



Historic Bridge Management Plan for the Mississippi River (Sunshine) Bridge

Recall Number: 203760

Structure Number: 61474260200721

Parish: St. James

Route: LA 70

Crossing Description: Mississippi River/LA 18/LA 44



Prepared for

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Table of Contents

	Page
Executive Summary	1
1. Introduction	3
2. Location Map	5
3. Historic Data	7
A. Identifying information	7
B. Description of bridge	7
C. History and significance	9
D. Character-defining features	11
4. Engineering Data.....	17
A. Existing conditions	17
(1) Structural observations	17
(2) Non-structural observations	18
(3) Serviceability observations.....	19
B. Sources of information.....	19
5. Recommendations	33
A. Preventative maintenance	33
B. Rehabilitation	34
C. Identification of any anticipated design exceptions	34

Appendices

- A Historic Inventory Form
- B Select Plan Sheets

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Executive Summary

The Mississippi River (Sunshine) Bridge (Recall No. 203760) is located in St. James Parish, Louisiana, and is owned by the State of Louisiana. Construction of the bridge began in 1962 and was completed in 1964. The bridge was determined eligible for the National Register of Historic Places (National Register) in 2013. It is significant as an important example of a distinctive type of truss bridge, the Warren through truss, and includes a complex engineering solution in its continuous main truss section and caisson-constructed piers along the Mississippi River.

The bridge carries four lanes of Louisiana Highway (LA) 70 across the Mississippi River, LA 18, LA 44, and the Canadian National Railroad (CNRR). Its main section is a five-span continuous Warren through truss unit that measures 3,327 feet and stretches across the Mississippi River and LA 44. These spans are supported on cast-in-place reinforced-concrete piers. The bridge also has 21 steel beam approach spans and 36 steel plate girder approach spans, which rest on braced steel tower columns, and one deck truss approach span that is supported by reinforced-concrete piers. At the east end of the bridge there are two ramps (each with five steel beam spans) that form a Y-shaped configuration with the main bridge. Each ramp is approximately 270 feet long. The total length of the bridge mainline is 8,277 feet, excluding the ramps. A timber fender system provides a horizontal clearance of 750 feet for river traffic below the center span of the main truss.

The bridge is in fair condition overall and appears to adequately serve its purpose of carrying vehicular traffic. The bridge displays areas of moderate structural steel corrosion throughout the steel approach spans, particularly in the top members of the steel trestle and tower bents, and the webs and web splices of the steel girders. The finger-type expansion joints in the decks of the approach spans require repair. As of the date of this Historic Bridge Management Plan (Plan), the Louisiana Department of Transportation and Development (LADOTD) is in the process of preparing plans to address structural repairs for the approach spans. The bridge also displays localized structural steel deterioration, primarily in the lower chords, throughout the steel main truss spans. The LADOTD is also in the process of addressing structural repairs for the truss spans. With proper maintenance and rehabilitation, the Sunshine 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 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 Sunshine Bridge (Recall No. 203760), 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 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 Sunshine 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

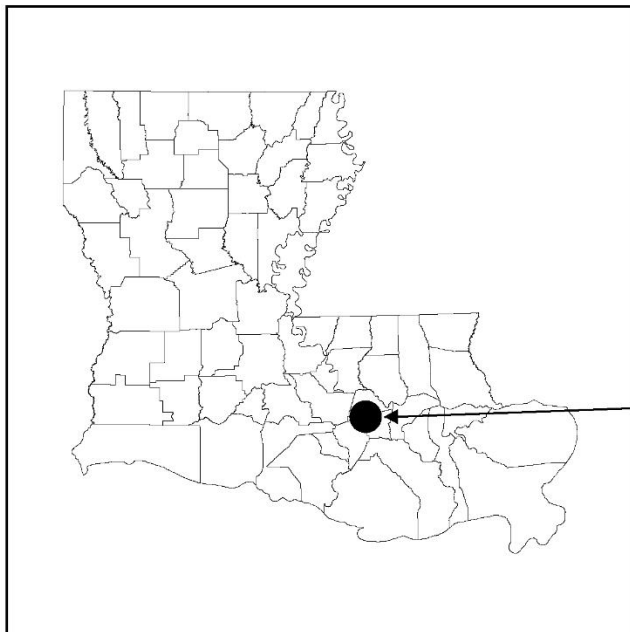
Recommendations within this Plan are consistent with the Secretary's Standards. The Secretary's Standards are basic principles created to help preserve the distinct character of a historic property and its site, while allowing for reasonable change to meet new engineering standards and codes. The Secretary's 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



0 1,250 2,500 5,000
Feet



PROJECT LOCATION
Bridge Number: 203760
Structure Number: 61474260200721
St. James Parish
Route: LA 70
Crossing Description: Mississippi River/LA 18/LA 14

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3. Historic Data

A. Identifying information

Structure Number: 61474260200721

Recall Number: 203760

LASHPO Number: 47-01766

Bridge Name: Mississippi River (Sunshine) Bridge

Date of Construction: 1964; rehabilitated in 1989, 1996-1998, and 2012-2016

Main Span Type: Through Truss (Warren Truss)

Contractor: Morrison Knudsen, Boise, Idaho

Designer/Engineer: Palmer and Baker Engineers, Inc., Consulting Engineers, New Orleans, Louisiana

B. Description of bridge

The Sunshine Bridge (sometimes locally called the Donaldsonville Bridge), completed in 1964, is located east of Donaldsonville and north of Convent in St. James Parish. It carries four roadway lanes of LA 70, consisting of two lanes in each direction separated by a median barrier. The 8,276-foot-11.5-inch bridge spans the Mississippi River including flood protection levees on each bank, LA 18 on the west side of the river, and LA 44 and a single track of the Canadian National Railway (CNRR) on the east side of the river. The crossing has 63 spans, with the main segment of the bridge consisting of a 3,327-foot-3-inch, five-span, continuous Warren through truss that stretches across the Mississippi River and LA 44. From west to east, the bridge spans are as follows:

Westerly approach spans 1 through 17

Spans 1 through 3 are 55-foot steel beam spans; together, they total 165 feet. Span 4 is a 40-foot steel beam span. Spans 5 through 10 are steel plate girder spans; at 75 feet each, they total 450 feet. Span 11 is a 40-foot steel beam span. Spans 12 through 16 are 125-foot steel plate girder spans totaling 625 feet. Span 17 is a steel plate girder span that measures 123 feet, 11.5 inches. These approach spans are supported on braced steel column towers. They rest on cast-in-place concrete pedestals that are founded on piles.

Deck truss span 18 over LA 18

Span 18 is a steel deck truss that measures 345 feet, 6 inches and carries LA 70 over LA 18. The top chord, bottom chord, and diagonal members of the truss are made of riveted, box-

shaped, steel members that consist of four plates riveted to form a box with interior diaphragms as stiffeners. The vertical members are I-shaped steel members. These primary members connect at gusset plates with riveted and high-strength bolted connectors. The concrete deck rests on steel stringers and steel floor beams. The truss span is supported by cast-in-place, reinforced-concrete piers on concrete footings.

Main Warren through truss spans 19 through 23 over the Mississippi River

The five main, steel, continuous through truss spans, which consist of spans 19 through 23, measure 3,327 feet, 3 inches in total and carry the Sunshine Bridge across the Mississippi River and LA 44. Span 19 measures 451 feet, 6 inches; span 20 is 800 feet; span 21 is 825 feet; span 22 is 800 feet; and span 23 is 450 feet, 9 inches. The upper and lower chords and diagonal members are made of riveted, steel members that consist of four plates riveted to form a box with interior diaphragms as stiffeners. Each plate is perforated with oval holes to facilitate the construction of the truss, and to lighten the weight of the bridge. The vertical members are I-shaped steel members. These primary members connect at gusset plates with riveted and high-strength bolted connectors, forming one continuous, five-span, Warren through truss. In this continuous span design, the superstructure spans uninterrupted over intermediate supports, which are cast-in-place, reinforced-concrete piers.

The deck and floor system are supported on steel stringers that frame into steel I-shaped floor beams consisting of a welded steel top flange, bottom flange, and web. The floor beams are bolted to the truss members. These main spans are supported on cast-in-place, reinforced-concrete piers on concrete footings. For Piers 3, 4 and 5, located in the river, the footings rest on seal concrete constructed with caissons, which are used to construct pier foundations below water level.

Easterly approach spans 24 through 63, and Ramps 1 and 2

Span 24 is a steel plate girder span and measures 124 feet, 3 inches. Spans 25 through 29 are 125-foot steel plate girder spans that total 625 feet. Span 30 is a 48-foot steel beam span. Spans 31 through 36 are steel plate girders each 109 feet, 10 inches long for a total of 659 feet. Span 37 is a 48-foot steel beam span; it is followed by spans 38 through 43, which are steel plate girder spans that each measure 75 feet, totaling 450 feet. Span 44 is a steel beam span at 48 feet. Spans 45 through 50 are 75-foot steel plate girder spans totaling 450 feet. Span 51 measures 48 feet and is a steel beam span. Finally, spans 52 through 63 are 55-foot steel beam spans that, together, total 660 feet. These approach spans are supported on braced steel column towers. The columns rest on cast-in-place concrete pedestals on piles. The curved westbound and eastbound approach ramps (Ramps 1 and 2) at the east end of the bridge form a Y-shape with the main bridge, and consist of five steel beam spans that support a cast-in-place concrete deck. Each ramp is 270 feet long. The bridge crosses over the CNRR at Bents 48 and 49.

The bridge's main deck features a clear roadway width for each direction of traffic of 28 feet, which accommodates two lanes. A 10-inch-thick, reinforced-concrete barrier 32 inches high separates the two directions of traffic. The clear roadway width for Ramps 1 and 2 is 20 feet. Exterior barrier railings consist of a reinforced-concrete lower section, with steel railings on top of the concrete with a rectangular tube forming the top rail line on each side of the bridge. The height of the exterior barrier railing is 42 inches on the main spans, and 32-inch-high reinforced concrete with no steel railing on Ramps 1 and 2. The deck on the approach spans is made of 6.5-inch-thick, cast-in-place, reinforced concrete. The decks on the through and deck truss spans consist of 6.5-inch-thick, cast-in-place reinforced concrete. There are no sidewalks on this bridge.

The crossing has an average daily traffic (ADT) of about 15,400 vehicles, which includes trucks and emergency response vehicles, and has no posted weight limit. The posted speed limit is 55 miles per hour. This bridge is classified as fracture critical because of the steel two-truss with floorbeams configuration of the truss spans, and because of the single transverse steel plate girder on top of the approach span bents on each side of the truss spans. Failure of one truss could lead to the collapse of the bridge, and failure of the transverse plate girder for the bents could lead to collapse of a portion of the bridge at that particular bent.

A timber fender system protects each of the piers in the Mississippi River. The waterway under the center span of the main Warren truss is used for navigation. It has a horizontal clearance of 750 feet and a vertical clearance of 133 feet above the high water line.

The Sunshine Bridge retains nearly all elements of its original construction. It was rehabilitated in 1989 by cold planing and constructing an asphaltic wearing course overlay on the roadway decks of the deck truss and main truss spans. Between 1996 and 1998 the bridge was significantly rehabilitated and strengthened. This rehabilitation consisted of strengthening the steel truss spans; removing the existing steel grid deck on the truss spans and constructing new cast-in-place, reinforced-concrete decks; new steel stringers on the main truss spans; new concrete deck on the approach spans in the center and along the outer edges of the bridge to accommodate the new concrete barrier railings; new concrete barrier railings along the outside edges of the bridge; new concrete median barrier; removing and replacing the deck expansion joints; miscellaneous repairs; new concrete approach roadway slabs at each end of the bridge; and new roadway median barriers. Between 2012 and 2016 the structure was again significantly rehabilitated when crews repaired, cleaned, and painted structural steel comprising the substructure and superstructure components of all spans. Additional rehabilitation work is currently being planned by the LADOTD.

C. History and significance

The Sunshine Bridge, located 5 miles east of Donaldsonville and 8 miles northwest of Convent in St. James Parish, carries LA 70 over the Mississippi River. LA 70 is a major thoroughfare connecting Interstate Highway 10, which runs between Baton Rouge and New Orleans, and U.S. Highway 90, which connects Lafayette to New Orleans. The bridge serves as the major Mississippi River bridge for residents of St. James, Assumption, and Ascension Parishes, and is the only river crossing for an approximately

45-mile stretch between Baton Rouge and Gramercy. This portion of the river, historically settled by Acadians from Nova Scotia and lined with sugarcane plantations, is part of an agriculture-heavy region sometimes known as Louisiana's "sugar bowl."¹ By the 1960s an emerging petrochemical industry began to locate manufacturing plants along this stretch, solidifying the need for infrastructure that would connect two sides of the river and increase accessibility throughout the region.²

The Sunshine Bridge was spearheaded by Louisiana Governor Jimmie Davis, who held the gubernatorial office from 1944 to 1948 and again from 1960 to 1964. In addition to his political career, Davis was also a successful country musician who wrote the popular folk song, "You Are My Sunshine." At the beginning of his second term as governor, Davis advocated for what was then a controversial proposal to build a four-lane bridge across the Mississippi River between Baton Rouge and New Orleans. Because of the strong association between Davis and the crossing, it would become known as the "Sunshine Bridge."³ The Ascension-St. James Bridge and Ferry Authority, established in 1960, issued \$30 million in bonds to private citizens over two years to fund the bridge and then oversaw construction, which commenced in May 1962.⁴ The bridge was designed by Palmer and Baker Engineers, Inc., and featured technological innovations including a continuous set of main truss spans and caisson-constructed piers. Continuous span designs required less steel and concrete, produced less deflection, and avoided problematic joints over piers; they were becoming popular in the mid-twentieth century for highway bridges. Additionally, this structure is one of seven historic Mississippi River crossings in Louisiana with caisson-constructed piers. Often used for underwater construction where soil conditions were unstable, caisson piers required custom designs unique to the worksite. This is true of the three Sunshine Bridge piers that stand in the riverbed, as the original specifications suggest.⁵

Workers completed the structure on schedule on September 30, 1964, and it opened to traffic in time to accommodate evacuees from Hurricane Hilda, a category three storm that struck the Gulf Coast of Louisiana on October 3.⁶ The official bridge dedication took place on October 12, 1964, and was

¹ South Central Planning & Development Commission, *St. James Parish Government Comprehensive Plan 2031* (Convent, La.: St. James Parish Government, 2014), 3.

² "A Dream Comes True...The Sunshine Bridge," *Times-Picayune*, October 11, 1964, Section Two, 11; Claire Punecky, "Ascension Parish," *Louisiana Police Jury Review* (April 1964), 33, 37.

³ Myrna Oliver, "Jimmie Davis; 'Singing Governor' Spread Sunshine," *Los Angeles Times*, November 7, 2000, <http://articles.latimes.com/2000/nov/07/local/me-48244>.

⁴ Ascension - St. James Bridge & Ferry Authority, "Sunshine Bridge Annual Report: October 1, 1964 – October 31, 1965" (Donaldsonville, La.: October 31, 1965), 1-2

⁵ Palmer and Baker Engineers, Inc., "Donaldsonville Bridge and Approaches, Mississippi River Bridge, Caisson – Piers 3, 4, & 5," January 10, 1961, Ascension-St. James Bridge and Ferry Authority.

⁶ "A Dream Comes True...The Sunshine Bridge;" "Financial and Statistical Report," prepared for the State of Louisiana Department of Highways (June 30, 1965), 32; "Hurricane Hilda – September 28-October 5, 1964," *National Oceanic and Atmospheric Administration*, <http://www.wpc.ncep.noaa.gov/tropical/rain/hilda1964.html>; Ascension - St. James Bridge & Ferry Authority, "Sunshine Bridge Annual Report: October 1, 1964 – October 31, 1965," 4.

attended by Davis, State Director of Highways Arsene L. Stewart, and several state congressmen.⁷ Notably, the bridge was originally planned to be part of a larger highway project, the Acadian Thruway, which would have provided a direct route from New Orleans to Lafayette while bypassing Baton Rouge. The Thruway was never constructed.⁸

While the crossing was originally controversial due to its remote location—some critics called it the “bridge to nowhere”—it proved to be an asset to industrial growth and a source of revenue through toll collection.⁹ Six months before it was completed, in April 1964, the Louisiana Police Jury Review touted the bridge as an asset to the developing refineries and chemical plants in the area, saying that it was “expected to benefit the industrially-booming Ascension Parish and its neighbors.”¹⁰ In July 1964 the *National Observer* confirmed this stretch of the Mississippi River as “the hottest area for new industrial development in the nation.”¹¹ Since opening, the Sunshine Bridge has indeed provided shipping opportunities and overall accessibility to the plants that still line the river. Daily traffic has risen from 2,000 in the 1960s to more than 15,000. Tolls, which were collected from 1964 to 1979 and again from 1989 to 2001, generated between \$1 million and \$2 million per year, some of which was used to recoup the cost of construction and repairs.¹² Meanwhile, the structure has undergone several rehabilitation projects during its lifespan. It was repainted in 1980 and the deck and roadway were repaired in 1989. The bridge was significantly rehabilitated and strengthened between 1996 and 1998, and was then repaired, cleaned, and painted in a multi-phase project between 2012 and 2016.¹³

The Sunshine Bridge is eligible for listing in the National Register under *Criterion C: Engineering*. The bridge conveys the significant design elements of the Warren through truss. Its significance is also demonstrated by complex technological solutions to site conditions, which consist of a continuous main truss section and caisson construction of the main span piers to meet the challenges of a Mississippi River crossing.

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,

⁷ “Bridge to Open Today Officially,” *Lake Charles American Press*, October 12, 1964; Claire Punecky, “Sunshine Bridge Dedicated Under Warm Autumn Sun,” *Times-Picayune*, October 13, 1964, Section 1, 9.

⁸ “Sunshine Bridge and the Canadian Thruway,” *Roadfan.com*, January 11, 2006, <http://www.roadfan.com/sunbr.html>.

⁹ Bret H. McCormick, “Lawmaker Pushes Tolls on Sunshine Bridge,” *The Advocate*, March 13, 2013, <http://theadvocate.com/home/5375057-125/lawmaker-pushing-plan-to-reimpose>.

¹⁰ Punecky, 37.

¹¹ “A Dream Comes True...The Sunshine Bridge.”

¹² Bret H. McCormick, “Lawmaker Pushes Tolls on Sunshine Bridge.”

¹³ David J. Mitchell, “Work on the Sunshine Bridge is Now a Little More Than Half Done,” *The Advocate*, May 1, 2015; “DOTD Announces Early Completion of Sunshine Bridge Project,” *City of Donaldsonville*, <http://www.donaldsonville-la.gov/news/sunshine-bridge-project-completed-after-two-years/>.

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.

Character-defining features of the Sunshine Bridge consist of the continuous Warren through truss and the bridge's caisson-constructed piers (piers 3, 4 and 5) (described below). Other elements that represent historic fabric but are not considered to be character-defining are the approach spans (including one deck truss span) to the east and west of the main truss spans, including the approach span floor system, and approach substructure elements.

The following items are the character-defining features of this bridge:

Feature 1: Design and construction of a continuous Warren through truss

This feature includes the five continuous steel Warren through truss spans that comprise the main section of the bridge over the Mississippi River and LA 44. The Warren truss features diagonal members to withstand both tensile and compressive forces, and added verticals for bracing. In a continuous span design, the superstructure spans uninterrupted over intermediate supports.



Character-defining feature Photo 1: Design and construction of a continuous Warren through truss. The Warren truss features diagonal members to withstand both tensile and compressive forces, and added verticals for bracing.

Feature 2: Caisson-constructed piers

This feature includes the three caisson-constructed piers, comprised of piers 3, 4, and 5, which support the Sunshine Bridge within the waterway limits of the Mississippi River. Caissons are used to conduct construction below the water level, represents a technological innovation used in large structures requiring deep piers set in unstable soil such as the shifting Mississippi riverbed.



Character-defining Feature Photo 2: Caisson-constructed piers.

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: Deck truss approach span to the west of the main Warren through truss spans, spanning LA 18 and the westerly levee of the Mississippi River, and approach piers.



Historic Fabric Photo 2: Y-shaped approach ramp spans at the easterly end of the bridge, including floor system and braced steel column towers.



Historic Fabric Photo 3: Approach spans to the east of the main Warren through truss spans including floor system, braced steel column towers, and approach piers.

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4. Engineering Data

A. Existing conditions

(1) Structural observations

The bridge is in fair condition overall and appears to adequately serve its purpose of carrying vehicular traffic over the Mississippi River and levees on each side of the river, LA 18, LA 44, and the CNRR. There are no major structural deficiencies for this bridge, but there are several minor structural deficiencies as described below. The condition of the superstructure is fair. The condition of the substructure is good.

