baton Rouge-New Orleans Airline Highway/US 61 was designated LA 73 after the Baton Rouge-New Orleans Airline Highway/US 61 was realigned. A newly constructed Baton Rouge-New Orleans Airline Highway/US 61 was designed to eliminate curves and improve safety, with an alignment to the west of the current LA 73. The new roadway included a wider four-lane crossing over the Bayou Manchac.¹⁴ LA 73 now serves as a local road to connect the communities between Baton Rouge and New Orleans.

Engineering background

Truss bridges became common in the U.S. in the mid-nineteenth century and were used in Louisiana as fixed-span bridges beginning in the twentieth century. In design, a truss bridge features parallel trusses that use built-up diagonal and vertical members to support deck loads. Steel bridge members are joined with plates and fasteners: pins, rivets, or bolts in early examples and welding in later examples. There are three basic arrangements of trusses—pony, through (or overhead), and deck—and a wide variety of types categorized according to the configuration of the truss members. The Warren truss was one of the most popular truss designs nationally and in Louisiana. First developed in 1848, the Warren truss design eliminated the vertical members found in most other truss forms by using diagonal members to withstand both tensile and compressive forces. A variation of the design includes the use of vertical members, primarily serving as bracing units rather than load-bearing system, referred to as a “Warren with verticals.” The span of the Warren and Warren-with-verticals configuration generally ranged from 50' to 400'. Another variation in Warren design includes the use of polygonal top chords or vertical endposts that reduce the amount of steel and makes the construction of this variation more economical. The Manchac Bayou Bridge utilizes a Warren pony truss design based on a standard plan with both the verticals, as bracing members, and polygonal top chord variations.¹⁵

After the establishment of the LHC in 1921, standard plans were developed for pony trusses. The pony truss was a common bridge form throughout the state as variations on truss types were easily adapted to specific site conditions. Their popularity can be expressed by the number of standard plans that were developed by the LHC in the early twentieth century. Between the 1920s and 1940s the agency produced a number of standard plans for pony trusses that included different variations in type, length, and deck width. Thereafter, the state continued to revise existing truss plan sets until the 1960s. The LHC developed at least 16 standard Warren truss plans between 1920 and 1937, of which the majority were for pony trusses. The standard plans ranged in span length from 50'-0" 100'-0" and were used for Warren pony truss construction through 1949. Louisiana has few trusses remaining and only a handful such as the Manchac Bayou Bridge that can be associated with a particular standard plan.¹⁶

¹⁴ “Work Scheduled on Air-Line Hwy,” *The Times-Picayune*, July 1, 1950; “Nation’s Longest Toll-Free Four Lane Highway Nearing Finish,” *The Times-Picayune*, August 17, 1952; “Bloody 61’ Highway Cited as State’s Most Dangerous,” *The Times-Picayune*, June 7, 1953.

¹⁵ Mead & Hunt, Inc., *Historic Context for Louisiana Bridges*, 66-67, 69-70.

¹⁶ Mead & Hunt, Inc., *Historic Context for Louisiana Bridges*, 66-67, 69-70.

Part II. Structural/Design Information

A. General Statement:

1. Character: The Manchac Bayou Bridge is a representative example of a distinctive truss subtype in Louisiana. The bridge utilizes a Warren pony truss design based on an LHC standard plan, with verticals as bracing members and a polygonal top chord. The design and construction of the bridge reflects the use of LHC Standard Plan Sheet B-2-222 dated November 1929 for an 80'-0" riveted Warren truss with a 24'-0" clear roadway.

2. Condition of fabric: Good.

B. Description: The Manchac Bayou Bridge carries LA 73 on a northwest-southeast alignment over the Bayou Manchac. The Bayou Manchac is aligned from southwest to northeast at the bridge's location. The bridge is a five-span bridge built in 1931 with an overall structure length of 324'-5". Its superstructure consists of three steel pony Warren truss main spans and two steel I-beam approach spans. The substructure consists of four reinforced-concrete piers.

The bridge's three pony Warren truss spans feature an identical design and each measure 80'-0". The two steel I-beam approach spans each measure 40'-0" with 2'-0" joints between trusses and 2.5" joints between the trusses and approach spans. Other features on the superstructure include post and beam railing, a deck consisting of a bituminous overlay on concrete slabs, and concrete curbs.

Main spans

The Manchac Bayou Bridge consists of three main pony Warren truss spans with verticals and polygonal top chords, each built according to Standard Plan Sheet B-2-222, and are supported on concrete piers. Standard Plan Sheet B-2-222 is for an 80'-0" riveted steel truss span with a 24'-0" clear roadway width, dated November 1929. Each of the trusses measure 80'-0" long and consist of two 12" deep channel beams that comprise the lower and polygonal top chords. The channel beams are connected by riveted rectangular top and bottom plates with diagonal cross lacing on the underside of the top chords. Additional truss members include 8" deep I-beam diagonals and verticals comprising the truss panels. The 8" thick reinforced-concrete slab deck is supported on seven 30"-deep I-beam transverse girders as floorbeams spanning between the bottom chords of the trusses, with five lines of I-beam stringers with depths that vary between 12" and 18" spanning between the floorbeams and diagonal cross bracing between girders on each truss span. Shop and field riveted gusset plates connect truss members.

Approach spans

Steel I-beam approach spans measuring 40'-0" in length are located on both ends of the bridge. The spans consist of six steel, longitudinal, 24" deep I-beams spaced 4'-4" apart resting on reinforced-concrete bents and piers. The spans are based on plans by the LHC for a 40'-0" I-beam span.

Railings and guardrail

The three truss spans feature steel post and beam railing. The railing beams are 6" deep channel beams connected to the truss verticals. The posts are riveted to the top and bottom chords by riveted gusset plates. The top of the concrete deck slab extends 3'-10" above the bottom chord of the trusses. The railing on the approach spans consists of rectangular shaped reinforced-concrete posts measuring 1'-0" to 1'-4" wide with a 0.5" chamfer with 6" longitudinal channel-beam railings attached. The bases of the railings are attached to the exterior I-beam with diagonal steel beams as support.

The bridge does not have sidewalks or pedestrian access. Modern guardrail is mounted to the railing on the truss and the concrete posts on the approach spans. The guardrail extends from the approach spans on timber posts along either side of the roadway on each end of the bridge.

Substructure and additional features

The substructure of the bridge includes four battered, reinforced-concrete piers with two reinforced-concrete bents on either end. Bents on either end measure 30'-0" wide with five reinforced-concrete piles. Outside piers (numbered as piers 1 and 4 on plans) measure 5'-0" wide at the base and 3'-0" wide at the top; pier 1 on the northwest end measures 25'-0" in height and pier 4 on the southeast end measures 23'-0" in height. Interior piers (numbered 2 and 3 on plans) measure 7'-0" wide at the base and 4'-0" wide at the top; both measure 35'-0" in height. All the piers include a rubbed finish to the concrete with 2" chamfered corners and reinforced-concrete sheer walls between outside pier columns, with 31'-7" reinforced concrete caps with 1" chamfered corners. Interior piers (numbered 2 and 3 on plans) were designed "for possible future conversion of center spans into a lift span." Additional features include natural wood patterning from the formwork used to cast the concrete on the sheer walls between piers.

The Manchac Bayou Bridge has largely maintained its original configuration with only minimal alterations, which include an asphalt roadway overlay of the concrete deck and a modern guard rail attached to the railing.

C. Site Information: The Manchac Bayou Bridge spans Bayou Manchac straddling East Baton Rouge and Ascension Parishes, Louisiana. It is located about 2.75 miles north of Prairieville and about 10 miles southeast of downtown Baton Rouge. Bayou Manchac generally extends east to west from the Amite River in the east and drains into the Mississippi River to the west. At the bridge's location, the bayou flows in a southwest-northeast direction. The bridge is located in a moderately wooded suburban area with late-twentieth-century residential uses surrounding the bridge. At this location, LA 73 carries two lanes of vehicular traffic, one in each direction.

Part III. Sources of Information

A. Primary Sources:

“\$25,000,000 Bridges are Placed Under Contract in State in Past Ten Years.” *State Times Morning Advocate*, May 16, 1932.

“Airline Highway Beyond Gramercy to Be Ready Soon.” *The Times-Picayune*, October 19, 1930

“Bloody 61’ Highway Cited as State’s Most Dangerous.” *The Times-Picayune*, June 7, 1953.

Bridge Inspection Report. Recall No. 052140. June 27, 2012. Available in Bridge Maintenance and Inspection Division, Louisiana Department of Transportation and Development, Baton Rouge, Louisiana.

Louisiana Highway Commission. “3-80’-00” x 24’-00” – Riveted Steel Spans, Bayou Manchac Bridge.” Shop Drawings. Available in the General Files room, Louisiana Department of Transportation and Development, Baton Rouge, La.

Louisiana Highway Commission. *Fifth Biennial Report of the Louisiana Highway Commission of the State of Louisiana*. Baton Rouge, La.: Louisiana Highway Commission, 1930.

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Louisiana Highway Commission. *Sixth Biennial Report of the Louisiana Highway Commission of the State of Louisiana*. Baton Rouge, La.: Louisiana Highway Commission, 1932.

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“To Open Bids on January 21 for Manchac Bridge.” *State Times*, December 23, 1929.

