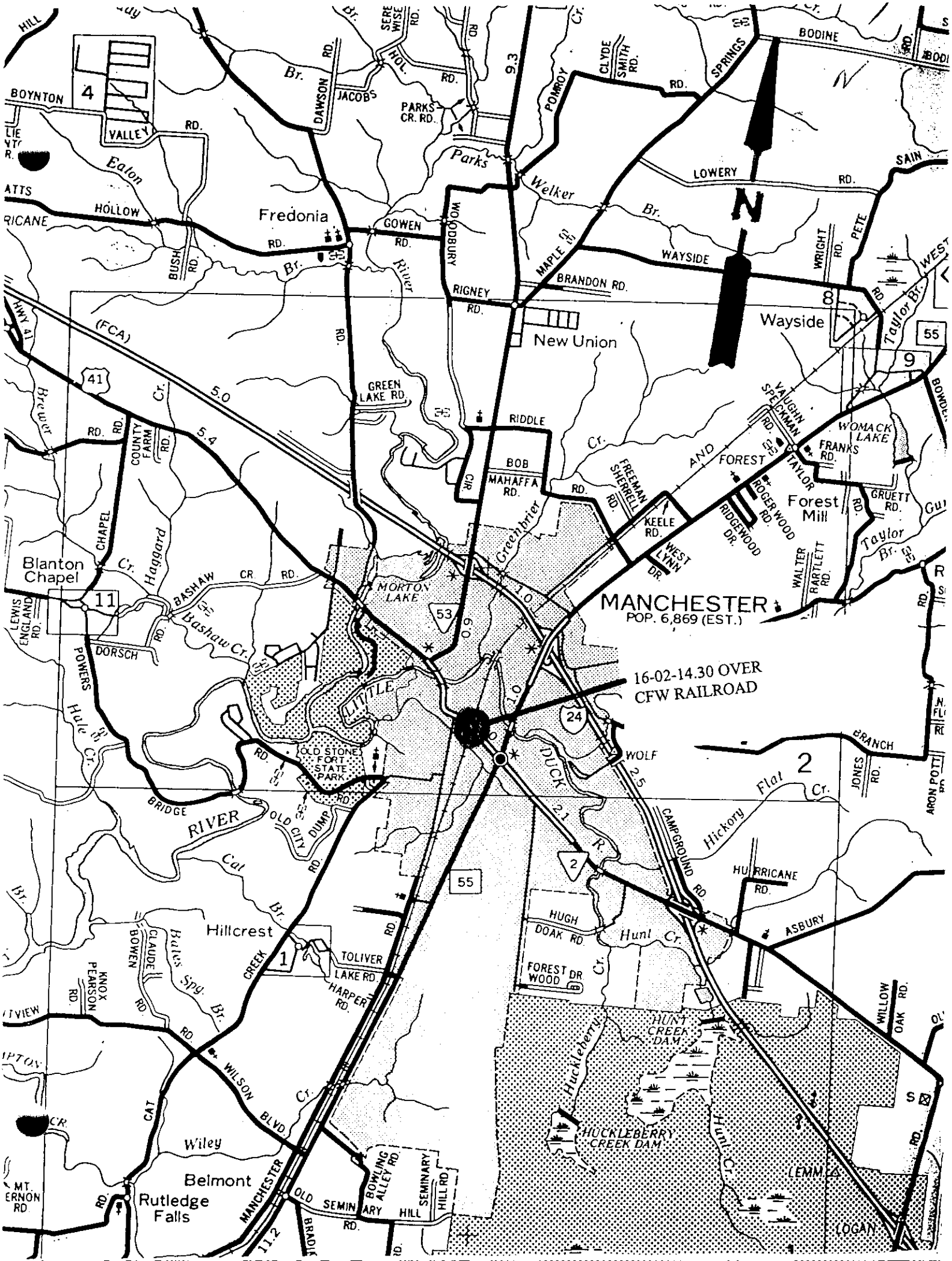

16-02-14.30 OVER
CFW RAILROAD

Grant Ladd

From: Joshua Gentry
Sent: Tuesday, April 12, 2022 3:29 PM
To: Grant Ladd
Cc: Nail Alammori
Subject: FW: 16SR0020015 Weight Posting
Attachments: Weight Posting.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

From: Elizabeth Roadinger <Elizabeth.Roadinger@tn.gov>
Sent: Tuesday, April 12, 2022 4:27 PM
To: Joshua Gentry <Joshua.Gentry@tn.gov>
Subject: 16SR0020015 Weight Posting

Photos of the correct weight posting are attached.

TN TDOT Department of Transportation

Elizabeth Roadinger, E.I. | Transportation Project Specialist
Region 2 Bridge Inspection - Tullahoma
1210 E. Carroll St. Tullahoma, TN 37388
p. 423-463-1328 c. 931-409-2552
Elizabeth. Roadinger@tn.gov

Inspection Photographs

Bridge Federal ID No. 16SR0020015 *April 12, 2022*

WEIGHT POSTING AT APPROACH #1

WEIGHT POSTING AT APPROACH #2

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
STRUCTURES DIVISION
BRIDGE INSPECTION AND REPAIR OFFICE
SUITE 1200, JAMES K. POLK BUILDING
505 DEADERICK STREET
NASHVILLE, TN 37243-1403
(615) 741-0776

CLAY BRIGHT
COMMISIONER

BILL LEE
GOVERNOR

October 30, 2019

To: Steve Hutchings
Tennessee Department Of Transportation
Regional Bridge Engineer

Subject: Revised Weight Limit Posting Values
Bridge Federal ID No. 16SR0020015
Bridge Location No. 16 - SR002 - 14.28
Hillsboro Blvd. over Cfw Railroad
Coffee County - City Of Manchester

The subject bridge was inspected by TDOT field personnel on October 22, 2019. We have completed our evaluation of the bridge and the weight limit values have been revised. The bridge is now required to be posted for a weight limit of 13 tons for two axle vehicles and 23 tons for vehicles with three or more axles.

The new weight limit posting signs shall be installed by November 29, 2019. Compliance with the weight limit posting requirements can be confirmed taking photographs of each sign at both approaches to the bridge and submitting these photographs to the HQ Bridge Inspection Office in Nashville. This can be done by replying to the email that distributed this letter and attaching the photographs as digital files.

Each photograph must show the face of the sign clearly so that the weight limit values can be confirmed. Photographs shall be taken at both approaches to the bridge even if it was only required to replace one sign.

If any additional work is done on the bridge, the TDOT Regional office should be notified so that they can perform an inspection.

Please scan and email any Repair Plans in case of any repairs; or As-Built Drawings or Design Plans in case of a structure replacement to the email address that distributed this letter.

Should you have any questions, please advise.

Sincerely,

Ted Kniazewycz, PE
Director of Structures


WEIGHT
LIMIT
13 T
23 T
54-B164


SPEED
LIMIT
35
WEIGHT
LIMIT
13 T
23 T
TENNESSEE
S4-B164

Grant Ladd

From: Nail Alammori
Sent: Thursday, November 7, 2019 12:18 PM
To: Grant Ladd
Cc: TDOT BridgeEval
Subject: FW: Coffee Co. SR 2 LM 14.28 Wt. Limit Posting
Attachments: 16SR0020015_POSTING_LETTER.pdf; Coffee Co. SR 2 LM 14.28.pdf; [EXTERNAL]

Follow Up Flag: Follow up
Flag Status: Completed

From: Steve Hutchings <Steve.Hutchings@tn.gov>
Sent: Thursday, November 7, 2019 12:09 PM
To: Nail Alammori <Nail.Alammori@tn.gov>
Subject: FW: Coffee Co. SR 2 LM 14.28 Wt. Limit Posting

This bridge has been posted

From: Brent Walker <Brent.Walker@tn.gov>
Sent: Thursday, November 7, 2019 1:07 PM
To: Wade Goss <Wade.Goss@tn.gov>; Steve Hutchings <Steve.Hutchings@tn.gov>
Subject: FW: Coffee Co. SR 2 LM 14.28 Wt. Limit Posting

COMPLETED 11-7-19
Thanks Brent

From: Wade Goss <Wade.Goss@tn.gov>
Sent: Wednesday, October 30, 2019 2:34 PM
To: Brent Walker <Brent.Walker@tn.gov>
Cc: Mike Kropff <Mike.Kropff@tn.gov>; Armel Robinson <Armel.Robinson@tn.gov>; Lynnette Waters <Lynnette.Waters@tn.gov>; Steve Hutchings <Steve.Hutchings@tn.gov>
Subject: Coffee Co. SR 2 LM 14.28 Wt. Limit Posting

Please see attached files.

TN TDOT Department of Transportation

Wade Goss | TDOT Technician Supervisor
Region 2 Traffic Engineering
7512 Volkswagen Dr.
Chattanooga, TN 37416
p. 423-510-1167 c. 423-693-3624
wade.goss@tn.gov
tn.gov/tdot

TENNESSEE BRIDGE INSPECTION PROGRAM
SUMMARY OF EVALUATION

REV. 03-05-2003

BRIDGE ID NO: 16SR0020015 LOCATION NO: 16 - SR002 - 14.28

(6A) CROSSING: CFW RAILROAD

(505) METHOD OF ANALYSIS: LOAD RESISTANCE FACTOR METHOD - RF

(548) RATING BASED ON: VIRTIS MODEL

LOAD RATINGS IN TONS

INVENTORY (503)	H	20	(518B) HS	28
OPERATING (504)	H	26	(519) HS	36
REQ. POSTING:		13		23

(549) EVALUATOR: GSL

(522) EVAL. DATE: 10/30/2019

LAST UPDATED BY: LADD

(29) ADT: 14,410 (30) ADT YR: 2018

(100) STRAHNET ROUTE: NO

(19) DETOUR LENGTH: 6 KM

(520) VC OVER RDWY: 99.99 METERS

CONDITION RATINGS

(58) DECK RATING:	5
(59) SUPERSTRUCTURE RATING:	4
(60) SUBSTRUCTURE RATING:	4
(61) CHANNEL PROTECTION:	N
(62) CULVERT RATING:	N
(113A) NBIS SCOUR CODE:	N
(113B) TDOT SCOUR CODE:	

APPRAISAL RATINGS

(67) STRUCTURAL EVALUATION:	4
(68) DECK GEOMETRY:	9
(69) UNDER CLEARANCE:	4
(70) BRIDGE POSTING:	5
(71) WATERWAY ADEQUACY:	N
(72) APPROACH RDWY ALIGNMENT:	8

CODE VALUES

N - NOT APPLICABLE
9 - EXCELLENT CONDITION
8 - VERY GOOD CONDITION
7 - GOOD CONDITION
6 - SATISFACTORY
5 - FAIR CONDITION
4 - POOR CONDITION
3 - SERIOUS CONDITION
2 - CRITICAL CONDITION
1 - FAILURE IS IMMINENT
0 - FAILED CONDITION

OTHER RATING ITEMS

(521) OVERALL CONDITION:	P
(513) TEXTURE COAT RATING:	N
(514) PAINT CONDITION RATING:	N
(41) WEIGHT POSTING CODE:	P

(36) TRAFFIC SAFETY FEATURES: 0 N N N

(525) REPAIR LIST NO: 2

COMMENTS

SPALLING CONDITION HAS PROGRESSED, REBAR CONDITION HAS NOT CHANGED SINCE LAST CYCLE. CONTINUE TO MONITOR BEAMS NEAR JOINT (GSL 10/28/2019)

EARLIEST LETTING CY 2023

123696.00 AND 124047.00 LISTED

(502) SUFF. RATING: 50.8

(528) STR. DEFICIENT: YES

(529) FUNC. OBSOLETE: NO

TENNESSEE BRIDGE INSPECTION PROGRAM
SUMMARY OF EVALUATION

REV. 03-05-2003

BRIDGE ID NO: 16SR0020015 *LOCATION NO:* 16 - SR002 - 14.28

(6A) CROSSING: CFW RAILROAD

(505) METHOD OF ANALYSIS: LOAD FACTOR METHOD *(548) RATING BASED ON:* CONCRETE DECK GIRDERS

LOAD RATINGS IN TONS

INVENTORY (503) H	15	*(518B) HS*	22
OPERATING (504) H	20	*(519) HS*	36

(549) EVALUATOR: AT
(522) EVAL. DATE: 3/1/2016
LAST UPDATED BY: TORABIA
(29) ADT: 13,720 *(30) ADT YR:* 2015
(100) STRAHNET ROUTE: NO
(19) DETOUR LENGTH: 6 *KM*
(520) VC OVER RDWY: 99.99 *METERS*

CONDITION RATINGS

(58) DECK RATING:	5
(59) SUPERSTRUCTURE RATING:	5
(60) SUBSTRUCTURE RATING:	4
(61) CHANNEL PROTECTION:	N
(62) CULVERT RATING:	N
(113A) NBIS SCOUR CODE:	N
(113B) TDOT SCOUR CODE:	

APPRAISAL RATINGS

(67) STRUCTURAL EVALUATION:	4
(68) DECK GEOMETRY:	9
(69) UNDER CLEARANCE:	4
(70) BRIDGE POSTING:	5
(71) WATERWAY ADEQUACY:	N
(72) APPROACH RDWY ALIGNMENT:	6

CODE VALUES

N - NOT APPLICABLE
9 - EXCELLENT CONDITION
8 - VERY GOOD CONDITION
7 - GOOD CONDITION
6 - SATISFACTORY
5 - FAIR CONDITION
4 - POOR CONDITION
3 - SERIOUS CONDITION
2 - CRITICAL CONDITION
1 - FAILURE IS IMMINENT
0 - FAILED CONDITION

OTHER RATING ITEMS

(521) OVERALL CONDITION:	P
(513) TEXTURE COAT RATING:	N
(514) PAINT CONDITION RATING:	N
(41) WEIGHT POSTING CODE:	A
(36) TRAFFIC SAFETY FEATURES:	0 0 0 0
(525) REPAIR LIST NO:	2

COMMENTS

NO COMMENTS AT THIS TIME.

(502) SUFF. RATING:	41.2
(528) STR. DEFICIENT:	YES
(529) FUNC. OBSOLETE:	NO

DT-1449

TENNESSEE BRIDGE INSPECTION PROGRAM
SUMMARY OF EVALUATION

REV. 06-28-90

RATING BASED ON: C.D.G's

INVENTORY 503 H 17 Tons 66 HS 25 Tons

OPERATING 504 H 29 Tons 64 HS 41 Tons

TN LEGAL LOAD 517 T____Tons

Bridge No. : 16-SR2-14.30
Evaluator: Kenneth L. Simpson
Date: 8-1-95
ADT: 16,140 (19 94) Defense Route
Detour length: 04 Yes( ) No(X)

V.C. Over Deck____ft.___in. (X)NA

CONDITION RATING (Structural)

		culverts
58	Deck	N | 6
59	Superstructure	N | 6
60	Substructure	N | 7
61	Chl & Chl Protection	| N
62	Culv & Ret Walls	| N
113	Scour Condition	| N

APPRAISAL RATING (Relation to System)

		culverts
67	Structural Evaluation	| 5
68	Deck Geometry	| 2
69	Under Clearance	N | 4
70	Bridge Posting	| 5
71	Waterway Adequacy	| N
72	Approach Rdwy Alignment	| 6

Overall Condition (65) G (F) P C
Texture Coat (513) N N/A
Paint Condition (514) N N/A

Traffic Safety Features (36) 0 0 0 0
Rail Under Bridge (515) N N N N

I505=LFR

Comments and Recommendations:
I41=P INSP. TEAM NOTES THAT BRIDGE IS WEIGHT POSTED. (1/16)
NO POSTING RECOMMENDED. CONCUR (KLS 9-6-02)
CONCUR W/RATINGS (KLS 10-3-96)
" " " (KLS 11-13-98)
" " " (KLS 7-18-00)

* * Article 5.1.2 of Main. Man. For Conc. Br. with unknown reinf.
* * * Des. Std. or Des. Plans For H15 or HS20 Loading.

COMMENTARY (Condition)

N NOT APPLICABLE
9 EXCELLENT CONDITION
8 VERY GOOD CONDITION - no problems noted
7 GOOD CONDITION - some minor problems
6 SATISFACTORY CONDITION - structural elements show some minor deterioration
5 FAIR CONDITION - all primary structural elements are sound, but may have minor section loss, deterioration, spalling, or scour.
4 POOR CONDITION - advanced section loss, deterioration, spalling, or scour
3 SERIOUS CONDITION - loss of section, deterioration, spalling, or scour have affected primary structural components - local failures are possible - fatigue cracks in steel or shear cracks in concrete may be present
2 CRITICAL CONDITION - advanced deterioration of primary structural elements. Fatigue cracks in steel or shear cracks in concrete may be present or scour may have removed substructure support. Unless closely monitored, it may be necessary to close the bridge until corrective action is taken.
1 "IMMINENT" FAILURE CONDITION - Major deterioration or section loss present in critical structural components or obvious vertical or horizontal movement affecting structure stability. Bridge is closed to traffic, but corrective action may put it back in light service.
0 FAILED CONDITION - Out of service, beyond corrective action.

COMMENTARY (Appraisal)

N - Not Applicable
9 - Superior to present desirable criteria
8 - Equal to present desirable criteria
7 - Better than present minimum criteria
6 - Equal to present minimum criteria
5 - Somewhat better than minimum adequacy to tolerate being left in place as is
4 - Meets minimum tolerable limits to be left in place as is
3 - Basically intolerable, requiring high priority of corrective action
2 - Basically intolerable, requiring high priority of replacement.
1 - This value of rating code not used.
0 - Bridge closed.

GOOD ------- 7, 8, & 9
FAIR ------- 5 & 6
POOR ------- 3 & 4
CRITICAL --- 0, 1, & 2

Sufficiency Rating _____
Dated: _____

Bridge Name: HILLSBORO RD SR2/CFW RAILROAD
NBI Structure ID: 16SR0020015
Bridge ID: 16SR0020015

Analyzed By: bridgeware
Analyze Date: Monday, January 13, 2020 14:06:39
Analysis Engine: AASHTO LRFR Engine Version 6.8.0.3001
Analysis Preference Setting: None

Report By: bridgeware
Report Date: Monday, January 13, 2020 14:18:33

Structure Definition Name: GIRDERS 2, 3,4,5,6,---12,13,14
Member Name: Member 2
Member Alternative Name: INTERIOR 1

Load and Resistance Factor Rating Summary

			Girder Summary						
		Rating		Capacity		Location			
Live Load		Factor	Controls	(Ton)	Span	(ft)	Percent	Impact	Lane
H 15-44	Inventory	2.249	STRENGTH-I Concrete Flexure	33.74	1	19.50	50.0	As Requested	As Requested
H 15-44	Operating	2.916	STRENGTH-I Concrete Flexure	43.74	1	19.50	50.0	As Requested	As Requested
HL-93 (US)	Inventory	1.065	STRENGTH-I Concrete Flexure	38.35	1	19.50	50.0	As Requested	As Requested
HL-93 (US)	Operating	1.381	STRENGTH-I Concrete Flexure	49.71	1	19.50	50.0	As Requested	As Requested
HS 20-44	Inventory	1.335	STRENGTH-I Concrete Flexure	48.07	1	19.50	50.0	As Requested	As Requested
HS 20-44	Operating	1.731	STRENGTH-I Concrete Flexure	62.31	1	19.50	50.0	As Requested	As Requested
SU7	Legal	1.388	STRENGTH-I Concrete Flexure	53.77	1	19.50	50.0	As Requested	As Requested
Type 3S2	Legal	2.168	STRENGTH-I Concrete Flexure	78.03	1	19.50	50.0	As Requested	As Requested
Annual Permit 1	Permit	2.504	STRENGTH-II Concrete Flexure	206.55	1	19.50	50.0	As Requested	As Requested
Annual Permit 2	Permit	2.504	STRENGTH-II Concrete Flexure	206.55	1	19.50	50.0	As Requested	As Requested
Gravel Truck	Legal	1.360	STRENGTH-I Concrete Flexure	50.32	1	19.50	50.0	As Requested	As Requested
Overweight Permit	Permit	2.204	STRENGTH-II Concrete Flexure	281.06	1	23.40	60.0	As Requested	As Requested
EV2	Legal	1.757	STRENGTH-I Concrete Flexure	50.52	1	23.40	60.0	As Requested	As Requested
EV3	Legal	1.096		47.13	1	19.50	50.0	As Requested	As Requested

STRENGTH-I
Concrete
Flexure

Note:
"N/A" indicates not applicable
"**" indicates not available
Bridge Name: HILLSBORO RD SR2/CFW RAILROAD
NBI Structure ID: 16SR0020015
Bridge ID: 16SR0020015

Analyzed By: bridgeware
Analyze Date: Monday, January 13, 2020 14:06:39
Analysis Engine: AASHTO LRFR Engine Version 6.8.0.3001
Analysis Preference Setting: None

Report By: bridgeware
Report Date: Monday, January 13, 2020 14:18:33

Structure Definition Name: GIRDERS 2, 3,4,5,6,---12,13,14
Member Name: Member 3
Member Alternative Name: INTERIOR 2

Load and Resistance Factor Rating Summary

Girder Summary

Live Load		Rating Factor	Controls	Capacity (Ton)	Span	Location (ft)	Percent	Impact	Lane
H 15-44	Inventory	2.253	STRENGTH-I Concrete Flexure	33.79	1	19.50	50.0	As Requested	As Requested
H 15-44	Operating	2.920	STRENGTH-I Concrete Flexure	43.81	1	19.50	50.0	As Requested	As Requested
HL-93 (US)	Inventory	1.067	STRENGTH-I Concrete Flexure	38.41	1	19.50	50.0	As Requested	As Requested
HL-93 (US)	Operating	1.383	STRENGTH-I Concrete Flexure	49.79	1	19.50	50.0	As Requested	As Requested
HS 20-44	Inventory	1.337	STRENGTH-I Concrete Flexure	48.14	1	19.50	50.0	As Requested	As Requested
HS 20-44	Operating	1.734	STRENGTH-I Concrete Flexure	62.41	1	19.50	50.0	As Requested	As Requested
SU7	Legal	1.390	STRENGTH-I Concrete Flexure	53.85	1	19.50	50.0	As Requested	As Requested
Type 3S2	Legal	2.171	STRENGTH-I Concrete Flexure	78.15	1	19.50	50.0	As Requested	As Requested
Annual Permit 1	Permit	2.507	STRENGTH-II Concrete Flexure	206.87	1	19.50	50.0	As Requested	As Requested
Annual Permit 2	Permit	2.507	STRENGTH-II Concrete Flexure	206.87	1	19.50	50.0	As Requested	As Requested
Gravel Truck	Legal	1.362	STRENGTH-I Concrete Flexure	50.40	1	19.50	50.0	As Requested	As Requested
	Permit	2.208		281.46	1	23.40	60.0	As Requested	As Requested

Overweight Permit			STRENGTH-II Concrete Flexure						
EV2	Legal	1.760	STRENGTH-I Concrete Flexure	50.59	1	15.60	40.0	As Requested	As Requested
EV3	Legal	1.098	STRENGTH-I Concrete Flexure	47.20	1	19.50	50.0	As Requested	As Requested

Note:
"N/A" indicates not applicable
"**" indicates not available
Bridge Name: HILLSBORO RD SR2/CFW RAILROAD
NBI Structure ID: 16SR0020015
Bridge ID: 16SR0020015

Analyzed By: bridgeware
Analyze Date: Monday, January 13, 2020 14:06:39
Analysis Engine: AASHTO LRFR Engine Version 6.8.0.3001
Analysis Preference Setting: None

Report By: bridgeware
Report Date: Monday, January 13, 2020 14:18:33

Structure Definition Name: GIRDERS 2, 3,4,5,6,---12,13,14
Member Name: Member 6
Member Alternative Name: INTERIOR 6

Load and Resistance Factor Rating Summary

Girder Summary

Live Load		Rating Factor	Controls	Capacity (Ton)	Span	Location (ft)	Percent	Impact	Lane
H 15-44	Inventory	2.963	STRENGTH-I Concrete Flexure	44.45	1	19.50	50.0	As Requested	As Requested
H 15-44	Operating	3.841	STRENGTH-I Concrete Flexure	57.62	1	19.50	50.0	As Requested	As Requested
HL-93 (US)	Inventory	1.403	STRENGTH-I Concrete Flexure	50.51	1	19.50	50.0	As Requested	As Requested
HL-93 (US)	Operating	1.819	STRENGTH-I Concrete Flexure	65.48	1	19.50	50.0	As Requested	As Requested
HS 20-44	Inventory	1.759	STRENGTH-I Concrete Flexure	63.32	1	19.50	50.0	As Requested	As Requested
HS 20-44	Operating	2.280	STRENGTH-I Concrete Flexure	82.08	1	19.50	50.0	As Requested	As Requested
SU7	Legal	1.828	STRENGTH-I Concrete Flexure	70.83	1	19.50	50.0	As Requested	As Requested
Type 3S2	Legal	2.855	STRENGTH-I Concrete Flexure	102.79	1	19.50	50.0	As Requested	As Requested
Annual Permit 1	Permit	3.180	STRENGTH-II Concrete Flexure	262.36	1	19.50	50.0	As Requested	As Requested
	Permit	3.180		262.36	1	19.50	50.0	As Requested	As Requested

Annual Permit 2			STRENGTH-II Concrete Flexure						
Gravel Truck	Legal	1.791	STRENGTH-I Concrete Flexure	66.28	1	19.50	50.0	As Requested	As Requested
Overweight Permit	Permit	2.790	STRENGTH-II Concrete Flexure	355.71	1	23.40	60.0	As Requested	As Requested
EV2	Legal	2.306	STRENGTH-I Concrete Flexure	66.31	1	23.40	60.0	As Requested	As Requested
EV3	Legal	1.444	STRENGTH-I Concrete Flexure	62.08	1	19.50	50.0	As Requested	As Requested

Note:
"N/A" indicates not applicable
"**" indicates not available
Bridge Name: HILLSBORO RD SR2/CFW RAILROAD
NBI Structure ID: 16SR0020015
Bridge ID: 16SR0020015

Analyzed By: bridgeware
Analyze Date: Monday, January 13, 2020 14:06:39
Analysis Engine: AASHTO LRFR Engine Version 6.8.0.3001
Analysis Preference Setting: None

Report By: bridgeware
Report Date: Monday, January 13, 2020 14:18:33

Structure Definition Name: GIRDERS 7 8 9 10 11
Member Name: Member 7
Member Alternative Name: OLD 1

Load and Resistance Factor Rating Summary

			Girder Summary						
Live Load		**Rating Factor**	**Controls**	**Capacity (Ton)**	**Span**	**Location (ft)**	**Percent**	**Impact**	**Lane**
H 15-44	Inventory	1.335	STRENGTH-I Concrete Flexure	20.02	1	19.50	50.0	As Requested	As Requested
H 15-44	Operating	1.730	STRENGTH-I Concrete Flexure	25.95	1	19.50	50.0	As Requested	As Requested
HL-93 (US)	Inventory	0.632	STRENGTH-I Concrete Flexure	22.75	1	19.50	50.0	As Requested	As Requested
HL-93 (US)	Operating	0.819	STRENGTH-I Concrete Flexure	29.49	1	19.50	50.0	As Requested	As Requested
HS 20-44	Inventory	0.792	STRENGTH-I Concrete Flexure	28.52	1	19.50	50.0	As Requested	As Requested
HS 20-44	Operating	1.027	STRENGTH-I Concrete Flexure	36.97	1	19.50	50.0	As Requested	As Requested
SU7	Legal	0.823	STRENGTH-I Concrete Flexure	31.90	1	19.50	50.0	As Requested	As Requested
Type 3S2	Legal	1.286		46.30	1	19.50	50.0	As Requested	As Requested

			STRENGTH-I Concrete Flexure						
Annual Permit 1	Permit	1.426	STRENGTH-II Concrete Flexure	117.65	1	19.50	50.0	As Requested	As Requested
Annual Permit 2	Permit	1.426	STRENGTH-II Concrete Flexure	117.65	1	19.50	50.0	As Requested	As Requested
Gravel Truck	Legal	0.807	STRENGTH-I Concrete Flexure	29.85	1	19.50	50.0	As Requested	As Requested
Overweight Permit	Permit	1.276	STRENGTH-II Concrete Flexure	162.70	1	19.50	50.0	As Requested	As Requested
EV2	Legal	1.060	STRENGTH-I Concrete Flexure	30.48	1	19.50	50.0	As Requested	As Requested
EV3	Legal	0.650	STRENGTH-I Concrete Flexure	27.96	1	19.50	50.0	As Requested	As Requested

Note:
"N/A" indicates not applicable
"**" indicates not available
Bridge Name: HILLSBORO RD SR2/CFW RAILROAD
NBI Structure ID: 16SR0020015
Bridge ID: 16SR0020015

Analyzed By: bridgeware
Analyze Date: Monday, January 13, 2020 14:06:39
Analysis Engine: AASHTO LRFR Engine Version 6.8.0.3001
Analysis Preference Setting: None

Report By: bridgeware
Report Date: Monday, January 13, 2020 14:18:33

Structure Definition Name: GIRDERS 7 8 9 10 11
Member Name: Member 8
Member Alternative Name: OLD2

Load and Resistance Factor Rating Summary

			Girder Summary						
Live Load		**Rating Factor**	**Controls**	**Capacity (Ton)**	**Span**	**Location (ft)**	**Percent**	**Impact**	**Lane**
H 15-44	Inventory	1.356	STRENGTH-I Concrete Flexure	20.34	1	19.50	50.0	As Requested	As Requested
H 15-44	Operating	1.758	STRENGTH-I Concrete Flexure	26.37	1	19.50	50.0	As Requested	As Requested
HL-93 (US)	Inventory	0.642	STRENGTH-I Concrete Flexure	23.12	1	19.50	50.0	As Requested	As Requested
HL-93 (US)	Operating	0.833	STRENGTH-I Concrete Flexure	29.97	1	19.50	50.0	As Requested	As Requested
HS 20-44	Inventory	0.805	STRENGTH-I Concrete Flexure	28.98	1	19.50	50.0	As Requested	As Requested
HS 20-44	Operating	1.044		37.57	1	19.50	50.0	As Requested	As Requested

			STRENGTH-I Concrete Flexure						
SU7	Legal	0.837	STRENGTH-I Concrete Flexure	32.42	1	19.50	50.0	As Requested	As Requested
Type 3S2	Legal	1.307	STRENGTH-I Concrete Flexure	47.05	1	19.50	50.0	As Requested	As Requested
Annual Permit 1	Permit	1.500	STRENGTH-II Concrete Flexure	123.76	1	19.50	50.0	As Requested	As Requested
Annual Permit 2	Permit	1.500	STRENGTH-II Concrete Flexure	123.76	1	19.50	50.0	As Requested	As Requested
Gravel Truck	Legal	0.820	STRENGTH-I Concrete Flexure	30.34	1	19.50	50.0	As Requested	As Requested
Overweight Permit	Permit	1.342	STRENGTH-II Concrete Flexure	171.14	1	19.50	50.0	As Requested	As Requested
EV2	Legal	1.077	STRENGTH-I Concrete Flexure	30.97	1	19.50	50.0	As Requested	As Requested
EV3	Legal	0.661	STRENGTH-I Concrete Flexure	28.41	1	19.50	50.0	As Requested	As Requested

Note:
"N/A" indicates not applicable
"**" indicates not available

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PALMER ENGINEERING CO.
2817 ERICA PLACE

NASHVILLE, TN.
R. LOGAN COLBERT, P.E. 117913

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE OF TENN. CODE ANN. §62-2-306.