The latest bridge inspection report (March 7, 2016), identifies areas of structural steel corrosion where rust is forming and areas of section loss. Additional structural repairs are planned in fall 2016 for the steel girder approach spans of this bridge. The LADOTD is also in the process of addressing structural repairs for the truss spans. Since plans for repairs are underway, structural steel repairs to truss spans and approach spans are not included in the recommendations or cost estimates for this plan.

This bridge is classified as fracture critical for the following reasons: (1) steel two-truss with floorbeams configuration of the truss spans, and (2) single transverse steel plate girder on top of the approach span bents on each side of the truss spans. The bridge is not load (weight) posted.

Superstructure

Westerly approach spans 1 through 17

The cast-in-place, reinforced-concrete deck is in satisfactory condition, with transverse cracks and minor scaling noted throughout the deck riding surface. Transverse cracks with efflorescence are noted throughout the deck soffit in all spans. The condition of the structural steel is fair. Additional deterioration in some structural steel members was revealed following the 2012-2016 rehabilitation work. The deck joints are in fair condition with minor debris buildup. The finger-type expansion joints are in good condition. The concrete barrier railing system is in good condition, with minor vertical hairline cracks throughout.

Deck truss span 18

The bottom chords and floorbeams are fracture critical members in this fracture critical deck truss system. The bearings are in good condition as a result of the recent cleaning and painting. The deck is 6.5 inches thick of cast-in-place reinforced concrete, and is in satisfactory condition. The riding surface is worn with minor scaling noted throughout the deck. The condition of the structural steel is fair. Additional deterioration in some structural steel members was revealed following the 2012-2016 rehabilitation work. The finger-type expansion joint is in good condition. The concrete barrier railing system is in good condition.

Main truss spans 19 through 23 over the Mississippi River

The bottom chords and floorbeams are fracture critical members in this fracture critical through truss system. The bearings are in good condition as a result of the recent cleaning and painting. The deck is 6.5 inches thick of cast-in-place reinforced concrete, and is in satisfactory condition. The riding surface is worn with minor scaling noted throughout the deck. The condition of the structural steel is fair. Additional deterioration in some structural steel members was revealed following the 2012-2016 rehabilitation work. Localized structural steel deterioration, primarily in the lower chords, is found throughout the steel main truss spans. The deck joints are in fair condition with minor debris buildup. The finger-type expansion joints are in good condition. The concrete barrier railing system is in good condition.

Easterly approach spans 24 through 63

The cast-in-place, reinforced-concrete deck is in satisfactory condition, with transverse cracks and minor scaling noted throughout the deck riding surface. Transverse cracks with efflorescence are noted throughout the deck soffit in all spans. The condition of the structural steel is fair. Additional deterioration in some structural steel members was revealed following the 2012-2016 rehabilitation work. The deck joints are in fair condition with minor debris buildup. The finger-type expansion joints are in good condition. The concrete barrier railing system is in good condition, with minor vertical hairline cracks throughout.

Substructure*Westerly approach spans*

All steel bents have fracture critical cap beams. The condition of the structural steel is fair. Additional deterioration in some structural steel members, particularly the steel cap beams, was revealed following the 2012-2016 rehabilitation work. The concrete foundations for the bents are in good condition.

Deck truss and main truss spans

The concrete piers are in good condition.

Easterly approach spans

All steel bents have fracture critical cap beams. The condition of the structural steel is fair. Additional deterioration in some structural steel members, particularly the steel cap beams, was revealed following the 2012-2016 rehabilitation work. The concrete foundations for the bents are in good condition.

(2) Non-structural observations

The condition of the asphalt overlay on the roadway approaches to the bridge at both the east and west ends is poor, with rutting, spalling, and cracking. According to the March 2016 bridge inspection report, navigation lights are functioning properly and are in good condition, except for one pedestal at the center of truss joint U32 that has heavy corrosion and section loss of the

pedestal. The timber fender system for Piers 4 and 5 were rehabilitated in 2014 and are in good condition. The March 2016 bridge inspection report notes that there are decayed timbers in the timber fender system for Pier 3.

Traffic signs are in place and are adequate at each end of the bridge. Pavement paint striping/markings across the bridge is adequate, but shows signs of fading and deterioration.

The waterway is adequate and is in very good condition. No deficiencies in the levees on either side of the river were noted during the site visit.

(3) Serviceability observations

Reports indicate that the ADT across the bridge is about 15,400 vehicles. This traffic is a mixture of cars, trucks, and emergency response vehicles, as observed during the field visit. This bridge does not have accommodations for pedestrians. No deficiencies for vertical clearance over LA 18, LA 44, or the CNRR were observed.

The number of trains per day that pass under the bridge is not known, although one train passed under the bridge during the four-hour duration of the field visit.

B. Sources of information

Plans available:	Yes, available at the LADOTD Bridge Section office
Inspection report date:	March 7, 2016
Fracture critical report date:	(included as part of routine inspection report)
Underwater inspection report:	July 2013
Date of site visit:	February 2, 2016



Condition Photo 1: Westerly approach spans at Bent 22.



Condition Photo 2: Approach span 17 and deck truss span 18 at Pier 1.



Condition Photo 3: Deck truss span 18 and main truss span 19 at Pier 2.



Condition Photo 4: Westerly approach spans with finger-type deck expansion joint at Bent 20.



Condition Photo 5: Westerly approach spans and truss span over LA 18.



Condition Photo 6: Eastbound approach roadway at west end of bridge.



Condition Photo 7: Column base detail for westerly approach spans.



Condition Photo 8: Deck truss span 18 over LA 18 and west levee.



Condition Photo 9: View from west end of bridge looking east toward the bridge.



Condition Photo 10: Eastbound roadway through truss spans.



Condition Photo 11: Eastbound roadway looking east at easterly Y-split in ramps at end of bridge.



Condition Photo 12: Pier 7 and easterly approach spans.



Condition Photo 13: Fender protection system at Pier 5.



Condition Photo 14: Underside of truss span showing floor beams, stringers and deck system.



Condition Photo 15: Y-shaped split of ramps at east end of bridge.



Condition Photo 16: Pier 6 and truss span over LA 44 and east levee.



Condition Photo 17: Damaged barrier railing attachment at end of northerly Y-ramp



Condition Photo 18: Overall view of bridge looking west.



Condition Photo 19: Easterly approach span over the CNRR, with Y-split in background.



Condition Photo 20: Approach roadway at east end of eastbound roadway.



Condition Photo 21: View of heavy section loss to the inside of the lower chord at joint L19. Photo courtesy of the LADOTD from inspection performed March 7, 2016.



Condition Photo 22: Bent 54 cap has 100% section loss in web, which is typical for bent top girder; rust stains noted to the tops of the floorbeams. Photo courtesy of the LADOTD from inspection performed March 7, 2016.



Condition Photo 23: West approach span 17, girder 1 has 100% section loss in the web near bottom flange at the splice plate. Photo courtesy of the LADOTD from inspection performed March 7, 2016.



Condition Photo 24: Compression seals have a heavy accumulation of rocks and debris throughout the structure. Photo courtesy of the LADOTD from inspection performed March 7, 2016.

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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

There is one cyclical maintenance activity recommended:

1. Clean debris from deck expansion joints using vacuum equipment. This activity is not included in the cost estimate.

There is one recommended condition-based maintenance activity. This activity is not included in the cost estimate because it is routinely performed.

1. Repair the damaged concrete barrier at the metal guardrail attachment at the north end of the northerly Y-ramp at the east end of the bridge.

B. Rehabilitation

As noted previously, additional structural repairs are planned for the truss spans and approach spans of this bridge. Since plans for repairs are underway, structural steel repairs to truss and approach spans are not included in the recommendations or cost estimates for this plan.

The following are additional recommendations for rehabilitation. These activities should be performed when necessary (estimated to be within the next two years):

1. Install collection troughs under finger-type expansion joints in the bridge decks, to direct water and debris away from the structural steel members and bearings below.
2. Remove and replace bridge deck expansion joint at west abutment for full width of bridge.
3. Mill and overlay asphalt overlay on concrete roadway approaches at each end of the bridge (existing asphalt overlay is severely deteriorated and in poor condition).

Bridge Recall No. 203760		Date:	7/27/2016	
LA 70 Sunshine Bridge Over Mississippi River				
Opinion of Probable Costs				
Rehabilitation				
Item	Quantity	Unit	Unit Cost	Total
Install collection troughs under finger-type expansion joints in the bridge decks	480	LF	\$150	\$72,000
Remove and replace bridge deck expansion joint at west abutment for full width of bridge	60	LF	\$75	\$4,500
Mill and overlay asphalt overlay on concrete approaches at each end of the bridge	400	SY	\$100	\$40,000
Traffic control for work described in items above	1	LS	\$50,000	\$50,000
Item Subtotal				\$166,500
Contingency			10.00%	\$16,650
Mobilization			7.00%	\$12,821
TOTAL ESTIMATED CONSTRUCTION COST				\$195,971
			Round to:	\$196,000

C. Identification of any anticipated design exceptions

No design exceptions are recommended.

Appendix A. Historic Inventory Form

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Louisiana Historic Bridge Inventory

Recall Number: 203760

Structure Number: 61474260200721

SHPO Number: 47-01766

Bridge Name: MISSISSIPPI R.(SUNSHINE)

Location Data:

District: 61

Parish: St. James

Feature Crossed: MISS RIVER/LA 18/LA 44

Facility Carried: LA0070

Location: LA0070

City, Village or Town (if applicable):

Status: Open

Bridge Owner: State of Louisiana

Latitude: 30.096033

Longitude: -90.92285

Structural Data:

Bridge Type: Steel High Truss (Cantilevered Through Truss)

Year Built: 1964

Main Span Configuration (if applicable): Warren through truss

Maximum Span Length (feet): 825

Number of Spans: 48

Overall Structure Length (feet): 9102

Approach Span Type (if applicable): Steel truss - deck

Posted Load:

Current ADT: 016200

Design and Construction Data:

Engineer or Builder:

Unknown

Bridge Plaque:

None

National Register of Historic Places Evaluation:

This through truss bridge has significance as an important example of a distinctive truss subtype. Significance is demonstrated by the presence of distinctive features of the Warren through truss, which is characterized by diagonal members to withstand both tensile and compressive forces. This example has added verticals for bracing. In addition, the bridge displays innovative or complex technological solutions related to site conditions, which consist of a continuous main span and caisson construction of the piers to meet the challenges of crossing the Mississippi River. This bridge retains good integrity and clearly conveys the significant design features of the continuous Warren through truss. This 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: 203760

Structure Number: 61474260200721

Bridge Name: MISSISSIPPI R.(SUNSHINE)

Parish: St. James

Bridge Owner: State of Louisiana

Feature Crossed: MISS RIVER/LA 18/LA 44

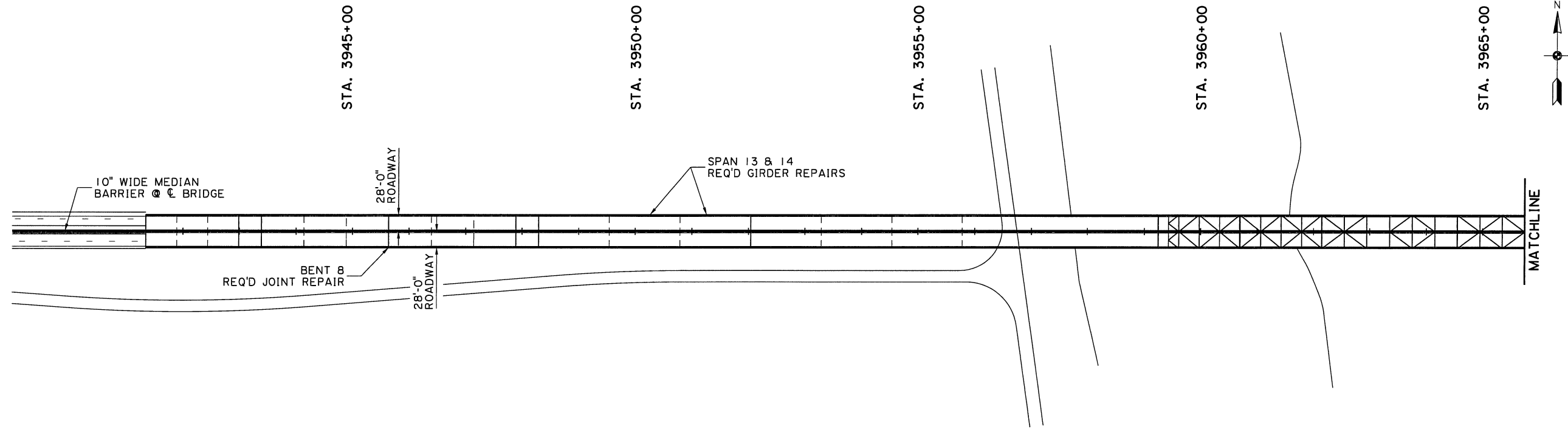
Facility Carried: LA0070

Photographs:

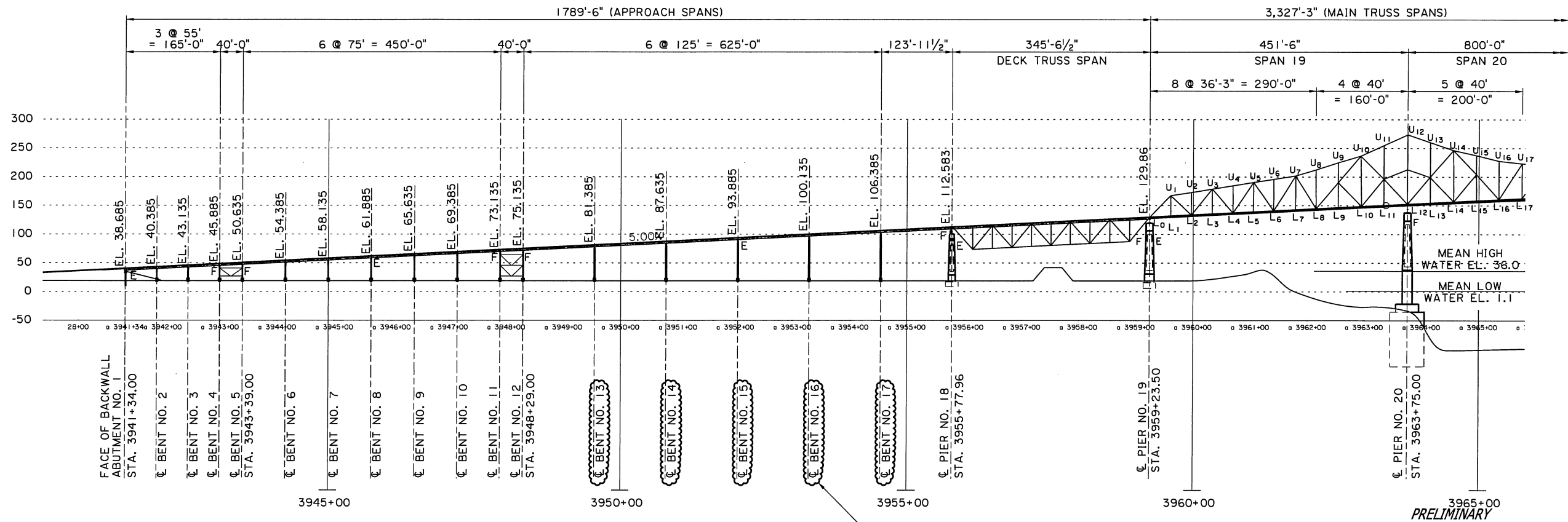


Appendix B. Select Plan Sheets

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PLAN
SCALE: 1" = 100'



NOTE:
BENT AND SPAN NUMBERS HAVE BEEN TAKEN FROM THE LATEST PONTIS BRIDGE INVENTORY/PONTIS BRIDGE INSPECTION REPORTS AND MAY NOT AGREE WITH THE AS-BUILT PLANS.

ELEVATION
SCALE: HORIZONTAL: 1" = 100'
VERTICAL: 1" = 100'

BENT NOS. WHICH ARE CIRCLED INDICATE THAT REPAIRS ARE REQUIRED TO THE SUBSTRUCTURE. (TYP.)

PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION, BIDDING, RECORDATION, CONVEYANCE, SALES OR AS THE BASIS FOR THE ISSUANCE OF A PERMIT.

HUVAL AND ASSOCIATES, INC.
ENGINEER: JUSTIN C. PELTIER
LICENSE #: 34765
DATE: 7/20/2016

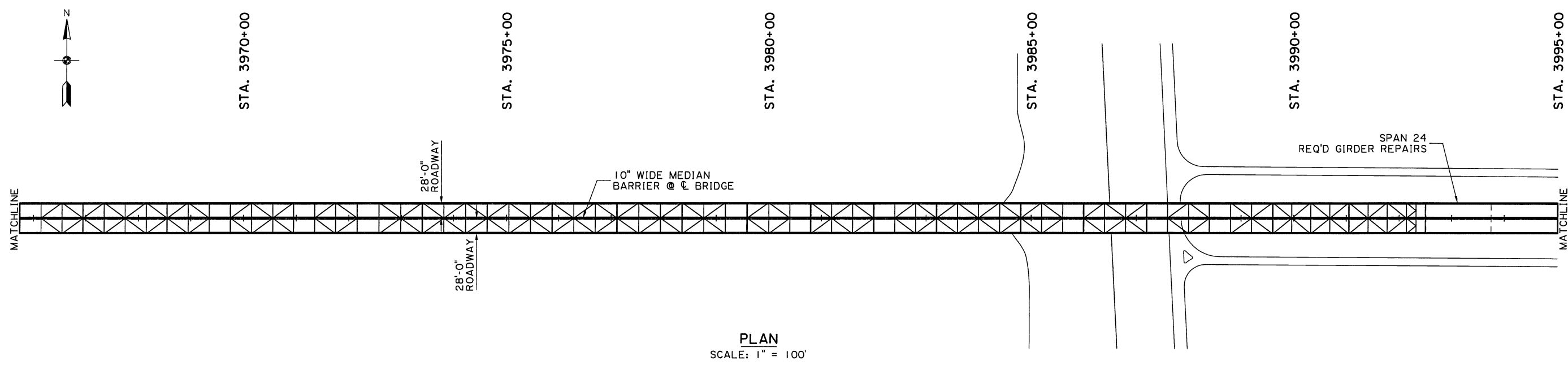
SHEET NUMBER	103
DESIGNED BY	J. PELTIER
CHECKED BY	C. GIGLIO
DATE	
REVISION OR CHANGE ORDER DESCRIPTION	
BY	
NO.	
DATE	
PARISH	ST. JAMES
CONTROL SECTION	426-02
STATE PROJECT	H.OI 2343

LA 70: MISSISSIPPI RIVER BRIDGE - PHASE III

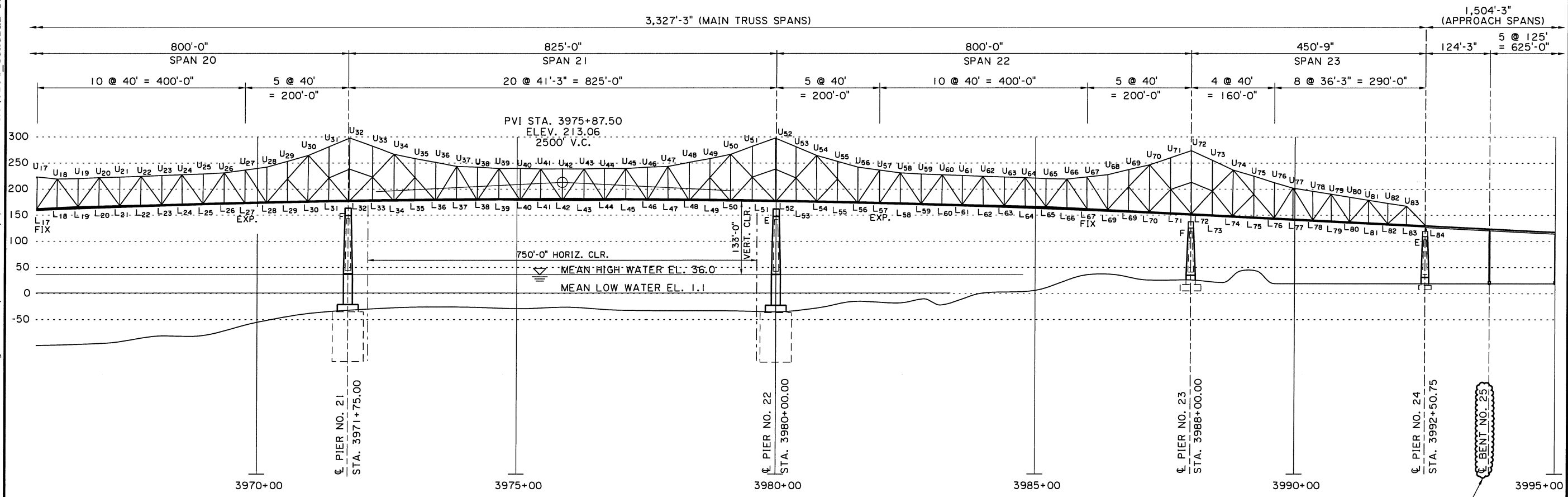
HUVAL & ASSOCIATES, INC.
Consulting Engineers

X:\HUVAL Projects\6244 (Sunshine Bridge LA 70, Phase III)\Border to Print\0104 General Plan & Elevation.dgn

7/20/2016 9:10:49 AM



PLAN
SCALE: 1" = 100'



ELEVATION
SCALE: HORIZONTAL: 1" = 100'
VERTICAL: 1" = 100'

NOTE:
BENT AND SPAN NUMBERS HAVE BEEN TAKEN FROM THE LATEST PONTIS BRIDGE INVENTORY/PONTIS BRIDGE INSPECTION REPORTS AND MAY NOT AGREE WITH THE AS-BUILT PLANS.