“Work Scheduled on Air-Line Hwy.” *The Times-Picayune*, July 1, 1950

B. Secondary Sources:

Mead & Hunt, Inc. *Historic Context for Louisiana Bridges*. Prepared for the Louisiana Department of Transportation and Development, December 2013.

Mead & Hunt, Inc. *National Register Eligibility Determination Report, Pre-1971 Louisiana Highway Bridges*. Prepared for the Louisiana Department of Transportation and Development, September 2013.

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MANCHAC BAYOU BRIDGE

HAER No. LA-40

(Bridge Recall No. 052140)

Carries Louisiana Highway 73 (LA 73) over Bayou Manchac between Baton Rouge (East Baton Rouge Parish) and Prairieville (Ascension Parish)

Baton Rouge

East Baton Rouge Parish

Louisiana

INDEX TO BLACK AND WHITE PHOTOGRAPHS

Dietrich G. Floeter, photographer, February and March 2016

Scale Device 8 Feet Long

- | | |
|----------|---|
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| LA-40-2 | East elevation, from northeast |
| LA-40-3 | South approach, from southeast |
| LA-40-4 | North approach, from north |
| LA-40-5 | Southern truss span with 8-foot scale device, from southwest |
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| LA-40-8 | South approach, from southeast |
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| LA-40-11 | Pier 3, from south |
| LA-40-12 | North approach span deck, from north |
| LA-40-13 | Northwest corner of northern truss span showing polygonal top chords, diagonals and verticals, from northwest |

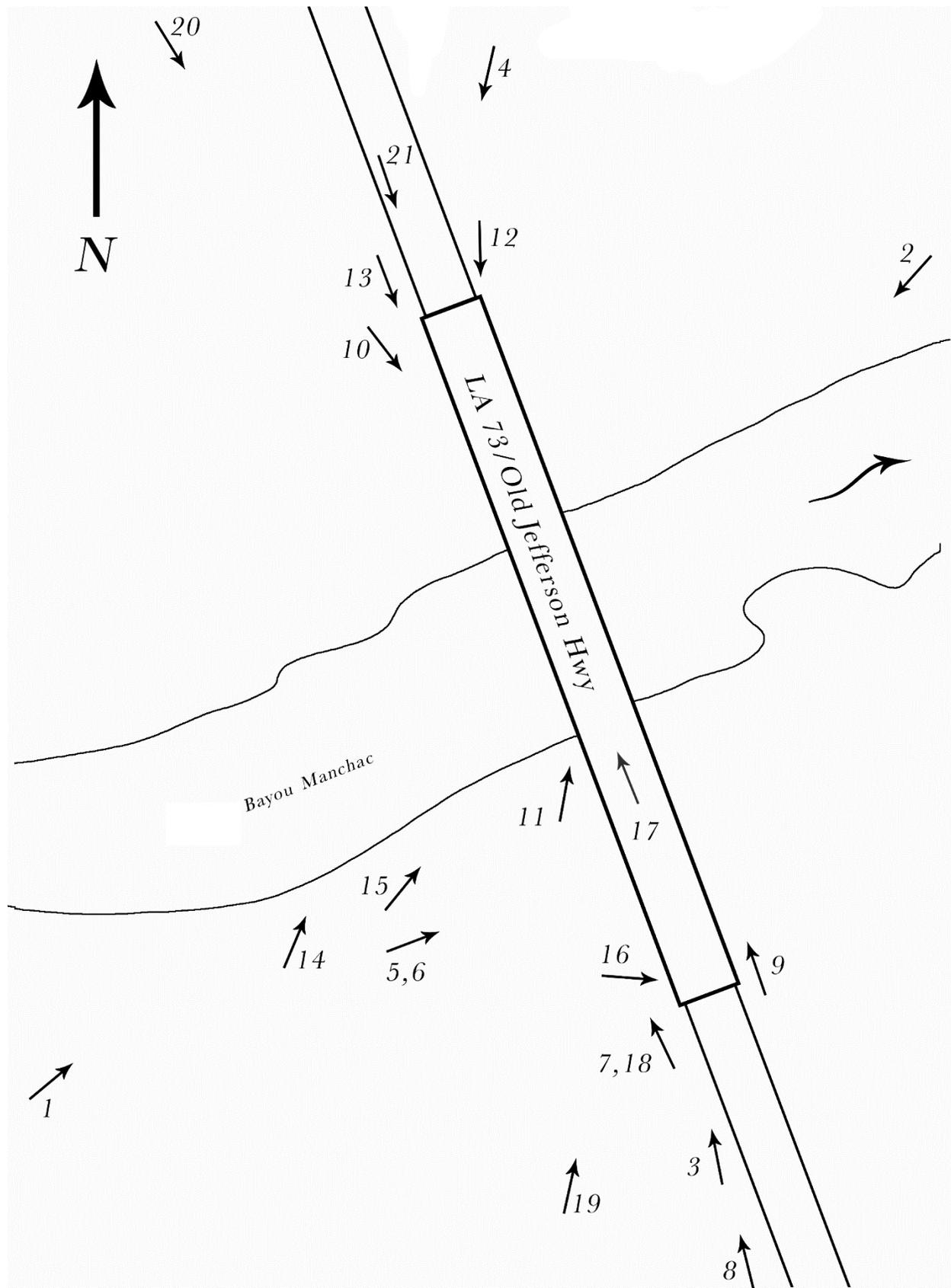
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- LA-40-14 West elevation of northern truss span, piers 1 and 2, from south
- LA-40-15 West elevation of middle truss span showing with piers 2 and 3, from south
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MANCHAC BAYOU BRIDGE

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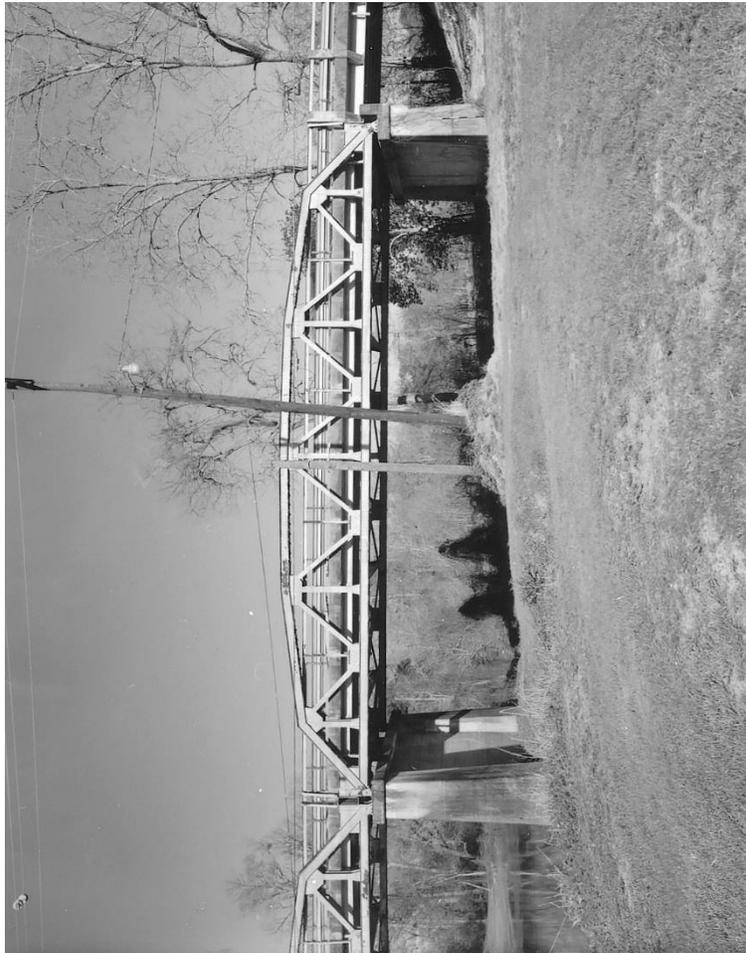
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HISTORIC AMERICAN ENGINEERING RECORD
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STATE OF LOUISIANA
 LA 117 17
 Bond No. 1201