SHEET NAME	SHEET NO.
SIGNATURE SHEET	SIG-1
TITLE SHEET	1
PROJECT COMMITMENTS	1A
ESTIMATED BRIDGE QUANTITIES AND NOTES	2 (BR-130-142)
ESTIMATED ROADWAY QUANTITIES AND NOTES	2A-2D
EPSC PLAN AND NOTES	3
TRAFFIC CONTROL PLAN AND NOTES	4-4B
LAYOUT OF BRIDGE TO BE REPAIRED	BR-130-141
SUPERSTRUCTURE REPAIR DETAILS	BR-130-143
SUBSTRUCTURE REPAIRS	BR-130-144
CONCRETE REPAIR DETAILS	BR-130-145

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PALMER ENGINEERING CO.
2817 ERICA PLACE

NASHVILLE, TN.
JAMES DAVID MAYO, R.L.S. 2110

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE OF TENN. CODE ANN. §62-2-306.

SHEET NAME	SHEET NO.
PROPERTY MAP AND RIGHT-OF-WAY ACQUISITION TABLE	5
PRESENT LAYOUT	5A
RIGHT-OF-WAY DETAILS	5B

YEAR	PROJECT NO.	SHEET NO.
2019	16003-4244-04	SIG-1

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SIGNATURE SHEET

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PALMER ENGINEERING CO.
2817 ERICA PLACE

NASHVILLE, TN.
R. LOGAN COLBERT, P.E. 117913

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE OF TENN. CODE ANN. §62-2-306.

SHEET NAME	SHEET NO.
SIGNATURE SHEET	SIG-2
TITLE SHEET	1
PROJECT COMMITMENTS	1A
ESTIMATED BRIDGE QUANTITIES AND NOTES	2 (BR-130-142)
ESTIMATED ROADWAY QUANTITIES AND NOTES	2A-2D
EPSC PLAN AND NOTES	3
TRAFFIC CONTROL PLAN AND NOTES	4-4B
LAYOUT OF BRIDGE TO BE REPAIRED	BR-130-I41
SUPERSTRUCTURE REPAIR DETAILS	BR-130-I43
SUBSTRUCTURE REPAIRS	BR-130-I44
CONCRETE REPAIR DETAILS	BR-130-I45

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PALMER ENGINEERING CO.
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NASHVILLE, TN.
JAMES DAVID MAYO, R.L.S. 2110

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE OF TENN. CODE ANN. §62-2-306.

SHEET NAME	SHEET NO.
PROPERTY MAP AND RIGHT-OF-WAY ACQUISITION TABLE	5
PRESENT LAYOUT	5A
RIGHT-OF-WAY DETAILS	5B

YEAR	PROJECT NO.	SHEET NO.
2020	16003-3246-04	SIG-2

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SIGNATURE SHEET

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NASHVILLE, TN.
R. LOGAN COLBERT, P.E. 117913

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE OF TENN. CODE ANN. §62-2-306.

SHEET NAME	SHEET NO.

YEAR	PROJECT NO.	SHEET NO.
2020	16003-3246-04	SIG-3

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SIGNATURE SHEET

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R. LOGAN COLBERT, P.E. 117913

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE OF TENN. CODE ANN. §62-2-306.

SHEET NAME	SHEET NO.
SIGNATURE SHEET	SIG-4
TITLE SHEET	1
PROJECT COMMITMENTS	1A
ESTIMATED BRIDGE QUANTITIES AND NOTES	2 (BR-130-142)
ESTIMATED ROADWAY QUANTITIES AND NOTES	2A-2D
EPSC PLAN AND NOTES	3
TRAFFIC CONTROL PLAN AND NOTES	4-4B
LAYOUT OF BRIDGE TO BE REPAIRED	BR-130-141
SUPERSTRUCTURE REPAIR DETAILS	BR-130-143
SUBSTRUCTURE REPAIRS	BR-130-144
CONCRETE REPAIR DETAILS	BR-130-145

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PALMER ENGINEERING CO.
2817 ERICA PLACE

NASHVILLE, TN.
JAMES DAVID MAYO, R.L.S. 2110

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE OF TENN. CODE ANN. §62-2-306.

SHEET NAME	SHEET NO.
PROPERTY MAP AND RIGHT-OF-WAY ACQUISITION TABLE	5
PRESENT LAYOUT	5A
RIGHT-OF-WAY DETAILS	5B

YEAR	PROJECT NO.	SHEET NO.
2021	16003-3246-04	SIG-4

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SIGNATURE SHEET

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TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

REV. 1 03-05-20 DLH UPDATED YEAR, PROJECT NO., AND INDEX OF SHEETS.
REV. 2 04-17-20 MDS UPDATED INDEX OF SHEETS.
REV. 3 12-23-20 MDS UPDATED INDEX OF SHEETS, STANDARD DRAWINGS, & YEAR.

TENN.	3 YEAR	SHEET NO.
	2021	1
FED. AID PROJ. NO.		
STATE PROJ. NO.	16003-3246-04	
FED. BRIDGE I.D. NO.	16SR0020015	

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING

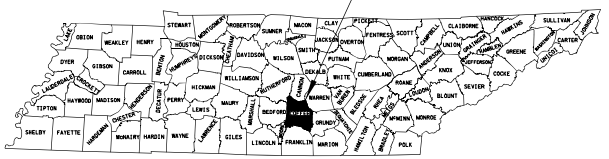
COFFEE COUNTY

STATE ROUTE 2 OVER CFW RAILROAD

BRIDGE REPAIR

STATE ROUTE 2

PROJECT LOCATION

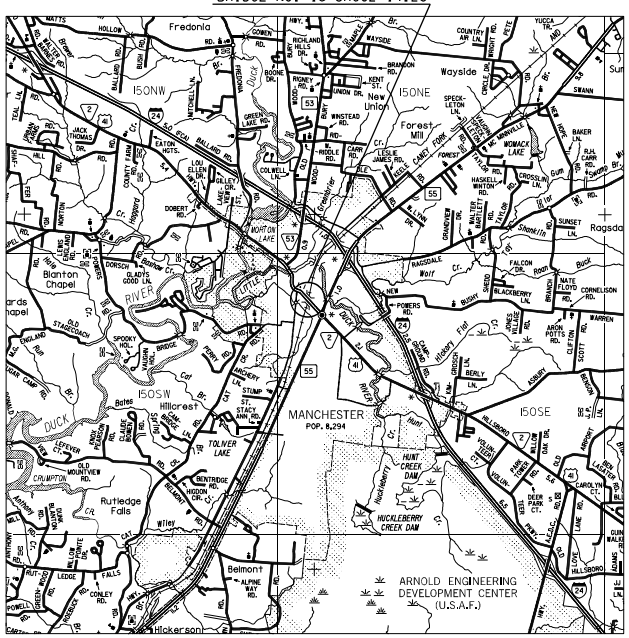


Index Of Sheets 3

Standard Drawings 3

DRAWING NO.	CURRENT REVISION DATE		DESCRIPTION
ROADWAY DESIGN STANDARDS			
RD-A-1	--------	02-20-20	STANDARD ABBREVIATIONS A THROUGH L
RD-A-2	--------	--------	STANDARD ABBREVIATIONS M THROUGH Z
RD-L-1	--------	02-20-20	STANDARD LEGEND
RD-L-2	--------	02-20-20	STANDARD LEGEND FOR UTILITY INSTALLATIONS
RD-L-5	--------	02-20-20	STANDARD LEGEND FOR EROSION PREVENTION AND SEDIMENT CONTROL
TRAFFIC CONTROL APPURTENANCES			
T-S-10	--------	04-04-12	STANDARD MOUNTING DETAILS FLAT SHEET SIGNS ALUMINUM-STEEL DESIGN
T-S-19	--------	07-11-17	STANDARD STEEL SIGN SUPPORTS
T-S-20	--------	07-11-17	SIGN DETAILS
T-WZ-12	--------	05-01-20	ONE LANE CLOSURE DETAIL FOR BRIDGES ON DIVIDED HIGHWAYS
EROSION PREVENTION AND SEDIMENT CONTROL			
EC-STR-8	--------	06-10-14	FILTER SOCK

BRIDGE NO: 16-SR002-14.28



SCALE: 1" = 1 MILE

TRAFFIC DATA

AADT (2018) = 14,410
SR 2 - POSTED SPEED LIMIT = 40 M.P.H.

LIST OF BRIDGE DRAWINGS

DRAWING	DRAWING NO.
LAYOUT OF BRIDGE TO BE REPAIRED	BR-130-141
ESTIMATED BRIDGE QUANTITIES AND NOTES	BR-130-142
SUPERSTRUCTURE REPAIR DETAILS	BR-130-143
SUBSTRUCTURE REPAIRS	BR-130-144
CONCRETE REPAIR DETAILS	BR-130-145

*LIST OF BRIDGE REFERENCE DRAWINGS

(* DENOTES TO BE PRINTED WITH PLANS)

F-9-141 THRU F-9-147, D-8-116, A-0-2, D-8-106, D-8-118, D-8-119, D-8-177

SPECIAL NOTES

PROPOSALS MAY BE REJECTED BY THE COMMISSIONER IF ANY OF THE UNIT PRICES CONTAINED THEREIN ARE OBVIOUSLY UNBALANCED, EITHER EXCESSIVE OR BELOW THE REASONABLE COST ANALYSIS VALUE.

THIS PROJECT TO BE CONSTRUCTED UNDER THE STANDARD SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION DATED JANUARY 1, 2015 AND ADDITIONAL SPECIFICATIONS AND SPECIAL PROVISIONS CONTAINED IN THE PLANS AND IN THE PROPOSAL CONTRACT

TDOT REPAIR OFFICE PROJECT MANAGER ROCKY CHRISTY

DESIGNED BY PALMER ENGINEERING COMPANY
DESIGNER LOGAN COLBERT, P.E.

P.E. NO. 16003-4244-04
PIN NO. 123696.00

APPROVED: Paul D. Degges
PAUL D. DEGGES, CHIEF ENGINEER

DATE:

APPROVED:
CLAY BRIGHT, COMMISSIONER

Logan Colbert 12/23/2020

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

DIVISION ADMINISTRATOR DATE

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REV. 1 03-05-20 DLH UPDATED YEAR AND PROJECT NO.
REV. 2 12-23-20 MDS UPDATED YEAR

TYPE	YEAR	PROJECT NO.	SHEET NO.
BRIDGE REPAIR	2021	16003-3246-04	1A

PROJECT COMMITMENTS

COMMITMENT ID	SOURCE DIVISION	DESCRIPTION	STA./LOCATION
EDHZ001	ENVIRONMENTAL DIVISION, HAZARDOUS MATERIAL	AN ASBESTOS CONTAINING MATERIAL (ACM) SURVEY WAS PERFORMED ON BRIDGE NO. 16SR0020015, SR-2 OVER CFW RAILROAD, LM 14.28 (16-SR2-14.28). THE BRIDGE HAS ASBESTOS IN THE ABUTMENT BEARING PAD/JOINT MATERIAL ON ALL FOUR CORNERS (16 SQUARE FEET) (30% CHRYSOTILE) AND 36 TRANSITE DECK DRAINS (10% CHRYSOTILE, 2% CROCIDOLITE). PLEASE SEE THE REPORT FOR FURTHER DETAILS AND PHOTOGRAPHS.	ENTIRE BRIDGE
EDHZ002	ENVIRONMENTAL DIVISION, HAZARDOUS MATERIAL	THE STATE OF TENNESSEE ASBESTOS ACCREDITATION REQUIREMENTS (TDEC RULES CHAPTER 1200-01-20) MANDATES THAT ACM ABATEMENT WORK BE PERFORMED BY AN ACCREDITED FIRM (CONTRACTOR) USING ACCREDITED ABATEMENT WORKERS AND SUPERVISORS. ABATEMENT OF THIS MATERIAL SHOULD BE ACCOMPLISHED PER SP202ACM SPECIAL PROVISION REGARDING REMOVAL OF ASBESTOS-CONTAINING MATERIALS. ACM ABATEMENT SHOULD BE COMPLETED PRIOR TO ANY DEMOLITION ACTIVITIES IF POSSIBLE. PRIOR TO THE DEMOLITION OR REHABILITATION OF ANY STRUCTURE (BRIDGE OR BUILDING), THE CONTRACTOR IS REQUIRED TO SUBMIT THE NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS STANDARD 10-DAY NOTICE OF DEMOLITION TO THE TDEC DIVISION OF AIR POLLUTION CONTROL (PER TDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (JANUARY 1, 2015) SECTIONS 107.08 D AND 202.03).	ENTIRE BRIDGE

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROJECT COMMITMENTS

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GENERAL NOTES

SPECIFICATIONS & LOADING

(1) **SPECIFICATIONS**: STANDARD ROAD AND BRIDGE SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION (JANUARY 1, 2015 EDITION), AND 4TH EDITION (2017) AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS WITH INTERIMS. [AND CURRENT AREMA SPECIFICATIONS EXCEPT AS MODIFIED ON THESE DRAWINGS.] .

STEEL, CONCRETE, REINFORCING AND FORMING

(2) **CONCRETE:** TO BE CLASS "A" (CAST-IN-PLACE) f'c = 3000 PSI EXCEPT AS NOTED OTHERWISE.

(3) **HIGH EARLY STRENGTH CONCRETE:** THE MIX IS TO MEET THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS, CLASS "X". THE CEMENT CONTENT SHALL BE A MINIMUM OF 714 LBS. THE WATER-CEMENT RATIO SHALL BE A MAXIMUM OF 0.40. DESIGN AIR CONTENT SHALL BE 6% WITH ±2% ACCEPTANCE RANGE IN THE FIELD. SLUMP SHALL BE 3±1 INCHES. IF USING A TYPE A, F, OR G WATER REDUCER, THE SLUMP SHALL BE MAXIMUM OF 8 INCHES. NO FLY ASH REPLACEMENT WILL BE PERMITTED. THE MINIMUM 28 DAY COMPRESSIVE STRENGTH SHALL BE 3,500 PSI. TRAFFIC SHALL NOT BE PERMITTED ON ANY OF THE REPAIRED AREAS UNTIL TEST SPECIMENS ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AND THE CONCRETE HAS BEEN IN PLACE A MINIMUM OF TEN (10) DAYS.

(4) **CONCRETE CURING:** ALL CONCRETE IN REPAIR AREAS SHALL BE CURED ACCORDING TO THE STANDARD SPECIFICATIONS.

(5) **FORMS AND FALSEWORK:** ALL CONCRETE FORM WORK AND FALSEWORK SHALL BE REMOVED AFTER REPAIRS ARE COMPLETED. COST OF FORMS, FALSEWORK, AND THIS WORK SHALL BE COMPLETED BEFORE FINAL PAYMENT IS APPROVED.

MISCELLANEOUS GENERAL NOTES

(6) **SPECIAL NOTE FOR RAILROAD CROSSINGS:** THE CONTRACTOR SHALL CONDUCT HIS WORK SO AS TO PROTECT THE RAILROAD TRACKS AND PROPERTIES FROM ANY DAMAGE. THE WORK SHALL BE DONE IN ACCORDANCE WITH REGULATIONS STIPULATED BY THE THE CANEY FORK & WESTERN RAILROAD SO AS TO MAINTAIN CLEARANCE AND NOT INTERRUPT TRAFFIC.

CANEY FORK & WESTERN RAILROAD CONTACT INFORMATION:
RYAN BROWN
GENERAL MANAGER
(931) 743-4910
RYAN@CANEYFORKWESTERN.COM
132 BRIDGE STREET
MCMINNVILLE, TN 37110

(7) **QUICK-SET PATCHING MATERIAL:** QUICK-SET PATCHING MATERIAL SHALL BE A POLYMER MODIFIED CEMENTITIOUS PATCHING MATERIAL. SEE TDOT QUALIFIED PRODUCTS LIST 13.009 POLY MOD CEMENT STRUCT PATCH VERT & OVER FOR ACCEPTABLE PATCHING MATERIALS.

(8) THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING REPAIRS AND CONSTRUCTION.

(9) ANY AREA THAT IS DISTURBED OUTSIDE THE LIMITS OF THE CONSTRUCTION DURING THE LIFE OF THE PROJECT SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.

PROJECT NO.	YEAR	SHEET NO.
16003-3246-04	2021	2

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	03-05-2020	DLH	UPDATED YEAR, PIN NO., AND PROJECT NO.
2	12-23-2020	MDS	UPDATED YEAR

ESTIMATED BRIDGE QUANTITIES

	ITEM NO.	DESCRIPTION	UNIT	TOTAL
①	201-05.31	VEGETATION REMOVAL	LS	1
	202-01.03	REMOVAL OF TRASH AND DEBRIS	LS	1
✳ ②	604-10.05	CONCRETE	S.F.	181
✳	604-10.42	CONCRETE REPAIRS	C.F.	140
✳ ③	604-10.54	CONCRETE REPAIRS	S.F.	181
✳	604-10.55	CONCRETE (FOUNDATION REPAIRS)	C.Y.	19
✳	604-10.58	EPOXY INJECTION (INJECTION)	GAL.	13
✳	604-10.62	EPOXY INJECTION REPAIR (COMPLETE AND IN PLACE)	L.F.	124
	709-01.01	RUBBLE STONE RIP-RAP	C.Y.	9

① INCLUDES COST OF ALL LABOR AND MATERIALS NECESSARY FOR THE REMOVAL AND DISPOSAL OF VEGETATION WITHIN 10 FEET OF THE STRUCTURE AND ANY OTHER NECESSARY TO COMPLETE THE WORK, AS DIRECTED BY THE ENGINEER. WHERE POSSIBLE, STUMPS AND ROOTS ARE TO REMAIN TO PREVENT GROUND DISTURBANCE.

② INCLUDES ALL LABOR AND MATERIALS NECESSARY TO PLACE HIGH EARLY STRENGTH CONCRETE FOR REPAIR OF INDICATED AREAS.

③ INCLUDES COST OF ALL LABOR AND MATERIALS NECESSARY TO PLACE A POLYMER MODIFIED CEMENTITIOUS STRUCTURAL PATCHING MATERIAL FOR REPAIR OF INDICATED AREAS.

✳ ITEM QUANTITY SHALL BE INCREASED, DECREASED, OR ELIMINATED AS DIRECTED BY THE ENGINEER.

SEALED BY

Palmer

PIN NO.:	123696.00		
DESIGN BY:	R.L. COLBERT	DATE:	09/2019
DRAWN BY:	M.D. SIMPSON	DATE:	09/2019
SUPERVISED BY:	G.S. WILSON	DATE:	09/2019
CHECKED BY:	G.S. WILSON	DATE:	09/2019

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

ESTIMATED BRIDGE QUANTITIES
AND NOTES
BRIDGE NO. 16-SR002-14.28
FED. I.D. NO. 16SR0020015
STATE ROUTE 2 OVER CFW RAILROAD
COFFEE COUNTY
2021

BR-130-142

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GENERAL NOTES

GRADING

(1) ANY AREA THAT IS DISTURBED OUTSIDE LIMITS OF CONSTRUCTION DURING THE LIFE OF THIS PROJECT SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.

(2) THE CONTRACTOR SHALL NOT DISPOSE OF ANY MATERIAL EITHER ON OR OFF STATE-OWNED R.O.W. IN A REGULATORY FLOOD WAY AS DEFINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) WITHOUT APPROVAL BY FEMA. ALL MATERIAL SHALL BE DISPOSED OF IN UPLAND (NON-WETLAND) AREAS AND ABOVE ORDINARY HIGH WATER OF ANY ADJACENT WATERCOURSE. THIS DOES NOT ELIMINATE THE NEED TO OBTAIN ANY OTHER LICENSES OR PERMITS THAT MAY BE REQUIRED BY ANY OTHER FEDERAL, STATE OR LOCAL AGENCY.

MISCELLANEOUS

(1) NOTHING IN THE GENERAL NOTES OR SPECIAL PROVISIONS SHALL RELIEVE THE CONTRACTOR FROM HIS RESPONSIBILITIES TOWARD THE SAFETY AND CONVENIENCE OF THE GENERAL PUBLIC AND THE RESIDENTS ALONG THE PROPOSED CONSTRUCTION AREA.

ROAD CLOSURE

(1) NO LESS THAN SEVEN (7) DAYS PRIOR TO THE CLOSURE OF THE ROAD, THE CONTRACTOR SHALL NOTIFY THE FOLLOWING INDIVIDUALS OR AGENCIES COMPLETELY DESCRIBING THE AFFECTED ROADS AND THE APPROXIMATE DURATION OF THE CONSTRUCTION: THESE PARTIES INCLUDE, BUT ARE NOT LIMITED TO: (1) LOCAL LAW ENFORCEMENT OFFICE, (2) LOCAL FIRE DEPARTMENT, (3) AMBULANCE SERVICE, (4) LOCAL SCHOOL SUPERINTENDENT, (5) UNITED STATES POSTAL SERVICE, AND (6) LOCAL ROAD SUPERINTENDENT.

RIPRAP

(1) RIPRAP SHALL CONSIST OF FURNISHING AND PLACING EITHER RUBBLE STONES BY HAND OR MACHINED. RUBBLE STONE SHALL MEET THE REQUIREMENTS OF SECTION 709 OF THE STANDARD SPECIFICATIONS AND SHALL BE CLEAN (FREE FROM ORGANIC MATTER), DURABLE, ANGULAR WITH FRACTURED FACES, NEARLY RECTANGULAR IN SHAPE WITH A BREADTH OR THICKNESS AT LEAST ONE-THIRD ITS LENGTH.

IF THE CONTRACTOR ELECTS TO USE MACHINED RIPRAP, IT SHALL BE IN ACCORDANCE WITH SECTION 709 OF THE STANDARD SPECIFICATIONS EXCEPT AS MODIFIED BY THIS NOTE. MACHINED RIPRAP SHALL BE CLEAN SHOT ROCK CONTAINING NO SAND, DUST, OR ORGANIC MATERIALS, AND SHALL VARY IN SIZE FROM 2" TO 1'- 3". THE STONE SIZES SHALL BE DISTRIBUTED UNIFORMLY THROUGHOUT THE SIZE RANGE WITH NO MORE THAN 20% OF THE MATERIAL (BY WEIGHT) LESS THAN 4". THE THICKNESS OF THE STONE LAYER SHALL BE 1'- 6" (+/-3") AND THE SIZE GRADATION SHALL BE UNIFORMLY DISTRIBUTED THROUGHOUT THE LAYER. THICKNESS AND FROM TOP TO BOTTOM OF THE SLOPE. UPON COMPLETION OF THE PROJECT, A VISUAL INSPECTION SHALL REVEAL THAT APPROXIMATELY 50% OF THE SURFACE AREA CONSISTS OF STONES 10" OR LARGER. PAYMENT WILL BE MADE UNDER ITEM 709-05.07 AND QUANTITIES WILL BE BASED ON A THICKNESS OF 10".

TRAFFIC CONTROL DIRECTIONAL SIGNING

(1) WHEN EXISTING "TOURIST ORIENTED DIRECTIONAL SIGNS" (TODS) ARE ON NON-ACCESS CONTROLLED CONSTRUCTION PROJECTS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING THESE SIGNS IN FULL VIEW TO THE MOTORING PUBLIC DURING ALL PHASES OF CONSTRUCTION. ALL WORK IN MOVING THESE "TODS" AND TEMPORARY SUPPORTS ARE TO BE PAID FOR UNDER ITEM NO. 712-01, TRAFFIC CONTROL, L.S., AS DIRECTED BY THE ENGINEER. NEW SUPPORTS AND SIGN FACE FOR FINAL LOCATION WILL BE PAID FOR UNDER OTHER ITEMS OF CONSTRUCTION.

CONSTRUCTION WORK ZONE & TRAFFIC CONTROL

(1) ADVANCED WARNING SIGNS SHALL NOT BE DISPLAYED MORE THAN FORTY-EIGHT (48) HOURS BEFORE PHYSICAL CONSTRUCTION BEGINS. SIGNS MAY BE ERECTED UP TO ONE WEEK BEFORE NEEDED, IF THE SIGN FACE IS FULLY COVERED.

(2) IF THE CONTRACTOR MOVES OFF THE PROJECT, HE SHALL COVER OR REMOVE ALL UNNEEDED SIGNS AS DIRECTED BY THE ENGINEER. COSTS OF REMOVAL, COVERING, AND REINSTALLING SIGNS SHALL NOT BE MEASURED AND PAID FOR SEPARATELY, BUT ALL COSTS SHALL BE INCLUDED IN THE ORIGINAL UNIT PRICE BID FOR ITEM NO 712-06, SIGNS (CONSTRUCTION) PER SQUARE FOOT.

(3) A LONG TERM BUT SPORADIC USE WARNING SIGN, SUCH AS A FLAGGER SIGN, MAY REMAIN IN PLACE WHEN NOT REQUIRED PROVIDED THE SIGN FACE IS FULLY COVERED.

(4) TRAFFIC CONTROL DEVICES SHALL NOT BE DISPLAYED OR ERECTED UNLESS RELATED CONDITIONS ARE PRESENT NECESSITATING WARNING.

(5) USE OF BARRICADES, PORTABLE BARRIER RAILS, AND DRUMS SHALL BE LIMITED TO THE IMMEDIATE AREAS OF CONSTRUCTION WHERE A HAZARD IS PRESENT. THESE DEVICES SHALL NOT BE STORED ALONG THE ROADWAY WITHIN THIRTY (30) FEET OF THE EDGE OF THE TRAVELED WAY BEFORE OR AFTER USE UNLESS PROTECTED BY GUARDRAIL, BRIDGE RAIL, AND/OR BARRIERS INSTALLED FOR OTHER PURPOSES FOR ROADWAYS WITH CURRENT ADT'S LESS THAN 1500 AND DESIGN SPEED OF LESS THAN 60 MPH. THIS DISTANCE SHALL INCREASE TO FORTY-FIVE (45) FEET FOR ROADWAYS WITH CURRENT ADT'S OF 1500 OR GREATER AND DESIGN SPEED OF 60 MPH OR GREATER OR ON THE OUTSIDE OF A HORIZONTAL CURVE. THESE DEVICES SHALL BE REMOVED FROM THE CONSTRUCTION WORK ZONE WHEN THE ENGINEER DETERMINES THEY ARE NO LONGER NEEDED. WHERE THERE IS INSUFFICIENT RIGHT-OF-WAY TO PROVIDE FOR THIS REQUIRED SETBACK, THE CONTRACTOR SHALL DETERMINE THE ALTERNATE LOCATIONS AND REQUEST THE ENGINEER'S APPROVAL TO USE THEM.

(6) THE CONTRACTOR SHALL NOT BE PERMITTED TO PARK ANY VEHICLES OR CONSTRUCTION EQUIPMENT DURING PERIODS OF INACTIVITY, WITHIN THIRTY (30) FEET OF THE EDGE OF PAVEMENT WHEN THE LANE IS OPEN TO TRAFFIC UNLESS PROTECTED BY GUARDRAIL, BRIDGE RAIL, AND/OR BARRIERS INSTALLED FOR OTHER PURPOSES FOR ROADWAYS WITH CURRENT ADT'S LESS THAN 1500 AND DESIGN SPEED OF LESS THAN 60 MPH. THIS DISTANCE SHALL BE INCREASED TO FORTY-FIVE (45) FEET FOR ROADWAYS WITH CURRENT ADT'S OF 1500 OR GREATER AND DESIGN SPEED OF 60 MPH OR GREATER OR ON THE OUTSIDE OF A HORIZONTAL CURVE. PRIVATELY OWNED VEHICLES SHALL NOT BE ALLOWED TO PARK WITHIN THIRTY (30) FEET OF AN OPEN TRAFFIC LANE AT ANY TIME UNLESS PROTECTED AS DESCRIBED ABOVE FOR ROADWAYS WITH CURRENT ADT'S LESS THAN 1500 AND DESIGN SPEED OF LESS THAN 60 MPH. THIS DISTANCE SHALL BE INCREASED TO FORTY-FIVE (45) FEET FOR ROADWAYS WITH CURRENT ADT'S OF 1500 OR GREATER AND DESIGN SPEED OF 60 MPH OR GREATER OR ON THE OUTSIDE OF A HORIZONTAL CURVE. WHERE THERE IS INSUFFICIENT RIGHT-OF-WAY TO PROVIDE FOR THIS REQUIRED SETBACK, THE CONTRACTOR SHALL DETERMINE THE ALTERNATE LOCATIONS AND REQUEST THE ENGINEER'S APPROVAL TO USE THEM.

(7) ALL DETOUR AND CONSTRUCTION SIGNING SHALL BE IN STRICT ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

EROSION PREVENTION AND SEDIMENT CONTROL

DISTURBED AREA

(1) IF DISTURBED ACREAGE IS EQUAL TO ONE ACRE OR MORE, PLEASE CONTACT TDOT ENVIRONMENTAL DIVISION, PERMITS SECTION AS SOON AS POSSIBLE BECAUSE AN NPDES PERMIT WILL BE REQUIRED.

(2) AREAS TO BE UNDISTURBED SHALL BE CLEARLY MARKED IN THE FIELD BEFORE CONSTRUCTION ACTIVITIES BEGIN.

(3) UNLESS OTHERWISE NOTED IN THE PLANS, THE CONTRACTOR SHALL NOT CLEAR/DISTURB ANY AREA BEYOND 15 FEET FROM SLOPE LINES.

(4) PRE-CONSTRUCTION VEGETATIVE GROUND COVER SHALL NOT BE DESTROYED, REMOVED OR DISTURBED (I.E. CLEARING AND GRUBBING INITIATED) MORE THAN 14 CALENDAR DAYS PRIOR TO GRADING OR EARTH MOVING ACTIVITIES UNLESS THE AREA IS MULCHED, SEEDED WITH MULCH, OR OTHER TEMPORARY COVER IS APPLIED.

(5) CLEARING, GRUBBING, AND OTHER DISTURBANCE TO RIPARIAN VEGETATION SHALL BE LIMITED TO THE MINIMUM NECESSARY FOR SLOPE CONSTRUCTION AND EQUIPMENT OPERATIONS. EXISTING VEGETATION, INCLUDING STREAM AND WETLAND BUFFERS (UNLESS PERMITTED), SHOULD BE PRESERVED TO THE MAXIMUM EXTENT POSSIBLE. UNNECESSARY VEGETATION REMOVAL IS PROHIBITED.

(CONT. NEXT SHEET)

REV. 1	03-05-20	DLH	UPDATED YEAR AND PROJECT NO.
REV. 2	04-17-20	MDS	UPDATED ESTIMATED QUANTITIES
REV. 3	12-23-20	MDS	UPDATED YEAR

TYPE	YEAR	PROJECT NO.	SHEET NO.
BRIDGE REPAIR	2021	16003-3246-04	2A

ESTIMATED ROADWAY QUANTITIES ②

	ITEM NO.	DESCRIPTION	UNIT	TOTAL
①	209-03.22	FILTER SOCK (18 INCH)	L.F.	300
	712-01	TRAFFIC CONTROL	L.S.	1
	712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EACH	33
②	712-06	SIGNS (CONSTRUCTION)	S.F.	197
	712-07.03	TEMPORARY BARRICADES (TYPE III)	L.F.	8
	712-08.03	ARROW BOARD (TYPE C)	EACH	1
	713-16.01	CHANGEABLE MESSAGE SIGN UNIT	EACH	2
	717-01	MOBILIZATION	L.S.	1

① SEE SUBSECTION 209.07 OF THE STANDARD SPECIFICATIONS FOR MAINTENANCE REPLACEMENT. INCLUDES COST OF SEDIMENT REMOVAL.

② ANY LOSS OR DAMAGE TO THE SIGNS SHALL BE PAID FOR BY THE CONTRACTOR.

ANY DAMAGE TO VEGETATED AREAS NOT SPECIFICALLY MENTIONED WITHIN THE PROJECT SCOPE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. THESE AREAS ARE TO BE RETURNED TO THEIR PRE-CONSTRUCTION STATE AND SHALL BE DETERMINED BY THE ENGINEER. ALL COSTS (LABOR AND MATERIALS) ASSOCIATED WITH THIS WORK SHALL BE INCLUDED IN ITEMS BID ON.

