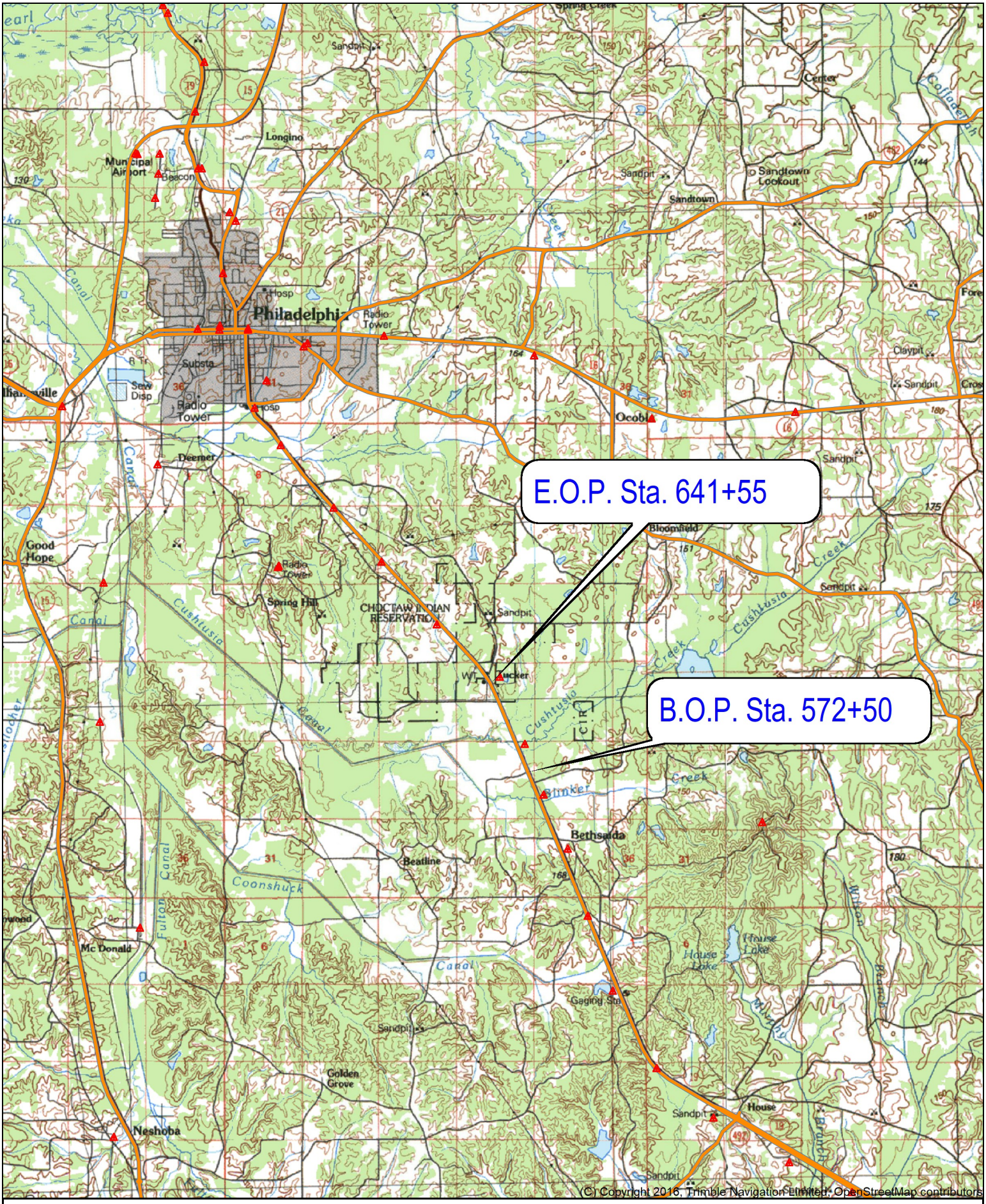
Neshoba 19
BR-0026-01(078); 106114-301000

Location Map



Name: CARTHAGE
Date: 08/02/19
Scale: 1 inch = 8,333 ft.

Location: 032° 43' 15.5776" N, 089° 03' 04.9803" W
Neshoba County SR 19 Bridge Replacments
FMS 106114/301000

Table of Impacts

Table 1. Wetland Data Point Summary Table

Data Point#	Wetland ID#	Site #	Latitude	Longitude*	Station	Section-Township-Range	Total Area (Acres)	Cowardin Classification	Impact**
W1	W1	WK4	32.693672	-89.046163	595+00 L	27-10N-12E	0.21	PEM	none
W2	W2	WK4	32.696340	-89.047426	603+00 to 609+00 L	22-10N-12E	0.45	PSS	none
W3	W3	WK4	32.696638	-89.046948	605+00 to 608+50 R	22-10N-12E	3.88	PFO	1.01 acres Permanent fill; 0.67 acres temporary fill
W4	W4	WK4	32.698078	-89.047758	610+00 to 615+00 R	22-10N-12E	0.84	PFO	0.84 acres Permanent fill
W5	W5	WK4	32.697947	-89.048307	612+00 L	22-10N-12E	0.04	PEM	none
W6	W6	WK4	32.699722	-89.048459	618+00 R	22-10N-12E	0.58	PFO	0.58 acre Permanent fill
W7	W7	WK4,5	32.701142	-89.049244	621+00 to 626+00 R	22-10N-12E	1.16	PFO	1.09 acres Permanent fill; 0.07 acres temporary fill

DP- Data point- collection point for sampling data for wetland assessment
W- Wetland- areas described as wetlands
PFO- Palustrine Forested
PEM – Palustrine Emergent
PSS – Palustrine Scrub-Shrub
Station Numbers (Sta.) are approximate
**Latitude and Longitude in Decimal Degrees, NAD 83, State Plane – The location of the Data Point*
***Wetland Impacts are based on preliminary slope stakes boundaries*

Wetland Summary:	Total Present (acres)	Permanent Fill (acres)	Temporary Fill (acres)
Forested:	6.46	3.52	0.74
Scrub-Shrub:	0.45	0	0
Emergent:	0.25	0	0
Total	**7.16**	**3.52**	**0.74**

Table 2. Other Water Assessment Table*

CA #	OW ID #	Site #	Latitude*	Longitude*	Section-Township-Range	Sta.	Type	Length in Project Area (feet)	Channel Width (feet)	Name	Impact**
1	OW1	WK3,4	32.693082	-89.045497	27-10N-12E	589+00 to 592+00 R	E	960	4	Unnamed	550 ft – Channel fill and realignment
2	OW2	WK4	32.693162	-89.045605	27-10N-12E	591+82	E	506	6	Cushtusia Creek Relief	Remove existing Box Culvert 52.0; Replace with single 100 ft span bridge on new alignment; 44 ft new shading
3	OW3	WK4	32.694927	-89.046080	27-10N-12E	600+00	P	430	12	Cushtusia Creek	Remove existing bridge 52.1; Replace with 360 ft 3-span bridge in new alignment; 44 ft new shading
4	OW4	WK4	32.697393	-89.047387	22-10N-12E	609+00	E	498	8	Cushtusia Creek Relief	Remove existing Box Culvert 52.3; Replace with single 100 ft span bridge on new alignment; 44 ft new shading
5	OW4A	WK4	32.697393	-89.047387	22-10N-12E	606+50 to 612+50 R	E	800	4	Unnamed	600 ft – Channel fill and realignment
5	OW5	WK4	32.699047	-89.048172	22-10N-12E	615+50	E	685	6	Cushtusia Creek Relief	Remove existing Box Culvert 52.4; Replace with single 100 ft span bridge on new alignment; 44 ft new shading
6	OW6	WK4	32.699590	-89.048186	22-10N-12E	615+00 to 618+50 R	E	824	6	Unnamed	359 ft – Channel fill and realignment
7	OW7	WK4	32.700199	-89.048686	22-10N-12E	620+00	E	671	6	Unnamed	Remove existing Box Culvert 52.5; Replace with single 100 ft span bridge on new alignment; 44 ft new shading

CA- Channel Assessment point location
OW- Other Water
Type:
P-Perennial
I-Intermittent
E-Ephemeral
Station numbers (Sta.) are approximate
**Latitude and Longitude in Decimal Degrees, NAD 83, State Plane – The location of the CA Form Data Point*
*** Impacts are based on preliminary slope stakes boundaries*

CA Summary	Total Present (ft)	New Bridge Width Shade/ Clear (ft)	Culvert/ Pipe (ft)	Relocate/ Fill (ft)
Perennial:	430	44	0	0
Intermittent:	0	0	0	0
Ephemeral:	4,944	176	0	1,509
Total (P.I.E.)	**5,374**	**220**	**0**	**1,509**

Table 3. Pond Assessment Table

Pond ID #	Latitude	Longitude	Sta.	Section-Township-Range	Size (Acres)	Impact
1	32.695659	89.046553	798+00-803+00	22-10N-12E	2.23	Manmade; Drain and Fill

Pond Summary: 2.23 acres Total

Roadway Plans

STATE	PROJECT NUMBER	SHEET NO.
MISSISSIPPI	BR-0026-01(078)	1

GENERAL INDEX

INCLUDED THIS PROJECT		BEGIN WITH SHEET
☒	ROADWAY	1
☐	PERMANENT SIGNS	1001
☐	TRAFFIC SIGNALS	2001
☐	ITS COMPONENTS	3001
☐	LIGHTING	4001
☐	(RESERVED)	5001
☐	ROADWAY STANDARD DWGS	6001
☐	BRIDGE STANDARD DWGS	7001
☐	BRIDGE	8001
☒	CROSS SECTIONS	9001

STATE OF MISSISSIPPI

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

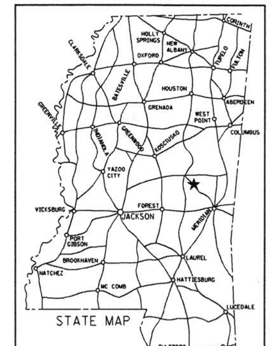
PLAN AND PROFILE OF PROPOSED STATE HIGHWAY
STATE PROJECT NO. BR-0026-01(078)

SR 19 BRIDGE REPLACEMENTS
(BRIDGES No. 52.0, 52.1, 52.3, 52.4, & 52.5)

R.O.W. FMS 106114/201000	
PLANS STAGE	DATE PRINTED
☒ CONCEPTUAL	7-18-2016
☒ PRE-R.O.W.	8-11-2016
☒ FIELD INSPECTION	2-3-2017
☒ R.O.W. PLANS TO SMD	4-12-2017
☒ FINAL R.O.W.	5-11-2017
☐ R.O.W. REVISION	
☒ OFFICE REVIEW	7-31-2019

NOTE: REVISIONS FOR SUPPLEMENTAL AGREEMENT NO. 1
CONCEPTUAL (2-02-2018)
PRE-R.O.W. (3-23-2018)
FINAL R.O.W. (7-23-2018)

FMS R.O.W.# 106114/201000
FMS CON# 106114/301000



LAT. 32°41' 53.35" N LONG. 89°02' 52.56" W
(APPROX. MIDDLE OF PROJECT)

SCALES

PLAN		1 IN. = 100 FT.
PROFILE	HOR.	1 IN. = 100 FT.
	VERT.	1 IN. = 10 FT.
LAYOUT		1 IN. = 5000 FT.

BRIDGE STRUCTURES REQ'D.

(A) Bridge No. 52.0 (Cushtusia Creek Relief)
Sta. 591 + 82.20
Spans 1 @ 100'
Skew = 0°
Total Length Along ℄ = 101.58'

(B) Bridge No. 52.1 (Cushtusia Creek)
Sta. 597 + 29.88
Spans 3 @ 120'
Skew = 0°
Total Length Along ℄ = 362.25'

(C) Bridge No. 52.3 (Cushtusia Creek Relief)
Sta. 608 + 39.20
Spans 1 @ 100'
Skew = 0°
Total Length Along ℄ = 101.58'

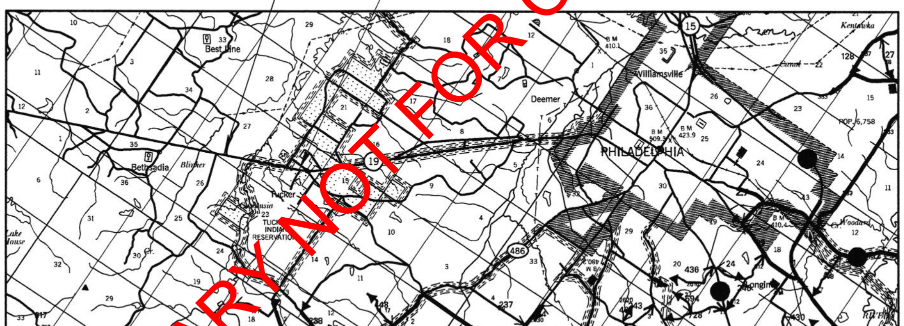
(D) Bridge No. 52.4 (Cushtusia Creek Relief)
Sta. 614 + 77.20
Spans 1 @ 100'
Skew = 0°
Total Length Along ℄ = 101.58'

(E) Bridge No. 52.5 (Cushtusia Creek Relief)
Sta. 619 + 31.20
Spans 1 @ 100'
Skew = 0°
Total Length Along ℄ = 101.58'

B.O.P. STA 572 + 50.00

E.O.P. STA 641 + 55.24

to Meridian



BOX BRIDGES REQ'D.

NONE

DESIGN CONTROL

65 MPH = V (SPEED DESIGN)
ADT (2018) = 5800 ; ADT (2028) = 6700
DHV = 850 ; D = 60 % T = 10 %

PERMITS ACQUIRED BY MDOT

WETLANDS AND WATERS PERMITS (NECESSARY FOR ULTIMATE IMPROVEMENTS ONLY):

	WATERS	WETLANDS
NATIONWIDE #14	☐	☐
NATIONWIDE (OTHER)*	☐	☐
GENERAL*	☐	☐
INDIVIDUAL (404)*	☐	☐

* ACQUISITION OF PERMITS FOR TEMPORARY IMPACTS DURING CONSTRUCTION ARE THE RESPONSIBILITY OF THE CONTRACTOR

STORMWATER PERMIT ☐

Y	REQUIRED, CNOI SUBMITTED BY MDOT (DISTURBED AREA ≥ 5 ACRES)
S	REQUIRED, SCNOI TO BE SUBMITTED BY CONTRACTOR (1 TO 4.99 ACRES)
N	NO STORMWATER PERMIT REQUIRED (<1 ACRE)

APPROVED BY: ______

GPS CONTROL NOTES

HORIZONTAL DATUM: NAD 83/93 MS EAST ZONE (US SURVEY FEET)

HORIZONTAL MONUMENT	NORTH	EAST
3/4" REBAR	1178665.7460	905688.7722
NGS DISK	1178052.1790	906390.1362

VERTICAL DATUM: NAVD 88 (US SURVEY FEET)

VERTICAL MONUMENT	ELEVATION
3/4" REBAR	459.6767
NGS DISK	453.8700

ALL AZIMUTHS AND DISTANCES ARE GRID VALUES, US SURVEY FEET

CONVERSION VALUES	PROJECT AVERAGE
GROUND TO GRID (COMBINED) FACTOR	0.999942023
GRID TO GEODETIC AZIMUTH	-0° 09' 01.52327"

EQUATIONS

STA 589 + 82.830 BK = STA 589 + 75.531 AH + 7.299
STA 641 + 55.244 BK = STA 641 + 49.347 AH + 5.897

EXCEPTIONS

NONE

LENGTH DATA

LENGTH OF ROADWAY	5845	FT.	1.11	MI.
LENGTH OF BRIDGES	768.57	FT.	0.14	MI.
LENGTH OF PROJECT (NET)			1.25	MI.
LENGTH OF EXCEPTIONS		FT.		MI.
LENGTH OF PROJECT (GROSS)			1.25	MI.

PRELIMINARY NOT FOR CONSTRUCTION

REVISIONS | BY | DATE

P S & E DATE:

APPROVED:

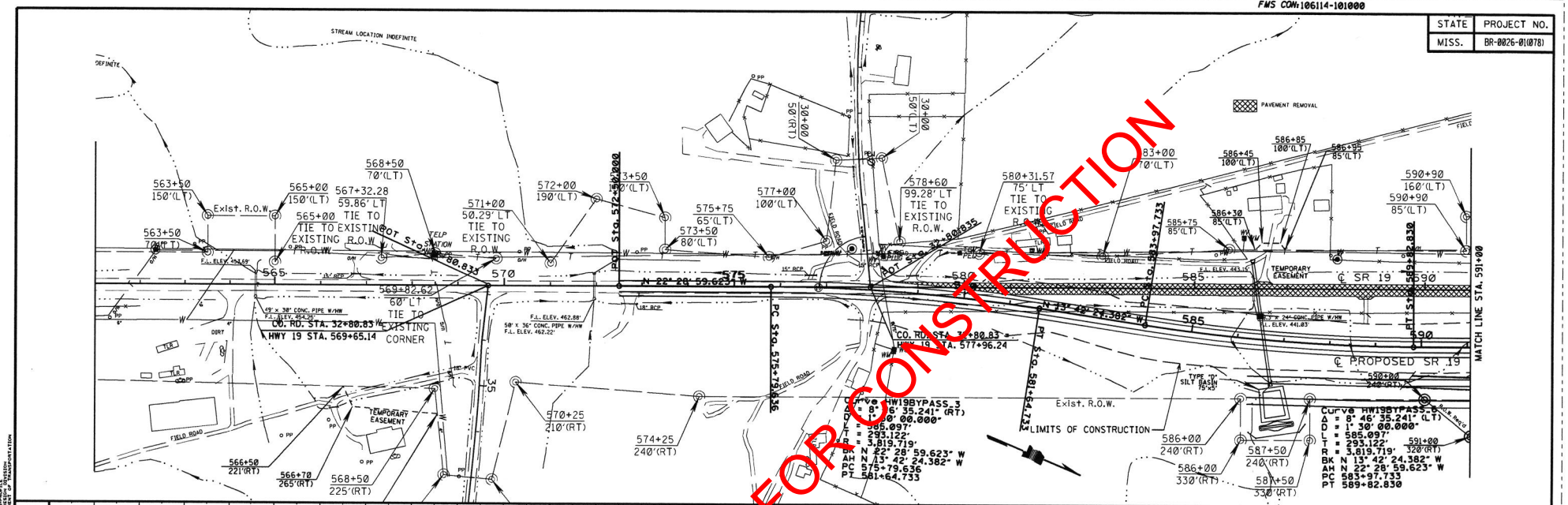
DEPUTY EXECUTIVE DIRECTOR / CHIEF ENGINEER

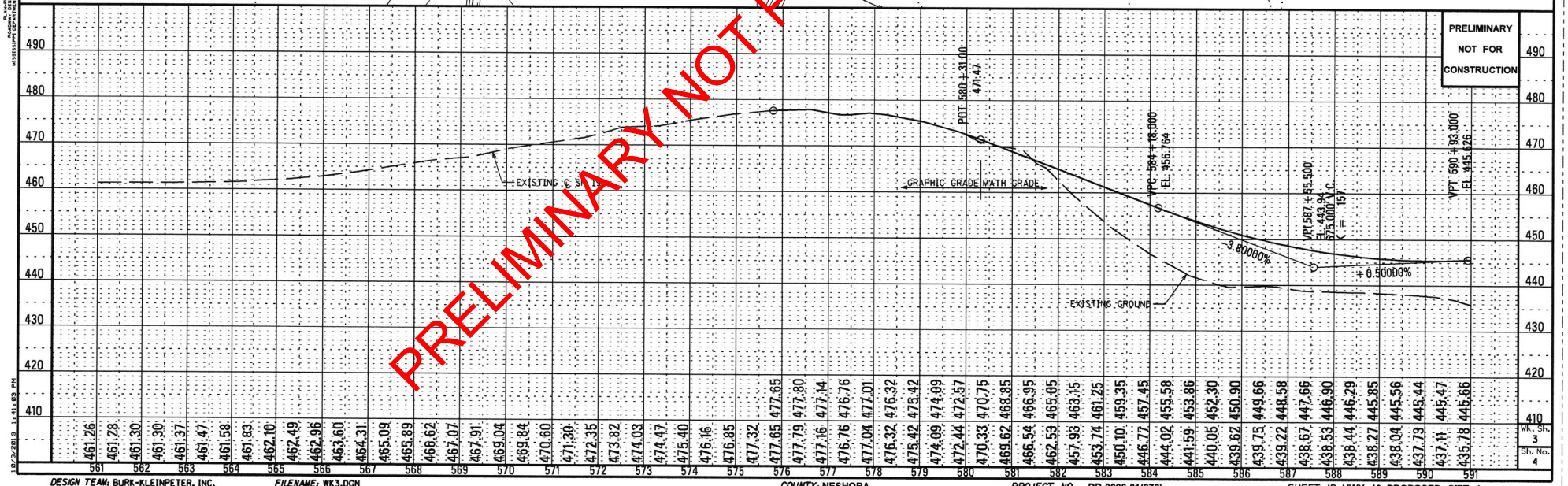
EXECUTIVE DIRECTOR

MDOT MISSISSIPPI DEPARTMENT OF TRANSPORTATION

FMS CON: 106114-101000

STATE	PROJECT NO.
MISS.	BR-0026-01(078)





