ST. TAMMANY PARISH

MICHAEL B. COOPER
PARISH PRESIDENT

January 9, 2025

Please find the following addendum to the below-mentioned BID.

Addendum No.: 3

Bid#: 25-38-2

Project Name: Tammany Trace Bridge #25

Bid Due Date: Thursday, January 15, 2026

GENERAL INFORMATION:

1. Please add the following sections to the package:
    - Section 18 - Right-of-Way Map;
    - Section 19 – Vicinity Map;
    - Section 20 – Shop Drawings;
    - Section 21 – Pioneer Installation Guidelines;
    - Section 22 – U.S. Army Corps of Engineers Nationwide Permit 14; and
    - Section 23 - Scenic River Permit #1307.

QUESTIONS & ANSWERS:

Question 1. Will pre-fabricated steel truss bridge be supplied in three pieces (one piece per span)? If each span will not be supplied in one piece, please confirm the total number of pieces with a description of each piece to be supplied per span.

Answer 1. The 80’ spans will come in 2 – 40’ Pieces, the 140’ span will come in 3 pieces, 2- 49’ 2” pieces and 1 – 41’ 9” piece

Question 2. Will the pre-fabricated steel truss bridge come with pre-installed deck pan forming system, or will the contractor be required to form the bottom of deck before placement of concrete? If contractor is required to form deck, will metal stay-in-place forms be allowed?

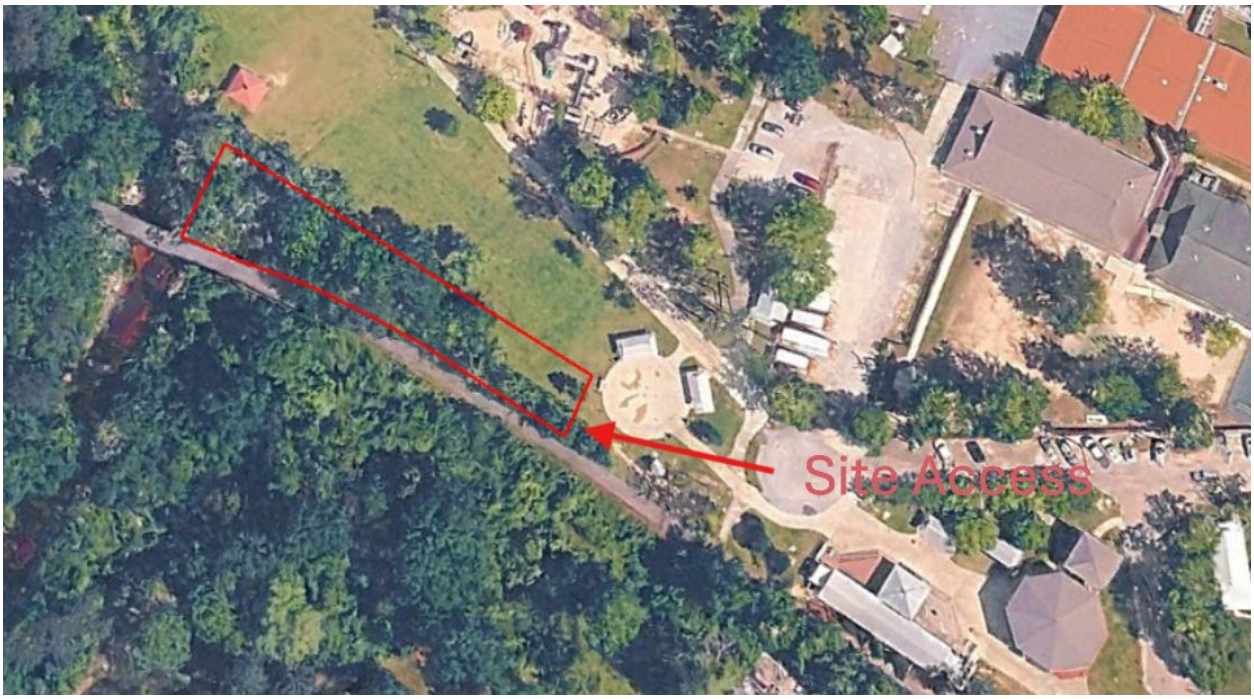
Answer 2. The pan forming system will be in place. Contractor shall be required to provide any steel.

Question 3. What are the shipping weights of each component to be shipped?

Answer 3. The estimated weight on the 40' are 12,000lbs and 49' and 41" pieces are estimated at 17,700 lbs

Question 4. What is the preferred route for contractor to access site? Project will require earthmoving equipment and crane to install bridge. Crane mobilization will require construction of haul road. Will the contractor be allowed to access site through Main Street / Park Area?

This is the area that I am referring to:



Answer 4. Contractors will have access from both sides of the bridge via the Tammany Trace, as well as the unopened Keller St right-of-way. Contractor will be responsible for any clearing required to use the Keller St right-of-way. Please refer to General Information #1, Section 18 - Right-of-Way Map (attached).

It is the Contractor's responsibility to speak to the Town of Abita about use or access through the park area.

Question 5. Will any temporary crossings of the Abita River be allowed?

Answer 5. The Contractor must follow the U.S. Army Corps of Engineers Nationwide Permit 14 and the Scenic River Permit #1307 for any crossings. Please refer to General Information #1, Section 22 – U.S. Army Corps of Engineers Nationwide Permit 14 (attached) and Section 23 - Scenic River Permit #1307 (attached).

Question 6. Access to site will be from both sides of existing trace path, the 2" asphalt will probably get damaged running trucks, dozers, etc on it. Will the Contractor be responsible for repairs or replacement of this asphalt?

Answer 6. Yes, the Contractor is responsible and should take every precaution to protect the asphalt outside of project limits.

Question 7. Is the Wingwall concrete measured under item #805-01-00300 Class A1 Concrete (Bent Cap)?

Answer 7. Yes.

Question 8. Please provide a plan or detail for the concrete deck to be installed.

Answer 8. Please refer to General Information #1, Section 20 – Shop Drawings.

Question 9. Will there be a pre-bid meeting for this solicitation?

Answer 9. No.

Question 10. Will excavated material from ditch acceptable for reuse on this project as embankment?

Answer 10. If the excavated material meets the specifications for embankment, then it is acceptable.

Question 11. Will Clearing and Grubbing be required from right of way to right of way as shown in the plans?

Answer 11. Clearing and Grubbing is required from the right-of-way line to the right-of-way line as needed by the Contractor.

Question 12. Will the contractor be allowed to build a temporary haul road for equipment access and delivery and erection of the new bridge?

Answer 12. This approval will depend on the location of the haul road.

Question 13. Please provide manufacturer of the owner furnished bridge and contact person

Answer 13. The manufacturer is Bailey Bridges Inc. dba Pioneer Bridges. The contact is Scott Dempsey, and he can be reached at 256-845-7575 EXT 111.

Question 14. Please provide shop drawings of the new owner furnished bridge units so we will know how much assembly is required.

Answer 14. Please refer to General Information #1, Section 20 – Shop Drawings.

Question 15. Will the owner furnished bridge units be delivered to the project site at no cost to the contractor?

Answer 15. There is no cost for delivery; the Contractor shall be responsible for handling and arranging the unloading of the bridge units.

Question 16. Will the parish furnish and pay for testing lab for the project?

Answer 16. No, the Contractor shall furnish a testing lab; the Parish reserves the right to furnish a testing lab if deemed necessary.

Question 17. Will the parish furnish and pay for the PDA Testing of the Monitor Piles?

Answer 17. Yes, the Parish will supply the testing lab for the PDA testing.

Question 18. Will pre-drilling or jetting be allowed for driving the piling?

Answer 18. Pre-drilling is allowed.

Question 19. Will the owner furnish bridge come with permanent metal deck forms?

Answer 19. Please refer to General Information #1, Section 20 – Shop Drawings.

Question 20. Will the owner furnish bridge come with bearing pads?

Answer 20. Please refer to General Information #1, Section 20 – Shop Drawings.

Question 21. Will the owner furnish bridge come with anchor bolts?

Answer 21. No.

Question 22. Will the contractor be required to supply the inspector an office?

Answer 22. No.

Question 23. Will the surface resitivity values be tested for in the Class A1 concrete per Table 901-6 of the 2016 LSSRB? I am told if this SR testing is required, the Class A1 concrete will cost $350.00+ per CY.

Answer 23. No, we will not test for surface resistivity.

Question 24. Will the contractor have access though the park to bring equipment and the bridge sections in ?

Answer 24. Contractors will have access from both sides of the bridge via the Tammany Trace, as well as the unopened Keller St right-of-way. Contractor will be responsible for any clearing required to use the Keller St right-of-way. Please refer to General Information #1, Section 18 - Right-of-Way Map (attached).

It is the Contractor's responsibility to speak to the Town of Abita about use or access through the park area.

Question 25. Please confirm that the contractor will be allowed to install a pile founded temporary wok platform across the river within the right of way.

Answer 25. Work within the river and river riverbank must be in accordance with all permits. Please refer to General Information #1, Section 22 – U.S. Army Corps of Engineers Nationwide Permit 14 (attached) and Section 23 - Scenic River Permit #1307 (attached).

Question 26. Please confirm that the temporary work platform piles will be allowed to be pulled.

Answer 26. Work within the river and river riverbank must be in accordance with all permits. Please refer to General Information #1, Section 22 – U.S. Army Corps of Engineers Nationwide Permit 14 (attached) and Section 23 - Scenic River Permit #1307 (attached).

Question 27. Will the contractor be allowed to remove and replace embankment material along the riverbank for construction access.

Answer 27. Work within the river and river riverbank must be in accordance with all permits. Please refer to General Information #1, Section 22 – U.S. Army Corps of Engineers Nationwide Permit 14 (attached) and Section 23 - Scenic River Permit #1307 (attached).

Question 28. Is lime soil treatment required underneath the new asphalt paving.

Answer 28. No.

ATTACHMENTS:

1. Section 18 - Right-of-Way Map.pdf
2. Section 19 – Vicinity Map.pdf
3. Section 20 – Shop Drawings.pdf
4. Section 21 – Pioneer Installation Guidelines.pdf
5. Section 22 – U.S. Army Corps of Engineers Nationwide Permit 14.pdf
6. Section 23 - Scenic River Permit #1307.pdf

End of Addendum # 3


Section 18
TAMMANY TRACE
MAIN ST
MAIN ST
MAPLE ST
HOLLY ST
HOLLY ST
HOLLY ST
ABITA RIV
RAILROAD AV
TAMMANY TRACE
MAPLE ST
MAPLE ST
HWY 59 HWY 59
HWY 59 HWY 59
HWY 59 HWY 59
HWY 59 HWY 59
HWY 59 HWY 59
HWY 59 HWY 59
HWY 59 HWY 59
HWY 59 HWY 59
LEVEL ST
LEV
TAMMANY TRACE
HWY 36 HWY 36
HWY 36
ANN OBRIEN LN
KELLER ST
LEVESON ST
63587
62448
62476
62820
62724
62151
62272
62671
62461
62462
62462
62763
63491
62590
63271
62873
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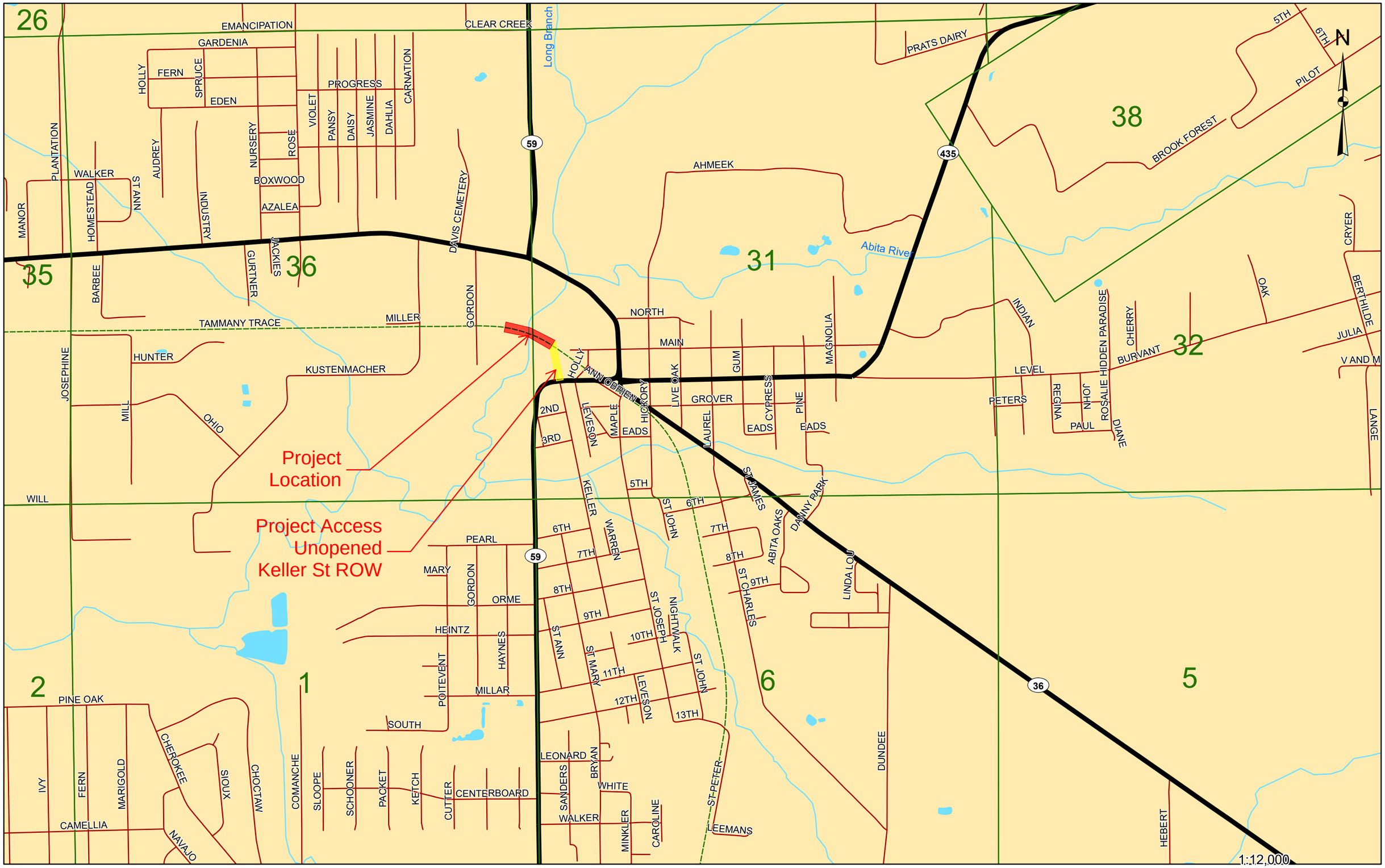
Section 19


Project Location
Project Access Unopened Keller St ROW
EMANCIPATION
CLEAR CREEK
Long Branch
PRATS DAIRY
GARDENIA
HOLLY
FERN
SPRUCE
EDEN
PROGRESS
VIOLET
PANSY
DAISY
JASMINE
DAHLIA
CARNATION
NURSERY
ROSE
BOXWOOD
AZALEA
AUDREY
INDUSTRY
PLANTATION
WALKER
HOMESTEAD
ST ANN
MANOR
JACKIES
GURTNER
BARBEE
DAVIS CEMETERY
59
AHMEEK
435
38
BROOK FOREST
PILOT
5TH
6TH
N
31
Abita River
CRYER
BERTHILDE
JULIA
V AND M
OAK
INDIAN
CHERRY
BURVANT
LEVEL
PETERS
REGINA
JOHN
PAUL
ROSALIE HIDDEN PARADISE
DIANE
32
LANGE
35
36
TAMMANY TRACE
MILLER
GORDON
NORTH
MAIN
GUM
MAGNOLIA
HUNTER
KUSTENMACHER
JOSEPHINE
MILL
OHIO
WILL
ANN O'BRIEN
HOLT
GROVER
LIVE OAK
HICKORY
LAUREL
CYPRESS
PINE
EADS
MAPLE
LEVESON
2ND
3RD
5TH
6TH
7TH
8TH
9TH
10TH
11TH
12TH
13TH
KELLER
WARREN
ST JOHN
ST JOSEPH
NIGHTWALK
ST ANN
ST MARY
ST CHARLES
ST JAMES
DANNY PARK
ABITA OAKS
LINDA LOU
PEARL
MARY
GORDON
ORME
HEINTZ
HAYNES
POITEVENT
MILLAR
SOUTH
LEONARD
BRYAN
WHITE
WALKER
SANDERS
MINKLER
CAROLINE
ST PETER
LEEMANS
DUNDEE
HEBERT
2
1
6
5
PINE OAK
IVY
FERN
MARIGOLD
CHEROKEE
SIOUX
CHOCTAW
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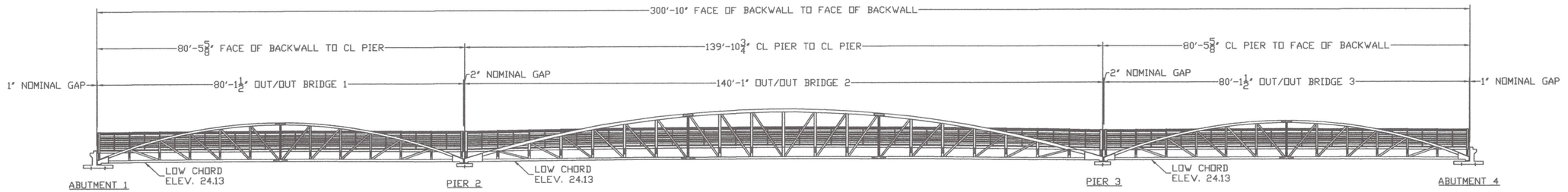

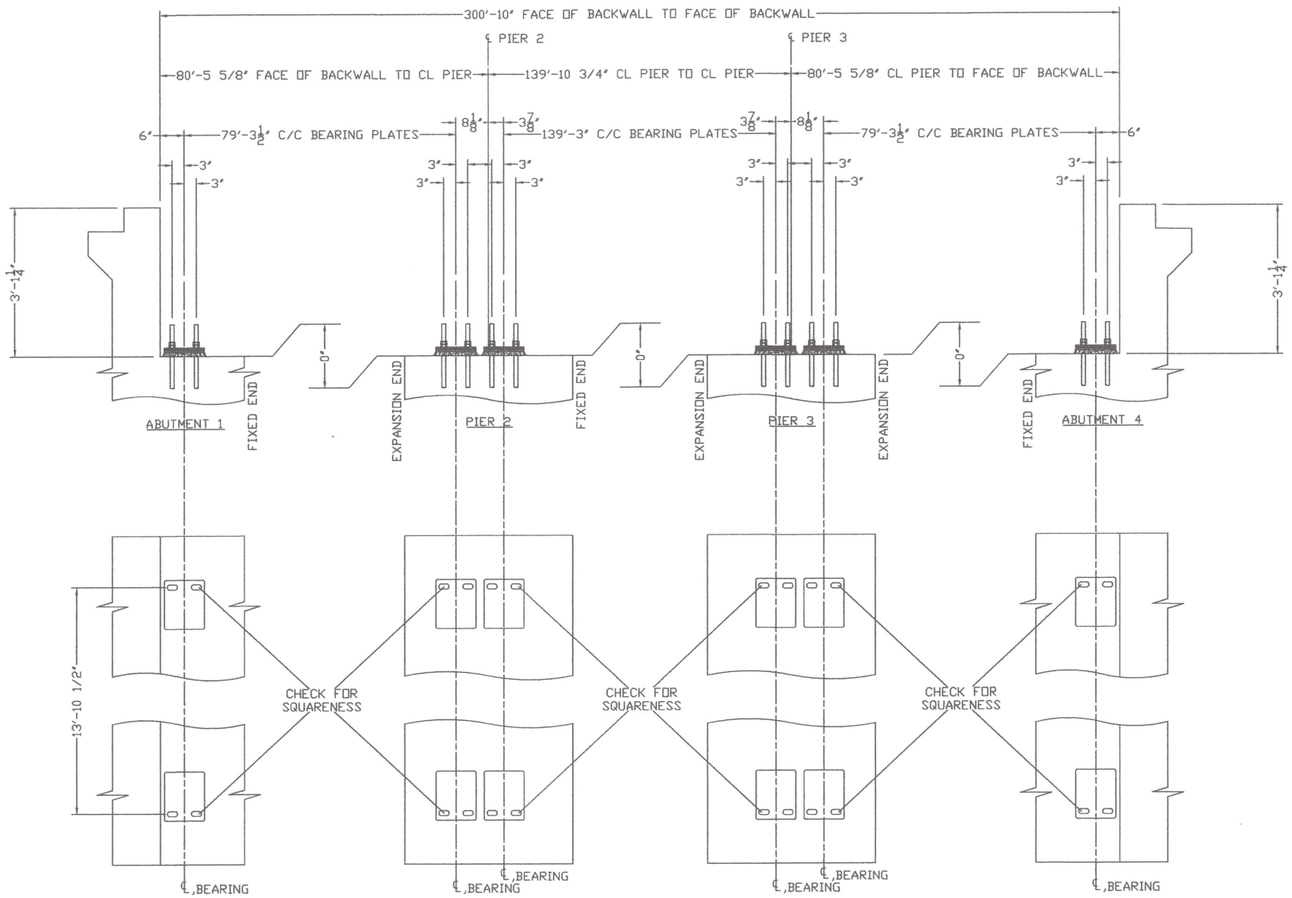

BRIDGE 1 FOUNDATION PLAN VIEW

UNFACTORED BRIDGE 1 REACTIONS
(PER BRIDGE END; EXCLUDES IMPACT)
VERT. DL = 42.0 KIPS
VERT. LL = 42.8 KIPS
HORIZ. (WIND) = 12.6 KIPS
THERMAL LONG. = 8.4 KIPS
NET UPLIFT (WIND) AT ONE BP = NONE
NET FACTORED UPLIFT = NONE

BRIDGE 2 FOUNDATION PLAN VIEW

UNFACTORED BRIDGE 2 REACTIONS
(PER BRIDGE END; EXCLUDES IMPACT)
VERT. DL = 79.6 KIPS
VERT. LL = 75.2 KIPS
HORIZ. (WIND) = 24.3 KIPS
THERMAL LONG. = 15.9 KIPS
NET UPLIFT (WIND) AT ONE BP = NONE
NET FACTORED UPLIFT = NONE

BRIDGE 3 FOUNDATION PLAN VIEW

UNFACTORED BRIDGE 3 REACTIONS
(PER BRIDGE END; EXCLUDES IMPACT)
VERT. DL = 42.0 KIPS
VERT. LL = 42.8 KIPS
HORIZ. (WIND) = 12.6 KIPS
THERMAL LONG. = 8.4 KIPS
NET UPLIFT (WIND) AT ONE BP = NONE
NET FACTORED UPLIFT = NONE

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6920 PORTOBELLO RD NW
FORT PAYNE, AL 35967

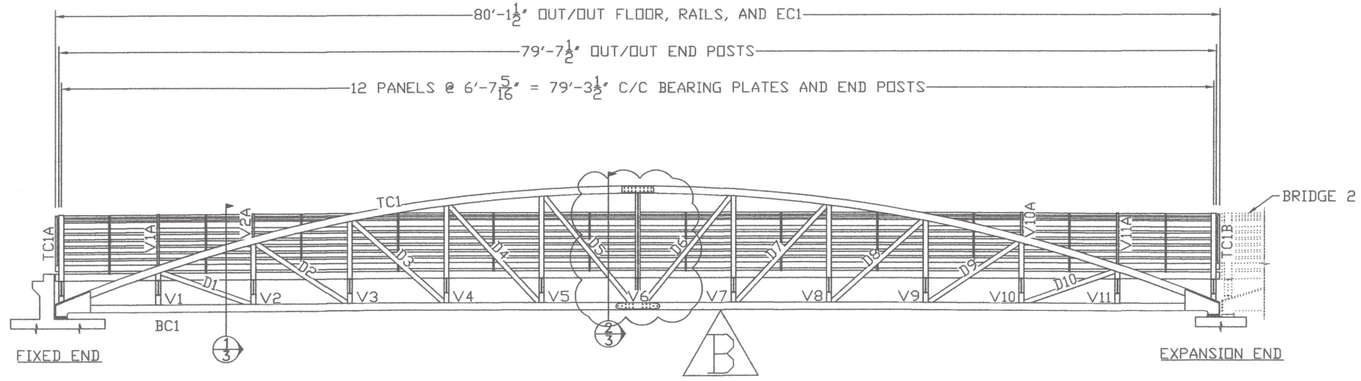
STATE OF LOUISIANA
ROBERT G. GRAHAM, III
REG. No. 28082
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
1/7/26

REV.	DESCRIPTION	BY/DATE	CHECKED BY
B	UPDATED SPLICE LOCATIONS	SAR 12/22/25	NH 12/23/25
A	FOR APPROVAL	SAR 10/15/25	NH 10/20/25

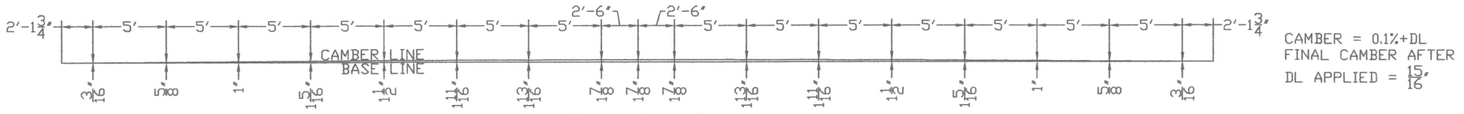
PIONEER BRIDGES
A PRODUCT OF BAILEY BRIDGES, INC.
119 40th Street NE
Fort Payne, AL 35967
1-866-708-5778

PROJECT: TAMMANY TRACE BRIDGE #25	DRAWN BY: SAR
OWNER: —	APPROVED BY: RGG
ADDRESS: ABITA SPRINGS, LA	CHECKED BY: NH
CONTRACTOR: —	
DESCRIPTION: ST. TAMMANY PARISH CROSSBOW PEDESTRIAN BRIDGES LAYOUT	

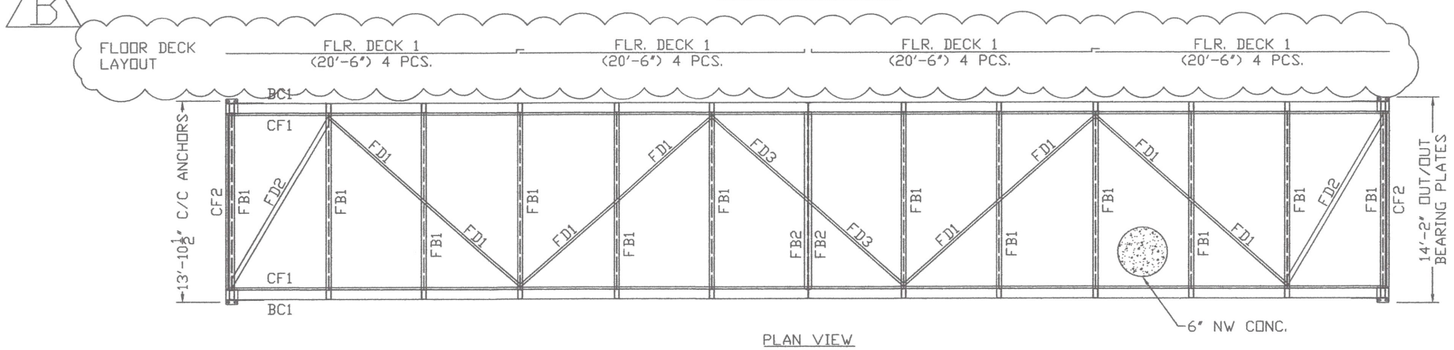
JOB NO.: 25233P
SHEET: 1 OF 7
REV.: B



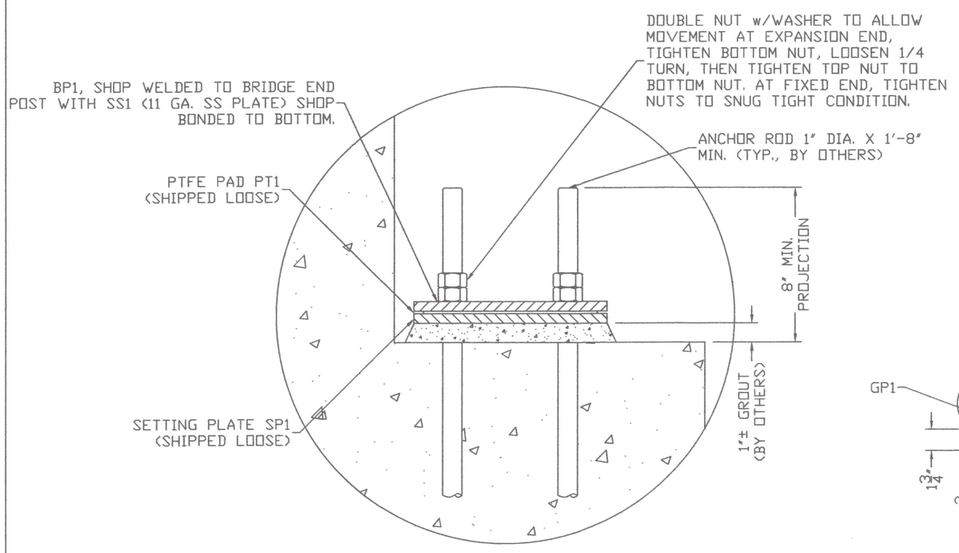
SIDE ELEVATION VIEW



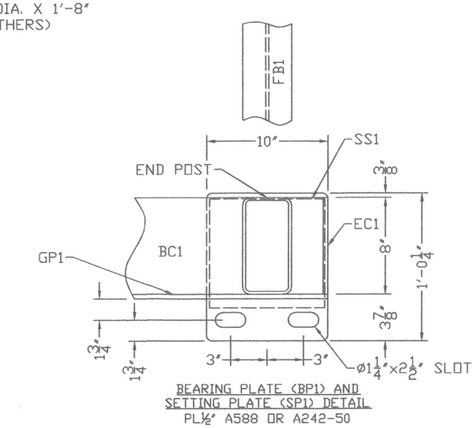
SHOP CAMBER DIAGRAM



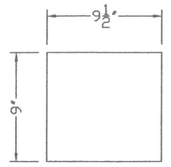
PLAN VIEW



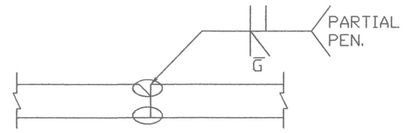
STANDARD BEARING CONFIGURATION



BEARING PLATE (BP1) AND SETTING PLATE (SP1) DETAIL
PL½" A588 OR A242-50



SS1 DETAIL
9"X9"X11 GA. SS PLATE, SHOP BONDED TO BTM OF BEARING PLATES



TYPICAL BUTT SPLICE
FOR RAILS, TOE PL, FENCE FRAMES & MISC ITEMS.

GENERAL NOTES:

1. ALL DESIGN VALUES ARE IN ACCORDANCE WITH THE AASHTO LRFD STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 8TH EDITION WITH AASHTO PEDESTRIAN BRIDGE GUIDE SPECS 2ND EDITION.
2. WELDING TO CONFORM WITH THE AMERICAN WELDING SOCIETY D1.1 LATEST REVISION AND/OR D1.5 (AS APPLICABLE). WELDING TO BE PERFORMED BY EXPERIENCED WELDERS QUALIFIED IN ACCORDANCE WITH A.W.S. PROCEDURES. WELDING ELECTRODES TO BE A.W.S E81T-X SERIES. WELD PROCESS TO BE FCAW OR GMAW.
3. ALL STRUCTURAL STEEL TO HAVE A MINIMUM YIELD STRENGTH OF 50,000 PSI WITH A WEATHERING FINISH.
4. STRUCTURAL WELDS WILL BE A MINIMUM OF 3/16" FILLET UNLESS SHOWN OTHERWISE. MINIMUM WELD DOES NOT APPLY TO SEAL WELDS.
5. ANCHOR RODS TO BE ASTM F1554-105 GALV. STEEL RODS. AT EXPANSION END, TIGHTEN BOTTOM NUT, LOOSEN 1/4 TURN, THEN TIGHTEN TOP NUT TO BOTTOM NUT. AT FIXED END, TIGHTEN NUTS TO SNUG TIGHT CONDITION. IF REQUIRED, FIELD SPLICE CONNECTION BOLTS SHALL BE ASTM A325 TYPE 3 AND SHALL BE TIGHTENED BY THE TURN OF THE NUT METHOD TO OBTAIN PROPER TENSION.
6. ALL PROMINENTLY EXPOSED STEEL SURFACES TO BE MEDIA BLASTED TO S.S.P.C. #7 "BRUSH-OFF BLAST CLEANING."
7. CONCRETE FLOOR DECK TO BE 4500 PSI NORMAL WEIGHT (150 PCF), POURED AND FINISHED ON THE JOB SITE. THE BRIDGE SHALL BE DELIVERED FORMED WITH A GALVANIZED (G90) COMPOSITE FLOOR DECK. CONTROL JOINTS ARE NOT RECOMMENDED OR REQUIRED. HOWEVER, DEPENDING ON POUR SEQUENCE AND CURE RATES, CONTRACTOR MAY UTILIZE CONTROL JOINTS OR POUR STOPS AT THEIR DISCRETION TO MITIGATE SHRINKAGE CRACKING DURING CONCRETE CURE. CONTRACTOR TO FURNISH REINFORCING STEEL WHICH SHALL BE GRADE 60 EPOXY-COATED DEFORMED BARS. A CONCRETE DECK SEALER, IF NOT REQUIRED BY OTHER CONTRACT DOCUMENTS, IS RECOMMENDED.
8. HAND RAILS AND ALL OTHER ACCESSIBLE SURFACES TO BE GROUND SMOOTH WITH NO SHARP EDGES OR CORNERS.
9. LENGTH OF ANCHOR RODS AND FOUNDATION DETAILS ARE FOR GENERAL ARRANGEMENT PURPOSES ONLY. ACTUAL FOUNDATION AND SUBSTRUCTURE DESIGN, RAILING, CAMBER AND SLOPE REQUIREMENTS, ELECTRICAL GROUNDING, AND CLEARANCES (FLOOD PLAIN, ROADWAY, AND WATERWAY) ARE THE RESPONSIBILITY OF OTHERS.

PLACARD INFO:
PEDESTRIAN TRAFFIC
LIGHT VEHICLE, MAX GVW: 10 TONS
MODEL: CROSSBOW
SERIAL NO: 25233P-1
25233P-3

DESIGN CRITERIA

THIS BRIDGE IS DESIGNED BASED ON THE FOLLOWING CRITERIA:
1. DEAD LOAD OF 83.3 PSF PLUS EVENLY DISTRIBUTED LIVE LOAD OF 90 PSF.
2. DEAD LOAD PLUS CONCENTRATED LIVE LOAD OF 20,000 POUNDS.
3. WIND LOAD OF 56 PSF CALCULATED ON THE ENTIRE PROJECTED VERTICAL SURFACE AS THOUGH FULLY ENCLOSED PER AASHTO.