SEALED BY

RICHARD LOGAN COLBERT REGISTERED ENGINEER AGRICULTURE No. 117911 STATE OF TENNESSEE

R Logan Colbert 12/23/2020

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

ESTIMATED ROADWAY QUANTITIES AND NOTES

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REV. 1 03-05-20 DLH UPDATED YEAR AND PROJECT NO.
REV. 2 12-23-20 MDS UPDATED YEAR

TYPE	YEAR	PROJECT NO.	SHEET NO.
BRIDGE REPAIR	2021	16003-3246-04	2B

SEDIMENT CONTROL

(6) EPSC MEASURES SHALL BE INSTALLED AND FUNCTIONAL PRIOR TO ANY EARTH MOVING OPERATIONS, AND SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD EXCEPT AS SUCH WORK MAY BE NECESSARY TO INSTALL EPSC MEASURES.

(7) TEMPORARY EPSC MEASURES MAY BE REMOVED AT THE BEGINNING OF THE WORKDAY, BUT MUST BE REINSTALLED AT THE END OF THE WORKDAY OR BEFORE/DURING A PRECIPITATION EVENT.

(8) THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN A PROACTIVE METHOD TO PREVENT THE OFFSITE MIGRATION OR DEPOSIT OF SEDIMENT OFF THE PROJECT LIMITS (E.G. R.O.W., EASEMENTS, ETC.), INTO WATERS OF THE STATE/U.S., OR ONTO ROADWAYS USED BY THE GENERAL PUBLIC. IF SEDIMENT ESCAPES THE CONSTRUCTION SITE, OFFSITE ACCUMULATIONS OF SEDIMENT THAT HAVE NOT REACHED A STREAM MUST BE REMOVED AT A FREQUENCY SUFFICIENT TO MINIMIZE OFFSITE IMPACTS (E.G., FUGITIVE SEDIMENT THAT HAS ESCAPED THE CONSTRUCTION SITE AND HAS COLLECTED IN A STREET MUST BE REMOVED SO THAT IT IS NOT SUBSEQUENTLY WASHED INTO STORM SEWERS AND STREAMS BY THE NEXT RAIN AND/OR SO THAT IT DOES NOT POSE A SAFETY HAZARD TO USERS OF PUBLIC STREETS). ARRANGEMENTS CONCERNING REMOVAL OF SEDIMENT ON ADJOINING PROPERTY MUST BE NEGOTIATED WITH THE ADJOINING PROPERTY OWNER BEFORE REMOVAL OF SEDIMENT.

(9) OFFSITE VEHICLE TRACKING OF SEDIMENTS AND THE GENERATION OF DUST SHALL BE MINIMIZED. A STABILIZED CONSTRUCTION EXIT (A POINT OF ENTRANCE/EXIT TO THE CONSTRUCTION PROJECT) SHALL BE PROVIDED TO REDUCE THE TRACKING OF MUD AND DIRT ONTO PUBLIC ROADS BY CONSTRUCTION VEHICLES.

(10) THE DEWATERING OF WORK AREAS, TRENCHES, FOUNDATIONS, EXCAVATIONS, ETC. THAT HAVE COLLECTED STORMWATER, WATER FROM VEHICLE WASH AREAS, OR GROUNDWATER SHALL BE EITHER HELD IN SETTLING BASINS OR TREATED BY FILTRATION AND/OR CHEMICAL TREATMENT PRIOR TO ITS DISCHARGE. ALL PHYSICAL AND/OR CHEMICAL TREATMENT WILL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S GUIDELINES AND FULLY DESCRIBED IN THE EPSC PLANS. WATER DISCHARGED SHALL NOT CAUSE AN OBJECTIONABLE COLOR CONTRAST WITHIN THE RECEIVING NATURAL RESOURCE. WATER MUST BE HELD IN SETTLING BASINS UNTIL AT LEAST AS CLEAR AS THE RECEIVING WATERS. SETTLING BASINS SHALL NOT BE LOCATED CLOSER THAN 20 FEET FROM THE TOP BANK OF A STREAM. SETTLING BASINS AND SEDIMENT TRAPS SHALL BE PROPERLY DESIGNED ACCORDING TO THE SIZE OF THE DRAINAGE AREAS OR VOLUME OF WATER TO BE TREATED. TREATED WATER MUST BE DISCHARGED THROUGH A PIPE OR WELL-VEGETATED OR LINED CHANNEL, SO THAT THE DISCHARGE DOES NOT CAUSE EROSION OR SEDIMENT TRANSPORT. DISCHARGES FROM BASINS AND IMPOUNDMENTS SHALL UTILIZE OUTLET STRUCTURES THAT ONLY WITHDRAW WATER FROM NEAR THE SURFACE OF THE BASIN OR IMPOUNDMENT. DISCHARGES MUST NOT CAUSE AN OBJECTIONABLE COLOR CONTRAST WITH THE RECEIVING STREAM.

NATURAL RESOURCES

(11) SOIL MATERIALS MUST BE PREVENTED FROM ENTERING WATERS OF THE STATE/U.S. EPSC MEASURES TO PROTECT NATURAL RESOURCES AND WATER QUALITY SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. APPROPRIATE EPSC MEASURES MUST BE INSTALLED ALONG THE BASE OF ALL FILLS AND CUTS, ON THE DOWNHILL SIDE OF STOCKPILED SOIL, AND ALONG NATURAL RESOURCES IN CLEARED AREAS TO PREVENT SEDIMENT MIGRATION INTO STREAMS, WETLANDS OR OTHER NATURAL FEATURES IN ACCORDANCE WITH TDOT STANDARDS. EPSC MEASURES SHALL BE INSTALLED ON THE CONTOUR, ENTRENCHED AND STAKED, AND EXTEND THE WIDTH OF THE AREA TO BE CLEARED.

(12) NEW CHANNEL CONSTRUCTION SHALL BE COMPLETED IN THE DRY AND STABILIZED FOR AT LEAST 72 HOURS PRIOR TO DIVERTING WATER FROM THE EXISTING AND/OR TEMPORARY CHANNEL.

(13) INSTREAM EPSC DEVICES REQUIRE THE TDOT ENVIRONMENTAL DIVISION, PERMITS SECTION REVIEW AND MUST BE PROCESSED BY THE PERMITS SECTION TO OBTAIN WATER QUALITY PERMITS.

(14) THE OPERATION OF EQUIPMENT IN WATERS OF THE STATE/U.S., INCLUDING WETLANDS AND EPHEMERAL, INTERMITTENT, AND PERENNIAL STREAMS, IS NOT ALLOWED.

(15) THE WIDTH OF THE FILL ASSOCIATED WITH TEMPORARY CROSSINGS SHALL BE LIMITED TO THE MINIMUM NECESSARY FOR THE ACTUAL CROSSING, NOT TO EXCEED THE WIDTH SPECIFIED IN THE STANDARD DRAWING.

(16) STREAM BEDS SHALL NOT BE USED AS TRANSPORTATION ROUTES FOR CONSTRUCTION EQUIPMENT. TEMPORARY CULVERT CROSSINGS SHALL BE LIMITED TO ONE POINT PER STREAM AND EPSC MEASURES SHALL BE USED WHERE THE STREAM BANKS ARE DISTURBED. WHERE THE STREAMBED IS NOT COMPOSED OF BEDROCK, A PAD OF CLEAN ROCK SHALL BE USED AT THE CROSSING POINT AND CULVERTED TO PREVENT THE IMPOUNDMENT OF WATER FLOW. CLEAN ROCK IS ROCK OF VARIOUS TYPE AND SIZE, DEPENDING UPON APPLICATION, WHICH CONTAINS NO FINES, SOILS, OR OTHER WASTES OR CONTAMINANTS. OTHER MATERIALS USED FOR ALL TEMPORARY FILLS SHALL BE COMPLETELY REMOVED IN THEIR ENTIRETY AFTER THE WORK IS COMPLETED AND THE AFFECTED AREAS RETURNED TO PREEXISTING ELEVATIONS. ALL TEMPORARY CROSSINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. DWG. EC-STR-25 UNLESS SPECIFICALLY ADDRESSED IN THE EPSC PLANS. ALTERNATIVELY, PLACING A TEMPORARY BRIDGE (E.G. BAILEY BRIDGE OR EQUIVALENT, TIMBERS, ETC.) FROM TOP OF BANK TO TOP OF BANK OR THE APPROPRIATE USE OF BARGES AT THE CROSSING TO AVOID DISTURBANCE OF THE STREAMBED IS AN ACCEPTABLE OPTION.

(17) HEAVY EQUIPMENT WORKING IN WETLANDS WITH PERMITTED TEMPORARY IMPACTS SHALL BE PLACED ON MATS, OR OTHER MEASURES MUST BE TAKEN TO MINIMIZE SOIL DISTURBANCE AND COMPACTION UNLESS SPECIFICALLY ADDRESSED IN THE CONSTRUCTION PLANS. ANY MATS AND OTHER MEASURES USED FOR HEAVY EQUIPMENT SHALL BE REMOVED IN THEIR ENTIRETY AFTER THE WORK IS COMPLETED. ALL AFFECTED AREAS SHOULD BE RETURNED TO PRE-EXISTING CONDITIONS.

(18) WETLANDS SHALL NOT BE USED AS EQUIPMENT STORAGE, STAGING, OR TRANSPORTATION AREAS, UNLESS SPECIFICALLY PROVIDED FOR IN THE CONSTRUCTION PLANS AND PERMITS.

(19) THE CONTRACTOR SHALL TAKE APPROPRIATE STEPS PRIOR TO ANY CONSTRUCTION AND MAINTENANCE ACTIVITIES TO ENSURE THAT ENVIRONMENTAL FEATURES (E.G., STREAMS, WETLANDS, SPRINGS, ETC.) ARE NOT IMPACTED BEYOND PERMITTED LOCATIONS. IF THE CONTRACTOR OR TDOT INSPECTOR IS UNSURE OF THE IDENTITY OF AN ENVIRONMENTAL FEATURE, THE INSPECTOR SHALL CONTACT THE TDOT REGION ENVIRONMENTAL TECH GROUP IMMEDIATELY.

SPECIES

(20) NO ACTIVITY MAY SUBSTANTIALLY DISRUPT THE MOVEMENT OF THOSE SPECIES OF AQUATIC LIFE INDIGENOUS TO THE WATER BODY, INCLUDING THOSE SPECIES THAT NORMALLY MIGRATE THROUGH THE AREA.

(21) SHOULD CLIFF SWALLOW OR BARN SWALLOW NESTS, EGGS, OR BIRDS (YOUNG AND ADULTS) BE PRESENT, THE CONTRACTOR SHALL CONTACT THE REGIONAL ECOLOGY OFFICE TO DETERMINE IF SEASONAL RESTRICTIONS WILL BE NECESSARY. GENERALLY, BIRDS, NESTS, AND EGGS MAY NOT BE DISTURBED BETWEEN APRIL 15 AND JULY 31. FROM AUGUST 1 TO APRIL 14, NESTS CAN BE REMOVED OR DESTROYED SO LONG AS BIRDS OR EGGS ARE NOT PRESENT, AND MEASURES IMPLEMENTED TO PREVENT FUTURE NEST BUILDING AT THE SITE (I.E., CLOSING OFF AREA USING NETTING).

(22) IF THE REMOVAL OF ANY TREES WITH A DIAMETER AT BREAST HEIGHT (DBH) GREATER THAN 3 INCHES IS DEEMED NECESSARY THE TDOT SUPERVISOR SHALL CONTACT THE TDOT ENVIRONMENTAL DIVISION, ECOLOGY SECTION IMMEDIATELY.

INSPECTION, MAINTENANCE & REPAIR

(23) THE TDOT CONSTRUCTION SUPERVISOR (OR THEIR DESIGNEE) AND THE CONTRACTOR'S RESPONSIBLE PARTY ARE RESPONSIBLE FOR INSPECTIONS. MAINTENANCE AND REPAIR ACTIVITIES ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE TDOT CONSTRUCTION SUPERVISOR OR THEIR DESIGNEE SHALL COMPLETE THE EPSC INSPECTION REPORTS AND DISTRIBUTE COPIES PER THE CONTRACT.

(24) TDOT CONSULTANTS AND CONTRACTOR STAFF RESPONSIBLE FOR THE INSPECTION, IMPLEMENTATION, MAINTENANCE, AND/OR REPAIR OF EPSC MEASURES SHALL SUCCESSFULLY COMPLETE THE TDEC "LEVEL 1 - FUNDAMENTALS OF EROSION PREVENTION AND SEDIMENT CONTROL FOR CONSTRUCTION SITES" COURSE AND ANY REFRESHER COURSES AS REQUIRED TO MAINTAIN CERTIFICATION. TDOT STAFF AND SUPERVISORS RESPONSIBLE FOR THE INSPECTION, IMPLEMENTATION, MAINTENANCE, AND/OR REPAIR OF EPSC MEASURES SHALL SUCCESSFULLY COMPLETE THE TDOT "FUNDAMENTALS OF EROSION AND SEDIMENT CONTROL" CLASS AND ANY REFRESHER COURSES AS REQUIRED TO MAINTAIN CERTIFICATION.

(25) EPSC CONTROLS SHALL BE INSPECTED ACCORDING TO PERMIT REQUIREMENTS TO VERIFY MEASURES HAVE BEEN INSTALLED AND MAINTAINED IN ACCORDANCE WITH TDOT STANDARD DRAWINGS, SPECIFICATIONS, AND GOOD ENGINEERING PRACTICES. EPSC INSPECTIONS SHALL BE DOCUMENTED ON THE TDOT EPSC INSPECTION REPORT.

(26) DISCHARGE POINTS SHALL BE INSPECTED TO ASCERTAIN WHETHER EPSC MEASURES ARE EFFECTIVE IN PREVENTING EROSION AND CONTROLLING SEDIMENT INCLUDING SIGNIFICANT IMPACTS TO SURROUNDING NATURAL RESOURCES AND ADJACENT PROPERTY OWNERS. WHERE DISCHARGE LOCATIONS ARE INACCESSIBLE, NEARBY DOWN GRADIENT LOCATIONS SHALL BE INSPECTED. LOCATIONS WHERE VEHICLES ENTER AND EXIT THE SITE SHALL BE INSPECTED FOR EVIDENCE OF OFFSITE ROADWAY SEDIMENT TRACKING.

(27) UPON CONCLUSION OF THE INSPECTIONS, EPSC MEASURES FOUND TO BE INEFFECTIVE SHALL BE REPAIRED, REPLACED, OR MODIFIED BEFORE THE NEXT RAIN EVENT, IF POSSIBLE, BUT IN NO CASE MORE THAN 24 HOURS AFTER THE INSPECTION OR WHEN THE CONDITION IS IDENTIFIED. IF THE REPAIR, REPLACEMENT OR MODIFICATION IS NOT PRACTICAL WITHIN THE 24 HOUR TIMEFRAME, WRITTEN DOCUMENTATION SHALL BE PROVIDED IN THE FIELD DIARY AND EPSC INSPECTION REPORT. AN ESTIMATED REPAIR, REPLACEMENT OR MODIFICATION SCHEDULE SHALL BE DOCUMENTED WITHIN 24 HOURS AFTER IDENTIFICATION.

(28) INSPECTION, REPAIR, AND MAINTENANCE OF EPSC MEASURES SHALL BE PERFORMED ON A REGULAR BASIS. SEDIMENT SHALL BE REMOVED FROM SEDIMENT CONTROL STRUCTURES WHEN THE DESIGN CAPACITY HAS BEEN REDUCED BY FIFTY PERCENT (50%). DURING SEDIMENT REMOVAL, THE CONTRACTOR SHALL TAKE STEPS TO ENSURE THAT STRUCTURAL COMPONENTS OF EPSC MEASURES ARE NOT DAMAGED AND THUS MADE INEFFECTIVE. IF DAMAGE DOES OCCUR, THE CONTRACTOR SHALL REPAIR THE EPSC MEASURES AT THE CONTRACTOR'S OWN EXPENSE.

(29) THE EPSC PLAN SHALL BE UPDATED WHENEVER EPSC INSPECTIONS INDICATE, OR WHERE STATE OR FEDERAL OFFICIALS DETERMINE EPSC MEASURES ARE PROVING INEFFECTIVE IN ELIMINATING OR SIGNIFICANTLY MINIMIZING POLLUTANT SOURCES OR ARE OTHERWISE NOT ACHIEVING THE GENERAL OBJECTIVES OF CONTROLLING POLLUTANTS IN STORM WATER DISCHARGES ASSOCIATED WITH THE CONSTRUCTION ACTIVITY.

(30) SEDIMENT REMOVED FROM SEDIMENT CONTROL STRUCTURES SHALL BE PLACED AND TREATED IN A MANNER SO THAT THE SEDIMENT IS CONTAINED WITHIN THE PROJECT LIMITS AND DOES NOT MIGRATE ONTO ADJACENT PROPERTIES AND INTO WATERS OF THE STATE/U.S. COST FOR THIS TREATMENT SHALL BE INCLUDED IN PRICE BID FOR ITEM NO. 209-05 SEDIMENT REMOVAL, C.Y.

EROSION PREVENTION

(31) CONSTRUCTION SHALL BE SEQUENCED AND STAGED TO MINIMIZE THE EXPOSURE TIME OF GRADED OR DENUDED SOIL AREAS, PRESERVE TOPSOIL, AND MINIMIZE SOIL COMPACTION.

(32) THE ACCEPTED EPSC PLAN SHALL REQUIRE THAT EPSC MEASURES BE IN PLACE BEFORE CLEARING, GRUBBING, EXCAVATION, GRADING, CULVERT OR BRIDGE CONSTRUCTION, CUTTING, FILLING, OR ANY OTHER EARTHWORK OCCURS, EXCEPT AS SUCH WORK MAY BE NECESSARY TO INSTALL EPSC MEASURES.

(33) NO WORK SHALL BE STARTED UNTIL THE CONTRACTOR'S PLAN FOR THE STAGING OF OPERATIONS, INCLUDING THE PLAN FOR STAGING OF TEMPORARY AND PERMANENT EPSC MEASURES, HAS BEEN ACCEPTED BY THE TDOT RESPONSIBLE PARTY. THE CONTRACTOR'S EPSC PLAN SHALL INCORPORATE AND SUPPLEMENT, AS ACCEPTABLE, THE BASIC EPSC DEVICES ON THE EPSC PLAN.

(34) TEMPORARY STABILIZATION SHALL BE INITIATED WITHIN 14 CALENDAR DAYS WHEN CONSTRUCTION ACTIVITIES ON A PORTION OF THE SITE ARE TEMPORARILY CEASED AND EARTH DISTURBING ACTIVITIES WILL NOT RESUME UNTIL AFTER 14 CALENDAR DAYS. PERMANENT STABILIZATION MEASURES IN DISTURBED AREAS SHALL BE INITIATED WITHIN 14 CALENDAR DAYS AFTER FINAL GRADING OF ANY PHASE OF CONSTRUCTION.

(35) STEEP SLOPES SHALL BE TEMPORARILY STABILIZED NOT LATER THAN 7 DAYS AFTER CONSTRUCTION ACTIVITY ON THE SLOPE HAS TEMPORARILY OR PERMANENTLY CEASED. STEEP SLOPES ARE DEFINED AS A NATURAL OR CREATED SLOPE OF 35% GRADE OR GREATER REGARDLESS OF HEIGHT.

(36) PERMANENT STABILIZATION WILL REPLACE TEMPORARY MEASURES AS SOON AS PRACTICABLE. PRIORITY SHALL BE GIVEN TO FINISHING OPERATIONS AND PERMANENT EPSC MEASURES OVER TEMPORARY EPSC MEASURES ON ALL PROJECTS.

(37) TEMPORARY OR PERMANENT STABILIZATION MUST BE FREE OF FINES (SILT AND CLAY SIZED PARTICLES). UNPACKED GRAVEL CONTAINING FINES OR CRUSHER-RUN WILL NOT BE CONSIDERED SUFFICIENT STABILIZATION.

(38) DELAYING THE PLANTING OF COVER VEGETATION UNTIL WINTER MONTHS OR DRY MONTHS SHOULD BE AVOIDED.

(CONT. NEXT SHEET)

SEALED BY

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Richard Logan Colbert 12/23/2020

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

ESTIMATED ROADWAY QUANTITIES AND NOTES

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REV. 1 03-05-20 DLH UPDATED YEAR AND PROJECT NO.
REV. 2 12-23-20 MDS UPDATED YEAR

TYPE	YEAR	PROJECT NO.	SHEET NO.
BRIDGE REPAIR	2021	16003-3246-04	2C

PERMITS, PLANS & RECORDS

(39) THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR AND OBTAIN ANY NECESSARY ENVIRONMENTAL PERMITS OR APPROVALS, INCLUDING BUT NOT LIMITED TO ARCHAEOLOGY, ECOLOGY, HISTORICAL, HAZARDOUS MATERIALS, AIR AND NOISE, TDEC ARAP/401, USACE SECTION 404, TVA SECTION 26A, AND TDEC NPDES PERMITS, FROM FEDERAL, STATE AND/OR LOCAL AGENCIES REGARDING ANY MATERIAL AND STAGING AREAS AND THE OPERATION OF ANY PROJECT-DEDICATED ASPHALT AND/OR CONCRETE PLANTS TO BE USED. ANY SUCH PERMITS SHALL BE SUPPLIED TO THE TDOT PROJECT RESPONSIBLE PARTY PRIOR TO THE USE OF THE PERMITTED AREA(S).

(40) ANY DISAGREEMENT BETWEEN THE CONSTRUCTION PLANS, THE PROJECT AS CONSTRUCTED, AND THE PERMIT(S) ISSUED FOR THE PROJECT SHALL BE BROUGHT TO THE ATTENTION OF THE TDOT PROJECT RESPONSIBLE PARTY. THE ENVIRONMENTAL DIVISION, DESIGN DIVISION, AND HEADQUARTERS CONSTRUCTION OFFICE SHALL BE CONTACTED IN THESE INSTANCES AND DECIDE WHICH HAS PRECEDENCE AND WHETHER PERMIT OR PLANS REVISIONS ARE NEEDED. IN GENERAL, PERMIT CONDITIONS WILL PREVAIL.

(41) IF A CHANGE IN PROJECT SCOPE OCCURS DURING CONSTRUCTION, INCLUDING VALUE ENGINEERING, THE TDOT PERMIT SECTION SHALL BE CONTACTED TO DETERMINE WHETHER PERMIT REVISIONS ARE NEEDED. THE ROADWAY DESIGN DIVISION SHALL BE CONTACTED TO DETERMINE IF ANY PLAN REVISIONS ARE NEEDED.

(42) THE CONTRACTOR SHALL REVIEW ALL EXISTING PERMITS TO ENSURE THAT WORK AT PERMITTED SITES DOES NOT EXCEED EXPIRATION DATE. IF WORK IS GOING TO BE CONTINUED AFTER EXPIRATION DATES, THE CONTRACTOR SHALL CONTACT THE TDOT PROJECT RESPONSIBLE PARTY TO COMMENCE PERMIT RENEWAL PROCESS.

(43) ALL WATER QUALITY PERMITS SHALL BE POSTED NEAR THE MAIN ENTRANCE OF THE CONSTRUCTION SITE ACCESSIBLE TO THE PUBLIC. THE NAME, COMPANY NAME, EMAIL ADDRESS, TELEPHONE NUMBER AND ADDRESS OF THE PROJECT SITE OWNER, OPERATOR, OR A LOCAL CONTACT PERSON WITH A BRIEF DESCRIPTION OF THE PROJECT SHALL ALSO BE POSTED. IF POSTING THIS INFORMATION NEAR A MAIN ENTRANCE IS INFEASIBLE, THE INFORMATION SHALL BE PLACED IN A PUBLICLY ACCESSIBLE LOCATION NEAR WHERE THE CONSTRUCTION IS ACTIVELY UNDERWAY AND MOVED AS NECESSARY. THIS LOCATION SHALL BE POSTED AT THE CONSTRUCTION SITE. ALL POSTINGS SHALL BE MAINTAINED IN LEGIBLE CONDITION.

(44) THE EPSC PLAN IS TO SERVE AS AN INITIAL GUIDE FOR SITE PERSONNEL AS THE CONSTRUCTION PROCESS DEVELOPS. IT MUST BE AMENDED, MODIFIED, AND UPDATED WHENEVER A CHANGE IN THE DESIGN OR CONSTRUCTION OF THE PROJECT OCCURS. THE STAGES DEPICTED IN THE EPSC PLANS MAY NOT COINCIDE WITH THE ACTUAL PHASES OF CONSTRUCTION ESTABLISHED BY THE CONTRACTOR DURING CONSTRUCTION, THUS MODIFICATIONS WILL BE REQUIRED TO ENSURE THE EPSC PLAN IS MAINTAINED TO DEPICT CURRENT SITE CONDITIONS. IT SHOULD BE MAINTAINED SUCH THAT IT WILL ALWAYS REFLECT THE MEASURES THAT ARE INSTALLED DURING THE VARIOUS PHASES OF CONSTRUCTION. IT IS IMPRACTICAL TO DETERMINE ALL THE INTERMEDIATE PHASES OF CONSTRUCTION THAT WILL OCCUR, THUS THESE DOCUMENTS WILL HAVE TO BE UPDATED THROUGHOUT THE LIFE OF THE CONSTRUCTION PROJECT.

GOOD HOUSEKEEPING MEASURES & WASTE DISPOSAL

(45) THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN A PROACTIVE METHOD TO PREVENT LITTER AND CONSTRUCTION WASTES FROM ENTERING WATERS OF THE STATE/U.S. THESE MATERIALS SHALL BE REMOVED FROM STORMWATER EXPOSURE PRIOR TO ANTICIPATED STORM EVENTS OR BEFORE BEING CARRIED OFFSITE BY WIND, OR OTHERWISE PREVENTED FROM BECOMING A POLLUTANT SOURCE FOR STORMWATER DISCHARGES. AFTER USE, MATERIALS USED FOR EPSC SHALL BE REMOVED FROM THE SITE.

(46) THE CONTRACTOR SHALL TAKE APPROPRIATE STEPS TO ENSURE THAT PETROLEUM PRODUCTS OR OTHER CHEMICAL POLLUTANTS ARE PREVENTED FROM ENTERING WATERS OF THE STATE/U.S. ALL EQUIPMENT REFUELING, SERVICING, AND STAGING AREAS SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL LAWS, RULES, REGULATIONS, AND ORDINANCES, INCLUDING THOSE OF THE NATIONAL FIRE PROTECTION ASSOCIATION. APPROPRIATE CONTAINMENT MEASURES FOR THESE AREAS SHALL BE USED.

(47) CONTRACTORS SHALL PROVIDE DESIGNATED TRUCK WASHOUT AREAS ON THE SITE. THESE AREAS MUST BE SELF CONTAINED, NOT CONNECTED TO ANY STORMWATER OUTLET OF THE SITE, AND PROPERLY SIGNED. WASH DOWN OR WASTE DISCHARGE OF CONCRETE TRUCKS SHALL NOT BE PERMITTED ONSITE UNLESS PROPER SETTLEMENT AREAS HAVE BEEN PROVIDED IN ACCORDANCE WITH BOTH STATE AND FEDERAL REGULATIONS.

(48) WHEEL WASH WATER SHALL BE COLLECTED AND ALLOWED TO SETTLE OUT SUSPENDED SOLIDS PRIOR TO DISCHARGE. WHEEL WASH WATER SHALL NOT BE DISCHARGED DIRECTLY INTO ANY STORMWATER SYSTEM OR STORMWATER TREATMENT SYSTEM.

(49) IF PORTABLE SANITARY FACILITIES ARE PROVIDED ON CONSTRUCTION SITES, SANITARY WASTE SHALL BE COLLECTED FROM THE PORTABLE UNITS IN A TIMELY MANNER BY A LICENSED WASTE MANAGEMENT CONTRACTOR OR AS REQUIRED BY ANY REGULATIONS. THE CONTRACTOR SHALL OBTAIN ANY AND ALL NECESSARY PERMITS TO DISPOSE OF SANITARY WASTE.

(50) ONLY CONSTRUCTION PRODUCTS NEEDED SHALL BE STORED ONSITE BY THE CONTRACTOR. THE CONTRACTOR SHALL STORE ALL MATERIALS UNDER COVER AND IN APPROPRIATE CONTAINERS. PRODUCTS MUST BE STORED IN ORIGINAL CONTAINERS AND LABELED. MATERIAL MIXING SHALL BE CONDUCTED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THE CONTRACTOR'S RESPONSIBLE PARTY SHALL INSPECT MATERIALS STORAGE AREAS REGULARLY TO ENSURE PROPER USE AND DISPOSAL.

(51) WHEN POSSIBLE, ALL PRODUCTS SHALL BE USED COMPLETELY BEFORE PROPERLY DISPOSING OF THE CONTAINER OFFSITE. THE MANUFACTURER'S DIRECTIONS FOR DISPOSAL OF MATERIALS AND CONTAINERS SHALL BE FOLLOWED.

(52) ALL PAINT CONTAINERS SHALL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT SHALL BE DISPOSED OF ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS AND APPLICABLE STATE AND LOCAL REGULATIONS.

(53) ALL HAZARDOUS WASTE MATERIALS SHALL BE DISPOSED OF IN A MANNER WHICH IS COMPLIANT WITH LOCAL OR STATE REGULATIONS. SITE PERSONNEL SHALL BE INSTRUCTED IN THESE PRACTICES, AND THE INDIVIDUAL DESIGNATED AS THE CONTRACTOR'S RESPONSIBLE PARTY SHALL BE RESPONSIBLE FOR SEEING THAT THESE PRACTICES ARE FOLLOWED. THE CONTRACTOR SHALL OBTAIN ANY AND ALL NECESSARY PERMITS TO DISPOSE OF HAZARDOUS MATERIAL.

(54) OPEN BURNING IS PROHIBITED UNLESS IT IS SPECIFICALLY ALLOWED BY LAW. IF ALLOWED, NATURAL VEGETATION, TREES, AND UNTREATED LUMBER SHALL BE THE ONLY MATERIALS THAT CAN BE OPEN BURNED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL APPLICABLE STATE AND LOCAL PERMITS PRIOR TO ANY BURNING.

(55) DISPOSAL OF ONSITE VEGETATION AND TREES BY CHIPPING THEM INTO MULCH IS PREFERABLE TO OPEN BURNING. THIS MULCH MAY BE USED AS AN ONSITE SOIL STABILIZATION MEASURE WHERE APPROPRIATE.

(56) WASTE MATERIAL (EARTH, ROCK, ASPHALT, CONCRETE, ETC.) NOT REQUIRED FOR THE CONSTRUCTION OF THE PROJECT WILL BE DISPOSED OF BY THE CONTRACTOR. IMPACTS TO WATERS OF THE STATE/U.S. SHALL BE AVOIDED IF POSSIBLE. IF UNAVOIDABLE, THE CONTRACTOR WILL OBTAIN ANY AND ALL NECESSARY PERMITS INCLUDING, BUT NOT LIMITED TO NPDES, AQUATIC RESOURCES ALTERATION PERMIT(S), CORPS OF ENGINEERS SECTION 404 PERMITS, AND TVA SECTION 26A PERMITS TO DISPOSE OF WASTE MATERIALS.

SUPPORT ACTIVITIES

(57) MATERIALS AND STAGING AREAS SHALL NOT AFFECT ANY WATERS OF THE STATE/U.S. UNLESS THESE AREAS ARE SPECIFICALLY COVERED BY ENVIRONMENTAL PERMITS, OBTAINED SOLELY BY THE CONTRACTOR. THE CONTRACTOR SHALL REVIEW ALL EXISTING PERMITS TO ENSURE THAT WORK AT PERMITTED SITES DOES NOT EXCEED EXPIRATION DATES. IF WORK IS GOING TO BE CONTINUED AFTER EXPIRATION DATES, THE CONTRACTOR SHALL CONTACT THE TDOT PROJECT RESPONSIBLE PARTY TO COMMENCE PERMIT RENEWAL PROCESS.