DESIGN TEAM: BURK-KLEINPETER, INC. FILENAME: WK3.DGN COUNTY: NESHOBA PROJECT NO.: BR-0026-01(078) SHEET ID: HWY 19 PROPOSED SITE 1

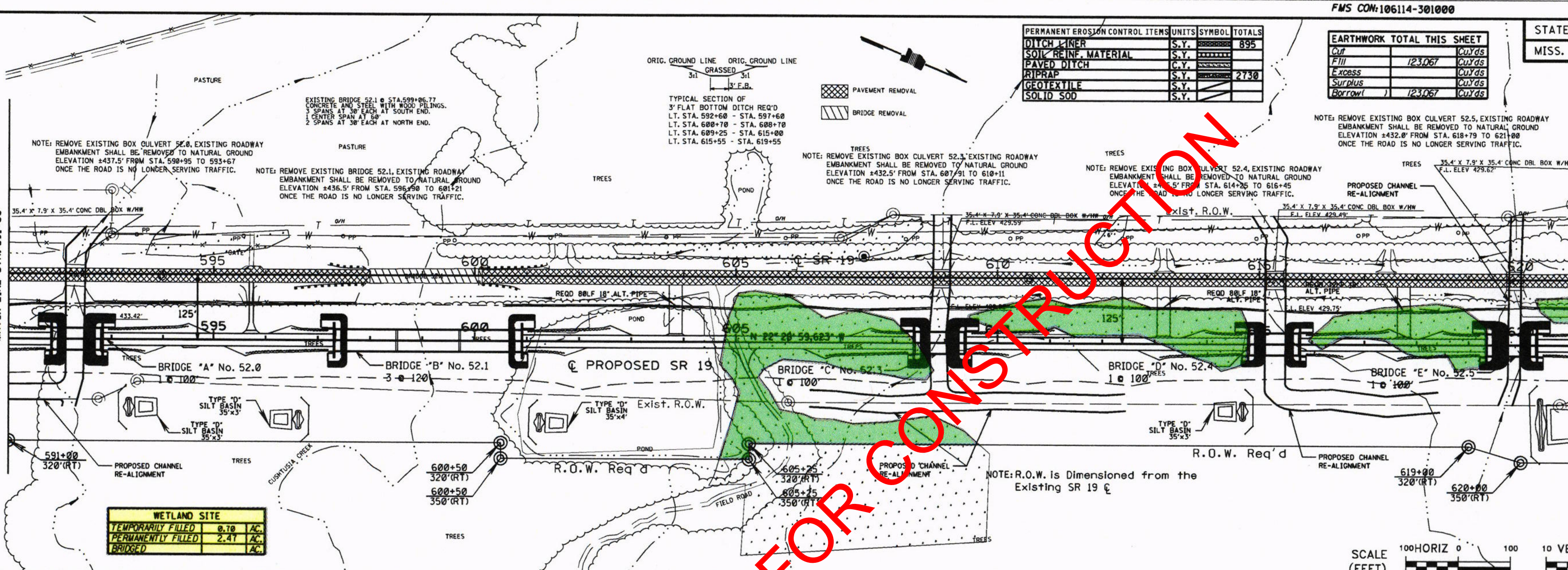
FMS CON: 106114-301000

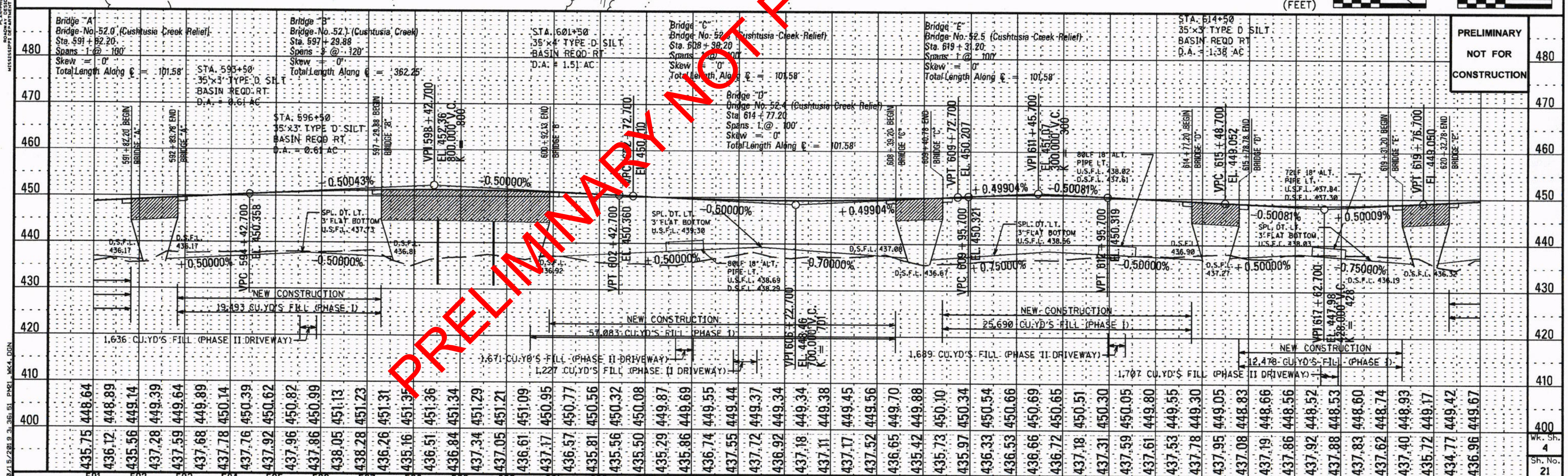
STATE	PROJECT NO.
MISS.	BR-0026-01(078)

PERMANENT EROSION CONTROL ITEMS	UNITS	SYMBOL	TOTALS
DITCH LINER	S.Y.		895
SOIL REINF. MATERIAL	S.Y.		
PAVED DITCH	C.Y.		
RIPRAP	S.Y.		2730
GEOTEXTILE	S.Y.		
SOLID SOD	S.Y.		

EARTHWORK TOTAL THIS SHEET		
Cut		Cu.Yds
Fill	123,067	Cu.Yds
Excess		Cu.Yds
Surplus		Cu.Yds
Borrow( )	123,067	Cu.Yds

WETLAND SITE		
TEMPORARILY FILLED	0.70	AC.
PERMANENTLY FILLED	2.47	AC.
BRIDGED		AC.





PRELIMINARY NOT FOR CONSTRUCTION

PRELIMINARY NOT FOR CONSTRUCTION

Wk. Sh. 4

Sh. No. 21

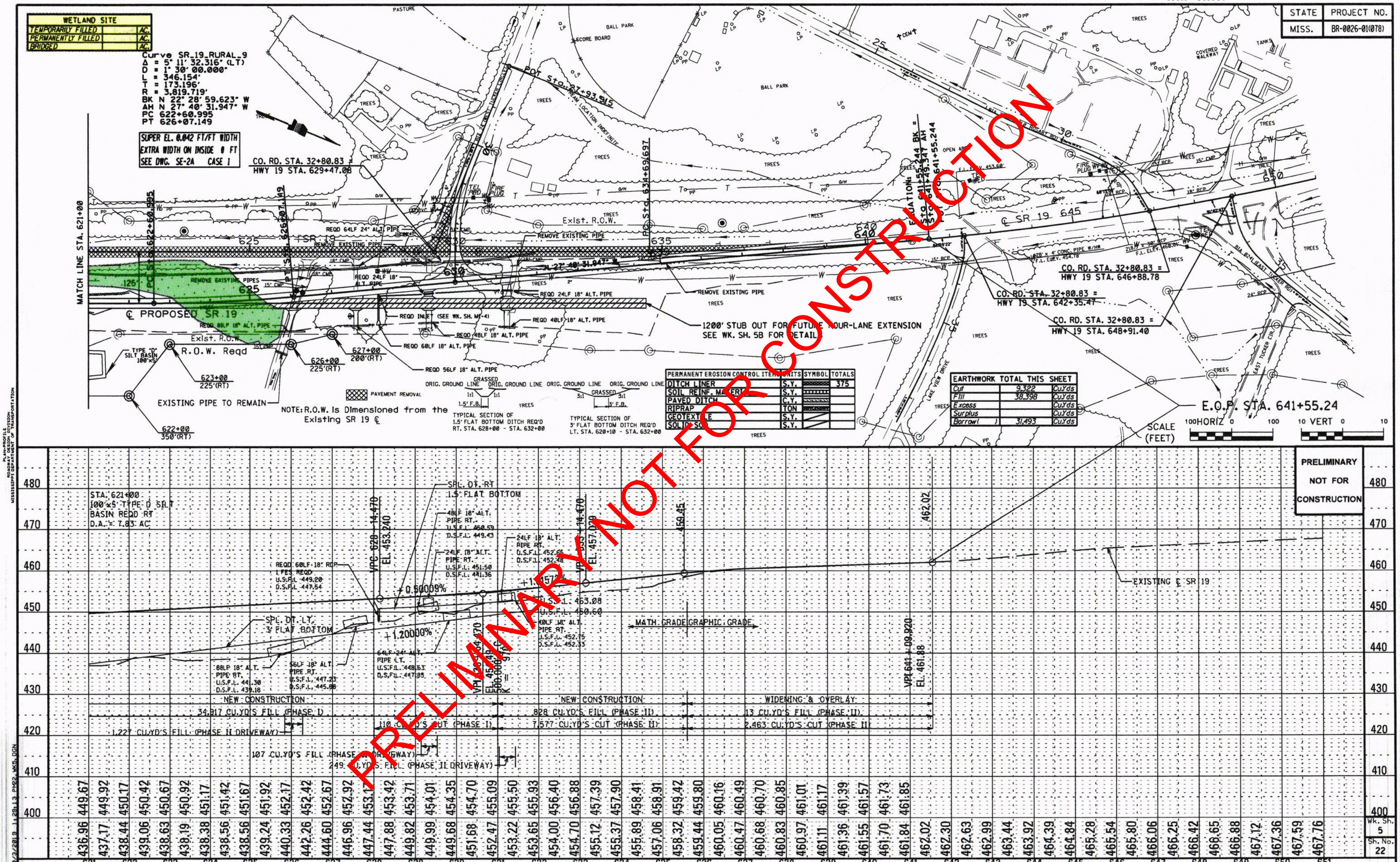
PLAN-PROFILE ROADWAY DESIGN DIVISION MISSISSIPPI DEPARTMENT OF TRANSPORTATION

10/15/2019 3:36:51 PM21_WK4.DGN

DESIGN TEAM: BURK-KLEINPETER, INC. FILENAME: 21_WK4.DGN COUNTY: NESHOBA PROJECT NO.: BR-0026-01(078) SHEET ID: SR 19 (MAIN LINE)

FMS CON: 106114-301000

STATE	PROJECT NO.
MISS.	BR-0026-01(078)



DESIGN TEAM: BURK-KLEINPETER, INC. FILENAME: 22_WK5.DGN COUNTY: NESHOBA PROJECT NO.: BR-0026-01(078) SHEET ID: SR 19 (MAIN LINE)

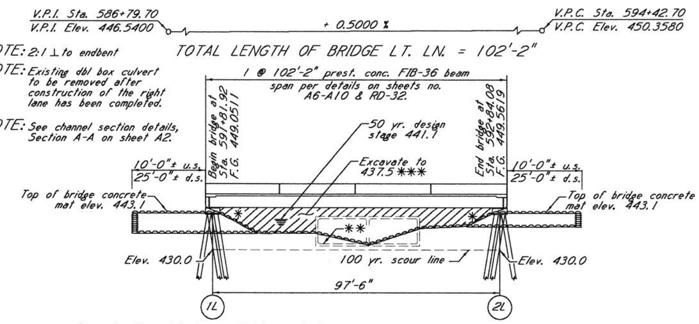
Wk. Sh. 5 Sh. No. 22

STATE	PROJECT NO.
MISS.	BR-0026-01(078)

* NOTE: 2:1 ⊥ to endbent

** NOTE: Existing dbl box culvert to be removed after construction of the right lane has been completed.

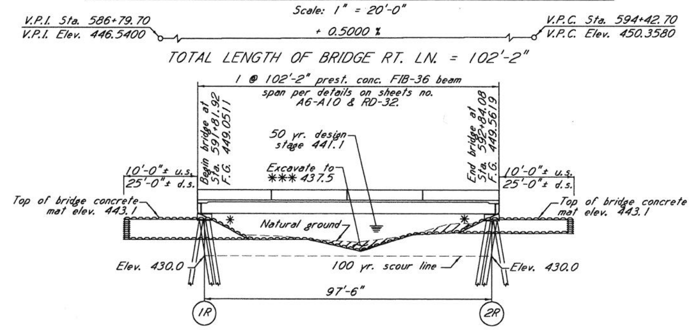
*** NOTE: See channel section details, Section A-A on sheet A2.



Concrete pile end bents per details on sheets no. A3 - A5. 18 ~ 16"x16" prest. conc. piles.

ELEVATION WITH PROFILE ALONG ℄ APPROACH ROADWAY LT. LN.

Scale: 1" = 20'-0"



Concrete pile end bents per details on sheets no. A3 - A5. 18 ~ 16"x16" prest. conc. piles.

ELEVATION WITH PROFILE ALONG ℄ APPROACH ROADWAY RT. LN.

Scale: 1" = 20'-0"

REQUIRED ULTIMATE PILE BEARING CAPACITY AND TIP ELEVATION SCHEDULE

Bent No.	Pile type	Req'd Bearing (Tons)	Pile Size	Estimated Length (ft.)	Min Tip Elevation
1L	Concrete	101	16"x16"	55	408.5
2L	Concrete	101	16"x16"	55	408.5
1R	Concrete	101	16"x16"	55	408.5
2R	Concrete	101	16"x16"	55	408.5

TEST PILE SCHEDULE

Bent No.	Min. Lgth.~Ft.	Tip Elevation
1L	65	[illegible]
1R	65	378.2

500 YEAR SCOUR ELEVATION

Bent No.	Elevation
1L	428.5
2L	428.5
1R	428.5
2R	428.5

ESTIMATED QUANTITIES - LEFT LANE

Item / Location	Transverse Grooving	Conventional Static Loading Test	16"x16" Prestressed Concrete Piling	PDA Test Pile	Pile Restrike	Class AA Bridge Concrete	Class BDX Bridge Concrete	100 Ft. Prest. Conc. Beam FIB-36	Reinforcement	Concrete Railing	Bridge Concrete Mat	Geotextile under conc. mat
	S.Y.	Each	L.F.	Each	Each	C.Y.	C.Y.	L.F.	LBS.	L.F.	S.Y.	S.Y.
Spans	409							697.67	27,123	204.33		
End Bents		1	1,925	1	1	70.70	123.47		10,668		2,445	2,445
Total	409	1	1,925	1	1	70.70	123.47	697.67	37,791	204.33	2,445	2,445

ESTIMATED QUANTITIES - RIGHT LANE

Item / Location	Transverse Grooving	Conventional Static Loading Test	16"x16" Prestressed Concrete Piling	PDA Test Pile	Pile Restrike	Class AA Bridge Concrete	Class BDX Bridge Concrete	100 Ft. Prest. Conc. Beam FIB-36	Reinforcement	Concrete Railing	Bridge Concrete Mat	Geotextile under conc. mat
	S.Y.	Each	L.F.	Each	Each	C.Y.	C.Y.	L.F.	LBS.	L.F.	S.Y.	S.Y.
Spans	409							697.67	27,123	204.33		
End Bents		1	1,925	1	1	70.70	123.47		10,668		2,445	2,445
Total	409	1	1,925	1	1	70.70	123.47	697.67	37,791	204.33	2,445	2,445

GENERAL NOTES:

Specifications: Mississippi Standard Specifications for Road and Bridge Construction, 2017.

No change of plans will be permitted except by written approval of the Director of Structures, State Bridge Engineer. Minor changes in detail of design or construction procedure may be authorized by the Director of Structures, State Bridge Engineer provided such changes will not be cause for contract price adjustment.

The final surface texture of the bridge deck shall be mechanically transverse grooved in accordance with Sections 501 and 804 of the specifications. See Misc. Span Details for limits of transverse grooving on bridge deck.

Bridge concrete shall be class "AA" or Class "BDX" as indicated in plans.

Railing expansion joint material shall be bituminous fiber type unless otherwise noted.

No payment will be allowed for excavation incidental to the construction of end bents.

Bar bending details shall be in accordance with "Manual of Standard Practice for Detailing Reinforced Concrete Structures" (ACI 315R-94).

Reinforcement order lists and required placing plans shall be furnished in accordance with Section 805 of the Mississippi Standard Specifications. Partial submittals are not acceptable.

Shop drawings of prestressed beams, including an erection plan, shall be submitted in duplicate to the Director of Structures, State Bridge Engineer for approval prior to the manufacture of beams.

The Fabricator shall provide camber data at release and immediately prior to shipping.

Concrete surfaces shall receive a Class 2 rubbed or spray finish in accordance with the specifications.

Reinforcing steel shall be ASTM A615, Grade 60, unless otherwise noted.

Work for which no pay item is provided in the proposal will not be paid for directly and compensation therefor will be included in the prices and payments for bid items.

PILE NOTES:

Test piles shall be driven as permanent piles at the location shown in the PDA TEST PILE SCHEDULE and will be paid for as test piles only.

The Director of Structures, State Bridge Engineer may authorize test piles driven outside the structural limits.

Test piles shall be driven as a continuous operation, to the bearing capacity and the tip elevations shown in the PDA TEST PILE SCHEDULE, unless otherwise directed by the Director of Structures, State Bridge Engineer.

Permanent piles shall be driven to an elevation no higher than the elevation shown in the REQUIRED ULTIMATE PILE BEARING CAPACITY AND TIP ELEVATION SCHEDULE.

The tip elevation of piling, for hydraulic structures, may be determined by the scour line.

When feasible, bearing piles shall be driven full length and be spliced, only, as approved by the Director of Structures, State Bridge Engineer.

When loading tests are required, the maximum test load shall be one and one half (1½) times the minimum pile bearing capacity.

All piles shall be prestressed type per details on sheet no. CP-1.

Prestressed concrete piling shall not be driven until the concrete has reached a minimum compressive strength of 5,000 psi and is at least 7 days old.

PDA test piles shall require a 1 day restrike unless otherwise directed by the Engineer.

Pile length and driving criteria shall be provided based on the results of the PDA test piles.

The required ultimate pile bearing shown in the REQUIRED ULTIMATE PILE BEARING AND TIP ELEVATION SCHEDULE includes the LRFD resistance factor for PDA of 0.65.

Pile hammer leads used for all PDA test piles and PDA restrikes shall be large enough to provide a minimum of 3" of clearance on each side of the pile in order to properly place and protect PDA gages.

Prestressed concrete piles shall be driven with a maximum rated energy no less than 58,000 ft-lbs, but no greater than 75,500 ft-lbs to the tip elevations specified unless the Contractor's drivability analysis utilizing the Contractor's selected alternative hammer is approved by the Director's of Structures, State Bridge Engineer.

NOTE:

The girder deflection diagrams shown in these plans were prepared and intended for design and estimation purposes only. Actual bridge girder deflections may differ from the deflection diagrams shown in these plans.