PRELIMINARY LIFTING WEIGHT = 24,000 LBS
(PRELIMINARY LIFTING WEIGHT CONSISTING OF ASSEMBLED BRIDGE WITH NO CONCRETE POURED)

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STATE OF LOUISIANA
ROBERT G. GRAHAM, III
REG. No. 28582
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
1/7/26

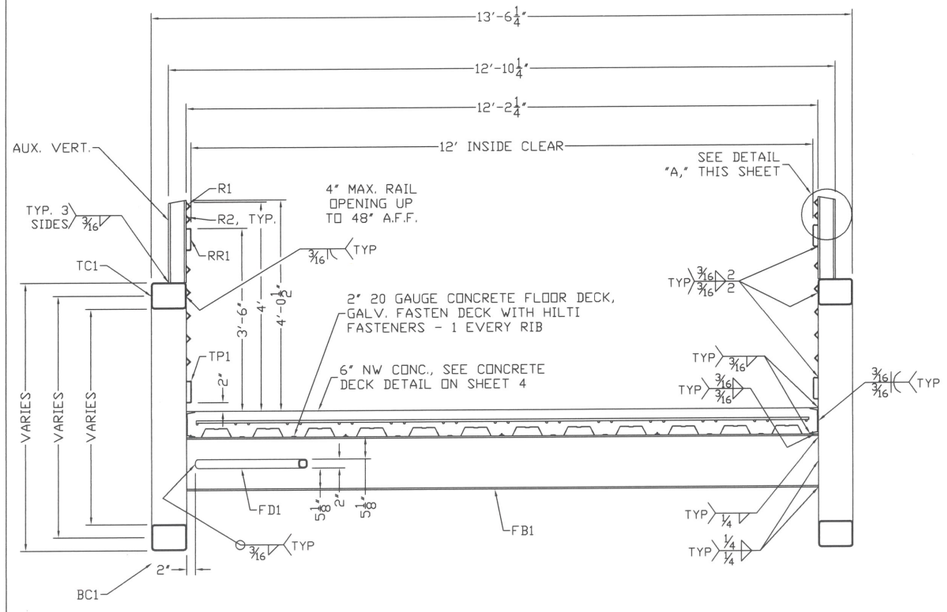
REV	DESCRIPTION	BY/DATE	CHECKED BY
B	UPDATED FOR SPLICE	SAR 12/22/25	NH 12/23/25
A	FOR APPROVAL	SAR 10/15/25	NH 10/20/25

PIONEER BRIDGES
A PRODUCT OF BAILEY BRIDGES, INC.
119 40th Street NE
Fort Payne, AL 35967
1-866-708-5778

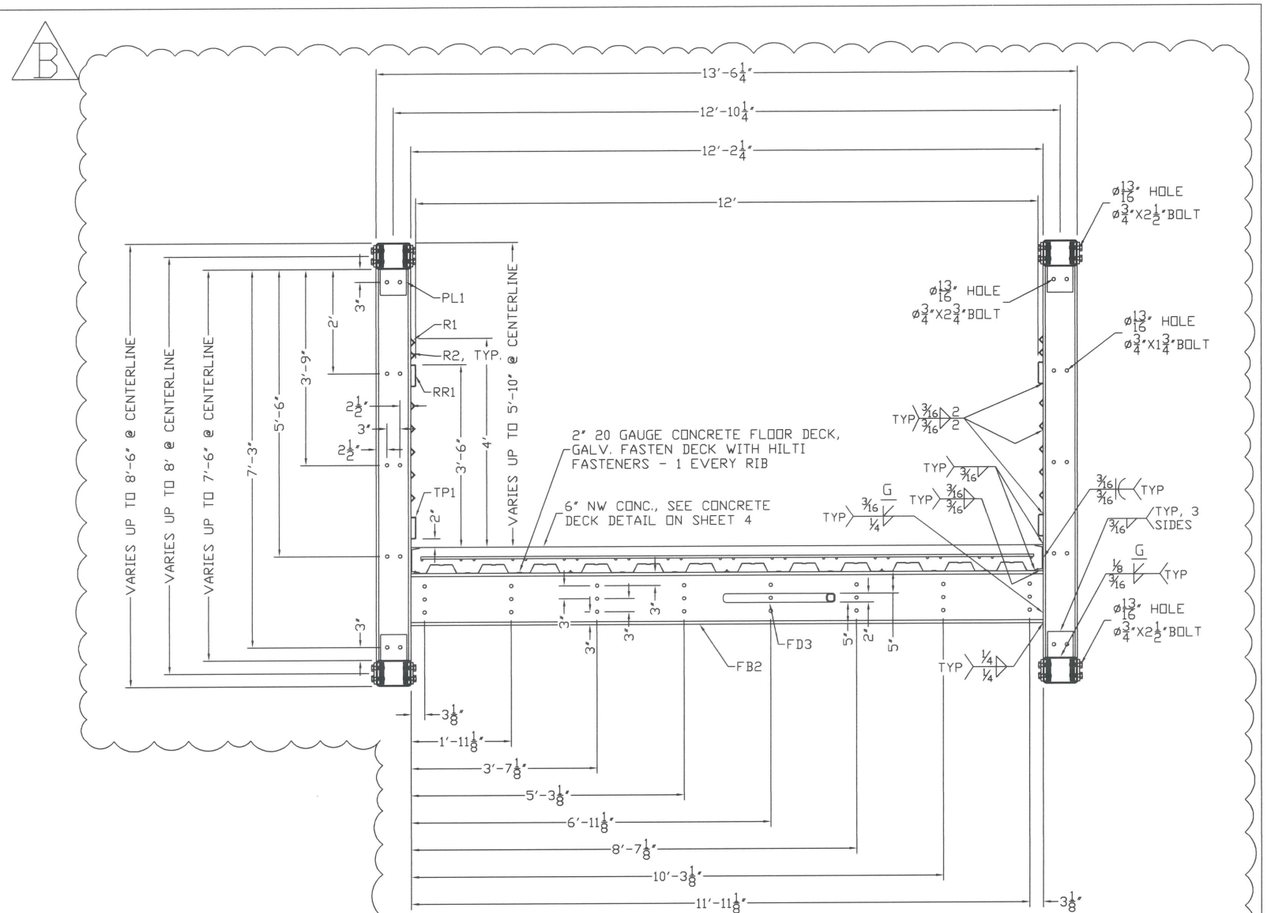
PROJECT: TAMMANY TRACE BRIDGE #25
OWNER: –
ADDRESS: ABITA SPRINGS, LA
CONTRACTOR: –
DESCRIPTION: 12'X80' CROSSBOW PEDESTRIAN – BRIDGE 1 & BRIDGE 3

DRAWN BY: SAR
APPROVED BY: RGG
CHECKED BY: NH

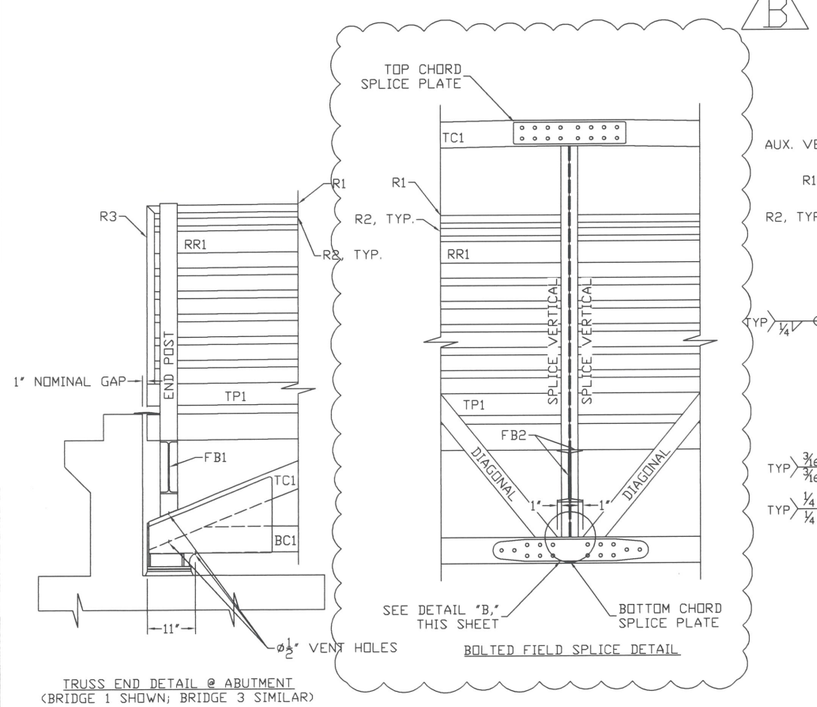
JOB NO.: 25233P
SHEET: 2 OF 7
REV.: B



SECTION 1/2

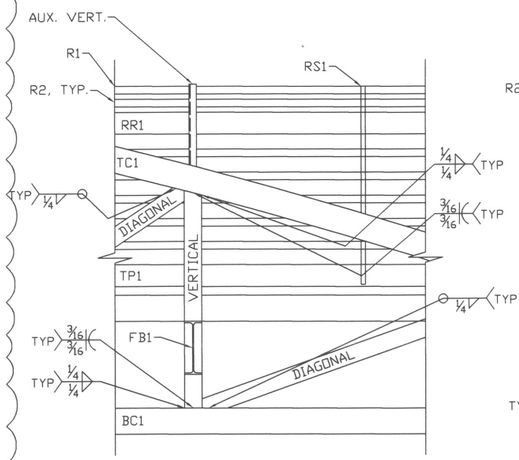


SECTION 2/2

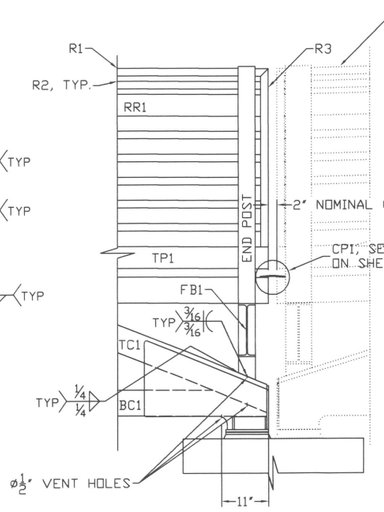


TRUSS END DETAIL @ ABUTMENT
(BRIDGE 1 SHOWN; BRIDGE 3 SIMILAR)

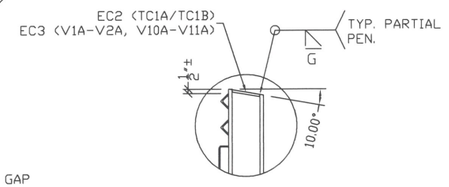
BOLTED FIELD SPLICE DETAIL



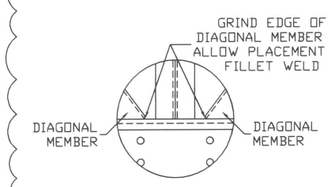
TYPICAL TRUSS DETAIL



TRUSS END DETAIL @ PIER
(BRIDGE 1 SHOWN; BRIDGE 3 SIMILAR)



DETAIL "A"



DETAIL "B"

R.G. GRAHAM III P.E.
6920 PORTOBELLO RD NW
FORT PAYNE, AL 35967

STATE OF LOUISIANA
ROBERT G. GRAHAM, III
REG. No. 28782
REGISTERED PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING

1/7/26

REV	DESCRIPTION	BY/DATE	CHECKED BY
B	UPDATED FOR SPLICE	SAR 12/22/25	NH 12/23/25
A	FOR APPROVAL	SAR 10/15/25	NH 10/20/25

PIONEER BRIDGES

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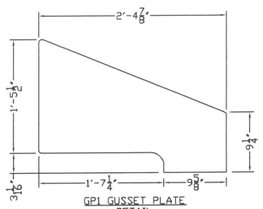
DRAWN BY: SAR
APPROVED BY: RGG
CHECKED BY: NH

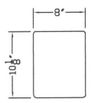
JOB NO.: 25233P
SHEET: 3 OF 7
REV.: B

Bridge 1 & 3 Material Schedule (A588, A242-50, A847) - FOR 1 BRIDGE (12'x80') 2 REQ'D

Pc. Mk	Quantity	Description
TC1	2	HSS8X6X1/4 (ROLL)
TC1A/TC1B	4	HSS8X4X1/4
BC1	2	HSS8X6X1/4
V1	2	HSS8X4X1/4
V2	2	HSS8X4X1/4
V3	2	HSS8X4X1/4
V4	2	HSS8X4X1/4
V5	2	HSS8X4X1/4
V6	4	C8X11.5
V7	2	HSS8X4X1/4
V8	2	HSS8X4X1/4
V9	2	HSS8X4X1/4
V10	2	HSS8X4X1/4
V11	2	HSS8X4X1/4
V1A	2	C4X7.2
V2A	2	C4X7.2
V3A	2	C4X7.2
V9A	2	C4X7.2
V10A	2	C4X7.2
V11A	2	C4X7.2
D1	2	HSS6X4X1/4
D2	2	HSS6X4X1/4
D3	2	HSS6X4X1/4
D4	2	HSS6X4X1/4
D5	2	HSS6X4X1/4
D6	2	HSS6X4X1/4
D7	2	HSS6X4X1/4
D8	2	HSS6X4X1/4
D9	2	HSS6X4X1/4
D10	2	HSS6X4X1/4
FB1	12	W12X19
FB2	2	C12X20.7
FD1	8	HSS2X2X1/4
FD2	2	HSS4X4X1/4
FD3	2	HSS2X2X1/4
CF1	2	C6X8.2
CF2	2	C6X8.2
R1	2	L1 1/4X1 1/4X1/8
R2	12	L1 1/4X1 1/4X1/8
R3	4	L1 1/4X1 1/4X1/8
RR1	2	UC5X3.08
TP1	2	UC5X3.08
RS1	24	FL 1/2 X 1
FLR. DECK 1	16	2" 20 GA. CFD GALV. G90
DECK FASTENERS	169	HILTI FASTENERS (X-ENP-19)
LAP FASTENERS	135	#14 X 1 TEK SCREWS
BOLT/NUT/W	36	Ø3/4"X1 3/4" A325 TYPE 3
BOLT/NUT/W	8	Ø3/4"X2 3/4" A325 TYPE 3
BOLT/NUT/W	128	Ø3/4"X2 1/2" A325 TYPE 3
GP1	4	PL 3/8X17 9/16
EC1	4	PL 3/8X7 1/8
EC2	4	PL 1/4X3 1/2
EC3	12	PL 1/4X1 3/8
PL1	8	PL 1/2X6
P234	8	PL 1/2X5
TC HEX PLATE	4	PL 1/4X5
TC RETAINER PLATE	4	PL 1/4X5
P235 MOD	8	PL 1/2X5
BC HEX PLATE	4	PL 1/4X5
BC RETAINER PLATE	4	PL 1/4X5
CP1	2	PL 1/4X6
CP1 FASTENERS	16	Ø3/8"x2 1/2" SS TORX PAN HEAD ANCHOR SLEEVES
STB1	4	HSS8X8X1/4
BP1	4	PL 1/2 X 10
PT1	4	1/8" X 8 1/2" TEFLON PAD
SS1	4	PL 11 GA X 9 SS
SP1	4	PL 1/2 X 10



GP1 GUSSET PLATE DETAIL
PL 3/8" A588 OR A242-50

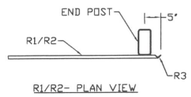


EC1 - TRUSS END CAP PLATE DETAIL
PL 3/8" A588 OR A242-50

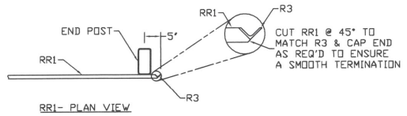
EC2 - END POST END CAP PLATE DETAIL
PL 3/8" A588 OR A242-50

EC3- AUX VERTICAL END CAP PLATE DETAIL
PL 3/8" A588 OR A242-50

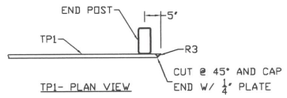
STB1 - TUBE SPACER
HSS8X8X1/4



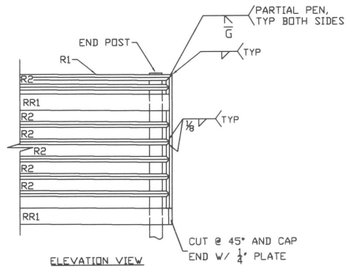
R1/R2- PLAN VIEW



RR1- PLAN VIEW

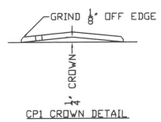


TP1- PLAN VIEW

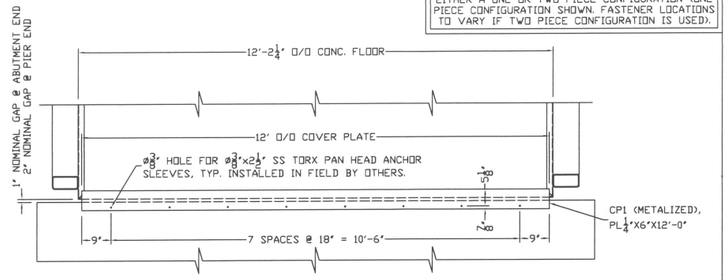


ELEVATION VIEW

RAIL TERMINATION DETAIL

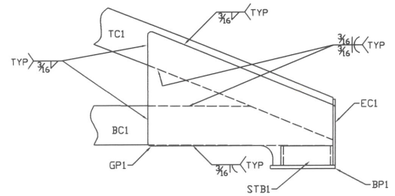


CP1 CROWN DETAIL

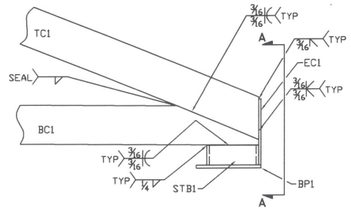


PLAN VIEW
PL 1/4" A588 OR A242-50
COVER PLATE TO BE COATED WITH A METALIZED ANTI-SLIP COATING.
*CP1 INSTALLED IN FIELD BY OTHERS. CONTRACTOR IS RESPONSIBLE FOR ENSURING PROPER FIT UP OF COVER PLATE WHEN INSTALLED.

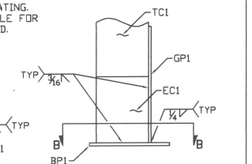
NOTE: CP1 IS SUBJECT TO BEING FABRICATED IN EITHER A ONE OR TWO PIECE CONFIGURATION (ONE PIECE CONFIGURATION SHOWN. FASTENER LOCATIONS TO VARY IF TWO PIECE CONFIGURATION IS USED).



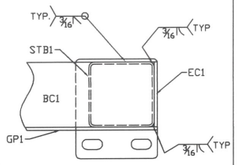
END WELD DETAILS - GP1 TO CHORDS



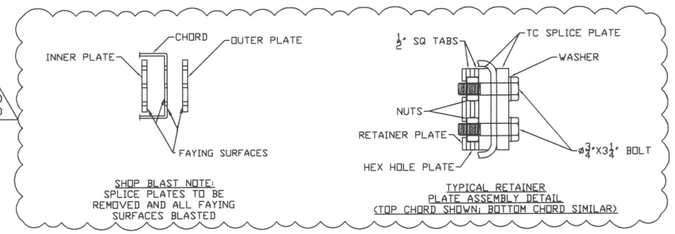
END WELD DETAILS - EC1 AND BP1 TO CHORDS
GP1 OMITTED FOR CLARITY



SECTION A-A
EC1 TO BP1 & GP1



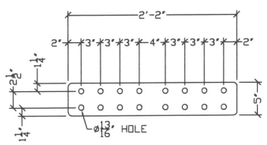
SECTION B-B
STB1 TO BP1 & EC1/GP1



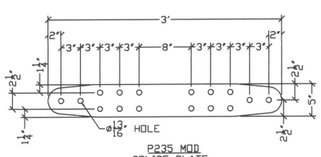
SHOP BLAST NOTE: SPLICE PLATES TO BE REMOVED AND ALL FAYING SURFACES BLASTED

TYPICAL RETAINER PLATE ASSEMBLY DETAIL (TOP CHORD SHOWN; BOTTOM CHORD SIMILAR)

PL1
SPLICE PLATE
PL 1/2" A588 OR A242-50

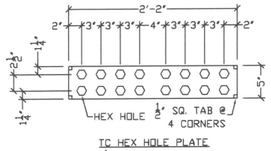


P234
SPLICE PLATE
PL 1/2" A588 OR A242-50



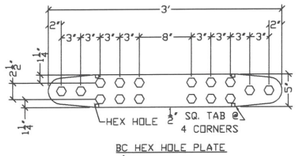
P235 MOD
SPLICE PLATE
PL 1/2" A588 OR A242-50

SHOP NOTE: BLAST ALL FAYING SURFACES ON TOP CHORD SPLICE PLATE

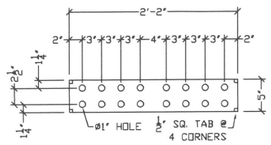


TC HEX HOLE PLATE
PL 1/4" A588 OR A242-50

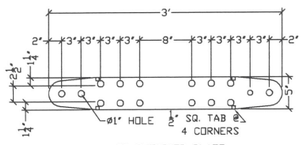
SHOP NOTE: BLAST ALL FAYING SURFACES ON BOTTOM CHORD SPLICE PLATE



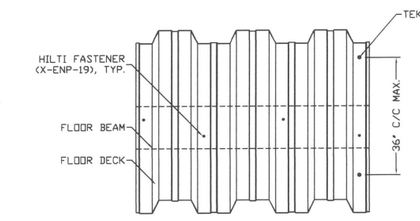
BC HEX HOLE PLATE
PL 1/4" A588 OR A242-50



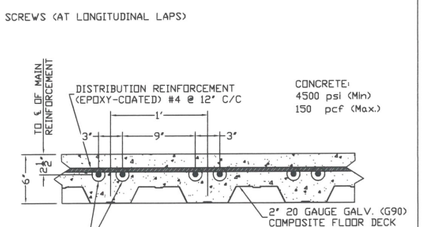
TC RETAINER PLATE
PL 1/4" A588 OR A242-50



BC RETAINER PLATE
PL 1/4" A588 OR A242-50



STANDARD INSTALLATION DETAIL
2" FLOOR DECK TO FLOOR BEAM
PLACE FASTENER IN EVERY CORRUGATION, ALTERNATING SIDES OF THE FLOOR BEAM FLANGE.



CONCRETE DECK TYPICAL DETAIL

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6920 PORTOBELLO RD NW
FORT PAYNE, AL 35967

STATE OF LOUISIANA
ROBERT G. GRAHAM, III
REG. No. 25782
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
1/7/26

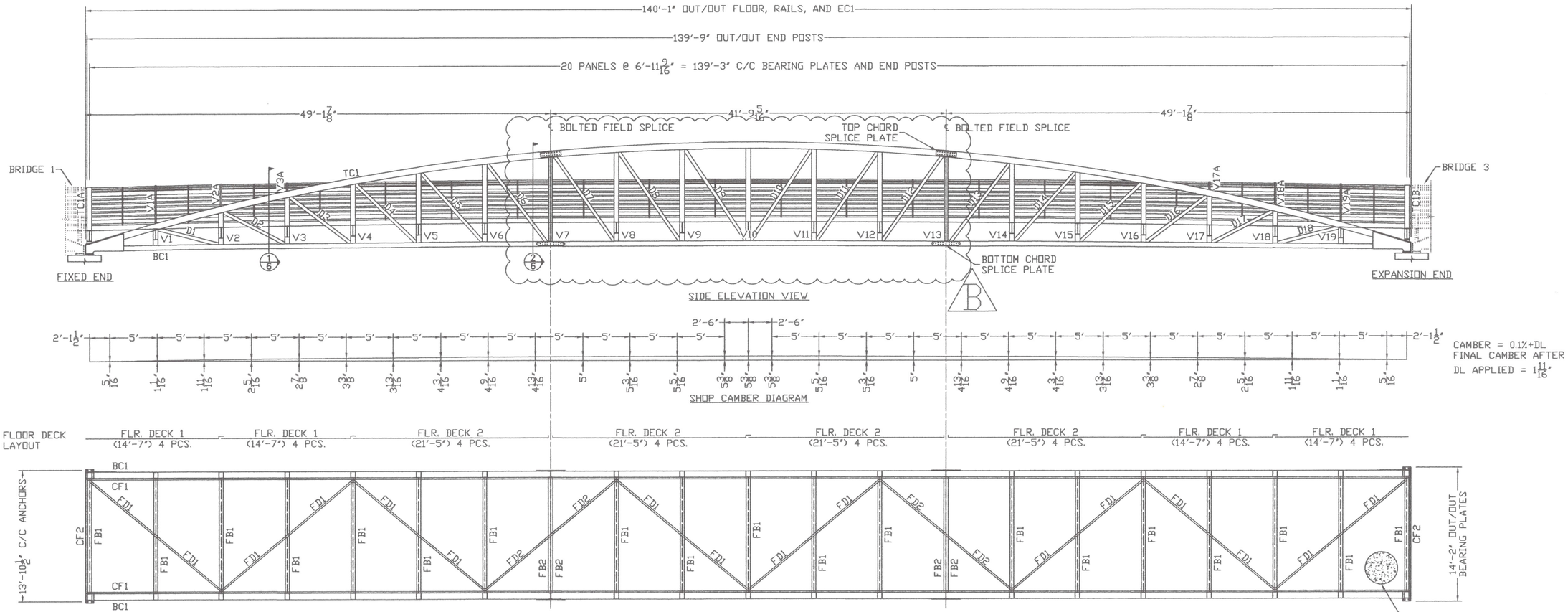
REV	DESCRIPTION	BY/DATE	CHECKED BY
B	UPDATED FOR SPLICE	SAR 12/22/25	NH 12/23/25
A	FOR APPROVAL	SAR 10/15/25	NH 10/20/25

A PRODUCT OF BAILEY BRIDGES, INC.
119 40th Street NE
Fort Payne, AL 35967
1-866-708-5778

PROJECT: TAMMANY TRACE BRIDGE #25
OWNER: –
ADDRESS: ABITA SPRINGS, LA
CONTRACTOR: –
DESCRIPTION: 12'X80' CROSSBOW PEDESTRIAN - BRIDGE 1 & BRIDGE 3

DRAWN BY: SAR
APPROVED BY: RGG
CHECKED BY: NH

JOB NO.: 25233P
SHEET: 4 OF 7
REV.: B



PRELIMINARY LIFTING WEIGHT = 53,000 LBS
(PRELIMINARY LIFTING WEIGHT CONSISTING OF ASSEMBLED BRIDGE WITH NO CONCRETE POURED)

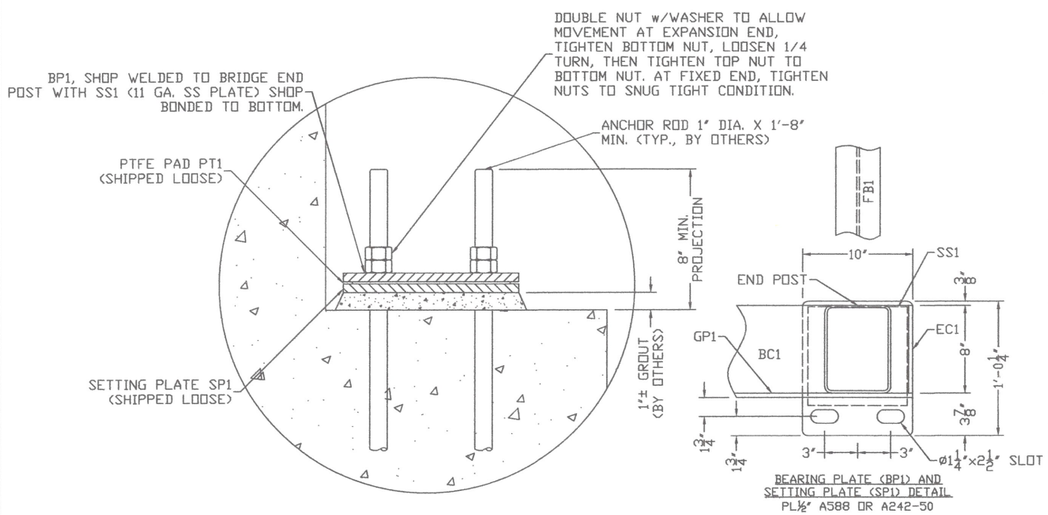
GENERAL NOTES:

1. ALL DESIGN VALUES ARE IN ACCORDANCE WITH THE AASHTO LRFD STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 8TH EDITION WITH AASHTO PEDESTRIAN BRIDGE GUIDE SPECS 2ND EDITION.
2. WELDING TO CONFORM WITH THE AMERICAN WELDING SOCIETY D1.1 LATEST REVISION AND/OR D1.5 (AS APPLICABLE). WELDING TO BE PERFORMED BY EXPERIENCED WELDERS QUALIFIED IN ACCORDANCE WITH A.W.S. PROCEDURES. WELDING ELECTRODES TO BE A.W.S E81T-X SERIES. WELD PROCESS TO BE FCAW OR GMAW.
3. ALL STRUCTURAL STEEL TO HAVE A MINIMUM YIELD STRENGTH OF 50,000 PSI WITH A WEATHERING FINISH.
4. STRUCTURAL WELDS WILL BE A MINIMUM OF 3/16" FILLET UNLESS SHOWN OTHERWISE. MINIMUM WELD DOES NOT APPLY TO SEAL WELDS.
5. ANCHOR RODS TO BE ASTM F1554-105 GALV. STEEL RODS. AT EXPANSION END, TIGHTEN BOTTOM NUT, LOOSEN 1/4 TURN, THEN TIGHTEN TOP NUT TO BOTTOM NUT. AT FIXED END, TIGHTEN NUTS TO SNUG TIGHT CONDITION. IF REQUIRED, FIELD SPLICE CONNECTION BOLTS SHALL BE ASTM A325 TYPE 3 AND SHALL BE TIGHTENED BY THE TURN OF THE NUT METHOD TO OBTAIN PROPER TENSION.
6. ALL PROMINENTLY EXPOSED STEEL SURFACES TO BE MEDIA BLASTED TO S.S.P.C. #7 "BRUSH-OFF BLAST CLEANING."
7. CONCRETE FLOOR DECK TO BE 4500 PSI NORMAL WEIGHT (150 PCF), POURED AND FINISHED ON THE JOB SITE. THE BRIDGE SHALL BE DELIVERED FORMED WITH A GALVANIZED (G90) COMPOSITE FLOOR DECK. CONTROL JOINTS ARE NOT RECOMMENDED OR REQUIRED. HOWEVER, DEPENDING ON POUR SEQUENCE AND CURE RATES, CONTRACTOR MAY UTILIZE CONTROL JOINTS OR POUR STOPS AT THEIR DISCRETION TO MITIGATE SHRINKAGE CRACKING DURING CONCRETE CURE. CONTRACTOR TO FURNISH REINFORCING STEEL WHICH SHALL BE GRADE 60 EPOXY-COATED DEFORMED BARS. A CONCRETE DECK SEALER, IF NOT REQUIRED BY OTHER CONTRACT DOCUMENTS, IS RECOMMENDED.
8. HAND RAILS AND ALL OTHER ACCESSIBLE SURFACES TO BE GROUND SMOOTH WITH NO SHARP EDGES OR CORNERS.
9. LENGTH OF ANCHOR RODS AND FOUNDATION DETAILS ARE FOR GENERAL ARRANGEMENT PURPOSES ONLY. ACTUAL FOUNDATION AND SUBSTRUCTURE DESIGN, RAILING, CAMBER AND SLOPE REQUIREMENTS, ELECTRICAL GROUNDING, AND CLEARANCES (FLOOD PLAIN, ROADWAY, AND WATERWAY) ARE THE RESPONSIBILITY OF OTHERS.

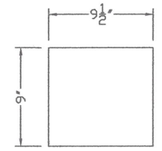
PLACARD INFO:
PEDESTRIAN TRAFFIC
LIGHT VEHICLE, MAX
GVW: 10 TONS
MODEL: CROSSBOW
SERIAL NO: 25233P-2

B DESIGN CRITERIA

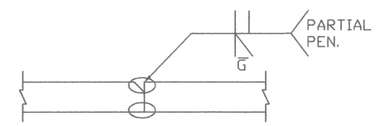
THIS BRIDGE IS DESIGNED BASED ON THE FOLLOWING CRITERIA:
1. DEAD LOAD OF 95.3 PSF PLUS EVENLY DISTRIBUTED LIVE LOAD OF 90 PSF.
2. DEAD LOAD PLUS CONCENTRATED LIVE LOAD OF 20,000 POUNDS.
3. WIND LOAD OF 48 PSF CALCULATED ON THE ENTIRE PROJECTED VERTICAL SURFACE AS THOUGH FULLY ENCLOSED PER AASHTO.



STANDARD BEARING CONFIGURATION



SS1 DETAIL
9"X9"X11 GA. SS PLATE, SHOP BONDED TO BTM OF BEARING PLATES



TYPICAL BUTT SPLICE
FOR RAILS, TOE PL, FENCE FRAMES & MISC ITEMS.

R.G. GRAHAM III P.E.
6920 PORTOBELLO RD NW
FORT PAYNE, AL 35967

STATE OF LOUISIANA
ROBERT G. GRAHAM, III
REG. No. 26782
REGISTERED PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
1/7/26

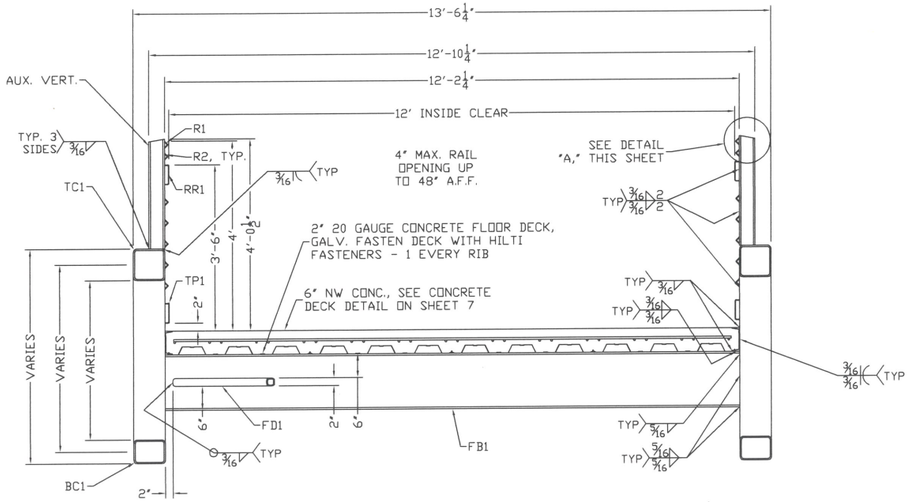
REV	DESCRIPTION	BY/DATE	CHECKED BY
B	UPDATED SPLICE LOCATIONS	SAR 12/22/25	NH 12/23/25
A	FOR APPROVAL	SAR 10/15/25	NH 10/20/25

PIONEER BRIDGES
A PRODUCT OF BAILEY BRIDGES, INC.
119 40th Street NE
Fort Payne, AL 35967
1-866-708-5778

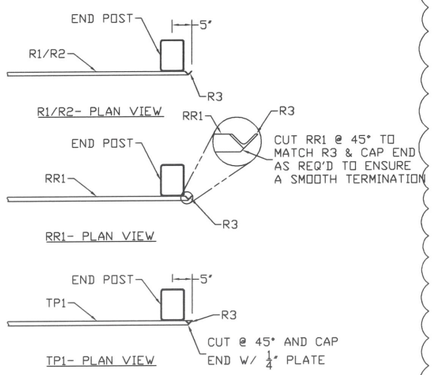
PROJECT: TAMMANY TRACE BRIDGE #25
OWNER: –
ADDRESS: ABITA SPRINGS, LA
CONTRACTOR: –
DESCRIPTION: 12'X140' CROSSBOW PEDESTRIAN - BRIDGE 2

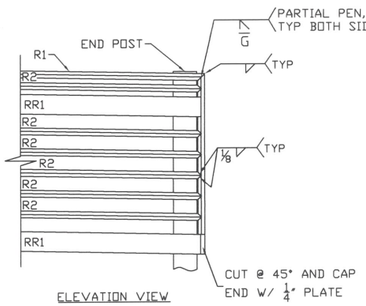
DRAWN BY: SAR
APPROVED BY: RGG
CHECKED BY: NH