(58) IF OFFSITE BORROW AND WASTE AREAS BECOME NECESSARY DURING THE LIFE OF THE PROJECT, THIS SUPPORT ACTIVITY SHALL BE ADDRESSED PER THE TDOT WASTE AND BORROW MANUAL.

(59) MATERIALS AND STAGING AREAS SHALL BE LOCATED IN NON-WETLAND AREAS AND ABOVE THE 100-YEAR, FEDERAL EMERGENCY MANAGEMENT AGENCY FLOODPLAIN.

(60) IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SUPPLY EPSC PLANS FOR THE MATERIAL AND STAGING AREAS TO THE ENVIRONMENTAL DIVISION COMPLIANCE AND FIELD SERVICES OFFICE FOR REVIEW.

SPILL PREVENTION, MANAGEMENT & NOTIFICATION

(61) ALL ONSITE VEHICLES SHALL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE AND SPILLS.

(62) FOR ALL HAZARDOUS MATERIALS STORED ONSITE, THE MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEAN UP SHALL BE CLEARLY POSTED. SITE PERSONNEL SHALL BE MADE AWARE OF THE PROCEDURES AND THE LOCATIONS OF THE INFORMATION AND CLEANUP SUPPLIES.

(63) APPROPRIATE CLEANUP MATERIALS AND EQUIPMENT SHALL BE MAINTAINED BY THE CONTRACTOR IN THE MATERIALS STORAGE AREA ONSITE AND UNDER COVER. SPILL RESPONSE EQUIPMENT SHALL BE INSPECTED AND MAINTAINED BY THE CONTRACTOR AS NECESSARY TO REPLACE ANY MATERIALS USED IN SPILL RESPONSE ACTIVITIES.

(64) ALL SPILLS SHALL BE CLEANED IMMEDIATELY AFTER DISCOVERY AND THE MATERIALS DISPOSED OF PROPERLY. THE SPILL AREA SHALL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.

(65) THE CONTRACTOR'S RESPONSIBLE PARTY SHALL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THE SITE SUPERINTENDENT HAS HAD APPROPRIATE TRAINING FOR HAZARDOUS MATERIALS HANDLING, SPILL MANAGEMENT, AND CLEANUP.

(66) IF AN OIL SHEEN IS OBSERVED ON SURFACE WATER (E.G. SETTLING PONDS, DETENTION PONDS, SWALES), ACTION SHALL BE TAKEN IMMEDIATELY TO REMOVE THE MATERIAL CAUSING THE SHEEN. THE CONTRACTOR SHALL USE APPROPRIATE MATERIALS TO CONTAIN AND ABSORB THE SPILL. THE SOURCE OF THE OIL SHEEN WILL ALSO BE IDENTIFIED AND REMOVED OR REPAIRED AS NECESSARY TO PREVENT FURTHER RELEASES.

(67) FERTILIZERS SHALL BE APPLIED ONLY IN THE AMOUNTS SPECIFIED. ONCE APPLIED, FERTILIZERS SHALL BE WORKED INTO THE SOIL TO LIMIT THE EXPOSURE TO STORMWATER.

(68) IF A SPILL OCCURS THE CONTRACTOR'S RESPONSIBLE PARTY SHALL BE RESPONSIBLE FOR COMPLETING THE SPILL REPORTING FORM AND FOR REPORTING THE SPILL TO THE TDOT PROJECT RESPONSIBLE PARTY. ALL SPILLS MUST BE REPORTED TO THE APPROPRIATE AGENCY, AND MEASURES SHALL BE TAKEN IMMEDIATELY TO PREVENT THE POLLUTION OF WATERS OF THE STATE/U.S., INCLUDING GROUNDWATER, SHOULD A SPILL OCCUR.

(69) WHERE A RELEASE CONTAINING A HAZARDOUS SUBSTANCE IN AN AMOUNT EQUAL TO OR IN EXCESS OF A REPORTABLE QUANTITY ESTABLISHED UNDER EITHER 40 CFR 117 OR 40 CFR 302 OCCURS DURING A 24 HOUR PERIOD, SEE THE LATEST TENNESSEE GENERAL PERMIT NO. TNR100000 STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES SECTION 5.1 FOR REPORTING REQUIREMENTS.

(70) CONTRACTOR'S BULK FUEL AND PETROLEUM PRODUCTS STORED ONSITE OR ADJACENT TO THE R.O.W. IN ABOVE GROUND STORAGE CONTAINERS WITH A COMBINED CAPACITY OF 1320 GALLONS OR MORE SHALL HAVE SECONDARY CONTAINMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING A SPILL PREVENTION CONTROL AND COUNTERMEASURE (SPCC) PLAN FOR THE BULK STORAGE AND BE SOLELY RESPONSIBLE FOR OBTAINING ANY NECESSARY LOCAL, STATE, AND FEDERAL PERMITS. THE SPCC PLAN AND/OR PERMITS SHALL BE KEPT ONSITE AND A COPY PROVIDED TO THE TDOT PROJECT RESPONSIBLE PARTY PRIOR TO STORING 1320 GALLONS ON SITE.

(CONT. NEXT SHEET)

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Richard Logan Colbert 12/23/2020

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

ESTIMATED ROADWAY QUANTITIES AND NOTES

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REV. 1 03-05-20 DLH UPDATED YEAR AND PROJECT NO.
REV. 2 12-23-20 MDS UPDATED YEAR

TYPE	YEAR	PROJECT NO.	SHEET NO.
BRIDGE REPAIR	2021	16003-3246-04	2D

SPECIAL NOTES

DEMOLITION

DEMOLITION, REPAIR, OR REHABILITATION OF BRIDGES

(1) THE CONTRACTOR SHALL VERIFY THAT AN ASBESTOS SURVEY HAS BEEN COMPLETED PRIOR TO ANY DEMOLITION, REPAIR OR REHABILITATIONS ACTIVITIES (NOT INCLUDING ASPHALT MILLING OR OVERLAY).

(2) ASBESTOS-CONTAINING MATERIALS (ACM) ABATEMENT IS THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE COMPLETED PRIOR TO ANY DEMOLITION, REPAIR OR REHABILITATION OF BRIDGE(S). ABATEMENT SHOULD BE ACCOMPLISHED PER SP202ACM SPECIAL PROVISION REGARDING REMOVAL OF ASBESTOS-CONTAINING MATERIALS. STATE OF TENNESSEE ASBESTOS ACCREDITATION REQUIREMENTS (TCA 1200-01-20) MANDATE THAT ACM ABATEMENT WORK BE PERFORMED BY AN ACCREDITED FIRM (CONTRACTOR) USING ACCREDITED ABATEMENT WORKERS AND SUPERVISORS.

(3) THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING A NOTICE TO THE TDEC, DIVISION OF AIR POLLUTION CONTROL TEN (10) DAYS IN ADVANCE OF ANY ACM ABATEMENT, DEMOLITION, OR MAJOR REPAIR INVOLVING THE REMOVAL/REPLACEMENT OF A STRUCTURAL COMPONENT.

EROSION PREVENTION AND SEDIMENT CONTROL

ENVIRONMENTAL

(1) STAFF FROM THE TDOT ENVIRONMENTAL DIVISION COMPLIANCE AND FIELD SERVICES OFFICE SHALL BE INVITED TO ALL PRE-CONSTRUCTION MEETINGS.

ECOLOGY

(2) STAFF FROM THE TDOT ENVIRONMENTAL DIVISION OR A DESIGNEE SHALL ADVISE THE CONTRACTOR DURING THE PRE-CONSTRUCTION MEETING WHEN ENVIRONMENTAL DIVISION PERSONNEL OR A DESIGNATED CONSULTANT WILL NEED TO BE ONSITE FOR WORK BEING DONE WHICH COULD AFFECT WATERS OF THE STATE/U.S. OR SPECIES.

(3) STAFF FROM THE TDOT ENVIRONMENTAL DIVISION OR A DESIGNEE SHALL ATTEND THE PRE-CONSTRUCTION MEETING FOR ALL PROJECTS WHICH HAVE THREATENED OR ENDANGERED SPECIES OR CRITICAL HABITAT PROXIMAL TO SCHEDULED WORK. THIS WILL PROVIDE THE OPPORTUNITY TO ENSURE THAT PERSONNEL INCLUDING THE CONTRACTOR'S PERSONNEL AND SUBCONTRACTORS ARE MADE AWARE OF THE NECESSARY PRECAUTIONS THAT MUST BE FOLLOWED.

(4) ALL PROJECTS WITH LEGALLY PROTECTED SPECIES OR CRITICAL HABITAT IDENTIFIED SHALL HAVE MEASURES IN PLACE TO CONTAIN CONCRETE DUST, CEMENT DUST AND ALL OTHER MATERIALS. THESE MATERIALS ARE NOT ALLOWED TO ENTER WATERS OF THE STATE/U.S.

PROJECT COMMITMENTS

(5) SEE PROJECT COMMITMENTS, SHEET 1A, FOR DETAILS RELATING TO SPECIAL ENVIRONMENTAL COMMITMENT REQUIRED BY THIS PROJECT.

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R Logan Colbert 12/23/2020

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

ESTIMATED ROADWAY QUANTITIES AND NOTES

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REV.				
REV. 1	03-05-20	DLH	UPDATED YEAR AND PROJECT NO.	
REV. 2	12-23-20	MDS	UPDATED YEAR	

TYPE	YEAR	PROJECT NO.	SHEET NO.
BRIDGE REPAIR	2021	16003-3246-04	3

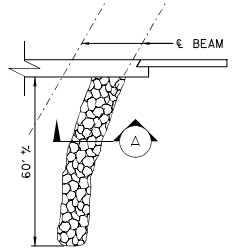
EPSC NOTES

RAILROAD ENVIRONMENTAL

(1) THE CONTRACTOR SHALL MAINTAIN A COMPLETE AND COMPREHENSIVE EPSC PLAN AND SWPPP TO PREVENT ROADWAY AND/OR CONSTRUCTION SEDIMENT OR DEBRIS AND ANY PETROLEUM BASED PRODUCTS OR CHLORINATED SOLVENTS, PAINTS OR COATINGS ETC. FROM FALLING ONTO THE RAILROAD'S RIGHT-OF-WAY AND/OR FROM ENTERING THE DRAINAGE DITCHES OR DRAINAGE STRUCTURES OF THE RAILROAD, AND ANY SEDIMENT OR DEBRIS OR PETROLEUM BASED PRODUCTS OR CHLORINATED SOLVENTS, ETC. THAT DO ENTER SUCH DRAINAGE AREAS OF THE RAILROAD'S RIGHT-OF-WAY ARE TO BE REMOVED IN ACCORDANCE WITH RULES SET FORTH BY CFW RAILROAD AND AT THE CONTRACTOR'S EXPENSE.

ENVIRONMENTAL

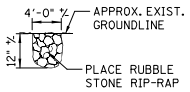
(1) EXCEPT AS OTHERWISE SPECIFIED, THERE ARE NO KNOWN SPECIAL ENVIRONMENTAL FACTORS PRESENT ON THIS PROJECT THAT INDICATE A NEED FOR SEASONAL LIMITATIONS ON THE CLEARING, GRUBBING, EXCAVATION, GRADING, CUTTING OR FILLING OPERATIONS OR ON THE TOTAL AREA OF EXPOSED SOIL.



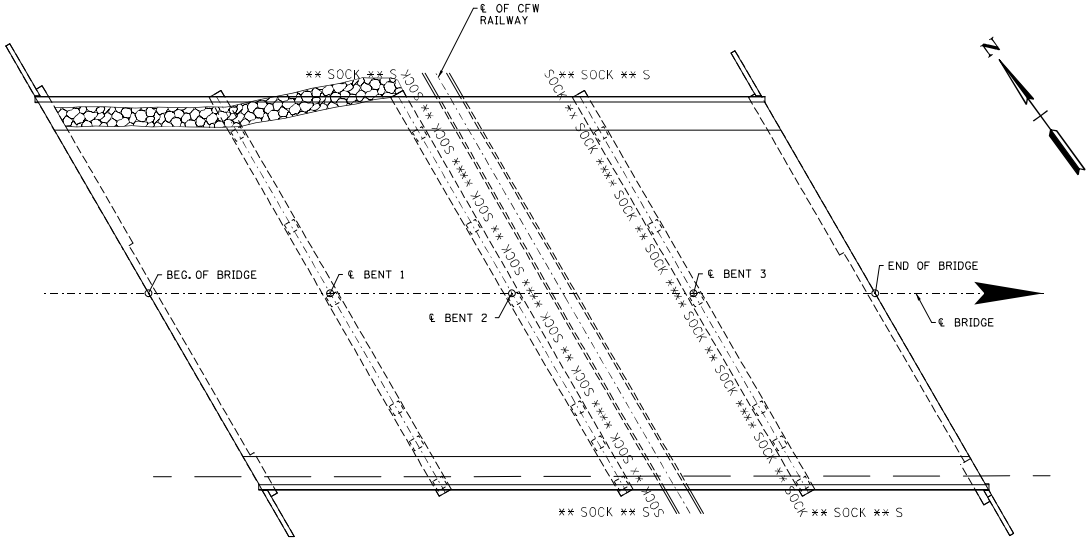
EROSION REPAIR

PLAN - ABUT. 1

ALL COSTS ASSOCIATED WITH REPAIR OF ERODED AREA SHALL BE INCLUDED IN ITEM 709-01.01, RUBBLE STONE RIP-RAP, C.Y.



SECTION "A"



PLAN

EROSION PREVENTION AND SEDIMENT CONTROL LEGEND		
SYMBOL	ITEM	STD. DWG.
** SOCK ** SOCK **	FILTER SOCK	EC-STR-8

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EPSC PLAN AND NOTES

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REV.			
REV. 1	03-05-20	DLH	UPDATED YEAR AND PROJECT NO.
REV. 2	04-17-20	MDS	UPDATED SIGN QUANTITIES
REV. 3	12-23-20	MDS	UPDATED YEAR

TYPE	YEAR	PROJECT NO.	SHEET NO.
BRIDGE REPAIR	2021	16003-3246-04	4

TRAFFIC CONTROL SIGN QUANTITIES ②

TYPE	DESCRIPTION	SIZE	EACH	SIGNS (CONST.) 712-06, S.F.
G20-2A	END ROAD WORK	36"x18"	9	40.5
R9-9	SIDEWALK CLOSED	24"x12"	2	4
R9-10	SIDEWALK CLOSED USE OTHER SIDE	24"x12"	7	14
SPECIAL	BIKE LANE ENDS AHEAD	36"x36"	1	9
W4-2L	LANE ENDS (MERGE LEFT)	36"x36"	1	9
W4-2R	LANE ENDS (MERGE RIGHT)	36"x36"	1	9
W16-1P	SHARE THE ROAD	18"x24"	1	3
W20-1	ROAD WORK AHEAD	36"x36"	9	81
W20-5L	LEFT LANE CLOSED AHEAD	36"x36"	1	9
W20-5R	RIGHT LANE CLOSED AHEAD	36"x36"	1	9
W20-5R	RIGHT LANE CLOSED 1000 FT	36"x36"	1	9
TOTAL				196.5

TRAFFIC CONTROL SPECIAL NOTES

1. THESE TRAFFIC CONTROL PLANS DO NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF INSTALLING TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE CURRENT EDITION OF THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES."
2. CONSTRUCTION SIGNING SHOWN IN THESE PLANS IS TO SERVE AS A GUIDE ONLY. OTHER SIGNS MAY BE REQUIRED DURING VARIOUS PHASES OF CONSTRUCTION.
3. THE CONTRACTOR IS REQUIRED TO PROVIDE LANE SHIFTS WHERE NECESSARY TO ROUTE TRAFFIC AROUND CONSTRUCTION.
4. NO TRAFFIC SHALL BE DETOURED OR ROADWAY CLOSED, ABANDONED, OR REMOVED WITHOUT THE PRIOR APPROVAL OF THE ENGINEER.
5. ADVANCE WARNING SIGNS ARE TO BE PLACED PRIOR TO BEGINNING OF CONSTRUCTION AND REMAIN IN PLACE UNTIL THE COMPLETION OF THIS PROJECT.
6. PERMANENT SIGNS AND PERMANENT MARKINGS SHALL BE IN PLACE BEFORE COMPLETED ROADWAYS ARE OPEN TO TRAFFIC.
7. SEE THE CURRENT EDITION OF THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" FOR TRAFFIC DETAILS NOT SHOWN, GENERAL TRAFFIC CONTROL NOTES, AND SIGN DETAILS.
8. CONTRACTOR TO COVER ALL CONFLICTING SIGNS DURING CONSTRUCTION. COVERINGS SHALL BE REMOVED AT COMPLETION OF CONSTRUCTION. COST ASSOCIATED WITH COVERING AND UNCOVERING SIGNS TO BE INCLUDED IN ITEM 712-06, SIGNS (CONSTRUCTION).
9. THE CONTRACTOR IS TO COORDINATE ALL LANE CLOSURES WITH THE TDOT REGIONAL OFFICE AND THE COUNTY ENGINEER.
10. MINIMUM TRAVEL LANE WIDTH TO BE 12 FEET (STRIPED).

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TRAFFIC CONTROL PLAN

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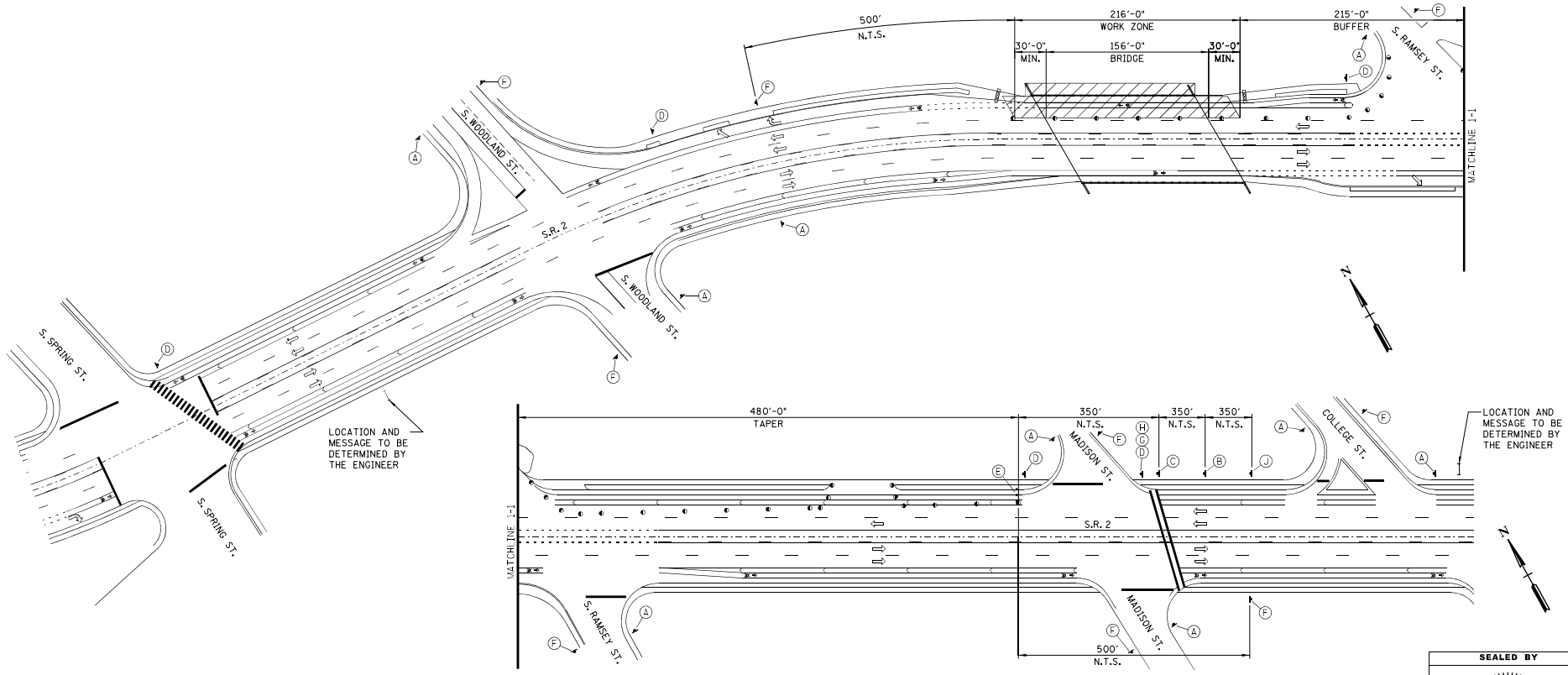
REV.			
REV. 1	03-05-20	DLH	UPDATED YEAR AND PROJECT NO.
REV. 2	04-17-20	MDS	UPDATED TRAFFIC CONTROL PLAN AND LEGEND, AND ADDED SIGNS
REV. 3	12-23-20	MDS	UPDATED YEAR

TYPE	YEAR	PROJECT NO.	SHEET NO.
BRIDGE REPAIR	2021	16003-3246-04	4A



PLAN

TRAFFIC CONTROL SHOWN IS CONCEPTUAL FOR ACCESS TO BELOW BRIDGE DECK WORK.

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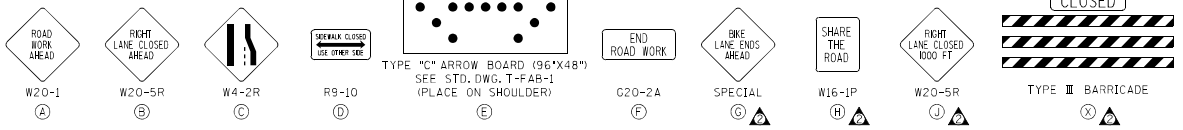
Logan Colbert 12/23/2020

TRAFFIC CONTROL LEGEND			
SYMBOL	ITEM	SYMBOL	ITEM
	FLEXIBLE DRUMS		FLASHING YELLOW ARROW BOARD
	WORK ZONE		FLOW OF TRAFFIC
	ATTENUATOR		NOT TO SCALE
	SIGN		TYPE III BARRICADE
	CHANGEABLE MESSAGE SIGN UNIT		



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

NOT TO SCALE

TRAFFIC CONTROL PLAN AND NOTES

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REV.			
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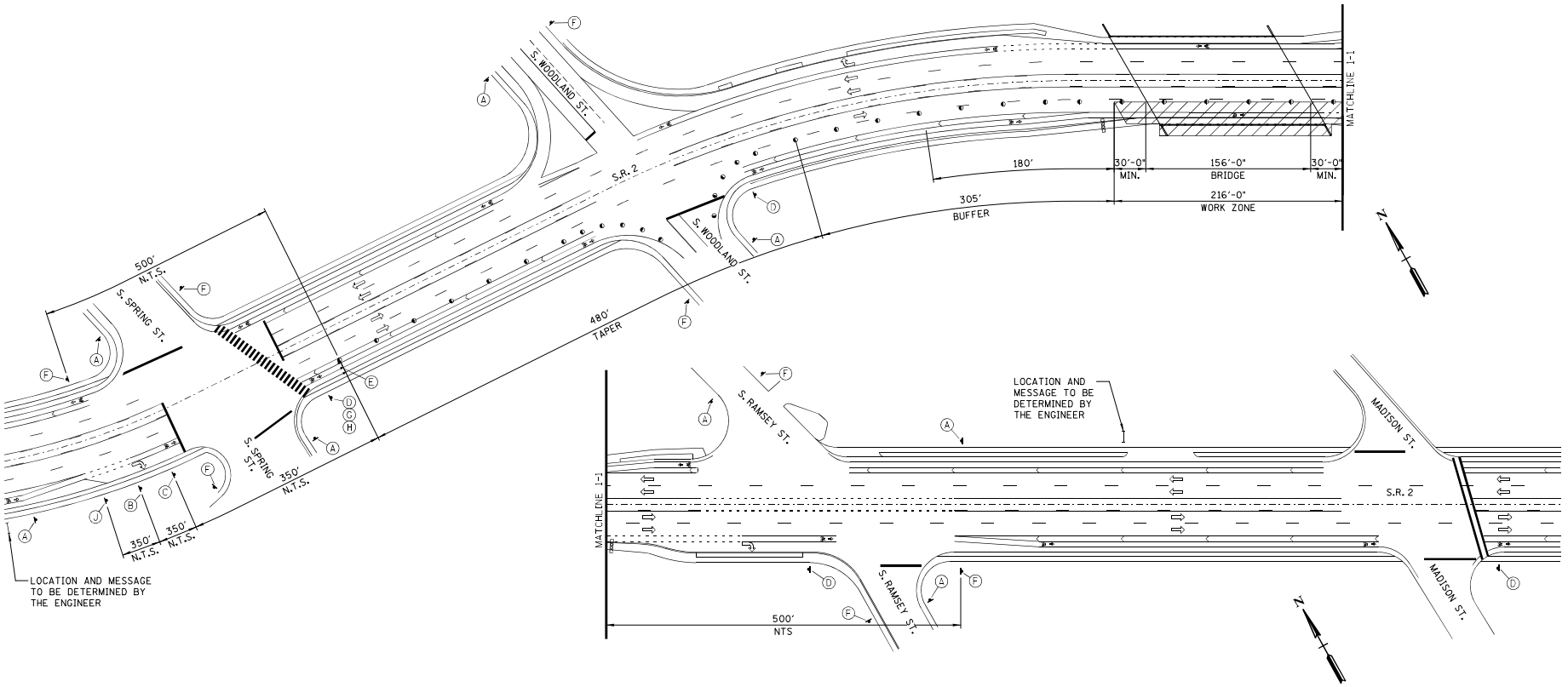
REV. 2	04-17-20	MDS	UPDATED TRAFFIC CONTROL PLAN AND LEGEND, AND ADDED SIGNS
REV. 3	12-23-20	MDS	UPDATED YEAR

TYPE	YEAR	PROJECT NO.	SHEET NO.
BRIDGE REPAIR	2021	16003-3246-04	4B



PLAN

TRAFFIC CONTROL SHOWN IS CONCEPTUAL FOR ACCESS TO BELOW BRIDGE DECK WORK.

TRAFFIC CONTROL LEGEND			
SYMBOL	ITEM	SYMBOL	ITEM
	FLEXIBLE DRUMS		FLASHING YELLOW ARROW BOARD
	WORK ZONE		FLOW OF TRAFFIC
	ATTENUATOR	NTS	NOT TO SCALE
	SIGN		TYPE III BARRICADE
	CHANGEABLE MESSAGE SIGN UNIT		

ROAD WORK AHEAD — W20-1 (A)

RIGHT LANE CLOSED AHEAD — W20-5R (B)

W4-2R (C)

SIDEWALK CLOSED USE OTHER SIDE — R9-10 (D)

TYPE "C" ARROW BOARD (96"X48") SEE STD. DWG. T-FAB-1 (PLACE ON SHOULDER) (E)

END ROAD WORK — G20-2A (F)

BIKE LANE ENDS AHEAD — SPECIAL (G)

SHARE THE ROAD — W16-1P (H)

RIGHT LANE CLOSED 1000 FT — W20-5R (J)

SIDEWALK CLOSED — R9-9

TYPE III BARRICADE (X)

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R. Logan Colbert 12/23/2020

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

NOT TO SCALE

TRAFFIC CONTROL PLAN AND NOTES

STATE ROUTE 2 PHASE 2

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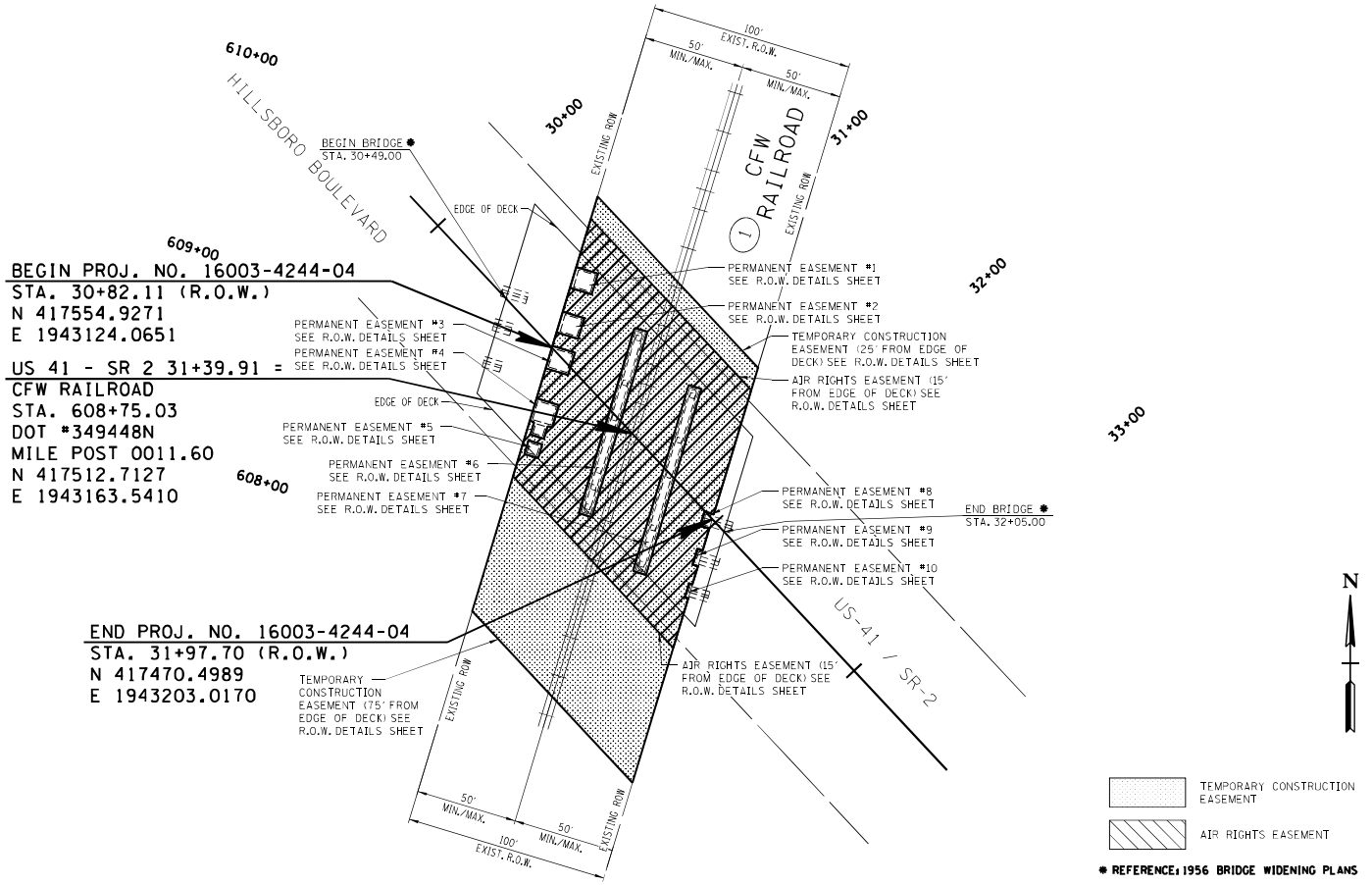
REV.1 03-05-20 DLH UPDATED YEAR AND PROJECT NO.
REV.2 12-23-20 MDS UPDATED YEAR

TYPE	YEAR	PROJECT NO.	SHEET NO.
BRIDGE REPAIR	2021	16003-3246-04	5

R.O.W. ACQUISITION TABLE

TRACT NO.	PROPERTY OWNERS	COUNTY RECORDS				TOTAL AREA ACRES			AREA TO BE ACQUIRED ACRES			AREA REMAINING ACRES		EASEMENT (SQUARE FEET)				
		TAX MAP NO.	PARCEL NO.	DEED DOCUMENT BK.	DEED DOCUMENT PAGE	LEFT	RIGHT	TOTAL	LEFT	RIGHT	TOTAL	LEFT	RIGHT	PERM. DRAINAGE	SLOPE	PERM.	AIR	TEMP. CONST.
1	CANEY FORK & WESTERN RAILROAD	-	-											0	0	1,940	11,305	19,398
ACQUISITION TOTALS (SF)														0	0	1,940	11,305	19,398



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JAMES DAVID KITTLE — 12/23/2020 — TENNESSEE NO. 21110

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DEPARTMENT OF TRANSPORTATION

PROPERTY MAP AND RIGHT-OF-WAY ACQUISITION TABLE

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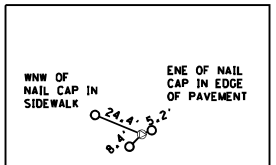
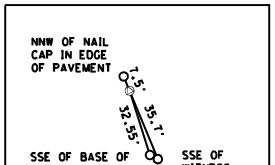
CONTROL POINTS							
POINT	NORTHING	EASTING	ELEV.	STATION	OFFSET	FEATURE	GPS POINT
S01	417041.4804	1943667.7246	1056.06	OFF CHAIN	OFF CHAIN	XCP	16-02-15
S02	417247.3040	1943475.1312	1062.86	OFF CHAIN	OFF CHAIN	XCP	16-02-16



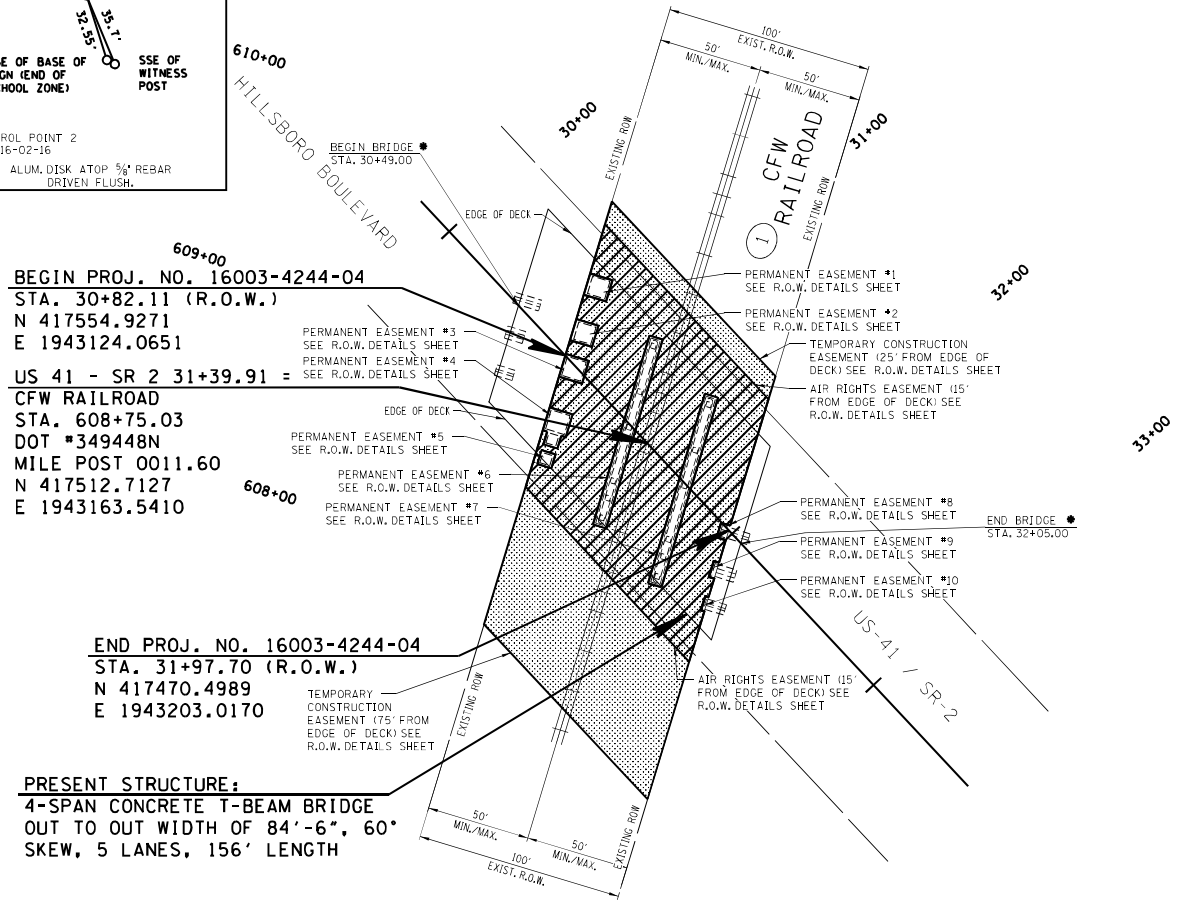
CONTROL POINT 1
GPS 16-02-15

ALUM. DISK ATOP 5/8" REBAR DRIVEN FLUSH.