PRELIMINARY

NOT TO BE USED FOR CONSTRUCTION, BIDDING, RECORDATION, CONVEYANCE, SALES OR AS THE BASIS FOR THE ISSUANCE OF A PERMIT.

HUVAL AND ASSOCIATES, INC.

ENGINEER: JUSTIN C. PELTIER
LICENSE #: 34765
DATE: 7/20/2016

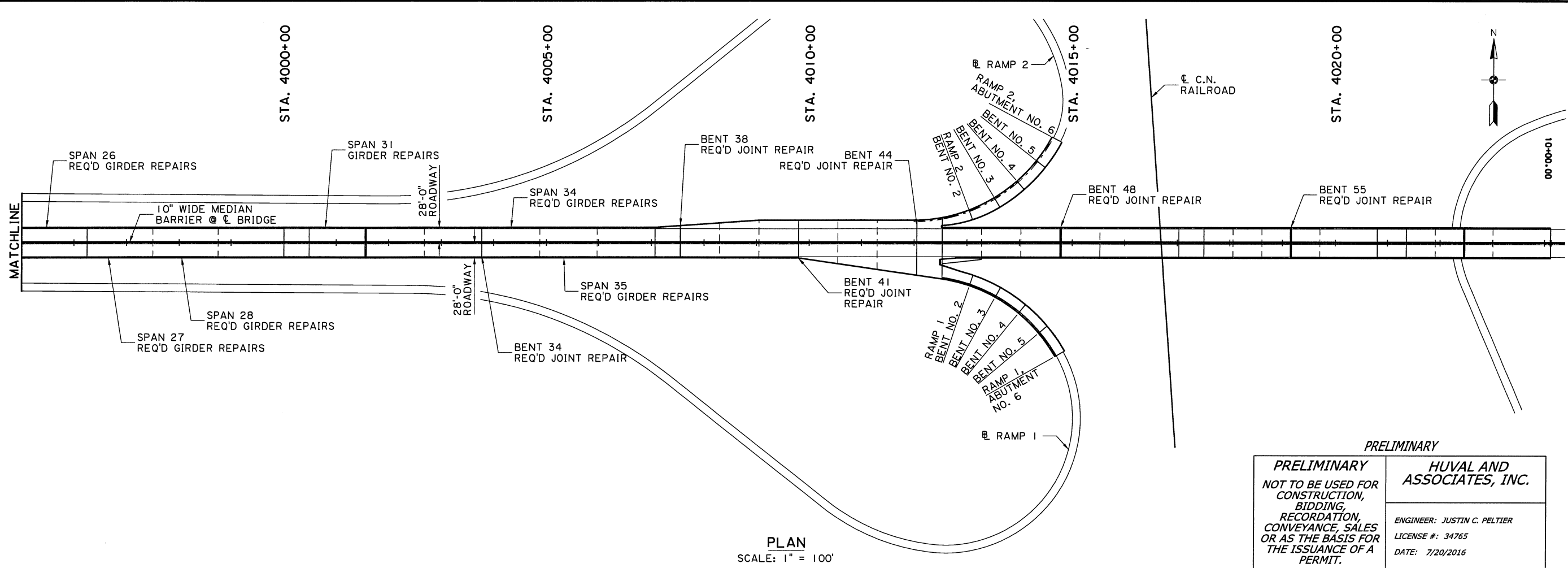
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CHECKED	C. GIGLIO	CHECKED	C. GIGLIO	CONTROL SECTION	426-02
DETAILS	J. SUNDBERG	REVIEWED	J. PELTIER	STATE PROJECT	H.O12343
REVISION OR CHANGE ORDER DESCRIPTION		NO.	DATE	BY	

GENERAL PLAN & ELEVATION
LA 70: MISSISSIPPI RIVER BRIDGE - PHASE III

HUVAL & ASSOCIATES, INC.
Consulting Engineers

PRELIMINARY



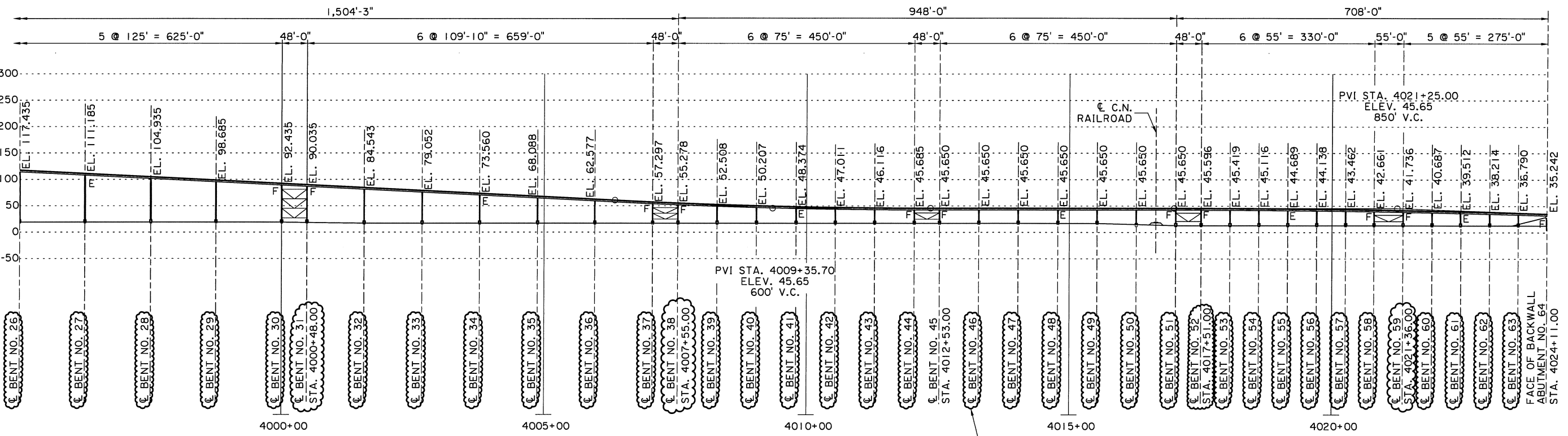
PLAN
SCALE: 1" = 100'

PRELIMINARY

HUVAL AND ASSOCIATES, INC.

ENGINEER: JUSTIN C. PELTIER
LICENSE #: 34765
DATE: 7/20/2016

NOT TO BE USED FOR CONSTRUCTION, BIDDING, RECORDATION, CONVEYANCE, SALES OR AS THE BASIS FOR THE ISSUANCE OF A PERMIT.



ELEVATION
SCALE: HORIZONTAL: 1" = 100'
VERTICAL: 1" = 100'

NOTE:
BENT AND SPAN NUMBERS HAVE BEEN TAKEN FROM THE LATEST PONTIS BRIDGE INVENTORY/PONTIS BRIDGE INSPECTION REPORTS AND MAY NOT AGREE WITH THE AS-BUILT PLANS.

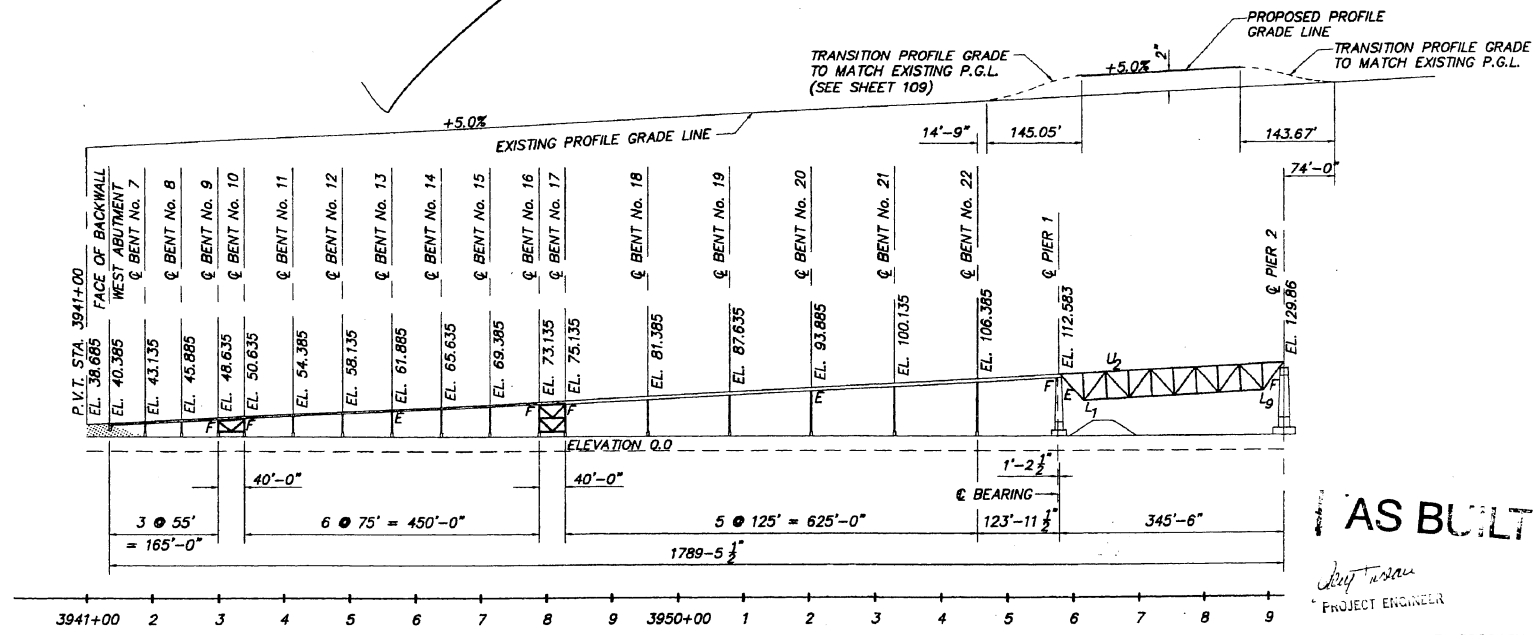
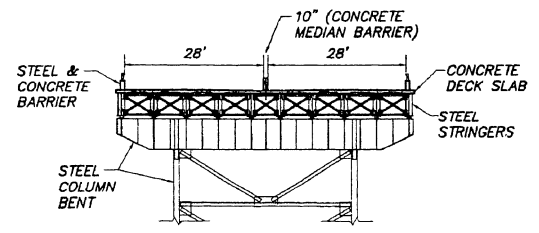
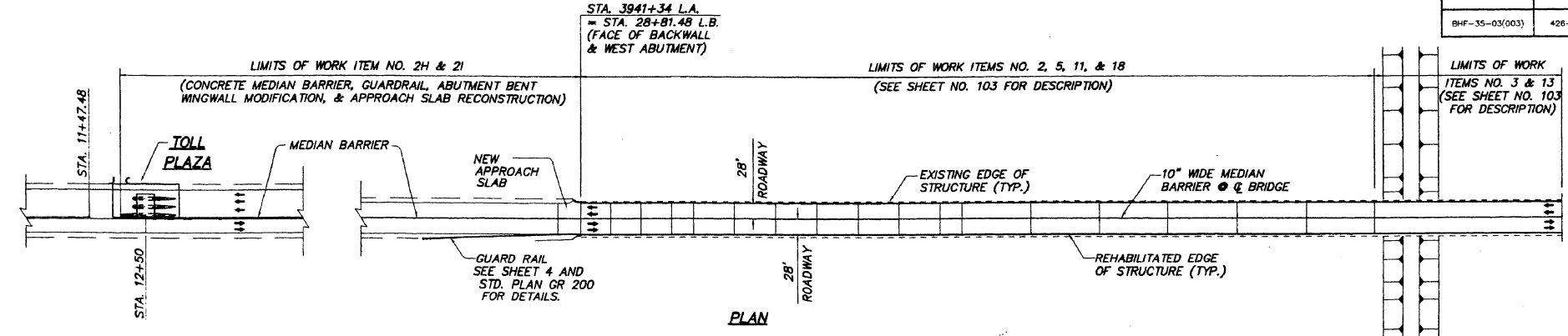
BENT NOS. WHICH ARE CIRCLED INDICATE THAT REPAIRS ARE REQUIRED TO THE SUBSTRUCTURE. (TYP.)

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CHECKED	C. GIGLIO	DETAILS	J. SUNDBERG	CENTRAL SECTION	426-02
CHECKED	J. PELTIER	REVIEWED	J. PELTIER	STATE	LA
NO.		DATE		PROJECT	H.O.12343
REVISION OR CHANGE ORDER DESCRIPTION					
BY					

GENERAL PLAN & ELEVATION

L.A. 70: MISSISSIPPI RIVER BRIDGE - PHASE III

F. A. P.	STATE PROJECT	PARISH	SHEET NO.
BHF-35-03(003)	426-02-0038	ST. JAMES	105



AS BUILT

PROJECT ENGINEER

GENERAL PLAN & ELEVATION - WEST APPROACH



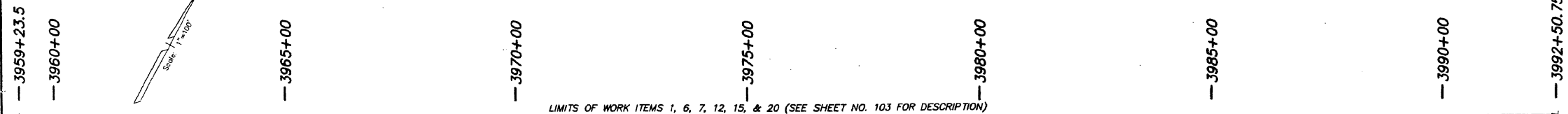
STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION
AND DEVELOPMENT

SUNSHINE BRIDGE
(REHABILITATION)

DATE: AUGUST, 1994
EVANS-GRAVES ENGINEERS, INC.
ENGINEERING CONSULTANTS
BATON ROUGE, LA

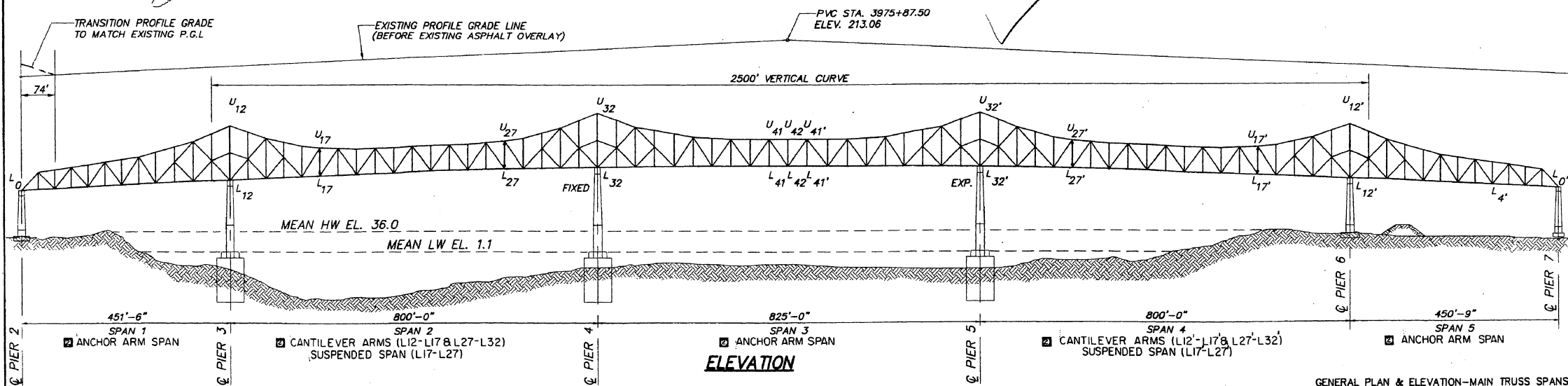
DESIGNED: G. MENARD	DETAILED: J. MOAK	TRACED: A. CAD
CHECKED: W. SAUGER	CHECKED: W. SAUGER	CHECKED: -----
SCALE: 1" = 100'		

F. A. P.	STATE PROJECT	PARISH	SHEET NO.
BHF-35-03(003)	426-02-0038	ST. JAMES	108



LIMITS OF WORK ITEMS 1, 6, 7, 12, 15, & 20 (SEE SHEET NO. 103 FOR DESCRIPTION)

PLAN



ELEVATION

GENERAL PLAN & ELEVATION—MAIN TRUSS SPANS

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION
AND DEVELOPMENT

**SUNSHINE BRIDGE
(REHABILITATION)**

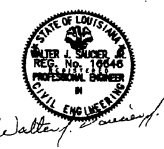
DATE: DECEMBER, 1991

EVANS-GRAVES ENGINEERS, INC.
ENGINEERING CONSULTANTS
BATON ROUGE, LA

DESIGNED: G. MENARD DETAILED: H. MOAK TRACED: A. CAD
CHECKED: W. SAUNDER CHECKED: W. SAUNDER CHECKED: -----

SCALE: 1" = 100'

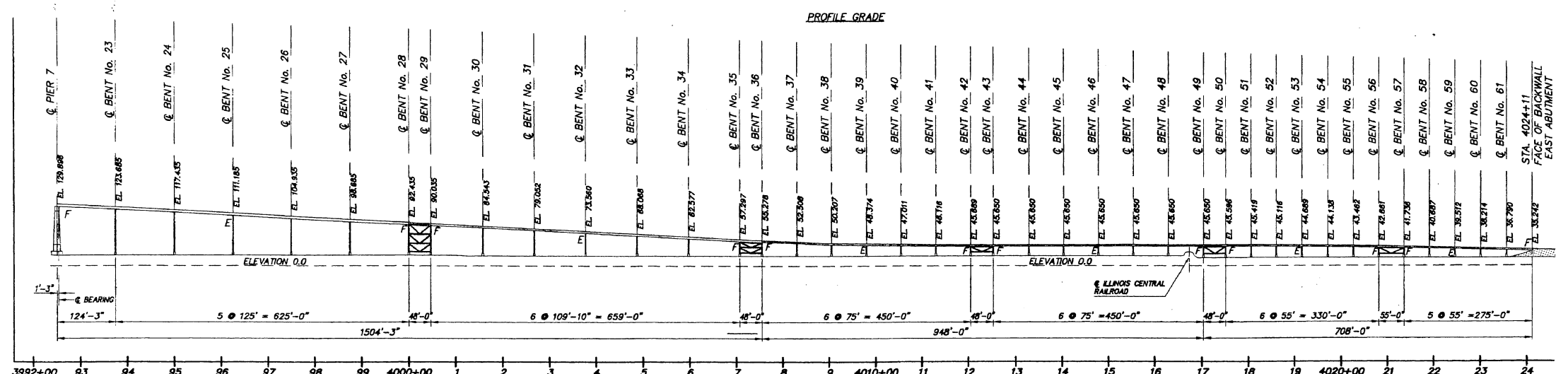
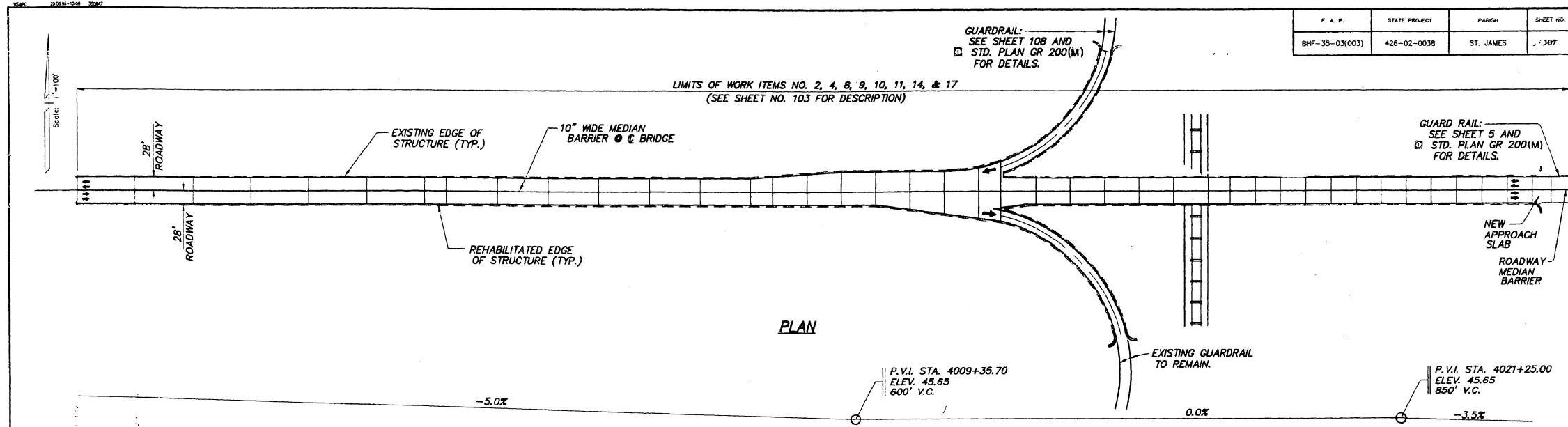
Steve T. ...
PROJECT ENGINEER



DATE	DESCRIPTION	BY
12-21-00	ADD NOTES	DDT
	REVISIONS	

AS BUILT

F. A. P.	STATE PROJECT	PARISH	SHEET NO.
BHF-35-03(003)	426-02-0038	ST. JAMES	197

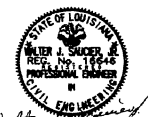


GENERAL PLAN & ELEVATION - EAST APPROACH

ELEVATION

Glynn Tustin
PROJECT ENGINEER

Walter...



STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION
AND DEVELOPMENT

SUNSHINE BRIDGE
(REHABILITATION)

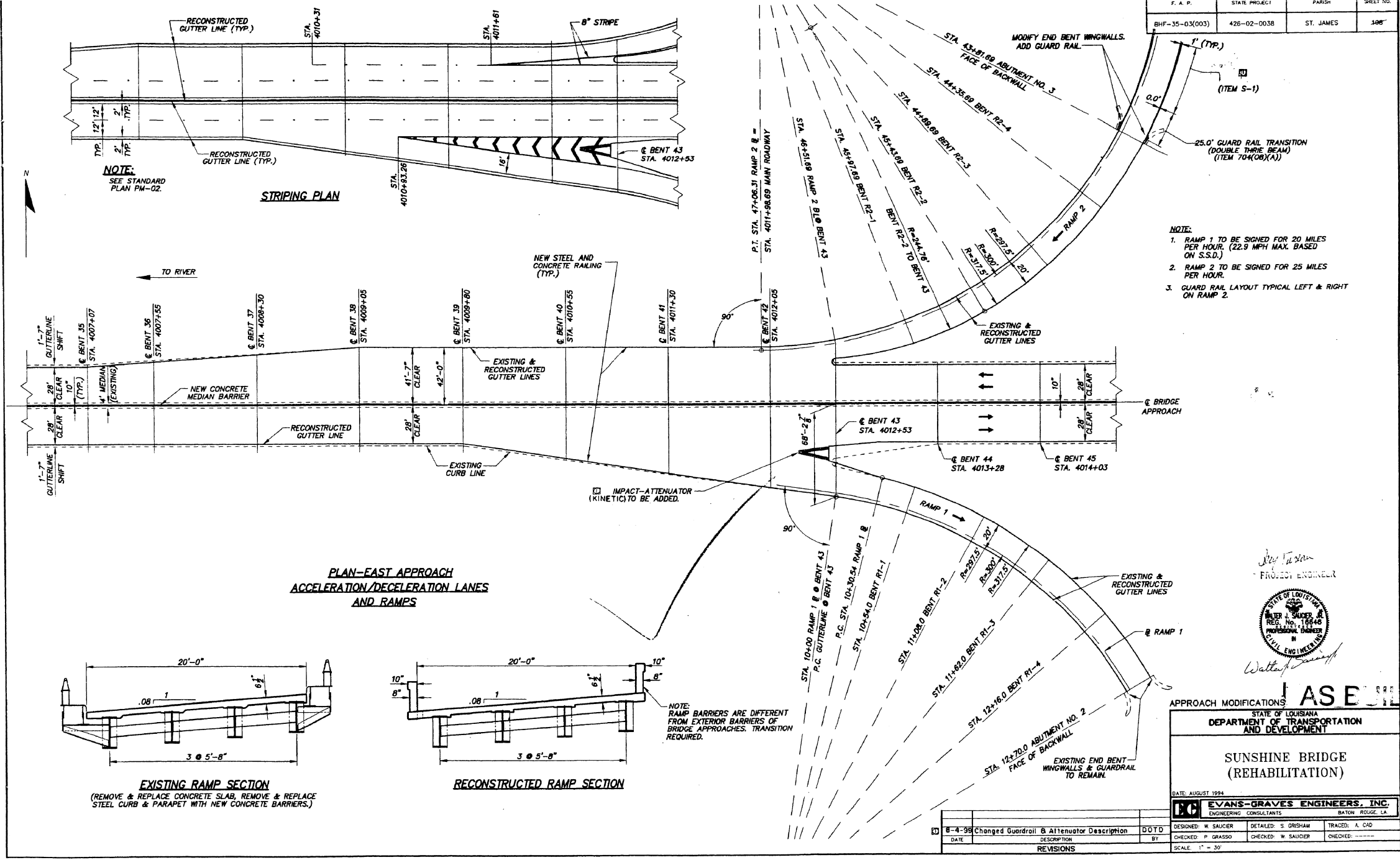
DATE: AUGUST, 1994
EVANS-GRAVES ENGINEERS, INC.
ENGINEERING CONSULTANTS
BATON ROUGE, LA.

DESIGNED: C. MENARD	DETAILED: J. MOAK	TRACED: A. CAD
CHECKED: W. SAUCIER	CHECKED: W. SAUCIER	CHECKED: -----
SCALE: 1" = 100'		

NO.	DATE	DESCRIPTION	BY
1	8-4-99	Changed Guardrail Description	DOTD
REVISIONS			

AS BUILT

F. A. P.	STATE PROJECT	PARISH	SHEET NO.
BHF-35-03(003)	426-02-0038	ST. JAMES	108

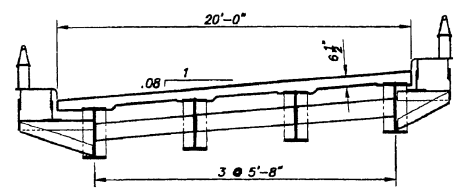


NOTE:
SEE STANDARD
PLAN PM-02.

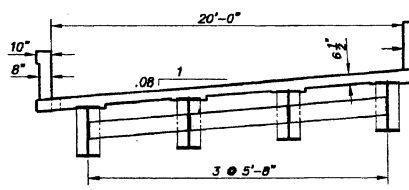
STRIPING PLAN

- NOTE:**
1. RAMP 1 TO BE SIGNED FOR 20 MILES PER HOUR, (22.9 MPH MAX. BASED ON S.S.D.)
 2. RAMP 2 TO BE SIGNED FOR 25 MILES PER HOUR.
 3. GUARD RAIL LAYOUT TYPICAL LEFT & RIGHT ON RAMP 2.

**PLAN-FAST APPROACH
ACCELERATION/DECELERATION LANES
AND RAMP**



EXISTING RAMP SECTION
(REMOVE & REPLACE CONCRETE SLAB, REMOVE & REPLACE STEEL CURB & PARAPET WITH NEW CONCRETE BARRIERS.)



RECONSTRUCTED RAMP SECTION

NOTE:
RAMP BARRIERS ARE DIFFERENT FROM EXTERIOR BARRIERS OF BRIDGE APPROACHES. TRANSITION REQUIRED.

John T. Saucier
PROJECT ENGINEER



Walter J. ...

APPROACH MODIFICATIONS

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION
AND DEVELOPMENT

**SUNSHINE BRIDGE
(REHABILITATION)**

DATE: AUGUST 1994

EVANS-GRAVES ENGINEERS, INC.
ENGINEERING CONSULTANTS
BATON ROUGE, LA.

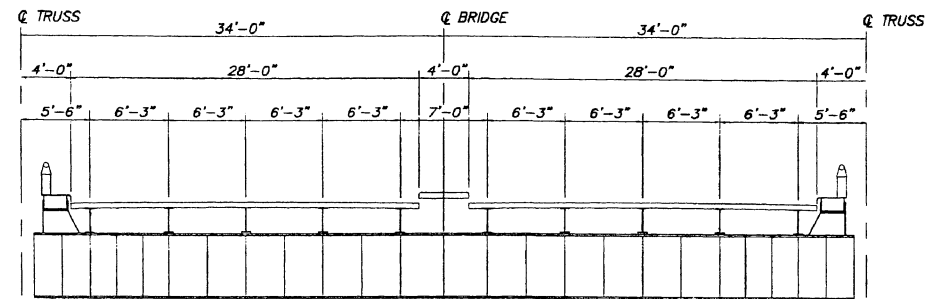
DESIGNED: W. SAUCIER	DATE: 8-4-98	DESCRIPTION: Changed Guardrail & Attenuator Description	DOTD
DATE: 8-4-98	BY: P. GRASSO	REVISIONS	BY: W. SAUCIER
SCALE: 1" = 30'		CHECKED: W. SAUCIER	

F. A. P.	STATE PROJECT	PAPPH	SHEET NO.
BHF-35-03(003)	426-02-0038	ST. JAMES	110

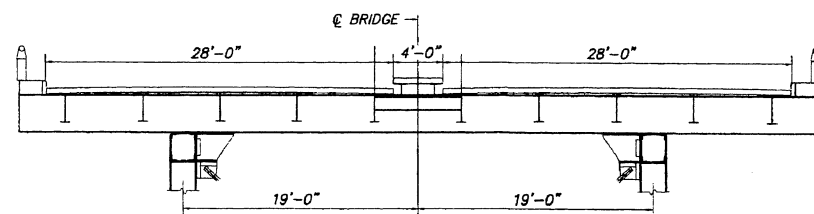
NOTES:

- SEE SHEET 113 FOR DESCRIPTION OF ITEMS OF WORK TO BE PERFORMED IN EACH PHASE.
- REMOVAL OF CONCRETE-FILLED GRID DECK INCLUDES REMOVAL OF ANY ASPHALTIC CONCRETE OVERLAY AT NO ADDITIONAL PAYMENT.

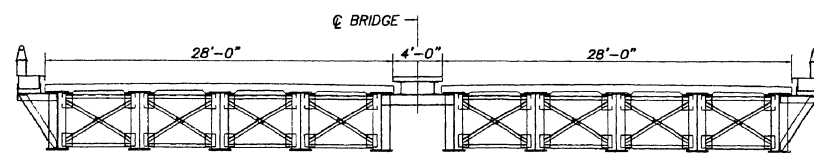
EXISTING CONFIGURATION



EXISTING CROSS-SECTION MAIN TRUSS

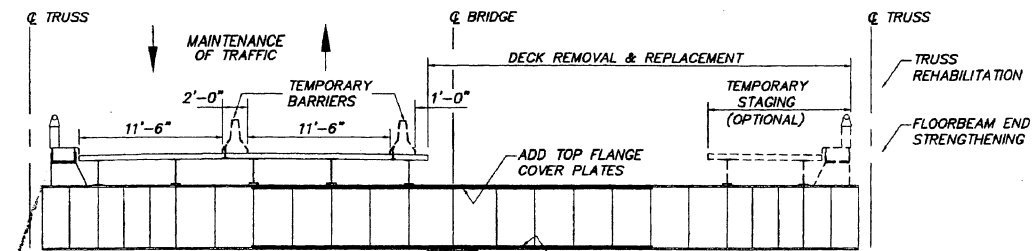


EXISTING CROSS-SECTION DECK TRUSS

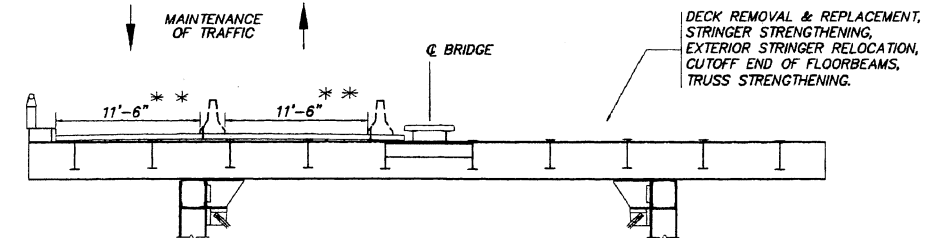


EXISTING CROSS-SECTION BRIDGE APPROACHES

PHASE I

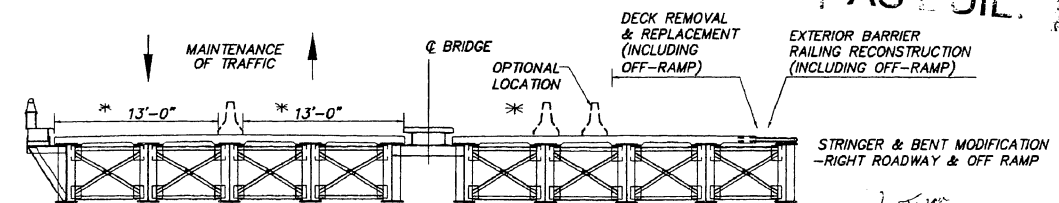


MAIN TRUSS



DECK TRUSS & WEST APPROACH

- 2 (BENT + 22 TO PIER 2 ONLY)
- 3 **NOTE: FOR LANE WIDTHS, SEE SHEET II



EAST APPROACH & WEST APPROACH (ABUTMENT TO BENT 22)

- 4 *NOTE: EAST APPROACH MAINTENANCE OF TRAFFIC SHOWN REFER TO SHEET II FOR WEST APPROACH LAYOUT.

NOTE:

TEMPORARY BARRIERS USED ON MAIN TRUSS AND DECK TRUSS SHALL BE ANCHOR BOLTED TO EXISTING GRID DECK. (SEE TEMPORARY BARRIER DETAILS.)

AS BUILT



Walter J. Sauger
PROJECT ENGINEER

CONSTRUCTION SEQUENCE 1 OF 3

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION
AND DEVELOPMENT

SUNSHINE BRIDGE
(REHABILITATION)

DATE: AUG. 1994

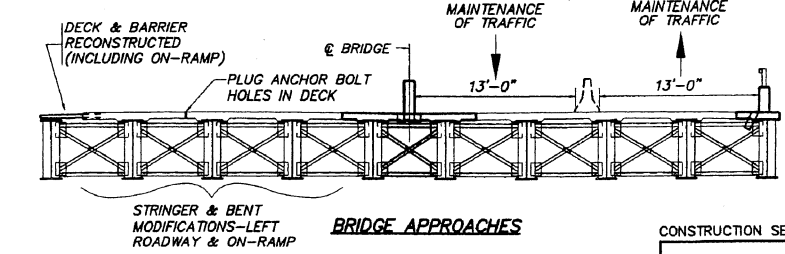
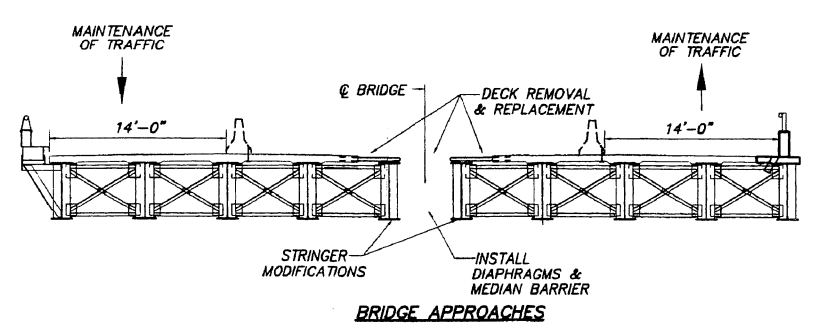
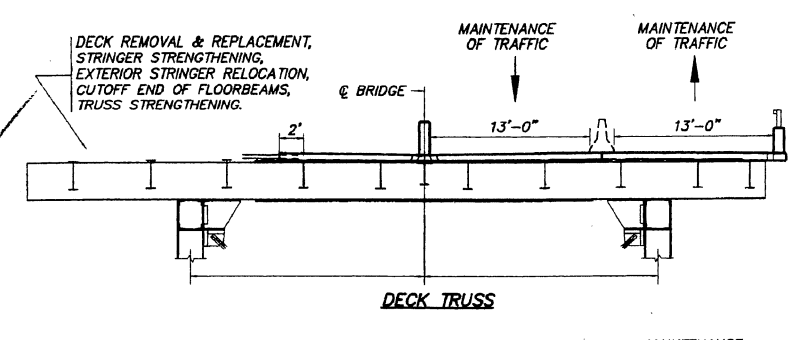
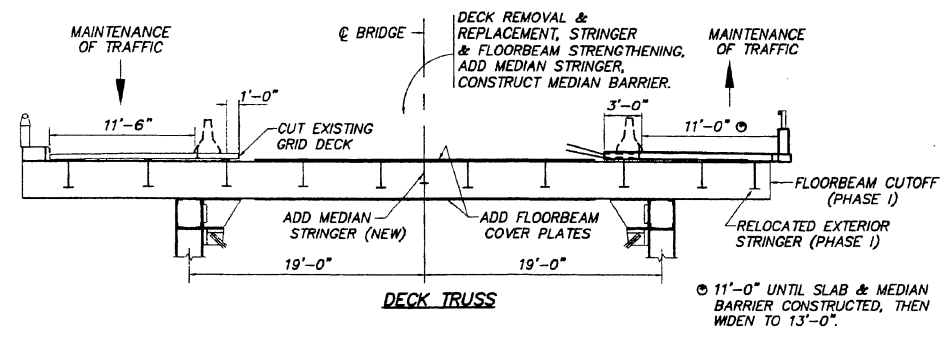
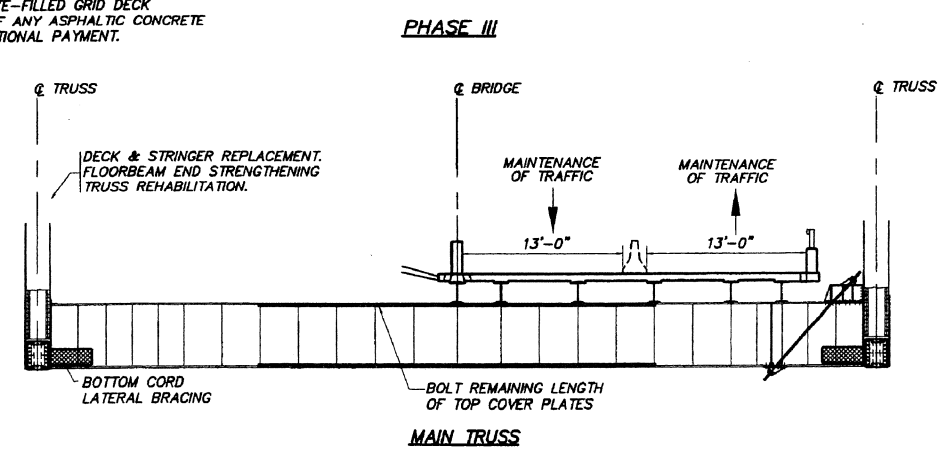
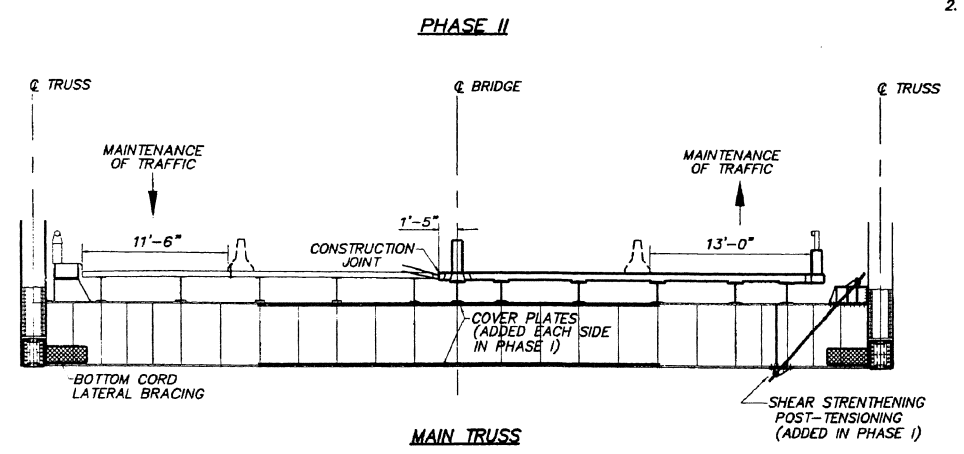
EVANS-GRAVES ENGINEERS, INC.
ENGINEERING CONSULTANTS
BATON ROUGE, LA.