It is the Contractor's responsibility to construct the bridge to meet the requirements of the plans and specifications including, but not limited to, the requirements for bridge deck smoothness.

Prior to formwork construction, the Contractor shall submit three (3) copies of a proposed BRIDGE SUPERSTRUCTURE CONSTRUCTION PLAN to the Director of Structures, State Bridge Engineer for review, through the Project Engineer. This submittal shall include all calculations, assumptions and parameters used by the Contractor to determine bridge girder deflections and form grade elevations. This submittal shall also include an erection and construction procedure that addresses the construction means and methodologies used by the Contractor and shall consider effects including, but not limited to, construction phasing, pouring schedules, applied permanent and construction loading, and shall include calculations and 4 details of temporary girder bracing systems used to ensure girder stability and to counter the effects of girder tilt.

After girder erection and prior to deck construction, the Contractor shall submit deck thickness verification calculations for each girder. These calculations shall include a comparison of the erected girder top flange profiles versus the plan deck grade elevations over each girder plus the anticipated girder deflection due to applied permanent dead load and creep.

Three (3) copies of the deck thickness verification calculations and any proposed remediation measures to correct for thin deck areas shall be submitted to the Director of Structures, State Bridge Engineer for review, through the Project Engineer.

The BRIDGE SUPERSTRUCTURE CONSTRUCTION PLAN and the deck thickness verification calculations shall be prepared and stamped by a Mississippi Registered Professional Engineer.

NOTE: Build Right Lane only this project

BRIDGE CONCRETE MAT NOTES:

1. Bridge concrete mat shall be used for erosion and scour prevention for the slopes and locations shown in the plans. Bridge concrete mats shall be one of the following:

   a. ARMORFLEX
   Contech Engineering Solutions
   9025 Centre Pointe Drive
   West Chester, OH 45069
   Phone: 513-645-7000
   www.conteches.com/products/erosion-control/hard-armour/armorflex

   b. SHOREBLOCK BD
   Shoretec, LLC
   5102 Galveston Road
   Houston, TX 77017
   Phone: 713-641-2727
   www.shoretec.com/shoreblock-bd.php

   c. CABLE CONCRETE
   International Erosion Control System, Inc.
   222295 Hoskins Line
   Rodney, Ontario
   Canada, N0L 2C0
   Phone: 800-821-7462
   www.iecs.com/cable-concrete/

2. The mat shall be visually inspected and approved by the Project Engineer prior to use. Once approved by the Engineer, the mat may be incorporated into the work.
3. Bridge concrete mats shall be installed in accordance with the plans and manufacturer's guidelines including any underlayment. The anchor system shall be sufficient to anchor the mat to the ground surface. The installation area shall be graded to a smooth, level surface to avoid water concentration and to create an appropriate base for the concrete mat. Seed and fertilizer shall be placed on the prepared surface prior to the installation of the Bridge concrete mat.
4. Bridge concrete mat installed directly under the bridge deck shall be open cell filled with crushed limestone for ease during future bridge inspection.
5. A representative from the Bridge concrete mat manufacturer shall be present for sufficient time to assure the Contractor is properly schooled in the installation.
6. Bridge concrete mat will be paid for at the contract unit price per square yard, which price shall be full compensation for all labor, materials, tools, equipment, underlayment, anchor system, concrete and all incidentals necessary to complete the work.

SPECIAL PROVISIONS REQUIRED:

Concrete Bridges And Structures . . . 907-804

DRAINAGE DATA:

Drainage Area . . . . Relief
Q50 (U.S.G.S.) . . . . . . 979 cfs
Effective Area . . . . . . 377.0 Sq. Ft.
Q100 (U.S.G.S.) . . . . . . 1085 cfs

DESIGN DATA:

Specifications . . . A.A.S.H.T.O. LRFD 8th Edition, 2017
Loading HL-93
Roadway Width . . . . 40'-0" Gutter To Gutter
Concrete . . . . Class "AA" (4,000 psi)
Class "BDX" (4,500 psi)
Stay in place metal forms. . . . 18 lbs/sq. ft.
Seismic performance zone. 1
Seismic soil site class. C
Seismic operational class. . . . . . Other

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

BRIDGE AT STA. 591+81.92 RT.LN.
BRIDGE AT STA. 591+81.92 LT.LN.

SR 19 ACROSS CUSHTUSIA CREEK
RELIEF LAYOUT

FMS: 106114/301000
COUNTY: NESHOBA
PROJECT NUMBER: BR-0026-01(078)

WORKING NUMBER: A1 OF A10
SHEET NUMBER: 8003

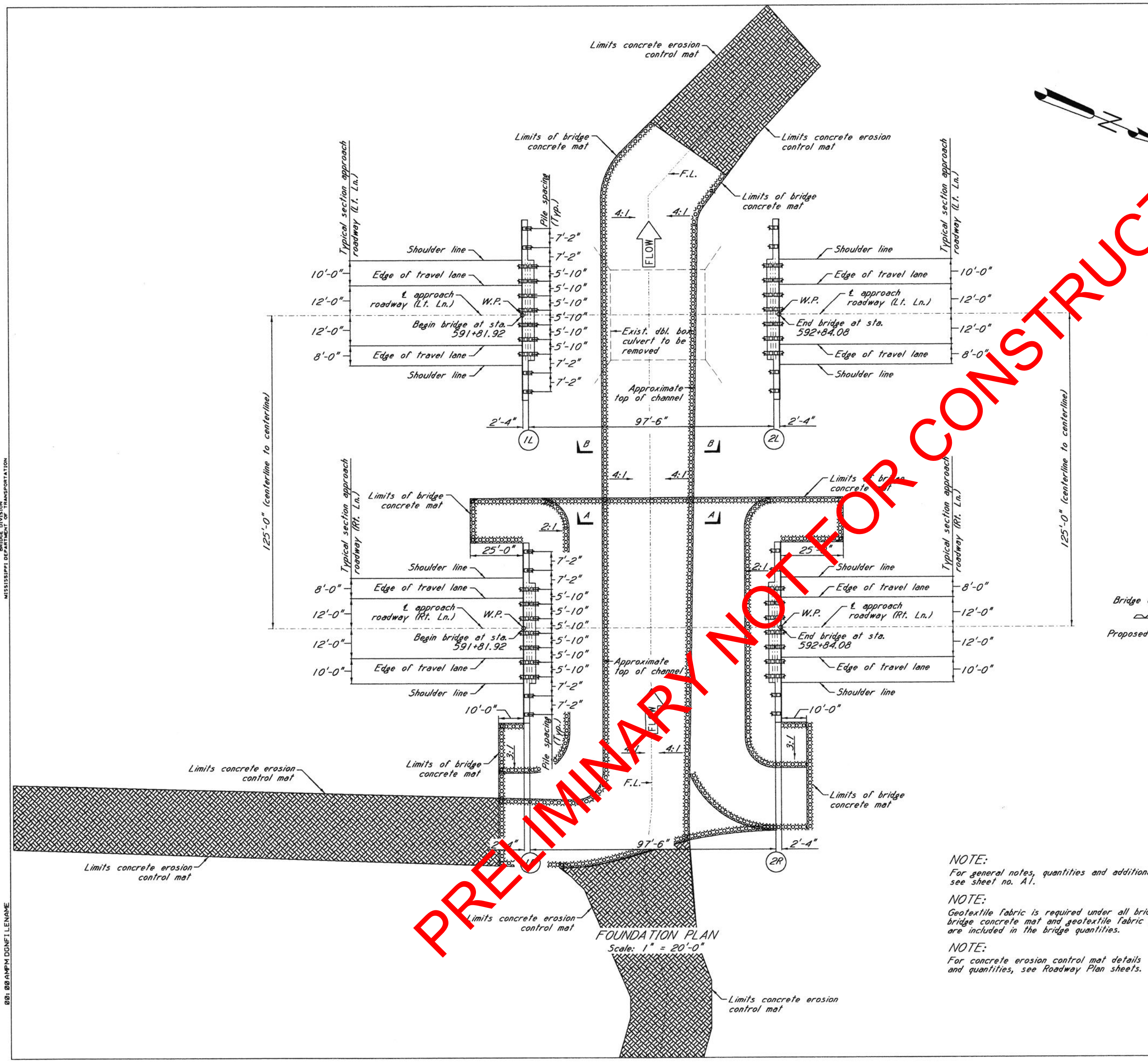
DESIGNER Lon Burt | CHECKER Alex Hawkins
DETAILER Lon Burt | ISSUE DATE 11-13-2019
DIRECTOR OF STRUCTURES, STATE BRIDGE ENGINEER - JUSTIN WALKER, P.E.
DEP. DIR. OF STRUCTURES, ASST. STATE BRIDGE ENGINEER - SCOTT WESTERFIELD, P.E.

BY | REVISION | DATE

PLAN
BRIDGE DIVISION
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

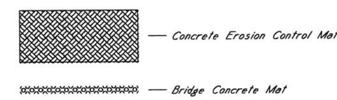
PRELIMINARY NOT FOR CONSTRUCTION

STATE	PROJECT NO.
MISS.	BR-0026-01(078)

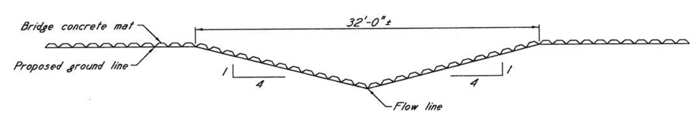


FOUNDATION PLAN
Scale: 1" = 20'-0"

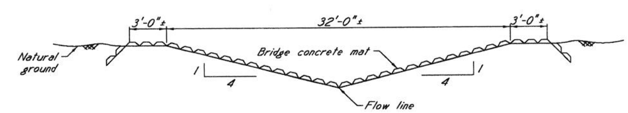
NOTE: Build Right Lane only this project



NOTE: Bridge concrete mat shall extend through left lane as shown.



SECTION A-A
Showing proposed channel alignment with permanent bridge concrete mat



SECTION B-B
Showing proposed channel alignment with permanent bridge concrete mat

NOTE:
For general notes, quantities and additional details, see sheet no. A1.

NOTE:
Geotextile fabric is required under all bridge concrete mat. All bridge concrete mat and geotextile fabric shown on the bridge plans are included in the bridge quantities.

NOTE:
For concrete erosion control mat details and quantities, see Roadway Plan sheets.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

BRIDGE AT STA. 591+81.92 RT.LN.
BRIDGE AT STA. 591+81.92 LT.LN.

SR 19 ACROSS CUSHTUSIA CREEK
RELIEF FOUNDATION PLAN

FMS: 106114/301000
COUNTY: NESHOBA
PROJECT NUMBER: BR-0026-01(078)

WORKING NUMBER A2 OF A10
SHEET NUMBER 8004

DESIGNER Lon Burt
DETAILER Lon Burt
CHECKER Alex Hawkins
ISSUE DATE 11-13-2019
DIRECTOR OF STRUCTURES, STATE BRIDGE ENGINEER - JUSTIN WALKER, P.E.
DEP. DIR. OF STRUCTURES, ASST. STATE BRIDGE ENGINEER - SCOTT WESTERFIELD, P.E.

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PLAN
BRIDGE DIVISION
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

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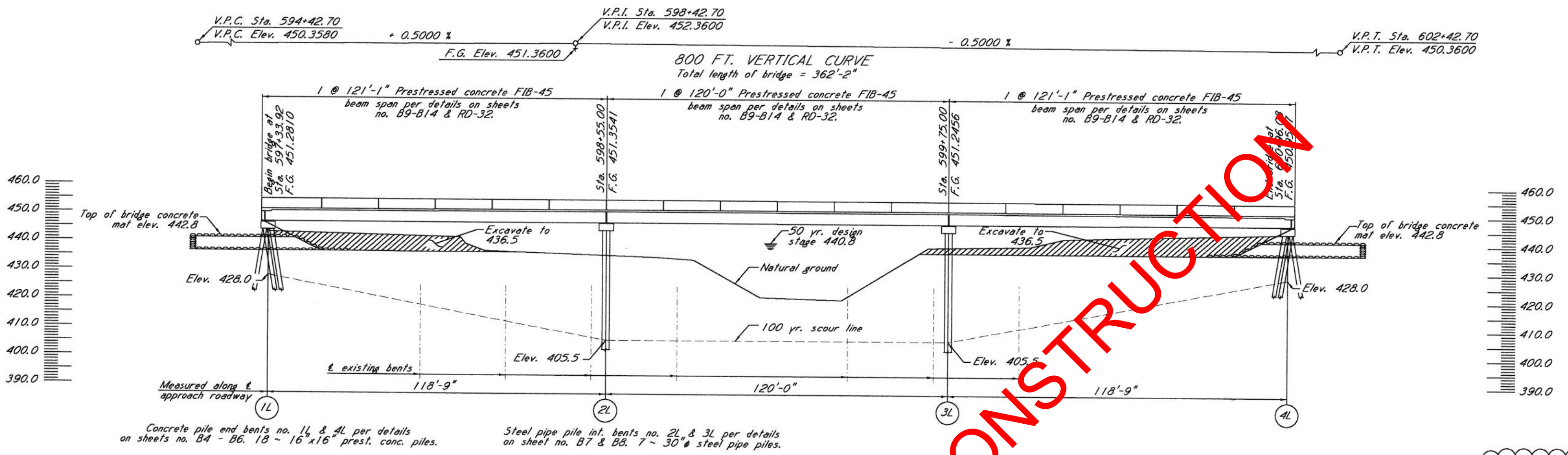
STATE	PROJECT NO.
MISS.	BR-0026-01(078)

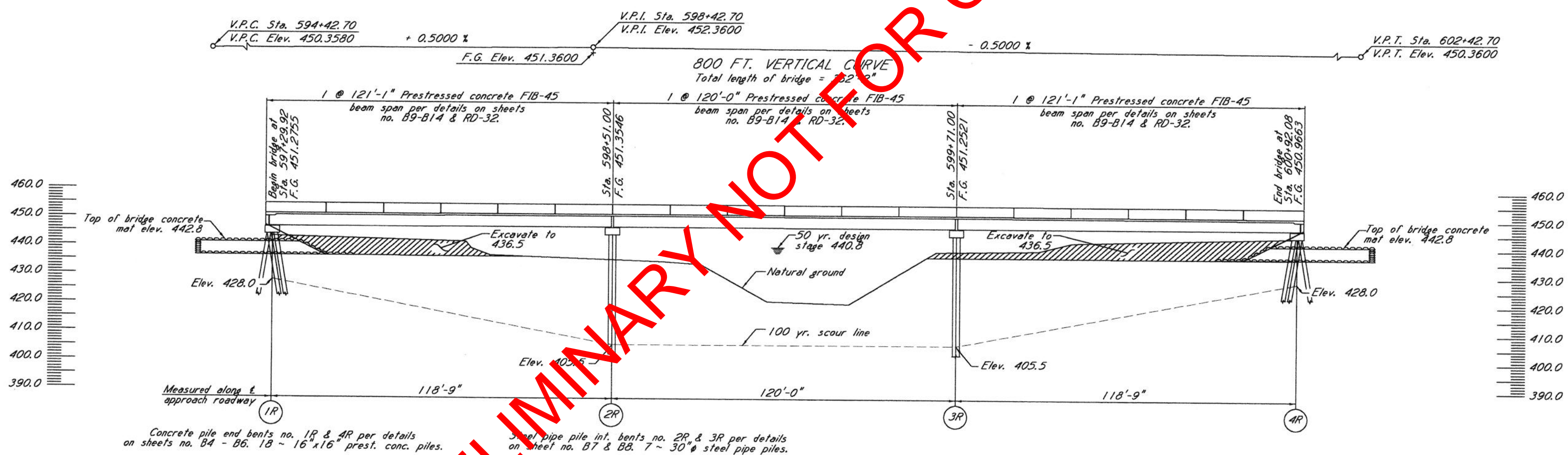


V.P.C. Sta. 594+42.70
V.P.C. Elev. 450.3580
+ 0.5000 %
V.P.I. Sta. 598+42.70
V.P.I. Elev. 452.3600
F.G. Elev. 451.3600
- 0.5000 %
V.P.T. Sta. 602+42.70
V.P.T. Elev. 450.3600
800 FT. VERTICAL CURVE
Total length of bridge = 362'-2"
1 @ 121'-1" Prestressed concrete FIB-45 beam span per details on sheets no. B9-B14 & RD-32.
1 @ 120'-0" Prestressed concrete FIB-45 beam span per details on sheets no. B9-B14 & RD-32.
1 @ 121'-1" Prestressed concrete FIB-45 beam span per details on sheets no. B9-B14 & RD-32.
Begin bridge at Sta. 597+33.92 F.G. 451.2810
Sta. 598+55.00 F.G. 451.3541
Sta. 599+75.00 F.G. 451.2456
Top of bridge concrete mat elev. 442.8
Excavate to 436.5
50 yr. design stage 440.8
Natural ground
Elev. 428.0
100 yr. scour line
℄ existing bents
Elev. 405.5
Measured along ℄ approach roadway
118'-9"
120'-0"
118'-9"
1L
2L
3L
4L
Concrete pile end bents no. 1L & 4L per details on sheets no. B4 - B6. 18 ~ 16"x16" prest. conc. piles.
Steel pipe pile int. bents no. 2L & 3L per details on sheet no. B7 & B8. 7 ~ 30"φ steel pipe piles.

ELEVATION WITH PROFILE ALONG ℄ APPROACH ROADWAY LT. LN.

Scale: 1" = 20'-0"

NOTE: Build Right Lane only this project



V.P.C. Sta. 594+42.70
V.P.C. Elev. 450.3580
+ 0.5000 %
V.P.I. Sta. 598+42.70
V.P.I. Elev. 452.3600
F.G. Elev. 451.3600
- 0.5000 %
V.P.T. Sta. 602+42.70
V.P.T. Elev. 450.3600
800 FT. VERTICAL CURVE
1 @ 121'-1" Prestressed concrete FIB-45 beam span per details on sheets no. B9-B14 & RD-32.
1 @ 121'-1" Prestressed concrete FIB-45 beam span per details on sheets no. B9-B14 & RD-32.
Begin bridge at Sta. 597+29.92 F.G. 451.2755
Sta. 598+51.00 F.G. 451.3546
Sta. 599+71.00 F.G. 451.2521
End bridge at Sta. 600+92.08 F.G. 450.9663
Top of bridge concrete mat elev. 442.8
Excavate to 436.5
50 yr. design stage 440.8
Natural ground
Elev. 428.0
100 yr. scour line
Elev. 405.5
Measured along ℄ approach roadway
118'-9"
120'-0"
118'-9"
1R
2R
3R
4R
Concrete pile end bents no. 1R & 4R per details on sheets no. B4 - B6. 18 ~ 16"x16" prest. conc. piles.

ELEVATION WITH PROFILE ALONG ℄ APPROACH ROADWAY RT. LN.

Scale: 1" = 20'-0"

NOTE:
For information plans, see sheet no. INFO-1B
Additional information on the existing structure is available upon request in the Bridge Division.