JOB NO: 25233P
SHEET: 5 OF 7
REV. B



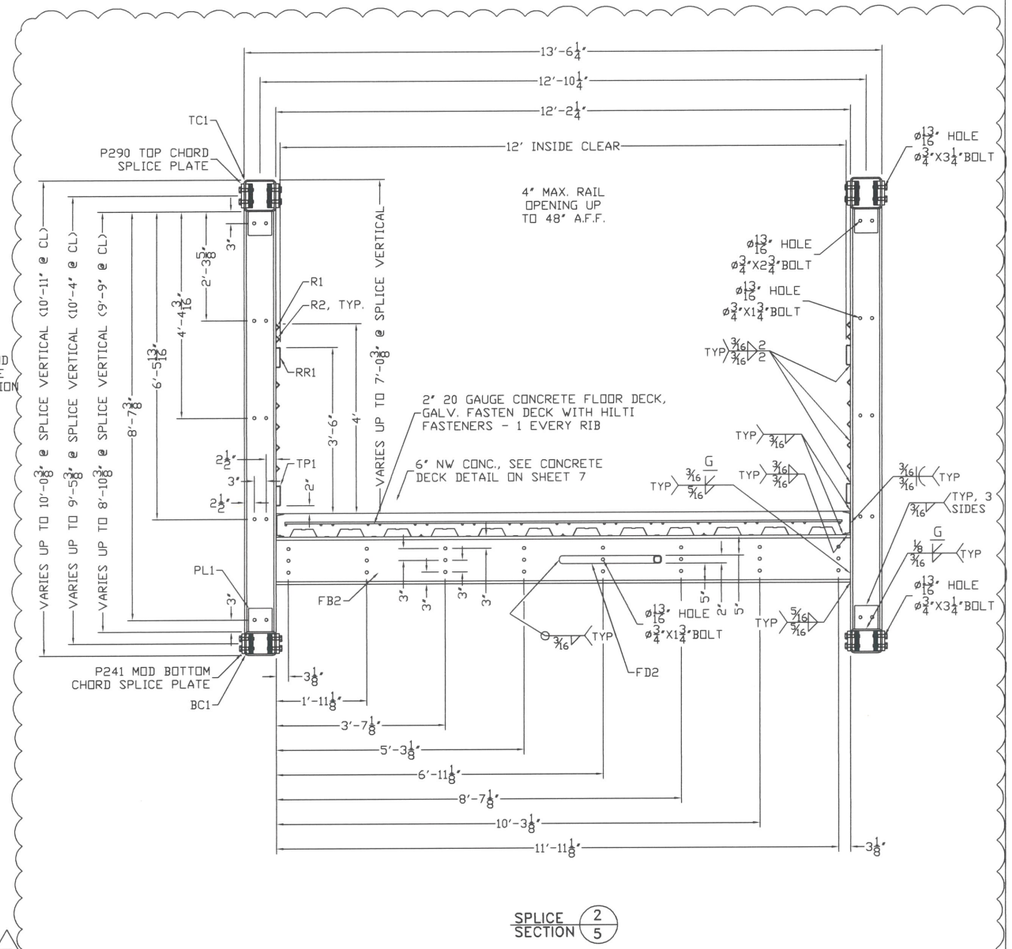
SECTION 1/5



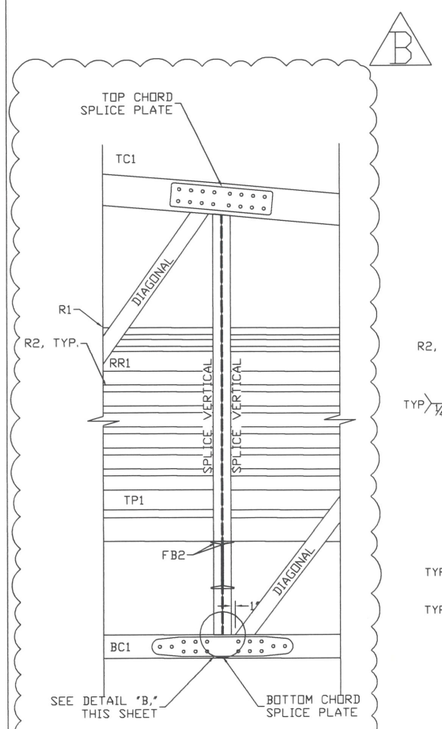


ELEVATION VIEW

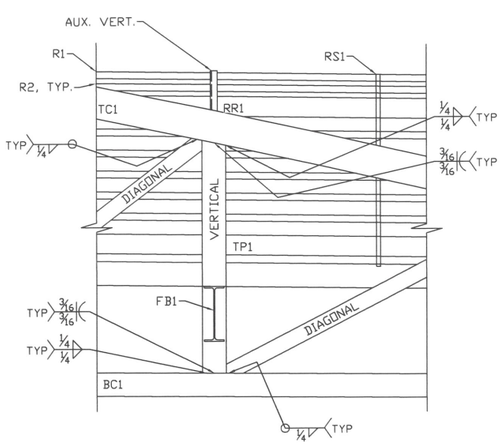
RAIL TERMINATION DETAILS



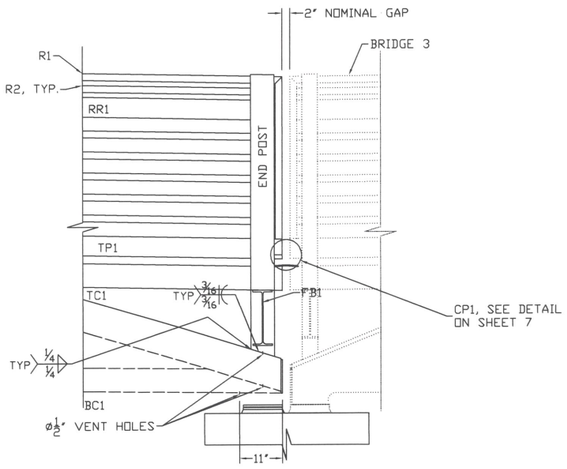
SPLICE SECTION 2/5



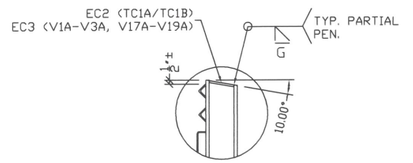
BOLTED FIELD SPLICE DETAIL



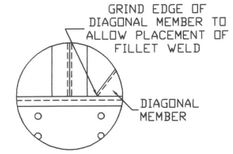
TYPICAL TRUSS DETAIL



TRUSS END DETAIL



DETAIL "A"



DETAIL "B"
(BOTTOM SHOWN; TOP SIMILAR)

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ROBERT G. GRAHAM, III
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REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

1/7/26

REV	DESCRIPTION	BY/DATE	CHECKED BY
B	UPDATED SPLICE LOCATIONS	SAR 12/22/25	NH 12/23/25
A	FOR APPROVAL	SAR 10/15/25	NH 10/20/25

PIONEER BRIDGES

A PRODUCT OF
BAILEY BRIDGES, INC.
119 40th Street NE
Fort Payne, AL 35967
1-866-708-5778

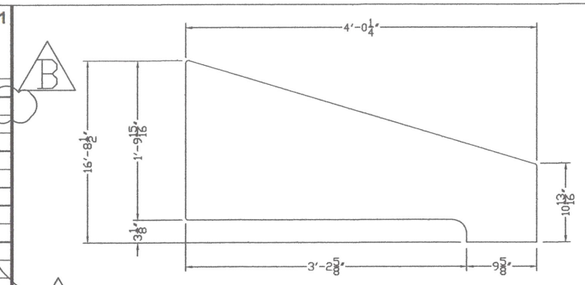
PROJECT: TAMMANY TRACE BRIDGE #25
OWNER: —
ADDRESS: ABITA SPRINGS, LA
CONTRACTOR: —
DESCRIPTION: 12'X140' CROSSBOW PEDESTRIAN - BRIDGE 2

DRAWN BY: SAR
APPROVED BY: RGG
CHECKED BY: NH

JOB NO: 25233P
SHEET: 6 OF 7
REV. B

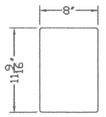
Bridge 2 Material Schedule (A588, A242-50, A847) - FOR 1 BRIDGE (12'x140')

Pc. Mk	Quantity	Description
TC1	2	HSS8X8X3/8
TC1A/TC1B	4	HSS8X6X3/8
BC1	2	HSS8X6X3/8
V1	2	HSS8X6X1/4
V2	2	HSS8X6X1/4
V3	2	HSS8X6X1/4
V4	2	HSS8X6X1/4
V5	2	HSS8X6X1/4
V6	2	HSS8X6X1/4
V7	4	C8X11.5
V8	2	HSS8X6X1/4
V9	2	HSS8X6X1/4
V10	2	HSS8X6X1/4
V11	2	HSS8X6X1/4
V12	2	HSS8X6X1/4
V13	4	C8X11.5
V14	2	HSS8X6X1/4
V15	2	HSS8X6X1/4
V16	2	HSS8X6X1/4
V17	2	HSS8X6X1/4
V18	2	HSS8X6X1/4
V19	2	HSS8X6X1/4
V1A	2	C4X7.2
V2A	2	C4X7.2
V3A	2	C4X7.2
V17A	2	C4X7.2
V18A	2	C4X7.2
V19A	2	C4X7.2
D1	2	HSS6X4X1/4
D2	2	HSS6X4X1/4
D3	2	HSS6X4X1/4
D4	2	HSS6X4X1/4
D5	2	HSS6X4X1/4
D6	2	HSS6X4X1/4
D7	2	HSS6X4X1/4
D8	2	HSS6X4X1/4
D9	2	HSS6X4X1/4
D10	2	HSS6X4X1/4
D11	2	HSS6X4X1/4
D12	2	HSS6X4X1/4
D13	2	HSS6X4X1/4
D14	2	HSS6X4X1/4
D15	2	HSS6X4X1/4
D16	2	HSS6X4X1/4
D17	2	HSS6X4X1/4
D18	2	HSS6X4X1/4
FB1	19	W14X26
FB2	4	C12X20.7
FD1	16	HSS2X2X1/4
FD2	4	HSS2X2X1/4
CF1	2	C6X8.2
CF2	2	C6X8.2
R1	2	L1 1/4X1 1/4X1/8
R2	12	L1 1/4X1 1/4X1/8
R3	4	L1 1/4X1 1/4X1/8
RR1	2	UC5X3.08
TP1	2	UC5X3.08
RS1	40	FL 1/2 X 1
FLR. DECK 1	16	2" 20 GA. CFD GALV. G90
FLR. DECK 2	16	2" 20 GA. CFD GALV. G90
DECK FASTENERS	286	HILTI FASTENERS (X-ENP-19)
LAP FASTENERS	24	#14 X 1 TEK SCREWS
BOLT/NUT/W	72	Ø3/4"X1 3/4" A325 TYPE 3
BOLT/NUT/W	16	Ø3/4"X2 3/4" A325 TYPE 3
BOLT/NUT/W	256	Ø3/4"X3 1/4" A325 TYPE 3
GP1	4	PL 3/8 X 22
EC1	4	PL 3/8 X 8
EC2	4	PL 1/4 X 5 1/2
EC3	12	PL 1/4 X 1 3/8
P290	16	PL 3/4 X 6
TC HEX PLATE	8	PL 1/4 X 6
TC RETAINER PLATE	8	PL 1/4 X 6
P241 MOD	16	PL 3/4 X 5
BC HEX PLATE	8	PL 1/4 X 5
BC RETAINER PLATE	8	PL 1/4 X 5
PL1	16	PL 1/2 X 6
STB1	4	HSS8X8X1/4
BP1	4	PL 1/2 X 10
PT1	4	1/8" X 8 1/2" TEFLON PAD
SS1	4	PL 11 GA X 9 SS
SP1	4	PL 1/2 X 10

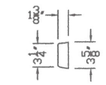


GP1 GUSSET PLATE DETAIL
PL 3/8" A588 OR A242-50

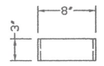
EC2 - END POST END CAP PLATE DETAIL
PL 3/8" A588 OR A242-50



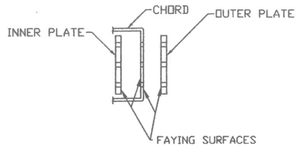
EC1 - TRUSS END CAP PLATE DETAIL
PL 3/8" A588 OR A242-50



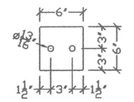
EC3- AUX VERTICAL END CAP PLATE DETAIL
PL 3/8" A588 OR A242-50



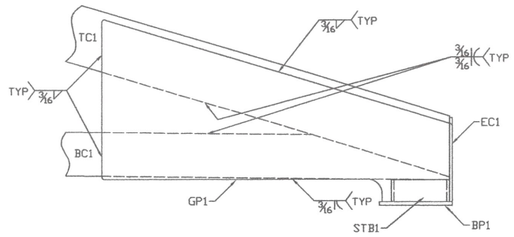
STB1 - TUBE SPACER
HSS8X8X1/4



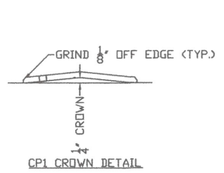
SHOP BLAST NOTE:
SPLICE PLATES TO BE REMOVED AND ALL FAYING SURFACES BLASTED



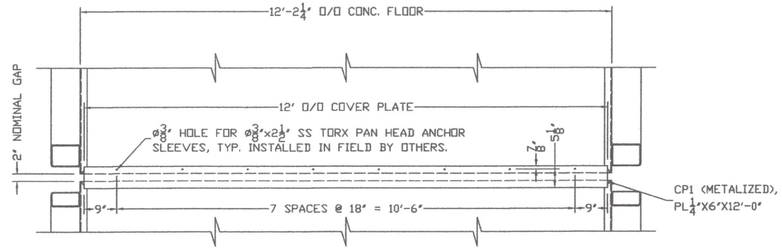
PL1
SPLICE PLATE
PL 1/2" A588 OR A242-50



END WELD DETAILS - GP1 TO CHORDS



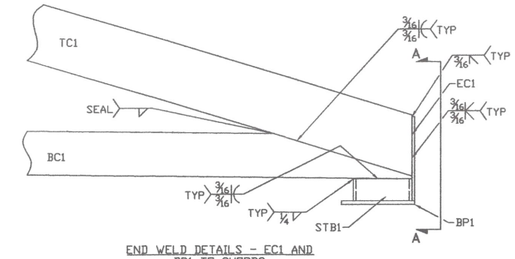
CP1 CROWN DETAIL



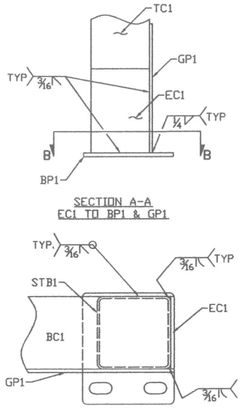
PLAN VIEW
PL 1/4" A588 OR A242-50
COVER PLATE TO BE COATED WITH A METALIZED ANTI-SLIP COATING.
*CP1 INSTALLED IN FIELD BY OTHERS. CONTRACTOR IS RESPONSIBLE FOR ENSURING PROPER FIT UP OF COVER PLATE WHEN INSTALLED.

(QUANTITIES FOR CP1 AND FASTENERS LISTED ON BRIDGE 1 & BRIDGE 3 MATERIAL SCHEDULE SEE SHEET 4)

NOTE: CP1 IS SUBJECT TO BEING FABRICATED IN EITHER A ONE OR TWO PIECE CONFIGURATION (ONE PIECE CONFIGURATION SHOWN. FASTENER LOCATIONS TO VARY IF TWO PIECE CONFIGURATION IS USED).

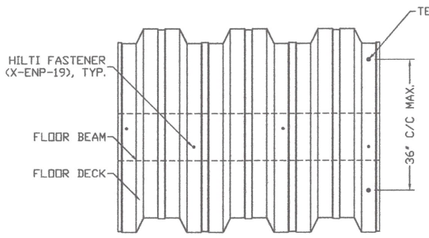


END WELD DETAILS - EC1 AND BP1 TO CHORDS
GP1 OMITTED FOR CLARITY

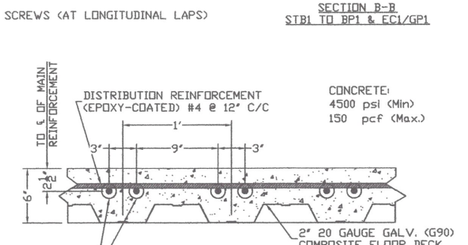


SECTION A-A
EC1 TO BP1 & GP1

SECTION B-B
STB1 TO BP1 & EC1/GP1

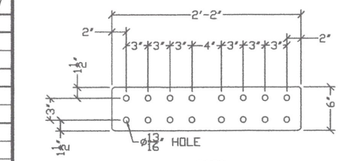


STANDARD INSTALLATION DETAIL
2" FLOOR DECK TO FLOOR BEAM
PLACE FASTENER IN EVERY CORRUGATION, ALTERNATING SIDES OF THE FLOOR BEAM FLANGE.

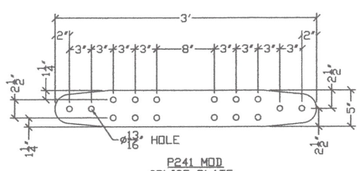


CONCRETE:
4500 psi (Min)
150 pcf (Max.)

CONCRETE DECK TYPICAL DETAIL

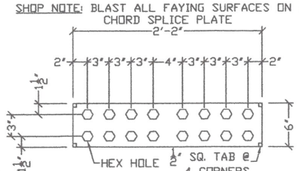


P290
SPLICE PLATE
PL 3/4" A588 OR A242-50



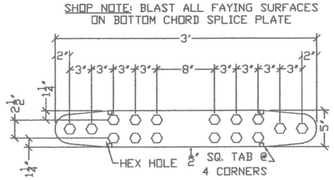
P241 MOD
SPLICE PLATE
PL 3/4" A588 OR A242-50

SHOP NOTE: BLAST ALL FAYING SURFACES ON TOP CHORD SPLICE PLATE

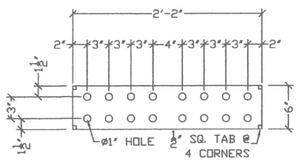


TC HEX HOLE PLATE
PL 1/4" A588 OR A242-50

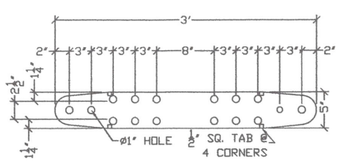
SHOP NOTE: BLAST ALL FAYING SURFACES ON BOTTOM CHORD SPLICE PLATE



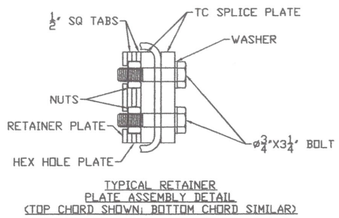
BC HEX HOLE PLATE
PL 1/4" A588 OR A242-50



TC RETAINER PLATE
PL 1/4" A588 OR A242-50



BC RETAINER PLATE
PL 1/4" A588 OR A242-50



TYPICAL RETAINER PLATE ASSEMBLY DETAIL
(TOP CHORD SHOWN; BOTTOM CHORD SIMILAR)

R.G. GRAHAM III P.E.
6920 PORTOBELLO RD NW
FORT PAYNE, AL 35967

ROBERT G. GRAHAM, III
REG. No. 26782
REGISTERED PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
STATE OF LOUISIANA
1/7/26

REV	DESCRIPTION	BY/DATE	CHECKED BY
B	UPDATED FOR SPLICE QTY	SAR 12/22/25	NH 12/23/25
A	FOR APPROVAL	SAR 10/15/25	NH 10/20/25

PIONEER BRIDGES

A PRODUCT OF BAILEY BRIDGES, INC.
119 40th Street NE
Fort Payne, AL 35967
1-866-708-5778

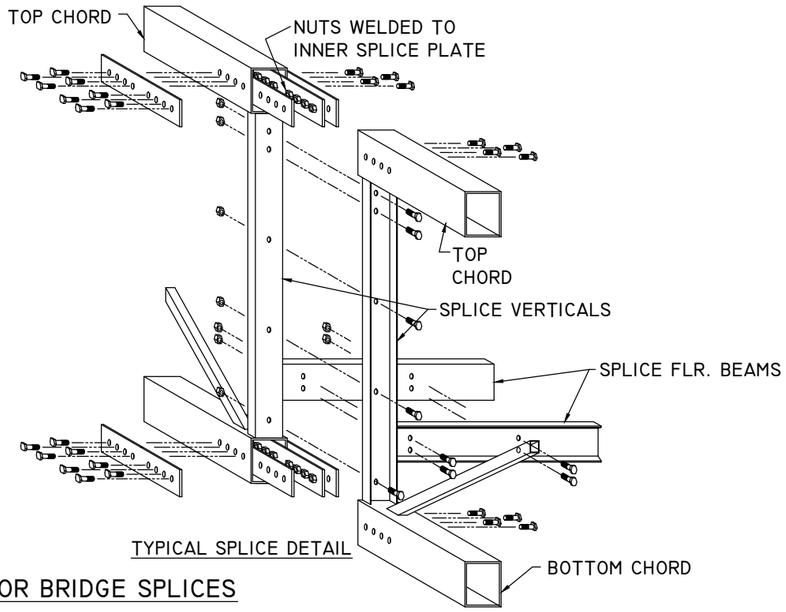
PROJECT: TAMMANY TRACE BRIDGE #25
OWNER: —
ADDRESS: ABITA SPRINGS, LA
CONTRACTOR: —
DESCRIPTION: 12'X140' CROSSBOW PEDESTRIAN - BRIDGE 2

DRAWN BY: SAR
APPROVED BY: RGG
CHECKED BY: NH

JOB NO.: 25233P
SHEET: 7 OF 7
REV.: B

PIONEER BRIDGE INSTALLATION GUIDELINES

NOTE: IT IS THE CONTRACTOR AND ERECTOR'S RESPONSIBILITY TO FOLLOW ALL SAFETY GUIDELINES FOR CRANE RIGGING AND OPERATION.



TYPICAL SPLICE DETAIL

GUIDELINES FOR BRIDGE SPLICES

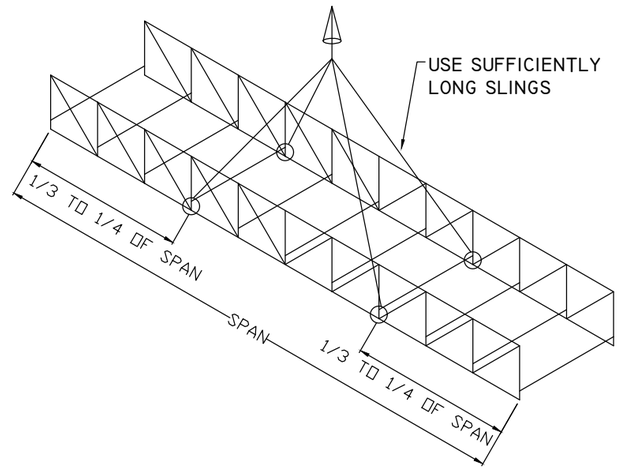
1. DO NOT REMOVE SPLICE PLATES IF THEY ARE ATTACHED TO THE BRIDGE AS EACH PLATE IS MATCHED TO ITS RESPECTIVE JOINT AND MAY NOT BE INTERCHANGEABLE. CLEAN ALL EXPOSED THREADS OF INSTALLED BOLTS (WIRE BRUSH) AND CLEAN OR BLOW OUT NUTS TO REMOVE ANY DEBRIS ACCUMULATED IN TRANSIT. IF ADDITIONAL CLEANING IS NEEDED, RUN A TAP THROUGH THE NUTS. (NOTE: A BOLT CAN BE USED AS A CLEANING TAP BY GRINDING OR CUTTING LONGITUDINAL SLOTS IN THE END OF THE BOLT).
2. LUBRICATE (AS NEEDED) BOLTS/NUTS AND THEN SLIGHTLY LOOSEN ALL BOLTS IN EACH CHORD JOINT SO THAT THE PLATES ARE FREE TO MOVE (BUT DO NOT REMOVE PLATES).
3. ONE BRIDGE SECTION SHOULD BE "FREE" TO MOVE UP/DOWN OR LEFT/RIGHT (AS IF SUSPENDED BY A CRANE) TO ALLOW THE SECTIONS TO COME TOGETHER EASILY.
4. CHORD SPLICES - AT A GIVEN SPLICE LOCATION, THE TOP CHORD SPLICE BOLTS SHOULD BE INSTALLED PRIOR TO INSTALLING THE BOTTOM CHORD SPLICE BOLTS. USE A HAND WRENCH ONLY TO INSTALL BOLTS FULLY INTO EACH NUT. DO NOT USE AN IMPACT WRENCH TO TIGHTEN A BOLT UNTIL THE BOLT IS FULLY THREADED INTO THE NUT (SEE TIGHTENING SEQUENCE IN NOTE 5). FAILURE TO FOLLOW THIS GUIDELINE WILL LIKELY RESULT IN CROSSED THREADS AND BROKEN BOLTS.
5. USE CAUTION TO AVOID DAMAGING THE THREADS OF NUTS WITH A SPUD WRENCH. AFTER ALL BOLTS HAVE BEEN LOOSELY INSTALLED, TIGHTEN BOLTS AT THE CENTER OF THE PLATE FIRST AND WORK OUTWARD.
6. BOLT TIGHTENING: WE RECOMMEND TURN OF THE NUT METHOD IN ACCORDANCE WITH THE "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS." THIS METHOD IS DESCRIBED BELOW.

TURN OF THE NUT METHOD
TIGHTENING MAY BE DONE BY IMPACT WRENCH OR HAND WRENCH. FIRST, ALL BOLTS ARE TIGHTENED TO A SNUG-TIGHT CONDITION. THIS IS ACHIEVED WHEN ALL CONTACT SURFACES OF THE JOINT ARE BROUGHT TOGETHER BY A FEW IMPACTS FROM AN IMPACT WRENCH OR THE FULL EFFORT OF A PERSON USING A SPUD WRENCH. A MATCH MARK IS PLACED ON THE BOLT HEAD (OR NUT) AND THE ADJACENT PLATE. ALL BOLTS ARE THEN TIGHTENED BY THE AMOUNT SPECIFIED IN THE TABLE BELOW.

NUMBER OF NUT OR BOLT TURNS FROM SNUG-TIGHT CONDITION FOR HIGH-STRENGTH BOLTS*	
BOLT LENGTH	BOTH FACES NORMAL TO BOLT AXIS
UP TO 4 DIAMETERS	1/3
OVER 4 DIAMETERS BUT NOT MORE THAN 8 DIAMETERS	1/2
OVER 8 DIAMETERS BUT NOT MORE THAN 12 DIAMETERS	2/3

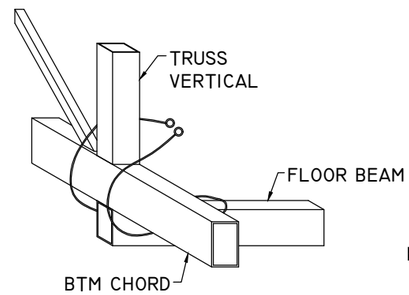
REQUIRED WRENCH SIZE FOR A325 BOLTS	
BOLT SIZE	WRENCH SIZE
Ø5/8	1 1/16
Ø3/4	1 1/4
Ø7/8	1 7/16
Ø1	1 5/8

* NUT ROTATION IS RELATIVE TO THE BOLT REGARDLESS OF WHETHER THE NUT OR BOLT IS TURNED. APPLICATION TOLERANCES ARE AS FOLLOWS:
⅓ TURN +/- 30 DEGREES
½ TURN +/- 30 DEGREES
⅔ TURN OR MORE +/- 45 DEGREES

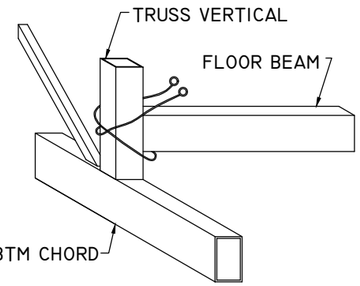


GUIDELINES FOR LIFTING A PIONEER BRIDGE

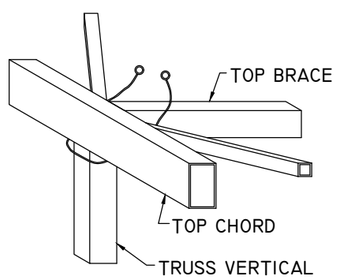
1. LIFT BRIDGE ONLY FROM BOTTOM CHORD, NOT FROM TOP CHORD.*
2. ALTERNATIVELY, A BRIDGE MAY BE LIFTED BY ITS TOP CHORD IF A SPREADER BEAM IS USED SO THAT THE TRUSSES ARE NOT PULLED INWARD BY THE SLINGS OR CHOKER.
3. CONNECT AT PANEL POINTS ONLY (THE INTERSECTION OF TRUSS MEMBERS) AS INDICATED BELOW. PADDING SHOULD BE USED TO PROTECT THE PAINT FROM SCRATCHES.
4. USE CARE NOT TO DAMAGE BRIDGE RAILINGS.
5. DO NOT LIFT BRIDGE FROM CENTER WITHOUT FIRST CONSULTING WITH PIONEER BRIDGES AS SOME MEMBERS CAN BE OVERSTRESSED.



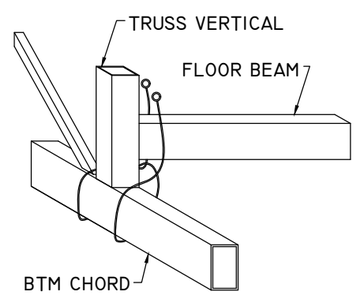
UNDERHUNG FLOORBEAM STYLE BRIDGES



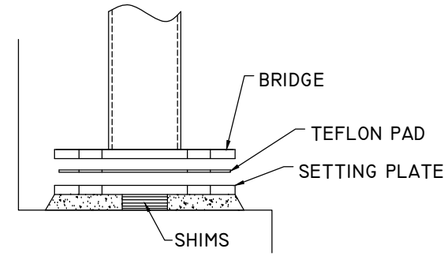
H-STYLE BRIDGES



TOP-BRACED BRIDGES
*THIS STYLE MAY BE LIFTED BY THE TOP CHORD.



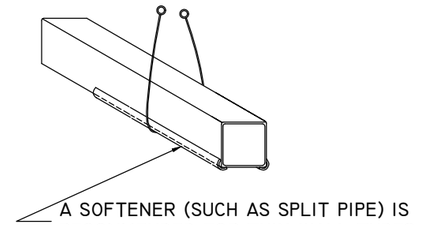
H-STYLE BRIDGES
ALTERNATIVELY, WRAP CHOKER UNDER BOTTOM CHORD



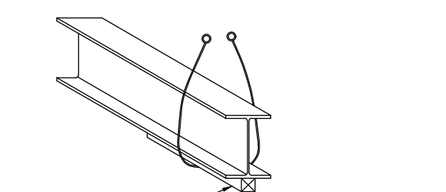
TYPICAL BEARING
(SEE SPECIFIC JOB DRAWINGS FOR ACTUAL BEARING DETAILS)

GUIDELINES FOR BEARINGS

1. SET THE SETTING PLATE ON APPROXIMATELY 1" OF SHIMS BEFORE SETTING THE BRIDGE.
2. SET TEFLON PAD ON SETTING PLATE.
3. SET BRIDGE ON TEFLON PAD.
4. ADJUST SHIMS TO MAKE FLOOR FLUSH WITH BACKWALL OR APPROACH SLAB.
5. GROUT SETTING PLATE AFTER BRIDGE IS SET. NEVER ATTEMPT TO GROUT SETTING PLATE BEFORE SETTING BRIDGE (DOING SO WILL VOID BRIDGE WARRANTY).



A SOFTENER (SUCH AS SPLIT PIPE) IS RECOMMENDED FOR THIN-WALL TUBES.



TIMBER SOFTENER MAY BE USED ON WIDE-FLANGE CHORDS. (DO NOT USE ON TUBE CHORDS!)

REV	DESCRIPTION	BY/DATE	CHECKED BY
A	TYP. INSTALLATION INSTR.	NH 10/2/24	AF 10/2/24

PIONEER BRIDGES

A DIVISION OF BAILEY BRIDGES, INC.
119 40th Street NE
Fort Payne, AL 35967
1-866-708-5778

PROJECT: REFERENCE DRAWING
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DRAWN BY: NH
APPROVED BY: AF
DESCRIPTION: PIONEER BRIDGE INSTALLATION INSTRUCTIONS

JOB NO.: REF.
SHEET: 1 OF 1
REV.: A

BAILEY BRIDGES, INC.
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PIONEER BRIDGES
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TRANSMITTAL

Date
1/8/2026

Job No.
25233P - St. Tammany Parish, LA

To
St. Tammany Parish Government

Attention
Christopher Corvers

From
Alex Flora, PE

We are transmitting via: Email

No. of Copies	Description
Elec	Approval Drawings - RevB
Elec	Calculations - RevB
Elec	Installation Sheet

These are transmitted for comment / approval. Please reply ASAP.

Remarks

Please return 1 approved set so that fabrication may begin.

Copy to:

Eng. File

PIONEER BRIDGES™

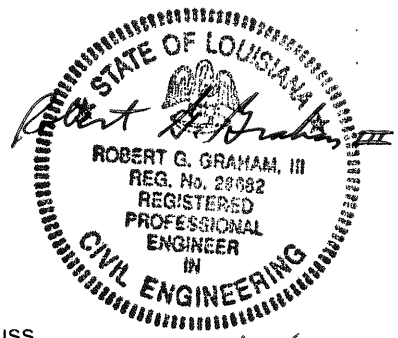
A Product of Bailey Bridges, Inc.

Robert G Graham, III P.E.
6920 Portobello Rd, Ft. Payne, AL. 35967

Project # : 25233P - 1 & 3
printed: 1/7/2026
Finish: Weathering
Design: AASHTO LRFD 8th Ed.
Ped Bridge Guide Spec. 2nd ed.

Location: St Tammany Parish, LA
Style: Crossbow
Splice: 1 Panel Point Splice

(PAGE 9 ADDED) B



1/7/26

Geometry & Data

Span:	79.29 ft (c/c brg.)	Panel Points: 12 at 6.61' - Bow Truss	
Width:	12.00 ft inside clr.	12.33 ft inside trusses, 14.25' ship width, BP OUT.	
Style:	Crossbow w/ 1 diag.	6.0 in NW Concrete floor	
Truss ht:	8.000 ' @ cl (c/c chord)	2.515 ' @1st vert panel (c/c chords)	ref only
Flr to TC:	5.583 ' @ cl	0.098 ' @1st vert (top of flr to top of TC)	ref only
Guardrails:	Horizontal 4.0" spacing	48 in. height Top Chord is not top rail (B)	
Handrail:	Stl Rub C5	3.08 ' ± Abut. Backwall Ht. FLR // BC	
Fencing:	None	0% Impact factor IM (Veh)	
Fy=	50 ksi All primary Steel	0.93 in. Thermal Expansion (total) for 150 deg.temp diff.	
Fu=	70 ksi (U.N.O.)	0.1% Camber+Δdl = 1.90 in.	

Loads

Load Cases:

DL	88.3	Dead Load psf used (act'l=88.3)
LLa	0	HS veh. load 1 lane LL
LLb	90	Unif. Live Load (psf)
LLc	0	Snow Load (psf) roof/adds to LL
LLd	20	Snow Load (psf) combines w/ LLg
	56	Wind Load (psf) on vert surface*
LLh	0.0	psf Stream flow (0 fps)
LLe	56	psf - max of wind or stream
LLf	20	Veh. Load (K) min. check
LLg	5	Veh. Load (K) combines w/ snow d
LLk	0	wind on live
LLm	2	K @ ctr. (Motorcycle / 4 wheeler)

*wind uplift of 20 psf deck area included

Load Combinations:
strength I
strength III
extreme I - EQ
extreme II - n/a - Blast, Ice, etc.
service I - Δ
service II - SC connections
service III - n/a prestress
service IV - n/a prestress
fatigue I

Reactions (@ each abutment)
unfactored w/out impact

DL	42.0	kips
LL uniform	42.8	kips
LL veh.	20.0	kips
Wind (hor. transverse)	12.6	kips
Thermal long.	8.4	kips
Uplift	none	K @ one brg. plate
Factored Uplift=	none	K @ one brg. plate

Note: The uniform and vehicular loads do not combine

0.75 " Anchor Bolt min.
0.6 g seismic capacity

Deflections

Vert DL=	0.95	in	L/Δ= 998	fn=3.62Hz > 2.18 min. OK
Vert LL=	0.97	in	L/Δ= 979	> 2.18 Hz min. OK
Hor (wind)=	0.06	in	L/Δ= 14901	seismic period =0.10 sec
				lateral fn =9.76 HZ

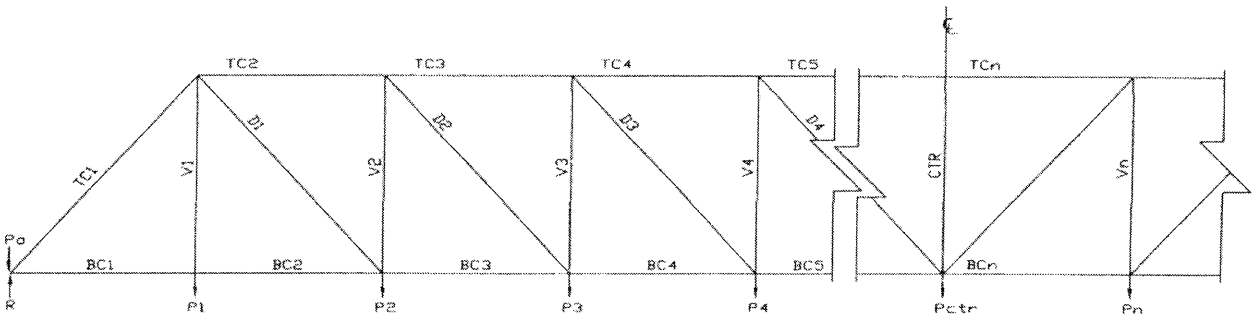
page 2
Note: The truss is analyzed as a pin connected assembly per 4.6.2.4

Truss Forces for the following load combination:
DL + LLb

25233P - 1 & 3

Truss Forces (kips) UNFACTORED

	DL	LL		DL	LL		DL	LL		DL	LL	Panel Pnt Loads (k)	
TC1	-54.1	-55.2	BC1	50.6	51.6	V1	3.5	3.6	D1	0.6	0.6	P0	3.5
TC2	-53.4	-54.5	BC2	50.6	51.6	V2	3.3	3.4	D2	0.5	0.5	P1	7.1
TC3	-52.9	-53.9	BC3	51.1	52.1	V3	3.2	3.3	D3	0.4	0.4	P2	7.1
TC4	-52.5	-53.5	BC4	51.5	52.5	V4	3.2	3.3	D4	0.3	0.3	P3	7.1
TC5	-52.2	-53.2	BC5	51.8	52.8	V5	3.3	3.4	D5	0.1	0.1	P4	7.1
TC6	-52.1	-53.1	BC6	52.0	53.0	CTR	3.4	3.4	D6	0.1	0.1	P5	7.1
TC7	-52.1	-53.1	BC7	52.0	53.0	V7	3.3	3.4	D7	0.3	0.3	P6	7.1
TC8	-52.2	-53.2	BC8	51.8	52.8	V8	3.2	3.3	D8	0.4	0.4	P7	7.1
TC9	-52.5	-53.5	BC9	51.5	52.5	V9	3.2	3.3	D9	0.5	0.5	P8	7.1
TC10	-52.9	-53.9	BC10	51.1	52.1	V10	3.3	3.4	D10	0.6	0.6	P9	7.1
TC11	-53.4	-54.5	BC11	50.6	51.6	V11	3.5	3.6	.	.	.	P10	7.1
TC12	-54.1	-55.2	BC12	50.6	51.6	V12	0.0	0.0	.	.	.	P11	7.1
.	.	.	.	.	.	.	.	.	.	.	.	P12	3.5
.	.	.	.	.	.	.	.	.	.	.	.	P13	0.0



TYP TRUSS W/SLOPED ENDS or BOW TRUSS

	-54.1	-55.2		52.0	53.0		0.0	0.0		0.6	0.6		

design info

			out of truss plane data					in plane data					
TC	Member	A (in^2)	S(in^3)	I (in^4)	r (in)	Z (in^3)	W.(in)	S (in^3)	I (in^4)	r (in)	Z	Ht.(in)	CW
	HSS8X6X1/4	6.17	14.2	56.6	3.03	16.9	8.0	12.1	36.4	2.43	13.9	6.0	0.25
		Φc=0.95	K= 1.02			kl/rs=	26.7	K= 0.875			kl/r=	28.6	2.33
	Unbraced L (PPT spacing)=	6.61	ft		kL/r<121 OK					Fy=50	Fu=70 ksi		t=

The top chord is braced by the U-Frame formed by the floor beam and truss verts. (Re: *Guide to Stability Design Criteria*, T.V. Galambos - chapt. 15) Using Holt's Equations for stability, determine the out of truss plane K factor, spring constant C req'd, & C furnished. (not applicable to top braced bridges)

Creq'd.= 2.63 Cfurn= 8.44 k/in C req'd < C furnished, OK!