CONTROL POINT 2
GPS 16-02-16

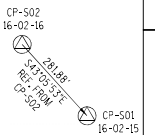
ALUM. DISK ATOP 5/8" REBAR DRIVEN FLUSH.



TEMPORARY CONSTRUCTION EASEMENT

AIR RIGHTS EASEMENT

* REFERENCE: 1956 BRIDGE WIDENING PLANS



REV.			
REV.1	03-05-20	DLH	UPDATED YEAR AND PROJECT NO.
REV.2	12-23-20	MDS	UPDATED YEAR

TYPE	YEAR	PROJECT NO.	SHEET NO.
BRIDGE REPAIR	2021	16003-3246-04	5A

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PRESENT LAYOUT

STA. 30+82.11 TO STA. 31+97.70

SCALE: 1"= 30'

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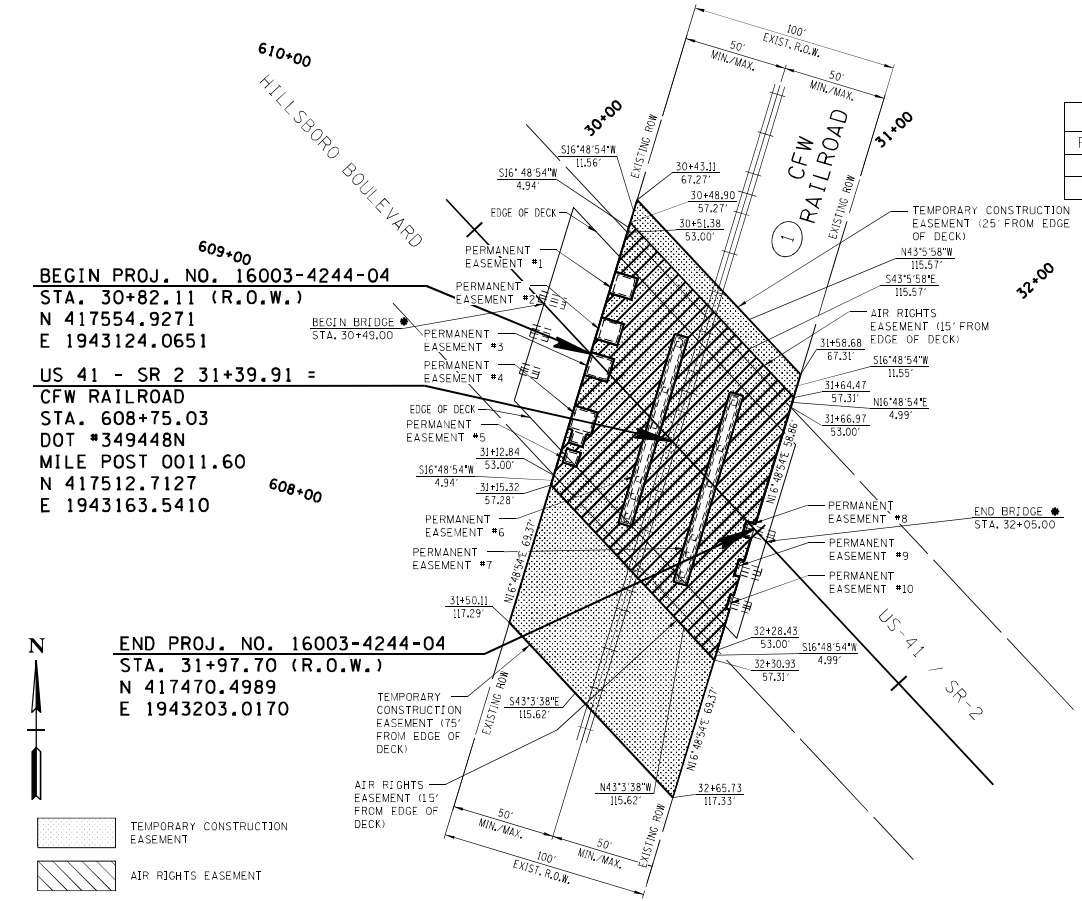
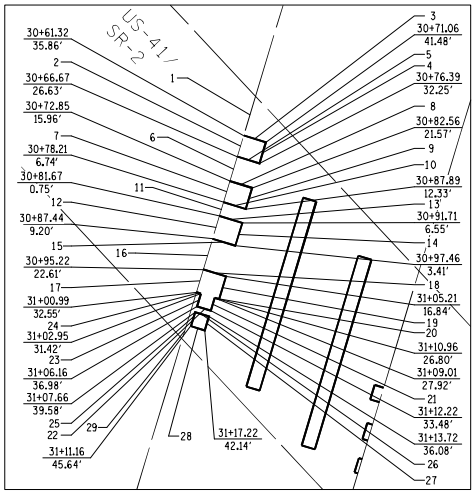
REV. 1 03-05-20 DLH UPDATED YEAR AND PROJECT NO.
REV. 2 12-23-20 MDS UPDATED YEAR

TYPE	YEAR	PROJECT NO.	SHEET NO.
BRIDGE REPAIR	2021	16003-3246-04	5B

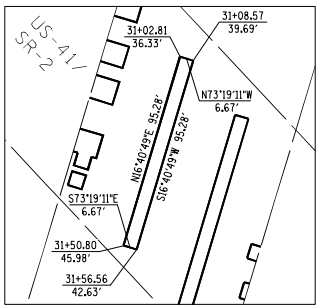
CONTROL POINTS							
POINT	NORTHING	EASTING	ELEV.	STATION	OFFSET	FEATURE	GPS POINT
SO1	417041.4804	1943667.7246	1056.06	OFF CHAIN	OFF CHAIN	XCP	16-02-15
SO2	417247.3040	1943475.1312	1062.86	OFF CHAIN	OFF CHAIN	XCP	16-02-16



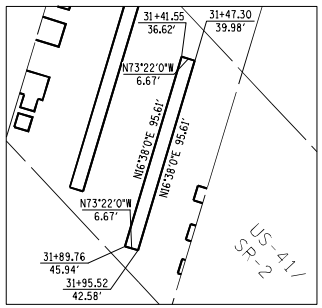
NUMBER	BEARING AND DISTANCE
1	S 16° 48' 54" W 19.81'
2	S 16° 48' 54" W 10.67'
3	N 73° 4' 48" W 11.25'
4	S 16° 55' 12" W 10.67'
5	N 73° 4' 48" W 11.23'
6	S 16° 48' 54" W 12.33
7	S 16° 48' 54" W 10.67'
8	N 73° 4' 48" W 11.20'
9	N 16° 55' 12" E 10.67'
10	S 73° 4' 48" E 11.19'
11	S 16° 48' 54" W 6.92
12	N 16° 48' 54" E 11.50'
13	N 73° 4' 48" W 11.59'
14	N 16° 55' 12" E 11.50'
15	S 73° 4' 48" E 11.57'
16	N 16° 48' 54" E 15.50'
17	N 16° 48' 54" E 11.50'
18	N 73° 4' 48" W 11.50'
19	N 16° 55' 12" E 11.50'
20	N 73° 4' 48" W 2.25'
21	N 16° 55' 12" E 6.42'
22	N 73° 4' 48" W 7.00'
23	N 16° 55' 12" E 6.42'
24	S 73° 4' 48" E 2.27'
25	N 16° 55' 12" E 7.00'
26	N 73° 4' 48" W 7.00'
27	N 16° 55' 12" E 7.00'
28	N 73° 4' 48" W 7.00'
29	N 16° 48' 54" E 23.63'



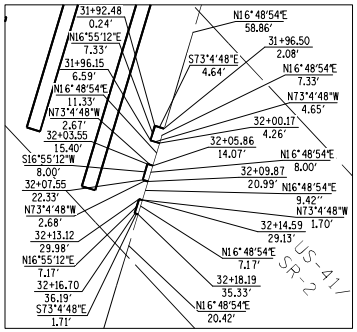
DETAIL OF PERMANENT EASEMENTS #1, #2, #3, #4, AND #5



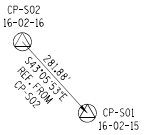
DETAIL OF PERMANENT EASEMENT #6



DETAIL OF PERMANENT EASEMENT #7



DETAIL OF PERMANENT EASEMENTS #8, #9, AND #10



SEALED BY

JAMES DAVID ALLRED
LICENSED PROFESSIONAL ENGINEER
12/23/2020
TENNESSEE NO. 21110

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

RIGHT-OF-WAY DETAILS

STA. 30+82.11 TO STA. 31+97+70

SCALE: 1"= 30'

12/23/2020 10:17:11 AM
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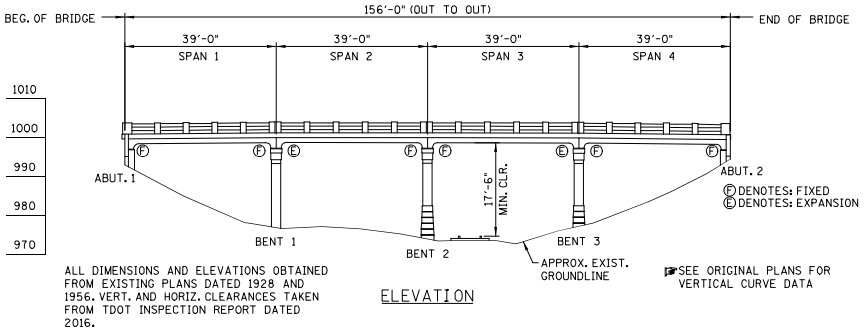
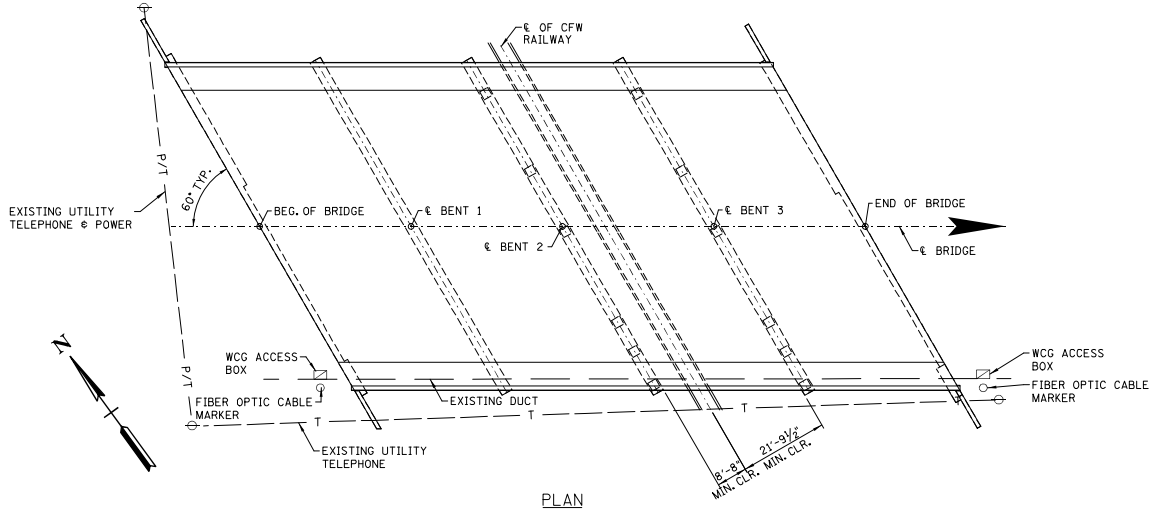


ALL DIMENSIONS AND ELEVATIONS OBTAINED FROM EXISTING PLANS DATED 1928 AND 1956. VERT. AND HORIZ. CLEARANCES TAKEN FROM TDOT INSPECTION REPORT DATED 2016.

ELEVATION

☛SEE ORIGINAL PLANS FOR VERTICAL CURVE DATA



PLAN

POSTED SPEED LIMIT = 40 M.P.H.
AADT (2018) = 14,410

SCOPE OF WORK

1. PROVIDE REQUIRED TRAFFIC CONTROL AS REQUIRED TO PERFORM WORK.
2. PROVIDE PEDESTRIAN TRAFFIC CONTROL AS REQUIRED ON BRIDGE.
3. REPAIR DAMAGED/DETERIORATED AREAS OF CONCRETE BEAMS.
4. REPAIR DETERIORATED AREAS OF CONCRETE ON DIAPHRAGMS, AND SUBSTRUCTURE UNITS.
5. EPOXY-INJECT CRACKS IN BEAMS, DIAPHRAGMS, AND SUBSTRUCTURE UNITS.
6. REPAIR VOIDED AREAS UNDER ABUTMENTS.
7. REPAIR EROSION UNDER SPANS 1 AND 2.
8. ALL DIRT/DEBRIS/TRASH SHALL BE REMOVED FROM SUBSTRUCTURES AND BELOW BRIDGE (COST TO BE INCLUDED IN ITEMS BID ON).
9. REMOVE VEGETATION FOR A DISTANCE OF TEN FEET ALONG EACH SIDE OF THE BRIDGES AS DIRECTED BY THE ENGINEER.

LIST OF DRAWINGS

DRAWING	DRAWING NO.	LAST REV. DATE ⚠2 ⚠1
LAYOUT OF BRIDGE TO BE REPAIRED	BR-130-141	12-23-2020
GENERAL NOTES AND ESTIMATED QUANTITIES	BR-130-142	12-23-2020
SUPERSTRUCTURE REPAIR DETAILS	BR-130-143	12-23-2020
SUBSTRUCTURE REPAIRS	BR-130-144	12-23-2020
CONCRETE REPAIR DETAILS	BR-130-145	12-23-2020

LIST OF REFERENCE DRAWINGS

(TO BE PRINTED WITH PLANS)

F-9-141 THRU F-9-147, D-8-116, A-0-2, D-8-106, D-8-118, D-8-119, D-8-177

PROJECT NO.	YEAR	SHEET NO.
16003-3246-04	2021	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	03-05-2020	DLH	UPDATED YEAR, PIN NO., PROJECT NO., AND LAST REVISION DATES
2	12-23-2020	MDS	UPDATED YEAR & LAST REV. DATES

SEALED BY

RICHARD LOGAN COLBERT REGISTERED ENGINEER AGRICULTURE Columbia, TN 117911 STATE OF TENNESSEE

Richard Logan Colbert 12/23/2020

Palmer ENGINEERING

PIN NO.:	123696.00 ⚠1	
DESIGN BY:	R.L. COLBERT	DATE: 09/2019
DRAWN BY:	M.D. SIMPSON	DATE: 09/2019
SUPERVISED BY:	G.S. WILSON	DATE: 09/2019
CHECKED BY:	G.S. WILSON	DATE: 09/2019

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

LAYOUT OF BRIDGE TO BE REPAIRED BRIDGE NO. 16-SR002-14.28 FED. I.D. NO. 16SR0020015 STATE ROUTE 2 OVER CFW RAILROAD COFFEE COUNTY

⚠2 ⚠1 2021

BR-130-141

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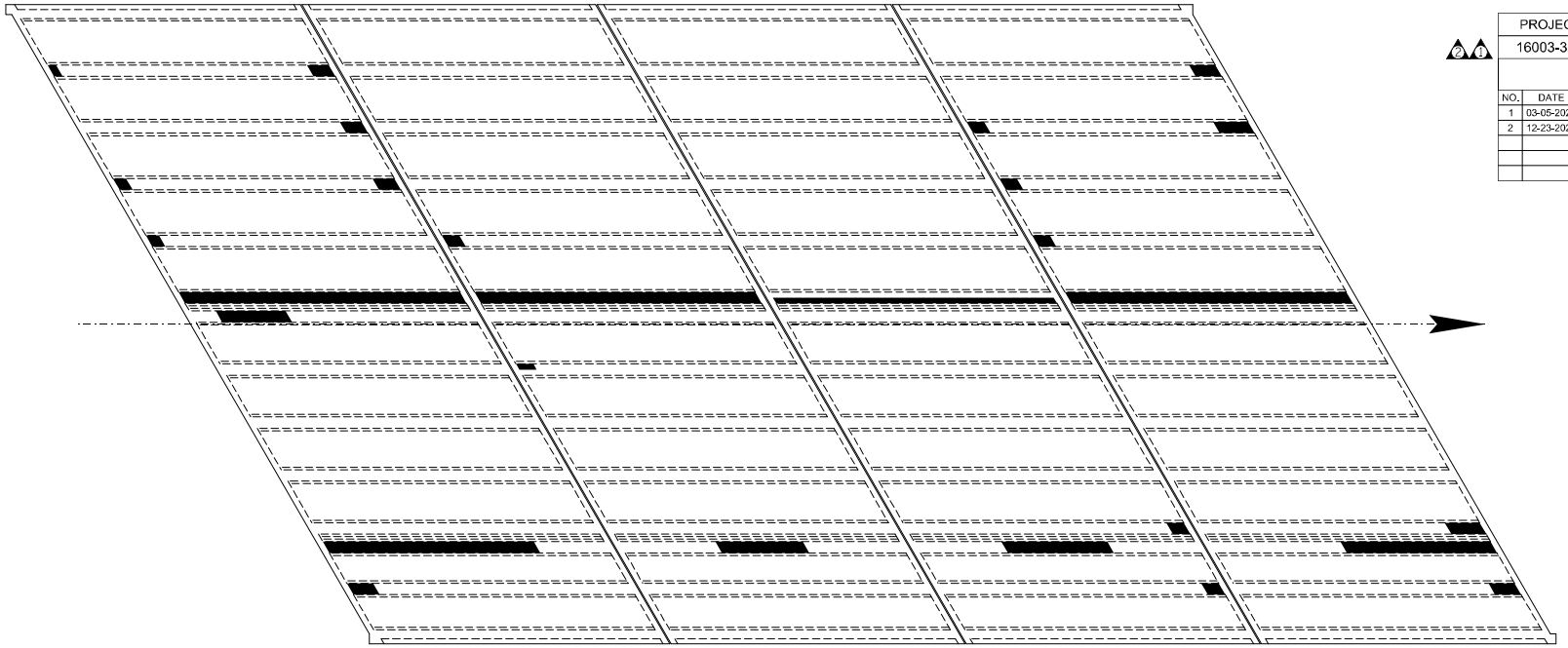
PROJECT NO.	YEAR	SHEET NO.
16003-3246-04	2021	

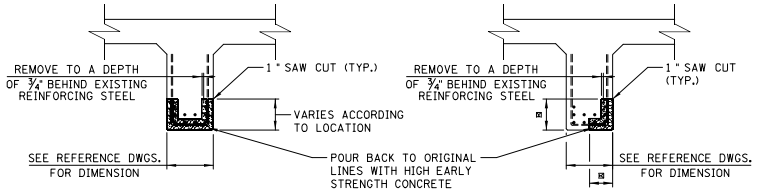
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	03-05-2020	DLH	UPDATED YEAR, PIN NO., AND PROJECT NO.
2	12-23-2020	MDS	UPDATED YEAR



PLAN

■ DENOTES AREA TO BE REPAIRED UNDER ITEM NO. 604-10.42, CONCRETE REPAIRS, C.F. SEE BEAM REPAIR DETAILS THIS SHEET.



⊠ SEE PLAN THIS SHEET FOR APPROX. LIMITS AND LOCATIONS. FINAL LIMITS AND LOCATIONS OF REPAIRS TO BE DESIGNATED BY THE ENGINEER.

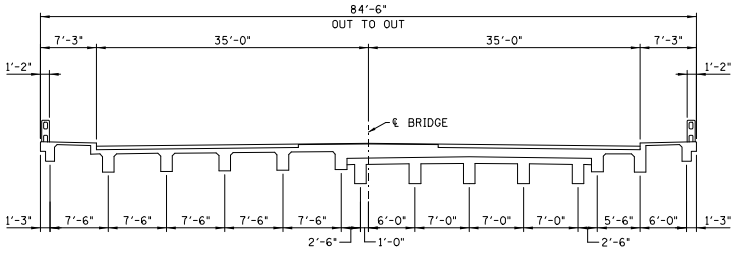
BEAM REPAIR DETAILS

▲ THE COST OF REMOVING PORTIONS OF THE EXISTING CONCRETE WITHIN THE LIMITS SHOWN, SAW CUTTING, COMPLETELY CLEANING EXISTING REINFORCING STEEL, HIGH EARLY STRENGTH CONCRETE, FORMING, LABOR, AND ALL MISCELLANEOUS MATERIAL NECESSARY TO COMPLETE THE REPAIRS AS SHOWN SHALL BE INCLUDED IN PRICE BID FOR ITEM NO. 604-10.42, CONCRETE REPAIRS, C.F.

CONTRACTOR TO TAKE EXTREME CARE WHEN REMOVING DELAMINATED CONCRETE SO AS NOT TO DAMAGE EXISTING REINFORCING STEEL. ALL EXISTING REINFORCING STEEL SHALL BE COMPLETELY CLEANED TO THE SATISFACTION OF THE ENGINEER BEFORE REPOURING.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING REPAIRS TO THE BEAMS. DETAILS OF ANY TEMPORARY SUPPORT SYSTEM OR FALSEWORK REQUIRED SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND SHALL MEET WITH THE FULL SATISFACTION OF THE ENGINEER BEFORE THE BEGINNING OF ANY BEAM REPAIR. COST TO BE INCLUDED IN ITEM NO. 604-10.42, CONCRETE REPAIRS, C.F.

ITEM NO. 604-10.42 MAY BE INCREASED, DECREASED OR ELIMINATED AS DIRECTED BY THE ENGINEER.



TYPICAL SECTION
(LOOKING AHEAD)

SEALED BY

RICHARD LOGAN COLBERT REGISTERED ENGINEER AGRICULTURE NUMBER 117911 STATE OF TENNESSEE

Richard Logan Colbert 12/23/2020

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE REPAIR DETAILS
BRIDGE NO. 16-SR002-14.28
FED. I.D. NO. 16SR0020015
STATE ROUTE 2 OVER CFW RAILROAD
COFFEE COUNTY
2 1 2021

BR-130-143

Palmer

PIN NO.:	123696.00	1
DESIGN BY:	R.L. COLBERT	DATE: 09/2019
DRAWN BY:	M.D. SIMPSON	DATE: 09/2019
SUPERVISED BY:	G.S. WILSON	DATE: 09/2019
CHECKED BY:	G.S. WILSON	DATE: 09/2019

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PROJECT NO.	YEAR	SHEET NO.
16003-3246-04	2021	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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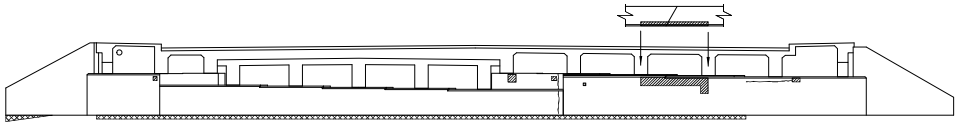
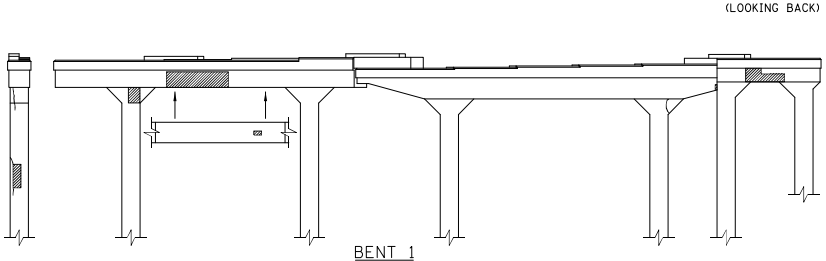
2	12-23-2020	MDS	UPDATED YEAR



ABUT. 1
(LOOKING BACK)



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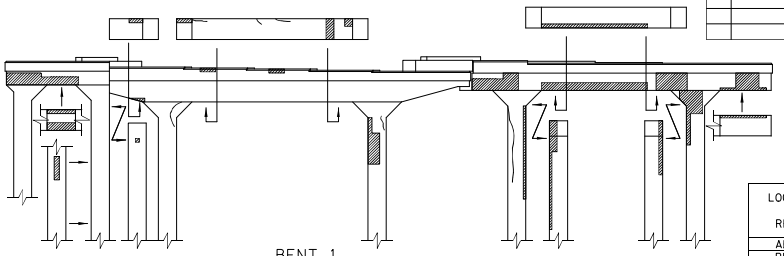

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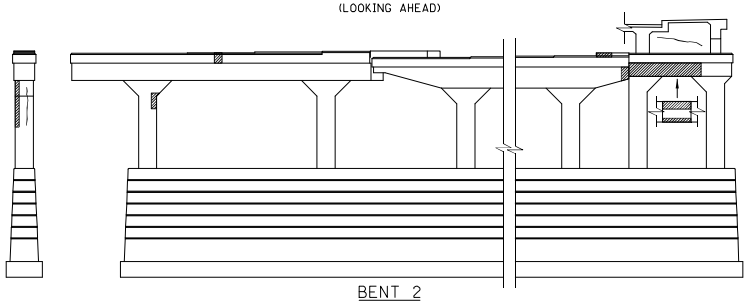

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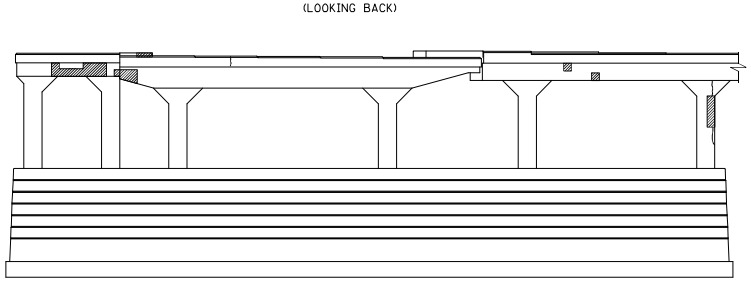

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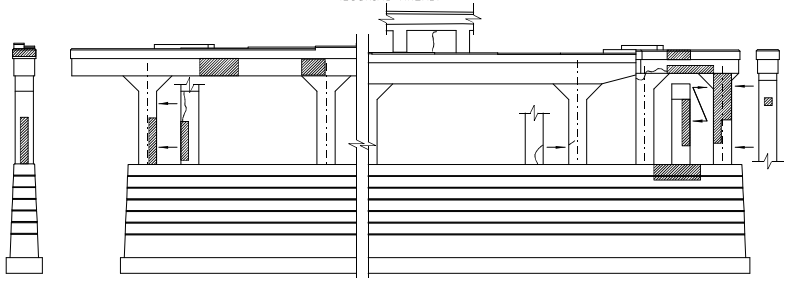

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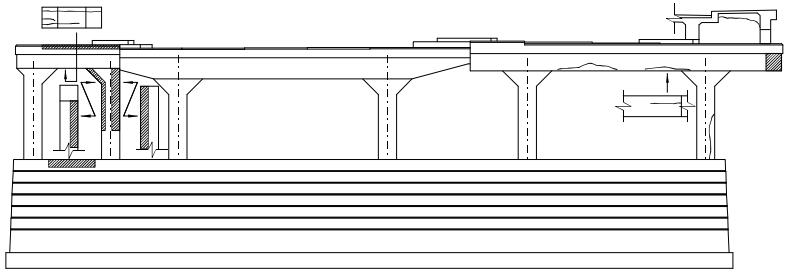

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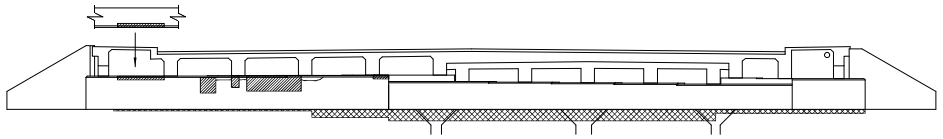


ABUT. 2
(LOOKING AHEAD)

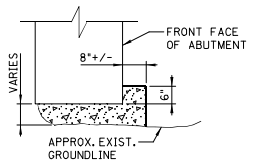
ESTIMATED QUANTITIES

LOCATION OF REPAIR	ITEM 604-10.05 AND/OR 604-10.54 APPROX. REPAIR AREAS (S.F.)	ITEM 604-10.62 APPROX. REPAIR AREAS (L.F.)
ABUT. 1	17	11
BENT 1	142	29
BENT 2	52	17
BENT 3	121	61
ABUT. 2	30	6
TOTAL	362	124

DENOTES AREA TO BE REPAIRED UNDER ITEM NO. 604-10.05 AND/OR 604-10.54. FOR DETAILS SHOWING AREAS OF EXISTING SPALLED OR DELAMINATED CONCRETE SURFACES TO BE REMOVED AND REPAIRED, SEE DWG. BR-130-145.