STATE OF LOUISIANA
LOUISIANA HIGHWAY COMMISSION
 PLAN AND PROFILE OF PROPOSED
BAYOU MANCHAC BRIDGE
 AT
HOPE VILLA

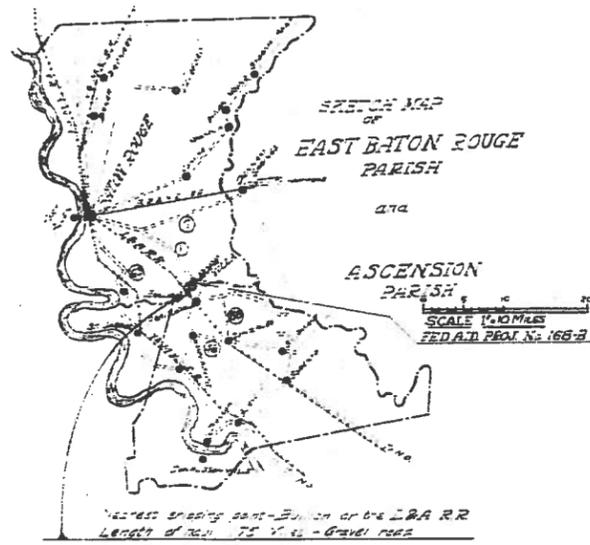
BATON ROUGE-NEW ORLEANS AIRLINE HIGHWAY
EAST BATON ROUGE & ASCENSION PARISHES

FED. AID. PROJ No. 168-B
 STATE BOND PROJ. 1201

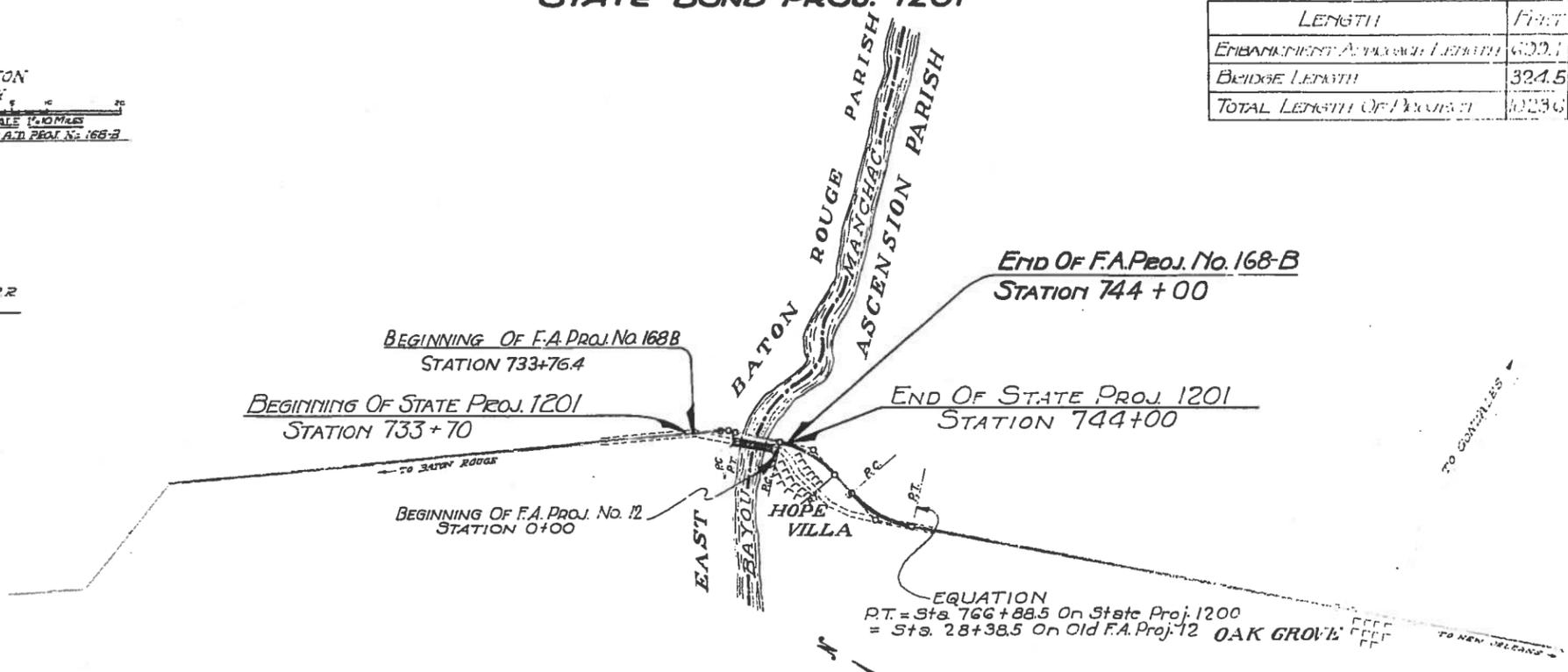
LENGTH OF F.A. PROJECT No. 168-B

LENGTH	FEET	MILES
EMBANKMENT APPROXIMATE LENGTH	600.7	0.1327
BRIDGE LENGTH	324.5	0.0614
TOTAL LENGTH OF PROJECT	925.2	0.1941

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 - Cross Section
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LAYOUT MAP ONLY
 SURVEYED BY
 FACILITY
 CONCRETE

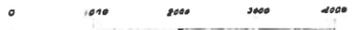


EQUATION
 P.T. = Sta. 766+88.5 On State Proj. 1200
 = Sta. 28+38.5 On Old F.A. Proj. 12 OAK GROVE

Datum Used - Mean Gulf Level

LAYOUT MAP

SCALE: 1 INCH = 1000 FEET

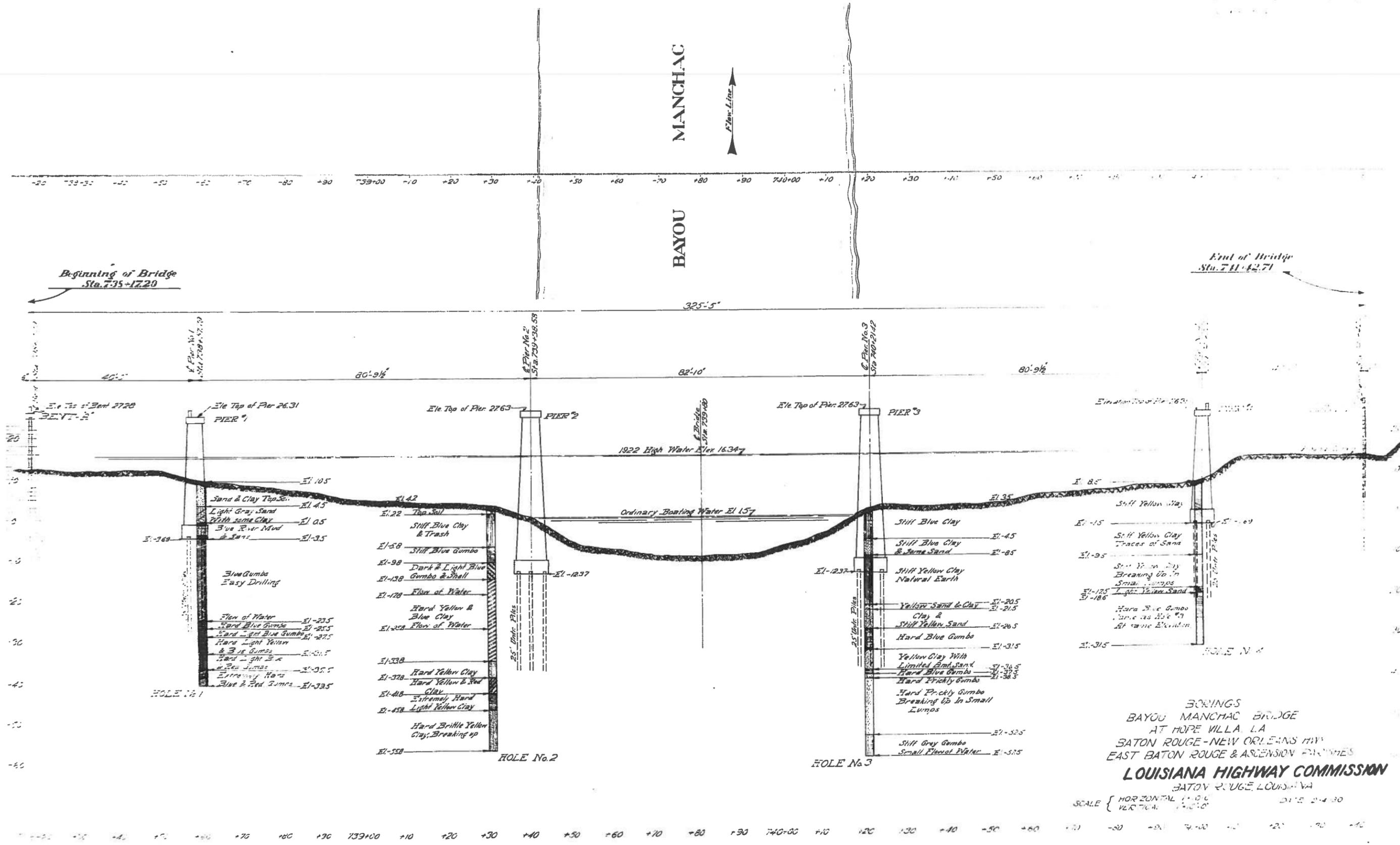


- CONVENTIONAL SIGNS**
- Base Line
 - Grade Line
 - Ground Line
 - Right of Way
 - Traveled Roadway
 - Fence
 - Levee
 - Canals
 - Railroads
 - Property Lines
 - Section & Grant Lines
 - Township & Range Lines
 - Ward & Road Dist. Boundary Lines
 - Parish & State Boundary Lines
 - Topographic & Telegraph Lines
 - Boundary Lines General
 - Misc. Posts at end of mile

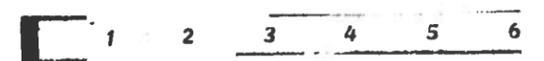
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 RECOMMENDED FOR APPROVAL:
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 APPROVED:
 DIRECTOR, Bureau of Public Roads