TC1 OK

Max factored TC force Pu= 164.2 K Controlling LC: strength I: (DL*1.25)+(LL*1.75*1.00)

HSS: b/t≤1.4*(E/Fy)^.5= 33.72 act'l = 30.3 OK 9(6.9.4.2.1-1) Po=Fy*Ag= 309

non-slender Pe=[(π^2*E)/((KL/rs)^2)]*Ag= 2477

in plane w/ ecc. Moment controls 9(6.9.4.1.2-1)

Pe/Po= 7.0 Pe/Po>.44 9(6.9.4.1.1)

Pn=[.658^{Po/Pe}]*Po= 290.6 kips 9(6.9.4.1.1-1) OK

Pr=Φc*Pn= 277.5 kips 9(6.9.2.1-1) Mu= 8.769 k-ft

Mn=Mp-(Mp-FyS)*[(3.57*(b/t)*(Fy/E)^.5)-4]= 54.2 k-ft (6.12.2.2.2-3)

Mr=ΦfMn= 54.3 k-ft

in plane Pu/Pr= 0.59

therefore use Pu/Pr+(8/9)*Mu/Mr= 0.74 (6.9.2.2-2) 102.2 act

125 min

BC	Member	A (in^2)	S(in^3)	I (in^4)	r (in)	Z (in^3)	Ht.(in)	S (in^3)	I (in^4)	r (in)	Z	Ht.(in)	
T	HSS8X6X1/4	6.17	14.2	56.6	3.03	16.9	8.0	12.1	36.4	2.43	13.9	6.0	
		An= 6.17		Φu= 0.80		Φy= 0.95				Fy=50	Fu=70 ksi		2.33

Max factored BC force = 157.7 Pn=Fy*Ag= 308.5

Controlling LC: strength I Pr = ΦyPny = 293.8 OK 53.7% 9(6.8.2.1-1)

(DL*1.25)+(LL*1.75*1.00) Pr = ΦuPnu= 346.4 OK 45.5% 9(6.8.2.1-2)

(Also see splice page if applicable for further 6.8.2.1-2 checks)

Vert	Member	A (in^2)	S(in^3)	I (in^4)	r (in)	Z (in^3)	Ht.(in)	S (in^3)	I (in^4)	r (in)	Z	Ht.(in)	Cw
	HSS8X4X1/4	5.24	10.6	42.5	2.85	13.3	8.0	7.2	14.4	1.66	8.2	4.0	0.3
		Φf= 1.0	K= 2.0		out of plane &	0.875	in plane			Fy=50	Fu=70 ksi		2

The vertical truss member size is based on the combined maximum truss axial force and the maximum out of plane bending moment. The maximums occur at different locations so all vert. members are checked individually.

The out of plane bending is produced by the top chord from the following cases: (N/A if top braced)

Wind - 67% on windward truss, 85% stream flow, 300 plf if aashto HS, 50 plf min.rail load, and 1.00% of TC force.

HSS: b/t≤1.4*(E/Fy)^.5= 33.7 act. b/t= 29.3 OK 9(6.9.4.2.1-1) max kl/r= 67.4 OK

Max PPT Spacing: 6.6076 ft controlling LC: strength I CTR 67.4

Ht. Fb to TC: 6.2575 ft (@ cl) Axial Ld: 10.2 kips (factored)

Ht. Fb to BC: 1.7425 ft (@ cl) 12.3 K-ft factored (pony truss only)

length @ cl: 8 ft

Po=Fy*Ag= 262.0 k

Pe=[(π^2*E)/(KL/rs)^2]*Ag= 330.5 k

Pe/Po= 1.3 Pe/Po>.44 9(6.12.2.2.2e-1)

Pn=[.658^{Po/Pe}]*Po= 188.0 k 9(6.9.4.1.1-1) Mn=(Rf*Rb*Rpc*Myce)= 65.4 k-ft

Pr=Φc*Pn= 179.1 k Mr=Φf*Mn= 65.6 k-ft

Pu/Pr= 0.1 < 0.20

9(6.9.2.2-1) therefore use Pu/2Pr+Mu/Mr= 0.217 OK

conn OK

At splice, use 2C8X11.5, Ix=65 in^4, Sx=16.28 in^3, & fb=4.9 ksi, OK

page 4

Diags

Member	A (in^2)	S (in^3)	I (in^4)	r (in)	Z(in^3)	Ht.(in)	S (in^3)	I (in^4)	r (in)	Z	Ht.(in)	
HSS6X4X1/4	4.30	7.0	20.9	2.2	8.5	6.0	5.6	11.1	1.61	6.5	4.0	
				Φy=	0.95	An=	4.3					1.67

Max. factored truss load: 1.7 kips

Min. check for conc. Ld.. 13.8 kips use 13.8 kips< Pr=Φy*Fy*Ag = 204.8 k OK! 6.7%

Max (single diag) strength I 13.8 kips Pr=Φu*Fu*An = 241.4 k OK! 5.7%

end weld size 3/16"

HSS connection: OK

This area not applicable - no mid diags

0.0 max n/a A= 4.3

FB

Member	A (in^2)	S (in^3)	I (in^4)	r (in)	Z (in^3)	Ht.(in)	S (in^3)	I (in^4)	r (in)	Z	Ht.(in)	tw
W12X19	5.57	21.3	130.0	4.82	24.7	12.2	1.9	3.8	0.822	3.0	4.0	0.24
	Φf=	1.0	- - - - data for U-Frame plane - - -						Fy=50	Fu=70 ksi		3.37

The floor beam size is determined by the moments from a combination of direct load application and end moments from the truss verticals. Additionally, the floor beam size may be increased to provide additional stiffness (stability) to the Top Chord.

tf= 0.35

Lb= 12.0 in bf= 4.01

		Dir. Mom.	End Mom.	*Factored	Load comb.	Tot. Mom. (factored)
span:	13.00 ft				DL + LLb :	43.9 .
Dead Ld:	69.0 psf	9.6	3.3	x1.25= 16.1	DL + LLf :	67.8 <<controls
Unif. LLb:	90.0 psf	12.6	3.3	27.8	DL + HS :	16.1 .
Max Veh:	16.0 K Veh. (LLf, HS, LLm)	28.0	1.6	51.7	DL + LLd + LLg :	38.3 .
snow LLg:	20 psf	2.8	0.7	6.2	DL + LLm :	25.2 .
veh. LLd:	5 K	8.8	0.4	16.0		

* Veh. load factored, lane load not factored, if applicable

Maximum Design Mu= 67.8 k-ft

λf=bfc/2tfc= 5.73 9(6.10.8.2.2-3)

λpf=.38*(E/Fyc)^.5= 9.15 9(6.10.8.2.2-4)

use Fy= 50.0 ksi Rb=Rh=1

Mn=Mp=FyZ= 102.9 k-ft 9(6.10.8.2.2-1)

λf≤λpf

Non-Slender

Mr=Φf*Mn= 102.9 k-ft 65.9% OK

At splice, use 2C10X15.3, Ix=134.6 in^4, Sx=27 in^3, & fb=22.0 ksi, OK conn OK

Stringers

N/A	A (in^2)	S (in^3)	I (in^4)	r (in)	Z (in^3)	Ht.(in)	S (in^3)	I (in^4)	r (in)	Z	Ht.(in)	tw
	2.13	2.3	4.6	1.47	2.8	4.0	0.3	0.4	0.447	0.7	1.7	0.32
This area not applicable! There are no stringers.				Φf=	1.00				Fy=50	Fu=70 ksi		1.24

0.02

0.07

23.13

23.15

6.61 ft 1.00 Impact factor

0.1 ft 35.0 psf Dead Load

14 k 0.8 Continuity Factor

page 5

Flr Diag

Member	A (in^2)	Sx(in^3)	Ix(in^4)	rx (in)	Zx(in^3	Ht.(in)	Sy (in^3	Iy(in^4)	ry(in)	Zy	w.(in)	t
HSS2X2X1/4	1.51	0.7	0.7	0.704	1.0	2.0	0.7	0.7	0.704	1.0	2.0	0.23

Lu= 107.1 " k= 0.8 kl/r= 121.7 KL/r<141 OK Φc= 0.95

One FD per two bays, designed as compression member, Not Welded to stringers Φcc= 0.90

Max Axial Comp Force req'd= 0.0 kips (factored) OK na

Po=Fy*Ag= 75.5 Vc=.0632√f'c= 0.134 x 1.0 = 134.1 psi 8(5.7.3.3-3)bd Fy=50 Fu=70 ksi

Pe=[(π^2*E)/((KL/rs)^2)]*Ag= 29.2

Pe/Po= 0.39 Z

9(6.9.4.1.1-1) Pn=[.658^{Po/Pe}]*Po 25.6 factored hor reaction=12.6 K * 1.4 = 17.6 K

Pr = ΦcPn = 24.3 Tot. hor. shr cap. of bridge =69.5+(24.3*0.52)= 82.1 kips

Conc. slab shear capacity is 134.1 psi * Φcc* 144in * 4.0in = 69.5 kips

One full Brace needed in first bay . OK

End Portal (H bridges only) in plane data 3.08 ' backwall Ht.

	Member	A (in^2)	S (in^3)	I (in^4)	r (in)	Z (in^3)	Ht.(in)	bf (in)	Mcap	
Flr Bm	W12X19	5.57	21.3	130	4.82	24.7	12.2	4.01	88.8	2.08 cl to FB brg
End Post	HSS8X4X1/4	5.24	10.6	42.5	2.85	13.3	4	8	44.2	
								min	44.2	

Hor reaction capacity without reinf. (portal only) = 42.6 kips end post controls

(factored)

Hor Reaction WL x 1.4 = 17.6 kips OK

Check 1% of TC axial force at end post:

1.64 kips, factored x end ht 0.44 ft = 0.72 K-ft

End post, FB Mn = 44.2 K-ft OK

Check moment due to end reaction x backwall ht.

M = 2.1 ' x 17.6/2 k = 18.3 k-ft < 44.2 K-ft OK

Summary of bridge dead loads:

Truss members	11425	lbs.
Floor members	3463	lbs.
Splice members	745	lbs.
Rails	2460	lbs.
Top Bracing	0	lbs.
misc	966	lbs. (includes coating where applicable)
Floor (excl. conc.)	1874	lbs.
	22708	lbs.

22,708lb./(79.3'x12.0)' = 23.9 psf

concrete or asphalt = 64.47 psf

88.3 psf

Truss Diagonal connection calculations - OVERLAP K

Pioneer Bridges Job # 25233P - 1 8
12 ft x 79 bridge

Member Data

Diagonal i	Fyi	Fui
HSS6X4X1/4	50	70
4 height Hbi		
6 width Bbi		
0.23 thickness tbi		
4.30 Area		

Vert j	Fyj	Fuj
HSS8X4X1/4	50	70
4 height Hbj		
8 width Bbj		
0.23 thickness tbj		
5.24 Area		

Bott Chord	Fy	Fu
HSS8X6X1/4	50	70
6 height H		
8 width B		
0.23 thickness t		
6.17 Area		

Top Chord & End Post	Fy	Fu
HSS8X6X1/4	50	70
6 height H		
8 width B		
0.23 thickness t		
6.17 Area		

Design Force 13.8 K (LRFD)
9.2 Kips (ASD)

70 ksi Filler Metal (min)

AASHTO LRFD Rr=.6*Φe2Fexx= 33.6 ksi Φe2=0.8 8(6.13.3.2.4-1)

AASHTO

	n/a	3/16"	fillet	14.0 in @	2.51	K/in =	35.2 kips	n/a
AA LRFD Weld Req'd:	3/16"	"		14.0 "	4.45	"	62.5	OK

The calculations below are for overlapped "K" connections only. (Chapt. K5 - Ω=1.58, Ø=.95)

50 % overlap Ov factor (Ovf) = OV%/50 ≤ 1 = 1.0 only u

Check Top Chord Conn. Capacity @ End Post

beoi = (10 / (B/t)) * ((Fy*t)/(Fybi*tbi) * Bbi) ≤ Bbi = 1.7 (K3-13)

beov = (10 / (Bbj/tbj)) * ((Fybj*tbj)/(Fybi*tbi) * Bbi) ≤ Bbi = 1.7 (K3-14)

Pni = Fybi * tbi * ((Ovf*(2*Hbi-4*tbi)) + beoi + beov) = 123.1 kips na (K3-10&11)

1.58/.95=1.663 LRFD --> ASD = 74.0 kips na

Le= 14.04 in. 3/16" weld req'd n/a (K5-11)

Check Top Chord Conn.

beoi = 1.7

beov = 1.7

Pni = Fybi * tbi * ((Ovf*(2*Hbi-4*tbi)) + beoi + beov) = 123.1 kips OK (K3-10&11)

/1.66 LRFD --> ASD = 74.0 kips OK

Le= 14.04 in. 3/16" weld req'd

Check Bottom Chord Conn.

beoi = 1.7

beov = 1.7

Pni = Fybi * tbi * ((Ovf*(2*Hbi-4*tbi)) + beoi + beov) = 123.1 kips OK (K3-10&11)

Le= 19.02 in. 3/16" weld req'd LRFD --> ASD = 74.0 kips OK

weld Length: Θi °= 20.8 ° Θj = 90 °

Le=2*[(1-Ov/100)*(Hbi/Sin(Θi) + Ov/100*(Hbi/Sin(Θi+Θj))] + beoi + beov = (K5-11)

NOTE: these formulas are found in the AISC design manual, HSS connections, table K2.2., 14th Ed

AASHTO Floor Beam connection design
LRFD Wide Flange - To HSS Connections

Member Data

25233P - 1 & 3
12 ft x 79 bridge

End Floor Beam		End Post	
W12X19	Fy= 50 Fu= 70	HSS8X4X1/4	Fy= 50
12.20 in. height		8 in. height	
4.01 in. width Bp		4 in. width	
0.35 thickness of flange tf		0.23 in. thickness	
5.57 in^2 Area		5.24 in^2 Area	
0.235 in. thickness of Web		10.60 in^3 Sx	
0.85 N=(t+2*weld leg) (brg length of load "lb")			

0.25 " Weld size used (leg size)

WELDS

ASD

	M			Flange Force (M/h)
Design Moment (pos)	13.06	K-ft	from vert truss member	12.8 K
Design Moment (neg)	13.06	K-ft	from FEM of Veh load	12.8 K
	13.06			12.8 max

check weld: 3.22 k/in req'd

n/a 1/4" fillet 3.99 in @ 3.34 K/in = 13.3 kips n/a

LRFD

	M (factored)			Flange Force (M/h)
Design Moment (pos)	18.28	K-ft	from vert truss member	18.0 K
Design Moment (neg)	18.28	K-ft	from FEM of Veh load	18.0 K
				18.0 max

check weld: 4.51 k/in req'd

Weld Size Req'd 1/4" fillet 3.99 in @ 5.94 K/in = 23.7 kips OK

Check connection strength - given by the lesser of AISC equations K7 through K10 (applicable only to HSS verts)
Design Strength=ϕRn (LRFD) or Allowable strength = Rn/Ω (ASD) Φy=0.95 and Ω=1.58 u.n.

	Rn (K)	ϕRn (K)	Rn/Ω (K)	(AISC 14th ED) Table K1.2
Local Yld Strength of Flange Force Rn=(10*Fy*tp/(B/t))Bp ≤ Fyp*tp*Bp =	40.8	38.7	25.8	(K1-7)
Shear Yielding (punching) Rn=.6*Fy*t*(2*tp + 2*Bep) =	37.5	35.6	23.7	(K1-8)
local yield sidewall Rn= 2*Fy*t*(5*k+N) ; [k=1.5t ; ϕ=1.0 ; Ω=1.5]	60.5	60.5	40.3	(K1-9)
local cripple sidewall Rn=1.6*t^2*[1+3N/(H-3t)]*(Efy)^.5*Qf;[ϕ=.75;Ω=2.0]	141.1	105.8	70.6	(K1-10)
Controlling strength		35.6	n/a	
Flange force Req'd		18.0	n/a	
		OK	n/a	
flange @ weld		OK	n/a	

Bp=4.00 Bep=10*Bp/(B/t) ≤ Bp = 2.3

vert stress factor Qf=1.0 (tens) or =(1.3-(.4U/β)) ≤ 1 USE Qf= 1.00 Comp (K1-18)

where U=Pr/(AgFc) + Mr/(SxFc) in truss vert (K1-16)

Pr= 7.1 k U= 0.027 + 0.151 = 0.178 (K1-6)

Mr= 6.7 k' β=Bp/B= 1.00 Qf= 1.00 T or= 1.00 C

effective weld length:

Le=2*[(10/(B/t))*(Fy*t)/(Fyp*tp))]*Bp ≤ 2*Bp Le= 3.10 in. (K4-4)

plus weld across width of plate end tf 0.89 in

Le total= 3.99 in

Note - above Pr & Mr are worst cases for all truss verts and may not occur at the same vert simultaneously
Note - for concrete floors, upper flange reinforced by conc. form C, -> bottom flange is critical

AASHTO Floor Beam connection design
LRFD Wide Flange - To HSS Connections

Member Data

25233P - 1 & 3
12 ft x 79 bridge

Floor Beam		Vert	
W12X19	Fy= 50 Fu= 70	HSS8X4X1/4	Fy= 50
12.20 in. height		8 in. height	
4.01 in. width Bp		4 in. width	
0.35 thickness of flange tf		0.23 in. thickness	
5.57 in^2 Area		5.24 in^2 Area	
0.235 in. thickness of Web		10.60 in^3 Sx	
0.85 N=(t+2*weld leg) (brg length of load "lb")			

0.25 " Weld size used (leg size)

WELDS

ASD

	M			Flange Force (M/h)	
Design Moment (pos)	13.52	K-ft	from vert truss member	13.3	K
Design Moment (neg)	13.52	K-ft	from FEM of Veh load	13.3	K
	13.52			13.3	max

check weld: 3.33 k/in req'd

n/a 1/4" fillet 3.99 in @ 3.34 K/in = 13.3 kips n/a

LRFD

	M (factored)			Flange Force (M/h)	
Design Moment (pos)	23.66	K-ft	from vert truss member	23.3	K
Design Moment (neg)	23.66	K-ft	from FEM of Veh load	23.3	K
				23.3	max

check weld: 5.83 k/in req'd

Weld Size Req'd 1/4" fillet 3.99 in @ 5.94 K/in = 23.7 kips OK ✓

Check connection strength - given by the lesser of AISC equations K7 through K10 (applicable only to HSS verts)
Design Strength=ϕRn (LRFD) or Allowable strength = Rn/Ω (ASD) Φy=0.95 and Ω=1.58 u.n.

	Rn (K)	ϕRn (K)	Rn/Ω (K)	(AISC 14th ED) Table K1.2
Local Yld Strength of Flange Force Rn=(10*Fy*tp/(B/t))Bp ≤ Fyp*tp*Bp =	40.8	38.7	25.8	(K1-7)
Shear Yielding (punching) Rn=.6*Fy*t*(2*tp + 2*Bep) =	37.5	35.6	23.7	(K1-8)
local yield sidewall Rn= 2*Fy*t*(5*k+N) ; [k=1.5t ; ϕ=1.0 ; Ω=1.5]	60.5	60.5	40.3	(K1-9)
local cripple sidewall Rn=1.6*t^2*[1+3N/(H-3t)]*(Efy)^.5*Qf;[ϕ=.75;Ω=2.0]	141.1	105.8	70.6	(K1-10)
Controlling strength		35.6	n/a	
Flange force Req'd		23.3	n/a	
		OK ✓	n/a	
flange @ weld		OK	n/a	

Bp=4.00 Bep=10*Bp/(B/t) ≤ Bp = 2.3

vert stress factor Qf=1.0 (tens) or =(1.3-(.4U/β)) ≤ 1 USE Qf= 1.00 Comp (K1-18)

where U=Pr/(AgFc) + Mr/(SxFc) in truss vert (K1-16)

Pr= 7.1 k U= 0.027 + 0.151 = 0.178 (K1-6)

Mr= 6.7 k' β=Bp/B= 1.00 Qf= 1.00 T or= 1.00 C

effective weld length:

Le=2*[(10/(B/t))*(Fy*t)/(Fyp*tp))]*Bp ≤ 2*Bp Le= 3.10 in. (K4-4)

plus weld across width of plate end tf 0.89 in

Le total= 3.99 in

Note - above Pr & Mr are worst cases for all truss verts and may not occur at the same vert simultaneously
Note - for concrete floors, upper flange reinforced by conc. form C, -> bottom flange is critical

REV B (THIS PAGE ADDED)

SPLICE Calculations - AASHTO LRFD Pioneer Bridges Job # 25233P - 1 & 3
12' x 79' bridge

These calculations are for a tension splice in a member. The member for this calculation is a
HSS8X6X1/4 Φs= 0.8 Φy= 0.95 Detailer Info
These calculations are per AASHTO LRFD Use Standard Splice Plate # 235 MOD bott
234 top

Maximum Factored Truss Load 157.7 kips
Nom. Member Capacity Pn= 308.5 kips
Avg act'l & nom.= 233.1 kips
Design Load for Splice 233.1 kips 75 percent capacity 231.4 kips
9(6.13.1) 233.1 max

Bolt Size 0.75 in. Diameter
Shear: 9(6.13.2.7) thds assumed included Rn=.45*Ab*Fub*Ns

0 # of bolts in Single Shear	0	@	23.9	K / bolt =	0.0 kips
16 # of bolts in Double Shear	16	@	47.7	K / bolt =	763.4 kips
0 # of bolts in Tension - Tn=.76AbFub	0	@	40.3	K / bolt =	0.0 kips
				Total capacity Rn=	763.4 kips

2.25 in. Minimum Hole Spacing Rr=ΦsRn= 610.7 kips
3.00 in. Actual Hole Spacing 262 % OK!

Chord Member Ag= 6.17 in^2 Φu= 0.80 Chord Fy 50
0.233 wall thickness " Fu 70
2 # of rows of bolts Check net area: An = 6.2 - (0.81 * 0.23 * 2 * 2) = 5.41 in^2
*U= 1.000 Pr=Φy*Fy*Ag= 293.1 KIPS 9(6.8.2.1-1)
for modified plate with (2) 1 row end bolts, Check An= 5.79 in^2 Pr= 324.3 KIPS OK!
connection req'd. after 1st holes = 12/16 x 233.1 = 174.8 kips and Pr= 293.1 kips
Non connected Side (H) 8 Connected Side size (B) 6 168 % OK!

Bolt Bearing 9(6.13.2.9) Φbb= 0.80
16 Bolts Rn=2.4*d*t*Fu= 29.4 kips/bolt 9(6.13.2.9-1)
0.233 mtl thickness Rr=Φbb*Rn*N= 376 Kips
161 % OK!

9(6.8.2.1) Fy= 50 ksi Fu= 70 ksi U= 1.0

Outside Splice Plates: Ag= 5.00 in^2
0.50 thickness An max = .85Ag = 4.25 in^2
5.00 width An = 5.0-(0.81*0.50*2*2) = 3.38 in^2
2.00 rows of holes min. An= 3.375
2 # of plates Pr=Φu*Fu*An*Rp*U= 189 kips
9(6.8.2.1-2) controls

Inside Splice Plates: Ag= 5.00 in^2
0.50 thickness An max = .85Ag = 4.25 in^2
5.00 width An = 5.0-(0.81*0.50*2*2) = 3.38 in^2
2.00 rows of holes min. An= 3.375
2 # of plates Pr=Φu*Fu*An*Rp*U= 189 kips
9(6.8.2.1-2) controls

Total Capacity Pr= 378.0 kips 162 % OK!

Slip Critical Capacity (If applicable) 9(6.13.2.8) Kh=1.0 Pt= 28
Use Service II LC 9(6.13.2.2) Ru= 120.9 K Pt*Ks= 8.40 kips/bolt/plane
AASHTO Class A Surface Contact Area Ks= 0.30
8 Bolts Nb Rr=Rn=Kh*Ks*Ns*Pt= 268.8 kips
4 Slip Planes Ns
222 % OK!

Block Shear - chord member 9(6.13.4) Φbs= 0.80 Lv = 39.75 in. net 52.0 in. gross
Avn= 9.26 Avg= 12.12 Lt = 3.25 in. net 5.0 in. gross
Atn= 0.76 Atg= 1.17
Rr=Φbs*Rp*(.58Fy*Avg+Ubs*Fu*Atn) = 323.5 Kips 9(6.13.4-1a) 139% OK!

*shear lag U based on whitmore section

10
REV B

PIONEER BRIDGES™

A Product of Bailey Bridges, Inc.

Robert G Graham, III P.E.
6920 Portobello Rd, Ft. Payne, AL. 35967

Project # : 25233P - 2
printed: 1/7/2026
Finish: Weathering
Design: AASHTO LRFD 8th Ed.
Ped Bridge Guide Spec. 2nd ed.

Location: St Tammany Parish, LA
Style: Crossbow
Splice: 2 Panel Point Splices

Geometry & Data

Span:	139.25 ft (c/c brg.) (P,10-END)	Panel Points: 20 at 6.96' - Bow Truss	
Width:	12.00 ft inside clr.	12.33 ft inside trusses, 14.25' ship width, BP OUT.	
Style:	Crossbow w/ 1 diag.	6.0 in NW Concrete floor	
Truss ht:	10.333 ' @ cl (c/c chord)	1.999 ' @1st vert panel (c/c chords)	ref only
Flr to TC:	7.910 ' @ cl	-0.094 ' @1st vert (top of flr to top of TC)	ref only
Guardrails:	Horizontal 4.0" spacing	48 in. height Top Chord is not top rail (N)	
Handrail:	Stl Rub C5	2.84 ' Abutment Backwall Ht. (Floor elev varies)	
Fencing:	None	0% Impact factor IM (Veh)	0.33 ft.
Fy=	50 ksi All primary Steel	1.63 in. Thermal Expansion (total) for 150 deg.temp diff.	
Fu=	70 ksi (U.N.O.)	0.1% Camber+Δdl = 5.37 in.	

Loads

Load Cases:

DL	95.3	Dead Load psf used (act'l=95.3)
LLa	0	HS veh. load 1 lane LL
LLb	90	Unif. Live Load (psf)
LLc	0	Snow Load (psf) roof/adds to LL
LLd	20	Snow Load (psf) combines w/ LLg
	48	Wind Load (psf) on vert surface*
LLh	0.0	psf Stream flow (0 fps)
LLe	48	psf - max of wind or stream
LLf	20	Veh. Load (K) min. check
LLg	5	Veh. Load (K) combines w/ snow d
LLk	0	wind on live
LLm	2	K @ ctr. (Motorcycle / 4 wheeler)

*wind uplift of 20 psf deck area included

Load Combinations:
strength I
strength III
extreme I - EQ
extreme II - n/a - Blast, Ice, etc.
service I - Δ
service II - SC connections
service III - n/a prestress
service IV - n/a prestress
fatigue I

Reactions (@ each abutment)
unfactored w/out impact

DL	79.6	kips
LL uniform	75.2	kips
LL veh.	20.0	kips
Wind (hor. transverse)	24.3	kips
Thermal long.	15.9	kips
Uplift	none	K @ one brg. plate
Factored Uplift=	none	K @ one brg. plate

Note: The uniform and vehicular loads do not combine

1.00 " Anchor Bolt min.
0.5 g seismic capacity

Deflections

Vert DL=	3.70 in	L/Δ= 452	fn=1.84Hz > 0.35 min. OK
Vert LL=	3.49 in	L/Δ= 478	> 0.35 Hz min. OK
Hor (wind)=	0.58 in	L/Δ= 2872	seismic period =0.31 sec
			lateral fn =3.27 HZ

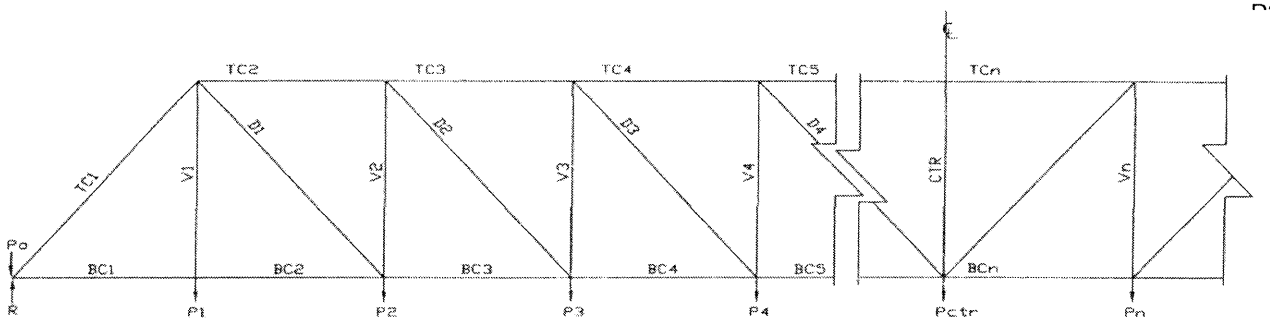
page 2
Note: The truss is analyzed as a pin connected assembly per 4.6.2.4

Truss Forces for the following load combination:
DL + LLb

25233P - 2

Truss Forces (kips) UNFACTORED

	DL	LL		DL	LL		DL	LL		DL	LL	Panel Pnt Loads (k)	
TC1	-137.1	-129.4	BC1	131.7	124.4	V1	4.0	3.8	D1	0.5	0.5	P0	3.9
TC2	-136.5	-128.9	BC2	131.7	124.4	V2	3.8	3.6	D2	0.5	0.5	P1	7.7
TC3	-136.0	-128.4	BC3	132.3	124.9	V3	3.7	3.5	D3	0.5	0.5	P2	7.7
TC4	-135.5	-128.0	BC4	132.7	125.3	V4	3.7	3.5	D4	0.4	0.4	P3	7.7
TC5	-135.1	-127.6	BC5	133.1	125.7	V5	3.7	3.5	D5	0.4	0.4	P4	7.7
TC6	-134.8	-127.3	BC6	133.4	126.0	V6	3.7	3.5	D6	0.3	0.3	P5	7.7
TC7	-134.6	-127.1	BC7	133.7	126.2	V7	3.7	3.5	D7	0.2	0.2	P6	7.7
TC8	-134.4	-126.9	BC8	133.9	126.4	V8	3.8	3.6	D8	0.2	0.1	P7	7.7
TC9	-134.2	-126.8	BC9	134.0	126.6	V9	3.9	3.6	D9	0.1	0.0	P8	7.7
TC10	-134.1	-126.7	BC10	134.1	126.6	CTR	3.9	3.7	D10	0.1	0.0	P9	7.7
TC11	-134.1	-126.7	BC11	134.1	126.6	V11	3.9	3.6	D11	0.2	0.1	P10	7.7
TC12	-134.2	-126.8	BC12	134.0	126.6	V12	3.8	3.6	D12	0.2	0.2	P11	7.7
TC13	-134.4	-126.9	BC13	133.9	126.4	V13	3.7	3.5	D13	0.3	0.3	P12	7.7
TC14	-134.6	-127.1	BC14	133.7	126.2	V14	3.7	3.5	D14	0.4	0.4	P13	7.7
TC15	-134.8	-127.3	BC15	133.4	126.0	V15	3.7	3.5	D15	0.4	0.4	P14	7.7
TC16	-135.1	-127.6	BC16	133.1	125.7	V16	3.7	3.5	D16	0.5	0.5	P15	7.7
TC17	-135.5	-128.0	BC17	132.7	125.3	V17	3.7	3.5	D17	0.5	0.5	P16	7.7
TC18	-136.0	-128.4	BC18	132.3	124.9	V18	3.8	3.6	D18	0.5	0.5	P17	7.7
TC19	-136.5	-128.9	BC19	131.7	124.4	V19	4.0	3.8	.	.	.	P18	7.7
TC20	-137.1	-129.4	BC20	131.7	124.4	V20	0.0	0.0	.	.	.	P19	7.7
												P20	3.9
												P21	0.0



TYP TRUSS W/SLOPED ENDS or BOW TRUSS

-137.1 -129.4 134.1 126.6 0.0 0.0 0.5 0.5

design info

			out of truss plane data					in plane data					
TC	Member	A (in^2)	S(in^3)	I (in^4)	r (in)	Z (in^3)	W.(in)	S (in^3)	I (in^4)	r (in)	Z	Ht.(in)	CW
.	HSS8X8X3/8	10.40	24.9	100.0	3.1	29.4	8.0	24.9	100.0	3.1	29.4	8.0	0
.		Φc=0.95	K=	1.82		kl/rs=	49.0	K=	0.875		kl/r=	23.6	2.67
	Unbraced L (PPT spacing)=	6.96	ft		kL/r<121 OK					Fy=50	Fu=70 ksi		t=

The top chord is braced by the U-Frame formed by the floor beam and truss verts. (Re: *Guide to Stability Design Criteria*, T.V. Galambos - chapt. 15) Using Holt's Equations for stability, determine the out of truss plane K factor, spring constant C req'd, & C furnished. (not applicable to top braced bridges)

Creq'd.= 2.68 Cfurn= 4.65 k/in C req'd < C furnished, OK!

TC1 OK

Max factored TC force Pu= 397.9 K Controlling LC: strength I: (DL*1.25)+(LL*1.75*1.00)

HSS: b/t≤1.4*(E/Fy)^.5= 33.72 act'l = 18.9 OK 9(6.9.4.2.1-1) Po=Fy*Ag= 520

non-slender Pe=[(π^2*E)/((KL/rs)^2)]*Ag= 1240

out of plane section controls 9(6.9.4.1.2-1)

Pe/Po= 2.4 Pe/Po>.44 9(6.9.4.1.1)

Pn=[.658^{Po/Pe}]*Po= 436.3 kips OK

Pr=Φc*Pn= 415.5 kips 9(6.9.2.1-1)

239.7 act

140 min

BC	Member	A (in^2)	S(in^3)	I (in^4)	r (in)	Z (in^3)	Ht.(in)	S (in^3)	I (in^4)	r (in)	Z	Ht.(in)	
T	HSS8X6X3/8	8.97	19.8	79.1	2.97	24.1	8.0	16.9	50.6	2.38	19.8	6.0	
.		An=	8.97	Φu=	0.80	Φy=	0.95			Fy=50	Fu=70 ksi		2.33

Max factored BC force = 389.2 Pn=Fy*Ag= 448.5

Controlling LC: strength I Pr = ΦyPny = 427.1 OK 91.1% 9(6.8.2.1-1)

(DL*1.25)+(LL*1.75*1.00) Pr = ΦuPnu= 503.6 OK 77.3% 9(6.8.2.1-2)

(Also see splice page if applicable for further 6.8.2.1-2 checks)

Vert	Member	A (in^2)	S(in^3)	I (in^4)	r (in)	Z (in^3)	Ht.(in)	S (in^3)	I (in^4)	r (in)	Z	Ht.(in)	Cw
.	HSS8X6X1/4	6.17	14.2	56.6	3.03	16.9	8.0	12.1	36.4	2.43	13.9	6.0	0.3
		Φf=	1.0	K=	2.0	out of plane &	0.875	in plane		Fy=50	Fu=70 ksi		2.33

The vertical truss member size is based on the combined maximum truss axial force and the maximum out of plane bending moment. The maximums occur at different locations so all vert. members are checked individually.

The out of plane bending is produced by the top chord from the following cases: (N/A if top braced)

Wind - 67% on windward truss, 85% stream flow, 300 plf if aashto HS, 50 plf min.rail load, and 0.80% of TC force.