4-10-00	ADD NOTES	DOTD	DESIGNED: W. SAUGER	DATE: 4-10-00	BY:	SCALE: 3/16" = 1'-0"
1-31-00	ADD NOTES	DOTD	Detailed: S. GRISHAM	DATE: 1-31-00	BY:	
			Checked: P. GRASSO			
			Checked: W. SAUGER			

1801 PE-0735 3500X

F. A. P.	STATE PROJECT	PARISH	SHEET NO.
BHF-35-03(003)	426-02-0038	ST. JAMES	- 411

NOTES:
 1. SEE SHEET 113 FOR DESCRIPTION OF ITEMS OF WORK TO BE PERFORMED IN EACH PHASE.
 2. REMOVAL OF CONCRETE-FILLED GRID DECK INCLUDES REMOVAL OF ANY ASPHALTIC CONCRETE OVERLAY AT NO ADDITIONAL PAYMENT.



NOTE:
 TEMPORARY BARRIERS USED IN PHASE II ON MAIN TRUSS GRID DECK, AND ON DECK TRUSS & APPROACHES SHALL BE ANCHOR BOLTED TO DECK. (SEE TEMPORARY BARRIER DETAILS)

AS BUILT
 Project Engineer



CONSTRUCTION SEQUENCE 2 OF 3

STATE OF LOUISIANA
 DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

SUNSHINE BRIDGE (REHABILITATION)

DATE: AUG. 1994

EVANS-GRAVES ENGINEERS, INC.
 ENGINEERING CONSULTANTS
 BATON ROUGE, LA.

DESIGNED: W. SAUCIER	DETAILED: S. GRISHAM	TRACED: A. CAD
CHECKED: P. GRASSO	CHECKED: W. SAUCIER	CHECKED: -----

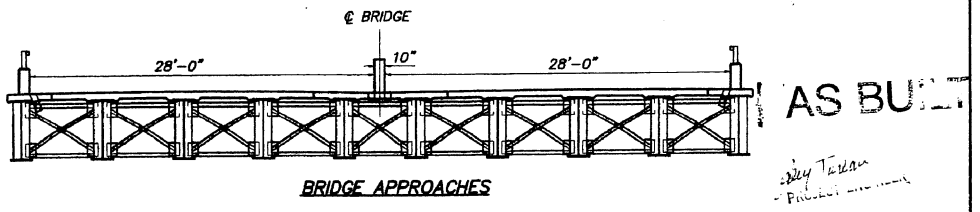
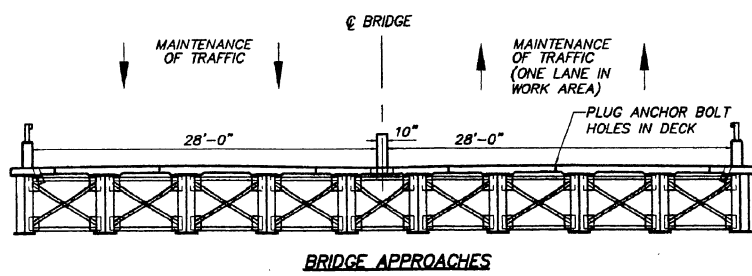
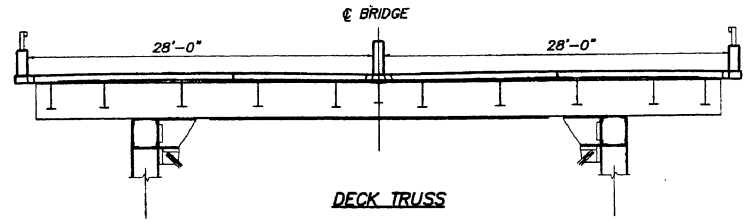
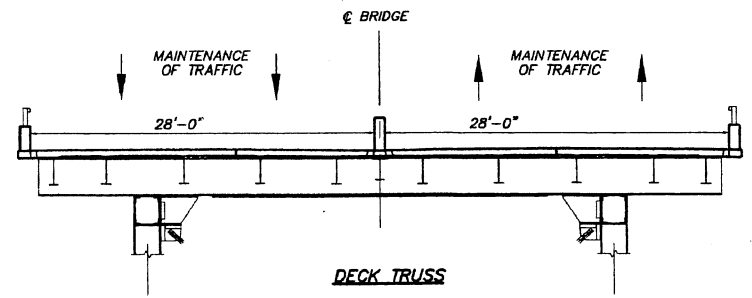
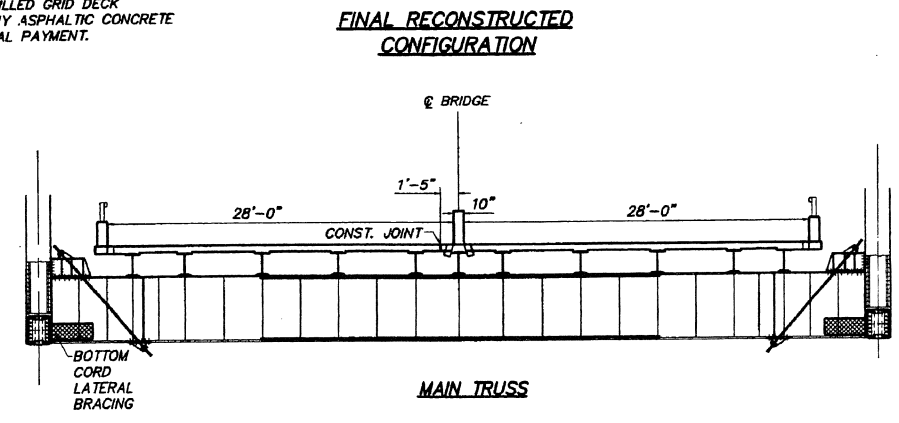
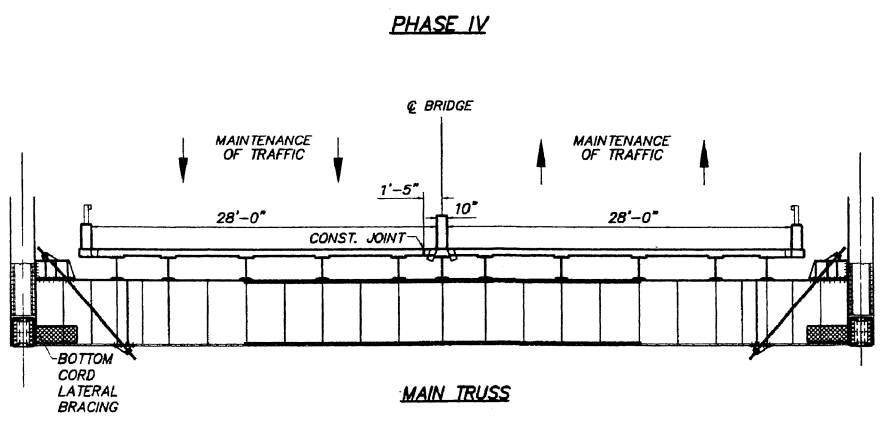
SCALE: 3/16" = 1'-0"

DATE	DESCRIPTION	BY
REVISIONS		

110126-0226 200004

F. A. P.	STATE PROJECT	PARISH	SHEET NO.
BHF-35-03(003)	426-02-0038	ST. JAMES	112

NOTES:
 1. SEE SHEET 113 FOR DESCRIPTION OF ITEMS OF WORK TO BE PERFORMED IN EACH PHASE.
 2. REMOVAL OF CONCRETE-FILLED GRID DECK INCLUDES REMOVAL OF ANY ASPHALTIC CONCRETE OVERLAY AT NO ADDITIONAL PAYMENT.



NOTE:
 APPROACH ROADWAY MEDIAN BARRIERS TO BE CONSTRUCTED IN PHASE IV. TEMPORARY IMPACT ATTENUATORS ARE REQUIRED AT EXPOSED BRIDGE MEDIAN BARRIER ENDS UNTIL BARRIER IS COMPLETED.



Walter J. Saucier

CONSTRUCTION SEQUENCE 3 OF 3

STATE OF LOUISIANA
 DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

SUNSHINE BRIDGE
 (REHABILITATION)

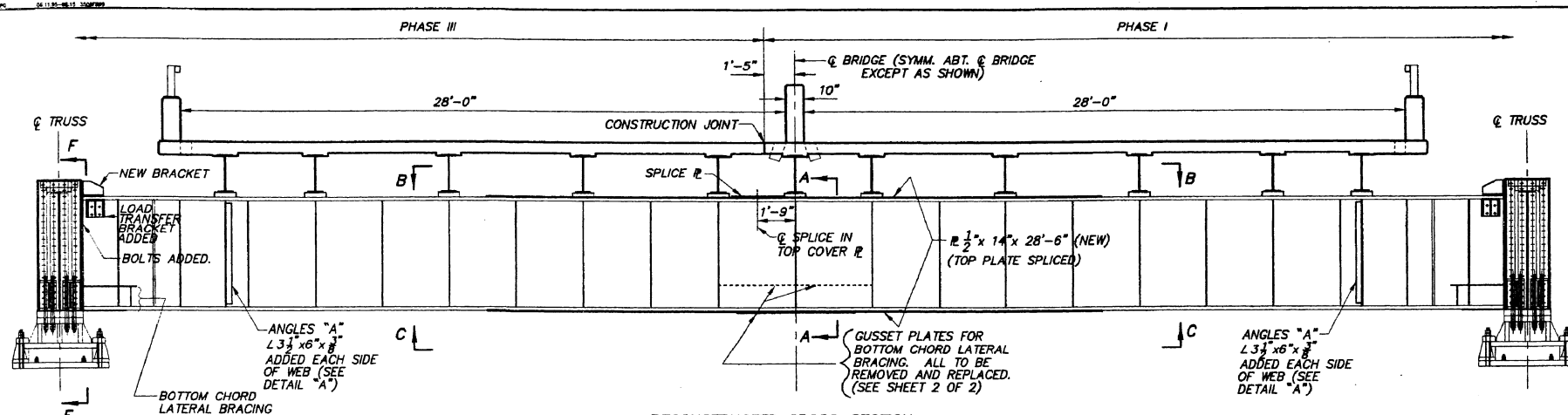
DATE: AUG. 1994

EG EVANS-GRAVES ENGINEERS, INC.
 ENGINEERING CONSULTANTS BAYON ROUGE, LA

DESIGNED: W. SAUCIER	DETAILED: S. GRISHAM	TRACED: A. CAD
CHECKED: P. GRAISSO	CHECKED: W. SAUCIER	CHECKED: -----
SCALE: 3/4" = 1'-0"		

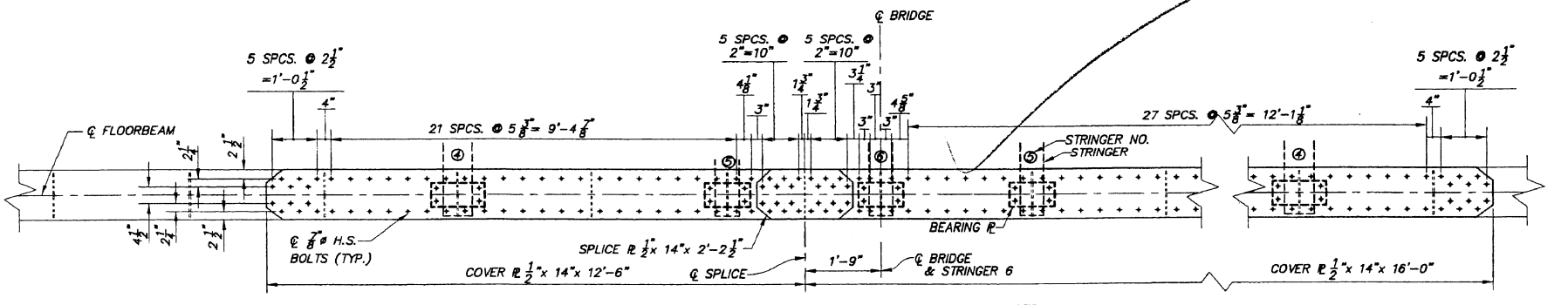
DATE	DESCRIPTION	BY

F. A. P.	STATE PROJECT	PARISH	SHEET NO.
BHF-35-03(003)	426-02-0038	ST. JAMES	121



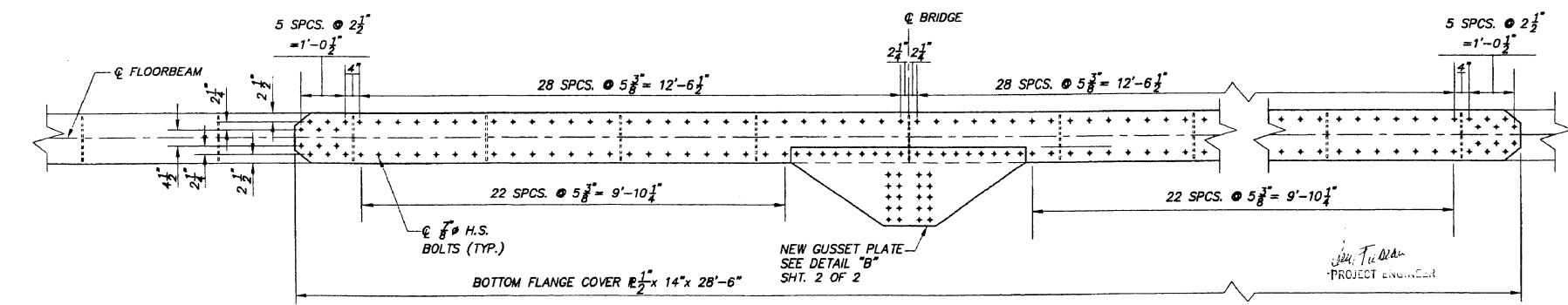
- NOTES:**
- FOR LOAD TRANSFER BRACKETS, SEE SHEET 144.
 - TOP FLANGE COVER PLATE: LONGER PIECE IS TO BE INSTALLED DURING PHASE I; SHORTER PIECE AND SPLICE PLATE TO BE INSTALLED DURING PHASE II OR III.

**RECONSTRUCTED CROSS-SECTION
(FLOORBEAM "FB1" @ LO & LO')**

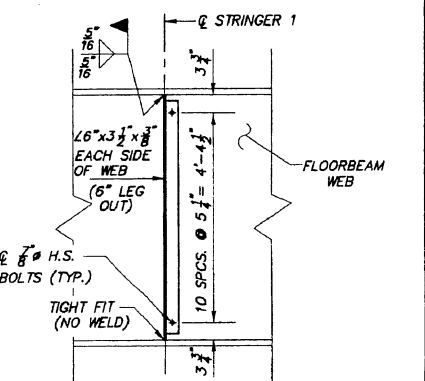


VIEW B-B
SCALE: 3/4" = 1'-0"

NOTE:
STRINGERS & BEARING R'S
SHOWN TO IDENTIFY POSSIBLE
CONFLICTS ONLY.



VIEW C-C
SCALE: 3/4" = 1'-0"



DETAIL "A"
AS BUILT

"FB1" @ LO, LO' (SHEET 1 OF 2)
FLOORBEAM STRENGTHENING - MAIN TRUSS

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION
AND DEVELOPMENT

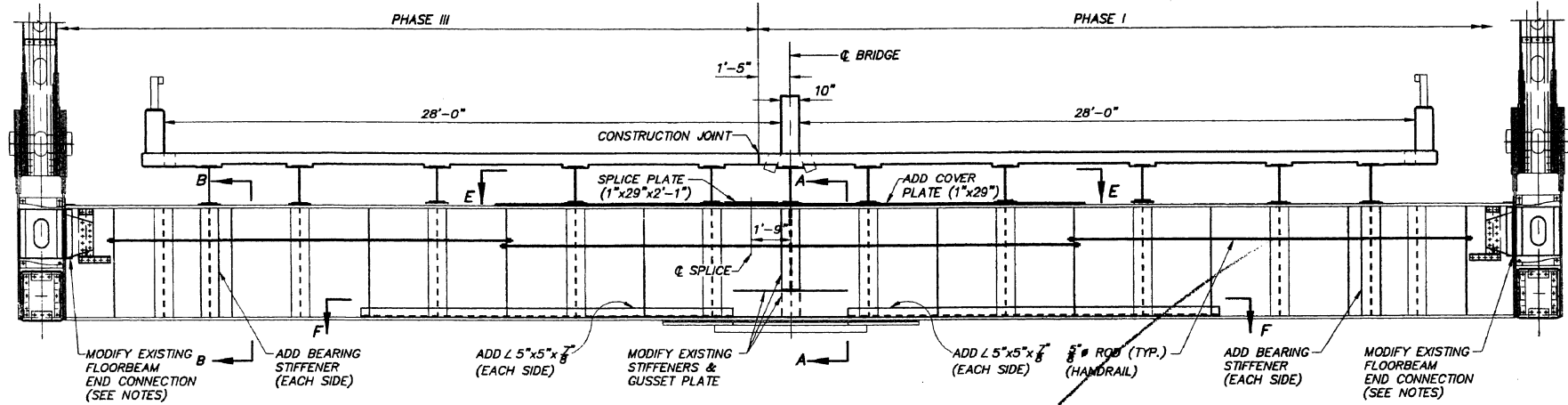
SUNSHINE BRIDGE
(REHABILITATION)

DATE: SEPT., 1995
EVANS-GRAVES ENGINEERS, INC.
ENGINEERING CONSULTANTS
BATON ROUGE, LA.

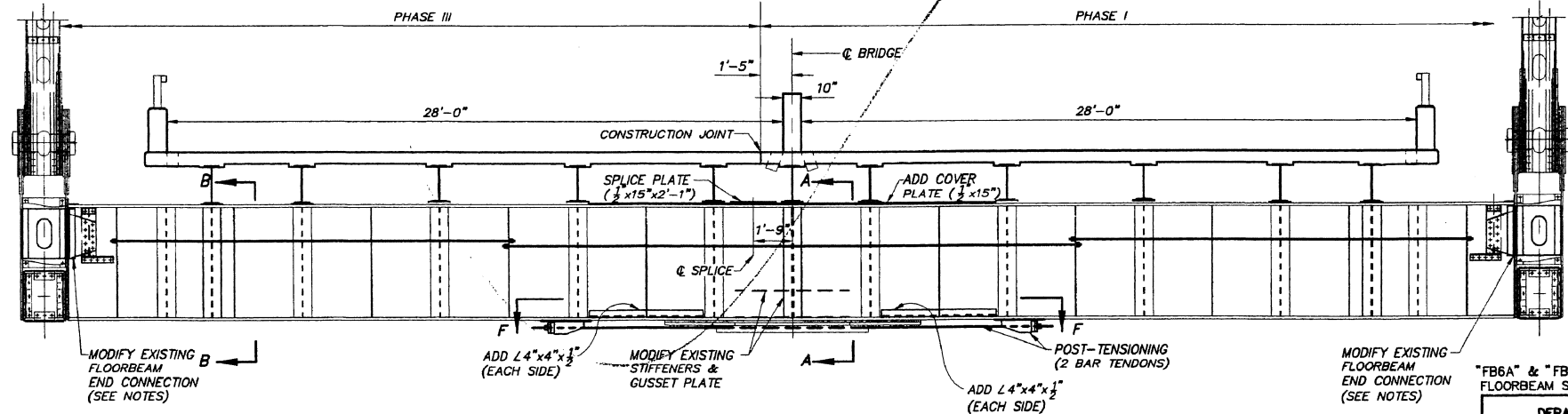
DESIGNED: W. SAUCER	DETAILED: S. GRISHAM	TRACED: A. CAD
CHECKED: D. MARSALONE	CHECKED: W. SAUCER	CHECKED: -----

DATE	DESCRIPTION	BY

F. A. P.	STATE PROJECT	PARISH	SHEET NO.
BHF-35-03(003)	426-02-0038	ST. JAMES	125



RECONSTRUCTED CROSS-SECTION
FLOORBEAM "FB6A" @ L27



RECONSTRUCTED CROSS-SECTION
FLOORBEAM "FB6" @ L27

- NOTES:**
1. SEE SHEET 145 FOR END CONNECTION STRENGTHENING.
 2. SEE SHEET 129 FOR HANDRAIL DETAILS.
 3. TOP FLANGE COVER PLATES: LONGER PIECE TO BE INSTALLED DURING PHASE I; SHORTER PIECE AND SPLICE PLATE TO BE INSTALLED DURING PHASE II OR III.