052140

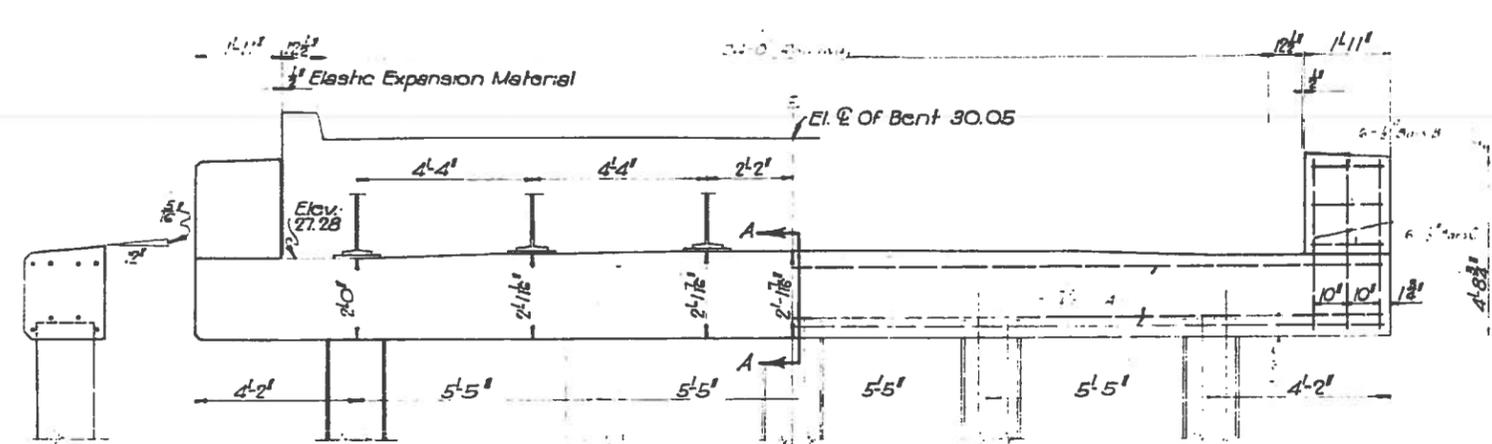
6



BORINGS
 BAYOU MANCHAC BRIDGE
 AT HOPE VILLA, LA
 SATON ROUGE - NEW ORLEANS HWY
 EAST BATON ROUGE & ASCENSION PARISHES
LOUISIANA HIGHWAY COMMISSION
 BATON ROUGE, LOUISIANA



8



SEC A-A

ELEVATION

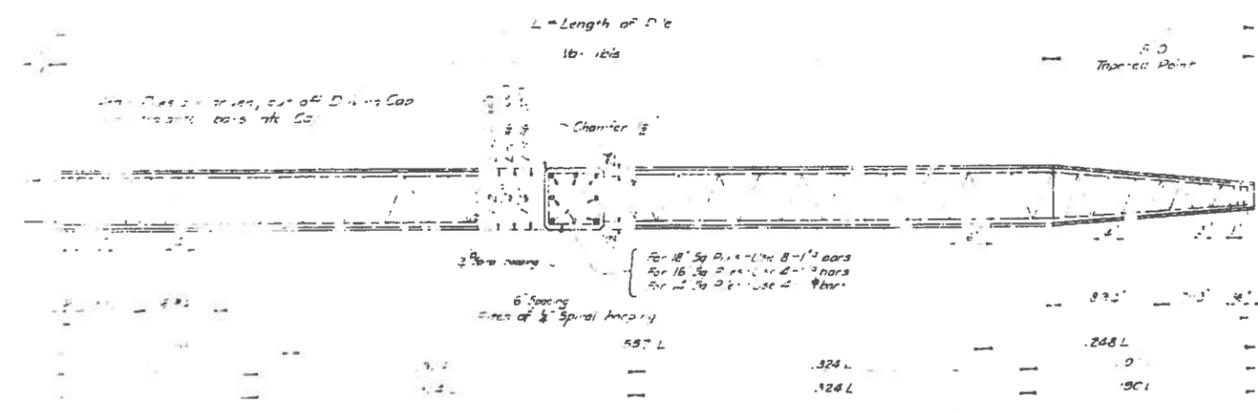


PLAN

Beginning of Bridge 2

BILLS OF MATERIAL FOR ONE BENT ONLY

1	8	20	0
4	5	59	0
		73	0
			62
			54
			700

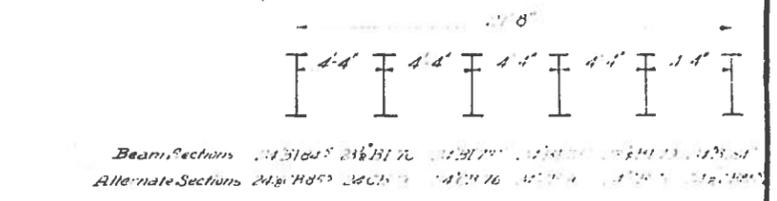
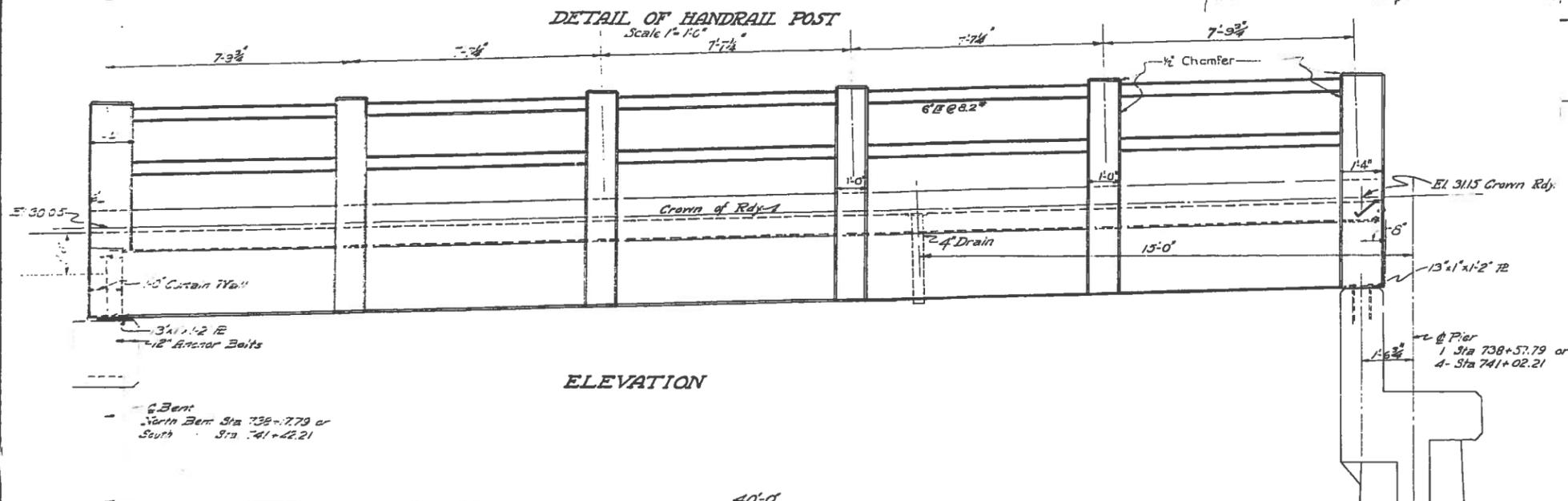
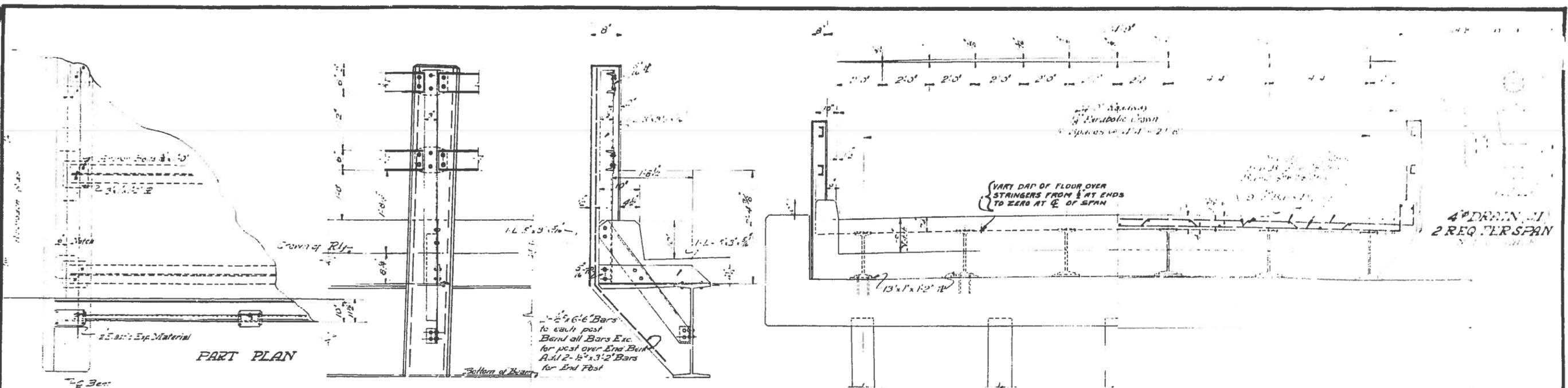