HSS: b/t≤1.4*(E/Fy)^.5= 33.7 act. b/t= 29.3 OK 9(6.9.4.2.1-1) max kl/r= 81.8 OK

Max PPT Spacing: 6.9625 ft controlling LC: strength I CTR 81.8

Ht. Fb to TC: 8.5717 ft (@ cl) Axial Ld: 11.3 kips (factored)

Ht. Fb to BC: 1.7613 ft (@ cl) 29.4 K-ft factored (pony truss only)

length @ cl: 10.333 ft

Po=Fy*Ag= 308.5 k

Pe=[(π^2*E)/(KL/rs)^2]*Ag= 263.6 k

Pe/Po= 0.9 Pe/Po>.44 9(6.12.2.2.2e-1)

Pn=[.658^{Po/Pe}]*Po= 189.0 k 9(6.9.4.1.1-1) Mn=(Rf*Rb*Rpc*Myce)= 95.6 k-ft

Pr=Φc*Pn= 180.0 k Mr=Φf*Mn= 95.8 k-ft

Pu/Pr= 0.1 < 0.20

9(6.9.2.2-1) therefore use Pu/2Pr+Mu/Mr= 0.339 OK

conn OK

At splice, use 2C8X11.5, Ix=65 in^4, Sx=16.28 in^3, & fb=13.3 ksi, OK

page 4

Diags

Member	A (in^2)	S (in^3)	I (in^4)	r (in)	Z(in^3)	Ht.(in)	S (in^3)	I (in^4)	r (in)	Z	Ht.(in)	
HSS6X4X1/4	4.30	7.0	20.9	2.2	8.5	6.0	5.6	11.1	1.61	6.5	4.0	
					Φy= 0.95		An= 4.3					1.67

Max. factored truss load: 1.5 kips

Min. check for conc. Ld.. 3.8 kips use 3.8 kips< Pr=Φy*Fy*Ag = 204.8 k OK! 1.8%

Max (single diag) 3.8 kips Pr=Φu*Fu*An = 241.4 k OK! 1.6%

strength I

end weld size 3/16"

HSS connection: OK

This area not applicable - no mid diags

0.0 max n/a A= 4.3

FB

Member	A (in^2)	S (in^3)	I (in^4)	r (in)	Z (in^3)	Ht.(in)	S (in^3)	I (in^4)	r (in)	Z	Ht.(in)	tw
W14X26	7.69	35.3	245.0	5.65	40.2	13.9	3.6	8.9	1.08	5.5	5.0	0.26
	Φf= 1.0	- - - - data for U-Frame plane - - -							Fy=50	Fu=70 ksi		3.99

The floor beam size is determined by the moments from a combination of direct load application and end moments from the truss verticals. Additionally, the floor beam size may be increased to provide additional stiffness (stability) to the Top Chord. tf= 0.42 Lb= 12.0 in bf= 5.03

		Dir. Mom.	End Mom.	*Factored	Load comb.	Tot. Mom. (factored)
span:	13.00 ft				DL + LLb :	62.5 .
Dead Ld:	68.8 psf	10.1	9.2	x1.25= 24.1	DL + LLf :	77.2 <<controls
Unif. LLb:	90.0 psf	13.2	8.7	38.4	DL + HS :	24.1 .
Max Veh:	16.0 K Veh. (LLf, HS, LLm)	28.0	2.3	53.0	DL + LLd + LLg :	49.0 .
snow LLg:	20 psf	2.9	1.9	8.5	DL + LLm :	33.2 .
veh. LLd:	5 K	8.8	0.6	16.3		

* Veh. load factored, lane load not factored, if applicable

Maximum Design Mu= 77.2 k-ft

λf=bfc/2tfc= 5.99 9(6.10.8.2.2-3)

λpf=.38*(E/Fyc)^.5= 9.15 9(6.10.8.2.2-4)

use Fy= 50.0 ksi Rb=Rh=1

Mn=Mp=FyZ= 167.5 k-ft 9(6.10.8.2.2-1)

λf≤λpf

Non-Slender

Mr=Φf*Mn= 167.5 k-ft 46.1% OK

At splice, use 2C12X20.7, Ix=258 in^4, Sx=43 in^3, & fb=16.0 ksi, OK conn OK

Stringers

N/A	A (in^2)	S (in^3)	I (in^4)	r (in)	Z (in^3)	Ht.(in)	S (in^3)	I (in^4)	r (in)	Z	Ht.(in)	tw
	2.13	2.3	4.6	1.47	2.8	4.0	0.3	0.4	0.447	0.7	1.7	0.32
					Φf= 1.00				Fy=50	Fu=70 ksi		1.24

This area not applicable! There are no stringers.

0.02

0.08

24.37

24.39

6.96 ft 1.00 Impact factor

0.1 ft 35.0 psf Dead Load

14 k 0.8 Continuity Factor

page 5

Flr Diag	Member	A (in^2)	Sx(in^3)	Ix(in^4)	rx (in)	Zx(in^3	Ht.(in)	Sy (in^3	Iy(in^4)	ry(in)	Zy	w.(in)	t
	HSS2X2X1/4	1.51	0.7	0.7	0.704	1.0	2.0	0.7	0.7	0.704	1.0	2.0	0.23

Lu= 110.3 " k= 0.8 kl/r= 125.3 KL/r<141 OK Φc= 0.95

One FD per two bays, designed as compression member, Not Welded to stringers Φcc= 0.90

Max Axial Comp Force req'd= 0.0 kips (factored) OK na

Po=Fy*Ag= 75.5 Vc=.0632√f'c= 0.134 x 1.0 = 134.1 psi 8(5.7.3.3-3)bd Fy=50 Fu=70 ksi

Pe=[(π^2*E)/((KL/rs)^2)]*Ag= 27.5

Pe/Po= 0.36 Z

9(6.9.4.1.1-1) Pn=[.658^{Po/Pe}]*Po 23.9 factored hor reaction=24.3 K * 1.4 = 34.1 K

Pr = ΦcPn = 22.7 Tot. hor. shr cap. of bridge =69.5+(22.7*0.50)= 80.8 kips

Conc. slab shear capacity is 134.1 psi * Φcc* 144in * 4.0in = 69.5 kips

One full Brace needed in first bay . OK

End Portal (H bridges only) in plane data 2.84 ' backwall Ht.

	Member	A (in^2)	S (in^3)	I (in^4)	r (in)	Z (in^3	Ht.(in)	bf (in)	Mcap	
Flr Bm	W14X26	7.69	35.3	245	5.65	40.2	13.9	5.03	147.1	1.76 cl to FB brg
End Post	HSS8X6X3/8	8.97	19.8	79.1	2.97	24.1	6	8	82.5	
								min	82.5	

Hor reaction capacity without reinf. (portal only) = 93.5 kips end post controls

(factored)

Hor Reaction WL x 1.4 = 34.1 kips OK

Check 1% of TC axial force at end post:

3.98 kips, factored x end ht 0.23 ft = 0.93 K-ft

End post, FB Mn = 82.5 K-ft OK

Check moment due to end reaction x backwall ht.

M = 1.8 ' x 34.1/2 k = 30.0 k-ft < 82.5 K-ft OK

Summary of bridge dead loads:

Truss members	29018	lbs.
Floor members	7191	lbs.
Splice members	2922	lbs.
Rails	4312	lbs.
Top Bracing	0	lbs.
misc	1835	lbs. (includes coating where applicable)
Floor (excl. conc.)	3292	lbs.
	51797	lbs.

51,797lb./(139.3'x12.0)' =	31.0	psf
concrete or asphalt =	64.47	psf
	95.5	psf

SPLICE Calculations - AASHTO LRFD Pioneer Bridges Job # 25233P - 2
12' x 139' bridge

These calculations are for a tension splice in a member. The member for this calculation is a
HSS8X6X3/8 Φs= 0.8 Φy= 0.95 Detailer Info
These calculations are per AASHTO LRFD Use Standard Splice Plate # 241 MOD bott
290 top

Maximum Factored Truss Load	389.2 kips				
Nom. Member Capacity Pn=	448.5 kips				
			Avg act'l & nom.=		418.9 kips
Design Load for Splice	418.9 kips	✓	75 percent capacity		336.4 kips
			9(6.13.1)		418.9 max

Bolt Size 0.75 in. Diameter
Shear: 9(6.13.2.7) thds assumed included Rn=.45*Ab*Fub*Ns

0 # of bolts in Single Shear	0	@	23.9	K / bolt =	0.0 kips
16 # of bolts in Double Shear	16	@	47.7	K / bolt =	763.4 kips
0 # of bolts in Tension - Tn=.76AbFub	0	@	40.3	K / bolt =	0.0 kips
			Total capacity Rn=		763.4 kips

2.25 in. Minimum Hole Spacing Rr=ΦsRn= 610.7 kips
3.00 in. Actual Hole Spacing 146 % OK!

Chord Member Ag= 8.97 in^2 Φu= 0.80 Chord Fy 50
0.349 wall thickness " Fu 70
2 # of rows of bolts Check net area: An = 9.0 - (0.81 * 0.35 * 2 * 2) = 7.84 in^2
*U= 1.000 Pr=Φy*Fy*Ag= 426.1 KIPS 9(6.8.2.1-1)
for modified plate with (2) 1 row end bolts, Check An= 8.4 in^2 Pr= 470.6 KIPS OK!
connection req'd. after 1st holes = 12/16 x 418.9 = 314.2 kips and Pr= 426.1 kips
Non connected Side (H) 8 Connected Side size (B) 6 136 % OK!

Bolt Bearing 9(6.13.2.9) Φbb= 0.80
16 Bolts Rn=2.4*d*t*Fu= 44 kips/bolt 9(6.13.2.9-1)
0.349 mtl thickness Rr=Φbb*Rn*N= 563 Kips
134 % OK!

9(6.8.2.1) Fy= 50 ksi Fu= 70 ksi U= 1.0

Outside Splice Plates: Ag= 7.50 in^2
0.75 thickness An max = .85Ag = 6.38 in^2
5.00 width An = 7.5-(0.81*0.75*2*2) = 5.06 in^2
2.00 rows of holes min. An= 5.0625
2 # of plates Pr=Φu*Fu*An*Rp*U= 284 kips
9(6.8.2.1-2) controls

Inside Splice Plates: Ag= 7.50 in^2
0.75 thickness An max = .85Ag = 6.38 in^2
5.00 width An = 7.5-(0.81*0.75*2*2) = 5.06 in^2
2.00 rows of holes min. An= 5.0625
2 # of plates Pr=Φu*Fu*An*Rp*U= 284 kips
9(6.8.2.1-2) controls

Total Capacity Pr= 567.0 kips 135 % OK!

Slip Critical Capacity (If applicable) 9(6.13.2.8) Kh=1.0 Pt= 28
Use Service II LC 9(6.13.2.2) Ru= 298.7 K Pt*Ks= 14.00 kips/bolt/plane
AASHTO Class B Surface Contact Area Ks= 0.50
8 Bolts Nb Rr=Rn=Kh*Ks*Ns*Pt= 448 kips
4 Slip Planes Ns
150 % OK!

Block Shear - chord member 9(6.13.4) Φbs= 0.80 Lv = 39.75 in. net 52.0 in. gross
Avn= 13.87 Avg= 18.15 Lt = 3.25 in. net 5.0 in. gross
Atn= 1.13 Atg= 1.75
Rr=Φbs*Rp*(.58Fy*Avg+Ubs*Fu*Atn) = 484.6 Kips 9(6.13.4-1a) 116% OK!

*shear lag U based on whitmore section

Truss Diagonal connection calculations - OVERLAP K Pioneer Bridges Job # 25233P - 2
12 ft x 139 bridge

Member Data

Diagonal i	Fyi	Fui	Vert j	Fyj	Fuj
HSS6X4X1/4	50	70	HSS8X6X1/4	50	70
4 height Hbi			6 height Hbj		
6 width Bbi			8 width Bbj		
0.23 thickness tbi			0.23 thickness tbj		
4.30 Area			6.17 Area		

Bott Chord	Fy	Fu	Top Chord & End Post	Fy	Fu
HSS8X6X3/8	50	70	HSS8X8X3/8	50	70
6 height H			8 height H		
8 width B			8 width B		
0.35 thickness t			0.35 thickness t		
8.97 Area			10.40 Area		

Design Force 3.8 K (LRFD) 70 ksi Filler Metal (min)
2.5 Kips (ASD)

AASHTO LRFD Rr=.6*Φe2Fexx= 33.6 ksi Φe2=0.8 8(6.13.3.2.4-1)
AASHTO

	n/a	3/16" fillet	17.6 in @	2.51	K/in =	44.0	kips	n/a
AA LRFD Weld Req'd:	3/16"	"	17.6 "	4.45	"	78.2		OK

The calculations below are for overlapped "K" connections only. (Chapt. K5 - Ω=1.58, Ø=.95)

50 % overlap Ov factor (Ovf) = OV%/50 ≤ 1 = 1.0 only u

Check Top Chord Conn. Capacity @ End Post

beoi = (10 / (B/t)) * ((Fy*t)/(Fybi*tbi) * Bbi) ≤ Bbi = 3.9 (K3-13)
beov = (10 / (Bbj/tbj)) * ((Fybj*tbj)/(Fybi*tbi) * Bbi) ≤ Bbi = 3.9 (K3-14)

Pni = Fybi * tbi * ((Ovf*(2*Hbi-4*tbi)) + beoi + beov) = 173.7 kips na (K3-10&11)
1.58/.95=1.663 LRFD --> ASD = 104.4 kips na
Le= 19.73 in. 3/16" weld req'd n/a (K5-11)

Check Top Chord Conn.

beoi = 3.9
beov = 1.7
Pni = Fybi * tbi * ((Ovf*(2*Hbi-4*tbi)) + beoi + beov) = 148.4 kips OK (K3-10&11)
/1.66 LRFD --> ASD = 89.2 kips OK
Le= 17.56 in. 3/16" weld req'd

Check Bottom Chord Conn.

beoi = 3.9
beov = 1.7
Pni = Fybi * tbi * ((Ovf*(2*Hbi-4*tbi)) + beoi + beov) = 148.4 kips OK (K3-10&11)
Le= 24.33 in. 3/16" weld req'd LRFD --> ASD = 89.2 kips OK

weld Length: Θi °= 16.0 ° Θj = 90 °
Le=2*[(1-Ov/100)*(Hbi/Sin(Θi) + Ov/100*(Hbi/Sin(Θi+Θj)))] + beoi + beov = (K5-11)

NOTE: these formulas are found in the AISC design manual, HSS connections, table K2.2., 14th Ed

AASHTO Floor Beam connection design
LRFD Wide Flange - To HSS Connections

Member Data

25233P - 2
12 ft x 139 bridge

Floor Beam		Vert	
W14X26	Fy= 50 Fu= 70	HSS8X6X1/4	Fy= 50
13.90 in. height		8 in. height	
5.03 in. width Bp		6 in. width	
0.42 thickness of flange tf		0.23 in. thickness	
7.69 in^2 Area		6.17 in^2 Area	
0.255 in. thickness of Web		14.20 in^3 Sx	
1.045 N=(t+2*weld leg) (brg length of load "lb")			

0.3125 " Weld size used (leg size)

WELDS

ASD

	M			Flange Force (M/h)
Design Moment (pos)	18.03	K-ft	from vert truss member	15.6 K
Design Moment (neg)	18.03	K-ft	from FEM of Veh load	15.6 K
	18.03			15.6 max

check weld: 4.87 k/in req'd

n/a 3/8" fillet 3.19 in @ 5.01 K/in = 16.0 kips n/a

LRFD

	M (factored)			Flange Force (M/h)
Design Moment (pos)	26.66	K-ft	from vert truss member	23.0 K
Design Moment (neg)	26.66	K-ft	from FEM of Veh load	23.0 K
				23.0 max

check weld: 7.20 k/in req'd

Weld Size Req'd 5/16" fillet 3.19 in @ 7.42 K/in = 23.7 kips OK

Check connection strength - given by the lesser of AISC equations K7 through K10 (applicable only to HSS verts)
Design Strength=ϕRn (LRFD) or Allowable strength = Rn/Ω (ASD) Φy=0.95 and Ω=1.58 u.n.

	Rn (K)	ϕRn (K)	Rn/Ω (K)	(AISC 14th ED) Table K1.2
Local Yld Strength of Flange Force Rn=(10*Fy*tp/(B/t))Bp ≤ Fyp*tp*Bp =	41.0	39.0	26.0	(K1-7)
Shear Yielding (punching) Rn=.6*Fy*t*(2*tp + 2*Bep) =	33.2	31.5	21.0	(K1-8)
local yield sidewall Rn= 2*Fy*t*(5*k+N) ; [k=1.5t ; ϕ=1.0 ; Ω=1.5]	65.1	65.1	43.4	(K1-9)
local cripple sidewall Rn=1.6*t^2*[1+3N/(H-3t)]*(Efy)^.5*Qf;[ϕ=.75;Ω=2.0]	149.5	112.1	74.8	(K1-10)
Controlling strength		31.5	n/a	
Flange force Req'd		23.0	n/a	
		OK	n/a	
flange @ weld		OK	n/a	

Bp=5.03 Bep=10*Bp/(B/t) ≤ Bp = 2.0
vert stress factor Qf=1.0 (tens) or =(1.3-(.4U/β)) ≤ 1 USE Qf= 1.00 Comp (K1-18)
where U=Pr/(AgFc) + Mr/(SxFc) in truss vert (K1-16)
Pr= 7.7 k U= 0.0251 + 0.3048 = 0.3298 (K1-6)
Mr= 18.0 k' β=Bp/B= 0.84 Qf= 1.00 T or= 1.00 C

effective weld length:
Le=2*[(10/(B/t))*(Fy*t)/(Fyp*tp))]*Bp ≤ 2*Bp Le= 2.17 in. (K4-4)
plus weld across width of plate end tf 1.03 in
Le total= 3.19 in

Note - above Pr & Mr are worst cases for all truss verts and may not occur at the same vert simultaneously
Note - for concrete floors, upper flange reinforced by conc. form C, -> bottom flange is critical

AASHTO Floor Beam connection design
LRFD Wide Flange - To HSS Connections

Member Data

25233P - 2
12 ft x 139 bridge

End Floor Beam		End Post	
W14X26	Fy= 50 Fu= 70	HSS8X6X3/8	Fy= 50
13.90 in. height		8 in. height	
5.03 in. width Bp		6 in. width	
0.42 thickness of flange tf		0.35 in. thickness	
7.69 in^2 Area		8.97 in^2 Area	
0.255 in. thickness of Web		19.80 in^3 Sx	
0.795 N=(t+2*weld leg) (brg length of load "lb")			

0.1875 " Weld size used (leg size)

WELDS

ASD

	M			Flange Force (M/h)
Design Moment (pos)	21.46	K-ft	from vert truss member	18.5 K
Design Moment (neg)	21.46	K-ft	from FEM of Veh load	18.5 K
	21.46			18.5 max

check weld: 3.15 k/in req'd

n/a 1/4" fillet 5.89 in @ 3.34 K/in = 19.7 kips n/a

LRFD

	M (factored)			Flange Force (M/h)
Design Moment (pos)	30.04	K-ft	from vert truss member	25.9 K
Design Moment (neg)	30.04	K-ft	from FEM of Veh load	25.9 K
				25.9 max

check weld: 4.40 k/in req'd

Weld Size Req'd 3/16" fillet 5.89 in @ 4.45 K/in = 26.2 kips OK

Check connection strength - given by the lesser of AISC equations K7 through K10 (applicable only to HSS verts)
Design Strength=ϕRn (LRFD) or Allowable strength = Rn/Ω (ASD) Φy=0.95 and Ω=1.58 u.n.

	Rn (K)	ϕRn (K)	Rn/Ω (K)	(AISC 14th ED) Table K1.2
Local Yld Strength of Flange Force Rn=(10*Fy*tp/(B/t))Bp ≤ Fyp*tp*Bp =	61.4	58.4	38.9	(K1-7)
Shear Yielding (punching) Rn=.6*Fy*t*(2*tp + 2*Bep) =	70.1	66.6	44.3	(K1-8)
local yield sidewall Rn= 2*Fy*t*(5*k+N) ; [k=1.5t ; ϕ=1.0 ; Ω=1.5]	119.1	119.1	79.4	(K1-9)
local cripple sidewall Rn=1.6*t^2*[1+3N/(H-3t)]*(Efy)^.5*Qf;[ϕ=.75;Ω=2.0]	315.2	236.4	157.6	(K1-10)
Controlling strength		58.4	n/a	
Flange force Req'd		25.9	n/a	
		OK	n/a	
flange @ weld		OK	n/a	

Bp=5.03 Bep=10*Bp/(B/t) ≤ Bp = 2.9

vert stress factor Qf=1.0 (tens) or =(1.3-(.4U/β)) ≤ 1 USE Qf= 1.00 Comp (K1-18)

where U=Pr/(AgFc) + Mr/(SxFc) in truss vert (K1-16)

Pr= 7.7 k U= 0.0172 + 0.2186 = 0.2358 (K1-6)

Mr= 18.0 k' β=Bp/B= 0.84 Qf= 1.00 T or= 1.00 C

effective weld length:

Le=2*[(10/(B/t))*(Fy*t)/(Fyp*tp))]*Bp ≤ 2*Bp Le= 4.86 in. (K4-4)

plus weld across width of plate end tf 1.03 in

Le total= 5.89 in

Note - above Pr & Mr are worst cases for all truss verts and may not occur at the same vert simultaneously
Note - for concrete floors, upper flange reinforced by conc. form C, -> bottom flange is critical

PIONEER BRIDGES

Design equations per AASHTO LRFD Standard Specifications for Highway Bridges 8th

Truss Bridge, deck spans floorbeams — Job# 25233P - 2

90	psf	Uniform Live Load	w= 7.5 #/in.		
20	psf	Uniform Snow Load (added to veh. Load 2)		wheel load	
20	kip	Vehicular Load 1 (minimum check)		8.00	kips
5	kip	Vehicular Load 2 (combine with snow)		2.00	kips
HS 0	ton	Vehicular Load	80 % on rear axle	0.00	kips
0.0	%	LL Impact Factor		Max 8.00	kips
8.0	kips	Design Wheel Load (Incl. impact)			

✓ 6.0	in	TOTAL Concrete Thickness	✓ 4500	psi	Concrete Strength (f'c)
✓ 150	pcf	Normal Weight Concrete	60000	psi	Reinf. Steel Strength (fy)
✓ **2**	in	Depth of Metal Floor Deck **20** ga. ✓ std			grade A 615

Design Dead Load 64.5 psf Weight of Slab and Form

ribs included in design .

6.0	in	Concrete Design Thickness h	0 .	
2.25	in	Top clear cover	dc= 2.5	single reinf. Layer used
1.75	in	Bottom clear cover	dc= 3.5	.

Continuous Span

Main Reinforcement Longitudinal (//) to Traffic .

CONTROLS FOR ALL SPANS → 6.96 ft "S", Design Span — Deck span cap.= 8.7 ft at 2 span cond. OK!

0.00	kip-ft/ft	DL Pos Moment (unshored) .	6.71 ft actual deck span
0.00	kip-ft/ft	DL Neg Moment (unshored) .	
0.42	kip-ft/ft	Uniform Live Load Positive Moment	(per AISC Beam Case #29)
0.55	kip-ft/ft	Uniform Live Load Negative Moment	(per AISC Beam Case #12)
11.31	kip-ft / design width	Max Positive Vehicle Moment (AISC beam case #30)	
5.22	kip-ft / design width	Max Negative Vehicle Moment (AISC beam case #30)	

. fss= 25.29 ksi pos

Mu = Factored Design Moment = 1.75*(ML + Impact) fss= 12.19 ksi neg

Positive Moment Design

max spacing = 9.0 9(5.10.3.2)

Use # 4 bars at 6 in c/c spacing. ✓ (2@12) diameter of bar = 0.5 in

max spacing= 9.0 OK, 5.10.3.2 controls Area of steel per bar As= 0.2 in^2

✓ **2.50** in dt Depth to Reinf. Steel As per foot width provided Ab= 0.40 in² per ft

strength design capacity $\alpha 1$= 0.85 9(4.6.2.1.3-1)

$M_{u\ pos}$ = 19.80 kip-ft factored β_1 = 0.825 Φc= 0.90 9(5.6.2.2)

design width b= 72.0 in. c = As*fy/α1*f'c*β1*12 = 0.63 9(5.6.3.1.1-4)

$M_{u\ pos}$ = **3.30** kip-ft / ft width εcl = a=c*β1= 0.52 9(5.6.3.2.3)

. c/ds ≤ .003/(.003+εcl)=0.60; c/ds= 0.25 OK 9(5.6.2.1-1)

ΦMn = Φ[As*fy*(d-(a/2))] = 4.03 kip-ft Greater than Mu , OK!

Minimum Reinf. Requirement

Sc = 21.8 in³ γ_1= 1.6

Lessor of: $A_{s\ min} \geq 1.33 A_{s\ req'd}$ A_{sreq} = Mu / fy*(d-(a/2)) = 0.295 in² γ_3= 0.67

OR λ= 1.00 fr=λ.24√f'c = 0.51 9(5.4.2.6)

A_s shall be sufficient to resist M_{cr}. Mcr= $\gamma_3[\gamma_1 fr*Sc]$ = 11.9 kip-in 9(5.6.3.3-1)

$1.0M_{cr}$ = 11.9 kip-in 9(5.4.2.8-2)

A_{smin} = 1.33 Asreq'd = 0.392 in²

A_{sMin} for 1.0Mcr = 1.0 Mcr/fy*(d-a/2) = 0.089 in²

Min = 0.089 < 0.40 OK

Wheel Footprint: γ= 1.75 9(3.6.1.2.5)

L=6.4γ(1.00)= 11.2 in direction of travel impact factor = 1.00

W=P/.8 10.0 in transverse to dir of travel Area=W*L= 112.0 in²

Shear - Punching

Check shear resistance, V_n, of concrete

Φ= 0.90
df = 2.50 in
bo = 42.4 in

Vn=.125 λ√f'c*bo*df= 28.1 kips 9(5.8.4.3.4-3)

ΦV_n = 25.3 kips > 14.0 kips (factored wheel load) OK

Distribution Reinforcement (bottom)

Use # 4 bars at 12 in c/c spacing. ✓

%P = % of Reinforcement Required = 100/√S , 50% Maximum = 37.9 9(9.7.3.2)

A_{DR}, Area of Distribution Reinf. Required = 0.152 in^2

A_{DR} Actual = 0.200 in^2 OK

Overall Design OK

Deflection Calculations

Ec=33000*K1*(wc^1.5)*(f'c)^.5= 3865 ksi

h=ts= 4.0 in. n= 8.5 b= 12 in

ȳ = [(b*h^2/2)+((n-1)*As*d)] / [b*h + (n-1)*As] yt=d-ȳ= 0.47 in. pos.

ȳ= 2.029 in. (n.a. from top of slab) Sc=Ig/ȳbott= 21.8 in^3 pos

Ig = ((b*h^3)/12) + (b*h*(ȳ-h/2)^2) + (n-1)*As*((d-ȳ)^2) yt=d-ȳ= -0.47 in. neg.

Ig= 64.7 in^4 Mcr= fr*Ig/yt = 70.0 K-in

Ie = (Mcr/Ma)^3 *Ig + [1-(Mcr/Ma)^3]*Icr ≤ Ig (5.7.3.6.2-2) Ma= 22.6 K-in

Ie= 2.E+03 in^4 ȳcr = 0.940 in.

Ieff= 64.7 in^4 used Icr = ((b*ȳcr^3)/3)+(n*As*(d-ȳcr)^2) = 11.6 in^4

ȳbott= 2.971 in

Uniform Load: Δ = .0092*w*L^4/E*I = 0.013 in. L/D= 6215 OK

Wheel Load: Δ = .015*P*L^3/E*I = 0.047 in. L/D= 1790 OK

Negative Moment Design

max spacing = 9.0 9(5.6.7-1&5.10.3.2)

Use # 4 bars at 6 in c/c spacing. ✓ diameter of bar = 0.5 in

max spacing= 9.0 OK, 5.10.3.2 controls Area of steel per bar As= 0.2 in^2

2.50 in dt Depth to Reinf. Steel As per foot width provided Ab= 0.40 in^2 per ft

strength design capacity

α1= 0.85 9(4.6.2.1.3-1)

$M_{u\ neg}$ = 9.14 kip-ft factored β_1 = 0.825 Φc= 0.90 9(5.6.2.2)

b= 68.9 in. c = As*fy/α1*f'c*β1*12 = 0.63 9(5.6.3.1.1-4)

$M_{u\ neg}$ = **1.59** kip-ft / ft width a = c*β1= 0.52

c/ds ≤ .003/(.003+εcl)=0.60; c/ds= 0.25 OK 9(5.6.2.1-1)

ΦMn = Φ[As*fy*(d-(a/2))] = 4.03 kip-ft Greater than Mu , OK!

Minimum Negative Reinf. Requirement

Sc =Ig/ȳ 31.9 in^3 neg

Lessor of: $A_{s\ min} \geq 1.33 A_{s\ req'd}$ A_{sreq} = Mu / fy*(d-(a/2)) = 0.142 in^2 yt= -0.47

OR fr=λ.24√f'c = 0.51 9(5.4.2.6)

A_s shall be sufficient to resist $1.0M_{cr}$. Mcr= ɣ3[ɣ1fr*Sc] = 17.4 9(5.6.3.3-1)

$1.0M_{cr}$ = 17.4 kip-in

A_{sMIN} = 1.33 Asreq'd = 0.189 in^2

A_{sMin} for 1.2Mcr = 1.0 Mcr/fy*(d-a/2) = 0.130 in^2

Min = 0.130 < 0.40 OK

Distribution Reinforcement (top)

Use # 4 bars at 12 in c/c spacing. ✓

%P = % of Reinforcement Required = 100/√S , 50% Maximum = 37.9 9(9.7.3.2)

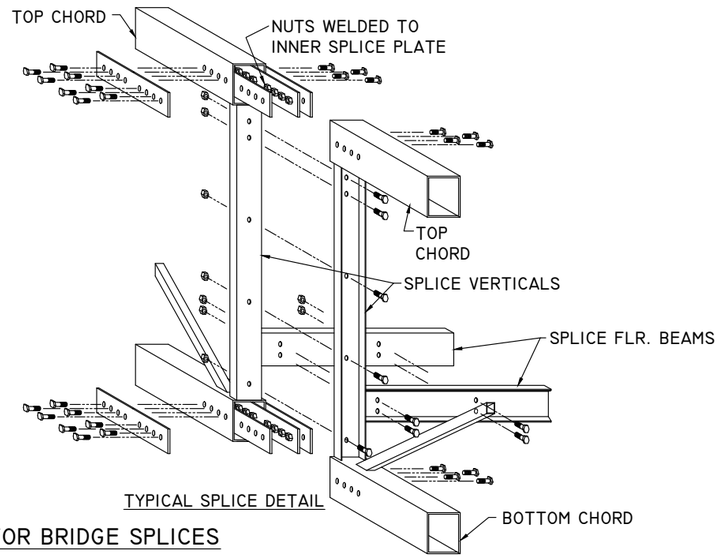
A_{DR}, Area of Distribution Reinf. Required = 0.152 in^2

A_{DR} Actual = 0.200 in^2 OK

Overall Design OK ✓

PIONEER BRIDGE INSTALLATION GUIDELINES

NOTE: IT IS THE CONTRACTOR AND ERECTOR'S RESPONSIBILITY TO FOLLOW ALL SAFETY GUIDELINES FOR CRANE RIGGING AND OPERATION.



TYPICAL SPLICE DETAIL

GUIDELINES FOR BRIDGE SPLICES

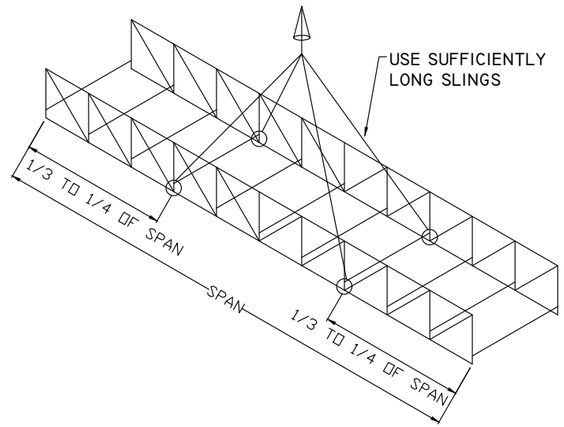
1. DO NOT REMOVE SPLICE PLATES IF THEY ARE ATTACHED TO THE BRIDGE AS EACH PLATE IS MATCHED TO ITS RESPECTIVE JOINT AND MAY NOT BE INTERCHANGEABLE. CLEAN ALL EXPOSED THREADS OF INSTALLED BOLTS (WIRE BRUSH) AND CLEAN OR BLOW OUT NUTS TO REMOVE ANY DEBRIS ACCUMULATED IN TRANSIT. IF ADDITIONAL CLEANING IS NEEDED, RUN A TAP THROUGH THE NUTS. (NOTE: A BOLT CAN BE USED AS A CLEANING TAP BY GRINDING OR CUTTING LONGITUDINAL SLOTS IN THE END OF THE BOLT).
2. LUBRICATE (AS NEEDED) BOLTS/NUTS AND THEN SLIGHTLY LOOSEN ALL BOLTS IN EACH CHORD JOINT SO THAT THE PLATES ARE FREE TO MOVE (BUT DO NOT REMOVE PLATES).
3. ONE BRIDGE SECTION SHOULD BE "FREE" TO MOVE UP/DOWN OR LEFT/RIGHT (AS IF SUSPENDED BY A CRANE) TO ALLOW THE SECTIONS TO COME TOGETHER EASILY.
4. CHORD SPLICES - AT A GIVEN SPLICE LOCATION, THE TOP CHORD SPLICE BOLTS SHOULD BE INSTALLED PRIOR TO INSTALLING THE BOTTOM CHORD SPLICE BOLTS. USE A HAND WRENCH ONLY TO INSTALL BOLTS FULLY INTO EACH NUT. DO NOT USE AN IMPACT WRENCH TO TIGHTEN A BOLT UNTIL THE BOLT IS FULLY THREADED INTO THE NUT (SEE TIGHTENING SEQUENCE IN NOTE 5). FAILURE TO FOLLOW THIS GUIDELINE WILL LIKELY RESULT IN CROSSED THREADS AND BROKEN BOLTS.
5. USE CAUTION TO AVOID DAMAGING THE THREADS OF NUTS WITH A SPUD WRENCH. AFTER ALL BOLTS HAVE BEEN LOOSELY INSTALLED, TIGHTEN BOLTS AT THE CENTER OF THE PLATE FIRST AND WORK OUTWARD.
6. BOLT TIGHTENING: WE RECOMMEND TURN OF THE NUT METHOD IN ACCORDANCE WITH THE "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS." THIS METHOD IS DESCRIBED BELOW.

TURN OF THE NUT METHOD
TIGHTENING MAY BE DONE BY IMPACT WRENCH OR HAND WRENCH. FIRST, ALL BOLTS ARE TIGHTENED TO A SNUG-TIGHT CONDITION. THIS IS ACHIEVED WHEN ALL CONTACT SURFACES OF THE JOINT ARE BROUGHT TOGETHER BY A FEW IMPACTS FROM AN IMPACT WRENCH OR THE FULL EFFORT OF A PERSON USING A SPUD WRENCH. A MATCH MARK IS PLACED ON THE BOLT HEAD (OR NUT) AND THE ADJACENT PLATE. ALL BOLTS ARE THEN TIGHTENED BY THE AMOUNT SPECIFIED IN THE TABLE BELOW.

NUMBER OF NUT OR BOLT TURNS FROM SNUG-TIGHT CONDITION FOR HIGH-STRENGTH BOLTS*	
BOLT LENGTH	BOTH FACES NORMAL TO BOLT AXIS
UP TO 4 DIAMETERS	1/3
OVER 4 DIAMETERS BUT NOT MORE THAN 8 DIAMETERS	1/2
OVER 8 DIAMETERS BUT NOT MORE THAN 12 DIAMETERS	2/3

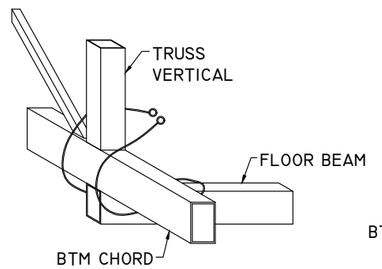
REQUIRED WRENCH SIZE FOR A325 BOLTS	
BOLT SIZE	WRENCH SIZE
Ø5/8	1 1/16
Ø3/4	1 1/4
Ø7/8	1 7/16
Ø1	1 5/8

* NUT ROTATION IS RELATIVE TO THE BOLT REGARDLESS OF WHETHER THE NUT OR BOLT IS TURNED. APPLICATION TOLERANCES ARE AS FOLLOWS:
⅓ TURN +/- 30 DEGREES
½ TURN +/- 30 DEGREES
⅔ TURN OR MORE +/- 45 DEGREES

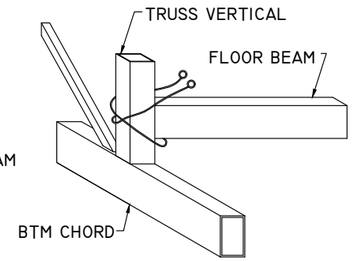


GUIDELINES FOR LIFTING A PIONEER BRIDGE

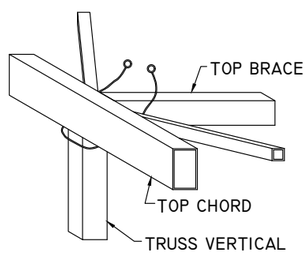
1. LIFT BRIDGE ONLY FROM BOTTOM CHORD, NOT FROM TOP CHORD.*
2. ALTERNATIVELY, A BRIDGE MAY BE LIFTED BY ITS TOP CHORD IF A SPREADER BEAM IS USED SO THAT THE TRUSSES ARE NOT PULLED INWARD BY THE SLINGS OR CHOKER.
3. CONNECT AT PANEL POINTS ONLY (THE INTERSECTION OF TRUSS MEMBERS) AS INDICATED BELOW. PADDING SHOULD BE USED TO PROTECT THE PAINT FROM SCRATCHES.
4. USE CARE NOT TO DAMAGE BRIDGE RAILINGS.
5. DO NOT LIFT BRIDGE FROM CENTER WITHOUT FIRST CONSULTING WITH PIONEER BRIDGES AS SOME MEMBERS CAN BE OVERSTRESSED.