AS BUILT

Jay T. Wilson
PROJECT ENGINEER



Walter J. Saucer

"FB6A" & "FB6" @ L27/L27' (SHEET 1 OF 5)
FLOORBEAM STRENGTHENING - MAIN TRUSS

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION
AND DEVELOPMENT

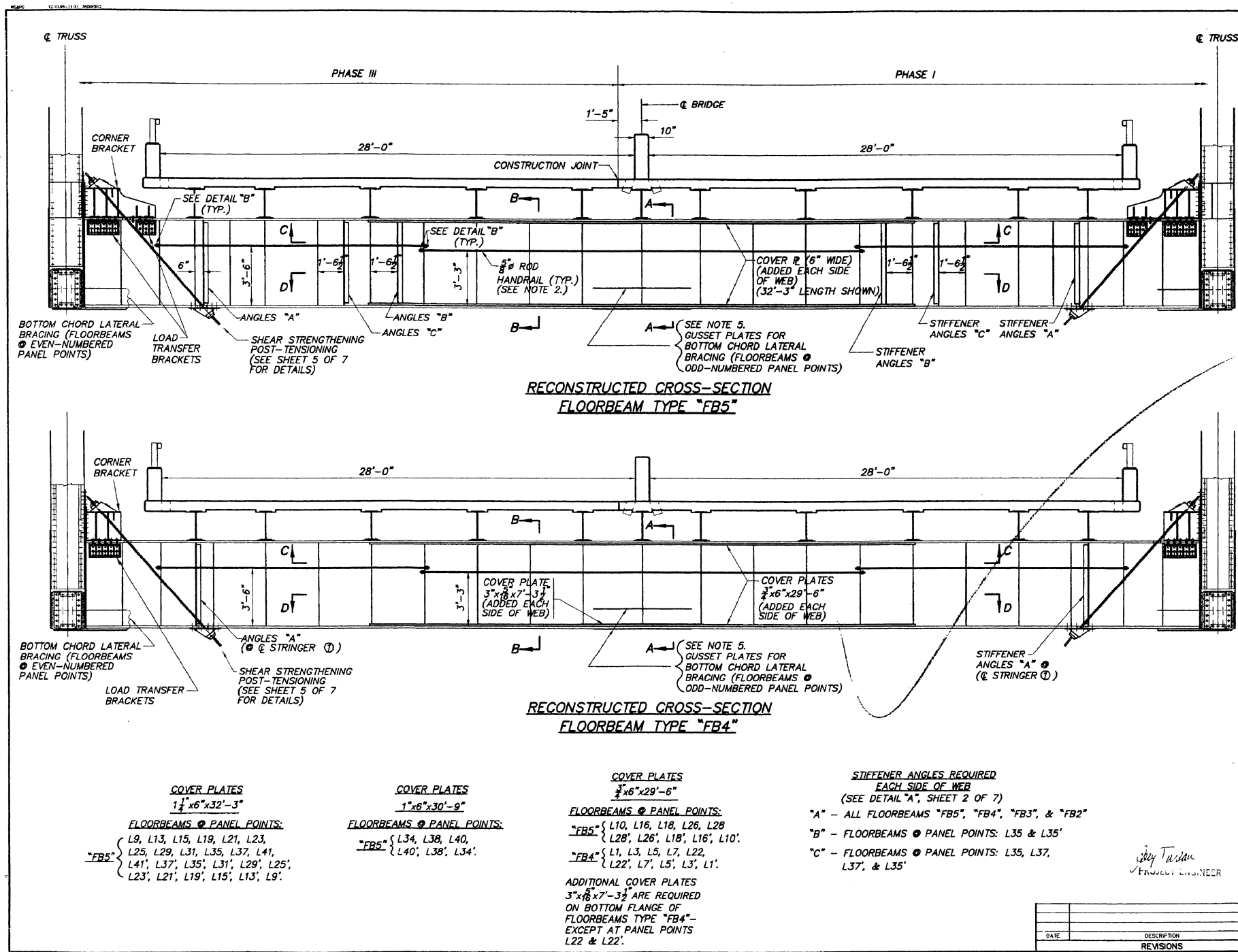
SUNSHINE BRIDGE
(REHABILITATION)

DATE: SEPT. 1995
EVANS-GRAVES ENGINEERS, INC.
ENGINEERING CONSULTANTS
BATON ROUGE, LA.

DESIGNED: W. SAUCER	DETAILED: S. GRISHAM	TRACED: A. CAD
CHECKED: P. GRASSO	CHECKED: W. SAUCER	CHECKED: -----

DATE	DESCRIPTION	BY

SCALE: 3/8" = 1'-0"



F. A. P.	STATE PROJECT	PARISH	SHEET NO.
BHF-35-03(003)	426-02-0038	ST. JAMES	128

- NOTES:**
1. ALL STEEL TO BE A709 (GRADE 36) UNLESS OTHERWISE NOTED. CORNER BRACKETS AND NEW STRINGERS TO BE A709 (GRADE 50). ALL BOLTS TO BE 7/8" HIGH STRENGTH BOLTS UNLESS OTHERWISE NOTED.
 2. SEE SHEET 2 OF 7 FOR HANDRAIL DETAILS.
 3. SEE SHEET 3 OF 7 FOR SECTIONS C-C & D-D AND COVER PLATE DETAILS.
 4. SEE SHEETS 135-144 FOR END CONNECTION STRENGTHENING DETAILS AND LOAD TRANSFER BRACKETS.
 5. SEE SHEETS 6 & 7 OF 7 FOR MODIFICATION DETAILS FOR BOTTOM GUSSET PLATE OF BOTTOM CHORD LATERAL BRACING.
 6. EXISTING WELDED STRINGER BEARING SHIMS TO BE REMOVED AND FLOORBEAM FLANGE GROUND SMOOTH.



AS BUILT

"FB2" THRU "FB5" (1 OF 7)
FLOORBEAM STRENGTHENING - MAIN TRUSS

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION
AND DEVELOPMENT

SUNSHINE BRIDGE
(REHABILITATION)

DATE: NOVEMBER, 1995
EVANS-GRAVES ENGINEERS, INC.
ENGINEERING CONSULTANTS
BATON ROUGE, LA.

DESIGNED: W. SAUCER	DETAILED: S. GRISHAM	TRACED: A. CAD
CHECKED: P. GRASSO	CHECKED: W. SAUCER	CHECKED: -----

COVER PLATES
1 1/2" x 6" x 32'-3"

FLOORBEAMS @ PANEL POINTS:
"FB5" { L9, L13, L15, L19, L21, L23,
L25, L29, L31, L35, L37, L41,
L41', L37', L35', L31', L29', L25',
L23', L21', L19', L15', L13', L9'.

COVER PLATES
1" x 6" x 30'-9"

FLOORBEAMS @ PANEL POINTS:
"FB5" { L34, L38, L40,
L40', L38', L34'.

COVER PLATES
3/4" x 6" x 29'-6"

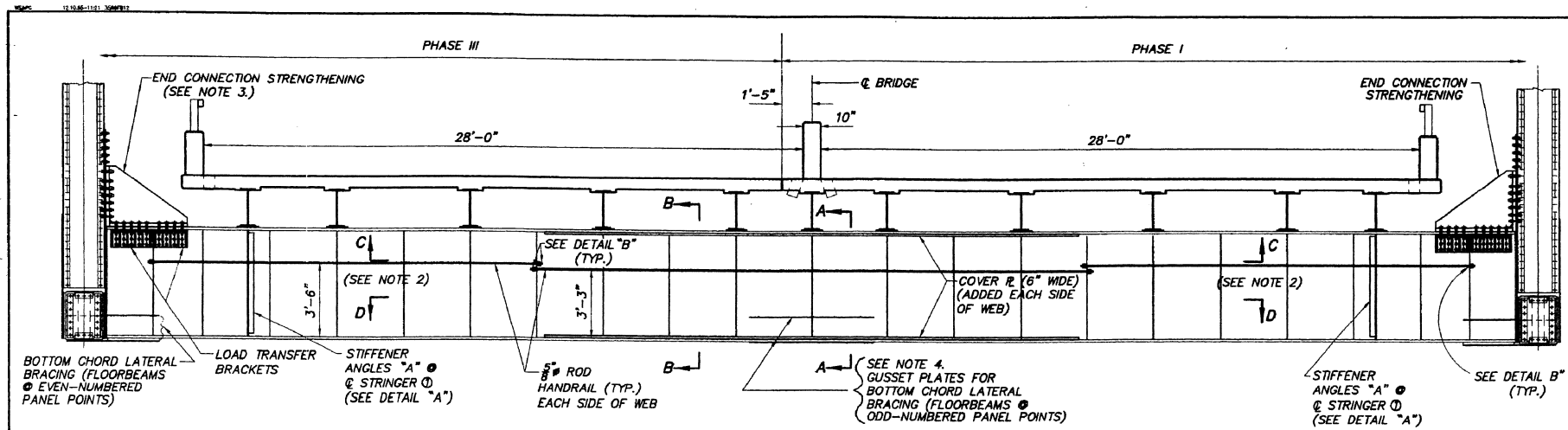
FLOORBEAMS @ PANEL POINTS:
"FB5" { L10, L16, L18, L26, L28,
L28', L26', L18', L16', L10'.
"FB4" { L1, L3, L5, L7, L22,
L22', L7', L5', L3', L1'.
ADDITIONAL COVER PLATES
3" x 7/8" x 7'-3 1/2" ARE REQUIRED
ON BOTTOM FLANGE OF
FLOORBEAMS TYPE "FB4"-
EXCEPT AT PANEL POINTS
L22 & L22'.

**STIFFENER ANGLES REQUIRED
EACH SIDE OF WEB**
(SEE DETAIL "A", SHEET 2 OF 7)

"A" - ALL FLOORBEAMS "FB5", "FB4", "FB3", & "FB2"
"B" - FLOORBEAMS @ PANEL POINTS: L35 & L35'
"C" - FLOORBEAMS @ PANEL POINTS: L35, L37,
L37', & L35'

Project Engineer

DATE	DESCRIPTION	BY
	REVISIONS	



F. A. P.	STATE PROJECT	PARISH	SHEET NO.
BHF-35-03(003)	426-02-0038	ST. JAMES	129

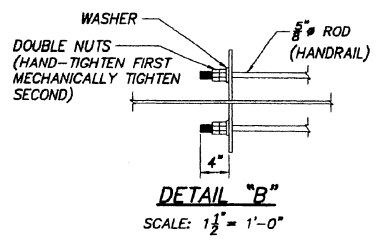
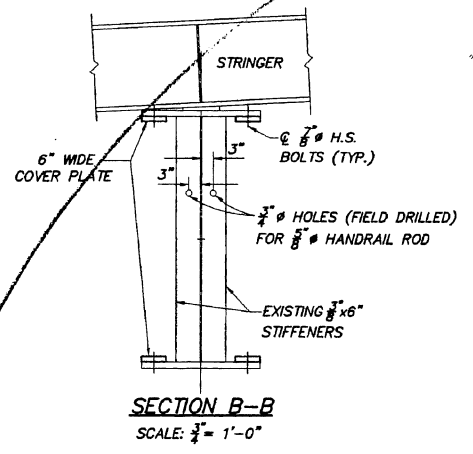
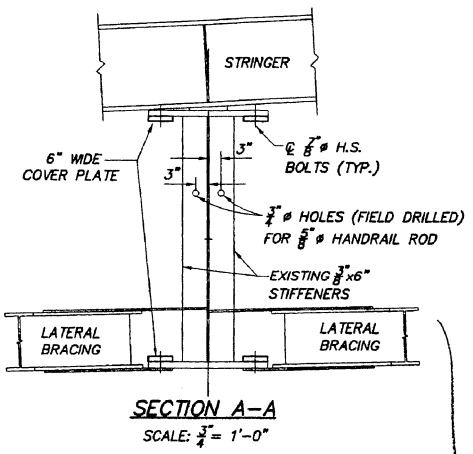
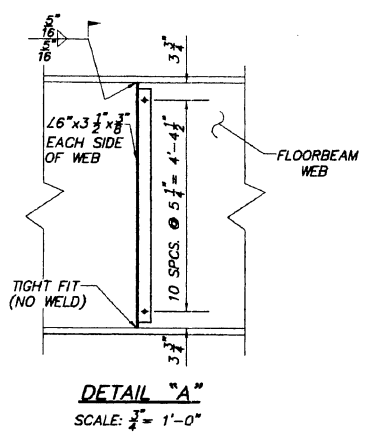
COVER PLATES
 $\frac{1}{2}$ "x6"x25'-0"

FLOORBEAMS @ PANEL POINTS:
 "FB2" { L11, L17, L33, L39
 { L39', L33', L17' L11'

COVER PLATES
 $\frac{1}{2}$ "x6"x22'-6"

FLOORBEAMS @ PANEL POINTS:
 (L4, L8, L14, L20, L24,
 "FB2" { L30, L36, L42, L36', L30'
 { L24', L20', L14', L8', L4'
 "FB3" { L2, L6, L6', L2'

**RECONSTRUCTED CROSS-SECTION
 FLOORBEAM TYPES "FB2" & "FB3"**



- NOTES:**
1. ALL STEEL TO BE A709 (GRADE 36) UNLESS OTHERWISE NOTED. CORNER BRACKETS AND NEW STRINGERS TO BE A709 (GRADE 50). ALL BOLTS TO BE $\frac{7}{8}$ " HIGH STRENGTH BOLTS UNLESS OTHERWISE NOTED.
 2. SEE SHEET 4 OF 7 FOR SECTIONS C-C & D-D AND COVER PLATE DETAILS.
 3. SEE SHEETS 141-145 FOR END CONNECTION STRENGTHENING DETAILS AND LOAD TRANSFER BRACKETS.
 4. SEE SHEETS 6 & 7 OF 7 FOR MODIFICATION DETAILS FOR BOTTOM GUSSET PLATES OF BOTTOM CHORD LATERAL BRACING.
 5. EXISTING WELDED STRINGER BEARING SHIMS TO BE REMOVED AND FLOORBEAM FLANGE GROUND SMOOTH.

AS BUILT

Ray Turner
 PROJECT ENGINEER

Walter Smith
 CIVIL ENGINEER



"FB2" THRU "FB5" (2 OF 7)
 FLOORBEAM STRENGTHENING MAIN TRUSS

STATE OF LOUISIANA
 DEPARTMENT OF TRANSPORTATION
 AND DEVELOPMENT

SUNSHINE BRIDGE
 (REHABILITATION)

DATE: NOVEMBER, 1995

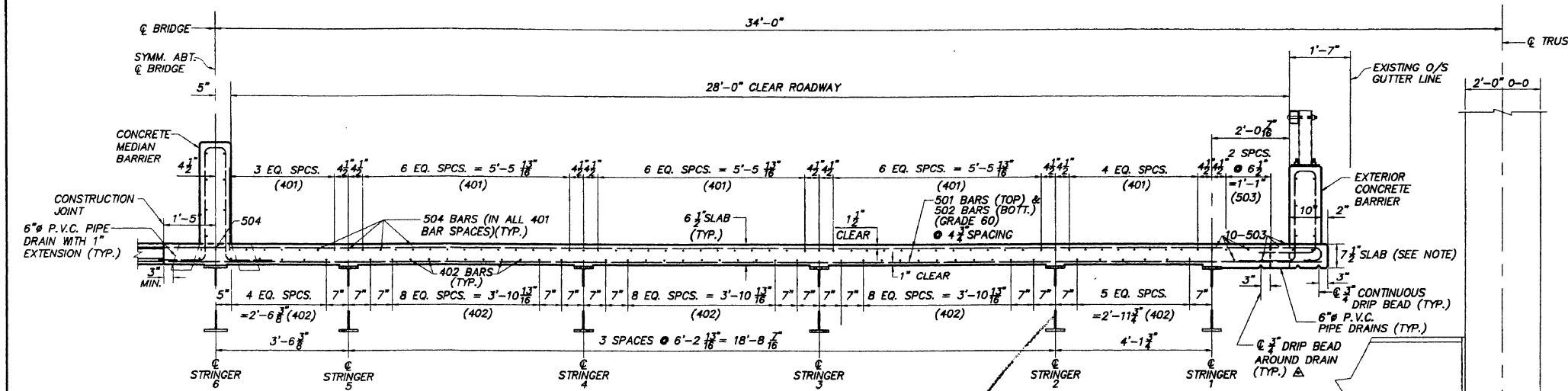
EVANS-GRAVES ENGINEERS, INC.
 ENGINEERING CONSULTANTS
 BATON ROUGE, LA.

DESIGNED: W. SAUCIER	DETAILED: S. GRISHAM	TRACED: A. CAD
CHECKED: P. GRASSO	CHECKED: W. SAUCIER	CHECKED: -----

DATE: _____ DESCRIPTION: _____ BY: _____ REVISIONS: _____

SCALE: 3/8" = 1'-0"

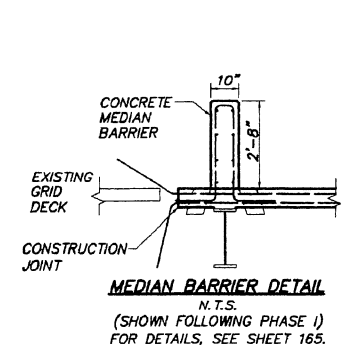
F. A. P.	STATE PROJECT	PARISH	SHEET NO.
BHF-35-03(003)	428-02-0038	ST. JAMES	164



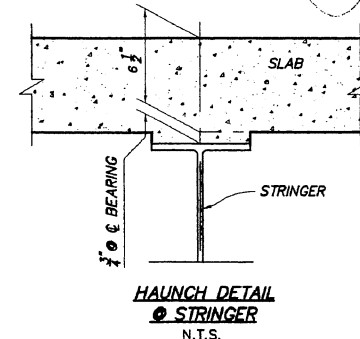
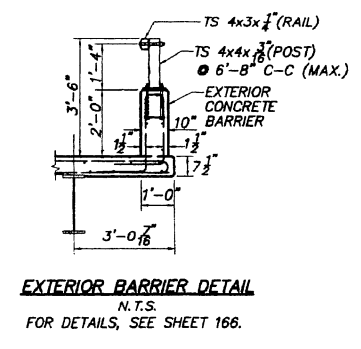
TYPICAL DECK SECTION (MAIN TRUSS)

△ AT THE CONTRACTOR'S OPTION, A 1/2" EXTENSION OF PIPE DRAIN MAY BE USED IN LIEU OF 3/4" DRIP BEAD AROUND DRAINS.

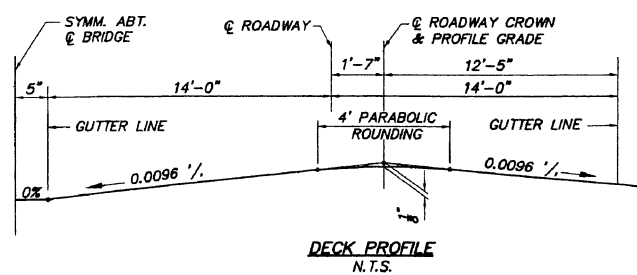
NOTE:
7 1/2" THICKNESS OF EXTERIOR SLAB SHALL BE CONSTANT FROM FASCIA TO THE POINT WHERE IT MEETS THE CONCRETE HAUNCH FOR STRINGER NO. 1.



NOTE:
6" P.V.C. DRAINS AT MEDIAN BARRIER TO BE ANGLED AWAY FROM STRINGER AT APPROXIMATELY 20 DEGREES.



NOTE:
HAUNCH THICKNESS TO BE ADJUSTED FOR ANTICIPATED DEAD LOAD DEFLECTIONS OF STRINGERS.



Jerry Truax
PROJECT ENGINEER

STATE OF LOUISIANA
WALTER J. SAUNDERS
REGISTERED PROFESSIONAL ENGINEER
NO. 16848
CIVIL ENGINEER

Walter J. Saunders

TYPICAL DECK SECTION - MAIN TRUSS

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION
AND DEVELOPMENT

SUNSHINE BRIDGE
(REHABILITATION)

DATE: 4-29-94

EVANS-GRAVES ENGINEERS, INC.
ENGINEERING CONSULTANTS
BATON ROUGE, LA.