SPECIAL PROVISIONS REQUIRED:
Concrete Bridges And Structures . . . 907-804

DRAINAGE DATA:
Drainage Area . . . . 30.4 Sq. Mi.
Q50 (U.S.G.S.) . . . . 3,834 cfs
Effective Area . . . . 1,598.0 Sq. Ft.
Q100 (U.S.G.S.) . . . . . . 4,117 cfs

DESIGN DATA:
Specifications . . . A.A.S.H.T.O. LRFD 8th Edition, 2017
Loading HL-93
Roadway Width . . . . . . 40'-0" Gutter To Gutter
Concrete . . . . Class "AA" (4,000 psi)
Class "BDX" (4,500 psi)
Stay in place metal forms. . . . 18 lbs/sq. ft.
Seismic performance zone. 1
Seismic soil site class. C
Seismic operational class. . . . . . Other

PRELIMINARY NOT FOR CONSTRUCTION

MISSISSIPPI DEPARTMENT OF TRANSPORTATION
BRIDGE AT STA. 597+29.92 RT.LN.
BRIDGE AT STA. 597+33.92 LT.LN.
SR 19 ACROSS CUSHTUSIA CREEK
LAYOUT
FMS: 106114/301000
COUNTY: NESHOBA
PROJECT NUMBER: BR-0026-01(078)
WORKING NUMBER B2 OF B14
SHEET NUMBER 8014
DESIGNER Lon Burt — CHECKER Alex Hawkins
DETAILER Lon Burt — ISSUE DATE 11-13-2019
DIRECTOR OF STRUCTURES, STATE BRIDGE ENGINEER - JUSTIN WALKER, P.E.
DEP. DIR. OF STRUCTURES, ASST. STATE BRIDGE ENGINEER - SCOTT WESTERFIELD, P.E.
REVISION BY DATE

PLAN
BRIDGE DIVISION
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
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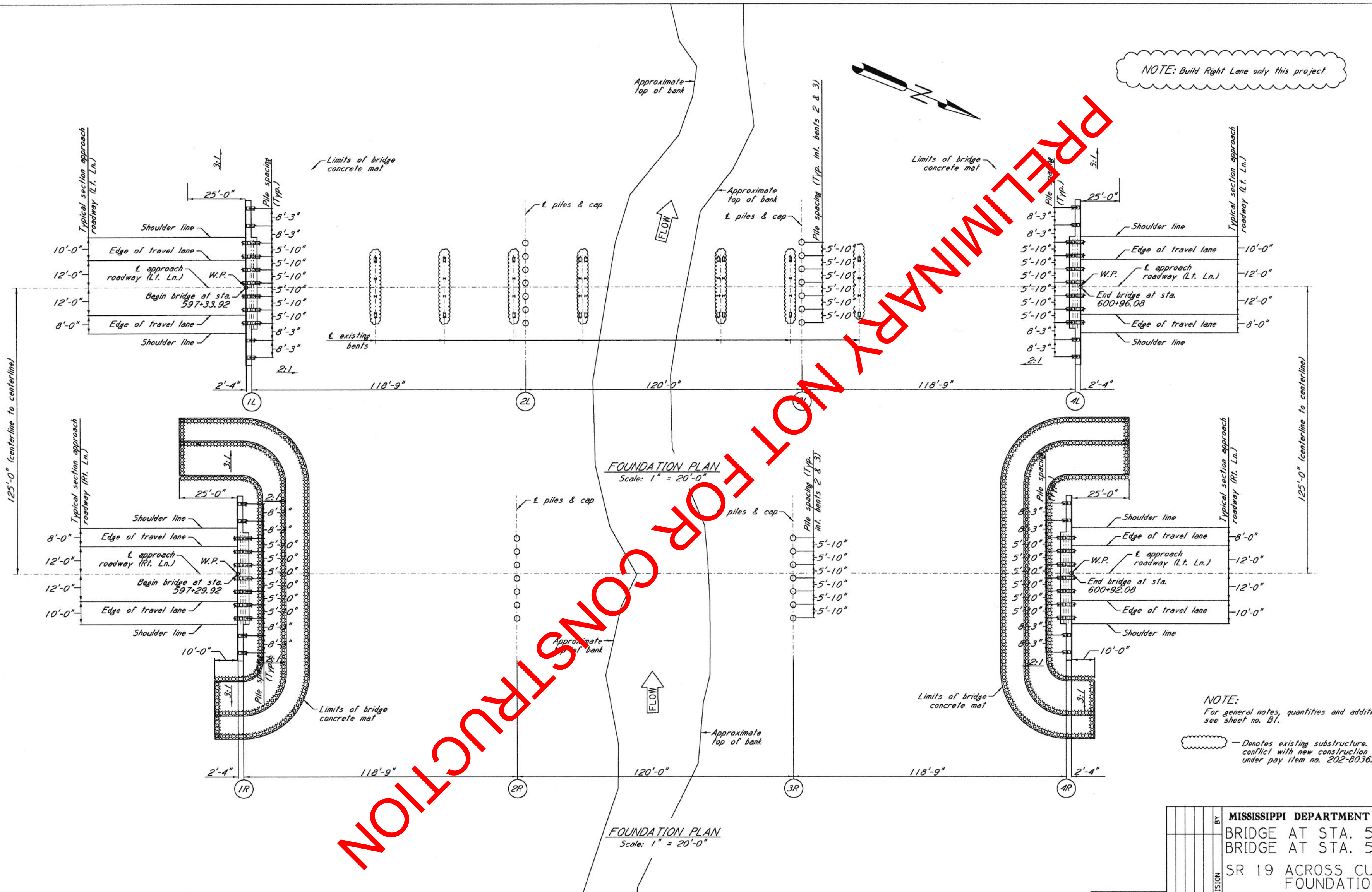
STATE	PROJECT NO.
MISS.	BR-0026-01(078)

NOTE: Build Right Lane only this project



FOUNDATION PLAN
Scale: 1" = 20'-0"
FOUNDATION PLAN
Scale: 1" = 20'-0"
Approximate top of bank
Limits of bridge concrete mat
℄ piles & cap
Pile spacing (Typ. int. bents 2 & 3)
Pile spacing (Typ.)
Typical section approach roadway (Lt. Ln.)
Typical section approach roadway (Rt. Ln.)
Shoulder line
Edge of travel lane
℄ approach roadway (Lt. Ln.)
℄ approach roadway (Rt. Ln.)
W.P.
Begin bridge at sta. 597+33.92
Begin bridge at sta. 597+29.92
End bridge at sta. 600+96.08
End bridge at sta. 600+92.08
℄ existing bents
FLOW
125'-0" (centerline to centerline)
118'-9"
120'-0"
2'-4"
25'-0"
10'-0"
12'-0"
8'-0"
8'-3"
5'-10"
3:1
2:1
1L
2L
3L
4L
1R
2R
3R
4R

PRELIMINARY NOT FOR CONSTRUCTION

NOTE:
For general notes, quantities and additional details, see sheet no. B1.

— Denotes existing substructure. Existing steel H-piles in conflict with new construction shall be removed in full under pay item no. 202-B036.

NOTE:
Geotextile fabric is required under all bridge concrete mat. All bridge concrete mat and geotextile fabric shown on the bridge plans are included in the bridge quantities.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

BRIDGE AT STA. 597+29.92 RT.LN.
BRIDGE AT STA. 597+33.92 LT.LN.

SR 19 ACROSS CUSHTUSIA CREEK
FOUNDATION PLAN

FMS: 106114/301000
COUNTY: NESHOBA
PROJECT NUMBER: BR-0026-01(078)

DESIGNER Lon Burt — CHECKER Alex Hawkins
DETAILER Lon Burt — ISSUE DATE 11-13-2019
DIRECTOR OF STRUCTURES, STATE BRIDGE ENGINEER - JUSTIN WALKER, P.E.
DEP. DIR. OF STRUCTURES, ASST. STATE BRIDGE ENGINEER - SCOTT WESTERFIELD, P.E.

WORKING NUMBER: B3 OF B14
SHEET NUMBER: 8015

BY / REVISION / DATE

PLAN
BRIDGE DIVISION
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

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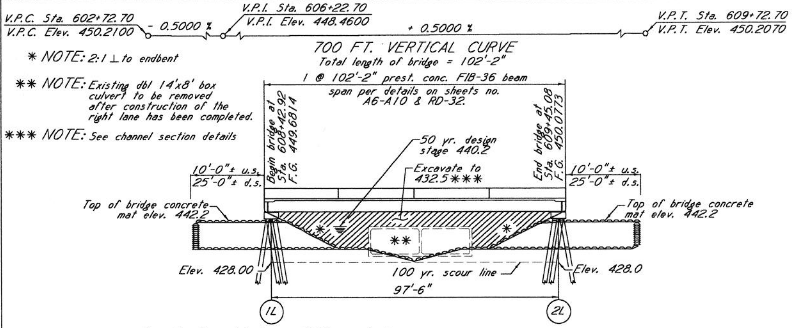
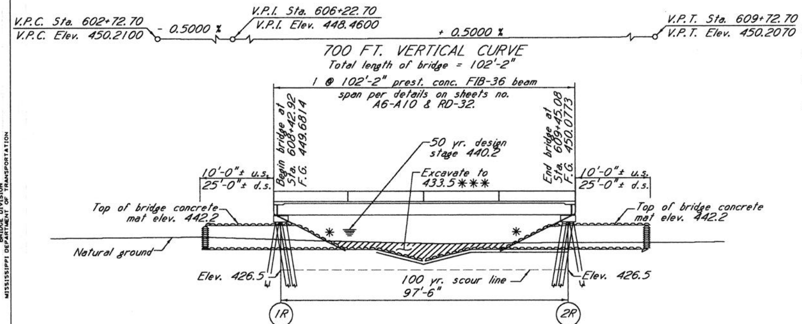


Concrete pile end bents per details on sheets no. C3-C5. 18 ~ 16"x16" prest. conc. piles.

ELEVATION WITH PROFILE ALONG ℄ APPROACH ROADWAY LT. LN.

Scale: 1" = 20'-0"



Concrete pile end bents per details on sheets no. C3-C5. 18 ~ 16"x16" prest. conc. piles.

ELEVATION WITH PROFILE ALONG ℄ APPROACH ROADWAY RT. LN.

Scale: 1" = 20'-0"

REQUIRED ULTIMATE PILE BEARING CAPACITY AND TIP ELEVATION SCHEDULE

Bent No.	Pile type	Req'd Bearing (Tons)	Pile Size	Estimated Length (ft.)	Min Tip Elevation
1L	Concrete	101	16"x16"	60	405.5
2L	Concrete	101	16"x16"	60	405.5
1R	Concrete	101	16"x16"	60	404.0
2R	Concrete	101	16"x16"	60	404.0

TEST PILE SCHEDULE

Bent No.	Min. Lgth.~Ft.	Tip Elevation
1L	70	373.9
1R	70	[illegible]

[illegible]00 YEAR SCOUR ELEVATION

Bent No.	Elevation
1L	425.5
2L	425.5
1R	424.0
2R	424.0

ESTIMATED QUANTITIES - LEFT LANE

Item / Location	Transverse Grooving	Conventional Static Loading Test	16"x16" Prestressed Concrete Piling	PDA Test Pile	Pile Restrike	Class AA Bridge Concrete	Class BDX Bridge Concrete	100 Ft. Prest. Conc. Beam FIB-36	Reinforcement	Concrete Railing	Bridge Concrete Mat	Geotextile under conc. mat
	S.Y.	Each	L.F.	Each	Each	C.Y.	C.Y.	L.F.	LBS.	L.F.	S.Y.	S.Y.
Spans	409							697.67	27,123	204.33		
End Bents		1	2,100	1	1	70.70	123.47		10,668		1,586.6	2,500
Total	409	1	2,100	1	1	70.70	[illegible]	697.67	37,791	204.33	1,586.6	2,500

ESTIMATED QUANTITIES - RIGHT LANE

Item / Location	Transverse Grooving	Conventional Static Loading Test	16"x16" Prestressed Concrete Piling	PDA Test Pile	Pile Restrike	Class AA Bridge Concrete	Class BDX Bridge Concrete	100 Ft. Prest. Conc. Beam FIB-36	Reinforcement	Concrete Railing	Bridge Concrete Mat	Geotextile under conc. mat
	S.Y.	Each	L.F.	Each	Each	C.Y.	C.Y.	L.F.	LBS.	L.F.	S.Y.	S.Y.
Spans	409							697.67	27,123	204.33		
End Bents		1	2,100	1	1	70.70	123.47		10,668		1,696.0	2,500
Total	409	1	2,100	1	1	70.70	123.47	697.67	37,791	204.33	1,696.0	2,500

GENERAL NOTES:

Specifications: Mississippi Standard Specifications for Road and Bridge Construction, 2017.

No change of plans will be permitted except by written approval of the Director of Structures, State Bridge Engineer. Minor changes in detail of design or construction procedure may be authorized by the Director of Structures, State Bridge Engineer provided such changes will not be cause for contract price adjustment.

The final surface texture of the bridge deck shall be mechanically transverse grooved in accordance with Sections 501 and 804 of the specifications. See Misc. Span Details for limits of transverse grooving on bridge deck.

Bridge concrete shall be class "AA" or Class "BDX" as indicated in plans.

Railing expansion joint material shall be bituminous fiber type unless otherwise noted.

No payment will be allowed for excavation incidental to the construction of end bents.

Bar bending details shall be in accordance with "Manual of Standard Practice for Detailing Reinforced Concrete Structures" (ACI 315R-94).

Reinforcement order lists and required placing plans shall be furnished in accordance with Section 805 of the Mississippi Standard Specifications. Partial submittals are not acceptable.

Shop drawings of prestressed beams, including an erection plan, shall be submitted in duplicate to the Director of Structures, State Bridge Engineer for approval prior to the manufacture of beams.

The Fabricator shall provide camber data at release and immediately prior to shipping.

Concrete surfaces shall receive a Class 2 rubbed or spray finish in accordance with the specifications.

Reinforcing steel shall be ASTM A615, Grade 60, unless otherwise noted.

Work for which no pay item is provided in the proposal will not be paid for directly and compensation therefor will be included in the prices and payments for bid items.

PILE NOTES:

Test piles shall be driven as permanent piles at the location shown in the PDA TEST PILE SCHEDULE and will be paid for as test piles only.

The Director of Structures, State Bridge Engineer may authorize test piles driven outside the structural limits.

Test piles shall be driven as a continuous operation, to the bearing capacity and the tip elevations shown in the PDA TEST PILE SCHEDULE, unless otherwise directed by the Director of Structures, State Bridge Engineer.

Permanent piles shall be driven to an elevation no higher than the elevation shown in the REQUIRED ULTIMATE PILE BEARING CAPACITY AND TIP ELEVATION SCHEDULE.

The tip elevation of piling, for hydraulic structures, may be determined by the scour line.

When feasible, bearing piles shall be driven full length and be spliced, only, as approved by the Director of Structures, State Bridge Engineer.

When loading tests are required, the maximum test load shall be one and one half (1½) times the minimum pile bearing capacity.

All piles shall be prestressed type per details on sheet no. CP-1.

Prestressed concrete piling shall not be driven until the concrete has reached a minimum compressive strength of 5,000 psi and is at least 7 days old.

PDA test piles shall require a 1 day restrike unless otherwise directed by the Engineer.

Pile lengths and driving criteria shall be provided based on the results of the PDA test piles.

The required ultimate pile bearing shown in the REQUIRED ULTIMATE PILE BEARING AND TIP ELEVATION SCHEDULE includes the LRFD resistance factor for PDA of 0.65.

Pile hammer leads used for all PDA test piles and PDA restrikes shall be large enough to provide a minimum of 3" of clearance on each side of the pile in order to properly place and protect PDA gages.

Prestressed concrete piles shall be driven with a maximum rated energy no less than 58,000 ft-lbs, but no greater than 75,500 ft-lbs to the tip elevations specified unless the Contractor's drivability analysis utilizing the Contractor's selected alternative hammer is approved by the Director's of Structures, State Bridge Engineer.

NOTE:

The girder deflection diagrams shown in these plans were prepared and intended for design and estimation purposes only. Actual bridge girder deflections may differ from the deflection diagrams shown in these plans.

It is the Contractor's responsibility to construct the bridge to meet the requirements of the plans and specifications including, but not limited to, the requirements for bridge deck smoothness.

Prior to formwork construction, the Contractor shall submit three (3) copies of a proposed BRIDGE SUPERSTRUCTURE CONSTRUCTION PLAN to the Director of Structures, State Bridge Engineer for review, through the Project Engineer. This submittal shall include all calculations, assumptions and parameters used by the Contractor to determine bridge girder deflections and form grade elevations. This submittal shall also include an erection and construction procedure that addresses the construction means and methodologies used by the Contractor and shall consider effects including, but not limited to, construction phasing, pouring schedules, applied permanent and construction loading, and shall include calculations and 4 details of temporary girder bracing systems used to ensure girder stability and to counter the effects of girder tilt.

After girder erection and prior to deck construction, the Contractor shall submit deck thickness verification calculations for each girder. These calculations shall include a comparison of the erected girder top flange profiles versus the plan deck grade elevations over each girder plus the anticipated girder deflection due to applied permanent dead load and creep.

Three (3) copies of the deck thickness verification calculations and any proposed remediation measures to correct for thin deck areas shall be submitted to the Director of Structures, State Bridge Engineer for review, through the Project Engineer.

The BRIDGE SUPERSTRUCTURE CONSTRUCTION PLAN and the deck thickness verification calculations shall be prepared and stamped by a Mississippi Registered Professional Engineer.

BRIDGE CONCRETE MAT NOTES:

1. Bridge concrete mat shall be used for erosion and scour prevention for the slopes and locations shown in the plans. Bridge concrete mats shall be one of the following:

   a. ARMORFLEX
   Contech Engineering Solutions
   9025 Centre Pointe Drive
   West Chester, OH 45069
   Phone: 513-645-7000
   www.conteches.com/products/erosion-control/hard-armour/armorflex

   b. SHOREBLOCK BD
   Shoretec, LLC
   5102 Galveston Road
   Houston, TX 77017
   Phone: 713-641-2727
   www.shoretec.com/shoreblock-bd.php

   c. CABLE CONCRETE
   International Erosion Control System, Inc.
   222295 Hoskins Line
   Rodney, Ontario
   Canada, NOL 2CO
   Phone: 800-821-7462
   www.iecs.com/cable-concrete/

2. The mat shall be visually inspected and approved by the Project Engineer prior to use. Once approved by the Engineer, the mat may be incorporated into the work.
3. Bridge concrete mats shall be installed in accordance with the plans and manufacturer's guidelines including any underlayment. The anchor system shall be sufficient to anchor the mat to the ground surface. The installation area shall be graded to a smooth, level surface to avoid water concentration and to create an appropriate base for the concrete mat. Seed and fertilizer shall be placed on the prepared surface prior to the installation of the Bridge concrete mat.
4. Bridge concrete mat installed directly under the bridge deck shall be open cell filled with crushed limestone for ease during future bridge inspection.
5. A representative from the Bridge concrete mat manufacturer shall be present for sufficient time to assure the Contractor is properly schooled in the installation.
6. Bridge concrete mat will be paid for at the contract unit price per square yard, which price shall be full compensation for all labor, materials, tools, equipment, underlayment, anchor system, concrete and all incidentals necessary to complete the work.

NOTE:

For 102'-2" Span Detail sheets, see sheets no. A6-A8.

For 100 Ft. Beam Details and Bearing Details, see sheets no. A9 & A10.

SPECIAL PROVISIONS REQUIRED:

Concrete Bridges And Structures . . . 907-804

DRAINAGE DATA:

Drainage Area . . . . Relief
050 (U.S.G.S.) . . . . 1,355 cfs
Effective Area . . . . . . 502.0 Sq. Ft.
0100 (U.S.G.S.) . . . . . . 1,518 cfs

DESIGN DATA:

Specifications . . . A.A.S.H.T.O. LRFD 8th Edition, 2017
Loading HL-93
Roadway Width . . . . . . 40'-0" Gutter To Gutter
Concrete . . . . Class "AA" (4,000 psi)
Class "BDX" (4,500 psi)
Stay in place metal forms. . . . 18 lbs/sq. ft.
Seismic performance zone. 1
Seismic soil site class. C
Seismic operational class. . . . . . Other

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

BRIDGE AT STA. 608+42.92 RT.LN.
BRIDGE AT STA. 608+42.92 LT.LN.