DENOTES CRACK TO BE REPAIRED UNDER ITEM NO. 604-10.58 AND 604-10.62. SEE EPOXY INJECTION NOTES ON DWG. BR-130-145.

DENOTES LOCATION TO BE REPAIRED UNDER ITEM NO. 604-10.55, CONCRETE (FOUNDATION REPAIRS), C.Y. SEE ABUTMENT VOID REPAIR DETAIL (THIS SHEET).



ABUTMENT VOID REPAIR

ALL COSTS ASSOCIATED WITH REPAIR OF VOID AREA, INCLUDING ALL LABOR AND MISCELLANEOUS MATERIALS, SHALL BE INCLUDED IN ITEM NO. 604-10.55, CONCRETE (FOUNDATION REPAIRS), C.Y.

SEALED BY

RICHARD LOGAN COLBERT — REGISTERED ENGINEER — AGRICULTURE — COMMERCE — NO. 117911 — STATE OF TENNESSEE

Richard Logan Colbert 12/23/2020

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SUBSTRUCTURE REPAIRS
BRIDGE NO. 16-SR002-14.28
FED. I.D. NO. 16SR0020015
STATE ROUTE 2 OVER CFW RAILROAD
COFFEE COUNTY
2021

BR-130-144

Palmer

PIN NO.:	123696.00	
DESIGN BY:	R.L. COLBERT	DATE: 09/2019
DRAWN BY:	M.D. SIMPSON	DATE: 09/2019
SUPERVISED BY:	G.S. WILSON	DATE: 09/2019
CHECKED BY:	G.S. WILSON	DATE: 09/2019

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PROJECT NO.	YEAR	SHEET NO.
16003-3246-04	2021	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	03-05-2020	DLH	UPDATED YEAR, PIN NO., AND PROJECT NO.
2	12-23-2020	MDS	UPDATED YEAR

SPECIAL NOTES FOR EPOXY INJECTION

UNLESS OTHERWISE NOTED, THE INTENT OF THIS SPECIFICATION IS FOR DESIGNATED CRACKS TO BE INJECTED THEIR FULL LENGTH AND DEPTH.

DESIGNATED CRACKS SHALL BE INJECTED WITH AN APPROVED EPOXY RESIN ADHESIVE FILLING ALL VOIDS FOR THE CRACK DEPTH OR THICKNESS OF THE MEMBER. THE EPOXY RESIN ADHESIVE SHALL BE ON THE CURRENT QUALIFIED PRODUCTS LIST MAINTAINED BY THE DIVISION OF MATERIALS AND TEST. ALL CRACKS SHALL BE INJECTED USING AN ADHESIVE SUITABLE FOR THE FIELD CONDITIONS (CRACK WIDTH, TEMPERATURE, HUMIDITY, ETC.) RECOMMENDED BY THE ADHESIVE MANUFACTURER AS SHOWN ON MATERIAL DATA SHEETS. FOLLOWING INJECTION, ALL INJECTION PORTS AND CAPPING MATERIAL SHALL BE REMOVED FROM EXPOSED SURFACES LEAVING THE SURFACE SMOOTH AND FLUSH WITH THE SURROUNDING CONCRETE SURFACES. THIS WORK ALSO INCLUDES MAKING ANY EXISTING INJECTION PORTS (FROM A PREVIOUS REPAIR PROJECT) SMOOTH AND FLUSH WITH THE SURROUNDING CONCRETE SURFACES.

THE CONTRACTOR SHALL HAVE SUFFICIENT EXPERIENCE AND TRAINING TO PERFORM THE EPOXY INJECTION IN ACCORDANCE WITH THESE PLANS. PRIOR TO PERFORMING ANY WORK, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER A WRITTEN PROCEDURE FOR PERFORMING THE EPOXY INJECTION. THE PROCEDURE SHALL DESCRIBE IN DETAIL HOW THE WORK WILL BE PERFORMED. THE PROCEDURE SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING INFORMATION:

1) DESCRIPTION OF EQUIPMENT.
   A. THE INJECTION EQUIPMENT SHALL BE OF THE TYPE THAT MIXES ADHESIVE COMPONENTS AT THE INJECTION HEAD.
   B. THE INJECTION EQUIPMENT SHALL BE CAPABLE OF DISCHARGING MIXED ADHESIVE AT ANY PRESSURE UP TO 300 PSI. THE INJECTION EQUIPMENT SHALL BE EQUIPPED WITH GAUGES WHICH CAN MEASURE THE INJECTION PRESSURE AND VOLUME.
2) EQUIPMENT CALIBRATION PROCEDURES AND SCHEDULE.
3) MATERIALS TO BE USED (INCLUDING MANUFACTURER DATA SHEETS).
   A. CAPPING MATERIAL
   B. EPOXY ADHESIVE (TYPE TO BE APPROPRIATE FOR CRACK SIZES TO BE INJECTED).
4) PORT SPACING
   A. PORT SPACING SHALL NOT BE LESS THAN THE THICKNESS OF THE CONCRETE IN THAT LOCATION.
5) INJECTION SEQUENCE
   A. INJECTION SHALL PROCEED FROM LOWER END OF CRACK ALONG ADJACENT PARTS.
   B. SKIPPING OF PORTS DURING INJECTION SHALL NOT BE ALLOWED.

THE CONTRACTOR SHALL HAVE THE MANUFACTURER'S INSTRUCTIONS FOR PROPORTIONING AND MIXING AVAILABLE AT THE JOB SITE AT ALL TIMES AND SHALL ENSURE THAT THE EQUIPMENT IS SUPPLYING THE MIXED ADHESIVE IN THE CORRECT PROPORTIONS.

TO ENSURE PROPER MIXING AND PROPORTIONING, SAMPLES SHALL BE TAKEN FROM THE INJECTOR HEAD. SAMPLES SHALL BE TAKEN AT THE START OF EACH WORKDAY AND EACH TIME THE ADHESIVE RESERVOIRS ARE REFILLED. THE SAMPLES SHALL BE IN A TEST CUP. THE SAMPLE SHALL BE MONITORED TO ENSURE THAT THE CURE TIME IS IN COMPLIANCE WITH THE MANUFACTURER'S DATA SHEETS. IF THE SAMPLES DO NOT CURE IN THE SPECIFIED TIME THEN THE EQUIPMENT USED TO PRODUCE THE SAMPLE SHALL NOT BE USED UNTIL THE PROBLEM IS CORRECTED.

CORE SAMPLES SHALL BE TAKEN AS VERIFICATION OF THE QUALITY OF WORK. THE CONTRACTOR SHALL TAKE ONE (1) TWO (2) INCH DIAMETER (FULL DEPTH OF CONCRETE AT LOCATION CORED) CORE SAMPLE STARTING WITH THE FIRST REPAIR LOCATION THEN EVERY TENTH REPAIR LOCATION AFTERWARDS WORK SHALL NOT PROCEED UNTIL THE CORE SAMPLE IS TAKEN AND ACCEPTED. ALL CORE SAMPLES AND HOLES SHALL BE INDEXED FOR FUTURE REFERENCE. THE ENGINEER SHALL DESIGNATE ALL LOCATIONS TO BE CORED. IF ANY CORES SHOW UNACCEPTABLE RESULTS, ALL WORK SHALL BE STOPPED UNTIL THE CONTRACTOR SUBMITS A PROPOSAL FOR CORRECTING UNACCEPTABLE WORK.

THE INITIAL CORE WILL ALSO SERVE TO QUALIFY THE FOREMAN FOR THIS WORK. IF AT ANY TIME A NEW FOREMAN IS USED, HE SHALL BE QUALIFIED WITH A CORE SAMPLE.

THE CONTRACTOR, AT HIS EXPENSE, SHALL REPAIR ALL CORE HOLES WITH AN APPROVED CEMENTITIOUS PATCHING MATERIAL.

CORE SAMPLES SHALL BE VISUALLY INSPECTED TO CONFIRM THAT CRACKS ARE COMPLETELY FILLED WITH ADHESIVE. ANY CORE HAVING LESS THAN 95% OF THE CRACK FILLED WITH ADHESIVE SHALL BE CONSIDERED UNACCEPTABLE AND BE REJECTED.

CORE SAMPLES SHALL BE TESTED FOR BOND STRENGTH. SAMPLES MAY BE FRACTURED BY HAMMER BLOW TO CRACK AREA OR THROWN AT A HARD SURFACE. IF ADHESIVE FAILURE OCCURS BEFORE CONCRETE FAILURE, THE CORE SHALL BE CONSIDERED UNACCEPTABLE AND REJECTED.

PAYMENT FOR EPOXY INJECTION CRACK REPAIR SHALL BE MADE UNDER ITEM NUMBERS:

604-10.62, EPOXY INJECTION REPAIR (COMPLETE AND IN PLACE), L.F. AND
604-10.58, EPOXY INJECTION (INJECTION), GAL

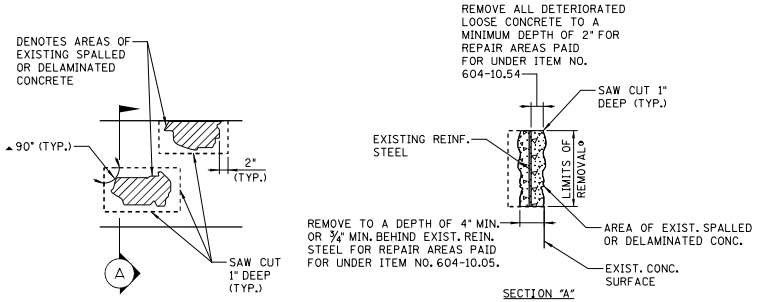
PRICE BID FOR ITEM NUMBER 604-10.62, EPOXY INJECTION REPAIR (COMPLETE AND IN PLACE), L.F., SHALL INCLUDE COST OF ALL LABOR AND MATERIALS (EXCEPT ADHESIVE) FOR GRINDING FOR SURFACE PREPARATION, CRACK PREPARATION, CAPPING, INJECTION OF ADHESIVE, ALL SAMPLING AND TESTING, REMOVAL OF CAPPING MATERIAL AND PORTS, AND OTHER INCIDENTALS. CRACKS SHALL BE MEASURED FOR PAYMENT ALONG THE LENGTH OF THE VISIBLE SURFACE CRACK.

PRICE BID ALSO INCLUDES ALL COSTS ASSOCIATED WITH MAKING THE EXISTING INJECTION PORTS (FROM A PREVIOUS REPAIR PROJECT) SMOOTH AND FLUSH WITH THE SURROUNDING CONCRETE SURFACE.

PRICE BID FOR ITEM NUMBER 604-10.58, EPOXY INJECTION (INJECTION), GAL, SHALL INCLUDE COST FOR ADHESIVE MATERIAL INJECTED ONLY.

NO PAYMENT SHALL BE MADE FOR REWORK DEEMED NECESSARY BY FAILURE OF ADHESIVE SAMPLES OR CORE SAMPLES.

ALL WORK INCLUDING SAMPLING AND TESTING SHALL BE IN THE PRESENCE OF THE ENGINEER OR HIS REPRESENTATIVE OR CONTRACT INSPECTORS. ANY WORK DONE WITHOUT INSPECTORS PRESENT SHALL NOT BE PAID FOR. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH WEEKLY SCHEDULES OF WORK TO BE PERFORMED. SCHEDULES SHALL BE SUBMITTED AT LEAST THREE (3) DAYS IN ADVANCE OF WORK TO BE DONE. THE ENGINEER SHALL BE NOTIFIED OF ANY CHANGE IN THE SCHEDULE A MINIMUM OF TWENTY-FOUR (24) HOURS IN ADVANCE OF CHANGE.



DETAILS SHOWING AREAS OF EXIST. SPALLED OR DELAMINATED CONCRETE SURFACES TO BE REMOVED AND REPAIRED

- DENOTES: LIMITS AND LOCATION OF REPAIRS TO BE DESIGNATED BY THE ENGINEER.
- DENOTES: SAW CUT EXISTING CONCRETE SURFACES SO AS TO OBTAIN SQUARED CORNERS.

EXTREME CARE SHALL BE TAKEN WHEN REMOVING THE EXISTING SPALLED OR DELAMINATED CONCRETE SO AS NOT TO DAMAGE THE EXISTING REINFORCING STEEL. ALL EXPOSED EXISTING REINFORCING STEEL SHALL RECEIVE A COMPLETE CLEANING TO REMOVE ALL RUST. ALL EXISTING REINFORCEMENT SHALL REMAIN IN PLACE. ALL WORK MUST MEET WITH THE FULL APPROVAL OF THE ENGINEER.

THE ENGINEER SHALL HAVE THE OPTION OF DESIGNATING A SPALLED OR DELAMINATED AREA TO BE REPAIRED UNDER ITEM NO. 604-10.05 OR 604-10.54. PATCHING MATERIAL FOR ITEM NO. 604-10.05 SHALL BE HIGH EARLY STRENGTH CONCRETE. PATCHING MATERIAL FOR ITEM NO. 604-10.54 SHALL BE A POLYMER MODIFIED CEMENTITIOUS STRUCTURAL PATCHING MATERIAL. SEE QUALIFIED PRODUCTS LIST (SECTION B, QPL 13.009).

COST OF SAW CUTTING, REMOVING SPALLED OR DELAMINATED CONCRETE, CLEANING, PATCHING MATERIAL, LABOR, AND ANY MISCELLANEOUS MATERIALS NECESSARY TO COMPLETE THE REPAIRS AS SHOWN TO BE INCLUDED IN ITEM NO. 604-10.54, CONCRETE REPAIRS, S.F. OR ITEM NO. 604-10.05, CONCRETE, S.F.

THE ENGINEER SHALL DESIGNATE ALL SPALLED OR DELAMINATED CONCRETE REPAIR AREAS IN THE FIELD. QUANTITIES GIVEN ARE APPROXIMATE. ITEM NO. 604-10.05 AND 604-10.54 MAY BE INCREASED, DECREASED, OR ELIMINATED AS DIRECTED BY THE ENGINEER.

POWER DRIVEN HAND TOOLS USED FOR REMOVAL OF UNSOUND CONCRETE ARE SUBJECT TO THE FOLLOWING RESTRICTIONS:
1. PNEUMATIC HAMMERS HEAVIER THAN THE 35 LB. CLASS SHALL NOT BE USED.
2. CHIPPING HAMMERS OF THE 15 LB. CLASS SHALL BE USED TO REMOVE CONCRETE FROM BEHIND REINFORCING STEEL.

PNEUMATICALLY PLACED CONCRETE IS NOT ALLOWED.

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

CONCRETE REPAIR DETAILS
BRIDGE NO. 16-SR002-14.28
FED. I.D. NO. 16SR0020015
STATE ROUTE 2 OVER CFW RAILROAD
COFFEE COUNTY
2021

BR-130-145

Palmer

PIN NO.:	123696.00		
DESIGN BY:	R.L. COLBERT	DATE:	09/2019
DRAWN BY:	M.D. SIMPSON	DATE:	09/2019
SUPERVISED BY:	G.S. WILSON	DATE:	09/2019
CHECKED BY:	G.S. WILSON	DATE:	09/2019

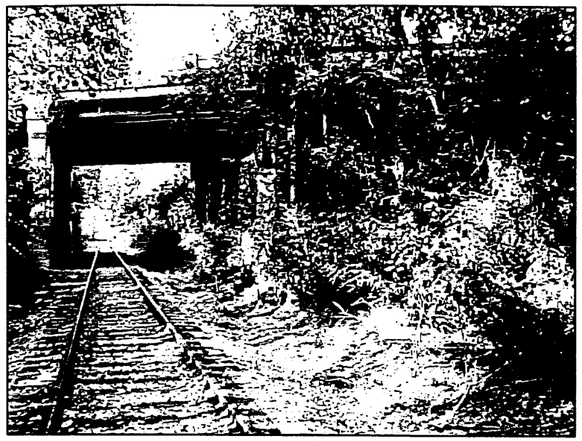
12/23/2020 10:17:18 AM
J:\Structures\11130-12_CoffeeCo_SR2_over_CFWRR\Drawings\Final_dgn\11130-12_Epoxy.dgn

TENNESSEE
DEPARTMENT OF TRANSPORTATION
HIGHWAY PERMIT REQUEST

REGION II–DISTRICT TWENTY–FOUR

DISTRICT ENGINEER: MR. LARRY MEDLEY
BRIDGE ENGINEER: MR. JOE SCOTT
INSPECTOR: MR. WAYNE HAYES

TENNESSEE HIGHWAY 2 (U.S. 41) AT CF & W RAILROAD
IN COFFEE COUNTY



APPROVED AS NOTED

DEC 8 1999
Hollis J. Jackitt
CIV. ENG. MG.
BRIDGE INSPECTION & REPAIR

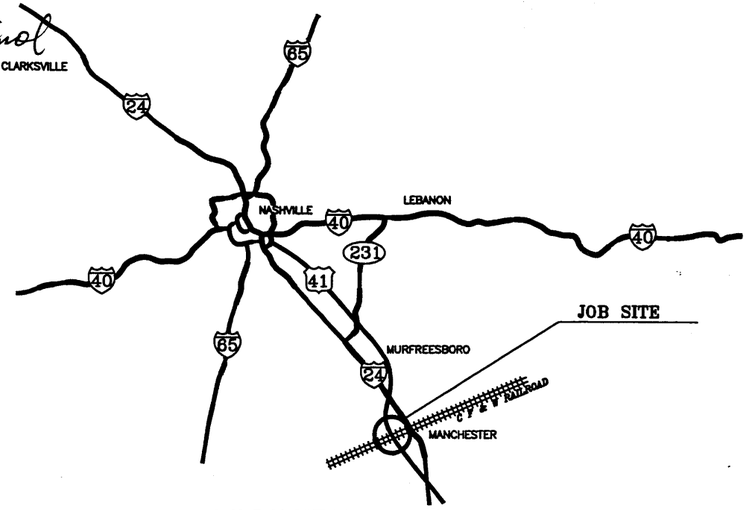
Approved for utility attachment only, not for traffic control

PERMIT REQUIREMENTS

1. CONTACT THE FOLLOWING 48 HOURS PRIOR TO CONSTRUCTION:
   A. MR. LARRY MEDLEY, DISTRICT ENGINEER: (931) 454–1920.
   B. MR. JOE SCOTT, BRIDGE DEPARTMENT: (615) 741–4245.
   C. MR. RICK HOGE, PERMIT ENGINEER: (423) 510–1126.
   D. TENNESSEE ONE CALL: 1–800–351–1111.
2. WILLIAMS INSPECTOR TO BE ON JOB DURING PLACEMENT.
3. THIS PROJECT ADHERES TO THE INDUSTRY CODE/STANDARDS SET FORTH BY BUILDING INDUSTRY CONSULTING SERVICE INTERNATIONAL (BICSI)
4. THE CONTRACTOR SHOULD TAKE ALL NECESSARY SAFETY PRECAUTIONS TO PREVENT ACCIDENTS AND/OR INJURY AND SHOULD ADHERE TO "BEST MANAGEMENT PRACTICES" AT ALL TIMES.
5. CONTRACTOR SHALL ADHERE TO THE STATE OF TENNESSEE HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, FOR REPAIR OF DISTURBED AREAS WITHIN THE STATE OF TENNESSEE RIGHT–OF–WAY.
6. CONTRACTOR SHALL ADHERE TO THE TENNESSEE DEPARTMENT OF TRANSPORTATION UTILITY MANUAL, MOST RECENT EDITION.
7. THE CONTRACTOR IS PROHIBITED FROM WET BORING (JETTING) WITHIN THE HIGHWAY RIGHT–OF–WAY.
8. THE CONTRACTOR SHALL ADHERE TO THE SPECIFICATIONS LISTED WITHIN THE CONSTRUCTION DRAWINGS.
9. WILLIAMS WILL DEVELOP AND USE A TRAFFIC CONTROL PLAN ACCORDING TO THE APPLICABLE PROVISIONS OF PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. A COPY OF THE TRAFFIC CONTROL PLAN WILL BE AVAILABLE AT THE JOB SITE.
10. WILLIAMS CONSTRUCTION MANAGER, BART MITCHELL: (918) 633–4322.
11. SOUTHLAND PROFESSIONAL ENGINEERS, RICHARD DOUR: (334) 271–7107.

CONSTRUCTION NOTES:

1) ALL PIPE, COUPLINGS, EXPANSION JOINTS AND SLEEVES ARE TO BE FIBERGLASS.
2) ALL BOLTS, HANGERS, NUTS, WASHERS, SPLIT PIPE PULL SECTIONS AND OTHER HARWARE ARE TO BE #316 STAINLESS STEEL.
3) WHEN RIP RAP EXIST AT END OF BRIDGES, IT MUST BE RESTORED TO ITS ORIGINAL CONDITION UPON COMPLETION OF CONSTRUCTION, INCLUDING REPLACING EROSION CONTROL CLOTH WITH 24" OVERLAP.
4) SPECIAL CARE SHALL BE TAKEN TO AVOID EROSION DURING CONSTRUCTION. ALL STATE RIGHT–OF–WAY WILL BE RESTORED TO ORIGINAL CONDITION.
5) CONDUIT SHALL BE PAINTED ORANGE AND MARKED AT EACH END "WILLIAMS COMMUNICATION FIBER OPTIC CABLE".



VICINITY MAP
MANCHESTER, TENNESSEE

14,28
BR#16-2-14.37

PREPARED BY: SOUTHLAND PROFESSIONAL ENGINEERS 334-271-7107

8301

DRAWN BY:	LRL	11/99
CHECKED BY:	RHD	11/99
APPROVED:	RICHARD KORGAN	
APPROVED:		
HORIZONTAL SCALE: NTS		
VERTICAL SCALE: NTS		

SR 2 (U.S. 41) HWY BRIDGE AT
C F & W RAILROAD
MANCHESTER, TENNESSEE

COVER SHEET

Williams
COMMUNICATIONS GROUP
Network Services

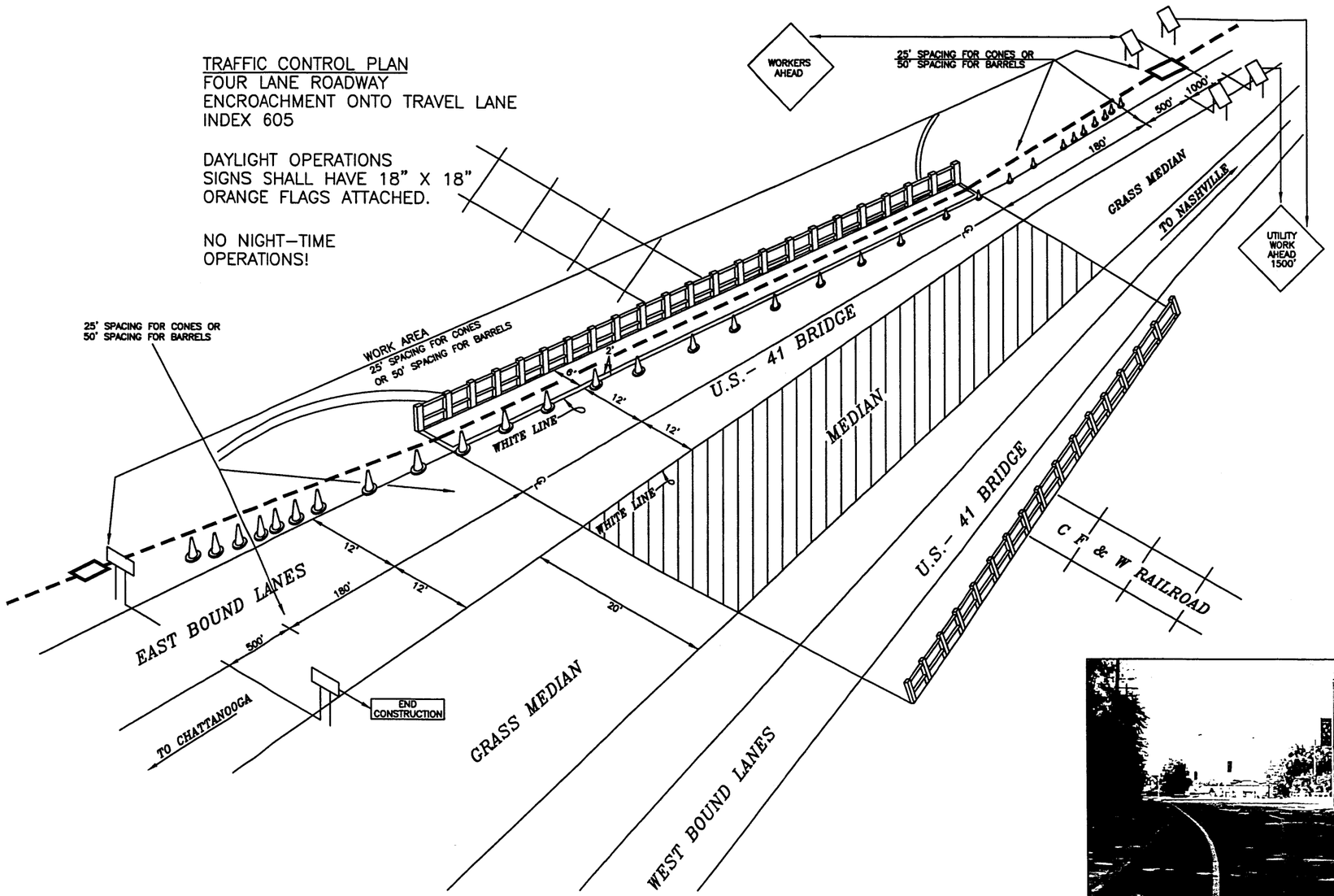
REV NO.	DESCRIPTION	DWN BY	DATE

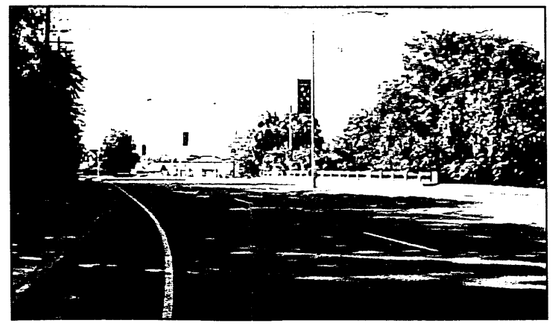
SPE
334-271-7107

TRAFFIC CONTROL PLAN
FOUR LANE ROADWAY
ENCROACHMENT ONTO TRAVEL LANE
INDEX 605

DAYLIGHT OPERATIONS
SIGNS SHALL HAVE 18" X 18"
ORANGE FLAGS ATTACHED.

NO NIGHT-TIME
OPERATIONS!





PREPARED BY: SOUTHLAND PROFESSIONAL ENGINEERS 334-271-7107 8301

DRAWN BY:	RAD	11/99
CHECKED BY:	RHD	11/99
APPROVED:	RICHARD KORGAN	

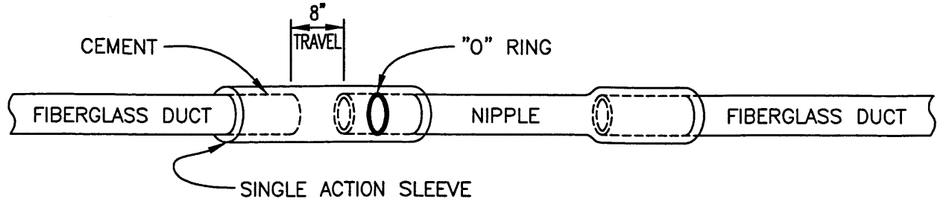
HORIZONTAL SCALE: AS IND.
VERTICAL SCALE: AS IND.

830101.DWG

SR 2 (U.S. 41) HWY BRIDGE AT
C F & W RAILROAD
MANCHESTER, TENNESSEE

Williams
COMMUNICATIONS GROUP
Network Services

REV NO.	DESCRIPTION	DWN BY	DATE



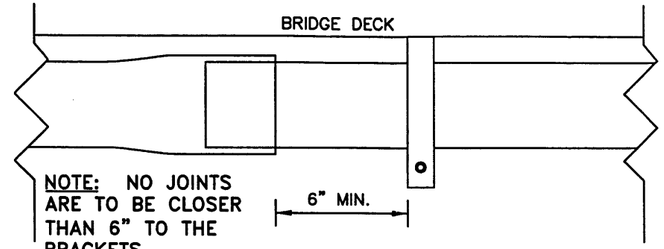
EXPANSION JOINT
DETAIL

CONDUIT SPECIFICATIONS

1) CONDUIT AND FITTINGS SHALL CONSIST OF NON–METALLIC, CORROSION RESISTANT, UV RESISTANT, BULLET RESISTANT, FIBERGLASS REINFORCED EPOXY CONSTRUCTED SUITABLE FOR UNDERBRIDGE ATTACHMENT AND DESIGNED TO MEET UL FILE E53373N, NEC SECTION 347.1 CONFORMANCE, AND NEMA TC–14 CONFORMANCE.

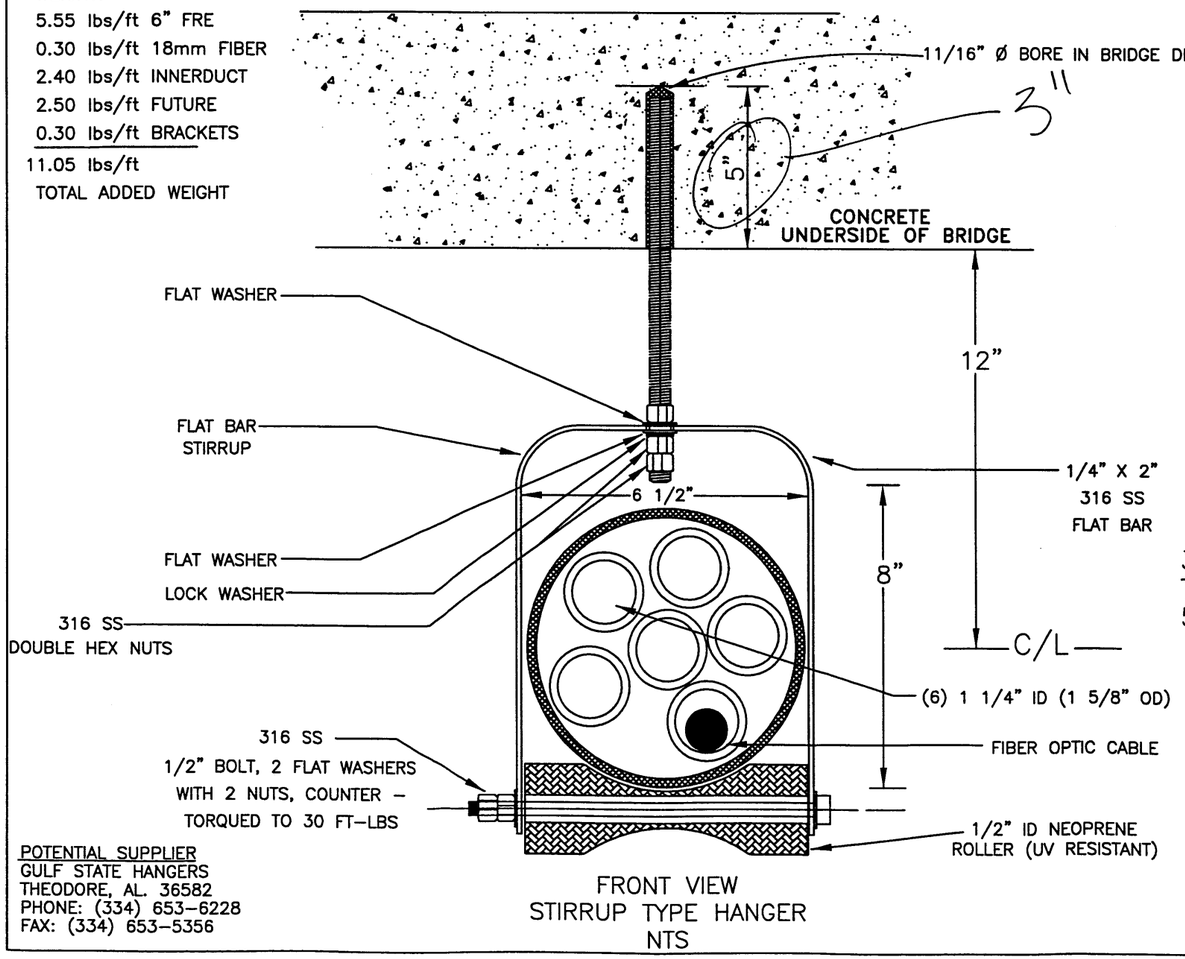
2) CONDUIT AND FITTINGS SHALL BE A FULL 6" INSIDE DIAMETER WITH A MINIMUM 1/4" WALL THICKNESS, AND SHALL BE OF GOOD WORKMANSHIP AND FREE OF DEFECTS.