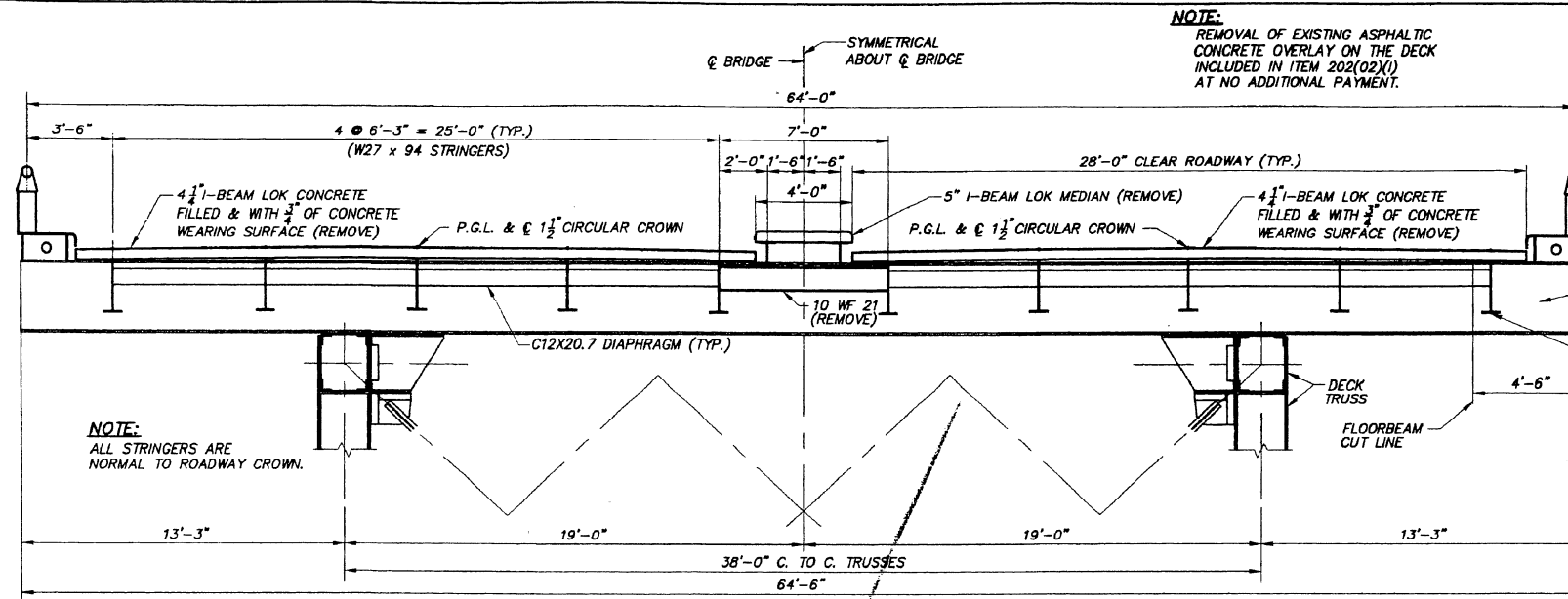
DESIGNED: W. SAUCIER	DETAILED: S. GRISHAM	TRACED: A. CAD
CHECKED: P. GRASSO	CHECKED: P. GRASSO	CHECKED: -----

SCALE: 3/4" = 1'-0"

DATE	DESCRIPTION	BY
REVISIONS		

AS BUILT

F. A. P.	STATE PROJECT	PARISH	SHEET NO.
BHF-35-03(003)	426-02-0038	ST. JAMES	175



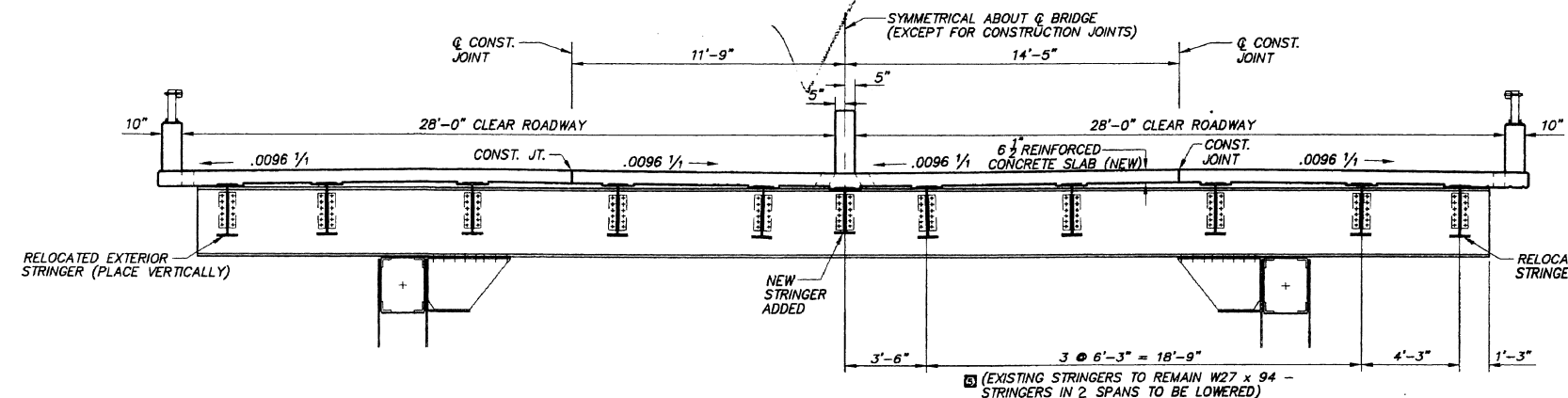
NOTE:
REMOVAL OF EXISTING ASPHALTIC CONCRETE OVERLAY ON THE DECK INCLUDED IN ITEM 202(02)(1) AT NO ADDITIONAL PAYMENT.

NOTE:
ALL STRINGERS ARE NORMAL TO ROADWAY CROWN.

EXISTING STEEL CURB & PARAPET RAIL (REMOVE)

REMOVE END OF FLOORBEAM (4'-6") (TYPICAL BOTH ENDS)

RELOCATE EXTERIOR STRINGERS 2'-0" TOWARD Q BRIDGE. SHORTEN DIAPHRAGMS. (TYPICAL BOTH ENDS OF FLOORBEAM)



NOTE:
SEE DECK TYPICAL SECTION SHEET NO. 185, FOR ROADWAY CROSS-SLOPE AND SLAB DETAILS.

☑ AFTER FLOOR BEAM IS CUT, CONTRACTOR TO RE-PAINT AFFECTED AREAS.

AS BUILT

Steve Tisdale
PROJECT ENGINEER

TYPICAL SECTION - DECK TRUSS

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

SUNSHINE BRIDGE (REHABILITATION)

DATE: JUNE, 1995

EVANS-GRAVES ENGINEERS, INC.
ENGINEERING CONSULTANTS
BATON ROUGE, LA.

DESIGNED: P. GRASSO	DETAILED: S. GRISHAM	TRACED: A. CAD
CHECKED: W. SAUCER	CHECKED: P. GRASSO	CHECKED: -----

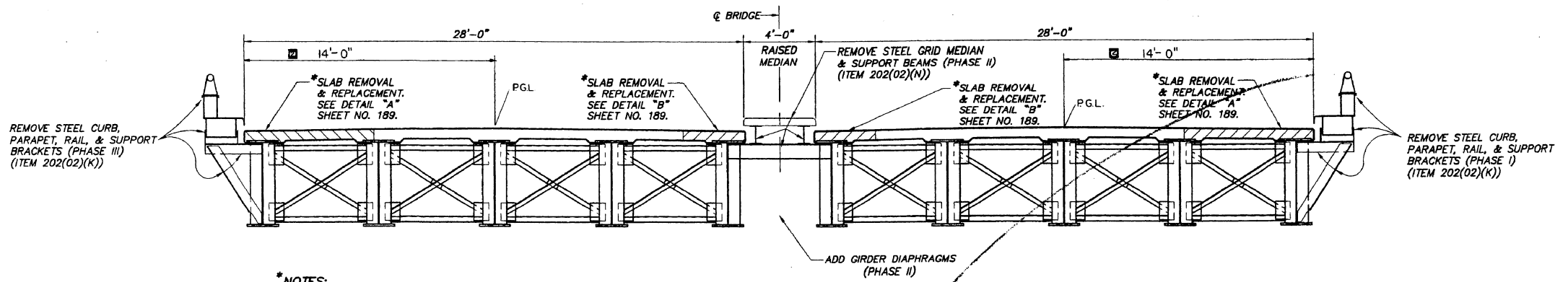
SCALE: 3/8" = 1'-0"

DATE	DESCRIPTION	BY	DOTD
4-10-00	REVISE NOTE		DOTD
1-31-00	ADD NOTE		DOTD
REVISIONS			

F. A. P.	STATE PROJECT	PARTIAL	SHEET NO.
BHF-35-03(003)	426-02-0038	ST. JAMES	188

PAY ITEMS:

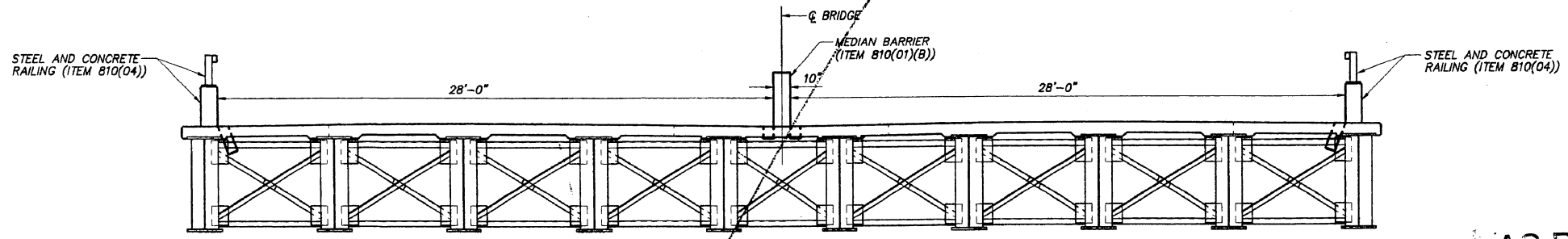
- 202(02)(J) REMOVAL OF 6-1/2" THICK CONCRETE DECK.
(INCLUDES REMOVAL OF EXISTING ASPHALTIC CONCRETE OVERLAY FROM THE CONCRETE BRIDGE DECK AT NO ADDITIONAL PAYMENT, INCLUDING AREAS WHERE CONCRETE IS NOT REMOVED)
- 202(02)(K) REMOVAL OF SAFETY CURB AND RAILING.
- 202(02)(N) REMOVAL OF RAISED MEDIAN.
- 810(01)(B) CONCRETE RAILING (32" MEDIAN BARRIER)
- 810(04) STEEL AND CONCRETE RAILING



***NOTES:**

SLAB REMOVAL TO BE PAID FOR UNDER ITEM 202(02)(J), REMOVAL OF 6-1/2" THICK CONCRETE DECK.

EXISTING CROSS-SECTION



RECONSTRUCTED CROSS-SECTION

AS BUILT
Project Engineer



TYPICAL SECTION
EAST AND WEST APPROACHES

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION
AND DEVELOPMENT

**SUNSHINE BRIDGE
(REHABILITATION)**

DATE: AUGUST, 1996

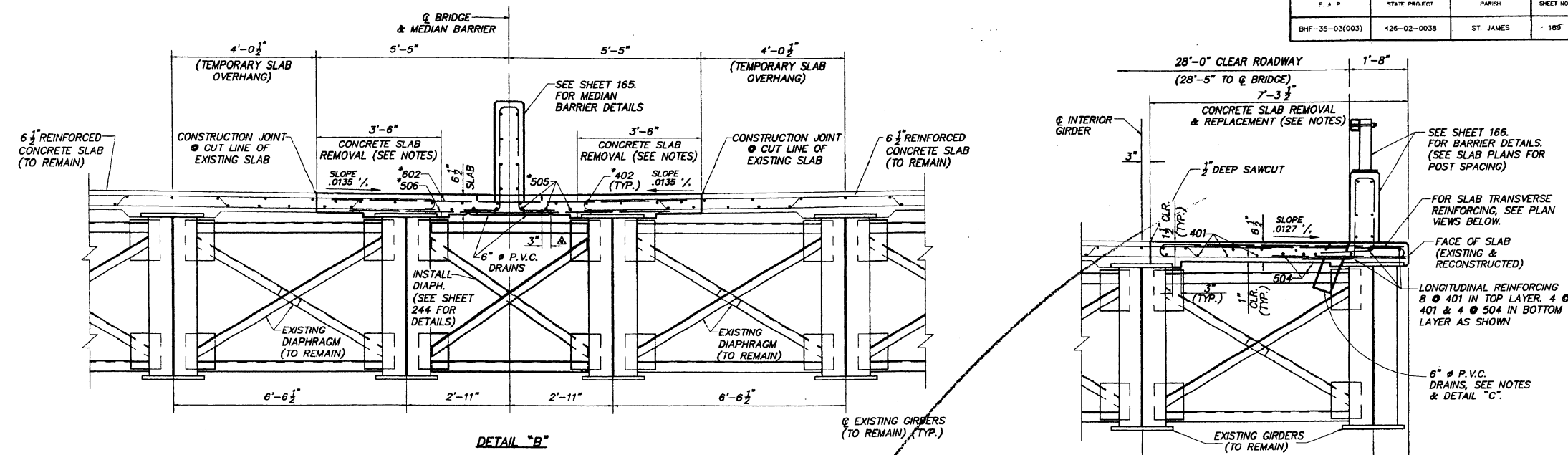
EVANS-GRAVES ENGINEERS, INC.
ENGINEERING CONSULTANTS
BATON ROUGE, LA.

DESIGNED: W. SAUCIER	DETAILED: S. GRISHAM	TRACED: A. CAD
CHECKED: P. GRASSO	CHECKED: W. SAUCIER	CHECKED: -----

SCALE: 3/8" = 1'-0"

NO.	DATE	DESCRIPTION	BY
1	1-31-00	ADD NOTE	
REVISIONS			

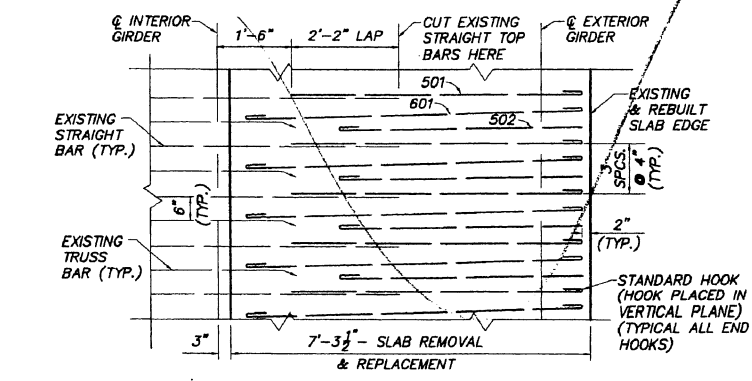
F. A. P.	STATE PROJECT	PARISH	SHEET NO.
BHF-35-03(003)	426-02-0038	ST. JAMES	185



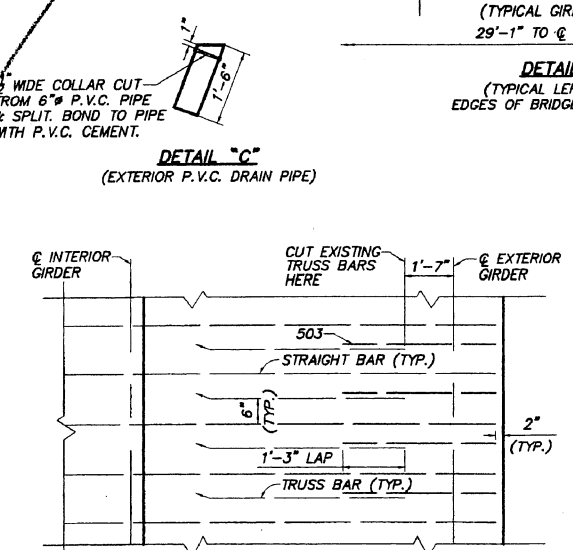
- NOTES:**
1. NEW CONCRETE FOR SLAB & BARRIER SHALL BE CLASS AA(N), MIN. 28 DAY STRENGTH = 3600 P.S.I.
 2. SEE SLAB PLANS FOR PLAN LAYOUTS & QUANTITY TABLES.

- *NEW REINFORCING NOTES:**
- 602 BARS (10'-0" LONG) @ 6" SPACES LAPPED WITH EXISTING #5 BARS TRUSSED & STRAIGHT IN TOP OF SLAB TRANSVERSE.
 - 506 BARS (9'-0" LONG) @ 6" SPACES LAPPED WITH EXISTING TRANSVERSE # 5 BARS STRAIGHT IN BOTTOM OF SLAB AND PLACED IN EXISTING BOTTOM SPACES.
 - 505 BARS SPACED AS SHOWN (6 REQUIRED).
 - 402 BARS SPACED AS SHOWN (16 REQUIRED). BARS TO BE PLACED 1 1/2" CLEAR FROM TOP OF CONCRETE & 1" CLEAR FROM BOTTOM OF CONCRETE.
- AT THE CONTRACTOR'S OPTION, A 1/2" EXTENSION OF PIPE DRAIN MAY BE USED IN LIEU OF 3/4" DRIP BEAD AROUND DRAINS.

- CONSTRUCTION SEQUENCE:**
1. INSTALL TEMPORARY BARRIERS AS SHOWN ON SHEETS 110-112.
 2. EXISTING SLAB TO BE SAWCUT 1/2" DEEP, @ TOP.
 3. REMOVE CONCRETE WITHOUT CUTTING, BENDING, OR OTHERWISE DAMAGING EXISTING SLAB REINFORCING STEEL. CONTRACTOR SHALL AVOID PLACING LOADS ON THE EXISTING TEMPORARY SLAB OVERHANGS. DAMAGE TO THE EXISTING SLAB SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE AND MAY INCLUDE ADDITIONAL SLAB REMOVAL & REPLACEMENT.
 4. CLEAN EXPOSED EXISTING TRANSVERSE REINFORCING STEEL WHICH IS TO REMAIN.
 5. INSTALL NEW GIRDER DIAPHRAGMS (AND SHEAR CONNECTORS, WHERE REQUIRED) ON GIRDERS.
 6. PLACE ADDITIONAL REINFORCING BARS AS SHOWN. PLACE 6" # P.V.C. DRAIN PIPES. EXTERIOR DRAIN PIPES (DETAIL "A" ONLY) ARE TO BE ANGLED INWARD, AS SHOWN, APPROXIMATELY 20 DEGREES FROM VERTICAL.
 7. POUR NEW SLAB CONCRETE.
 8. POUR CONCRETE BARRIER.
 9. REPEAT ABOVE PROCEDURE FOR NEXT PHASE.