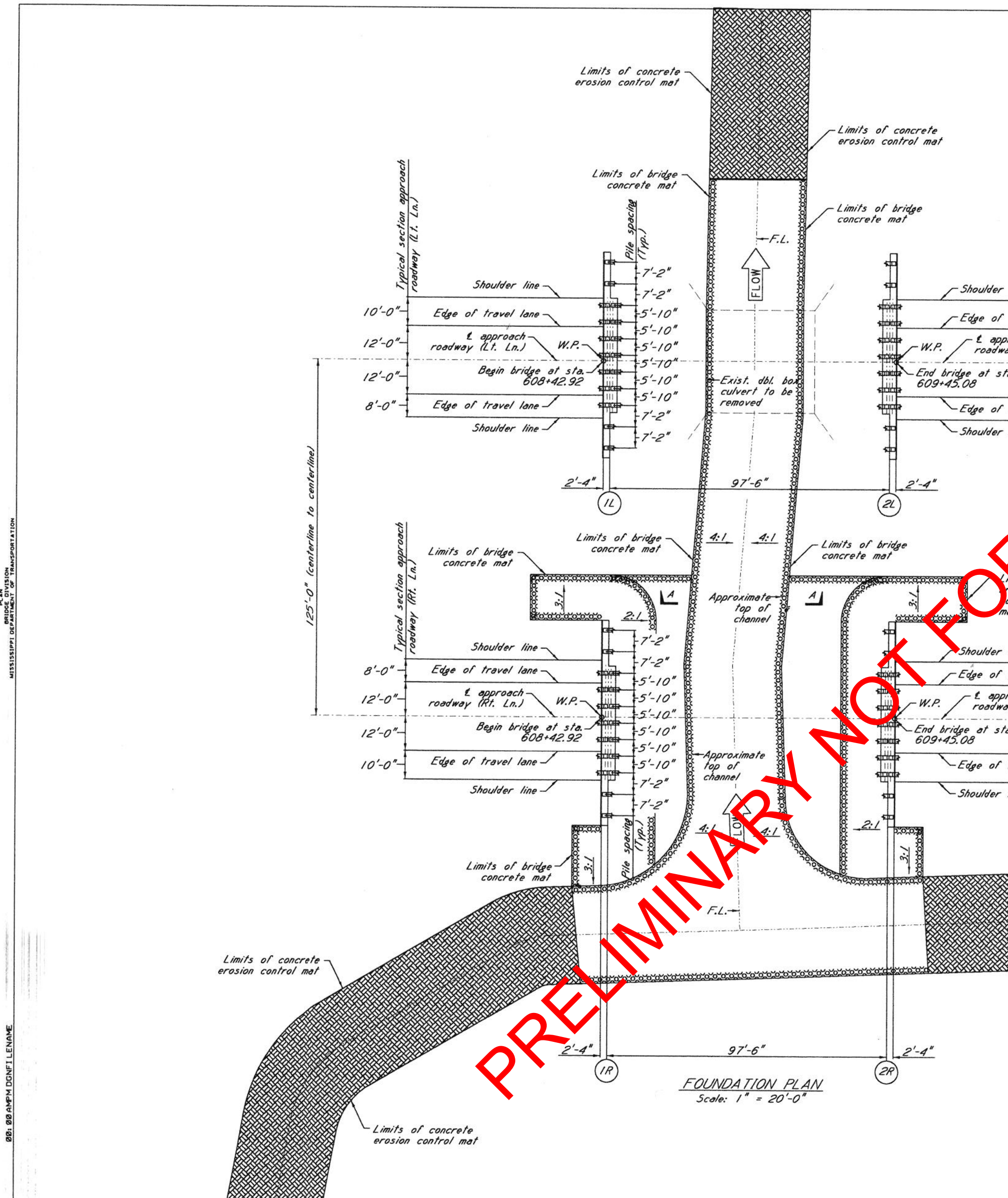
SR 19 ACROSS CUSHTUSIA CREEK
RELIEF LAYOUT

FMS: 106114 / 301000
COUNTY: NESHOBA
PROJECT NUMBER: BR-0026-01(078)

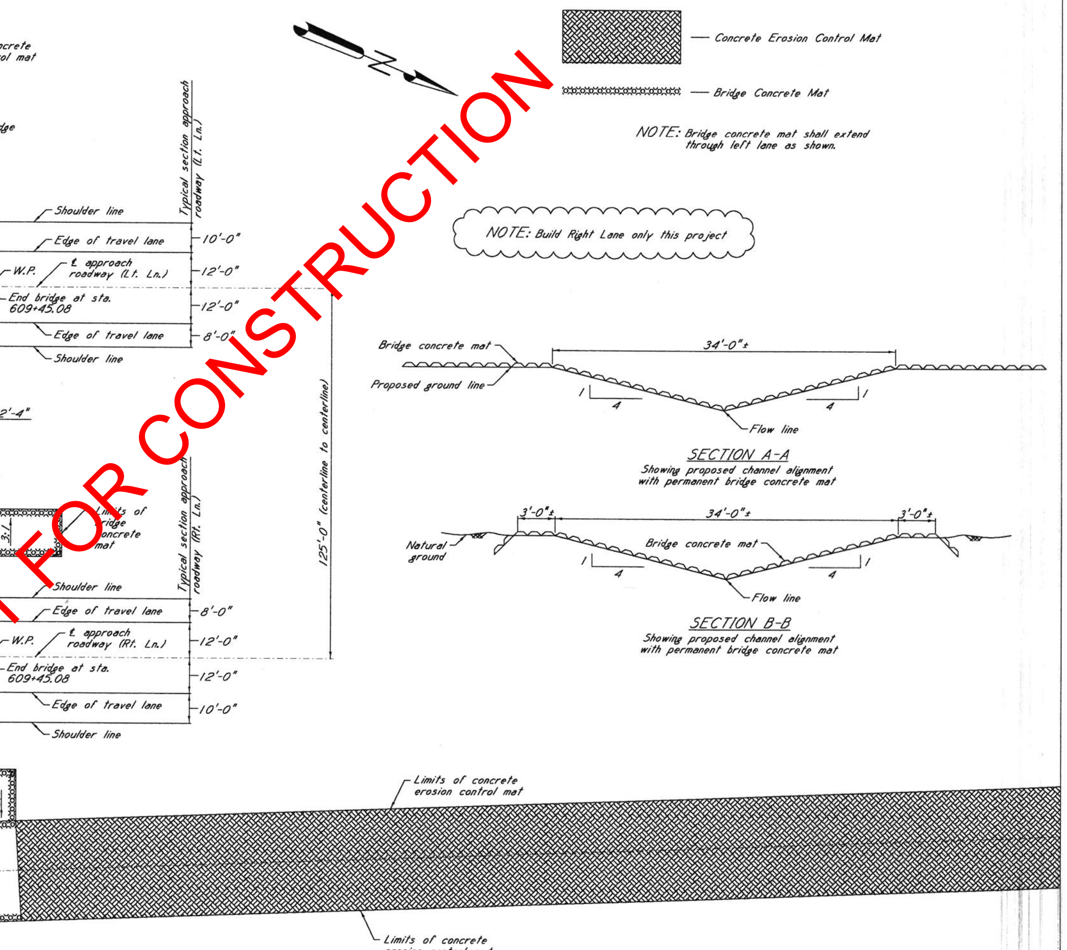
BY | REVISION | DATE

DESIGNER Lon Burt — CHECKER Alex Hawkins
DETAILER Lon Burt — ISSUE DATE 11-13-2019
DIRECTOR OF STRUCTURES, STATE BRIDGE ENGINEER - JUSTIN WALKER, P.E.
DEP. DIR. OF STRUCTURES, ASST. STATE BRIDGE ENGINEER - SCOTT WESTERFIELD, P.E.

STATE	PROJECT NO.
MISS.	BR-0026-01(078)



Limits of concrete erosion control mat
Limits of bridge concrete mat
F.L.
FLOW
Typical section approach roadway (Lt. Ln.)
Pile spacing (Typ.)
Shoulder line
Edge of travel lane
℄ approach roadway (Lt. Ln.)
W.P.
Begin bridge at sta. 608+42.92
End bridge at sta. 609+45.08
Exist. dbl. box culvert to be removed
10'-0"
12'-0"
12'-0"
8'-0"
7'-2"
5'-10"
2'-4"
97'-6"
125'-0" (centerline to centerline)
1L
2L
4:1
3:1
2:1
Approximate top of channel
A
Typical section approach roadway (Rt. Ln.)
℄ approach roadway (Rt. Ln.)
1R
2R
FOUNDATION PLAN
Scale: 1" = 20'-0"



N
Concrete Erosion Control Mat
Bridge Concrete Mat
NOTE: Bridge concrete mat shall extend through left lane as shown.
NOTE: Build Right Lane only this project
Bridge concrete mat
Proposed ground line
34'-0"±
4
Flow line
SECTION A-A
Showing proposed channel alignment with permanent bridge concrete mat
Natural ground
3'-0"±
34'-0"±
Bridge concrete mat
Flow line
SECTION B-B
Showing proposed channel alignment with permanent bridge concrete mat
Limits of concrete erosion control mat

NOTE:
For general notes, quantities and additional details, see sheet no. C1.

NOTE:
Geotextile fabric is required under all bridge concrete mat. All bridge concrete mat and geotextile fabric shown on the bridge plans are included in the bridge quantities.

NOTE:
For concrete erosion control mat details and quantities, see Roadway Plan sheets.

PRELIMINARY NOT FOR CONSTRUCTION

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

BRIDGE AT STA. 608+42.92 RT.LN.
BRIDGE AT STA. 608+42.92 LT.LN.

SR 19 ACROSS CUSHTUSIA CREEK RELIEF FOUNDATION PLAN

FMS: 106114/301000
COUNTY: NESHOBA
PROJECT NUMBER: BR-0026-01(078)

WORKING NUMBER: C2 OF C5
SHEET NUMBER: 8028

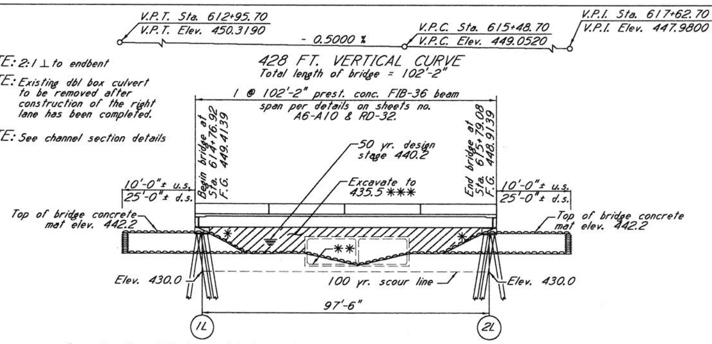
DESIGNER Lon Burt — CHECKER Alex Hawkins
DETAILER Lon Burt — ISSUE DATE 11-13-2019
DIRECTOR OF STRUCTURES, STATE BRIDGE ENGINEER - JUSTIN WALKER, P.E.
DEP. DIR. OF STRUCTURES, ASST. STATE BRIDGE ENGINEER - SCOTT WESTERFIELD, P.E.

REVISION | BY | DATE

PLAN
BRIDGE DIVISION
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

00:00AMPM DGNFILENAME

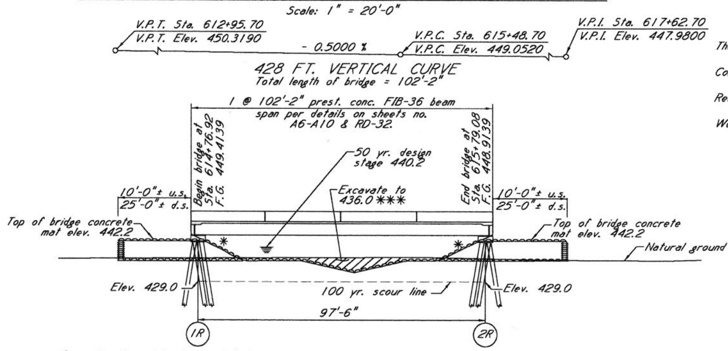
* NOTE: 2:1 ⊥ to endbent
** NOTE: Existing dbl box culvert to be removed after construction of the right lane has been completed.
*** NOTE: See channel section details



Concrete pile end bents per details on sheets no. D3-D5. 18 ~ 16"x16" prest. conc. piles.

ELEVATION WITH PROFILE ALONG ℄ APPROACH ROADWAY LT. LN.

Scale: 1" = 20'-0"



Concrete pile end bents per details on sheets no. D3-D5. 18 ~ 16"x16" prest. conc. piles.

ELEVATION WITH PROFILE ALONG ℄ APPROACH ROADWAY RT. LN.

Scale: 1" = 20'-0"

REQUIRED ULTIMATE PILE BEARING CAPACITY AND TIP ELEVATION SCHEDULE

Bent No.	Pile type	Req'd Bearing (Tons)	Pile Size	Estimated Length (ft.)	Min Tip Elevation
1L	Concrete	101	16"x16"	60	407.5
2L	Concrete	101	16"x16"	60	407.5
1R	Concrete	101	16"x16"	60	406.5
2R	Concrete	101	16"x16"	60	406.5

TEST PILE SCHEDULE

Bent No.	Min. Lgth.~Ft.	Tip Elevation
1L	70	373.6
1R	70	373.[illegible]

100 YEAR SCOUR ELEVATION

Bent No.	Elevation
1L	427.5
2L	427.5
1R	426.5
2R	426.5

ESTIMATED QUANTITIES - LEFT LANE

Item / Location	Transverse Grooving	Conventional Static Loading Test	16"x16" Prestressed Concrete Piling	PDA Test Pile	Pile Restrike	Class AA Bridge Concrete	Class BDX Bridge Concrete	100 Ft. Prest. Conc. Beam FIB-36	Reinforcement	Concrete Railing	Bridge Concrete Mat	Geotextile under conc. mat
	S.Y.	Each	L.F.	Each	Each	C.Y.	C.Y.	L.F.	LBS.	L.F.	S.Y.	S.Y.
Spans	409							697.67	27,123	204.33		
End Bents		1	2,100	1	1	70.70	123.47		10,668		1,586.6	2,370
Total	409	1	2,100	1	1	70.70	123.47	697.67	37,791	204.33	1,586.6	2,370

ESTIMATED QUANTITIES - RIGHT LANE

Item / Location	Transverse Grooving	Conventional Static Loading Test	16"x16" Prestressed Concrete Piling	PDA Test Pile	Pile Restrike	Class AA Bridge Concrete	Class BDX Bridge Concrete	100 Ft. Prest. Conc. Beam FIB-36	Reinforcement	Concrete Railing	Bridge Concrete Mat	Geotextile under conc. mat
	S.Y.	Each	L.F.	Each	Each	C.Y.	C.Y.	L.F.	LBS.	L.F.	S.Y.	S.Y.
Spans	409							697.67	27,123	204.33		
End Bents		1	2,100	1	1	70.70	123.47		10,668		1,696.0	2,370
Total	409	1	2,100	1	1	70.70	123.47	697.67	37,791	204.33	1,696.0	2,370

GENERAL NOTES:

Specifications: Mississippi Standard Specifications for Road and Bridge Construction, 2017.

No change of plans will be permitted except by written approval of the Director of Structures, State Bridge Engineer. Minor changes in detail of design or construction procedure may be authorized by the Director of Structures, State Bridge Engineer provided such changes will not be cause for contract price adjustment.

The final surface texture of the bridge deck shall be mechanically transverse grooved in accordance with Sections 501 and 804 of the specifications. See Misc. Span Details for limits of transverse grooving on bridge deck.

Bridge concrete shall be class "AA" or Class "BDX" as indicated in plans.

Railing expansion joint material shall be bituminous fiber type unless otherwise noted.

No payment will be allowed for excavation incidental to the construction of end bents.

Bar bending details shall be in accordance with "Manual of Standard Practice for Detailing Reinforced Concrete Structures" (ACI 315R-94).

Reinforcement order lists and required placing plans shall be furnished in accordance with Section 805 of the Mississippi Standard Specifications. Partial submittals are not acceptable.

Shop drawings of prestressed beams, including an erection plan, shall be submitted in duplicate to the Director of Structures, State Bridge Engineer for approval prior to the manufacture of beams.

The Fabricator shall provide camber data at release and immediately prior to shipping.

Concrete surfaces shall receive a Class 2 rubbed or spray finish in accordance with the specifications.

Reinforcing steel shall be ASTM A615, Grade 60, unless otherwise noted.

Work for which no pay item is provided in the proposal will not be paid for directly and compensation therefor will be included in the prices and payments for bid items.

PILE NOTES:

Test piles shall be driven as permanent piles at the location shown in the PDA TEST PILE SCHEDULE and will be paid for as test piles only.

The Director of Structures, State Bridge Engineer may authorize test piles driven outside the structural limits.

Test piles shall be driven as a continuous operation, to the bearing capacity and the tip elevations shown in the PDA TEST PILE SCHEDULE, unless otherwise directed by the Director of Structures, State Bridge Engineer.

Permanent piles shall be driven to an elevation no higher than the elevation shown in the REQUIRED ULTIMATE PILE BEARING CAPACITY AND TIP ELEVATION SCHEDULE.

The tip elevation of piling, for hydraulic structures, may be determined by the scour line.

When feasible, bearing piles shall be driven full length and be spliced, only, as approved by the Director of Structures, State Bridge Engineer.

When loading tests are required, the maximum test load shall be one and one half (1½) times the minimum pile bearing capacity.

All piles shall be prestressed type, per details on sheet no. CP-1.

Prestressed concrete piling shall not be driven until the concrete has reached a minimum compressive strength of 5,000 psi and is at least 7 days old.

PDA test piles shall require a 1 day restrike unless otherwise directed by the Engineer.

Pile lengths and driving criteria shall be provided based on the results of the PDA test piles.

The required ultimate pile bearing shown in the REQUIRED ULTIMATE PILE BEARING AND TIP ELEVATION SCHEDULE includes the LRFD resistance factor for PDA of 0.65.

Pile hammer leads used for all PDA test piles and PDA restrikes shall be large enough to provide a minimum of 3" of clearance on each side of the pile in order to properly place and protect PDA gages.

Prestressed concrete piles shall be driven with a maximum rated energy no less than 58,000 ft-lbs, but no greater than 75,500 ft-lbs to the tip elevations specified unless the Contractor's drivability analysis utilizing the Contractor's selected alternative hammer is approved by the Director's of Structures, State Bridge Engineer.

BRIDGE CONCRETE MAT NOTES:

1. Bridge concrete mat shall be used for erosion and scour prevention for the slopes and locations shown in the plans. Bridge concrete mats shall be one of the following:

   a. ARMORFLEX
   Contech Engineering Solutions
   9025 Centre Pointe Drive
   West Chester, OH 45069
   Phone: 513-645-7000
   www.conteches.com/products/erosion-control/hard-armour/armorflex

   b. SHOREBLOCK BD
   Shoretec, LLC
   5102 Galveston Road
   Houston, TX 77017
   Phone: 713-641-2727
   www.shoretec.com/shoreblock-bd.php

   c. CABLE CONCRETE
   International Erosion Control System, Inc.
   222295 Hoskins Line
   Rodney, Ontario
   Canada, N0L 2C0
   Phone: 800-821-7462
   www.iecs.com/cable-concrete/

2. The mat shall be visually inspected and approved by the Project Engineer prior to use. Once approved by the Engineer, the mat may be incorporated into the work.
3. Bridge concrete mats shall be installed in accordance with the plans and manufacturer's guidelines including any underlayment. The anchor system shall be sufficient to anchor the mat to the ground surface. The installation area shall be graded to a smooth, level surface to avoid water concentration and to create an appropriate base for the concrete mat. Seed and fertilizer shall be placed on the prepared surface prior to the installation of the Bridge concrete mat.
4. Bridge concrete mat installed directly under the bridge deck shall be open cell filled with crushed limestone for ease during future bridge inspection.
5. A representative from the Bridge concrete mat manufacturer shall be present for sufficient time to assure the Contractor is properly schooled in the installation.
6. Bridge concrete mat will be paid for at the contract unit price per square yard, which price shall be full compensation for all labor, materials, tools, equipment, underlayment, anchor system, concrete and all incidentals necessary to complete the work.

STATE	PROJECT NO.
MISS.	BR-0026-01(078)

NOTE:

The girder deflection diagrams shown in these plans were prepared and intended for design and estimation purposes only. Actual bridge girder deflections may differ from the deflection diagrams shown in these plans.

It is the Contractor's responsibility to construct the bridge to meet the requirements of the plans and specifications including, but not limited to, the requirements for bridge deck smoothness.

Prior to formwork construction, the Contractor shall submit three (3) copies of a proposed BRIDGE SUPERSTRUCTURE CONSTRUCTION PLAN to the Director of Structures, State Bridge Engineer for review, through the Project Engineer. This submittal shall include all calculations, assumptions and parameters used by the Contractor to determine bridge girder deflections and form grade elevations. This submittal shall also include an erection and construction procedure that addresses the construction means and methodologies used by the Contractor and shall consider effects including, but not limited to, construction phasing, pouring schedules, applied permanent and construction loading, and shall include calculations and 4 details of temporary girder bracing systems used to ensure girder stability and to counter the effects of girder tilt.