APPROXIMATE QUANTITIES -- FOR PILES

Pile Lengths	Driving Cap Tons	Variable Pile Lbs	Tip of Point	Tip of Point	Tip of Point
15-35	0.31	36	12	170	65
36-55	0.31	38	6	200	80
56-70	0.31	38	6	250	80

BENTS A & B
 BAYOU MANCHAC BRIDGE
 HOPE VILLA, LA
 LOUISIANA HIGHWAY COMMISSION

9

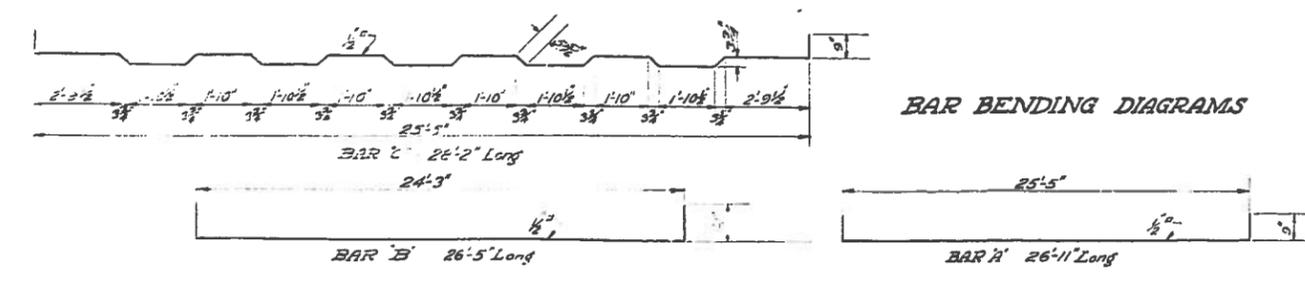


QUANTITIES FOR SUPERSTRUCTURE

Concrete	3,200.00	cu yds
Reinforcing Steel	1,200.00	lbs
Formwork	1,200.00	sq ft

GENERAL NOTES

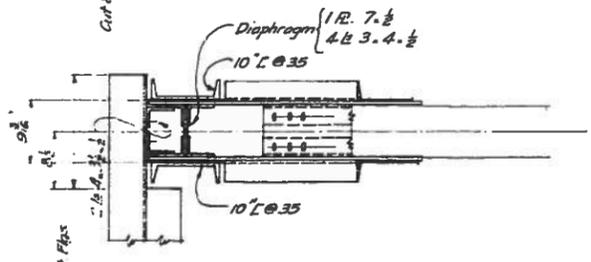
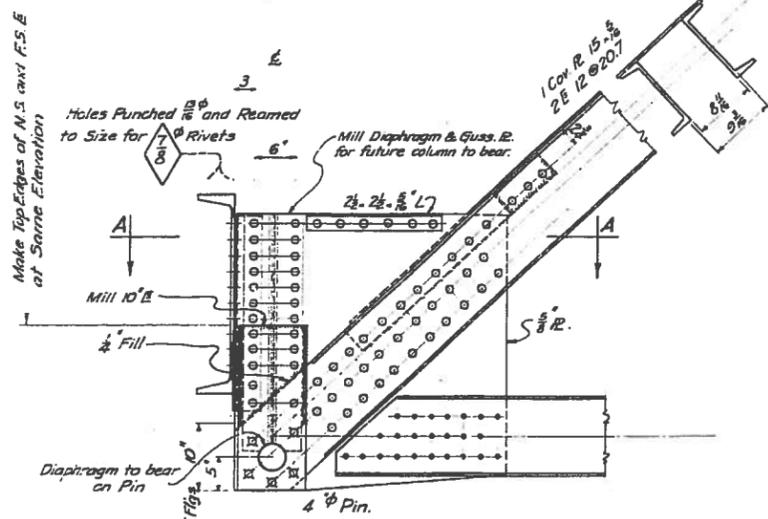
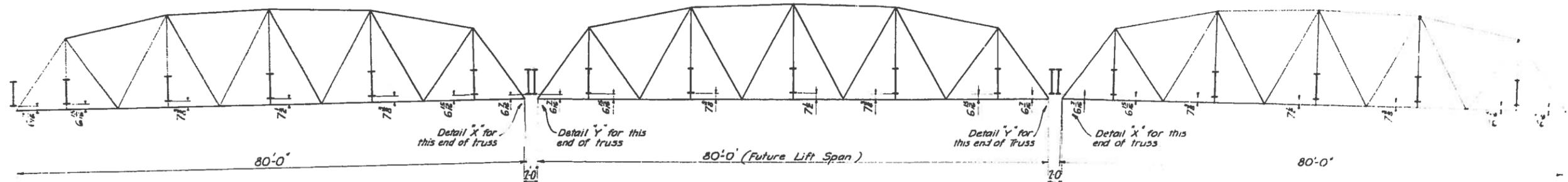
Specifications - Louisiana Highway Commission, 1939
 Live Load - 2-45 tons on 12 ft span
 Dead Load - Actual weight of structure
 All dimensions shown are approximate and subject to change
 All alternate sections may be used at the discretion of the engineer
 made on basis of section shown in the related Beam Sections



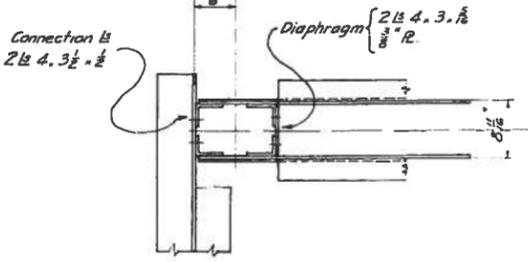
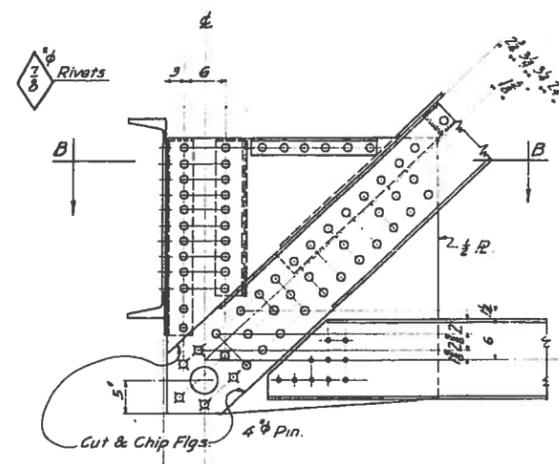
DETAILS OF 40'-0" I BEAM SPAN
 BAYOU MANCHAC BRIDGE
 BATON ROUGE - NEW ORLEANS HIGHWAY
 EAST BATON ROUGE - ASCENSION PARISHES
LOUISIANA HIGHWAY COMMISSION
 BATON ROUGE, LA

Scale 1/4" = 1'-0"
 No. 930

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DETAIL "X"



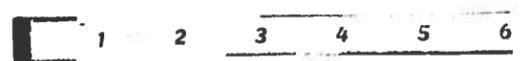
DETAIL "Y"

SPECIAL NOTES :-
 Trusses to be detailed as shown on Standard Sheet B-2-222 except as shown hereon.
 All Handrail Connection (except for Top Rail at U₁) to be riveted to handrail in shop. holes in truss members to be drilled in field.

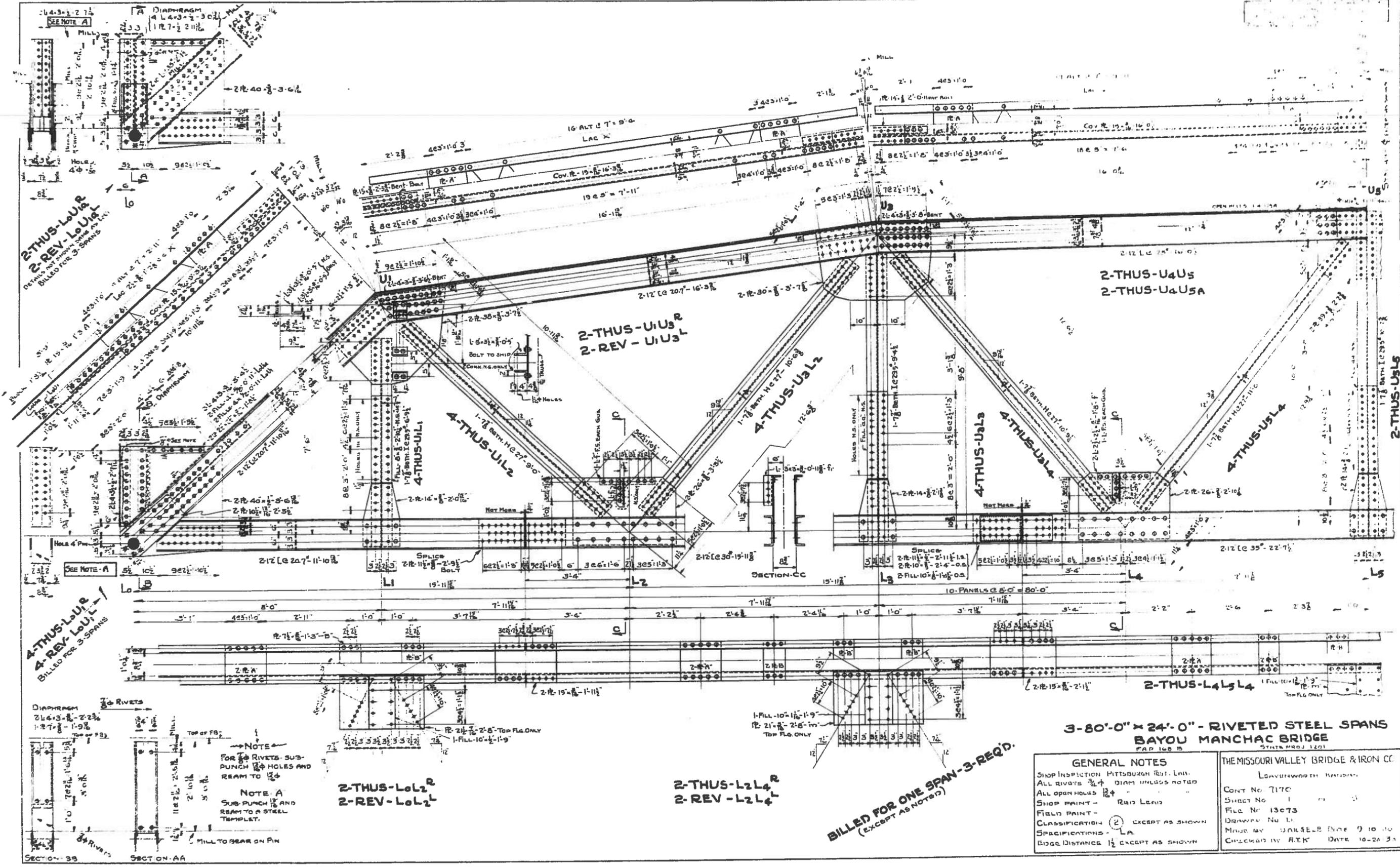
Work this sheet with Sheet B-2-222.