3) SECTIONS SHALL BE JOINED BY USE OF INTEGRAL BELL AND SPIGOT WITH APPROVED ADHESIVE AS RECOMMENDED BY THE MANUFACTURER OF THE PIPE.



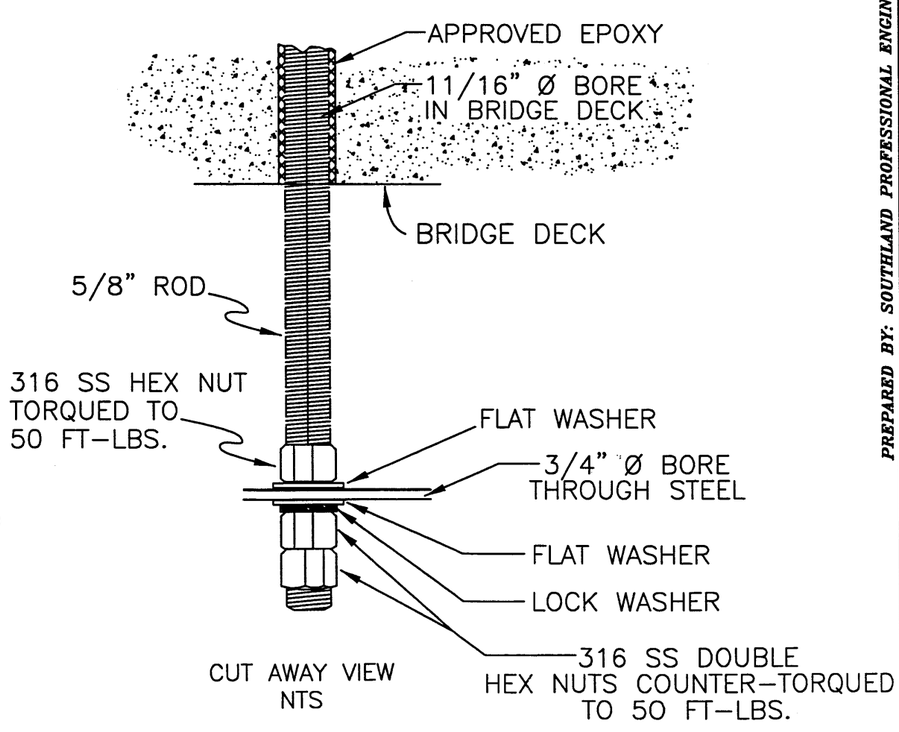
JOINT DETAIL
NTS

WEIGHT:
5.55 lbs/ft 6" FRE
0.30 lbs/ft 18mm FIBER
2.40 lbs/ft INNERDUCT
2.50 lbs/ft FUTURE
0.30 lbs/ft BRACKETS
11.05 lbs/ft
TOTAL ADDED WEIGHT



POTENTIAL SUPPLIER
GULF STATE HANGERS
THEODORE, AL. 36582
PHONE: (334) 653–6228
FAX: (334) 653–5356

FRONT VIEW
STIRRUP TYPE HANGER
NTS



CUT AWAY VIEW
NTS

PREPARED BY: SOUTHLAND PROFESSIONAL ENGINEERS 334-271-7107

DRAWN BY:	LRL	11/99
CHECKED BY:	RHD	11/99
APPROVED:	RICHARD KORGAN	
HORIZONTAL SCALE: AS IND.		
VERTICAL SCALE: AS IND.		

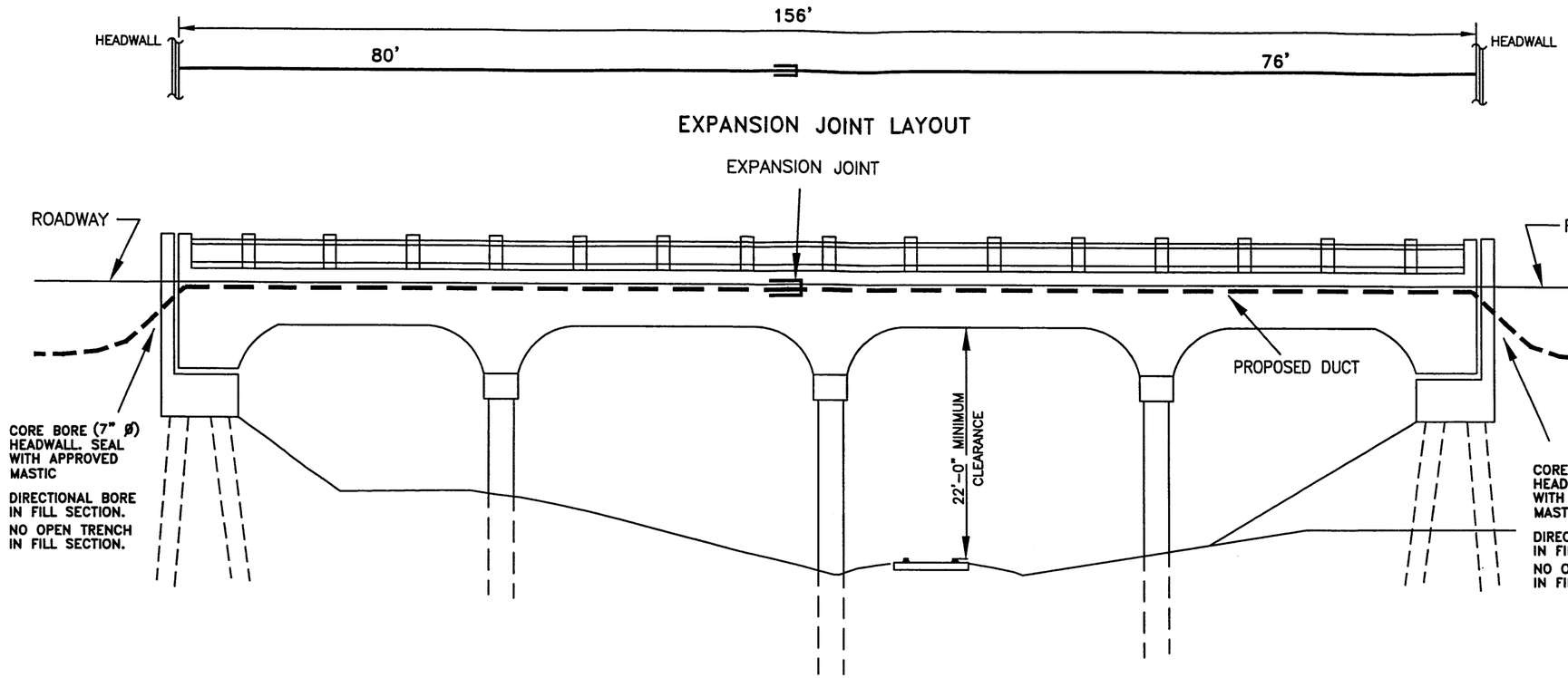
8301

SR 2 (U.S. 41) HWY BRIDGE AT
C F & W RAILROAD
MANCHESTER, TENNESSEE

Williams COMMUNICATIONS GROUP Network Services

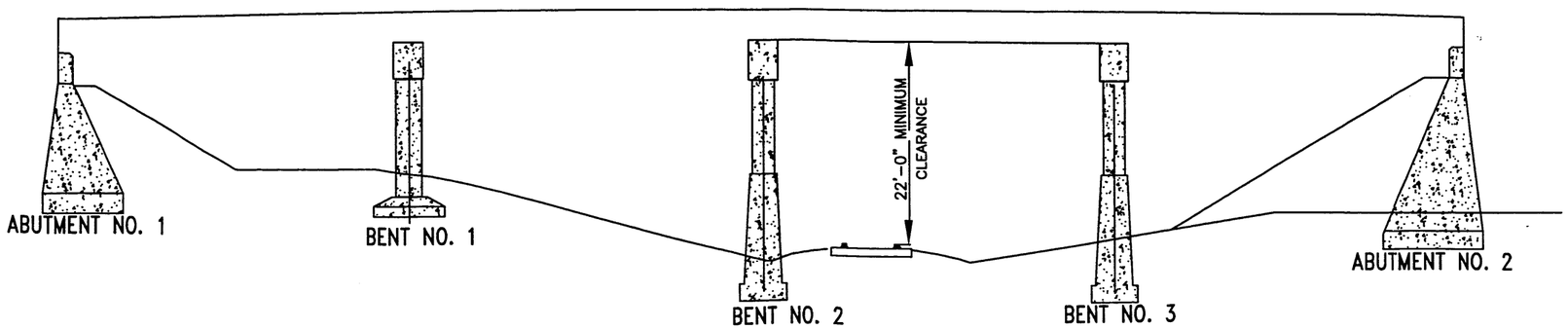
REV NO.	DESCRIPTION	DWN BY	DATE

830102.DWG



EXPANSION JOINT LAYOUT

ELEVATION
LOOKING NORTH



PREPARED BY: SOUTHLAND PROFESSIONAL ENGINEERS 334-271-7107

8301

DRAWN BY:	RAD	11/99
CHECKED BY:	RHD	11/99
APPROVED:	RICHARD KORGAN	

HORIZONTAL SCALE: AS IND.
VERTICAL SCALE: AS IND.

830103.DWG

SR 2 (U.S.) 41 HWY BRIDGE AT
C F & W RAILROAD
MANCHESTER, TENNESSEE

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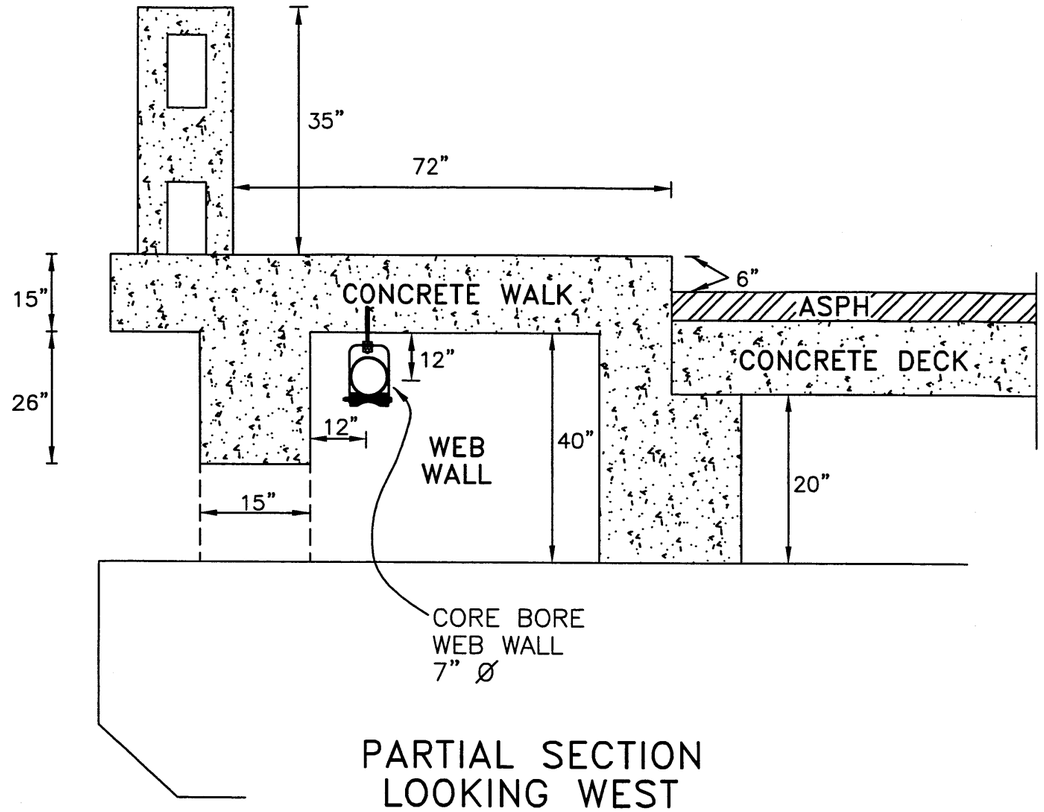
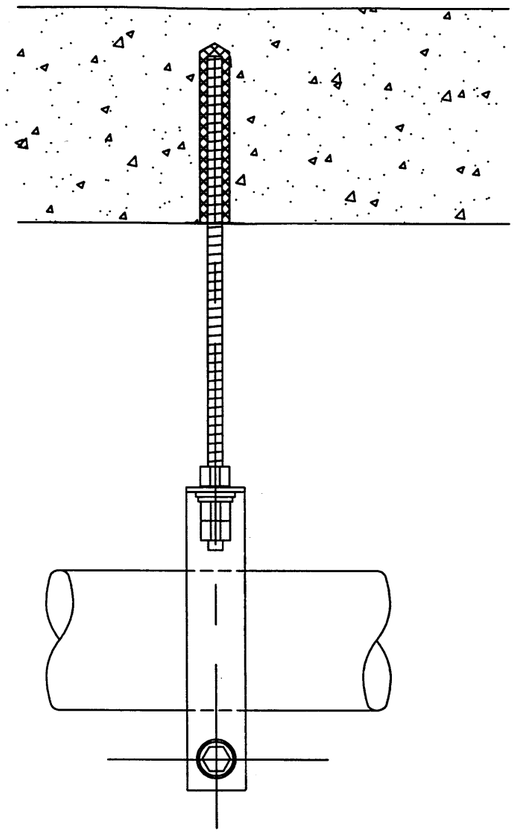
COMMUNICATIONS GROUP
Network Services

REV NO.	DESCRIPTION	DWN BY	DATE



PARTIAL SECTION
LOOKING WEST



TYPICAL HANGER
SIDE VIEW
NTS

CHEMICAL ADHESIVE SYSTEM SPECIFICATION

THE ADHESIVE USED SHALL BE A TWO PART CAPSULE OR PACKET TYPE SYSTEM CONTAINING AN ACRYLIC EPOXY RESIN. THE CAPSULE/PACKET SHALL CONTAIN THE RESIN AND HARDENER. PROPER MIXING OF THE CAPSULE COMPONENTS SHALL BE ACCOMPLISHED AS SPECIFIED BY THE MANUFACTURER. THE CAPSULE/PACKET USED SHALL HAVE A MINIMUM SHELF LIFE OF ONE YEAR. ANCHOR HOLES SHALL BE DRILLED WITH A BIT MEETING THE REQUIREMENTS OS ANSI STANDARD B94.12 AND SHALL BE APPROVED BY THE MANUFACTURER. THE ADHESIVE CAPSULE/PACKET AND ANCHOR HARDWARE COMPONENTS SHALL BE INSTALLED ACCORDING TO THE MANUFACTURERS INSTRUCTIONS. NOTE: ANCHOR RODS AND ALL METAL PARTS SHALL BE MANUFACTURED FROM AISI 316 STAINLESS STEEL, MEETING ASTM F-593 REQUIREMENTS. ADHESIVE MANUFACTURER SHALL BE ON THE TENNESSEE D.O.T. APPROVED LIST FOR CHEMICAL ADHESIVE ANCHORS. ANY HOLES THAT ARE ABANDONED SHALL BE FILLED WITH PORTLAND CEMENT PATCHING MATERIAL FROM THE TENNESSEE D.O.T. APPROVED LIST.

PREPARED BY: SOUTHLAND PROFESSIONAL ENGINEERS 334-271-7107 8301

DRAWN BY:	RAD	11/99
CHECKED BY:	RHD	11/99
APPROVED:	RICHARD KORGAN	

HORIZONTAL SCALE: AS IND.
VERTICAL SCALE: AS IND.

830104.DWG

SR 2 (U.S.) 41 HWY BRIDGE AT
C F & W RAILROAD
MANCHESTER, TENNESSEE

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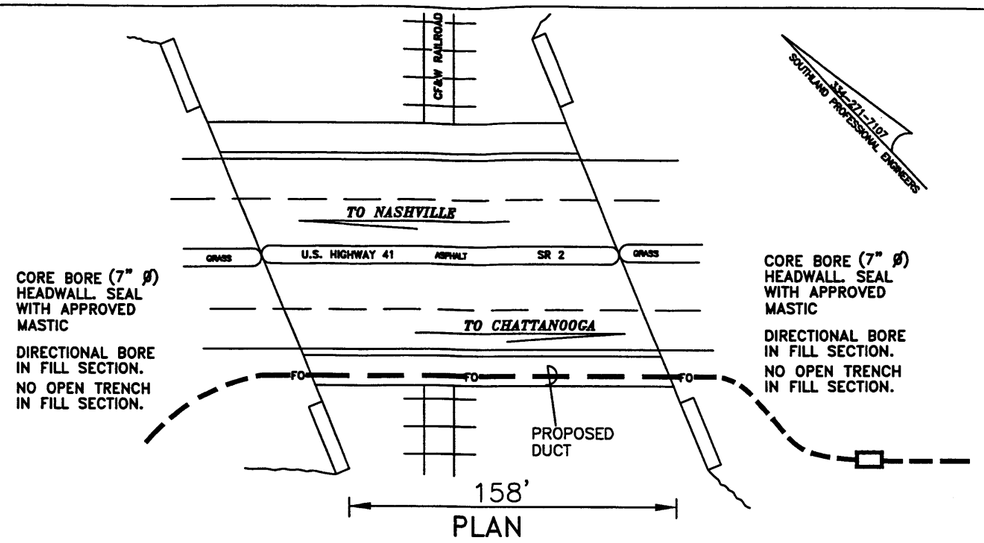
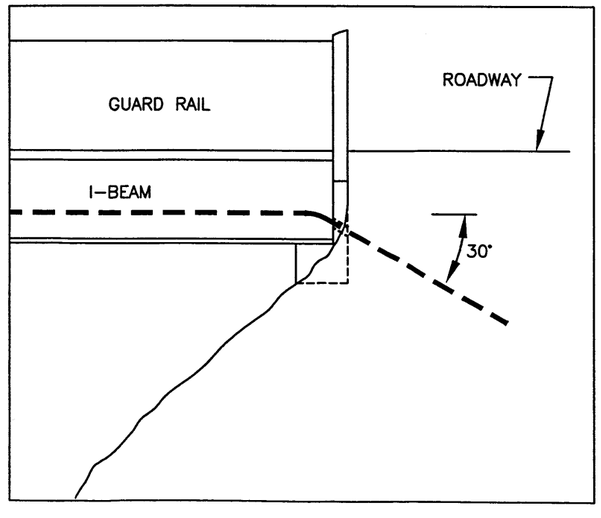
Network Services

REV NO.	DESCRIPTION	DWN BY	DATE

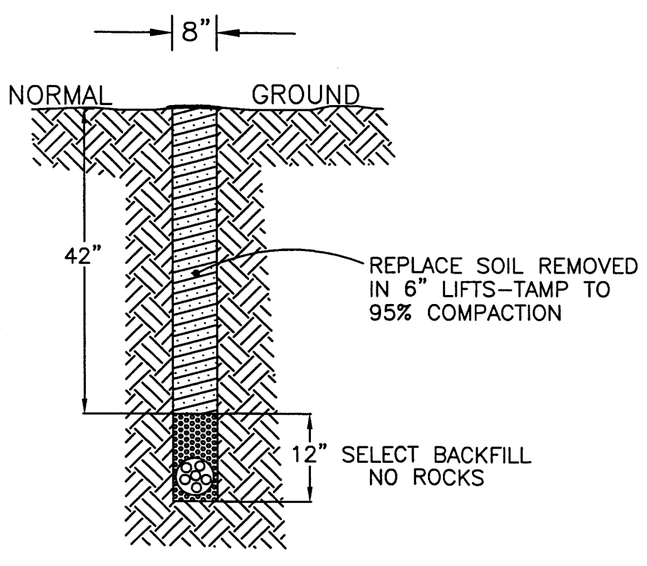


PLAN

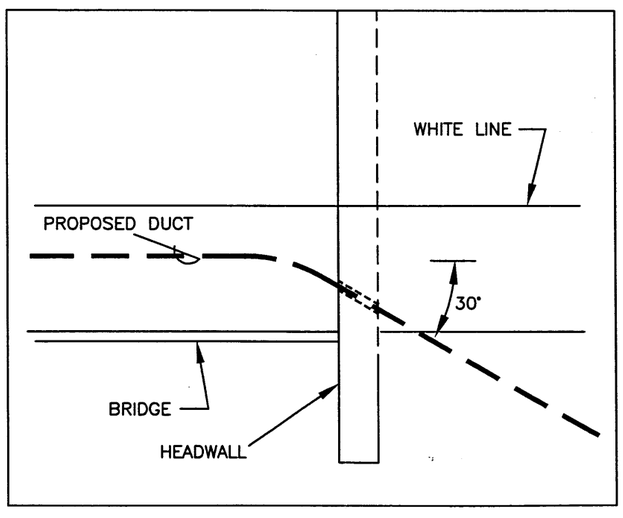


ELEVATION
HEADWALL DETAIL
NTS

CORE BORE
HEADWALL (7" ø)
30° FROM HORIZONTAL &
60° FROM VERTICAL
SEAL DUCT TO HEADWALL
WITH APPROVED MASTIC



TRENCH DETAIL



PLAN VIEW
HEADWALL DETAIL
NTS

CORE BORE
HEADWALL (7" ø)
30° FROM HORIZONTAL &
60° FROM VERTICAL
SEAL DUCT TO HEADWALL
WITH APPROVED MASTIC

PREPARED BY: SOUTHLAND PROFESSIONAL ENGINEERS 334-271-7107

8301

DRAWN BY:	RAD	11/99
CHECKED BY:	RHD	11/99
APPROVED:	RICHARD KORGAN	

HORIZONTAL SCALE: AS IND.
VERTICAL SCALE: AS IND.

830105.DWG

SR 2 (U.S) 41 HWY BRIDGE AT
C F & W RAILROAD
MANCHESTER, TENNESSEE

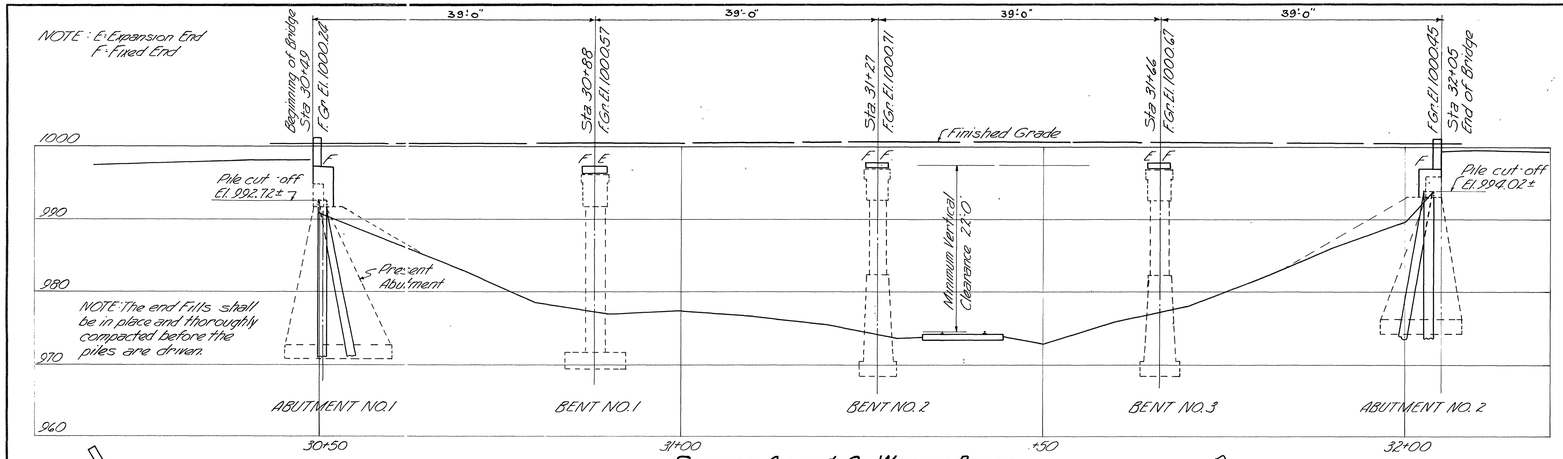
Williams
COMMUNICATIONS GROUP
Network Services

REV NO.	DESCRIPTION	DWN BY	DATE

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
8	TENN.		19	44	92

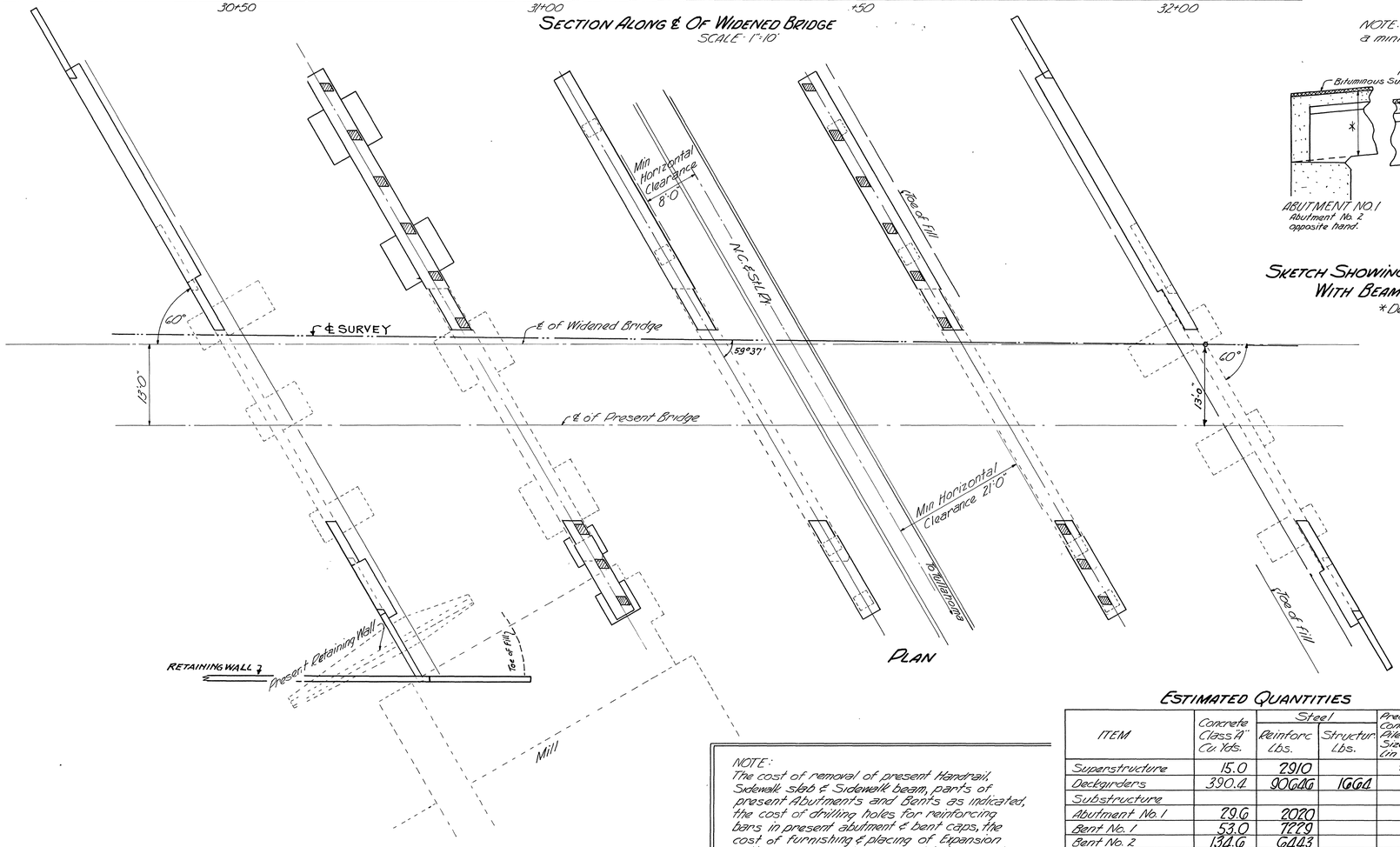
F-002-1(6)

NOTE: E-Expansion End
F-Fixed End

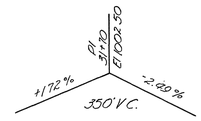


Section Along ℄ Of Widened Bridge

SCALE: 1"-10'

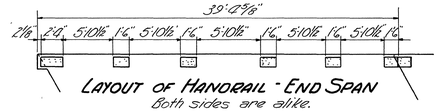


PLAN



Sketch of Grades

NOTE: Elevation shown refers to finished Grade.



Layout of Handrail - End Span

Both sides are alike.

For details of Handrail see Dwg. E-12-105
Intermediate Spans - 36' Clear Span.
End Span: 36'-0" Clear Span - lengthen Bars F&G by 1"

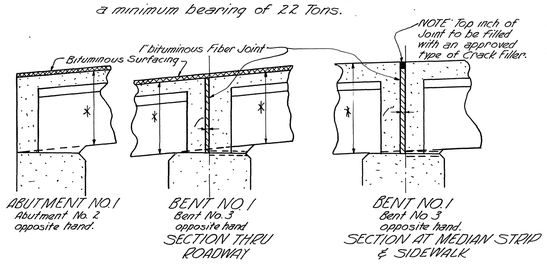
General Notes

SPECIFICATIONS: Standard Road and Bridge Specifications of the Tennessee Department of Highways and Public Works.
LOADING: H20 S16-44
CONCRETE: To be Class "A"
REINFORCING STEEL: See specifications.
FORMS and FINISH: See specifications.
PILES to be precast concrete or cast in place steel shell piles as shown on Dwg. F-2-118.

Special Note

The contractor shall conduct his work so as to protect the Railway tracks and properties from any damage. The work shall be done in accordance with the regulations stipulated by the N.C.&St.L.Ry. so as to maintain clearances and not to interrupt traffic. The minimum clearances required during construction shall be as follows: Horizontal 8'-0"
Vertical 20'-0"

NOTE: Piles to be driven to rock or a minimum bearing of 22 Tons.