After girder erection and prior to deck construction, the Contractor shall submit deck thickness verification calculations for each girder. These calculations shall include a comparison of the erected girder top flange profiles versus the plan deck grade elevations over each girder plus the anticipated girder deflection due to applied permanent dead load and creep.

Three (3) copies of the deck thickness verification calculations and any proposed remediation measures to correct for thin deck areas shall be submitted to the Director of Structures, State Bridge Engineer for review, through the Project Engineer.

The BRIDGE SUPERSTRUCTURE CONSTRUCTION PLAN and the deck thickness verification calculations shall be prepared and stamped by a Mississippi Registered Professional Engineer.

NOTE:

For 102'-2" Span Detail sheets, see sheets no. A6-A8.

For 100 Ft. Beam Details and Bearing Details, see sheets no. A9 & A10.

SPECIAL PROVISIONS REQUIRED:

Concrete Bridges And Structures . . . 907-804

DRAINAGE DATA:

Drainage Area . . . . Relief
Q50 (U.S.G.S.) . . . . . . 981 cfs
Effective Area . . . . . . 392.0 Sq. Ft.
Q100 (U.S.G.S.) . . . . . . 1,126 cfs

DESIGN DATA:

Specifications . . . A.A.S.H.T.O. LRFD 8th Edition, 2017
Loading HL-93
Roadway Width . . . . . . 40'-0" Gutter To Gutter
Concrete . . . . Class "AA" (4,000 psi)
Class "BDX" (4,500 psi)
Stay in place metal forms. . . . 18 lbs/sq. ft.
Seismic performance zone. 1
Seismic soil site class. C
Seismic operational class. . . . . Other

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

BRIDGE AT STA. 614+76.92 RT.LN.
BRIDGE AT STA. 614+76.92 LT.LN.

SR 19 ACROSS CUSHTUSIA CREEK RELIEF LAYOUT

FMS: 106114/301000
COUNTY: NESHOBA
PROJECT NUMBER: BR-0026-01(078)

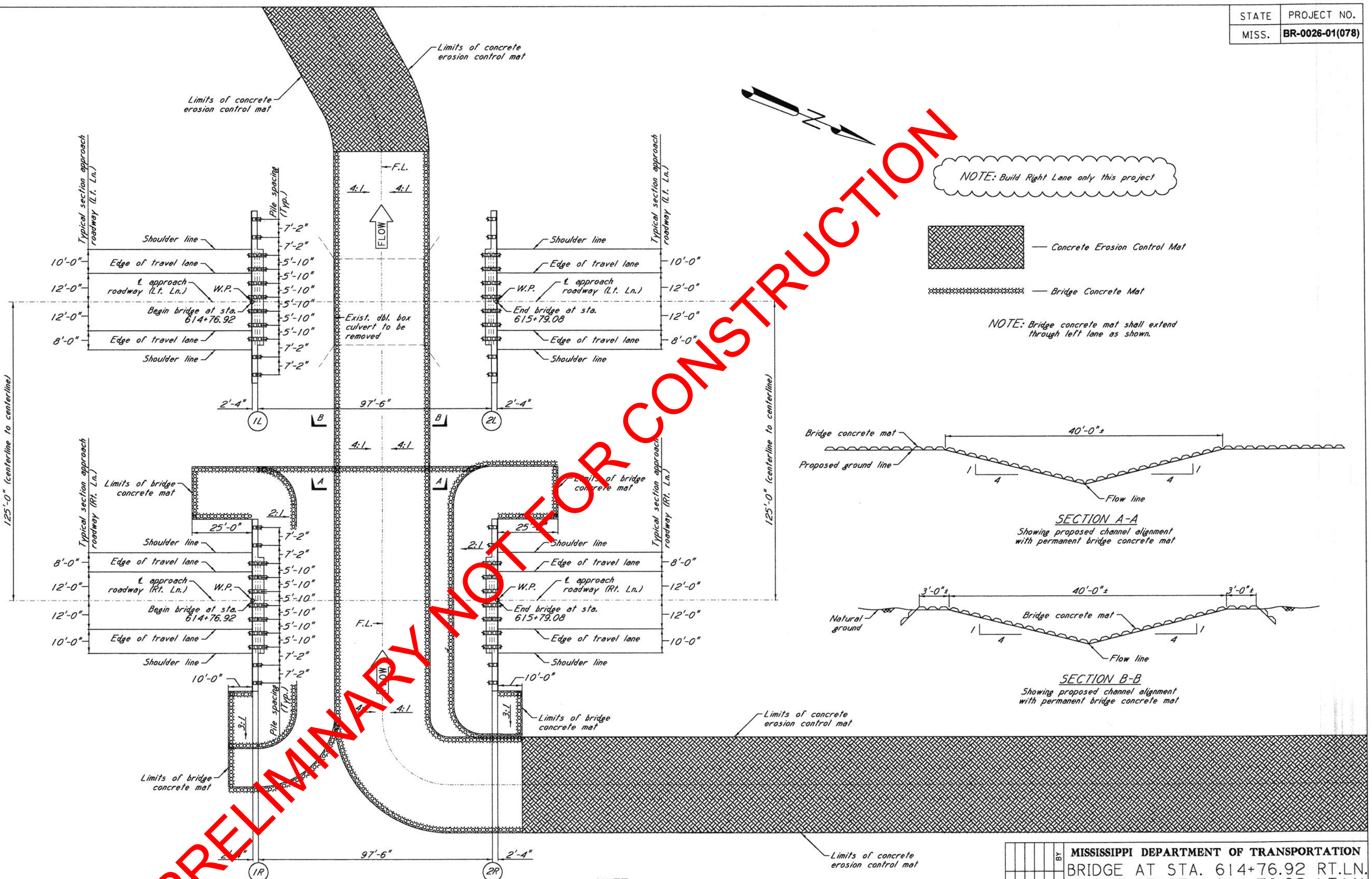
WORKING NUMBER D1 OF D5
SHEET NUMBER 8032

DESIGNER Lon Burt   CHECKER Alex Hawkins
DETAILER Lon Burt   ISSUE DATE 11-13-2019
DIRECTOR OF STRUCTURES, STATE BRIDGE ENGINEER - JUSTIN WALKER, P.E.
DEP. DIR. OF STRUCTURES, ASST. STATE BRIDGE ENGINEER - SCOTT WESTERFIELD, P.E.

REVISION | BY | DATE

DEPARTMENT OF TRANSPORTATION MISSISSIPPI

STATE	PROJECT NO.
MISS.	BR-0026-01(078)



Limits of concrete erosion control mat
Limits of concrete erosion control mat
NOTE: Build Right Lane only this project
Concrete Erosion Control Mat
Bridge Concrete Mat
NOTE: Bridge concrete mat shall extend through left lane as shown.
Typical section approach roadway (Lt. Ln.)
Pile spacing (Typ.)
Shoulder line
Edge of travel lane
℄ approach roadway (Lt. Ln.)
W.P.
Begin bridge at sta. 614+76.92
End bridge at sta. 615+79.08
Exist. dbl. box culvert to be removed
F.L.
FLOW
4:1
7'-2"
5'-10"
10'-0"
12'-0"
8'-0"
2'-4"
97'-6"
125'-0" (centerline to centerline)
Limits of bridge concrete mat
Typical section approach roadway (Rt. Ln.)
℄ approach roadway (Rt. Ln.)
25'-0"
2:1
3:1
Bridge concrete mat
Proposed ground line
40'-0"±
Flow line
SECTION A-A
Showing proposed channel alignment with permanent bridge concrete mat
Natural ground
3'-0"±
SECTION B-B
Showing proposed channel alignment with permanent bridge concrete mat
1L
2L
1R
2R

FOUNDATION PLAN
Scale: 1" = 20'-0"

NOTE:
For general notes, quantities and additional details, see sheet no. D1.

NOTE:
Geotextile fabric is required under all bridge concrete mat. All bridge concrete mat and geotextile fabric shown on the bridge plans are included in the bridge quantities.

NOTE:
For concrete erosion control mat details and quantities, see Roadway Plan sheets.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

BRIDGE AT STA. 614+76.92 RT.LN.
BRIDGE AT STA. 614+76.92 LT.LN.

SR 19 ACROSS CUSHTUSIA CREEK
RELIEF FOUNDATION PLAN

FMS: 106114/301000
COUNTY: NESHOBA
PROJECT NUMBER: BR-0026-01(078)

WORKING NUMBER: D2 OF D5
SHEET NUMBER: 8033

DESIGNER Lon Burt — CHECKER Alex Hawkins
DETAILER Lon Burt — ISSUE DATE 11-13-2019
DIRECTOR OF STRUCTURES, STATE BRIDGE ENGINEER - JUSTIN WALKER, P.E.
DEP. DIR. OF STRUCTURES, ASST. STATE BRIDGE ENGINEER - SCOTT WESTERFIELD, P.E.

REVISION | DATE | BY

DEPARTMENT OF TRANSPORTATION MISSISSIPPI

PLAN
BRIDGE DIVISION
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

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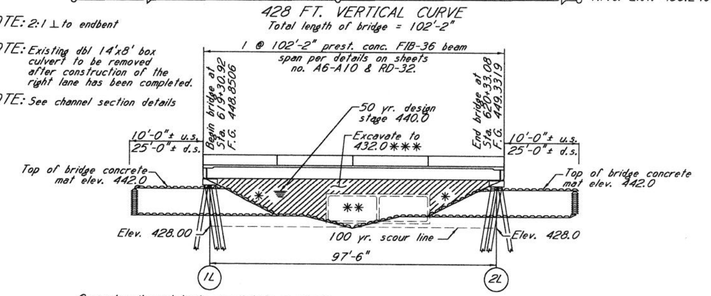
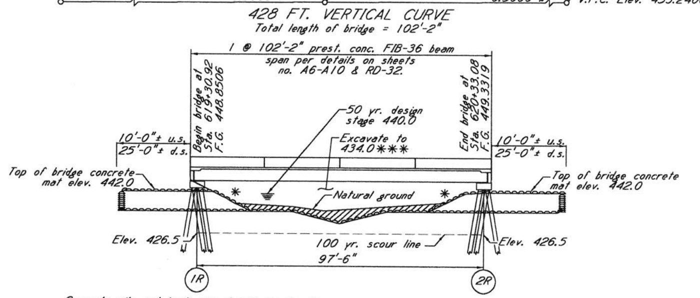
STATE	PROJECT NO.
MISS.	BR-0026-01(078)



Concrete pile end bents per details on sheets no. E3-E5. 18 ~ 16"x16" prest. conc. piles.

ELEVATION WITH PROFILE ALONG ℄ APPROACH ROADWAY LT. LN.

Scale: 1" = 20'-0"



Concrete pile end bents per details on sheets no. E3-E5. 18 ~ 16"x16" prest. conc. piles.

ELEVATION WITH PROFILE ALONG ℄ APPROACH ROADWAY RT. LN.

Scale: 1" = 20'-0"

GENERAL NOTES:

Specifications: Mississippi Standard Specifications for Road and Bridge Construction, 2017.

No change of plans will be permitted except by written approval of the Director of Structures, State Bridge Engineer. Minor changes in detail of design or construction procedure may be authorized by the Director of Structures, State Bridge Engineer provided such changes will not be cause for contract price adjustment.

The final surface texture of the bridge deck shall be mechanically transverse grooved in accordance with Sections 501 and 804 of the specifications. See Misc. Span Details for limits of transverse grooving on bridge deck.

Bridge concrete shall be class "AA" or Class "BDX" as indicated in plans.

Railing expansion joint material shall be bituminous fiber type unless otherwise noted.

No payment will be allowed for excavation incidental to the construction of end bents.

Bar bending details shall be in accordance with "Manual of Standard Practice for Detailing Reinforced Concrete Structures" (ACI 315R-94).

Reinforcement order lists and required placing plans shall be furnished in accordance with Section 805 of the Mississippi Standard Specifications. Partial submittals are not acceptable.

Shop drawings of prestressed beams, including an erection plan, shall be submitted in duplicate to the Director of Structures, State Bridge Engineer for approval prior to the manufacture of beams.

The Fabricator shall provide camber data at release and immediately prior to shipping.

Concrete surfaces shall receive a Class 2 rubbed or spray finish in accordance with the specifications.

Reinforcing steel shall be ASTM A615, Grade 60, unless otherwise noted.

Work for which no pay item is provided in the proposal will not be paid for directly and compensation therefor will be included in the prices and payments for bid items.

PILE NOTES:

Test piles shall be driven as permanent piles at the location shown in the PDA TEST PILE SCHEDULE and will be paid for as test piles only.

The Director of Structures, State Bridge Engineer may authorize test piles driven outside the structural limits.

Test piles shall be driven as a continuous operation, to the bearing capacity and the tip elevations shown in the PDA TEST PILE SCHEDULE, unless otherwise directed by the Director of Structures, State Bridge Engineer.

Permanent piles shall be driven to an elevation no higher than the elevation shown in the REQUIRED ULTIMATE PILE BEARING CAPACITY AND TIP ELEVATION SCHEDULE.

The tip elevation of piling, for hydraulic structures, may be determined by the scour line.

When feasible, bearing piles shall be driven full length and be spliced, only, as approved by the Director of Structures, State Bridge Engineer.

When loading tests are required, the maximum test load shall be one and one half (1½) times the minimum pile bearing capacity.

All piles shall be prestressed type per details on sheet no. CP-1.

Prestressed concrete piling shall not be driven until the concrete has reached a minimum compressive strength of 5,000 psi and is at least 7 days old.

PDA test piles shall require a 1 day restrike unless otherwise directed by the Engineer.

Pile lengths and driving criteria shall be provided based on the results of the PDA test piles.

The required ultimate pile bearing shown in the REQUIRED ULTIMATE PILE BEARING AND TIP ELEVATION SCHEDULE includes the LRFD resistance factor for PDA of 0.65.

Pile hammer leads used for all PDA test piles and PDA restrikes shall be large enough to provide a minimum of 3" of clearance on each side of the pile in order to properly place and protect PDA gages.

Prestressed concrete piles shall be driven with a maximum rated energy no less than 58,000 ft-lbs, but no greater than 75,500 ft-lbs to the tip elevations specified unless the Contractor's drivability analysis utilizing the Contractor's selected alternative hammer is approved by the Director's of Structures, State Bridge Engineer.

NOTE:

The girder deflection diagrams shown in these plans were prepared and intended for design and estimation purposes only. Actual bridge girder deflections may differ from the deflection diagrams shown in these plans.

It is the Contractor's responsibility to construct the bridge to meet the requirements of the plans and specifications including, but not limited to, the requirements for bridge deck smoothness.

Prior to formwork construction, the Contractor shall submit three (3) copies of a proposed BRIDGE SUPERSTRUCTURE CONSTRUCTION PLAN to the Director of Structures, State Bridge Engineer for review, through the Project Engineer. This submittal shall include all calculations, assumptions and parameters used by the Contractor to determine bridge girder deflections and form grade elevations. This submittal shall also include an erection and construction procedure that addresses the construction means and methodologies used by the Contractor and shall consider effects including, but not limited to, construction phasing, pouring schedules, applied permanent and construction loading, and shall include calculations and 4 details of temporary girder bracing systems used to ensure girder stability and to counter the effects of girder tilt.

After girder erection and prior to deck construction, the Contractor shall submit deck thickness verification calculations for each girder. These calculations shall include a comparison of the erected girder top flange profiles versus the plan deck grade elevations over each girder plus the anticipated girder deflection due to applied permanent dead load and creep.

Three (3) copies of the deck thickness verification calculations and any proposed remediation measures to correct for thin deck areas shall be submitted to the Director of Structures, State Bridge Engineer for review, through the Project Engineer.

The BRIDGE SUPERSTRUCTURE CONSTRUCTION PLAN and the deck thickness verification calculations shall be prepared and stamped by a Mississippi Registered Professional Engineer.

BRIDGE CONCRETE MAT NOTES:

1. Bridge concrete mat shall be used for erosion and scour prevention for the slopes and locations shown in the plans. Bridge concrete mats shall be one of the following:

   a. ARMORFLEX
   Contech Engineering Solutions
   9025 Centre Pointe Drive
   West Chester, OH 45069
   Phone: 513-645-7000
   www.conteches.com/products/erosion-control/hard-armour/armorflex

   b. SHOREBLOCK BD
   Shoretec, LLC
   5102 Galveston Road
   Houston, TX 77017
   Phone: 713-641-2727
   www.shoretec.com/shoreblock-bd.php

   c. CABLE CONCRETE
   International Erosion Control System, Inc.
   222295 Hoskins Line
   Rodney, Ontario
   Canada, NOL 2CO
   Phone: 800-821-7462
   www.iecs.com/cable-concrete/

2. The mat shall be visually inspected and approved by the Project Engineer prior to use. Once approved by the Engineer, the mat may be incorporated into the work.
3. Bridge concrete mats shall be installed in accordance with the plans and manufacturer's guidelines including any underlayment. The anchor system shall be sufficient to anchor the mat to the ground surface. The installation area shall be graded to a smooth, level surface to avoid water concentration and to create an appropriate base for the concrete mat. Seed and fertilizer shall be placed on the prepared surface prior to the installation of the Bridge concrete mat.
4. Bridge concrete mat installed directly under the bridge deck shall be open cell filled with crushed limestone for ease during future bridge inspection.
5. A representative from the Bridge concrete mat manufacturer shall be present for sufficient time to assure the Contractor is properly schooled in the installation.
6. Bridge concrete mat will be paid for at the contract unit price per square yard, which price shall be full compensation for all labor, materials, tools, equipment, underlayment, anchor system, concrete and all incidentals necessary to complete the work.

NOTE:

For 102'-2" Span Detail sheets, see sheets no. A6-A8.

For 100 Ft. Beam Details and Bearing Details, see sheets no. A9 & A10.

SPECIAL PROVISIONS REQUIRED:

Concrete Bridges And Structures . . . 907-804

DRAINAGE DATA:

Drainage Area . . . . Relief
Q50 (U.S.G.S.) . . . . 1,081 cfs
Effective Area . . . . 400.0 Sq. Ft.
Q100 (U.S.G.S.) . . . . 1,238 cfs

DESIGN DATA:

Specifications . . . A.A.S.H.T.O. LRFD 8th Edition, 2017
Loading HL-93
Roadway Width . . . . . . 40'-0" Gutter To Gutter
Concrete . . . . Class "AA" (4,000 psi)
Class "BDX" (4,500 psi)
Stay in place metal forms. . . . 18 lbs/sq. ft.
Seismic performance zone. 1
Seismic soil site class. C
Seismic operational class. . . . . . Other

REQUIRED ULTIMATE PILE BEARING CAPACITY AND TIP ELEVATION SCHEDULE

Bent No.	Pile type	Req'd Bearing (Tons)	Pile Size	Estimated Length (ft.)	Min Tip Elevation
1L	Concrete	101	16"x16"	55	406.0
2L	Concrete	101	16"x16"	55	406.0
1R	Concrete	101	16"x16"	55	404.5
2R	Concrete	101	16"x16"	55	404.5

TEST PILE SCHEDULE

Bent No.	Min. Lgth.~Ft.	Tip Elevation
1L	65	378.0
1R	65	[illegible]

100 YEAR SCOUR ELEVATION

Bent No.	Elevation
1L	426.0
2L	426.0
1R	424.5
2R	424.5

ESTIMATED QUANTITIES - LEFT LANE

Item / Location	Transverse Grooving S.Y.	Conventional Static Loading Test Each	16"x16" Prestressed Concrete Piling L.F.	PDA Test Pile Each	Pile Restrike Each	Class AA Bridge Concrete C.Y.	Class BDX Bridge Concrete C.Y.	100 Ft. Prest. Conc. Beam FIB-36 L.F.	Reinforcement LBS.	Concrete Railing L.F.	Bridge Concrete Mat S.Y.	Geotextile under conc. mat S.Y.
Spans	409							697.67	27,123	204.33		
End Bents		1	1,925	1	1	70.70	123.47		10,668		1,586.6	2,305
Total	409	1	1,925	1	1	70.70	123.47	697.67	37,791	204.33	1,586.6	2,305

ESTIMATED QUANTITIES - RIGHT LANE

Item / Location	Transverse Grooving S.Y.	Conventional Static Loading Test Each	16"x16" Prestressed Concrete Piling L.F.	PDA Test Pile Each	Pile Restrike Each	Class AA Bridge Concrete C.Y.	Class BDX Bridge Concrete C.Y.	100 Ft. Prest. Conc. Beam FIB-36 L.F.	Reinforcement LBS.	Concrete Railing L.F.	Bridge Concrete Mat S.Y.	Geotextile under conc. mat S.Y.
Spans	409							697.67	27,123	204.33		
End Bents		1	1,925	1	1	70.70	123.47		10,668		1,696.0	2,305
Total	409	1	1,925	1	1	70.70	123.47	697.67	37,791	204.33	1,696.0	2,305

DEPARTMENT OF TRANSPORTATION MISSISSIPPI

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

BRIDGE AT STA. 619+30.92 RT.LN.
BRIDGE AT STA. 619+30.92 LT.LN.