SPECIAL DETAILS
 BAYOU MANCHAC BRIDGE
 BATON ROUGE - NEW ORLEANS HIGHWAY
 EAST BATON ROUGE & ASCENSION PARISHES
LOUISIANA HIGHWAY COMMISSION
 BATON ROUGE, LA.

Scales: As Noted November 1929.



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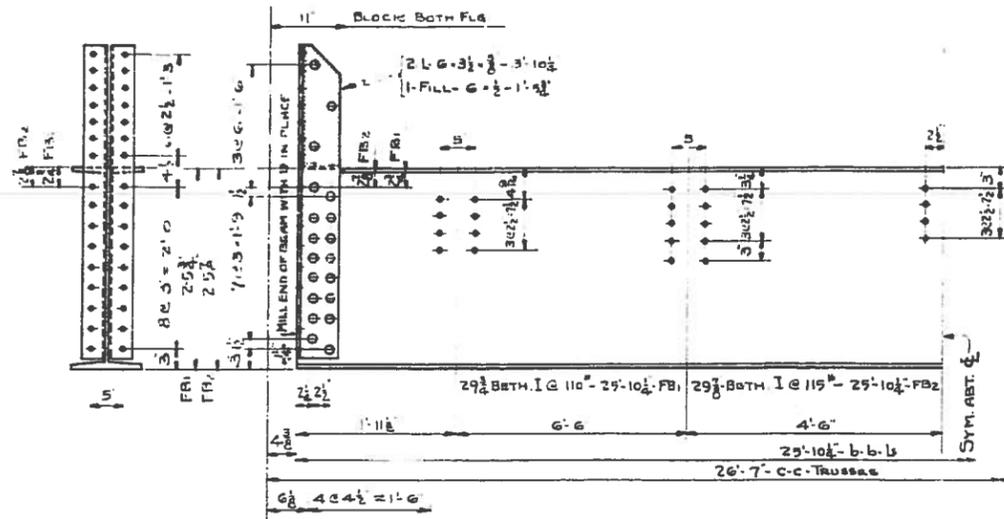
3-80'-0" x 24'-0" - RIVETED STEEL SPANS
BAYOU MANCHAC BRIDGE
 MAP 100 B
 STATE PROJ 1201

GENERAL NOTES
 SHOP INSPECTION - PITTSBURGH TEST. LAB.
 ALL RIVETS 3/4" DIAM UNLESS NOTED
 ALL OPEN HOLES 1/2"
 SHOP PAINT - RUST LEAD
 FIELD PAINT -
 CLASSIFICATION (2) EXCEPT AS SHOWN
 SPECIFICATIONS - L.A.
 BRIDGE DISTANCE 1/2 EXCEPT AS SHOWN

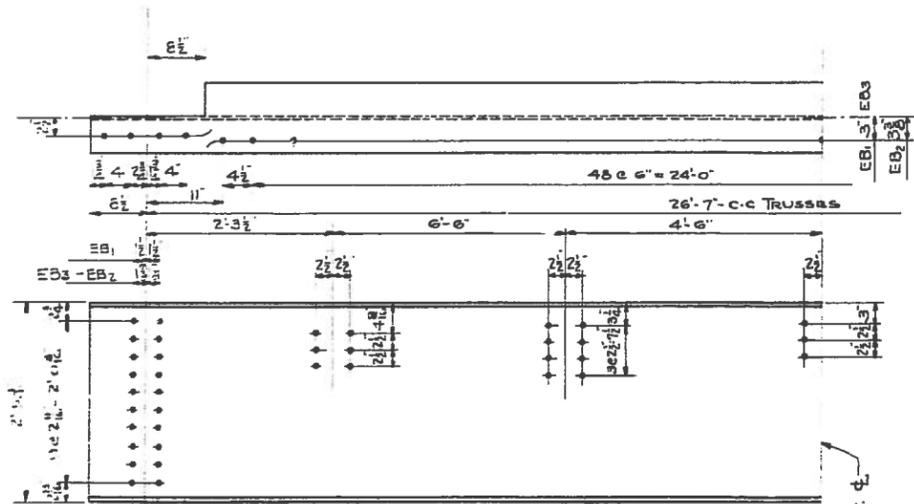
THE MISSOURI VALLEY BRIDGE & IRON CO.
 LEAVENWORTH, MISSOURI
 CONT No 7170
 SHEET No 1
 FILE No 13073
 DRAWING No 11
 MADE BY UNKLEB DATE 9 10 10
 CHECKED BY A.T.K. DATE 10-20-31

BILLED FOR ONE SPAN-3-REQ'D.
 (EXCEPT AS NOTED)

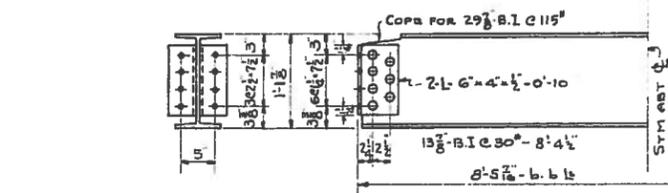
12



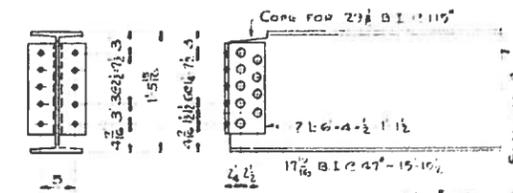
2-THUS - FB1
3-THUS - FB2



2-THUS - EB3
2-THUS - EB1
2-THUS - EB2
BILLED FOR 3 SPANS

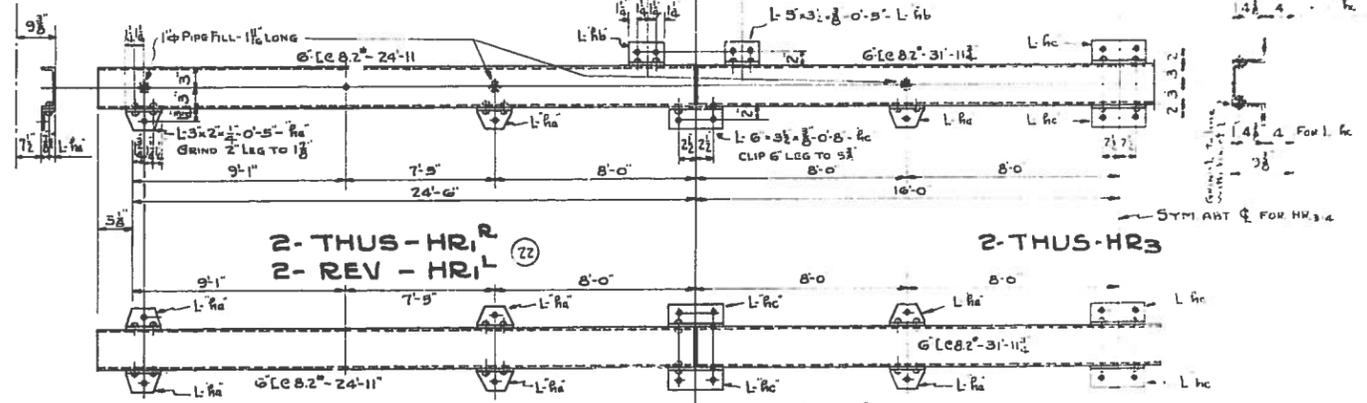


4-THUS - S2 (16)



4-THUS - S3
2-THUS - S5
4-THUS - S6
2-THUS - S8

4-THUS - S4
4-THUS - S7



2-THUS - HR1^R
2-REV - HR1^L (22)