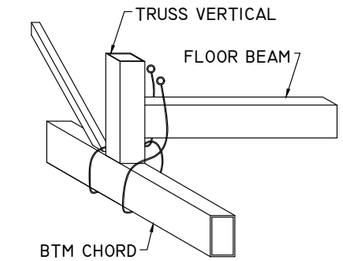
UNDERHUNG FLOORBEAM STYLE BRIDGES



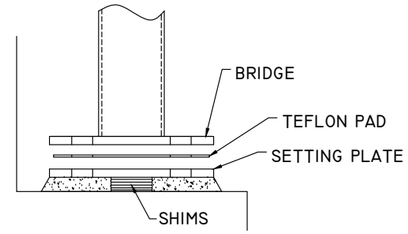
H-STYLE BRIDGES



TOP-BRACED BRIDGES
*THIS STYLE MAY BE LIFTED BY THE TOP CHORD.



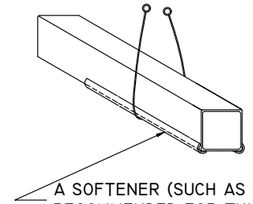
H-STYLE BRIDGES
ALTERNATIVELY, WRAP CHOKER UNDER BOTTOM CHORD



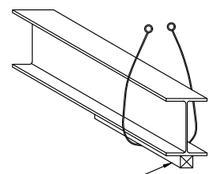
TYPICAL BEARING
(SEE SPECIFIC JOB DRAWINGS FOR ACTUAL BEARING DETAILS)

GUIDELINES FOR BEARINGS

1. SET THE SETTING PLATE ON APPROXIMATELY 1" OF SHIMS BEFORE SETTING THE BRIDGE.
2. SET TEFLON PAD ON SETTING PLATE.
3. SET BRIDGE ON TEFLON PAD.
4. ADJUST SHIMS TO MAKE FLOOR FLUSH WITH BACKWALL OR APPROACH SLAB.
5. GROUT SETTING PLATE AFTER BRIDGE IS SET. NEVER ATTEMPT TO GROUT SETTING PLATE BEFORE SETTING BRIDGE (DOING SO WILL VOID BRIDGE WARRANTY).



A SOFTENER (SUCH AS SPLIT PIPE) IS RECOMMENDED FOR THIN-WALL TUBES.



TIMBER SOFTENER MAY BE USED ON WIDE-FLANGE CHORDS. (DO NOT USE ON TUBE CHORDS!)

REV.	DESCRIPTION	BY/DATE	CHECKED BY
A	TYP. INSTALLATION INSTR.	NH 10/2/24	AF 10/2/24

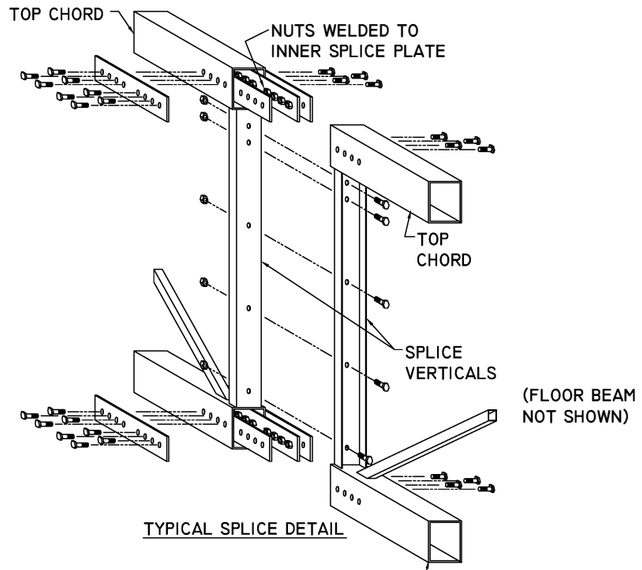
PIONEER BRIDGES
A DIVISION OF BAILEY BRIDGES, INC.
119 40th Street NE
Fort Payne, AL 35967
1-866-708-5778

PROJECT: REFERENCE DRAWING
OWNER: —
ADDRESS: —
DRAWN BY: NH
APPROVED BY: AF
DESCRIPTION: PIONEER BRIDGE INSTALLATION INSTRUCTIONS

JOB NO: REF.
SHEET: 1 OF 1
REV. A

PIONEER BRIDGE INSTALLATION GUIDELINES

NOTE: IT IS THE CONTRACTOR AND ERECTOR'S RESPONSIBILITY TO FOLLOW ALL SAFETY GUIDELINES FOR CRANE RIGGING AND OPERATION.



TYPICAL SPLICE DETAIL

GUIDELINES FOR BRIDGE SPLICES

1. DO NOT REMOVE SPLICE PLATES IF THEY ARE ATTACHED TO THE BRIDGE AS EACH PLATE IS MATCHED TO ITS RESPECTIVE JOINT AND MAY NOT BE INTERCHANGEABLE.
2. LOOSEN ALL BOLTS IN EACH CHORD JOINT.
3. ONE BRIDGE SECTION SHOULD BE "FREE" TO MOVE UP/DOWN OR LEFT/RIGHT (AS IF HELD BY A CRANE) TO ALLOW THE SECTIONS TO COME TOGETHER EASILY.
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5/8	1 1/16
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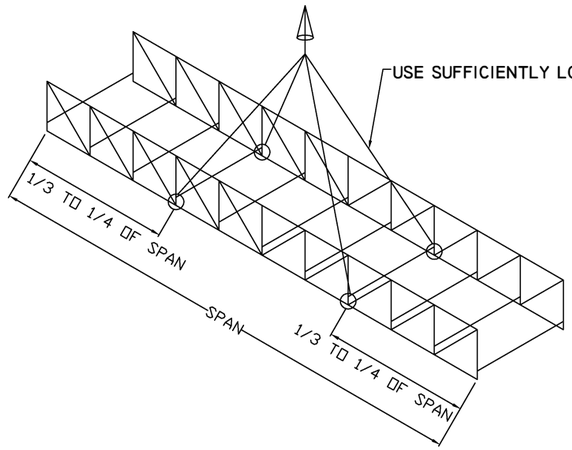

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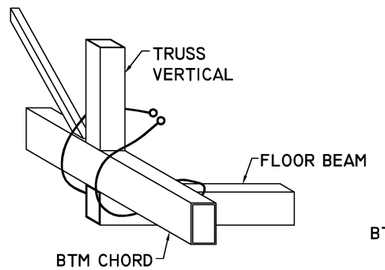
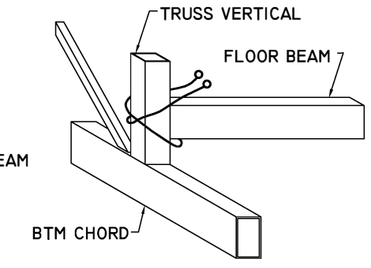
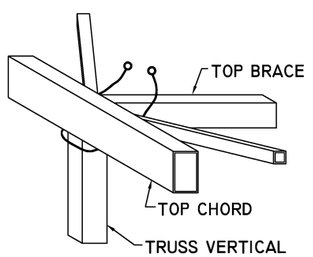


UNDERHUNG FLOORBEAM STYLE BRIDGES



H-STYLE BRIDGES



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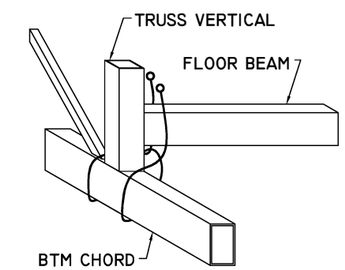

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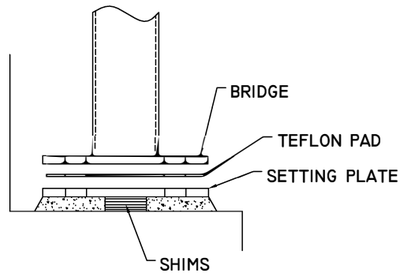

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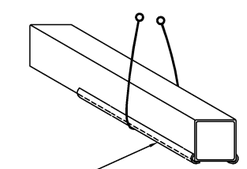

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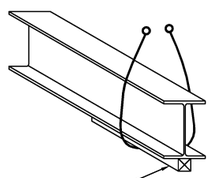

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PIONEER BRIDGES

A DIVISION OF BAILEY BRIDGES, INC.
119 40th Street NE
Fort Payne, AL 35967
1-866-708-5778

PROJECT: REFERENCE DRAWING	DRAWN BY: AF 1/14/09
OWNER: X	APPROVED BY: X
ADDRESS: X	CHECKED BY: RGG 1/15/09
CONTRACTOR: X	
DESCRIPTION: PIONEER BRIDGE INSTALLATION INSTRUCTIONS	

JOB NO.: X
SHEET: 1 OF 1
REV.

C:\Pioneer Bridge\Installation Instructions.dwg

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, NEW ORLEANS DISTRICT
7400 LEAKE AVENUE
NEW ORLEANS, LOUISIANA 70118-3651

June 21, 2024

Regulatory Division
Eastern Evaluation Branch

SUBJECT: MVN 2023-01141-EHP

St. Tammany Parish Government
c/o: ELOS
Attn: Michael Hill
607 West Morris Ave., Suite 200
Hammond, LA 70403

Dear Mr. Hill,

This is in regard to your application dated 8 April 2024 requesting authorization for the removal and replacement of the existing pedestrian bridge located on Tammany Trace Bike Trail in St. Tammany Parish, Louisiana, as shown on the enclosed drawings.

This office has determined that your project, as shown in the attached drawings, is authorized by **Nationwide Permit Number 14**, as found in the 27 December 2021, Federal Register, Reissuance of Nationwide Permits (86 FR 2744). Enclosed is a copy of the nationwide permit and the general conditions with which you must comply.

In addition, you must comply with the following conditions:

1. If abandoned cemeteries, unmarked graves, or human remains are discovered during the permitted activity, the permittee will stop work immediately and comply with the Louisiana Unmarked Human Burial Sites Preservation Act (La. R.S. 8:671 et seq.). The permittee will notify local law enforcement, U.S. Army Corps of Engineers New Orleans District Regulatory Division (CEMVN-RG), and the Louisiana Division of Archaeology (LDOA), within the Louisiana Department of Culture, Recreation and Tourism, Office of Cultural Development, by telephone at 225-342-8170 to assess the nature and age of the human skeletal remains within twenty-four (24) hours of the discovery of unmarked human remains and will accompany local law enforcement personnel during all field investigations. If the appropriate local law enforcement official determines that the remains are not a crime scene, and the remains are more than 50 years old, LDOA has jurisdiction over the remains. In no instance will human remains be removed from the discovery site until jurisdiction is established. In cases where the LDOA assumes jurisdiction and the remains are determined to be American Indian, LDOA will consult with Tribes, CEMVN-RG, and the permittee to determine the appropriate course of action.

2. Permittees that discover any previously unknown historic, cultural, or archeological remains and artifacts while accomplishing the permitted activity must immediately notify CEMVN-RG, halt all construction activity at the location of discovery, and avoid construction activities within a fifty (50) foot buffer zone of the location of discovery until the required coordination has been completed. CEMVN-RG will initiate the Federal, Tribal, and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

3. Mechanized land clearing, filling, or vehicle tracking of jurisdictional wetland areas outside the project area for access, staging, and/or implementation of the authorized work is not allowed.

4. If the authorized project requires any additional work that requires a Department of Army Section 10/404 permit and that is not expressly permitted herein, the permittee must apply for an amendment to this authorization.

You are reminded that Nationwide Permit General Condition 30 requires you to provide a signed certification stating that the authorized work was conducted in accordance with the permit, including any special conditions, and that mitigation (if required) was completed in accordance with the permit. We have attached this form. The permittee must sign the attached form and a copy of this nationwide permit authorization letter must be attached. Please email this to your project manager with this office or send to: U.S. Army Corps of Engineers, New Orleans District, Attn: CEMVN-RGE, 7400 Leake Avenue, New Orleans, Louisiana 70118-3651.

The authorized work would neither affect any species listed as endangered by the U.S. Departments of Interior or Commerce, nor affect any habitat designated as critical to the survival and recovery of any endangered species.

This determination is only applicable to the permit program administered by the U. S. Army Corps of Engineers. It does not eliminate the need to obtain other applicable federal, state, or local approvals before beginning work.

Permittee is aware that this office may reevaluate its decision on this permit at any time the circumstances warrant.

This determination relative to the nationwide permit expires on 14 March 2026.

Should you have any further questions concerning this matter, please contact Hannah Plaisance at Hannah.N.Plaisance@usace.army.mil or at (504) 862-2521.

Sincerely,

For:
Martin S. Mayer
Chief, Regulatory Division

Enclosures

Dear Permittee:

Under the terms of the nationwide permit approval granted to you, you are required by federal regulations, to complete and return this "Completion Notice" accompanied by a copy of your authorization letter to our office at the following address:

U.S. Army Corps of Engineers
New Orleans District
CEMVN-RGE
7400 Leake Avenue
New Orleans, Louisiana 70118

If at a later date you decide not to perform the work, as approved by the nationwide permit, please advise this office so that your file can be so noted. If you have any questions and would like to speak with a Corps of Engineers representative, please call (504) 862-2300.

COMPLETION NOTICE

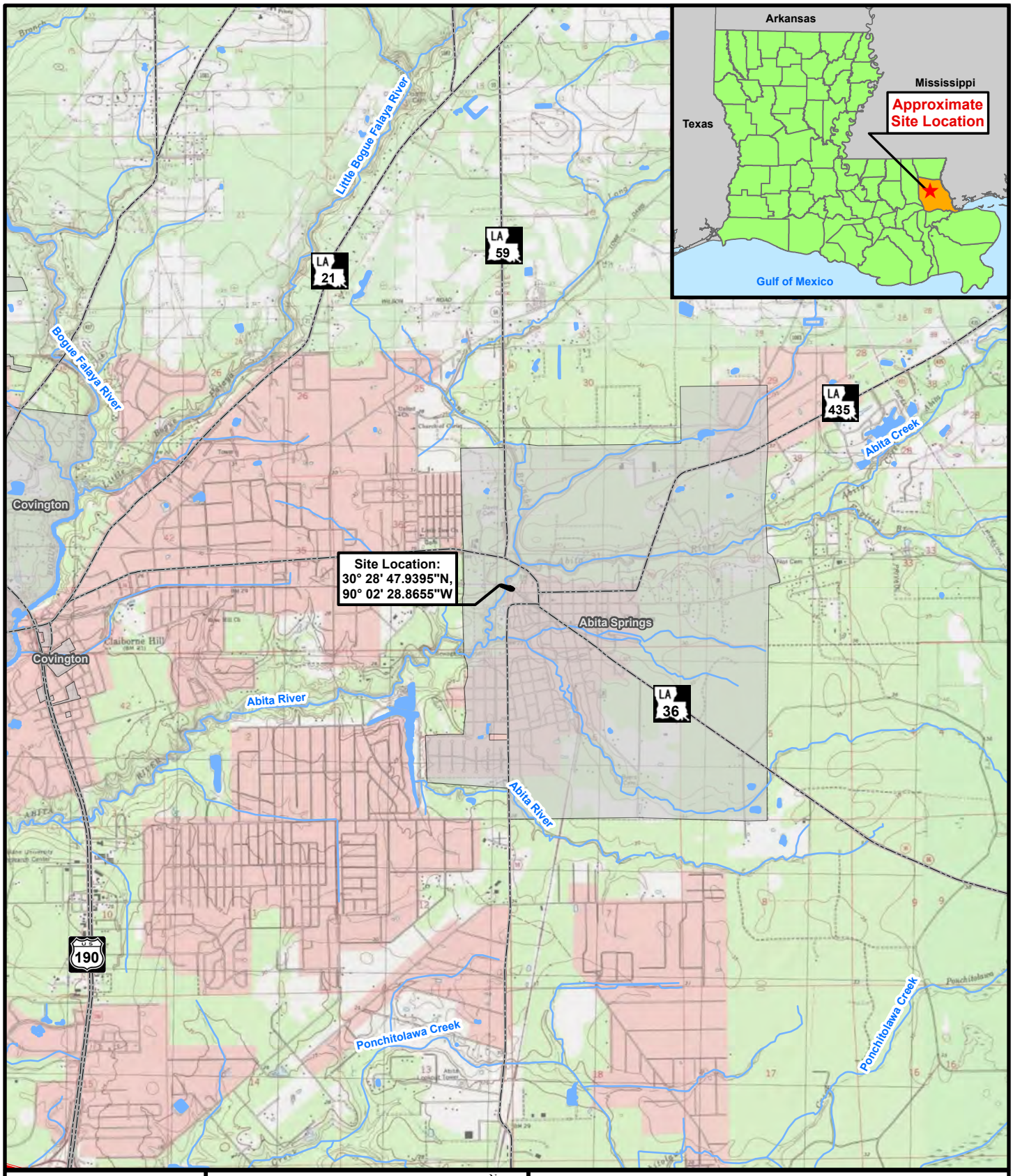
Permit Number: MVN 2023-01141-EHP (NWP #14)

The work authorized in the permit referenced above was completed in accordance with the Department of the Army authorization and applicable general and specific conditions. In addition, mitigation (if required) was completed in accordance with the permit conditions.

Name (Please print): _____

Signature: _____

Date: _____



ELOS

http://elosenv.com/

Feet
0 2,500 5,000

N W E S

Legend:

- Site Outline
- Parish Boundary
- Interstate
- Highway
- Stream/River
- Waterbody
- City/Town

Sections: 31, 36
Township: 06 South
Range: 08 East

Figure 1: TopoVicinity Map

Tammany Trace Bridge

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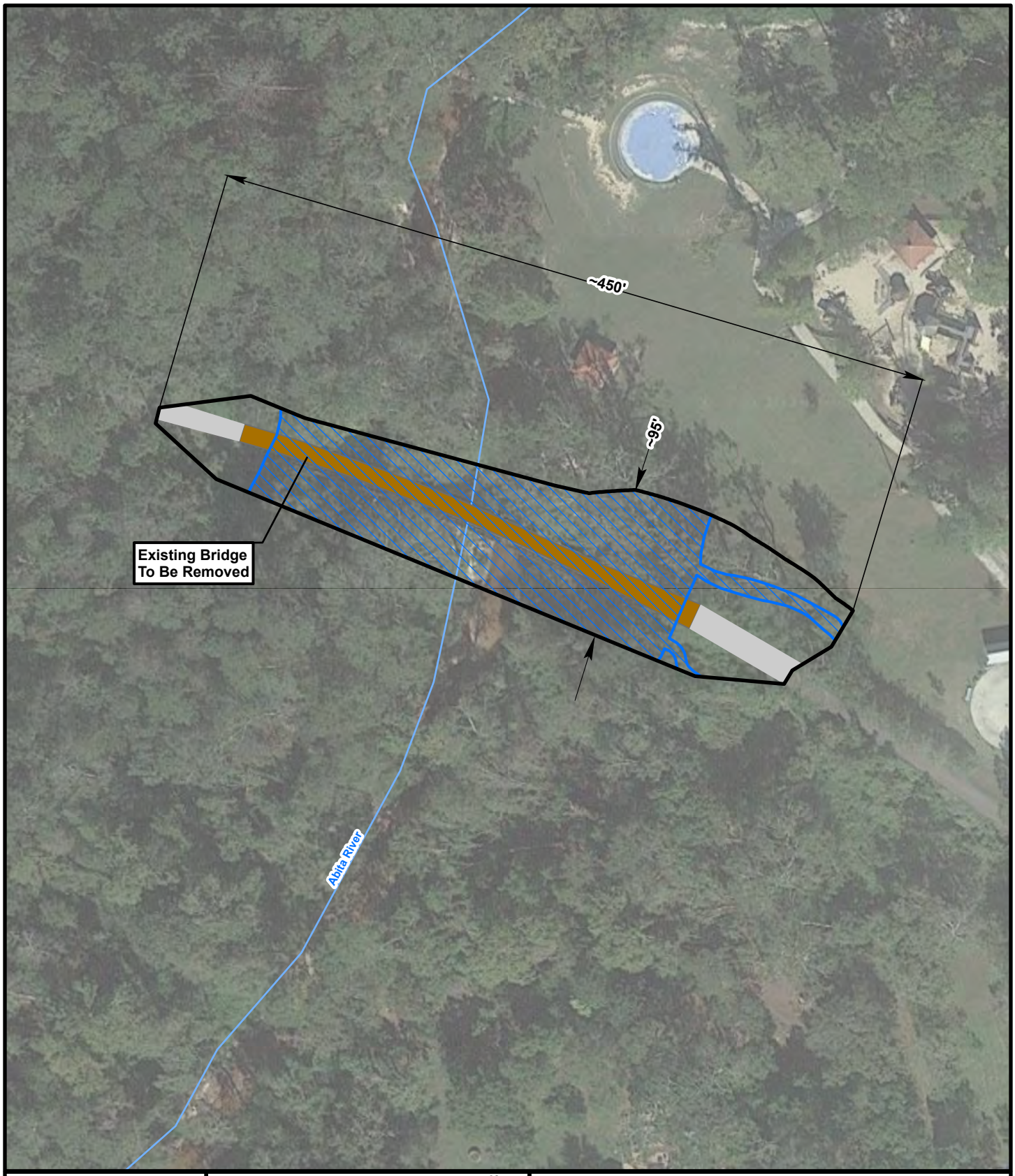

ELOS

http://elosenv.com/

0 50 100 Feet

N W E S

Legend:

- Site Outline
- Existing Bridge
- Existing Pathway

Figure 2: Existing Conditions

Tammany Trace Bridge

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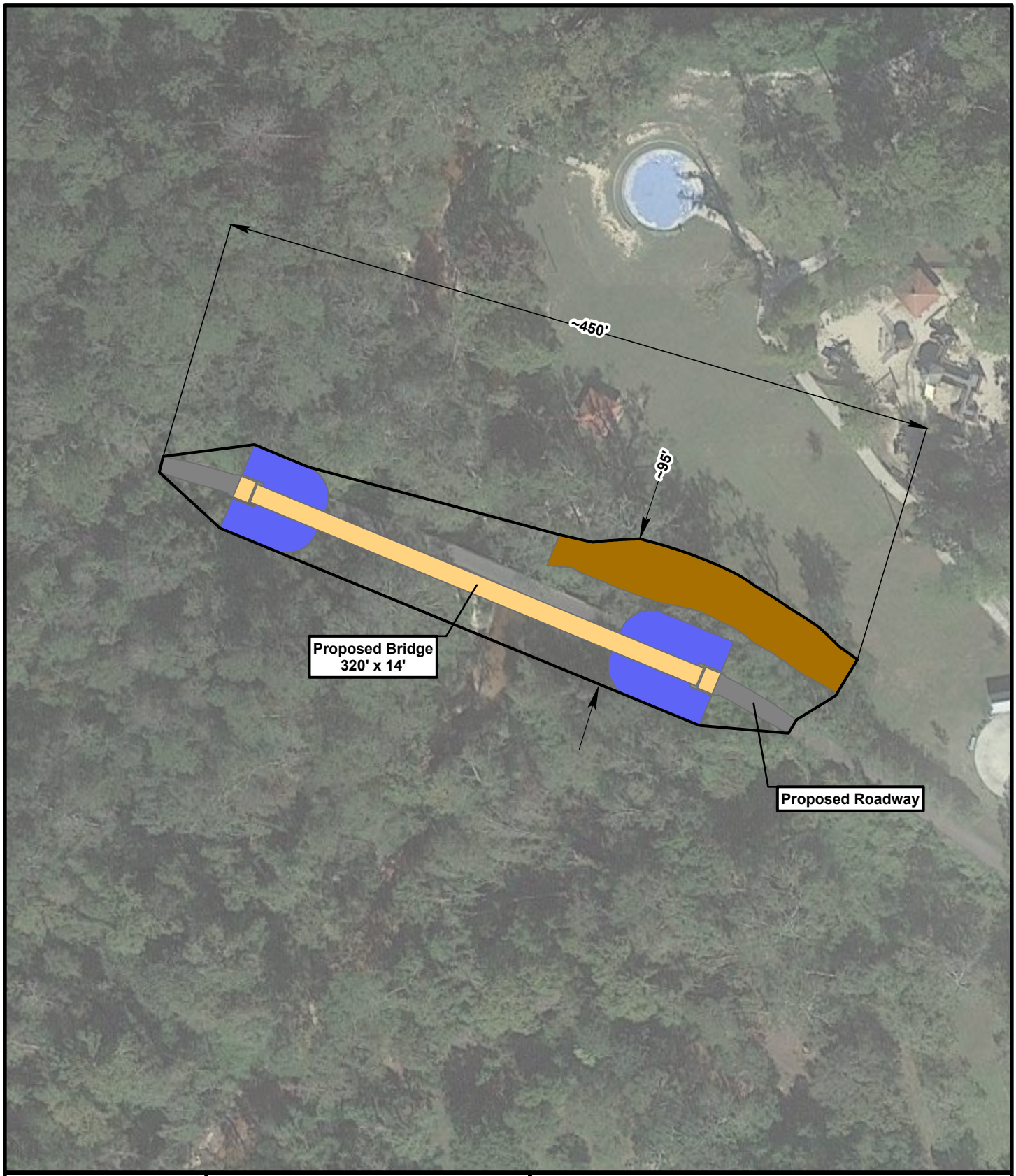
F:\KLE\M&M - Tammany Trace Bridge\Permit\Maps



ELOS

http://elosenv.com/

0 50 100 Feet

N W E S

Figure 3: Plan View

Tammany Trace Bridge

Legend:

- Site Outline
- Proposed Bridge
- Proposed Roadway
- Rerouted Ditch
- RipRap

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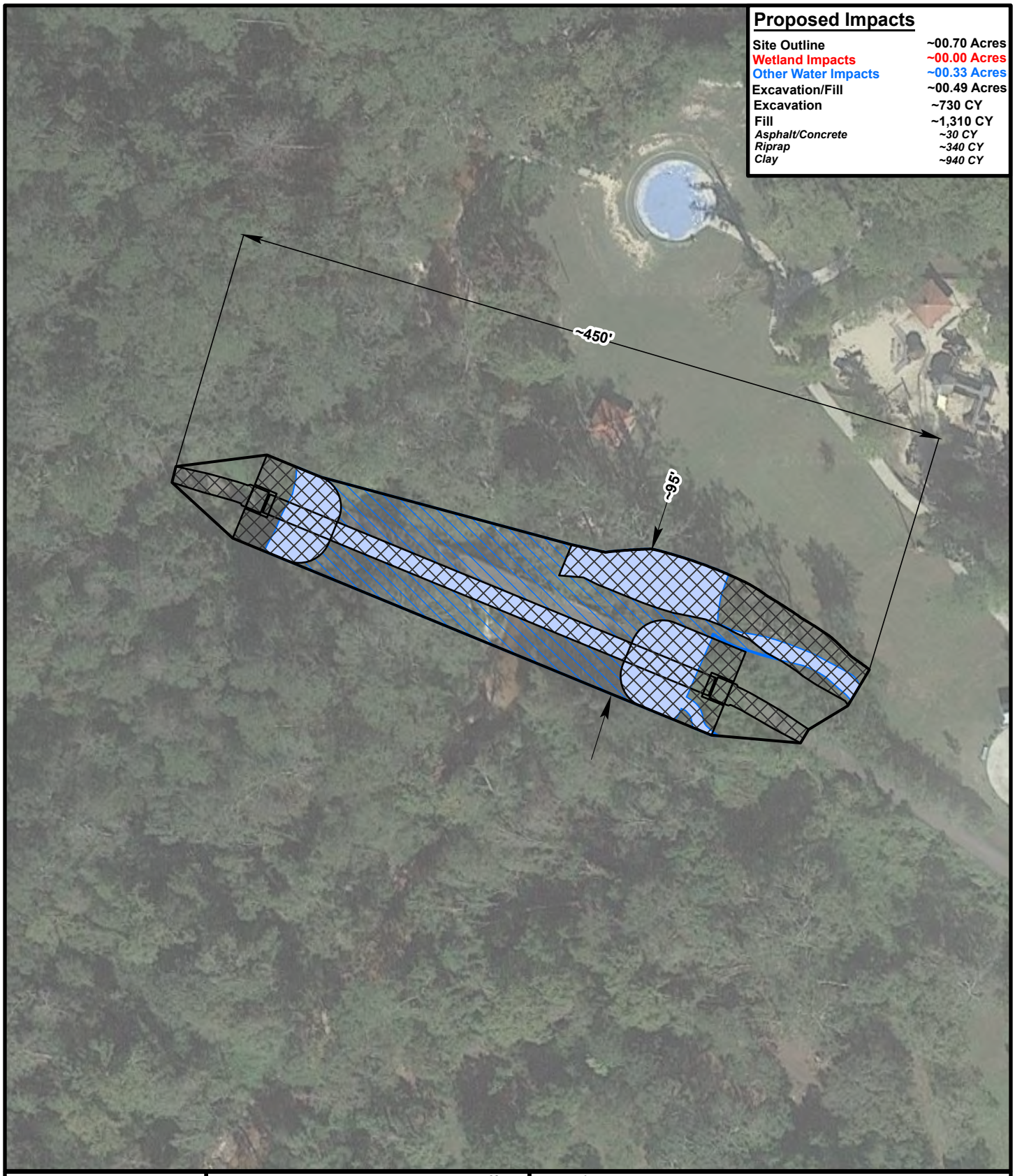

ELOS
http://elosenv.com/

0 50 100 Feet

N W E S

Legend:
- Site Outline
- Excavation/Fill
- Other Waters
- Other Water Impacts

Figure 4: Proposed Impacts

Tammany Trace Bridge

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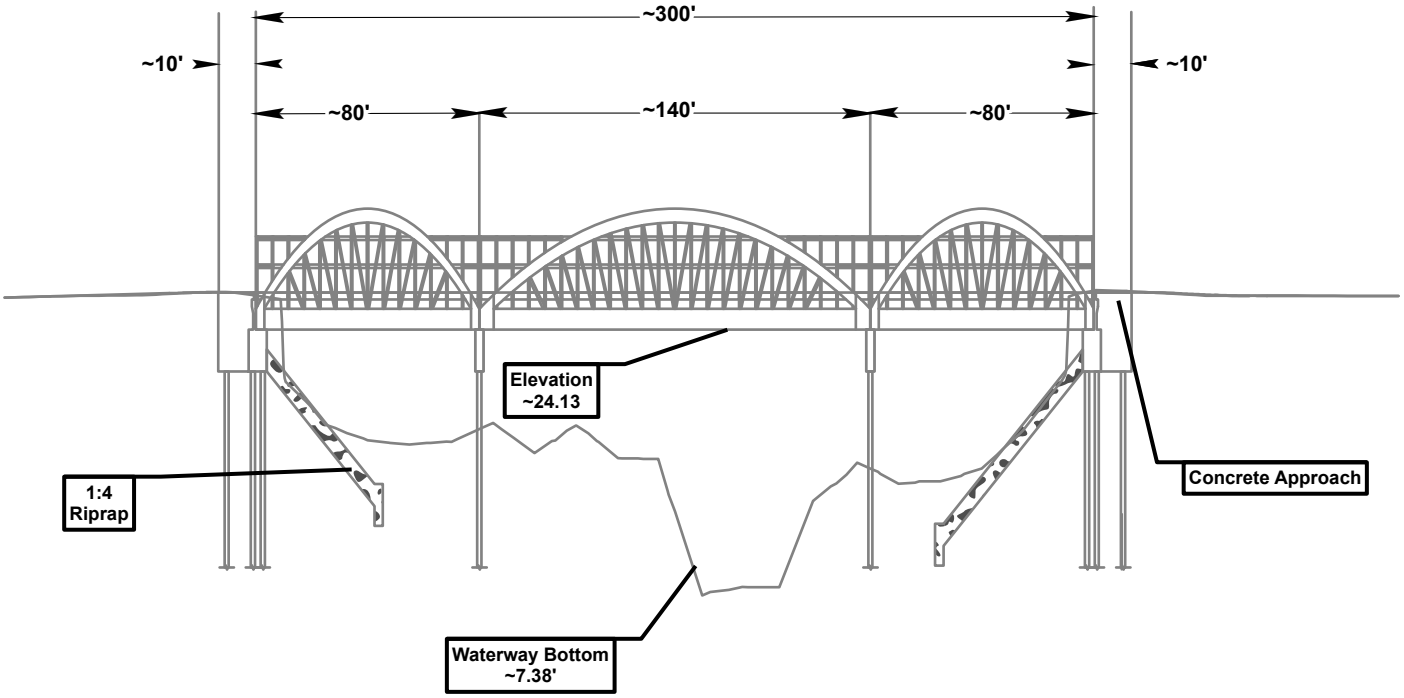
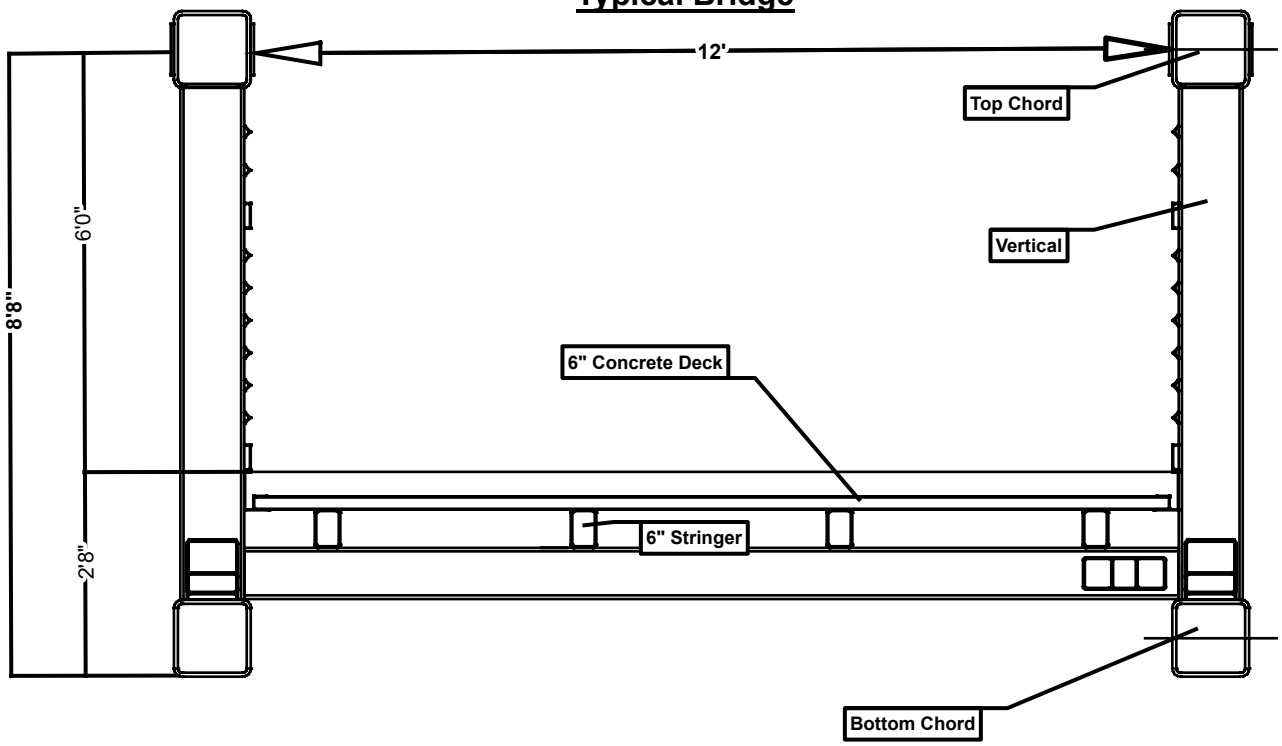
F:\KLE\M&M - Tammany Trace Bridge\Permit\Maps

Typical Bridge



Typical Bridge



ELOS®

http://elosenv.com/

Scale = Not to Scale

Figure 5: Typical Section

Tammany Trace Bridge
Scenic River Permit

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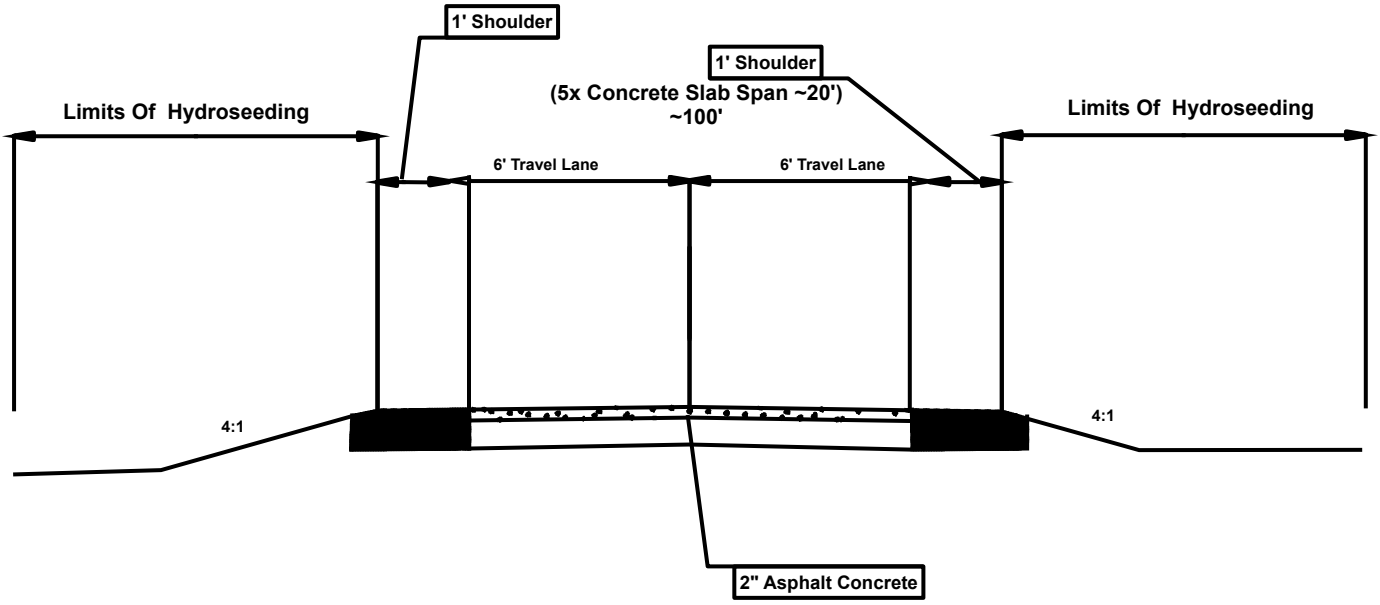
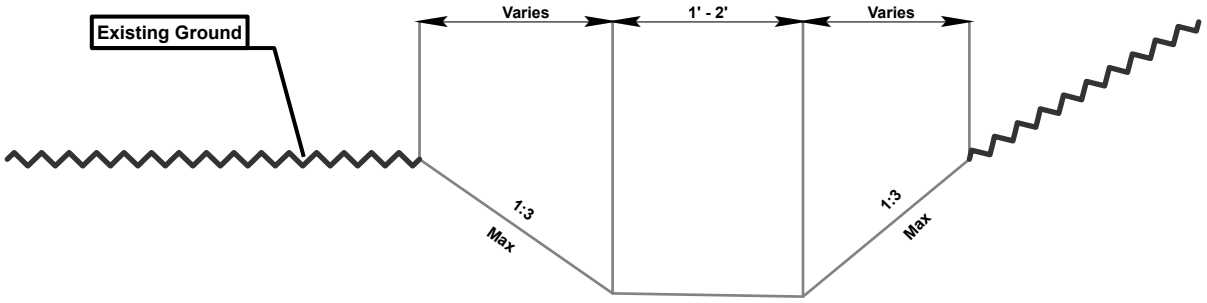
Typical Path



Typical Ditch



ELOS® http://elosenv.com/	**Scale = Not to Scale**	
	Figure 6: Typical Section	
	Tammany Trace Bridge	This figure was prepared utilizing public and proprietary data. It should not be used to establish any legal boundaries or specific locations. ELOS Environmental, L.L.C., is not responsible for any usage of this figure contrary to its original, intended purpose.