SR 19 ACROSS CUSHTUSIA CREEK RELIEF LAYOUT

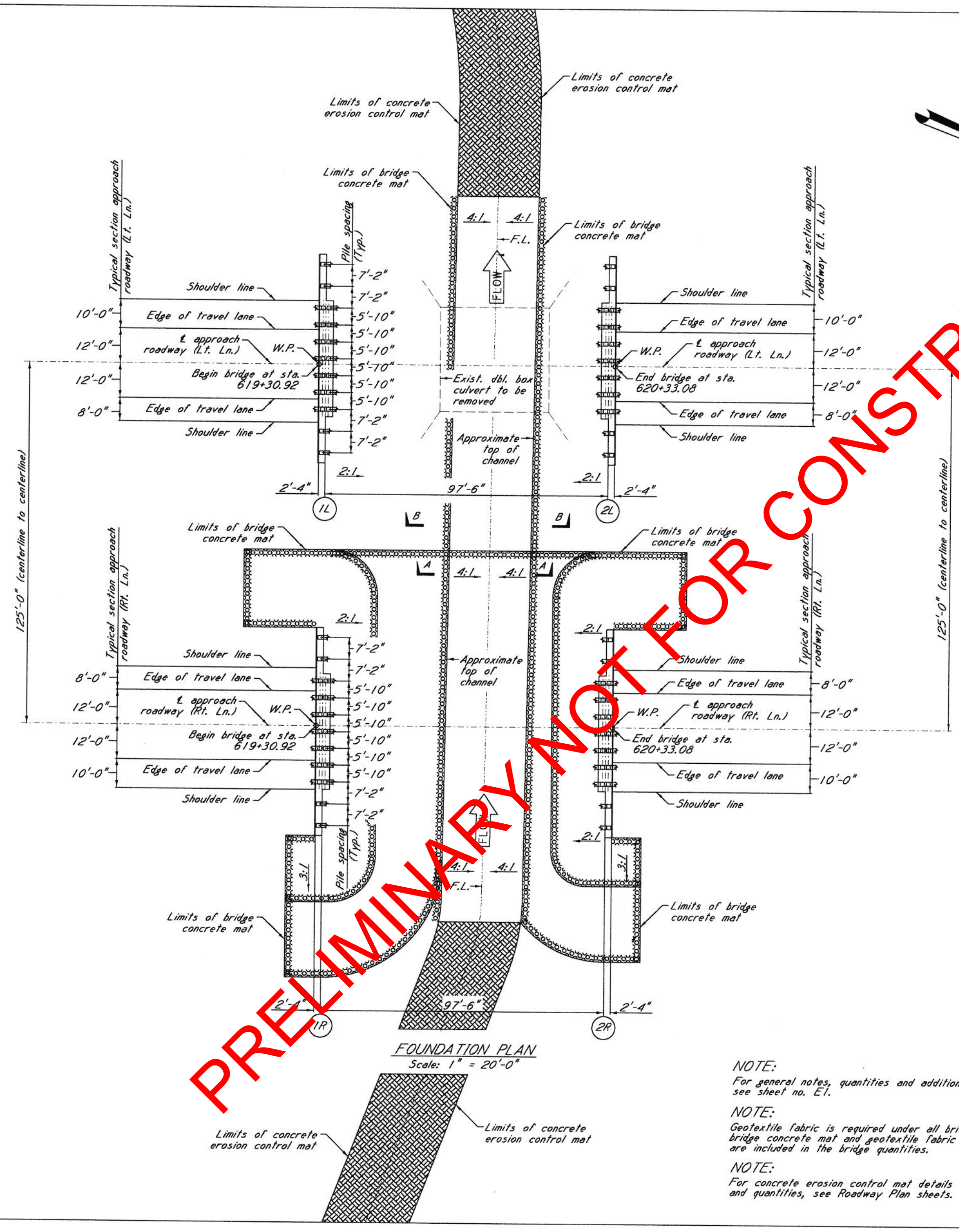
FMS: 106114/301000
COUNTY: NESHOBA
PROJECT NUMBER: BR-0026-01(078)

BY | REVISION | DATE

DESIGNER Lon Burt | CHECKER Alex Hawkins
DETAILER Lon Burt | ISSUE DATE 11-13-2019
DIRECTOR OF STRUCTURES, STATE BRIDGE ENGINEER - JUSTIN WALKER, P.E.
DEP. DIR. OF STRUCTURES, ASST. STATE BRIDGE ENGINEER - SCOTT WESTERFIELD, P.E.

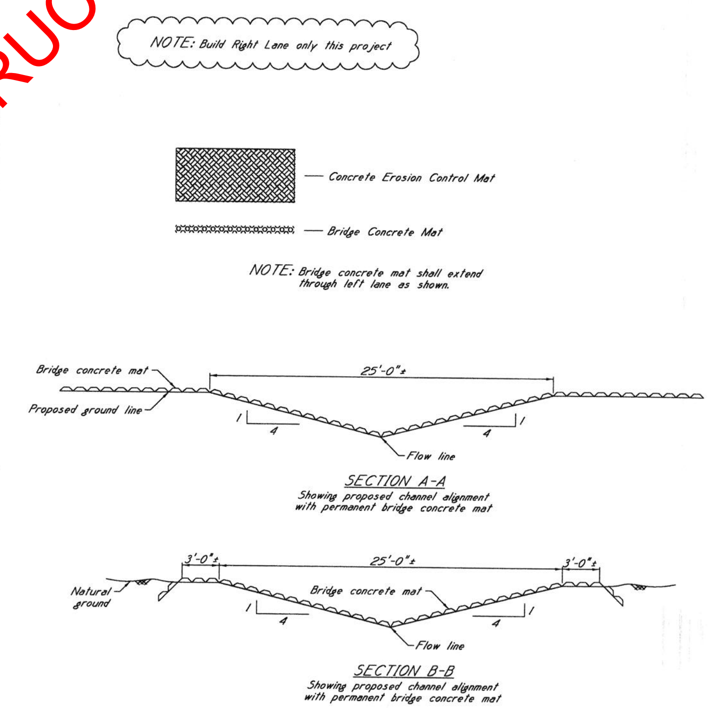
WORKING NUMBER E1 OF E5
SHEET NUMBER 8037

STATE	PROJECT NO.
MISS.	BR-0026-01(078)



Limits of concrete erosion control mat
Limits of bridge concrete mat
Typical section approach roadway (Lt. Ln.)
Typical section approach roadway (Rt. Ln.)
Pile spacing (Typ.)
Shoulder line
Edge of travel lane
℄ approach roadway (Lt. Ln.)
℄ approach roadway (Rt. Ln.)
W.P.
Begin bridge at sta. 619+30.92
End bridge at sta. 620+33.08
Exist. dbl. box culvert to be removed
Approximate top of channel
FLOW
F.L.
4:1
2:1
3:1
10'-0"
12'-0"
8'-0"
7'-2"
5'-10"
2'-4"
97'-6"
125'-0" (centerline to centerline)
1L
2L
1R
2R
A
B
N
PRELIMINARY NOT FOR CONSTRUCTION

FOUNDATION PLAN
Scale: 1" = 20'-0"



NOTE: Build Right Lane only this project
Concrete Erosion Control Mat
Bridge Concrete Mat
NOTE: Bridge concrete mat shall extend through left lane as shown.
Bridge concrete mat
Proposed ground line
25'-0"±
Flow line
SECTION A-A
Showing proposed channel alignment with permanent bridge concrete mat
Natural ground
3'-0"±
SECTION B-B
Showing proposed channel alignment with permanent bridge concrete mat

NOTE:
For general notes, quantities and additional details, see sheet no. E1.

NOTE:
Geotextile fabric is required under all bridge concrete mat. All bridge concrete mat and geotextile fabric shown on the bridge plans are included in the bridge quantities.

NOTE:
For concrete erosion control mat details and quantities, see Roadway Plan sheets.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION
BRIDGE AT STA. 619+30.92 RT.LN.
BRIDGE AT STA. 619+30.92 LT.LN.
SR 19 ACROSS CUSHTUSIA CREEK RELIEF FOUNDATION PLAN
FMS: 106114 / 301000
COUNTY: NESHOBA
PROJECT NUMBER: BR-0026-01(078)

DESIGNER Lon Burt CHECKER Alex Hawkins
DETAILER Lon Burt ISSUE DATE 11-13-2019
DIRECTOR OF STRUCTURES, STATE BRIDGE ENGINEER - JUSTIN WALKER, P.E.
DEP. DIR. OF STRUCTURES, ASST. STATE BRIDGE ENGINEER - SCOTT WESTERFIELD, P.E.

WORKING NUMBER E2 OF E5
SHEET NUMBER 8038

REVISION | BY | DATE

PLAN
BRIDGE DIVISION
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

00:00 AMPM DGNFILENAME

404 Permit Conditions &
401 Water Quality Certification

US Army Corps of Engineers
Vicksburg District
4155 Clay Street
Vicksburg, MS 39183-3435
www.mvk.usace.army.mil

GENERAL PERMIT

FILE NO.: GENERAL PERMIT – 46
DATE: October 2, 2019
EXPIRES: October 2, 2024

FOR: **REGULATED ACTIVITIES ASSOCIATED WITH THE DISCHARGE OF DREDGED OR FILL MATERIAL IN WATERS OF THE UNITED STATES AND/OR STRUCTURES OR WORK AFFECTING NAVIGABLE WATERS OF THE UNITED STATES ASSOCIATED WITH THE CONSTRUCTION AND STABILIZATION OF ROADWAY EMBANKMENTS AND BRIDGE ABUTMENTS**

WHERE: **THE STATE OF MISSISSIPPI**

BY WHOM: **DISTRICT ENGINEER, VICKSBURG DISTRICT, ON BEHALF OF THE MISSISSIPPI DEPARTMENT OF TRANSPORTATION (MDOT)**

The U.S. Army Corps of Engineers (USACE), Vicksburg District, is hereby reissuing a Department of the Army General Permit for the discharge of dredged or fill material in waters of the United States and/or structures or work affecting navigable waters of the United States associated with the construction and stabilization of roadway embankments and bridge abutments performed by or having oversight from MDOT within the State of Mississippi. This General Permit shall authorize activities such as the repair and stabilization of existing roadway embankments and bridge abutments; the installation of additional traffic lanes to existing roadways; the upgrading of bridges and other stream-crossing structures; and, construction along new alignments.

This action is being taken pursuant to Federal regulations printed in the Federal Register on November 13, 1986, concerning permits for activities in waters of the United States (U.S.). These regulations state the U.S. Army Corps of Engineers' responsibility for regulating structures or work in or affecting waters of the United States under Section 10 of the Rivers and Harbors Act of 1899 (30 Stat. 1151; 33 U.S.C. 403); and discharges of dredged and/or fill material into waters of the United States under Section 404 of the Clean Water Act (33 U.S.C. 1344).

An agreement was finalized between MDOT, the Federal Highway Administration

(FHWA), and the U.S. Army Corps of Engineers with concurrence from the appropriate Districts on December 12, 2008, which specifies that all MDOT projects within the State will be evaluated by the Vicksburg District. The address is USACE, Vicksburg District, ATTN: Regulatory Branch, 4155 Clay Street, Vicksburg, Mississippi 39183-3435.

Upon expiration of the agreement, since portions of the State are within jurisdictional boundaries of five United States Army Corps of Engineers Districts (enclosure 1), subsequent authorizations to proceed with work proposed under this General Permit will be granted by letter from the appropriate District within whose boundaries the work will be located. The MDOT will be notified of any changes to the agreement and furnished the mailing address of each district.

This General Permit contains certain limitations intended to protect the environment and natural and cultural resources. Conformance with conditions contained in the General Permit does not necessarily guarantee authorization under this General Permit. In cases where the District Engineer considers it necessary, an application will be required for an individual permit.

Regulated construction, dredging, or fill operations not specifically covered by this General Permit are prohibited unless authorized by a separate permit.

General Permits may be issued for a category or categories of activities when: (1) those activities are substantially similar in nature and cause only minimal individual and cumulative environmental impacts; or (2) the General Permit would result in avoiding unnecessary duplication of the regulatory control exercised by another Federal, State, or local agency, provided it has been determined that the environmental consequences of the actions are individually and cumulatively minimal. The determination that the proposed activities comply with the requirements for the issuance of General Permits was made using information which is available for inspection at the office of the Vicksburg District's Regulatory Branch at 4155 Clay Street, Vicksburg, Mississippi.

In compliance with requirements of Section 401 of the Clean Water Act, the Vicksburg District has obtained water quality certification from the Mississippi Department of Environmental Quality (enclosure 2).

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

In order to compensate for any unavoidable losses of functions of jurisdictional waters of the United States associated with the work authorized by this General Permit; the Mississippi Department of Transportation shall develop a compensatory mitigation plan. The compensatory mitigation plan will be fully described in accordance with 33 CFR

Parts 325 and 332, Compensatory Mitigation for Losses of Aquatic Resources; Final Rule, April 2008.

REQUEST FOR AUTHORIZATION UNDER THE GENERAL PERMIT: IN ORDER TO BE AUTHORIZED BY THIS GENERAL PERMIT, THE MISSISSIPPI DEPARTMENT OF TRANSPORTATION ARE REQUIRED TO SUBMIT TO THE DISTRICT ENGINEER, IN WRITING, THE FOLLOWING INFORMATION A MINIMUM OF 60 DAYS PRIOR TO THE PROPOSED BID ADVERTISEMENT DATE:

a. Statement that the work will be conducted in compliance with the terms and conditions of General Permit 46, will not adversely impact adjoining properties, and will be mitigated for in accordance with the terms of this General Permit.

b. A location map showing the proposed worksite (including Section, Township, Range, and County).

c. A brief description of the proposed worksite in its present condition.

d. For the selected site, a full set of construction plans (including quantities and types of any fill and quantities of any excavation), maps, and engineering drawings for the proposed activity at that site. These shall include a map of sufficient scale that illustrates an "overlay" of the proposed construction/development activity (e.g. construction roads, ditches, parking areas, lay-down pads, temporary work areas, remaining natural areas, etc.) on jurisdictional waters of the U.S.

e. The estimated starting and completion dates of the proposed construction.

f. Name, mailing address, telephone number, and email address, of the person acting as the point of contact for the requested authorization.

g. If wetlands or other waters of the U.S. are to be impacted, the following information is required:

(1) A map delineating the wetlands and other waters of the U.S. and copies of the associated data form(s) for routine wetland determinations from the 1987 Corps of Engineers Wetland Delineation Manual and its subsequent Regional Supplement Manual(s) covering the proposed project area(s).

(2) The type and date of approval of the NEPA documentation by the FHWA and a copy of their findings as required by Executive Order 11990.

h. A discussion of how adverse impacts to waters of the U.S. from the proposed activity will be avoided and minimized to the maximum extent practicable at the construction site.

i. If the loss or conversion to waters of the United States at a single and complete project site exceeds 0.1 acre, the application shall include a compensatory mitigation plan based on an approved wetland functional assessment methodology. Such recommendations should include copies of all factual information (e.g. worksheets) used in performing the calculations of the functional assessment. (Note: The District Engineer will consider this recommendation, however, the District Engineer retains discretionary authority in making the final decision on compensatory mitigation measures).

j. If impacts to a natural waterway at a single and complete project site exceed 100 linear feet, MDOT shall include a compensatory mitigation plan based on an approved stream functional assessment methodology. Such recommendations shall include copies of all factual information (e.g. worksheets) used in performing the calculations of the functional assessment. (Note: The District Engineer will consider this recommendation, however, the District Engineer retains discretionary authority in making the final decision on compensatory mitigation measures).

k. Comments from the Mississippi Department of Wildlife, Fisheries and Parks, Mississippi Department of Archives and History (including the results of any National Historic Preservation Act, Section 106, consultation actions), United States Fish and Wildlife Service (including the results of any Endangered Species Act, Section 7, consultation actions), and the Mississippi Department of Environmental Quality on the project.

l. Concurrence in writing from the Mississippi Department of Marine Resources (related to the Coastal Zone Management Act) and the National Marine Fisheries Service (including the results of any Magnuson-Steven Fisheries Conservation and Management Act, essential fish habitat consultation actions), if the project is located in Hancock, Harrison, or Jackson County, Mississippi. (See Special Condition h. below).

Upon receipt of this information, the District Engineer will: advise MDOT, in writing, either that the work will be evaluated for authorization under the General Permit 46; will request additional information, if needed; or will advise MDOT that the proposed activity will be evaluated as an individual permit.

Special Conditions:

a. No more than 7 acres of wetlands and other waters shall be directly impacted by the placement of fill at each single and complete crossing of a water of the United States where the proposed work involves either upgrading an existing highway within an established corridor or where the work is to be constructed along a new alignment. Any wetlands cut off from their natural hydrologic regime as a result of project work would be considered as directly impacted.

b. For stream or river crossings, discharges of permanent fill material and temporary

fill material shall be the minimum necessary to complete the crossing. The term fill refers to earthen material, riprap, concrete, and any other materials associated with the work.

c. The stabilization or construction work shall not interfere with navigation (including recreational boating) or adversely impact the flow-carrying capacity of the affected waterbody.

d. Material to be used for fill must be nonpolluting and may be obtained either offsite or from site preparation. Offsite material shall not be obtained from wetlands outside the 7-acre limit or from other areas which may adversely affect adjacent wetlands. Any excess material shall be placed in an upland area and properly contained or stabilized to prevent entry into adjacent water-bodies or wetlands.

e. Disturbed areas on the site shall be stabilized to minimize erosion. Stabilization of erodible areas shall be accomplished by seeding or sodding as soon as practicable to restore vegetative cover. If initial re-vegetation is unsuccessful, the area shall be reseeded or re-sodded until re-vegetation is successful. In areas subject to currents, riprap may be required for slope protection.

f. No activity that has the potential to cause effects to properties listed, or eligible for listing, in the National Register of Historic Places, or a site that has previously been unevaluated, shall be authorized by this General Permit until the requirements of Section 106 of the National Historic Preservation Act have been satisfied. Additional fill material should not be taken from a known historical or archaeological site within or outside of regulated areas. If the permittee, during prosecution of work authorized herein, inadvertently discovers or accidently destroys a cultural resource such as a cemetery, shipwreck, mound, historic structure, or archaeological site, within the area subject to Department of the Army jurisdiction, they must cease work in the immediate area and notify the District Engineer within 24 hours. The District Engineer, in consultation with the appropriate State Historic Preservation Officer and the Federally recognized Tribe, shall comply with the procedures set forth in 33 CFR 325, Appendix C, paragraph 11 (Historic Properties Discovered During Construction).

g. The work shall not occur in a National Wildlife Refuge, State Game Management Area, or other such Federal or State lands, or lands leased to those entities without the appropriate Federal or State authorization in writing.

h. For work within the Mississippi Coastal Zone Management Area, including all areas below Interstate I-10, a set of complete plans shall be sent to the three agencies listed below for review and/or approval as appropriate. Comments and concurrence resulting from this coordination should be submitted with the request for authorization under this General Permit.