2-THUS - HR3

4-THUS - HR2 (22)

2-THUS - HR4 (22)

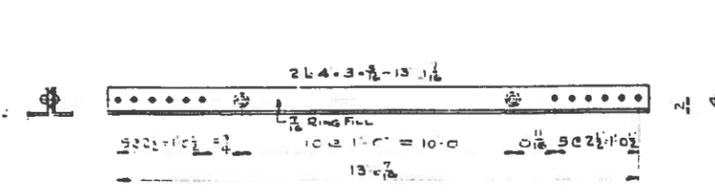
3-80'-0\"/>

GENERAL NOTES		THE MISSOURI VALLEY BRIDGE & IRON CO LEAVENWORTH, KANSAS	
SHOP INSPECTION - PITTSBURG TEST. LAB	ALL RIVETS 3/4\"/>		
ALL OPEN HOLES 1/2\"/>			
SHOP PAINT - RED LEAD	CONTRACT NO. 7116		
FIELD PAINT -	SHEET NO. 5		
CLASSIFICATION (2) EXCEPT AS SHOWN	FILE NO. 13074		
SPECIFICATIONS - LA	DRAWER NO. 17		
EDGE DISTANCE 1 1/2\"/>			
	MADE BY L. S. GUNN DATE 8-10-30		
	CHECKED BY H. K. DATE 10-23-30		

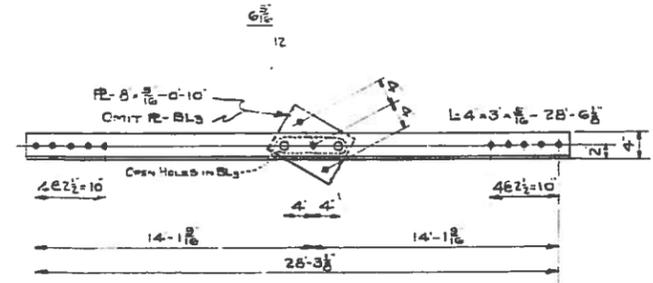
BILLED FOR ONE SPAN-3-REQ'D.
EXCEPT AS NOTED

0-5-21-80

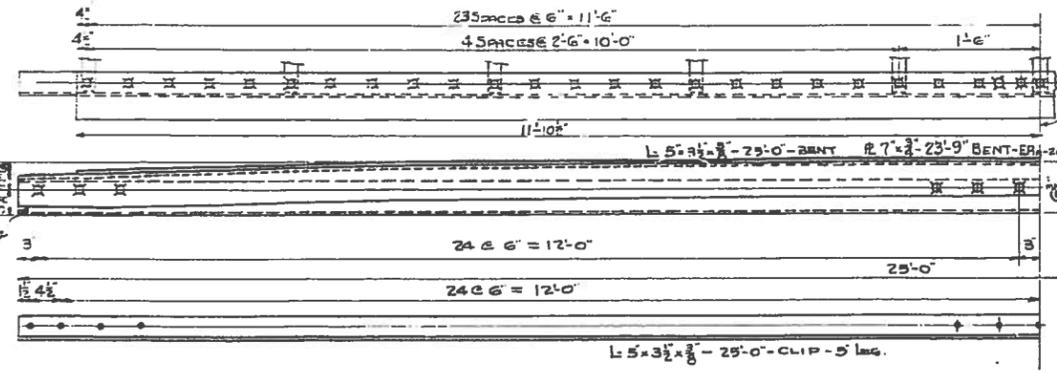
13



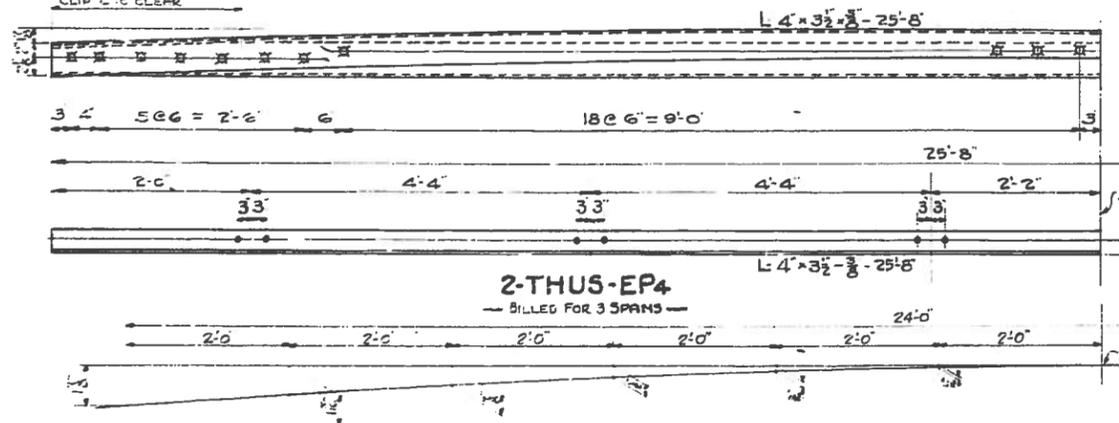
4-THUS-BL1



4-THUS-BL2 4-THUS-BL3

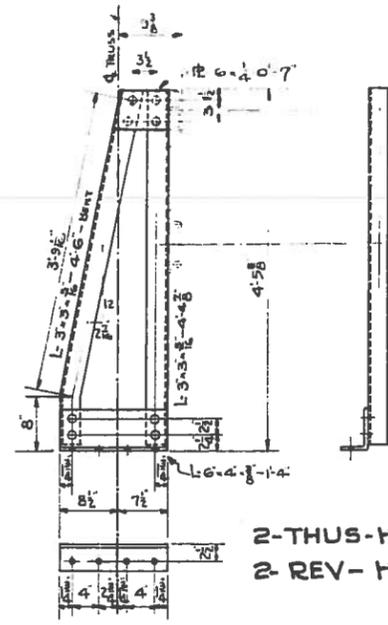


ONE-THUS-EP1 ONE-THUS-EP2 2-THUS-EP3
ONE-THUS-EP1A ONE-THUS-EP2A
BILLED FOR 3 SPANS

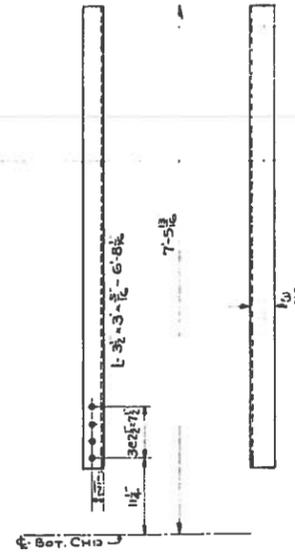


2-THUS-EP4
BILLED FOR 3 SPANS

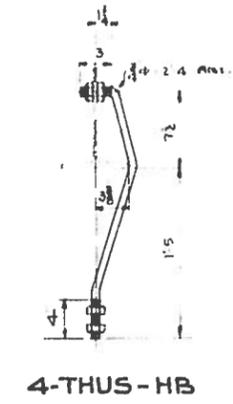
BENDING ORDINATES FOR EP1 TO EP4 INCL.