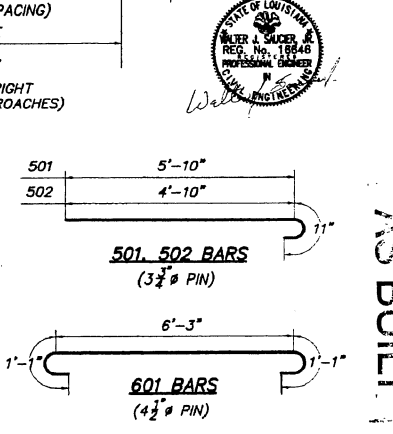


**REINFORCING PLAN
TOP LAYER OF DETAIL "A"**
(LONGITUDINAL BARS NOT SHOWN)



**REINFORCING PLAN
BOTTOM LAYER OF DETAIL "A"**
(LONGITUDINAL BARS NOT SHOWN)

DATE	DESCRIPTION	BY	REVISIONS



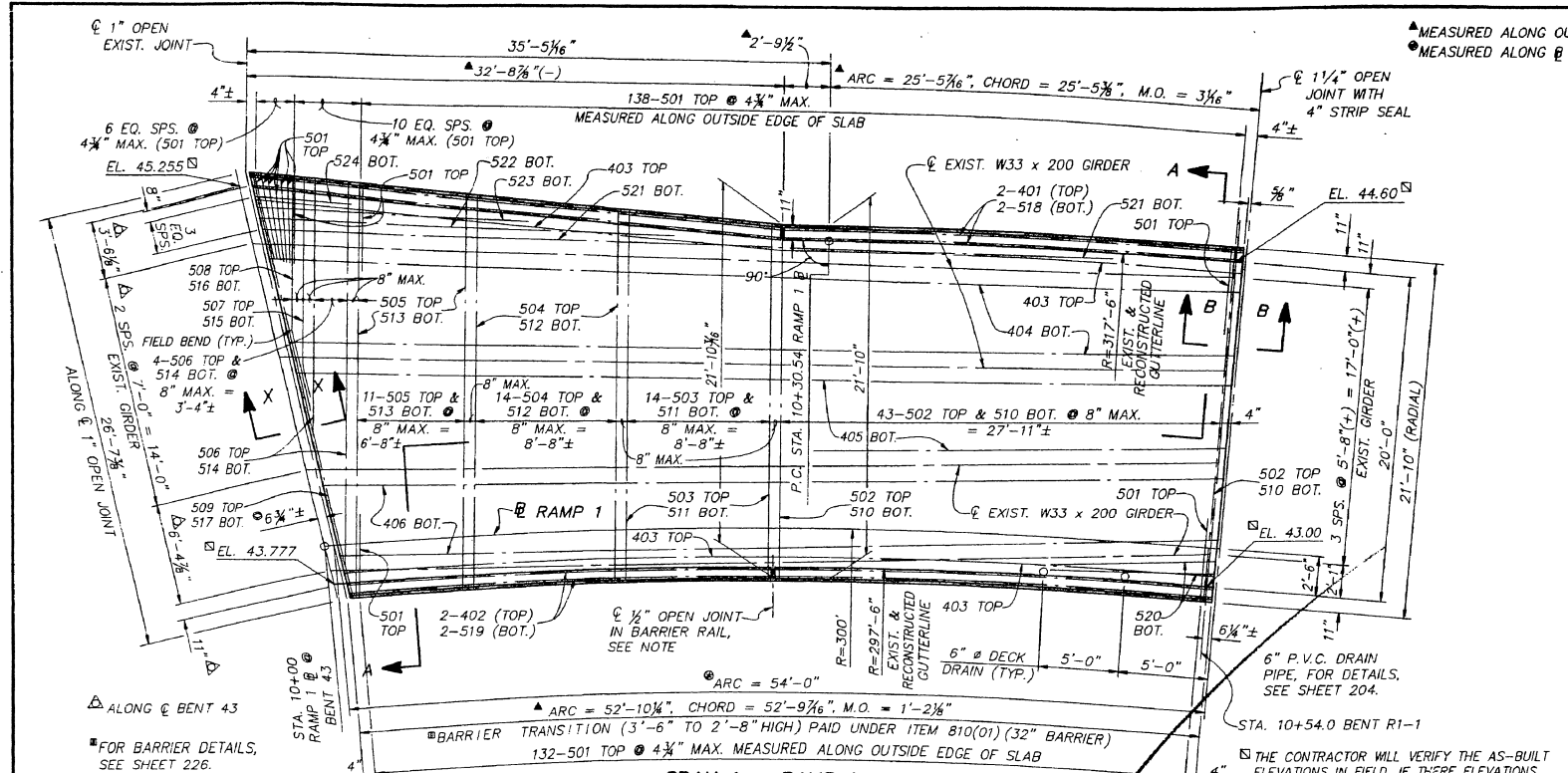
APPROACHES - SLAB RECONSTRUCTION
STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION
AND DEVELOPMENT

**SUNSHINE BRIDGE
(REHABILITATION)**

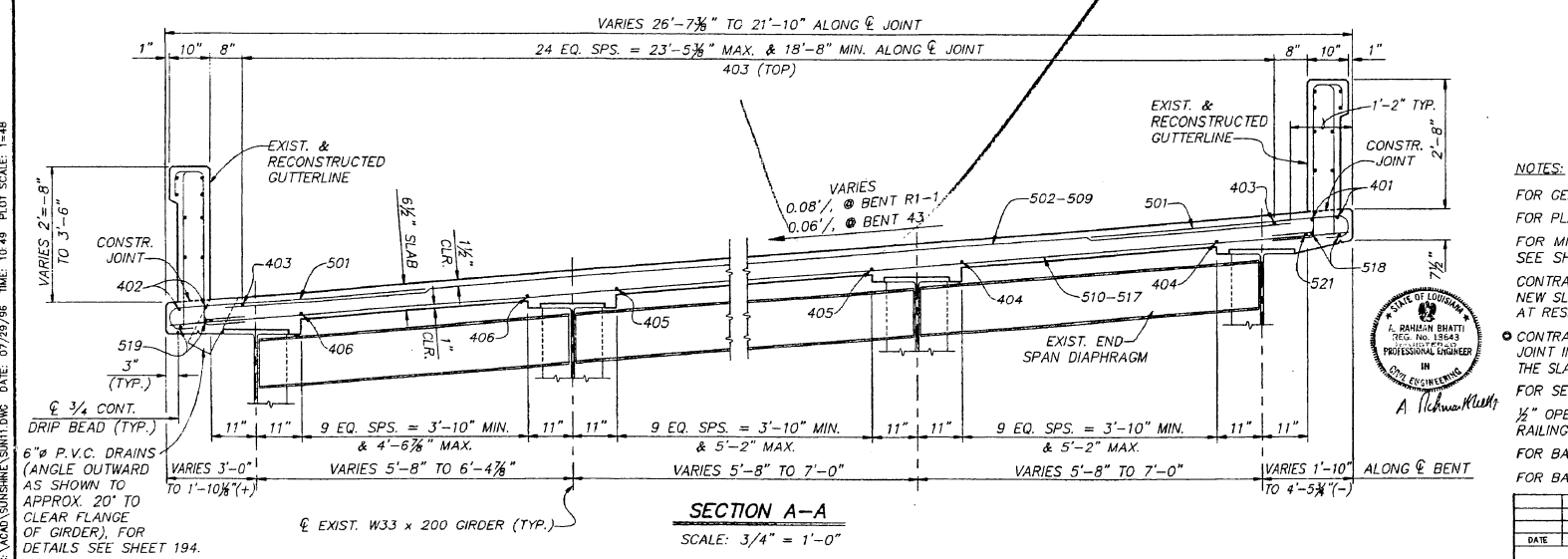
DATE: AUGUST, 1998

DESIGNED: W. SAUGER	DETAILED: S. ORSHAN	TRACED: A. CAD
CHECKED: P. GRASSO	CHECKED: W. SAUGER	CHECKED: ---

SCALE: 3/4" = 1'-0"



SPAN 1 - RAMP 1
SCALE: 1/4" = 1'-0"



SECTION A-A
SCALE: 3/4" = 1'-0"

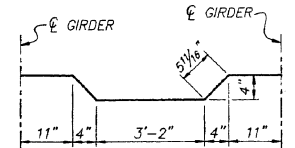
F. A. P.	STATE PROJECT	PARISH	SHEET NO.
BWF-35-03(003)	426-02-0038	ST. JAMES	227

ESTIMATED QUANTITIES					
BAR NO.	SHORT BAR	VAR. (IN.)	LONG BAR	TOTAL LENGTH	LOCATION
501	286		5'-11"	1692'-2"	TRANSVERSE (TOP) SLAB
502	43		19'-6"	838'-6"	TRANSVERSE (TOP) SLAB
503	14	0.8462	20'-6"	280'-7"	TRANSVERSE (TOP) SLAB
504	14	1.0770	21'-9"	296'-4"	TRANSVERSE (TOP) SLAB
505	11	1.3001	22'-11"	246'-2"	TRANSVERSE (TOP) SLAB
506	4	32.0001	22'-1"	72'-4"	TRANSVERSE (TOP) SLAB
507	1		12'-2"	12'-2"	TRANSVERSE (TOP) SLAB
508	1		13'-1"	13'-1"	TRANSVERSE (TOP) SLAB
509	1		25'-4"	25'-4"	TRANSVERSE (TOP) SLAB
510	43		21'-8"	931'-8"	TRANSVERSE (BOT) SLAB
511	14	0.8462	22'-8"	310'-11"	TRANSVERSE (BOT) SLAB
512	14	1.0770	23'-11"	326'-8"	TRANSVERSE (BOT) SLAB
513	11	1.3001	25'-1"	270'-0"	TRANSVERSE (BOT) SLAB
514	4	32.0001	23'-2"	76'-8"	TRANSVERSE (BOT) SLAB
515	1		13'-3"	13'-3"	TRANSVERSE (BOT) SLAB
516	1		14'-2"	14'-2"	TRANSVERSE (BOT) SLAB
517	1		26'-5"	26'-5"	TRANSVERSE (BOT) SLAB
518	2		62'-0"	124'-0"	LONGITUDINAL (BOT) SLAB
519	2		52'-8"	105'-4"	LONGITUDINAL (BOT) SLAB
520	2		10'-0"	20'-0"	LONGITUDINAL (BOT) SLAB
521	1		51'-9"	51'-9"	LONGITUDINAL (BOT) SLAB
522	1		25'-3"	25'-3"	LONGITUDINAL (BOT) SLAB
523	1		16'-4"	16'-4"	LONGITUDINAL (BOT) SLAB
524	1		5'-10"	5'-10"	LONGITUDINAL (BOT) SLAB
525	9		53'-3"	479'-9"	TRANSVERSE END BEAM (BENT R1-1)
TOTAL NO. 5 BARS				5848'-2"	6100 LBS.
401	2		61'-5"	122'-10"	LONGITUDINAL (TOP) SLAB
402	2		53'-8"	107'-4"	LONGITUDINAL (TOP) SLAB
403	25	3.5417	61'-1"	1438'-7"	LONGITUDINAL (TOP) SLAB
404	10	2.0000	60'-0"	592'-6"	LONGITUDINAL (BOT) SLAB
405	10	2.0000	57'-10"	570'-10"	LONGITUDINAL (BOT) SLAB
406	10	1.7777	55'-9"	550'-10"	LONGITUDINAL (BOT) SLAB
TOTAL NO. 4 BARS				3382'-11"	2260 LBS.
TOTAL REINFORCING STEEL					8360 LBS.
TOTAL CLASS "AA(M)" CONCRETE					29.75 CU. YDS.
STRUCTURAL METALWORK					164 LBS.
CONCRETE RAILING (32" BARRIER)					113.72 LIN. FT.
REMOVAL OF 6 1/2" THK. CONCRETE DECK					127.8 SQ. YDS.
REMOVAL OF SAFETY CURB AND RAILING					113.72 LIN. FT.
STRIP SEAL JOINT					20.00 LIN. FT.

THE CONTRACTOR WILL VERIFY THE AS-BUILT ELEVATIONS IN FIELD. IF THERE ELEVATIONS FOUND DIFFERENT THOSE SHOWN, THE COMPUTED ELEVATIONS WILL BE ADJUSTED ACCORDINGLY.

- INCLUDES 1'-7" MIN. LAP SPLICE (SPLICES TO BE STAGGERED)
- INCLUDES 1'-0" MIN. LAP SPLICES (SPLICES TO BE STAGGERED)
- INCLUDES BARRIER TRANSITION
- FOR ESTIMATION ONLY. PAID UNDER ITEM 807(06)
- #5 BAR AND HIGHER WILL BE GRADE 60.

NOTES:
FOR GENERAL NOTES, SEE SHEETS 103-104.
FOR PLAN & ELEVATIONS, SEE SHEETS 105-107.
FOR MISCELLANEOUS STRINGER DETAILS, SEE SHEETS 152-155.
CONTRACTOR TO MATCH SECTION X-X OF NEW SLAB WITH EXISTING SLAB SECTIONS AT RESPECTIVE BENTS. (NO DIRECT PAY)
CONTRACTOR TO VERIFY THE LOCATION OF JOINT IN THE FIELD AND MAKE ADJUSTMENT TO THE SLAB BARS LENGTH & SPACES. (NO DIRECT PAY)
FOR SECTION B-B, SEE SHEET 228.
1/2" OPEN JOINTS REQUIRED IN CONCRETE RAILING @ MIDSPAN.
FOR BAR BENDING 501, SEE SHEET 228.
FOR BARRIER DETAILS, SEE SHEET 226.



PROJECT ENGINEER
SLAB DETAIL
SPAN 1 - RAMP 1

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION
AND DEVELOPMENT

**SUNSHINE BRIDGE
(REHABILITATION)**

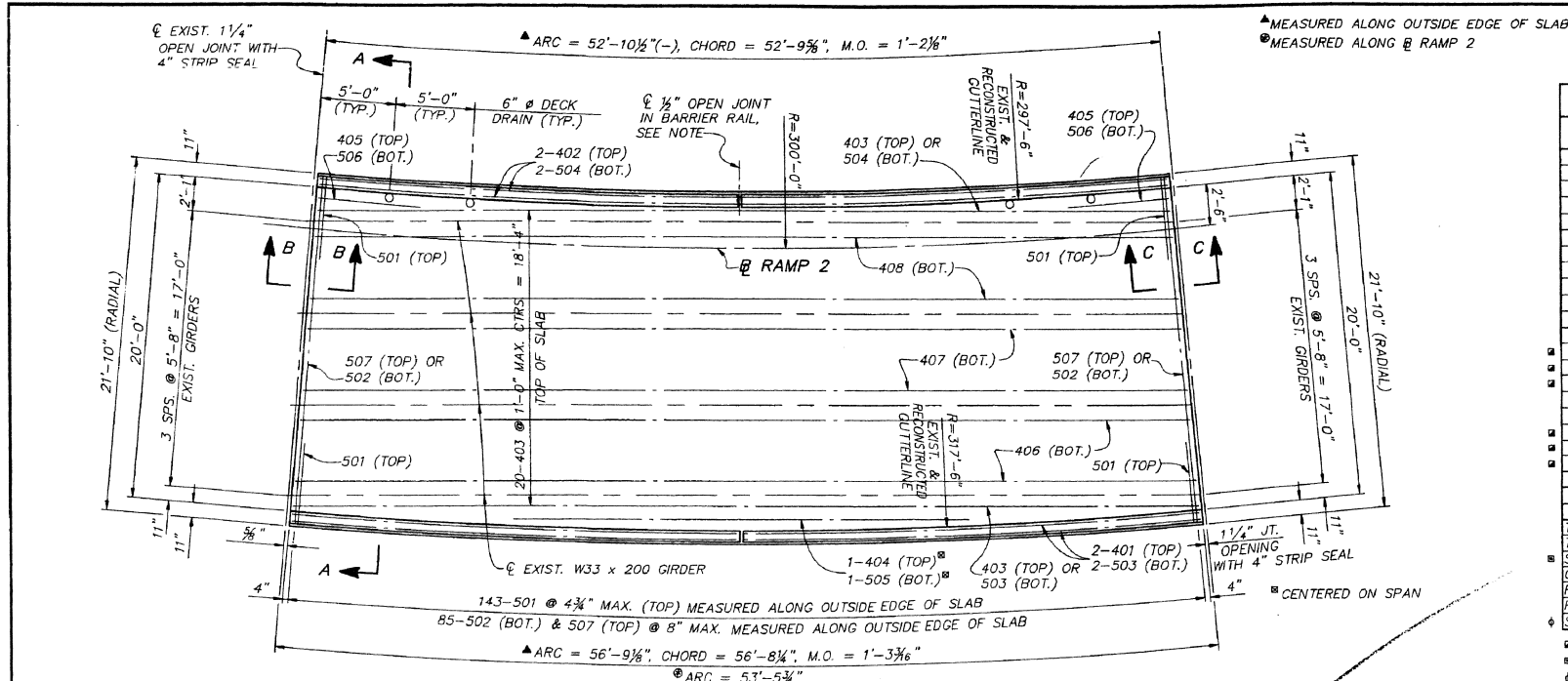
DATE: AUGUST, 1998

RAHMAN & ASSOCIATES, INC.
CONSULTING ENGINEERS
METAIRIE, LA.

DESIGNED: R. BHATTI
CHECKED: M.C.

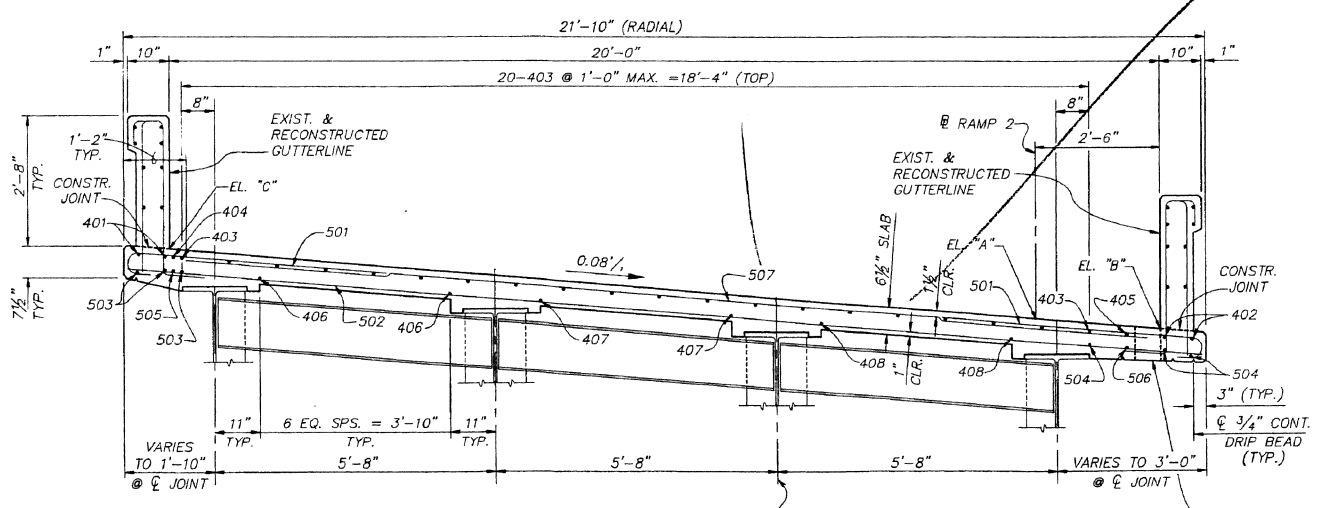
DETAILED: D.J.R.
CHECKED: R. BHATTI

TRACED: A. CAD
CHECKED: _____



SPAN	FROM		TO	
	BENT	STATION	BENT	STATION
1	ABUT. #3	43+81.69	R2-4	44+35.69

SPAN 1 - RAMP 2
SCALE: 1/4" = 1'-0"



ESTIMATED QUANTITIES						
BAR NO.	SHORT BAR	VAR. (IN.)	LONG BAR	TOTAL LENGTH	LOCATION	
501	286	-	5'-11"	1692'-2"	TRANSVERSE (TOP) SLAB	
502	85	-	21'-8"	1841'-8"	TRANSVERSE (BOT.) SLAB	
503	3	-	56'-5"	169'-3"	LONGITUDINAL (BOT.) SLAB	
504	3	-	52'-11"	158'-9"	LONGITUDINAL (BOT.) SLAB	
505	1	-	28'-3"	28'-3"	LONGITUDINAL (BOT.) SLAB	
506	2	-	6'-0"	12'-0"	LONGITUDINAL (BOT.) SLAB	
507	85	-	19'-6"	1657'-6"	TRANSVERSE (TOP) SLAB	
508	18	-	5'-11"	106'-6"	TRANSVERSE END BEAM	
TOTAL NO. 5 BARS				5666'-1"	5910 LBS.	
401	2	-	57'-5"	114'-10"	LONGITUDINAL (TOP) SLAB	
402	2	-	53'-8"	107'-4"	LONGITUDINAL (TOP) SLAB	
403	20	53'-11"	2.0526	57'-2"	1110'-10"	LONGITUDINAL (TOP) SLAB
404	1	-	28'-3"	28'-3"	LONGITUDINAL (TOP) SLAB	
405	2	-	6'-0"	12'-0"	LONGITUDINAL (TOP) SLAB	
406	7	56'-2"	1.3332	56'-10"	395'-6"	LONGITUDINAL (BOT.) SLAB
407	7	55'-2"	1.3332	55'-10"	388'-6"	LONGITUDINAL (BOT.) SLAB
408	7	54'-2"	1.3332	54'-10"	381'-6"	LONGITUDINAL (BOT.) SLAB
TOTAL NO. 4 BARS				2538'-9"	1696 LBS.	
TOTAL REINFORCING STEEL = 7606 LBS.						
TOTAL CLASS "AA(M)" CONCRETE = 28.26 CU. YDS.						
STRUCTURAL METALWORK = 184 LBS.						
CONCRETE RAILING (32" BARRIER) = 109.63 LIN. FT.						
REMOVAL OF 6 1/2" THR. CONCRETE DECK = 121.81 SQ. YDS.						
REMOVAL OF SAFETY CURB AND RAILING = 109.63 LIN. FT.						
STRIP SEAL JOINT = 20.00 LIN. FT.						

ELEVATIONS			
BENT NO.	EL. "A"	EL. "B"	EL. "C"
43	44.838	44.685	45.525
R2-1	43.99	43.80	45.20
R2-2	42.60	42.40	44.00
R2-3	40.59	40.39	41.99
R2-4	38.16	37.96	39.56
ABUT. #3	35.46	35.26	36.86

AS BUILT

NOTES:
 FOR GENERAL NOTES, SEE SHEETS 103-104.
 FOR PLAN & ELEVATIONS, SEE SHEETS 105-107.
 FOR MISCELLANEOUS STRINGER DETAILS, SEE SHEETS 152-155.
 FOR BARRIER DETAILS, SEE SHEET 226.
 1/2" OPEN JOINTS REQUIRED IN CONCRETE RAILING @ MIDSPAN.
 FOR SECTION B-B, SEE SHEET 228.
 FOR SECTION C-C, SEE SHEET 229.
 FOR BAR BENDING 501 & 508, SEE SHEET 228.

SLAB DETAILS
 SPAN 1 - RAMP 2

STATE OF LOUISIANA
 DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

SUNSHINE BRIDGE (REHABILITATION)

DATE: AUGUST, 1996

RAHMAN & ASSOCIATES, INC.
 CONSULTING ENGINEERS METairie, LA.

DESIGNED: R. BHATTI	DETAILED: D.J.R.	TRACED: A. CAD
CHECKED: M.C.	CHECKED: R. BHATTI	CHECKED: -----