1. The Mississippi Department of Marine Resources
   1141 Bayview Avenue
   Suite 101
   Biloxi, Mississippi 39530

2. National Marine Fisheries Service
   Southeast Regional Office
   Protected Resources
   Attention: Ms. Karla Reece
   263 13th Ave. S.
   St. Petersburg, Florida 33701
   Email: Karla.reece@noaa.gov

3. National Marine Fisheries Service
   Room 266, Military Science Building
   Attention: Mr. Brandon Howard
   South Stadium Drive
   La. State University
   Baton Rouge, Louisiana 70803-7535

i. All temporary fills must consist of non-erodible material or be protected to prevent erosion.

j. Any materials used for temporary structures such as cofferdams, equipment pads, or temporary crossings, shall be removed as soon as practicable, and the waterway should be restored to preconstruction contours.

k. Disturbance to riparian vegetation shall be kept to a minimum during construction.

l. No activity shall be authorized under this General Permit which is likely to directly or indirectly jeopardize the continued existence of a Federally-listed threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will likely directly or indirectly destroy or adversely modify the critical habitat of such species. No activity shall be authorized under this General Permit which "may affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed. No activity shall be authorized under this General Permit which "may affect" essential fish habitat as identified under Magnuson-Stevens Fishery Conservation and Management Act, unless essential fish habitat consultation addressing the effects of the proposed activity has been completed.

m. Discharges shall not restrict or impede the movement of aquatic species indigenous to the waters.

n. All work shall be performed in a manner that will minimize increased turbidity of the water in the project area and otherwise avoid adverse effects on water quality and aquatic life especially during fish spawning season. This may require avoiding construction activities during the peak spawning months of April, May, and June.

o. The discharge shall not adversely affect a public water supply intake or a National or State Fish Hatchery intake.

p. The discharge shall not contain unacceptable levels of pathogenic organisms (as prescribed in standards set by the Mississippi Department of Environmental Quality) in areas used for water-contact sports.

q. The construction activity shall not result in the permanent diversion or relocation of a stream or a river channel except where needed to align a waterway crossing to avoid potential damage to the roadway. In no case, should any realignment extend beyond 150 feet upstream and 150 feet downstream from the centerline of a crossing structure. The construction activity shall not result in stream flow impediment or drain adjacent wetlands.

r. Authorization under this General Permit is valid until the General Permit expires. Activities authorized under this General Permit which are under construction, or that are under contract to commence by the expiration of this General Permit, will remain authorized provided the activity is completed within 12 months of the date of expiration.

s. Current standards and practices shall be used to determine what type drainage structure is required at a particular stream crossing (box culvert, bridge, etc.).

t. To minimize potential adverse impacts to wetlands within the right-of-way or associated with the project, the Mississippi Department of Transportation shall incorporate into each project's design all practicable measures to:

(1) Minimize impact on hydrology in wetland areas.

(2) Minimize potential for toxic spills and leaching into wetland areas.

(3) Minimize discharge of materials, such as silt, into wetlands.

(4) Maintain adequate flow through wetlands by providing culverts, ditches, and other hydrologic structures.

(5) Provide berms, traps, or ditches to direct potential toxic spills away from wetlands.

(6) Provide for animal migration to and from wetland areas or habitat corridors.

(7) Provide erosion and sediment control features throughout the construction phase of a project which will minimize both short- and long-term impacts to water quality.

(8) Provide treatment facilities which may be required to treat highway runoff which would otherwise adversely affect wetlands.

(9) Provide contractual provisions for stopwork orders, project staging, and other specifications pertaining to minimizing impacts on wetlands and to onsite monitoring.

General Conditions:

a. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

b. This permit does not obviate the need to obtain other Federal, State, or local authorizations required by law.

c. This permit does not grant any property rights or exclusive privileges.

d. This permit does not authorize any injury to the property or rights of others.

e. This permit does not authorize interference with any existing or proposed Federal project.

f. In issuing this permit, the Federal Government does not assume any liability for the following:

(1) Damages to the permitted project, or uses thereof, as a result of other permitted or unpermitted activities or from natural causes.

(2) Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

(3) Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

(4) Design or construction deficiencies associated with the permitted work.

(5) Damage claims associated with any future modification, suspension, or revocation of this permit.

g. In issuing individual authorizations under this General Permit, the Government shall rely on the information and data which the permittee provides in connection with

the permit application. If, subsequent to the authorization, such information and data prove to be false, incomplete, or inaccurate, this authorization may be modified, suspended, or revoked, in whole or in part, and/or the Government may, in addition, institute appropriate legal proceedings.

h. This office may re-evaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

(1) Failure to comply with the terms and conditions of this permit.

(2) The information provided in support of a request for authorization proves to have been false, incomplete, or inaccurate (See g. above).

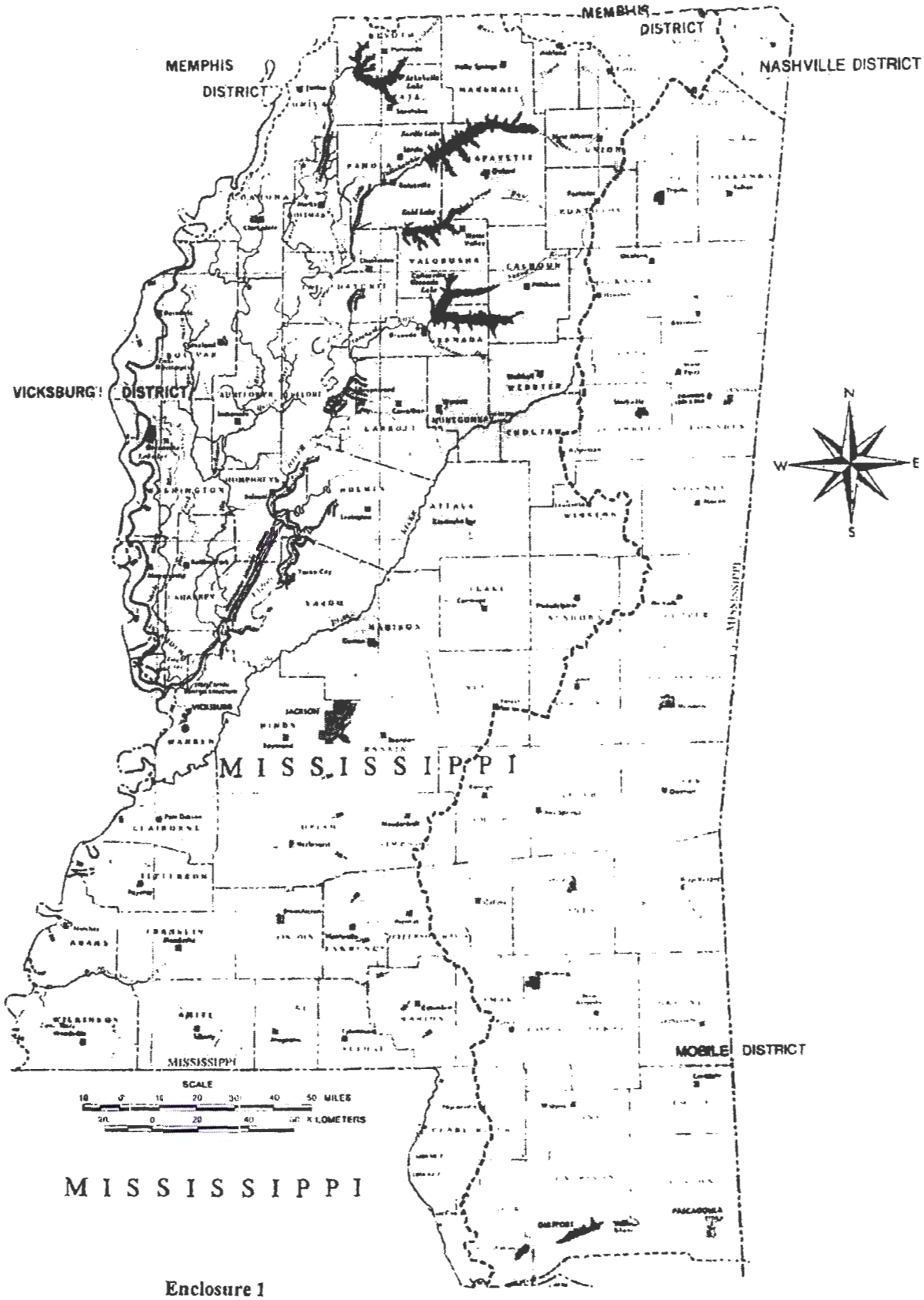
(3) Significant new information surfaces which was not considered in reaching the original public interest decision.

i. The General Permit is valid for 5 years from the date of the issuance. At the end of that time, the cumulative environmental effects of completed work will be reviewed and reissuance of the permit may be considered. However, if unforeseen adverse environmental effects result from the issuance of this General Permit, it may be modified or terminated at any time.

j. Authorization under this General Permit is valid until the General Permit expires. Activities authorized under this General Permit which are under construction, or that are under contract to commence by the expiration of this General Permit, will remain authorized provided the activity is completed within 12 months of the date of expiration.

Cori Carraway

Cori Carraway
Acting Chief, Regulatory Branch



Enclosure 1

(Encl 1)

STATE OF MISSISSIPPI

PHIL BRYANT

GOVERNOR

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

GARY C. RIKARD, EXECUTIVE DIRECTOR

January 30, 2019

Certified Mail No. 7017 0530 0000 5971 7466

Ms. Jennifer Mallard
U.S. Army Corps of Engineers
Vicksburg District
4155 Clay Street
Vicksburg, Mississippi 39183-3435

Dear Ms. Mallard:

Re: U. S. Army Corps of Engineers
Vicksburg District
General Permit 46. MDOT
Warren County
COE No. MVK20180808
WQC No. WQC2018047

Pursuant to Section 401 of the Federal Water Pollution Control Act (33 U. S. C. 1251, 1341), the Office of Pollution Control (OPC) issues this Certification, after public notice and opportunity for public hearing, to the U.S. Army Corps of Engineers, Vicksburg District, an applicant for a Federal License or permit to conduct the following activity:

> U.S. Army Corps of Engineers, Vicksburg District, General Permit 46: Proposed reissuance of a statewide General Permit for the discharge of dredged or fill material in waters of the United States and/or structures or work affecting navigable waters of the United States associated with the construction and stabilization of roadway embankments and bridge abutments. This General Permit would authorize activities such as the repair and stabilization of existing roadway embankments and bridge abutments; the installation of additional traffic lanes to existing roadways; the upgrading of bridges and other stream-crossing structures; and construction along new alignments.
>
> This proposed General Permit contains certain limitations intended to protect the environment and natural and cultural resources. Conformance with conditions contained in the General Permit does not necessarily guarantee authorization under this General Permit. In cases where the District Engineer considers it necessary, an application will be required for an individual permit. Regulated construction, dredging, or fill operations not specifically authorized by this General Permit would be prohibited unless authorized by a separate permit.

General Permits may be issued for a category or categories of activities when: (1) those activities are substantially similar in nature and cause only minimal individual and cumulative environmental impacts; or (2) the General Permit would result in avoiding unnecessary duplication of the regulatory control exercised by another Federal, State, or local agency, provided it has been determined that the environmental consequences of the actions are individually and cumulatively minimal.

In order to be authorized by this General Permit, the Mississippi Department of Transportation would be required to submit to the District Engineer in writing, the following information a minimum of 60 days prior to the proposed bid advertisement date:

a. Statement that the work would be conducted in compliance with the terms and conditions of General Permit 46, would not adversely impact adjoining properties, and would be mitigated for in accordance with the terms of this General Permit.

b. A location map showing the proposed worksite (including Section, Township, Range, and County).

c. A brief description of the proposed worksite in its present condition.

d. For the selected site, a full set of construction plans (including quantities and types of any fill and quantities of any excavation), maps, and engineering drawings for the proposed activity at that site. These shall include a map of sufficient scale that illustrates an "overlay" of the proposed construction/development activity (e.g. construction roads, ditches, parking areas, lay-down pads, temporary work areas, remaining natural areas, etc.) on jurisdictional waters of the U.S.

e. The estimated starting and completion dates of the proposed construction.

f. Name, mailing address, telephone number, and email address of the person acting as the point of contact for the requested authorization.

g. If wetlands or other waters of the U.S. are to be impacted, the following information is required:

    (1) A map delineating the wetlands and other waters of the U.S. and copies of the associated data form(s) for routine wetland determinations from the 1987 Corps of Engineers Wetland

Delineation Manual and its subsequent Regional Supplement Manual(s) covering the proposed project area(s).

(2) The type and date of approval of the NEPA documentation by the FHWA and a copy of their findings as required by Executive Order 11990.

h. A discussion of how adverse impacts to waters of the U.S. from the proposed activity will be avoided and minimized to the maximum extent practicable at the construction site.

i. If the loss or conversion to waters of the United States at a single and complete project site exceeds 0.1 acre, the application shall include a compensatory mitigation plan based on an approved wetland functional assessment methodology. Such recommendations should include copies of all factual information (e.g. worksheets) used in performing the calculations of the functional assessment. (Note: The District Engineer will consider this recommendation; however, the District Engineer retains discretionary authority in making the final decision on compensatory mitigation measures).

j. If impacts to a natural waterway at a single and complete project site exceed 100 linear feet, MDOT would include a compensatory mitigation plan based on an approved stream functional assessment methodology. Such recommendations would include copies of all factual information (e.g. worksheets) used in performing the calculations of the functional assessment. (Note: The District Engineer will consider this recommendation, however, the District Engineer retains discretionary authority in making the final decision on compensatory mitigation measures).

k. Comments from the Mississippi Department of Wildlife, Fisheries and Parks, Mississippi Department of Archives and History (including the results of any National Historic Preservation Act, Section 106, consultation actions), United States Fish and Wildlife Service (including the results of any Endangered Species Act, Section 7, consultation actions), and the Mississippi Department of Environmental Quality on the project.

l. Concurrence in writing from the Mississippi Department of Marine Resources (related to the Coastal Zone Management Act) and the National Marine Fisheries Service (including the results of any Magnuson-Steven Fisheries Conservation and Management Act, essential fish habitat consultation actions) if the project is located in

Hancock, Harrison, or Jackson County, Mississippi. (See Special Condition h. below).

Upon receipt of this information the District Engineer will: advise MDOT, in writing, either that the work will be evaluated for authorization under the General Permit 46; will request additional information, if needed; or will advise MDOT that the proposed activity will be evaluated as an individual permit.

Special Conditions of the General Permit:

a. No more than 7 acres of wetlands and other waters would be directly impacted by the placement of fill at each single and complete crossing of a water of the United States where the proposed work involves either upgrading an existing highway within an established corridor or where the work is to be constructed along a new alignment. Any wetlands cut off from their natural hydrologic regime as a result of project work would be considered as directly impacted.

b. For stream or river crossings, discharges of permanent fill material and temporary fill material would be the minimum necessary to complete the crossing. The term fill refers to earthen material, riprap, concrete, and any other materials associated with the work.

c. The stabilization or construction work would not interfere with navigation (including recreational boating) or adversely impact the flow-carrying capacity of the affected waterbody.

d. Material to be used for fill must be nonpolluting and may be obtained either offsite or from site preparation. Offsite material would not be obtained from wetlands outside the 7-acre limit or from other areas which may adversely affect adjacent wetlands. Any excess material would be placed in an upland area and properly contained or stabilized to prevent entry into adjacent water-bodies or wetlands.

e. Disturbed areas on the site would be stabilized to minimize erosion. Stabilization of erodible areas would be accomplished by seeding or sodding as soon as practicable to restore vegetative cover. If initial re-vegetation is unsuccessful, the area would be reseeded or re-sodded until re-vegetation is successful. In areas subject to currents, riprap may be required for slope protection.

f. No activity that may adversely affect a site listed in or eligible for listing in the National Register of Historic Places would be authorized by this General Permit until the requirements of Section 106 of the National Historic Preservation Act have been satisfied. Additional material would not be taken from a known historical or archaeological site. If you discover any previously

unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this permit, you must immediately notify the District Engineer of what you 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.

g. The work would not occur in a National Wildlife Refuge, State Game Management Area, or other such Federal or State lands, or lands leased to those entities without the appropriate Federal or State authorization in writing.

h. For work within the Mississippi Coastal Zone Management Area, including all areas below Interstate I-10, a set of complete plans would be sent to the two agencies listed below for review and/or approval as appropriate. Comments and concurrence resulting from this coordination would be submitted with the request for authorization under this General Permit.

1. Mississippi Department of Marine Resources
   1141 Bayview Avenue
   Suite 101
   Biloxi, Mississippi 39530

2. National Marine Fisheries Service
   Southeast Regional Office
   Protected Resources
   Attention: Ms. Karla Reece
   263 13th Avenue S.
   St. Petersburg, Florida 33701
   Email: Karla.reece@noaa.gov

3. National Marine Fisheries Service
   Room 266, Military Science Building
   Attention: Mr. Brandon Howard
   South Stadium Drive
   La. State University
   Baton Rouge, Louisiana 70803-7535

i. All temporary fills must consist of non-erodible material or be protected to prevent erosion.

j. Any materials used for temporary structures such as cofferdams, equipment pads, or temporary crossings, would be removed as soon as practicable, and the waterway would be restored to preconstruction contours.

k. Disturbance to riparian vegetation would be kept to a minimum during construction.

l. No activity shall be authorized under this General Permit which would likely directly or indirectly jeopardize the continued existence of a Federally-listed threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which would likely directly or indirectly destroy or adversely modify the critical habitat of such species. No activity shall be authorized under this General Permit which "may affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed. No activity shall be authorized under this General Permit which "may affect" essential fish habitat as identified under Magnuson-Stevens Fishery Conservation and Management Act, unless essential fish habitat consultation addressing the effects of the proposed activity has been completed.

m. Discharges would not restrict or impede the movement of aquatic species indigenous to the waters.

n. All work would be performed in a manner that would minimize increased turbidity of the water in the project area and otherwise avoid adverse effects on water quality and aquatic life especially during fish spawning season. This may require avoiding construction activities during the peak spawning months of April, May, and June.

o. The discharge would not adversely affect a public water supply intake or a National or State Fish Hatchery intake.

p. The discharge would not contain unacceptable levels of pathogenic organisms (as prescribed in standards set by the Mississippi Department of Environmental Quality) in areas used for water-contact sports.

q. The construction activity would not result in the permanent diversion or relocation of a stream or a river channel except where needed to align a waterway crossing to avoid potential damage to the roadway. In no case, would any realignment extend beyond 150 feet upstream and 150 feet downstream from the centerline of a crossing structure. The construction activity would result in neither stream flow impediment nor drain adjacent wetlands.

r. Authorizations under this General Permit would be valid for five (5) years from the date of the authorizing letter.

2. Prior to the start of construction activities, coverage under a Stormwater Construction General NPDES Permit shall be obtained. No construction activities shall begin until such approvals are obtained.

3. Extreme care shall be taken to prevent the permanent restriction or impedance of water flow. Pre-construction hydrology shall be maintained.

4. All stream impacts (including streams identified as ephemeral by the U.S. Army Corps of Engineers and described as non-relatively permanent waters) shall be mitigated in kind with stream mitigation elements. In the event that stream mitigation is not available and alternate mitigation proposals are provided, a pre-construction notification shall be provided to MDEQ and 10 working days shall be allowed to provide comments.

5. A pre-construction notification shall be provided to MDEQ for projects that include channel work within waterways found on the latest version of the State of Mississippi's Section 303(d) List of Impaired Water Bodies for sediment or biological impairment or waterways with a completed Total Maximum Daily Load (TMDL) for sediment or biological impairment. This notification shall include the following:

    a. Justification of why the impacts cannot be avoided;

    b. Proposed best management practices that would minimize the impacts to receiving sensitive waters; and

    c. Compensatory mitigation primarily along the same reach of stream or on another impaired stream within the same drainage basin.

6. The turbidity outside the limits of a 750-foot mixing zone shall not exceed the ambient turbidity by more than 50 Nephelometric Turbidity Units.

7. No sewage, oil, refuse, or other pollutants shall be discharged into the watercourse.

The Office of Pollution Control also certifies that there are no limitations under Section 302 nor standards under Sections 306 and 307 of the Federal Water Pollution Control Act which are applicable to the applicant's above-described activity.

This certification is valid for the project as proposed. Any deviations without proper modifications and/or approvals may result in a violation of the 401 Water Quality Certification. If we can be of further assistance, please contact us.

Sincerely,

Krystal Rudolph

Krystal Rudolph, P.E., BCEE
Chief, Environmental Permits Division

KR: chb

cc: Tony Lobred, U.S. Army Corps of Engineers, Vicksburg District
Willa Brantley, Department of Marine Resources
David Felder, U.S. Fish and Wildlife Service
Molly Martin, Environmental Protection Agency