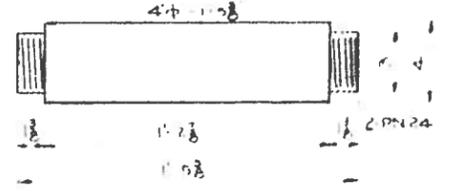
2-THUS-HP1
2-REV-HP1



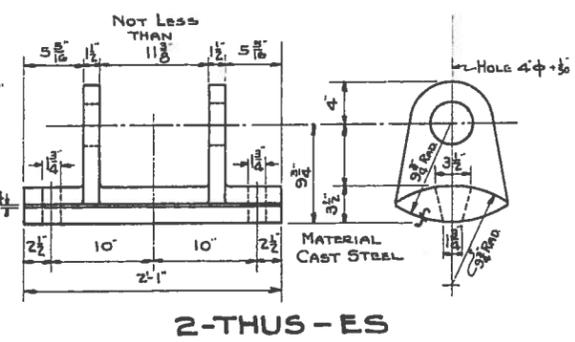
4-THUS-HP2
4-REV-HP2



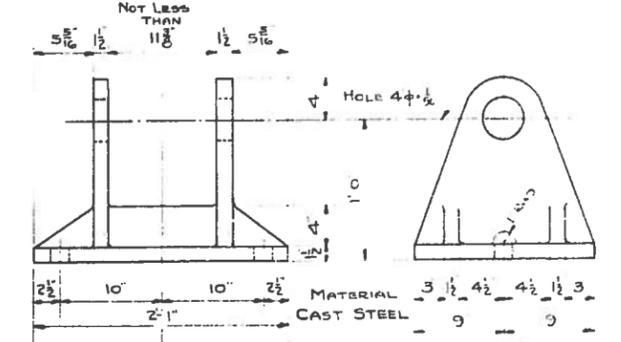
4-THUS-HB



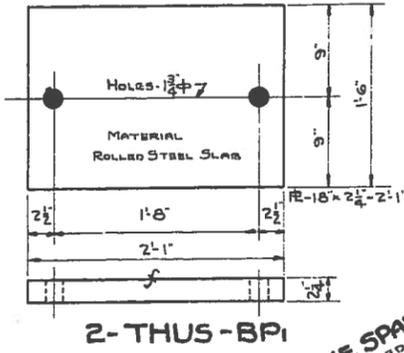
4-THUS-P1



2-THUS-ES



2-THUS-FS



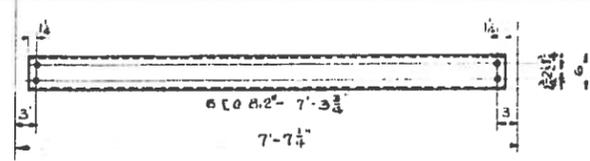
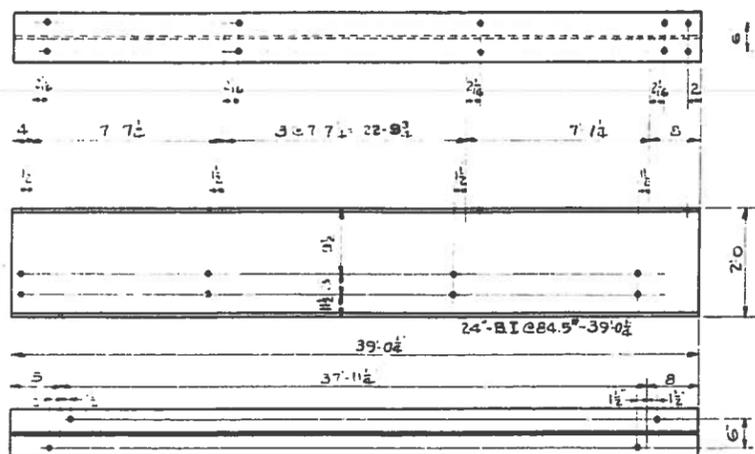
2-THUS-BP1

3-80'-0" x 24'-0" - RIVETED STEEL SPANS
BAYOU MANCHAC BRIDGE

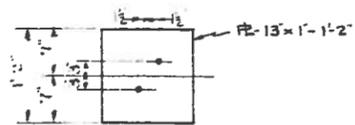
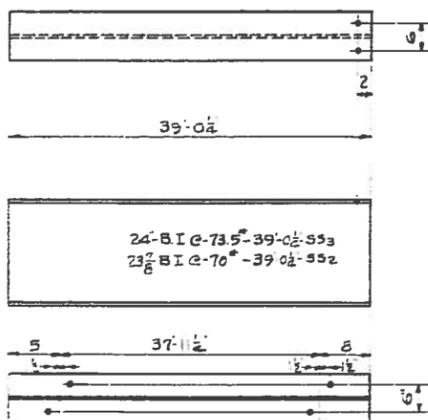
BILLED FOR ONE SPAN - 3-REQ'D.
EXCEPT AS NOTED.

GENERAL NOTES		THE MISSOURI VALLEY BRIDGE & IRON CO.	
SHOP INSPECTION - PITTSBURGH TEST LAB.	ALL RIVETS 3/4" DIAM UNLESS NOTED	CONT. NO. 1170	LEAD ENGINEER: [Name]
ALL OPEN HOLES 1 1/2" DIA	SHOP PAINT - RED LEAD	SHEET NO. 3	
FIELD PAINT - [Color]	CLASSIFICATION - [Type]	FILE NO. 13075	
SPECIFICATIONS - [Type]	EDGE DISTANCE 1 1/2" EXCEPT AS SHOWN	DRAWER NO. 10	
		MADE BY: [Name]	DATE: [Date]
		CHECKED BY: [Name]	DATE: [Date]

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14

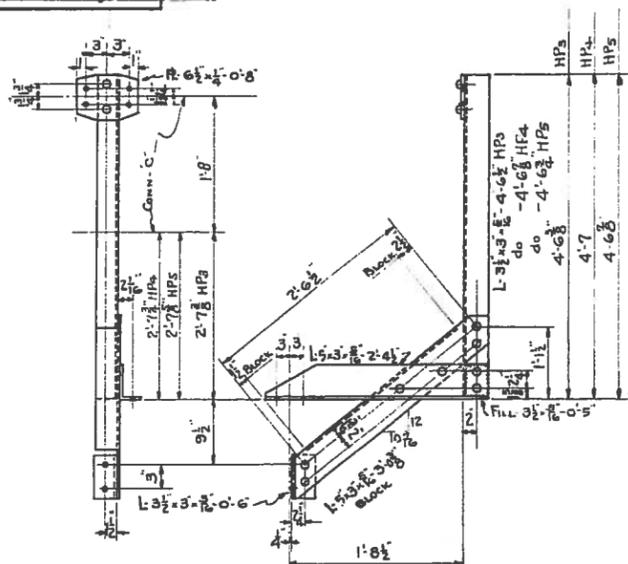


20-THUS-HR5



6-THUS-BP2

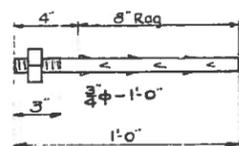
6-THUS-BP3



2-THUS-HR3^R 2-REV-HP3^L

2-THUS-HR4^R 2-REV-HP4^L

2-THUS-HR5^R 2-REV-HP5^L



24-THUS-AB3

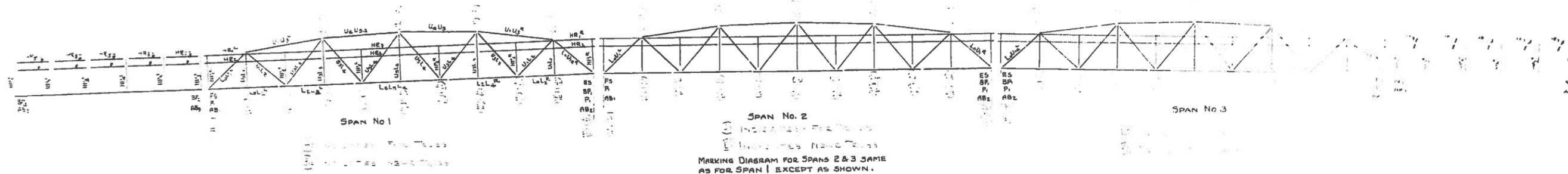
2-40'-0" x 24'-0" - I-BEAM SPANS.
WITH
3-80'-0" x 24'-0" - RIVETED STEEL SPANS
BAYOU MANCHAC BRIDGE
STATE PROJ. 1701

BILLED FOR ONE SPAN - 2-REQ'D

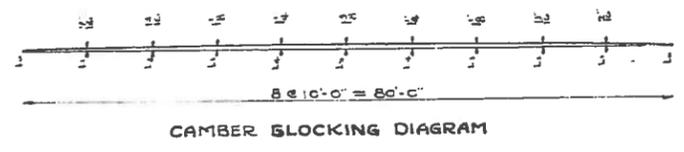
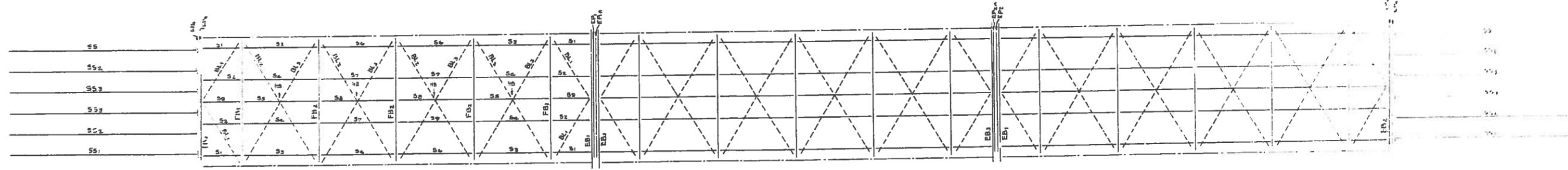
GENERAL NOTES
SHOP INSPECTION - PITTSBURGH TEST LAB
ALL RIVETS 3/4" DIAM. UNLESS NOTED
ALL OPEN HOLES 1 1/4" DIA.
SHOP PAINT - RED LEAD
FIELD PAINT -
CLASSIFICATION - EXCEPT AS SHOWN
SPECIFICATIONS - LA.
EDGE DISTANCE 1/2" EXCEPT AS SHOWN

THE MISSOURI VALLEY BRIDGE & IRON CO
LEAVENWORTH, KANSAS
CONT. No. 7176
SHEET No. 4 OF 5
FILE No. 14076
DRAWN BY D
MADE BY DAK DATE 2-11-30
CHECKED BY JEN DATE 10-27-30

052140
15



SPAN No. 2
 MARKING DIAGRAM FOR SPANS 2 & 3 SAME
 AS FOR SPAN 1 EXCEPT AS SHOWN.



MARKING DIAGRAM
 FOR
 2-40'-0" x 24'-0" - I-BEAM SPANS
 WITH
 3-80'-0" x 24'-0" - RIVETED STEEL SPANS
 BAYOU MANCHAC BRIDGE
 FAP 168-B STATE PROJ 1201

THE MISSOURI VALLEY BRIDGE S-IRON CO
 LEAVENWORTH, KANSAS
 CONT No. 7170
 SHEET No. 5 of 5
 FILE No. 13077
 DRAWER No. D
 MADE BY DAK DATE 2-10-33
 CHECKED BY ZTA DATE 10-25-33