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US Army Corps of Engineers
New Orleans District

Nationwide Permit Summary

33 CFR Part 330; Issuance of Nationwide Permits – December 27, 2021
and Regional Conditions for Louisiana

Nationwide Permit 14 – Linear Transportation Projects. Activities required for crossings of waters of the United States associated with the construction, expansion, modification, or improvement of linear transportation projects (e.g., roads, highways, railways, trails, driveways, airport runways, and taxiways) in waters of the United States. For linear transportation projects in non-tidal waters, the discharge of dredged or fill material cannot cause the loss of greater than 1/2-acre of waters of the United States. For linear transportation projects in tidal waters, the discharge of dredged or fill material cannot cause the loss of greater than 1/3-acre of waters of the United States. Any stream channel modification, including bank stabilization, is limited to the minimum necessary to construct or protect the linear transportation project; such modifications must be in the immediate vicinity of the project.

This NWP also authorizes temporary structures, fills, and work, including the use of temporary mats, necessary to construct the linear transportation project. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges of dredged or fill material, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

This NWP cannot be used to authorize non-linear features commonly associated with transportation projects, such as vehicle maintenance or storage buildings, parking lots, train stations, or aircraft hangars.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) the loss of waters of the United States exceeds 1/10-acre; or (2) there is a discharge of dredged or fill material in a special aquatic site, including wetlands. (See general condition 32.)

(Authorities: Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act (Sections 10 and 404)).

Note 1: For linear transportation projects crossing a single waterbody more than one time at separate and distant locations, or multiple waterbodies at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. Linear transportation projects must comply with 33 CFR 330.6(d).

Note 2: Some discharges of dredged or fill material for the construction of farm roads or forest roads, or temporary roads for moving mining equipment, may qualify for an exemption under Section 404(f) of the Clean Water Act (see 33 CFR 323.4).

Note 3: For NWP 14 activities that require pre-construction notification, the PCN must include any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings that require Department of the Army authorization but do not require pre-construction notification (see paragraph (b)(4) of general condition 32). The district engineer will evaluate the PCN in accordance with Section D, "District Engineer's Decision." The district engineer may require mitigation to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see general condition 23).

A. Nationwide Permit General Conditions

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as applicable, in addition to any regional (see Section B) or case-specific conditions (see Section C) imposed by the division engineer or district engineer. Prospective permittees should review these general conditions and these regional conditions for awareness of all requirements placed on this NWP authorization. Prospective permittees should also take note on whether this NWP needs a separate Clean Water Act Section 401 water quality certification and/or Coastal Zone Management Act consistency for this NWP. This information can also be obtained in Section C below. Every person who may wish to obtain permit authorization under one or more NWPs, or who is currently relying on an existing or prior permit authorization under one or more NWPs, has been and is on notice that all of the provisions of 33 CFR 330.1 through 330.6 apply to every NWP authorization. Note especially 33 CFR 330.5 relating to the modification, suspension, or revocation of any NWP authorization.

1. Navigation.

(a) No activity may cause more than a minimal adverse effect on navigation.

(b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

(c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his or her authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

2. Aquatic Life Movements. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary

purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species. If a bottomless culvert cannot be used, then the crossing should be designed and constructed to minimize adverse effects to aquatic life movements.

3. Spawning Areas. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

4. Migratory Bird Breeding Areas. Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

5. Shellfish Beds. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.

6. Suitable Material. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see section 307 of the Clean Water Act).

7. Water Supply Intakes. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

8. Adverse Effects From Impoundments. If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. Management of Water Flows. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization, storm water management activities, and temporary and permanent road crossings, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. Fills Within 100-Year Floodplains. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

11. Equipment. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow, or during low tides.

13. Removal of Temporary Structures and Fills. Temporary structures must be removed, to the maximum extent practicable, after their use has been discontinued. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. Proper Maintenance. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.

15. Single and Complete Project. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

16. Wild and Scenic Rivers.

(a) No NWP activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status.

(b) If a proposed NWP activity will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, the permittee must submit a pre-construction notification (see general condition 32). The district engineer will coordinate the PCN with the Federal agency with direct management responsibility for that river. Permittees shall not begin the NWP activity until notified by the district engineer that the Federal agency with direct management responsibility for that river has determined in writing that the proposed NWP activity will not adversely affect the Wild and Scenic River designation or study status.

(c) Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service). Information on these rivers is also available at: http://www.rivers.gov/.

17. Tribal Rights. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

18. Endangered Species.

(a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify designated critical habitat or critical habitat proposed for such designation. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless ESA section 7 consultation addressing the consequences of the proposed activity on listed species or critical habitat has been completed. See 50 CFR 402.02 for the definition of "effects of the action" for the purposes of ESA section 7 consultation, as well as 50 CFR 402.17, which provides further explanation under ESA section 7 regarding "activities that are reasonably certain to occur" and "consequences caused by the proposed action."

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA (see 33 CFR 330.4(f)(1)). If pre-construction notification is required for the proposed activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation has not been submitted, additional ESA section 7 consultation may be necessary for the activity and the respective federal agency would be responsible for fulfilling its obligation under section 7 of the ESA.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed such designation) might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat or critical habitat proposed for such designation, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation), the pre-construction notification must include the name(s) of the endangered or threatened species (or species proposed for listing) that might be affected by the proposed activity or that utilize the designated critical habitat (or critical habitat proposed for such designation) that might be affected by the proposed activity. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. For activities where the non-Federal applicant has identified listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) that might be affected or is in the vicinity of the activity, and has so notified

the Corps, the applicant shall not begin work until the Corps has provided notification that the proposed activity will have “no effect” on listed species (or species proposed for listing or designated critical habitat (or critical habitat proposed for such designation), or until ESA section 7 consultation or conference has been completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(d) As a result of formal or informal consultation or conference with the FWS or NMFS the district engineer may add species-specific permit conditions to the NWPs.

(e) Authorization of an activity by an NWP does not authorize the “take” of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with “incidental take” provisions, etc.) from the FWS or the NMFS, the Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word “harm” in the definition of “take" means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

(f) If the non-federal permittee has a valid ESA section 10(a)(1)(B) incidental take permit with an approved Habitat Conservation Plan for a project or a group of projects that includes the proposed NWP activity, the non-federal applicant should provide a copy of that ESA section 10(a)(1)(B) permit with the PCN required by paragraph (c) of this general condition. The district engineer will coordinate with the agency that issued the ESA section 10(a)(1)(B) permit to determine whether the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation conducted for the ESA section 10(a)(1)(B) permit. If that coordination results in concurrence from the agency that the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation for the ESA section 10(a)(1)(B) permit, the district engineer does not need to conduct a separate ESA section 7 consultation for the proposed NWP activity. The district engineer will notify the non-federal applicant within 45 days of receipt of a complete pre-construction notification whether the ESA section 10(a)(1)(B) permit covers the proposed NWP activity or whether additional ESA section 7 consultation is required.

(g) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the FWS and NMFS or their world wide web pages at http://www.fws.gov/ or http://www.fws.gov/ipac and http://www.nmfs.noaa.gov/pr/species/esa/ respectively.

19. Migratory Birds and Bald and Golden Eagles. The permittee is responsible for ensuring that an action authorized by an NWP complies with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The permittee is responsible for

contacting the appropriate local office of the U.S. Fish and Wildlife Service to determine what measures, if any, are necessary or appropriate to reduce adverse effects to migratory birds or eagles, including whether "incidental take" permits are necessary and available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

20. Historic Properties.

(a) No activity is authorized under any NWP which may have the potential to cause effects to properties listed, or eligible for listing, in the National Register of Historic Places until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the requirements of section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)(1)). If pre-construction notification is required for the proposed NWP activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation is not submitted, then additional consultation under section 106 may be necessary. The respective federal agency is responsible for fulfilling its obligation to comply with section 106.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the NWP activity might have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties might have the potential to be affected by the proposed NWP activity or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of, or potential for, the presence of historic properties can be sought from the State Historic Preservation Officer, Tribal Historic Preservation Officer, or designated tribal representative, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts commensurate with potential impacts, which may include background research, consultation, oral history interviews, sample field investigation, and/or field survey. Based on the information submitted in the PCN and these identification efforts, the district engineer shall determine whether the proposed NWP activity has the potential to cause effects on the historic properties. Section 106 consultation is not required when the district engineer determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). Section 106 consultation is required when the district engineer determines that the activity has the potential to cause effects on historic

properties. The district engineer will conduct consultation with consulting parties identified under 36 CFR 800.2(c) when he or she makes any of the following effect determinations for the purposes of section 106 of the NHPA: no historic properties affected, no adverse effect, or adverse effect.

(d) Where the non-Federal applicant has identified historic properties on which the proposed NWP activity might have the potential to cause effects and has so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects to historic properties or that NHPA section 106 consultation has been completed. For non-federal permittees, the district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA section 106 consultation is required. If NHPA section 106 consultation is required, the district engineer will notify the non-Federal applicant that he or she cannot begin the activity until section 106 consultation is completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(e) Prospective permittees should be aware that section 110k of the NHPA (54 U.S.C. 306113) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

21. Discovery of Previously Unknown Remains and Artifacts. Permittees that discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by an NWP, they must immediately notify the district engineer of what they have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal, and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

22. Designated Critical Resource Waters. Critical resource waters include, NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular

environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment.

(a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, 52, 57 and 58 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, 38, and 54, notification is required in accordance with general condition 32, for any activity proposed by permittees in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after she or he determines that the impacts to the critical resource waters will be no more than minimal.

23. Mitigation. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse environmental effects of the proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects.

(d) Compensatory mitigation at a minimum one-for-one ratio will be required for all losses of stream bed that exceed 3/100-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse environmental effects of the proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement. This compensatory mitigation requirement may be satisfied through the restoration or enhancement of riparian areas next to streams in accordance with paragraph (e) of this general condition. For losses of stream bed of

3/100-acre or less that require preconstruction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects. Compensatory mitigation for losses of streams should be provided, if practicable, through stream rehabilitation, enhancement, or preservation, since streams are difficult-to-replace resources (see 33 CFR 332.3(e)(3)).

(e) Compensatory mitigation plans for NWP activities in or near streams or other open waters will normally include a requirement for the restoration or enhancement, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, the restoration or maintenance/protection of riparian areas may be the only compensatory mitigation required. If restoring riparian areas involves planting vegetation, only native species should be planted. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to restore or maintain/protect a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or maintaining/protecting a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of minimization or compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(f) Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.

(1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in no more than minimal adverse environmental effects. For the NWPs, the preferred mechanism for providing compensatory mitigation is mitigation bank credits or in-lieu fee program credits (see 33 CFR 332.3(b)(2) and (3)). However, if an appropriate number and type of mitigation bank or in-lieu credits are not available at the time the PCN is submitted to the district engineer, the district engineer may approve the use of permittee-responsible mitigation.

(2) The amount of compensatory mitigation required by the district engineer must be sufficient to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see 33 CFR 330.1(e)(3)). (See also 33 CFR 332.3(f).)

(3) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, aquatic resource restoration should be the first compensatory mitigation option considered for permittee-responsible mitigation.

(4) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) through (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)). If permittee-responsible mitigation is the proposed option, and the proposed compensatory mitigation site is located on land in which another federal agency holds an easement, the district engineer will coordinate with that federal agency to determine if proposed compensatory mitigation project is compatible with the terms of the easement.

(5) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan needs to address only the baseline conditions at the impact site and the number of credits to be provided (see 33 CFR 332.4(c)(1)(ii)).

(6) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan (see 33 CFR 332.4(c)(1)(ii)).

(g) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any NWP activity resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that an NWP activity already meeting the established acreage limits also satisfies the no more than minimal impact requirement for the NWPs.

(h) Permittees may propose the use of mitigation banks, in-lieu fee programs, or permittee-responsible mitigation. When developing a compensatory mitigation proposal, the permittee must consider appropriate and practicable options consistent with the framework at 33 CFR 332.3(b). For activities resulting in the loss of marine or estuarine resources, permittee-responsible mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party

or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management.

(i) Where certain functions and services of waters of the United States are permanently adversely affected by a regulated activity, such as discharges of dredged or fill material into waters of the United States that will convert a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse environmental effects of the activity to the no more than minimal level.

24. Safety of Impoundment Structures. To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state or federal, dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

25. Water Quality.

(a) Where the certifying authority (state, authorized tribe, or EPA, as appropriate) has not previously certified compliance of an NWP with CWA section 401, a CWA section 401 water quality certification for the proposed discharge must be obtained or waived (see 33 CFR 330.4(c)). If the permittee cannot comply with all of the conditions of a water quality certification previously issued by certifying authority for the issuance of the NWP, then the permittee must obtain a water quality certification or waiver for the proposed discharge in order for the activity to be authorized by an NWP.

(b) If the NWP activity requires pre-construction notification and the certifying authority has not previously certified compliance of an NWP with CWA section 401, the proposed discharge is not authorized by an NWP until water quality certification is obtained or waived. If the certifying authority issues a water quality certification for the proposed discharge, the permittee must submit a copy of the certification to the district engineer. The discharge is not authorized by an NWP until the district engineer has notified the permittee that the water quality certification requirement has been satisfied by the issuance of a water quality certification or a waiver.

(c) The district engineer or certifying authority may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

26. Coastal Zone Management. In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). If the permittee cannot comply with all of the conditions of a coastal zone management consistency

concurrence previously issued by the state, then the permittee must obtain an individual coastal zone management consistency concurrence or presumption of concurrence in order for the activity to be authorized by an NWP. The district engineer or a state may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

27. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its CWA section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

28. Use of Multiple Nationwide Permits. The use of more than one NWP for a single and complete project is authorized, subject to the following restrictions:

(a) If only one of the NWPs used to authorize the single and complete project has a specified acreage limit, the acreage loss of waters of the United States cannot exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

(b) If one or more of the NWPs used to authorize the single and complete project has specified acreage limits, the acreage loss of waters of the United States authorized by those NWPs cannot exceed their respective specified acreage limits. For example, if a commercial development is constructed under NWP 39, and the single and complete project includes the filling of an upland ditch authorized by NWP 46, the maximum acreage loss of waters of the United States for the commercial development under NWP 39 cannot exceed 1/2-acre, and the total acreage loss of waters of United States due to the NWP 39 and 46 activities cannot exceed 1 acre.

29. Transfer of Nationwide Permit Verifications. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:

> "When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and ate below."

_____

(Transferee)

_____

(Date)

30. Compliance Certification. Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and implementation of any required compensatory mitigation. The success of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include:

(a) A statement that the authorized activity was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;

(b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and

(c) The signature of the permittee certifying the completion of the activity and mitigation. The completed certification document must be submitted to the district engineer within 30 days of completion of the authorized activity or the implementation of any required compensatory mitigation, whichever occurs later.

31. Activities Affecting Structures or Works Built by the United States. If an NWP activity also requires review by, or permission from, the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers (USACE) federally authorized Civil Works project (a “USACE project”), the prospective permittee must submit a pre-construction notification. See paragraph (b)(10) of general condition 32. An activity that requires section 408 permission and/or review is not authorized by an NWP until the appropriate Corps office issues the section 408 permission or completes its review to alter, occupy, or use the USACE project, and the district engineer issues a written NWP verification.

32. Pre-Construction Notification.

(a) *Timing*. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

(1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

(2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species or critical habitat might be affected or are in the vicinity of the activity, or to notify the Corps pursuant to general condition 20 that the activity might have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)) has been completed. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) *Contents of Pre-Construction Notification*: The PCN must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed activity;

(3) Identify the specific NWP or NWP(s) the prospective permittee wants to use to authorize the proposed activity;

(4) **(i)** A description of the proposed activity; the activity's purpose; direct and indirect adverse environmental effects the activity would cause, including the anticipated amount of loss of wetlands, other special aquatic sites, and other waters expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; a description of any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed activity; and any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings for linear projects that require Department of the Army authorization but do not require pre-construction notification. The description of the proposed activity and any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal and to determine the need for compensatory mitigation or other mitigation measures. **(ii)** For linear projects where one or more single and complete crossings require pre-construction notification, the PCN must include the quantity of anticipated losses of wetlands, other special aquatic sites, and other waters for each single and complete crossing of those wetlands, other special aquatic sites, and other waters (including those single and complete crossings authorized by an NWP but do not require PCNs). This information will be used by the district engineer to evaluate the cumulative adverse environmental effects of the proposed linear project, and does not change those non-PCN NWP activities into NWP PCNs. **(iii)** Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the activity and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans);

(5) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial and intermittent streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many wetlands, other special aquatic sites, and other waters. Furthermore, the 45-day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate;

(6) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands or 3/100-acre of stream bed and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied, or explaining why the adverse environmental effects are no more

than minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(7) For non-federal permittees, if any listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat (or critical habitat proposed for such designation), the PCN must include the name(s) of those endangered or threatened species (or species proposed for listing) that might be affected by the proposed activity or utilize the designated critical habitat (or critical habitat proposed for such designation) that might be affected by the proposed activity. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with the Endangered Species Act;

(8) For non-federal permittees, if the NWP activity might have the potential to cause effects to a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, the PCN must state which historic property might have the potential to be affected by the proposed activity or include a vicinity map indicating the location of the historic property. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with section 106 of the National Historic Preservation Act;

(9) For an activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, the PCN must identify the Wild and Scenic River or the “study river” (see general condition 16); and

(10) For an NWP activity that requires permission from, or review by, the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, the pre-construction notification must include a statement confirming that the project proponent has submitted a written request for section 408 permission from, or review by, the Corps office having jurisdiction over that USACE project.

(c) *Form of Pre-Construction Notification*: The nationwide permit pre-construction notification form (Form ENG 6082) should be used for NWP PCNs. A letter containing the required information may also be used. Applicants may provide electronic files of PCNs and supporting materials if the district engineer has established tools and procedures for electronic submittals.

(d) *Agency Coordination*:

(1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the activity's adverse environmental effects so that they are no more than minimal.

(2) Agency coordination is required for: **(i)** all NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States; **(ii)** NWP 13 activities in excess of 500 linear feet, fills greater than one cubic yard per running foot, or involve discharges of dredged or fill material into special aquatic sites; and **(iii)** NWP 54 activities in excess of 500 linear feet, or that extend into the waterbody more than 30 feet from the mean low water line in tidal waters or the ordinary high water mark in the Great Lakes.

(3) When agency coordination is required, the district engineer will immediately provide (e.g., via e-mail, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (FWS, state natural resource or water quality agency, EPA, and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to notify the district engineer via telephone, facsimile transmission, or e-mail that they intend to provide substantive, site-specific comments. The comments must explain why the agency believes the adverse environmental effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity's compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure that the net adverse environmental effects of the proposed activity are no more than minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(4) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(5) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of pre-construction notifications to expedite agency coordination.

B. Regional Conditions for all Nationwide Permits in the state of Louisiana approved for reissuance/issuance on February 3, 2022.

Regional Condition 1. No regulated activity may cause the permanent loss or the conversion of greater than ½ acre of cypress swamp and/or cypress-tupelo swamp.

Regional Condition 2. No regulated activity may cause the permanent loss or the conversion of greater than ½ acre of coastal prairie, pine savanna, and/or pitcher plant bogs.

Regional Condition 3. No regulated activity is authorized under any NWP permit which has been determined to have an adverse impact upon a federal or state designated rookery and/or bird sanctuary.

Regional Condition 4. Dredged and/or fill material placed within wetlands and other waters must be free of contaminants.

Regional Condition 5. For work within the Louisiana Coastal Zone and/or the Outer Continental Shelf off Louisiana;

a. The New Orleans District's Programmatic General Permit (PGP) generally supersedes the Nationwide Permit authorization for regulated activities located within the Louisiana Coastal Zone as incorporated within the New Orleans Corps District boundaries. Projects typically will not qualify for a Nationwide Permit if they qualify for the Programmatic General Permit.

b. A joint permit application for work must first be submitted to the Louisiana Department of Natural Resources, Office of Coastal Management (OCM). OCM will then forward the request to the Corps of Engineers-New Orleans District.

c. NWP requests that have not received a Coastal Use Permit or other consistency determination from the OCM would be processed by the Corps. However, any granted authorization may be conditioned to require the applicant to obtain appropriate authorization from OCM before the NWP is valid.

Regional Condition 6. A pre-construction notification, as defined under nationwide general condition 32, will be provided for all regulated activities, excluding Nationwide 20, that

a. Adversely affects greater than 1/10 acre of wetlands within the Louisiana Coastal Zone, and/or;

b. Adversely impacts a Louisiana designated Natural and Scenic River or a state or federal wetland/wildlife management area and/or refuge.

Regional Condition 7, Supplement to General Condition 2 – Aquatic Life Movement. To support compliance with General Condition 2 of the NWPs, culverts must be sufficiently sized to maintain expected high water flows and be installed at a sufficient depth to maintain low flows to sustain the movement of aquatic species.

Regional Condition 8, ESA Additional Information. NWP GC 18(g) provides links to information about threatened and endangered species and their critical habitat from FWS and NMFS. Within the State of Louisiana, additional information can also be obtained from LDWF at their world wide web pages at https://www.wlf.louisiana.gov/page/request-wildlife-diversity-project-review-or-digital-data.

C. Regional Conditions Specific to Nationwide Permit 14 in the state of Louisiana

Pre-Construction Notification, as defined under nationwide general condition 32, is required for all regulated linear transportation crossings within tidal waters regardless of impact acreage. The U.S. Environmental Protection Agency and National Marine Fisheries Service will be forwarded a copy of the Pre-Construction Notification.

This NWP, via disavowal of Coastal Zone certification by the Louisiana Department of Natural Resources, is considered denied without prejudice within the Louisiana Coastal Zone. Individual requests for approval under this NWP ***will be conditioned to require the applicant to obtain a Louisiana Department of Natural Resources determination/certification before the NWP is valid.***

D. Water Quality Nationwide Permit Regional Conditions for "Indian Country" Lands within the state of Louisiana

The Environmental Protection Agency (EPA) is the agency required to address water quality certification of the 2012 nationwide permits (NWPs) in Indian country[1] where a tribe has not received treatment in the same manner as a state for the Clean Water Act (CWA) Section 401 program. Tribes which have received treatment in the same manner as a state (TAS) for the water quality standards and §401 certification programs and which have EPA-approved water quality standards will be contacted by the Corps of Engineers for the water quality certification process. EPA is the agency required to address water quality certification for tribes that have not received TAS for the water quality standards and 401 certification programs. At this time, no Indian tribes in Louisiana have CWA Section 401 authority.

[1] "Indian Country", as defined in 18 U.S.C. 1151, means: (1) all land within the limits of any Indian reservation under the jurisdiction of the United States government, not withstanding the issuance of any patent, and including rights-of-way running through the reservation; (2) all dependent Indian communities within the borders of the United States whether within the original or subsequently acquired territory thereof, and whether within or without the limits of a State; and (3) all Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same.

1. The permittee shall conduct all work in such a manner to comply with all U.S. Army Corps of Engineers §404 permit conditions.

2. The permittee shall keep a copy of this certification with conditions at the project site during all phases of construction. All contractors or subcontractors involved in the project must be provided a copy of this certification prior to commencement of activities.

3. All heavy equipment used in the project areas shall be steam cleaned before the start of the project and inspected daily for leaks. Leaking equipment must not be used in or near surface water or in a wetland area. Equipment shall be parked outside the waterbody when not in use.

4. All fuels, oil, hydraulic fluid, or other substances of this nature must not be stored, temporarily or otherwise, within the normal floodplain or the wetland. A secondary containment system for these items shall be used in the event the primary containment system leaks. Refueling or servicing of equipment must not take place within 100 feet of any watercourse or within the wetland area.

5. The construction area shall be protected such that a runoff event will not move soil or contaminants to surface water or away from the construction site. These measures shall be in place prior to the commencement of activities and inspected daily.

6. Temporary mats must be placed on stream banks, riparian areas, and wetlands, to minimize impacts to soil and vegetation from heavy equipment. Temporary access roads must be restored to pre-project conditions.

7. All asphalt, concrete, and other construction materials must be properly handled and contained to prevent releases to the stream channels. All concrete that is to be poured must be fully contained in mortar-tight forms to prevent accidental releases to surface water or ground water. No discharge of any concrete to surface water or ground water may occur. Dumping of waste materials near watercourses is strictly prohibited.

8. Work in a stream channel should be limited to periods of no flow when practicable, and must be limited to periods of low flow. Avoid working within the channel during spring runoff or summer thunderstorm season.

9. When working in a stream channel, flowing water must be temporarily diverted around the work area to minimize sedimentation and turbidity problems. Acceptable diversion structures are non-erosive and include (but are not limited to) sand bags, water bladders, concrete barriers lined with plastic, and flumes.

10. The permittee shall restore all areas disturbed by construction activities to pre-project conditions. This shall include restoration of surface contours, stabilization of the soil, and restoration of appropriate native vegetation to establish permanent cover.

E. District Engineer's Decision.

1. In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. If a project proponent requests authorization by a specific NWP, the district engineer should issue the NWP verification for that activity if it meets the terms and conditions of that NWP, unless he or she determines, after considering mitigation, that the proposed activity will result in more than minimal individual and cumulative adverse effects on the aquatic environment and other aspects of the public interest and exercises discretionary authority to require an individual permit for the proposed activity. For a linear project, this determination will include an evaluation of the single and complete crossings of waters of the United States that require PCNs to determine whether they individually satisfy the terms and conditions of the NWP(s), as well as the cumulative effects caused by all of the crossings of waters of the United States authorized by an NWP. If an applicant requests a waiver of an applicable limit, as provided for in NWPs 13, 36, or 54, the district engineer will only grant the waiver upon a written determination that the NWP activity will result in only minimal individual and cumulative adverse environmental effects.

2. When making minimal adverse environmental effects determinations the district engineer will consider the direct and indirect effects caused by the NWP activity. He or she will also consider the cumulative adverse environmental effects caused by activities authorized by an NWP and whether those cumulative adverse environmental effects are no more than minimal. The district engineer will also consider site specific factors, such as the environmental setting in the vicinity of the NWP activity, the type of resource that will be affected by the NWP activity, the functions provided by the aquatic resources that will be affected by the NWP activity, the degree or magnitude to which the aquatic resources perform those functions, the extent that aquatic resource functions will be lost as a result of the NWP activity (e.g., partial or complete loss), the duration of the adverse effects (temporary or permanent), the importance of the aquatic resource functions to the region (e.g., watershed or ecoregion), and mitigation required by the district engineer. If an appropriate functional or condition assessment method is available and practicable to use, that assessment method may be used by the district engineer to assist in the minimal adverse environmental effects determination. The district engineer may add case-specific special conditions to the NWP authorization to address site-specific environmental concerns.

3. If the proposed activity requires a PCN and will result in a loss of greater than 1/10-acre of wetlands or 3/100-acre of stream bed, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for NWP activities with smaller impacts, or for impacts to other types of waters. The district engineer will consider any proposed compensatory mitigation or other mitigation measures the applicant has included in the proposal in determining whether the net adverse environmental effects of the proposed activity are no more than minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district

engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse environmental effects are no more than minimal, after considering mitigation, the district engineer will notify the permittee and include any activity-specific conditions in the NWP verification the district engineer deems necessary. Conditions for compensatory mitigation requirements must comply with the appropriate provisions at 33 CFR 332.3(k). The district engineer must approve the final mitigation plan before the permittee commences work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the proposed compensatory mitigation plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure that the NWP activity results in no more than minimal adverse environmental effects. If the net adverse environmental effects of the NWP activity (after consideration of the mitigation proposal) are determined by the district engineer to be no more than minimal, the district engineer will provide a timely written response to the applicant. The response will state that the NWP activity can proceed under the terms and conditions of the NWP, including any activity-specific conditions added to the NWP authorization by the district engineer.

4. If the district engineer determines that the adverse environmental effects of the proposed activity are more than minimal, then the district engineer will notify the applicant either: (a) that the activity does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (b) that the activity is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal; or (c) that the activity is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse environmental effects, the activity will be authorized within the 45-day PCN period (unless additional time is required to comply with general conditions 18, 20, and/or 31), with activity-specific conditions that state the mitigation requirements. The authorization will include the necessary conceptual or detailed mitigation plan or a requirement that the applicant submit a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal. When compensatory mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan or has determined that prior approval of a final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation.

F. Further Information

1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.

2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.

3. NWPs do not grant any property rights or exclusive privileges.

4. NWPs do not authorize any injury to the property or rights of others.

5. NWPs do not authorize interference with any existing or proposed Federal project (see general condition 31).

G. Definitions

Best management practices (BMPs): Policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from development. BMPs are categorized as structural or non-structural.

Compensatory mitigation: The restoration (re-establishment or rehabilitation), establishment (creation), enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

Currently serviceable: Useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.

Direct effects: Effects that are caused by the activity and occur at the same time and place.

Discharge: The term “discharge” means any discharge of dredged or fill material into waters of the United States.

Ecological reference: A model used to plan and design an aquatic habitat and riparian area restoration, enhancement, or establishment activity under NWP 27. An ecological reference may be based on the structure, functions, and dynamics of an aquatic habitat type or a riparian area type that currently exists in the region where the proposed NWP 27 activity is located. Alternatively, an ecological reference may be based on a conceptual model for the aquatic habitat type or riparian area type to be restored, enhanced, or established as a result of the proposed NWP 27 activity. An ecological reference takes into account the range of variation of the aquatic habitat type or riparian area type in the region.

Enhancement: The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.

Establishment (creation): The manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area.

High Tide Line: The line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.

Historic Property: Any prehistoric or historic district, site (including archaeological site), building, structure, or other object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria (36 CFR part 60).

Independent utility: A test to determine what constitutes a single and complete non-linear project in the Corps Regulatory Program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.

Indirect effects: Effects that are caused by the activity and are later in time or farther removed in distance, but are still reasonably foreseeable.

Loss of waters of the United States: Waters of the United States that are permanently adversely affected by filling, flooding, excavation, or drainage because of the regulated activity. The loss of stream bed includes the acres of stream bed that are permanently adversely affected by filling or excavation because of the regulated activity. Permanent adverse effects include permanent discharges of dredged or fill material that change an aquatic area to dry land, increase the bottom elevation of a waterbody, or change the use of a waterbody. The acreage of loss of waters of the United States is a threshold measurement of the impact to jurisdictional waters or wetlands for determining whether a project may qualify for an NWP; it is not a net threshold that is calculated after considering compensatory mitigation that may be used to offset losses of aquatic functions and services. Waters of the United States temporarily filled, flooded,

excavated, or drained, but restored to pre-construction contours and elevations after construction, are not included in the measurement of loss of waters of the United States. Impacts resulting from activities that do not require Department of the Army authorization, such as activities eligible for exemptions under section 404(f) of the Clean Water Act, are not considered when calculating the loss of waters of the United States.

Navigable waters: Waters subject to section 10 of the Rivers and Harbors Act of 1899. These waters are defined at 33 CFR part 329.

Non-tidal wetland: A non-tidal wetland is a wetland that is not subject to the ebb and flow of tidal waters. Non-tidal wetlands contiguous to tidal waters are located landward of the high tide line (i.e., spring high tide line).

Open water: For purposes of the NWPs, an open water is any area that in a year with normal patterns of precipitation has water flowing or standing above ground to the extent that an ordinary high water mark can be determined. Aquatic vegetation within the area of flowing or standing water is either non-emergent, sparse, or absent. Vegetated shallows are considered to be open waters. Examples of “open waters” include rivers, streams, lakes, and ponds.

Ordinary High Water Mark: The term ordinary high water mark means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

Perennial stream: A perennial stream has surface water flowing continuously year-round during a typical year.

Practicable: Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

Pre-construction notification: A request submitted by the project proponent to the Corps for confirmation that a particular activity is authorized by nationwide permit. The request may be a permit application, letter, or similar document that includes information about the proposed work and its anticipated environmental effects. Pre-construction notification may be required by the terms and conditions of a nationwide permit, or by regional conditions. A pre-construction notification may be voluntarily submitted in cases where pre-construction notification is not required and the project proponent wants confirmation that the activity is authorized by nationwide permit.

Preservation: The removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.

Re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area and functions.

Rehabilitation: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.

Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation.

Riffle and pool complex: Riffle and pool complexes are special aquatic sites under the 404(b)(1) Guidelines. Riffle and pool complexes sometimes characterize steep gradient sections of streams. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a course substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. A slower stream velocity, a streaming flow, a smooth surface, and a finer substrate characterize pools.

Riparian areas: Riparian areas are lands next to streams, lakes, and estuarine-marine shorelines. Riparian areas are transitional between terrestrial and aquatic ecosystems, through which surface and subsurface hydrology connects riverine, lacustrine, estuarine, and marine waters with their adjacent wetlands, non-wetland waters, or uplands. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality. (See general condition 23.)

Shellfish seeding: The placement of shellfish seed and/or suitable substrate to increase shellfish production. Shellfish seed consists of immature individual shellfish or individual shellfish attached to shells or shell fragments (i.e., spat on shell). Suitable substrate may consist of shellfish shells, shell fragments, or other appropriate materials placed into waters for shellfish habitat.

Single and complete linear project: A linear project is a project constructed for the purpose of getting people, goods, or services from a point of origin to a terminal point, which often involves multiple crossings of one or more waterbodies at separate and distant locations. The term “single and complete project” is defined as that portion of the total linear project proposed or accomplished by one owner/developer or partnership or other association of owners/developers that includes all crossings of a single water of the United States (i.e., a single waterbody) at a specific location. For linear projects crossing a single or multiple waterbodies several times at separate and distant locations, each crossing is considered a single

and complete project for purposes of NWP authorization. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately.

Single and complete non-linear project: For non-linear projects, the term "single and complete project" is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. A single and complete non-linear project must have independent utility (see definition of "independent utility"). Single and complete non-linear projects may not be "piecemealed" to avoid the limits in an NWP authorization.

Stormwater management: Stormwater management is the mechanism for controlling stormwater runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment.

Stormwater management facilities: Stormwater management facilities are those facilities, including but not limited to, stormwater retention and detention ponds and best management practices, which retain water for a period of time to control runoff and/or improve the quality (i.e., by reducing the concentration of nutrients, sediments, hazardous substances and other pollutants) of stormwater runoff.

Stream bed: The substrate of the stream channel between the ordinary high water marks. The substrate may be bedrock or inorganic particles that range in size from clay to boulders. Wetlands contiguous to the stream bed, but outside of the ordinary high water marks, are not considered part of the stream bed.

Stream channelization: The manipulation of a stream's course, condition, capacity, or location that causes more than minimal interruption of normal stream processes. A channelized jurisdictional stream remains a water of the United States.

Structure: An object that is arranged in a definite pattern of organization. Examples of structures include, without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, artificial reef, permanent mooring structure, power transmission line, permanently moored floating vessel, piling, aid to navigation, or any other manmade obstacle or obstruction.

Tidal wetland: A tidal wetland is a jurisdictional wetland that is inundated by tidal waters. Tidal waters rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by other waters, wind, or other effects. Tidal wetlands are located channelward of the high tide line.

Tribal lands: Any lands title to which is either: 1) held in trust by the United States for the benefit of any Indian tribe or individual; or 2) held by any Indian tribe or individual subject to restrictions by the United States against alienation.

Tribal rights: Those rights legally accruing to a tribe or tribes by virtue of inherent sovereign authority, unextinguished aboriginal title, treaty, statute, judicial decisions, executive order or agreement, and that give rise to legally enforceable remedies.

Vegetated shallows: Vegetated shallows are special aquatic sites under the 404(b)(1) Guidelines. They are areas that are permanently inundated and under normal circumstances have rooted aquatic vegetation, such as seagrasses in marine and estuarine systems and a variety of vascular rooted plants in freshwater systems.

Waterbody: For purposes of the NWPs, a waterbody is a “water of the United States.” If a wetland is adjacent to a waterbody determined to be a water of the United States, that waterbody and any adjacent wetlands are considered together as a single aquatic unit (see 33 CFR 328.4(c)(2)).

JEFF LANDRY
GOVERNOR

MADISON D. SHEAHAN
SECRETARY

PO BOX 98000 | BATON ROUGE LA | 70898

Louisiana Natural & Scenic River System
SCENIC RIVER PERMIT #1307

Issue/Effective Date: June 6, 2024

Scenic River: Abita River

Recipient: St. Tammany Parish
c/o Jason Cambre
21454 Koop Dr.
Mandeville, LA 70471

Description: Pedestrian Bridge Replacement on St. Tammany Trace

This permit is issued under the authority of Part II of Chapter 8, Title 56 of the LRS of 1970 as amended and re-enacted regarding the Louisiana Natural & Scenic Rivers System and the administrative procedures pertaining to the management of watercourses designated as Scenic Rivers.

The permit is issued by the Administrator with the understanding that the permit holder, in implementation of the project, will proceed in compliance with the general and special conditions contained herein. The permit holder is expected to minimize adverse impacts to the structural and functional integrity of the natural systems and aesthetics associated with the Scenic River where the activity is occurring to preserve the fundamental character and purpose for which the System was established.

The Administrator assumes no responsibility and incurs no liability for injury or damage to persons or property caused by any act or omission of the permit holder or his agent in the permission granted by this permit. In addition to the Department of Wildlife & Fisheries (LDWF), the application was given a full and thorough evaluation by the Louisiana Departments of Agriculture & Forestry; Culture, Recreation & Tourism; Environmental Quality; and the Offices of State Lands and of State Planning and Budget. If during the review process, objections were made to the proposed activity, those objections were either found to be insignificant or they have been included in the conditions of the permit.

This permit shall expire if the permitted activity has not begun within 18 months of the "Effective Date" indicated above.

The Permittee shall adhere to and comply with the following permit conditions:

General Conditions:

1) The permittee shall properly install adequate erosion/siltation control measures around construction areas that require land based earthwork (i.e. excavation and/or deposition of fill materials, land contouring, machinery rutting, fill maneuvering and redistribution, etc.), to ensure that no project related sediments, debris and other pollutants enter Abita River. Acceptable measures include but are not limited to the proper use and positioning of temporary silt fences, straw bales, fiber/core logs, wooden barriers, seeding or sodding of exposed soils, or other approved EPA construction site storm-water runoff control and best practices. Control techniques shall be installed prior to the commencement of earthwork activities and maintained until the project is complete and/or the subject areas are stabilized.

   Upon the completion of construction activities or if at any time construction activities cease for more than 14 days, all disturbed soils shall be re-vegetated by sod, seed, or another acceptable method, as necessary, to restore cover and prevent erosion.

2) The permittee will acquire all other federal, state, local, and municipal permits and permissions required for the permitted activity prior to commencement of work. The permittee has title to the property or permission from the landowner to implement the project.

3) If during project activity, any sensitive archaeological, biological or botanical element is encountered, activity will temporarily cease and the permit holder will contact the Administrator to determine the disposition of that element or artifact.

4) This project must be carried out in a manner consistent with the design that the permittee submitted during the permit process and as depicted in the attached "final plats". Should significant physical modification to the project become necessary during implementation of the project or after its completion, the permit holder will submit a letter of explanation within one week of discovery to the Administrator to determine if another permit application will be required.

5) The permittee shall allow representatives of LDWF to make periodic inspections to ensure the activity is in accordance with the conditions of this permit.

6) The permittee shall ensure that all contractors, subcontractors, and workers are made fully aware of the limits of the work authorized by this permit and adhere to and comply with all conditions listed in this Scenic River permit. Non-compliance with permit terms and conditions may result in permit suspension or revocation, and all other remedies allowed by law.

7) Any authorization issued under the authority of this permit may not be transferred to another party without giving prior notice to the Scenic Rivers Program Coordinator. If the subject permit is to be transferred, the permittee must make perspective owners aware of all conditions within this permit, and furthermore, any transferee must abide by these permit conditions.

Special Conditions:

1) Upon completion of the activities authorized by this permit, the permittee shall submit post-construction, photographic documentation of the proposed project to LDWF within 30 days. Photo documentation can be submitted to Amelia Wolfe at awolfe@wlf.la.gov. LDWF will review the completed activity to assure that all activities were performed in accordance with the conditions of this permit.

2) The permittee shall remove and place all remnants (e.g., timber pilings and spans, etc.) of the existing bridge at an offsite location.

3) Any rip rap used for embankment work shall be free of protruding, reinforcement material (i.e., rebar).

4) The permittee shall inspect the bridge at sufficient intervals (possibly after moderate to heavy rainfall events) to ensure it remains free of debris, litter and logjams. The permittee shall promptly remove, within 15 days, all debris, litter and logjams from the bridge.

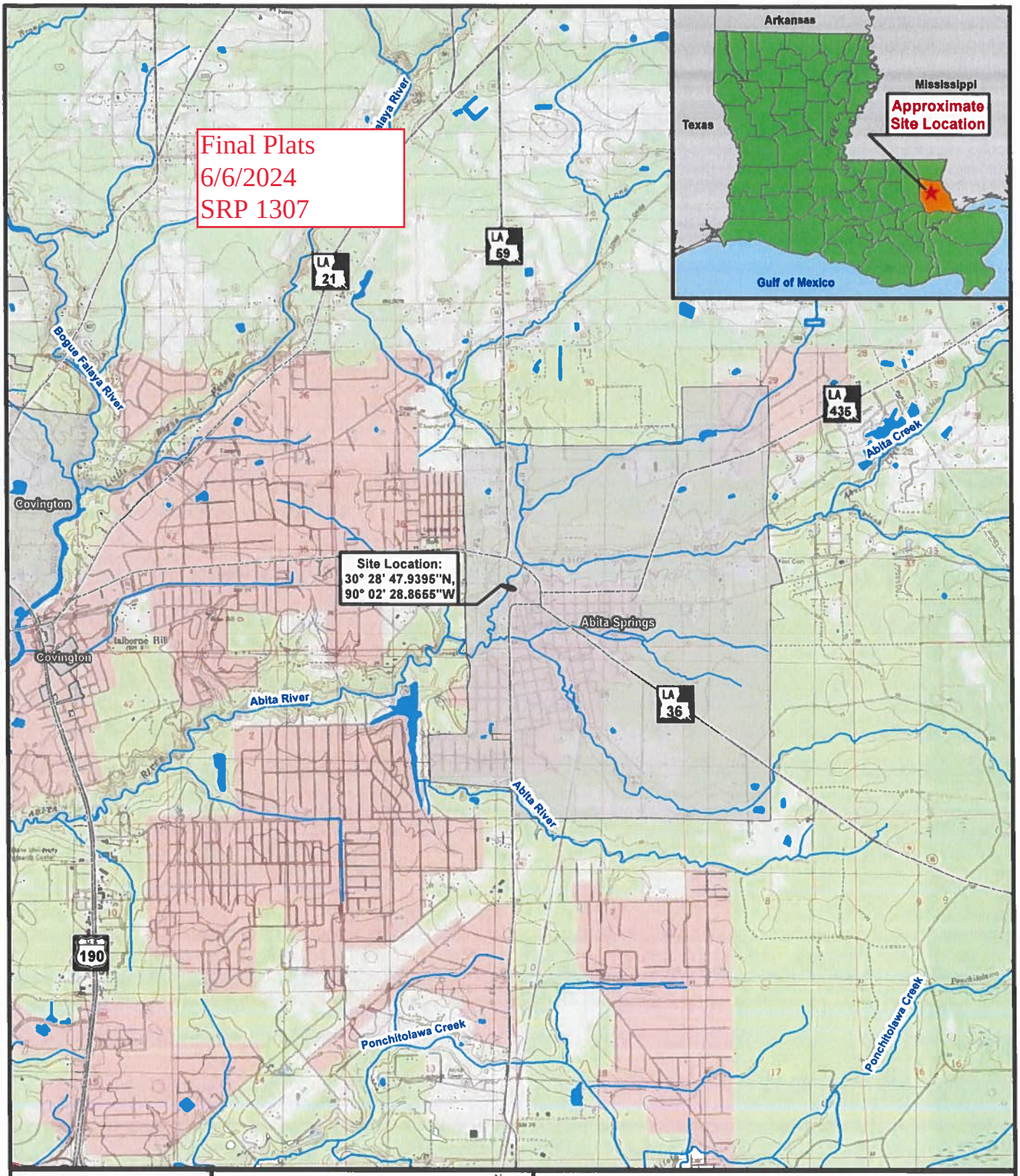
5) Signs indicating the name of the stream (Abita River) and that it is a Louisiana-designated Natural and Scenic River shall be placed at both approaches of the bridge.

6) The permittee shall attempt to remove all unserviceable timber pilings utilizing a vibratory extractor. Should this method be attempted with unsuccessful results or deemed damaging to the integrity of existing or proposed structures, the permittee shall cut all unserviceable pilings 2 feet below the mudline.

7) Effort should be made to identify and notify the park administrator for the recreational site Abita Springs Park prior to commencement.

If you need additional information, please contact Amelia Wolfe, Scenic Rivers Biologist, in the LDWF Baton Rouge Office at (225) 765-2357.

Madison Sheahan
Administrator



ELOS
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0 2,500 5,000 Feet

N W E S

Legend:
- Site Outline
- Parish Boundary
- Interstate
- Highway
- Stream/River
- Waterbody
- City/Town

Sections: 31, 36
Township: 06 South
Range: 08 East

Figure 1: TopoVicinity Map

Tammany Trace Bridge
Scenic River Permit

This figure was prepared utilizing public and proprietary data. It should not be used to establish any legal boundaries or specific locations. ELOS Environmental, L.L.C., is not responsible for any usage of this figure contrary to its original, intended purpose.

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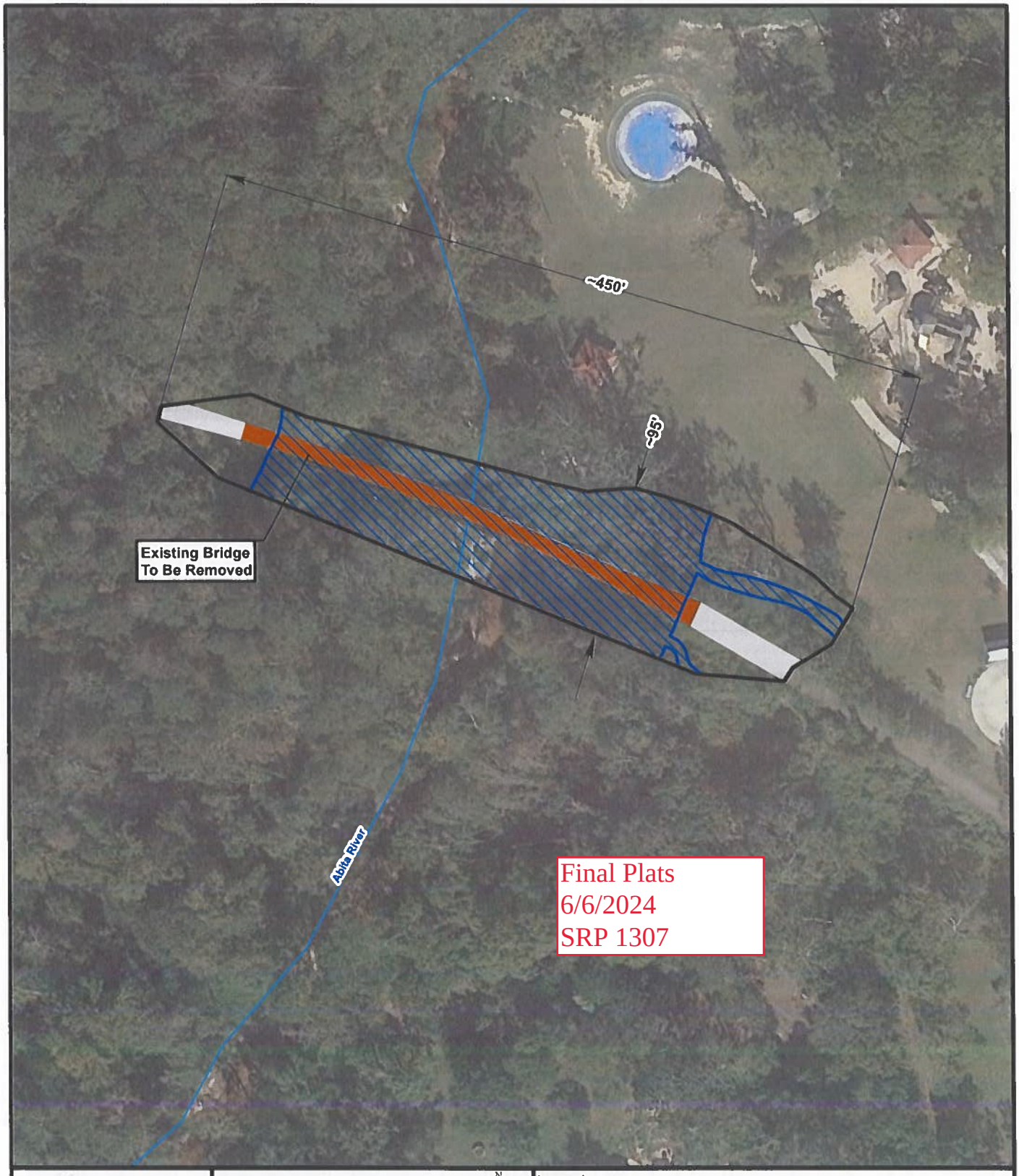

Final Plats
6/6/2024
SRP 1307

ELOS
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0 50 100 Feet

N W E S

Figure 2: Existing Conditions

Tammany Trace Bridge
Scenic River Permit

Legend:
- Site Outline
- Existing Bridge
- Existing Pathway

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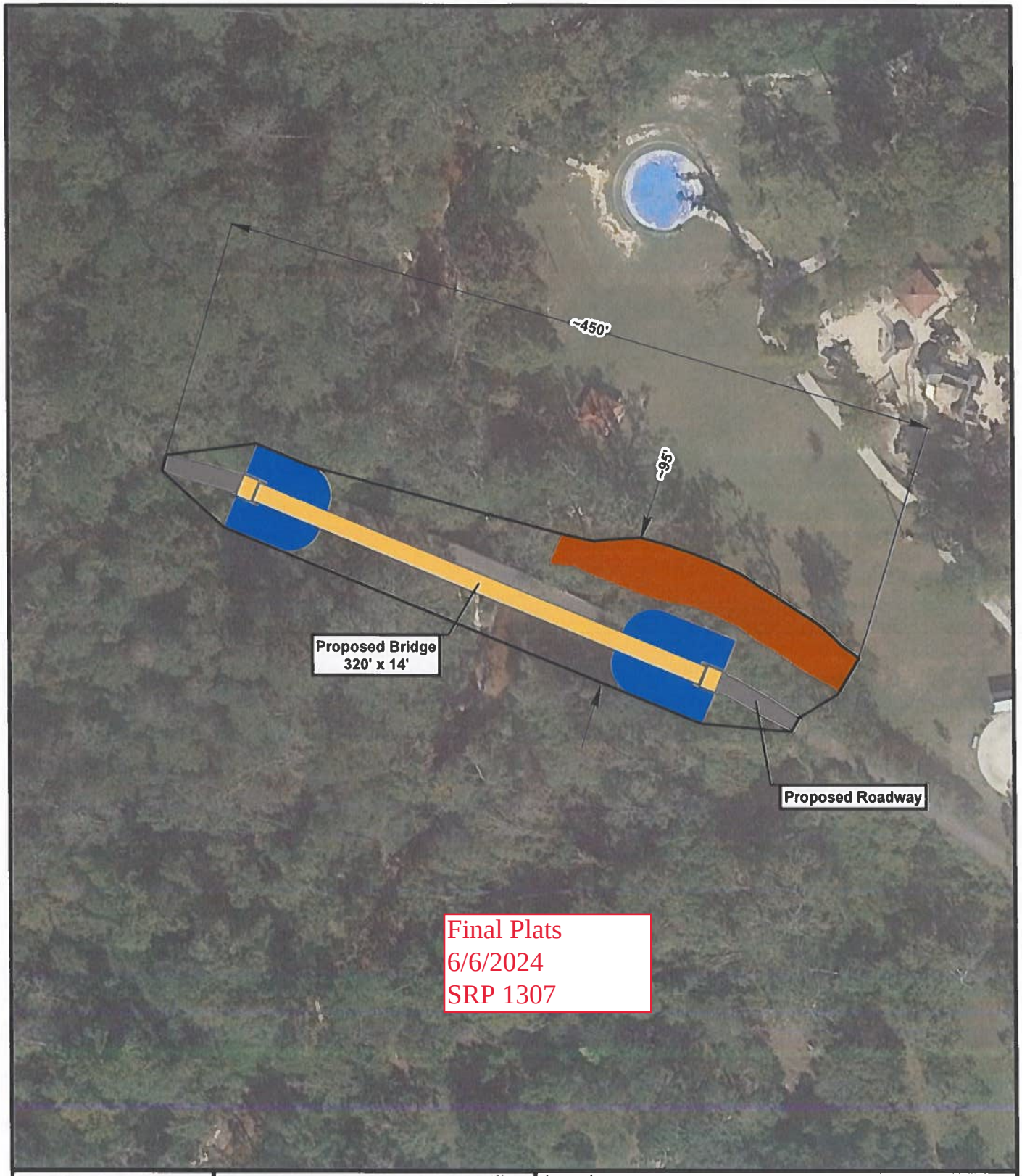

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Figure 3: Plan View

Tammany Trace Bridge

Legend:
- Site Outline
- Proposed Bridge
- Proposed Roadway
- Rerouted Ditch
- RipRap

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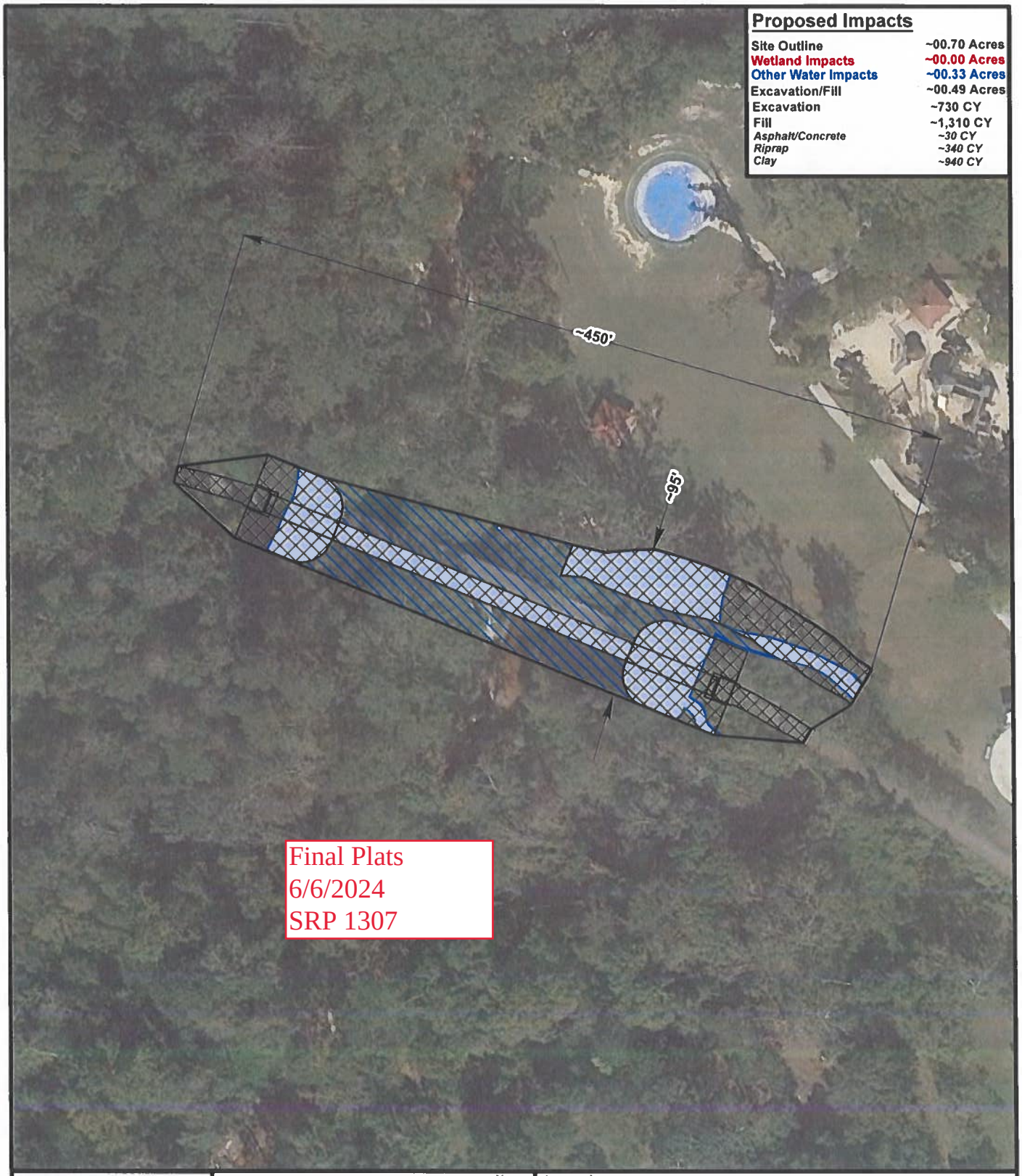

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0 50 100 Feet

N W E S

Legend:
Site Outline
Excavation/Fill
Other Waters
Other Water Impacts

Figure 4: Proposed Impacts

Tammany Trace Bridge
Scenic River Permit

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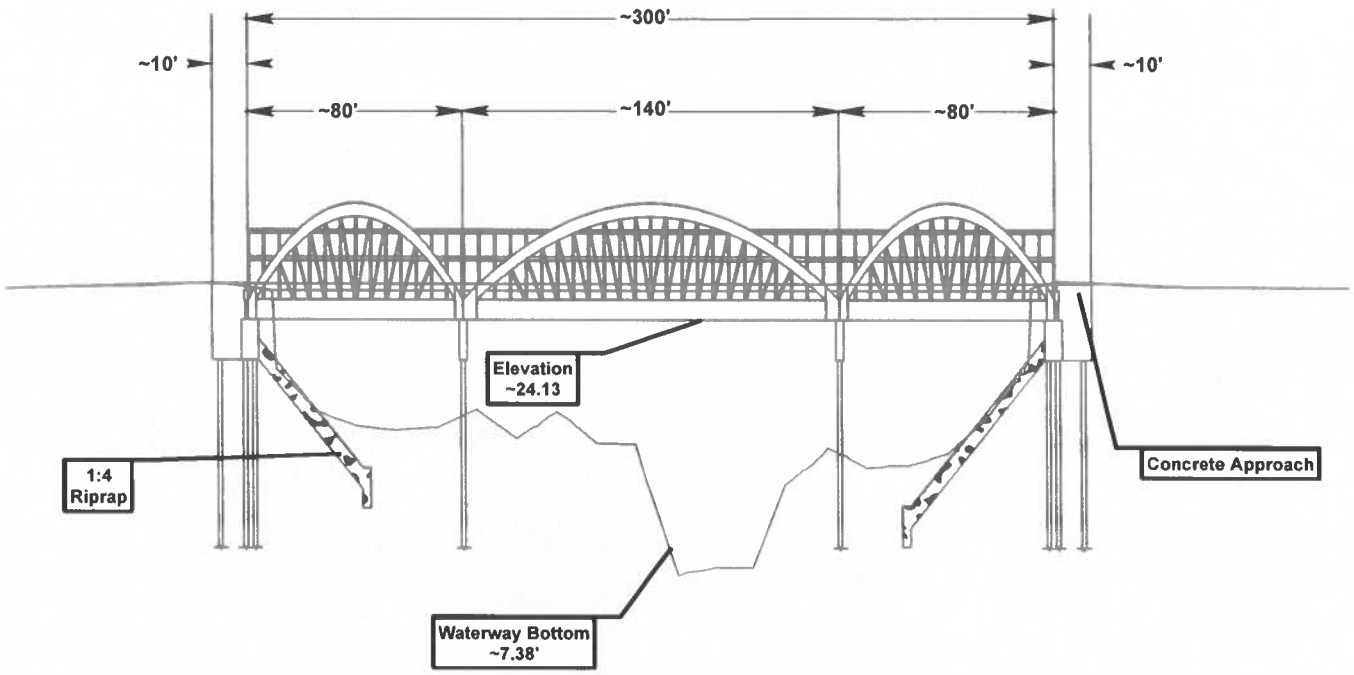
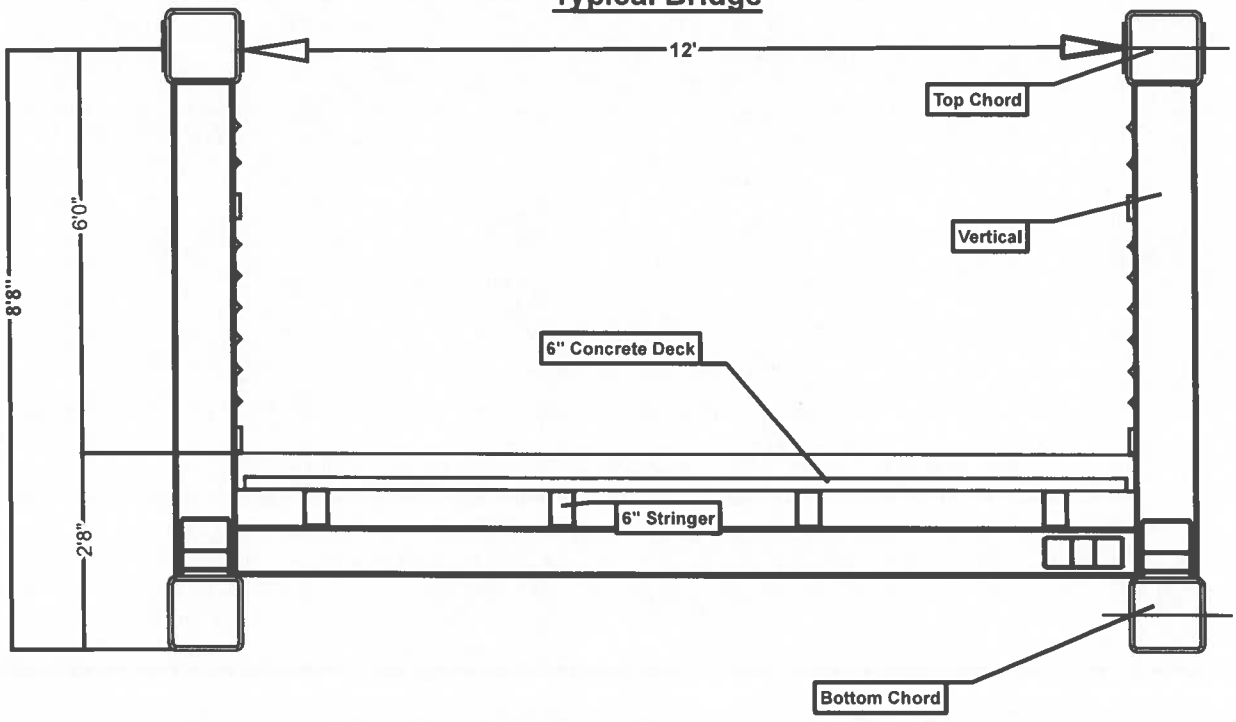
Typical Bridge



Typical Bridge



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Scale = Not to Scale

Figure 5: Typical Section

Tammany Trace Bridge
Scenic River Permit

Final Plats
6/6/2024
SRP 1307

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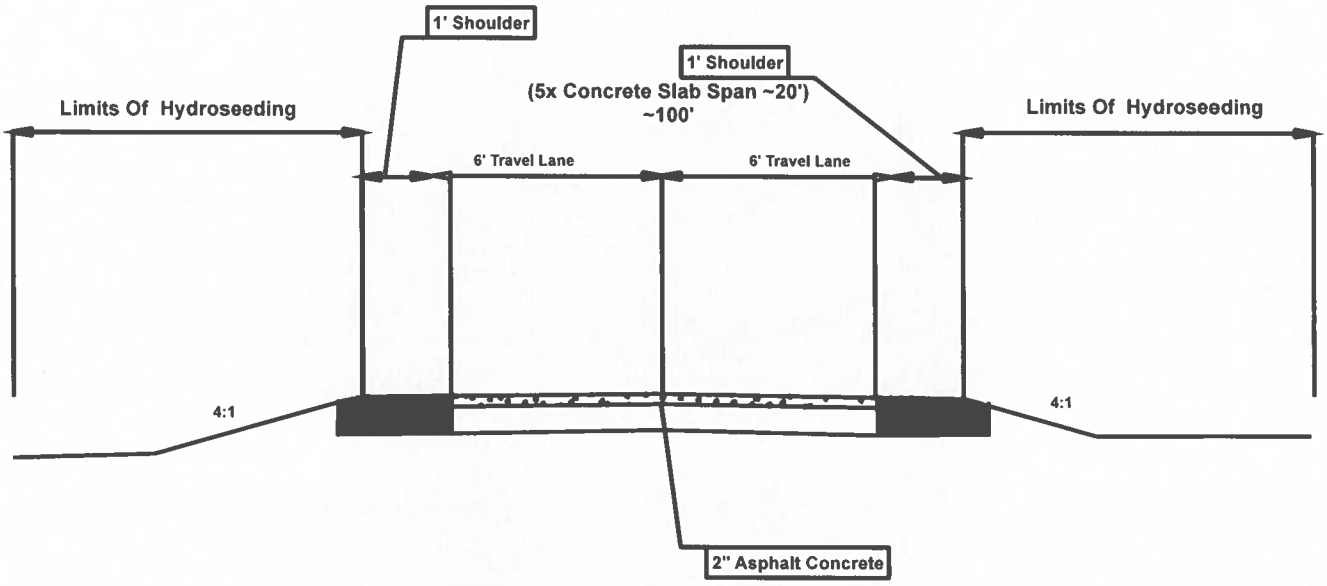
Typical Path



Typical Ditch

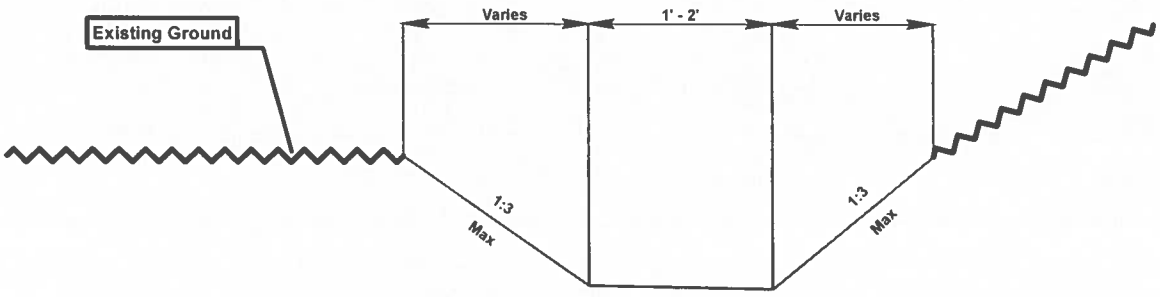


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Figure 6: Typical Section

Tammany Trace Bridge Scenic River Permit

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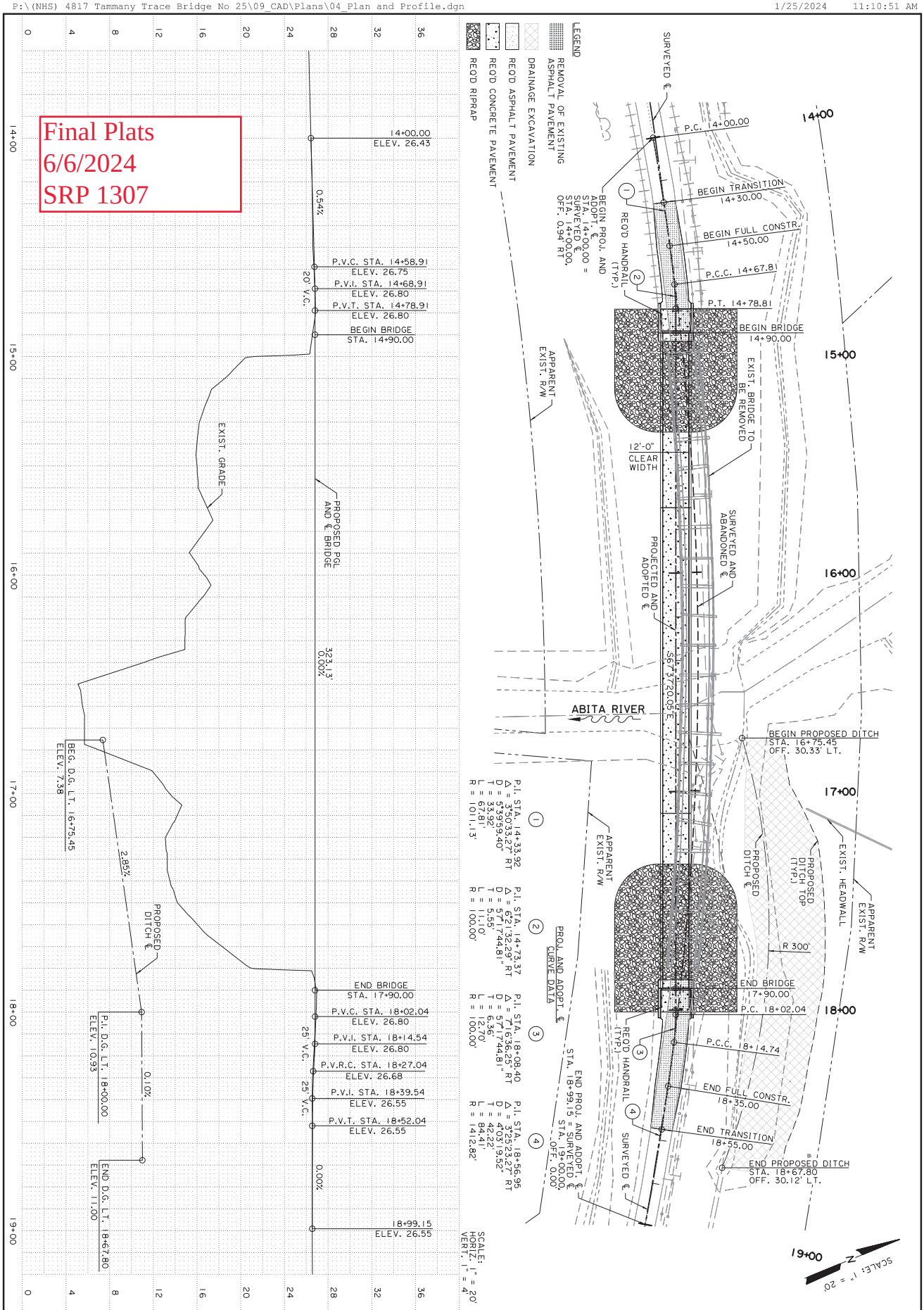
Final Plats
6/6/2024
SRP 1307



PLAN AND PLOT

TAMMANY TRACE BRIDGE #25

NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY

90% PRELIMINARY
PRELIMINARY
NOT FOR CONSTRUCTION
ENGINEER: NEWELL N. SCHINDLER
LICENSE #: 24130
DATE: 1/25/2024

DESIGN	J. GUILLOT
CHECK	N. SCHINDLER
DETAIL	J. GUILLOT
CHECK	N. SCHINDLER
REVIEW	C. LEDET
SERIES #	1 OF 1

PARISH	ST TAMMANY
TOWN	ABITA SPRINGS
PROJECT	EN20000078

SHEET NUMBER 04