Sketch Showing Location Of Fiber Joints & Blocks Poured With Beamstems To Obtain Level Bearings

*Depth as shown on Dwg. F-9-142

List of Drawings

	Dwg. No.
HANDRAIL	See this sheet & E-12-105
DECKGIRDERS @ 36' Clear Spans	F-9-142 & F-9-147
ABUTMENT NO.1	F-9-143
BENT NO.1	F-9-144
BENT NO.2	F-9-145
BENT NO.3	F-9-146
ABUTMENT NO.2	F-9-147
PILES	F-2-118
SOUNDING DATA	F-9-143

REQUIRED: 12-3"x1'-0" Transite drains or equal. Omit drains in span over track.

NOTE:
The cost of removal of present Handrail, Sidewalk slab & Sidewalk beam, parts of present Abutments and Bents as indicated, the cost of drilling holes for reinforcing bars in present abutment & bent caps, the cost of furnishing & placing of Expansion bolts & the cost of Drains & Joint material to be included in the unit price bid for Class "A" concrete.

Estimated Quantities

ITEM	Concrete Class "A" Cu. Yds.	Steel Reinforc. Lbs.	Steel Structur. Lbs.	Precast Concrete Piles Size / Lin. Ft.
Superstructure	15.0	2910		*
Deckgirders	390.4	90060	16064	
Substructure				
Abutment No.1	79.6	2020		
Bent No.1	53.0	7229		
Bent No.2	134.6	6043		
Bent No.3	134.9	6012		
Abutment No.2	73.4	1721		
TOTAL	780.9	117381	16064	550

*The contractor may substitute 12" cast in place steel shell piles.
NOTE: Cost of all excavation shall be included in the items bid on.
NOTE: Bituminous surfacing and lightweight concrete are included in the roadway quantities.

2-26'-0" Roadways - 18'-0" Median Strip - 6'-0" Sidewalks

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
NASHVILLE

LAYOUT OF WIDENING
N. C. & St. L. Ry. Overhead Crossing
Sta. 30+49
Coffee Co.
1956

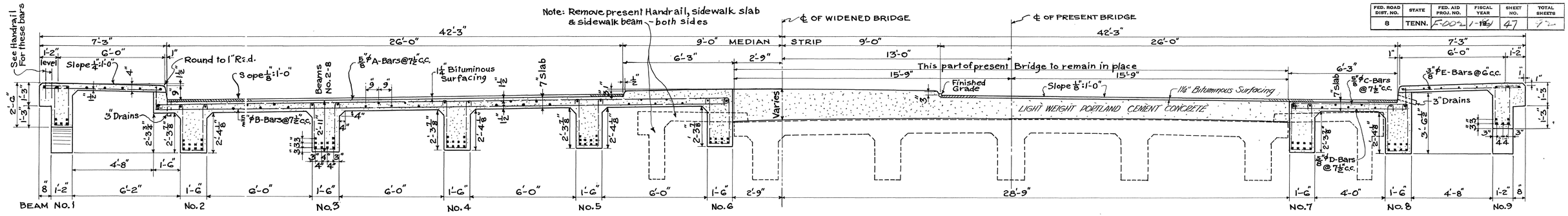
CORRECT: Fred Groves, BRIDGE ENGINEER
APPROVED: Charles J. McFarland, STATE HIGHWAY ENGINEER

F-9-141

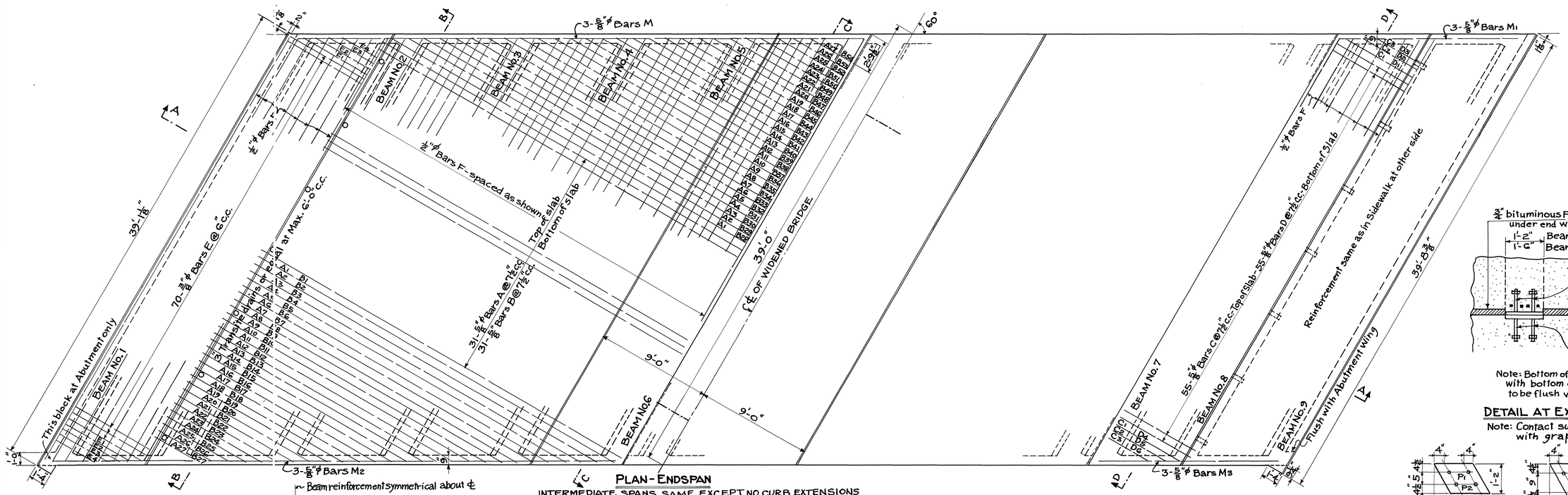
DESIGNED BY
DRAWN BY
TRACED BY A. BURKE DATE 8-23-56
CHECKED BY

MICROFILMED
Rev. 9/10/56

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
8	TENN.	F-00?-1-19?		47	?

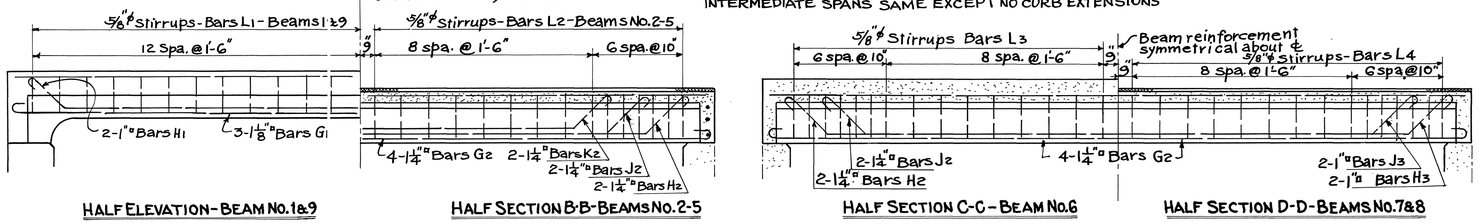


SECTION A-A



PLAN - ENDSPAN

INTERMEDIATE SPANS SAME EXCEPT NO CURB EXTENSIONS



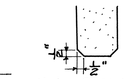
HALF ELEVATION - BEAM No.1 & 9

HALF SECTION B-B - BEAMS No.2-5

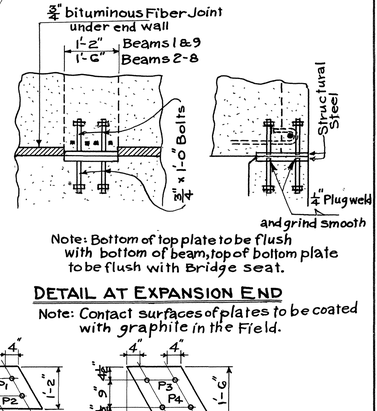
HALF SECTION C-C - BEAM No.6

HALF SECTION D-D - BEAMS No.7 & 8

NOTE: For Bill of steel & Bending details see Dwg. F-9-147



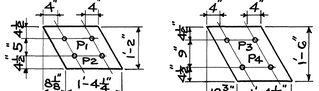
Note: Chamfer bottom corners of all beams 1/2" as shown



Note: Bottom of top plate to be flush with bottom of beam, top of bottom plate to be flush with Bridge seat.

DETAIL AT EXPANSION END

Note: Contact surfaces of plates to be coated with graphite in the Field.



TOTAL REQUIRED

4 Pls P1 - Bolts Near side
4 Pls P2 - Bolts Far side
14 Pls P3 - Bolts Near Side
14 Pls P4 - Bolts Far Side

Note: Plates to be 1/2" thick.

ESTIMATED QUANTITIES

SPAN	No. 1	No. 2	No. 3	No. 4
CONCRETE CLASS A CU.YDS	97.6	97.6	97.6	97.6
REINFORCING STEEL LBS.	22664	22659	22659	22664
STRUCTURAL STEEL LBS	—	832	832	—

DESIGNED BY WS DATE 8-3-56
DRAWN BY JWM DATE 8-23-56
TRACED BY DATE
CHECKED BY DATE

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
NASHVILLE

WIDENING DETAILS

STA 30+49
N.C. & ST. L. RY. OVERHEAD CROSSING
COFFEE COUNTY
1956

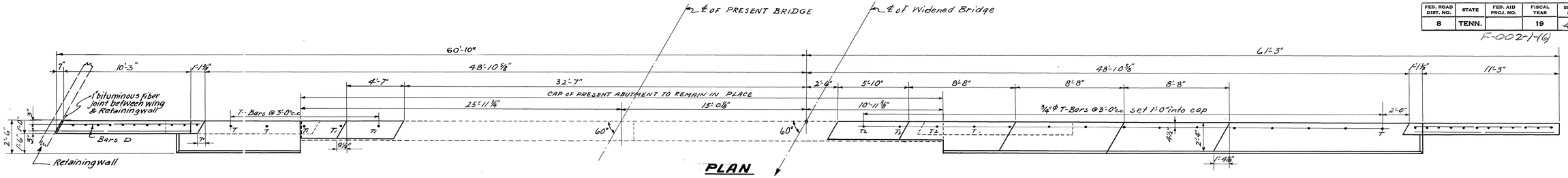
CORRECT Fred Gurne BRIDGE ENGINEER
APPROVED Herbert S. McFalls STATE HIGHWAY ENGINEER

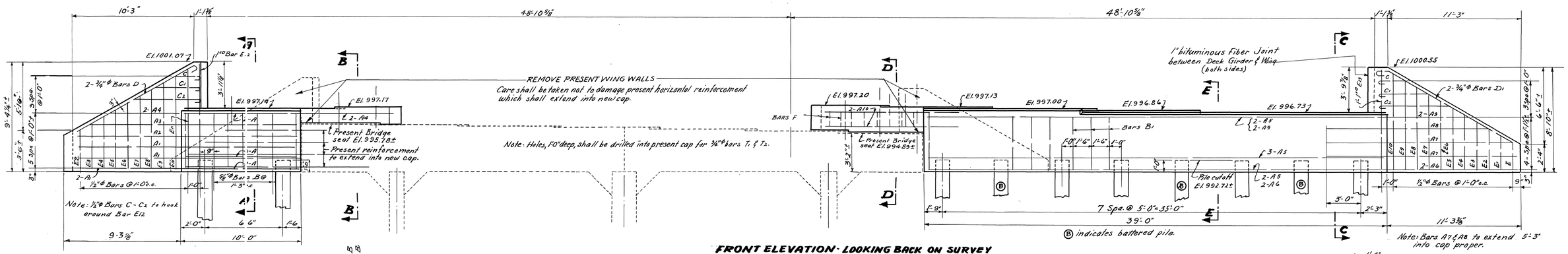
F-9-142

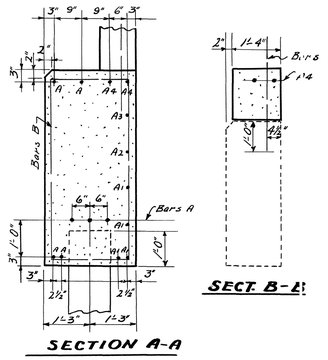
REVISED 9-10-56

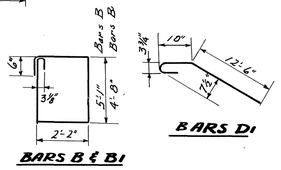
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
8	TENN.		19	48	92

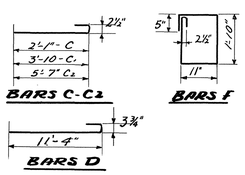
F-002-1-(6)





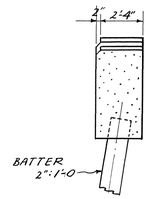


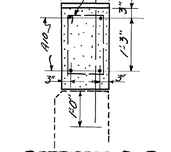


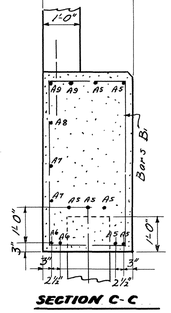


BILL OF STEEL

BAR	NO.	SIZE	LGTH	BAR	NO.	SIZE	LGTH
A	7	¾"ϕ	9'-8"	E	1	½"ϕ	2'-3"
A1	4	"	18'-9"	E1	1	"	2'-9"
A2	1	"	18'-9"	E2	2	"	3'-3"
A3	1	"	17'-6"	E3	2	"	4'-0"
A4	2	"	15'-9"	E4	2	"	4'-6"
A5	7	"	38'-9"	E5	2	"	5'-0"
A6	2	"	50'-0"	E6	2	"	5'-9"
A7	2	"	16'-3"	E7	2	"	6'-3"
A8	1	"	14'-6"	E8	2	"	6'-9"
A9	2	"	45'-6"	E9	2	"	7'-3"
A10	4	¾"ϕ	11'-0"	E10	2	"	8'-0"
B	7	⅝"ϕ	13'-6"	E11	1	½"ϕ	8'-6"
B1	23	⅝"ϕ	14'-8"	E12	1	1"	9'-0"
C	2	½"ϕ	2'-6"	E13	1	1"	8'-6"
C1	2	"	4'-3"	F	8	½"ϕ	6'-4"
C2	2	½"ϕ	6'-0"	T	14	¾"ϕ	2'-0"
D	3	¾"ϕ	12'-0"	T1	3	"	3'-5"
D1	3	¾"ϕ	14'-0"	T2	3	¾"ϕ	4'-4"





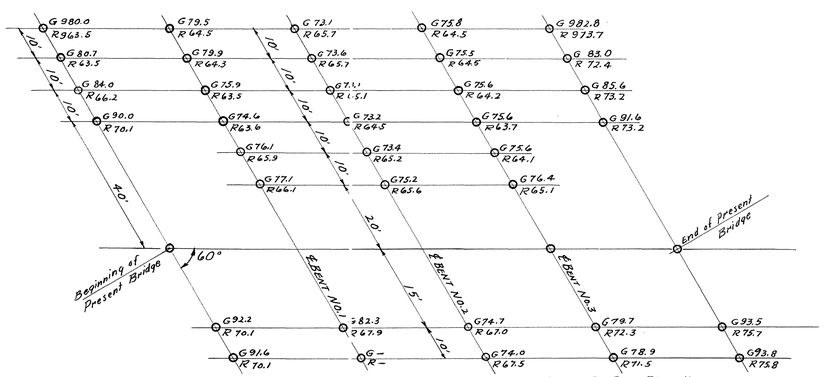


ABUTMENT NO. 1

ESTIMATED QUANTITIES

CONCRETE CLASS "A" 29.6 CU. YDS.

REINFORCING STEEL 2020 LBS.



DESIGNED BY _____ DATE _____

DRAWN BY W. Suter DATE 8-9-56

TRACED BY A. Kelley DATE 8-23-56

CHECKED BY _____ DATE _____

Revised 9-10-56 W.H.W.

STATE OF TENNESSEE

DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS

NASHVILLE

WIDENING DETAILS

ABUTMENT NO. 1

N.C. & ST. L. RY. OVERHEAD CROSSING

COFFEE CO.

1956

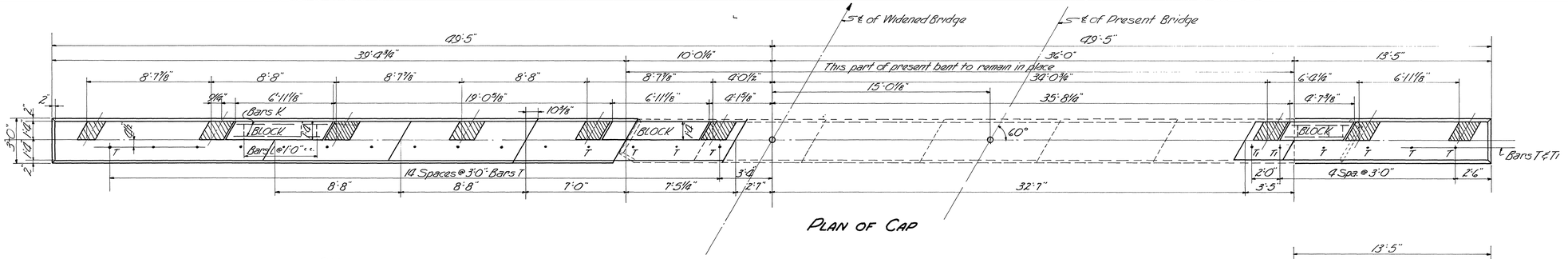
CORRECT Fred Green BRIDGE ENGINEER

APPROVED Charles J. McPeters STATE HIGHWAY ENGINEER

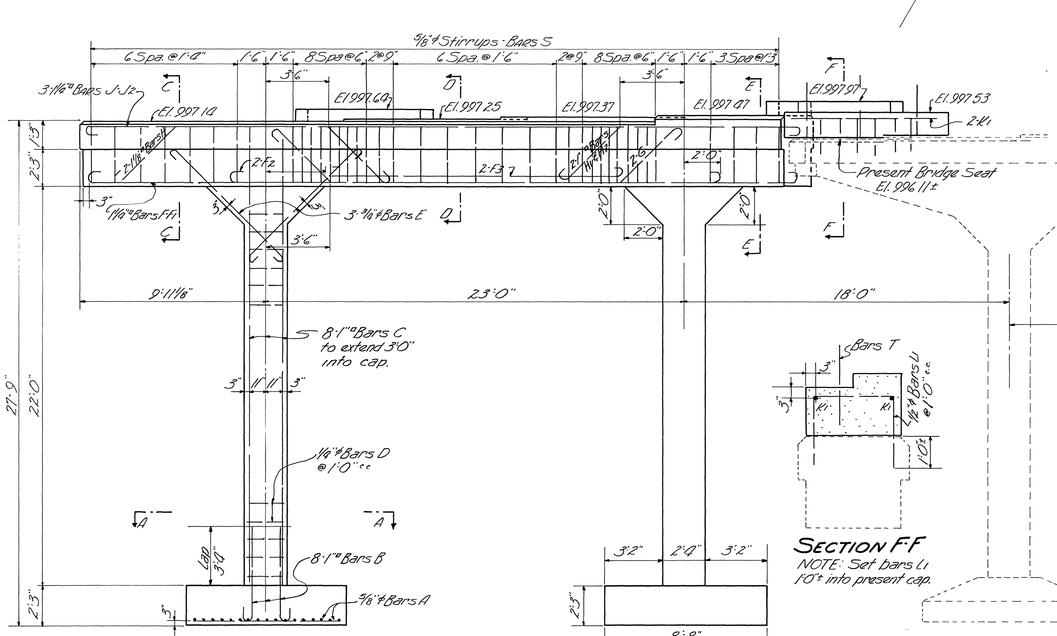
F-9-143

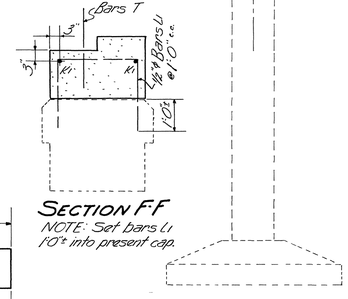
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
8	TENN.		19	49	92

F-002-1-61



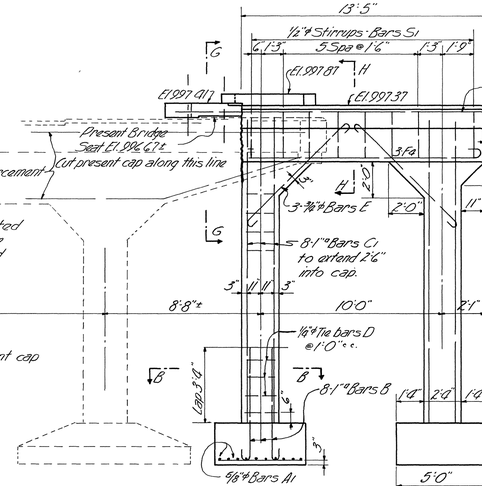
PLAN OF CAP

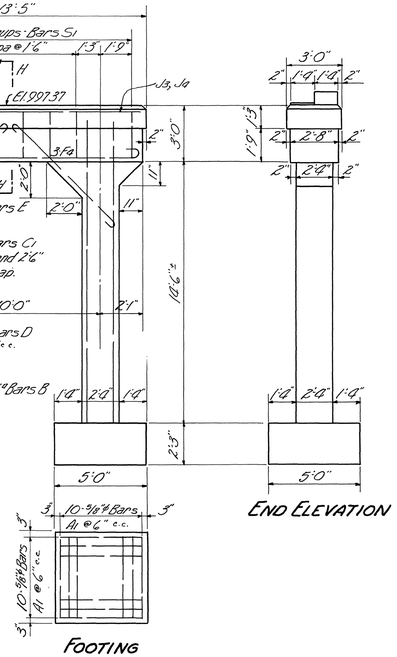




SECTION F-F
NOTE: Set bars L1 1'0" into present cap.

SECTION G-G

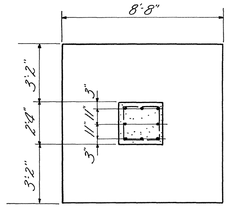




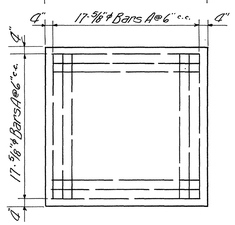
END ELEVATION

SECTION B-B

FOOTING REINFORCEMENT

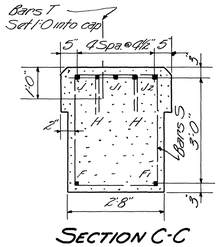


SECTION A-A

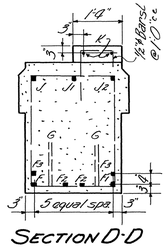


FOOTING REINFORCEMENT

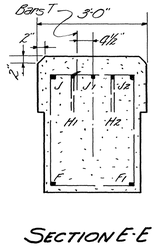
FRONT ELEVATION - LOOKING FORWARD ON SURVEY



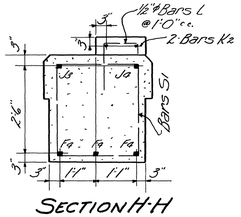
SECTION C-C



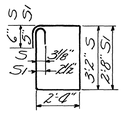
SECTION D-D



SECTION E-E



SECTION H-H



BILL OF STEEL

Bar	No	Size	Length	Bar	No	Size	Length	Bar	No	Size	Length
A	68	5/8" ♦	8'3"	F2	2	1/16" ø	29'0"	K	2	1/2" ♦	6'6"
A1	100	3/8" ♦	4'6"	F3	2	1/16" ø	18'0"	K1	2	"	7'0"
B	32	1" ø	62"	F4	3	1/16" ø	15'0"	K2	2	1/2" ♦	10'0"
				G	2	1/16" ø	26'6"				
C	16	1" ø	25'0"	H	2	1/16" ø	18'10"	L	10	1/2" ♦	3'7"
C1	16	1" ø	17'0"	H1	1	1" ø	15'3"	L1	6	1/2" ♦	6'7"
D	68	1/4" ♦	8'6"	H2	1	1" ø	16'6"				
				J	1	1/16" ø	20'3"	S	38	3/8" ♦	12'0"
E	18	3/4" ♦	9'3"	J1	1	"	20'10"	S1	8	1/2" ♦	10'10"
				J2	1	1/16" ø	21'6"				
				J3	1	1" ø	16'11"	T	19	3/4" ♦	2'0"
F	1	1/16" ø	40'1"	J4	1	1" ø	15'8"	T1	2	3/4" ♦	2'9"
F1	1	1/16" ø	41'8"								

ESTIMATED QUANTITIES

Concrete Class "A" 53.0 Cu.Yds.
Reinforcing Steel 7229 Lbs.

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
NASHVILLE

WIDENING DETAILS
BENT NO. 1
N.C.&St.L. Ry. OVERHEAD CROSSING
COFFEE CO.
1956

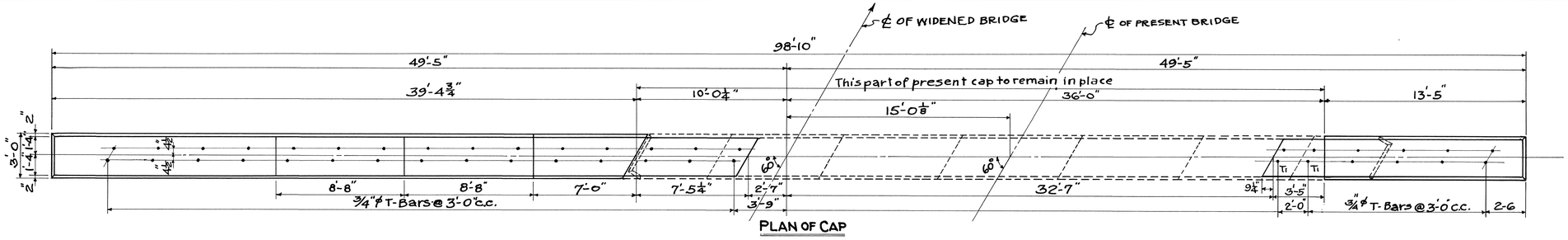
DESIGNED BY W.S. DATE 8-15-56
DRAWN BY W.S. DATE 8-15-56
TRACED BY A.BUERRE DATE 8-28-56
CHECKED BY DATE

CORRECT Fred Grave BRIDGE ENGINEER
APPROVED Herbert S. Bates STATE HIGHWAY ENGINEER

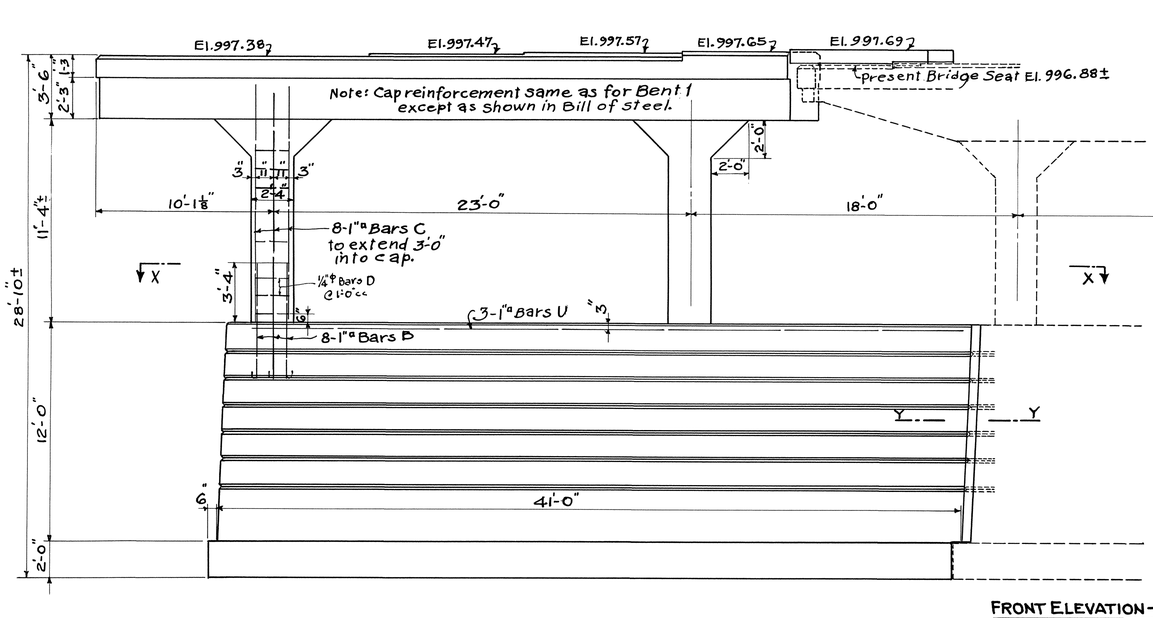
F-9-144

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
8	TENN.		19	50	92

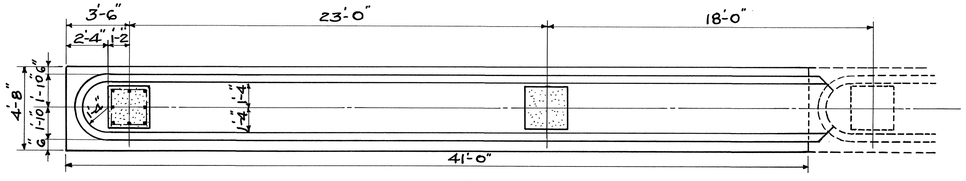
F-002-1-(6)



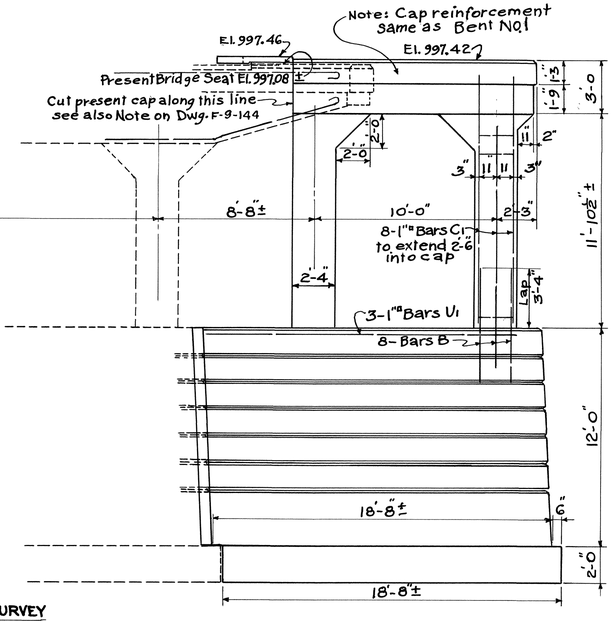
PLAN OF CAP

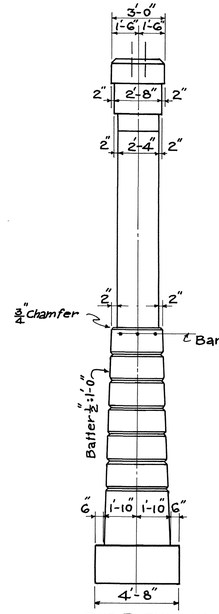


FRONT ELEVATION - LOOKING FORWARD ON SURVEY

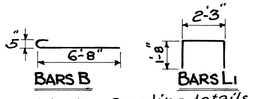


PART SECTION X-X





END ELEVATION

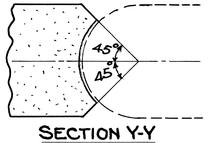


BARS B BARS L1

Note: For Bending details not shown See Dwg. F-9-144

BILL OF STEEL

BAR	No.	SIZE	LENGTH	BAR	No.	SIZE	LENGTH	BAR	No.	SIZE	LENGTH
B	32	1"ª	7'-6"	G	2	1¼"ª	26'-6"	S	38	⅝"ϕ	12'-0"
C	16	"	14'-4"	H	2	1⅛"ª	18'-10"	S1	8	½"ϕ	10'-10"
C1	16	1"ª	14'-5"	H1	1	1"ª	15'-3"				
				H2	1	1"ª	16'-6"	T	38	¾"ϕ	2'-0"
D	42	¼"ϕ	8'-6"	J	1	1¼"ª	40'-3"	T1	4	¾"ϕ	2'-5"
				J1	1	"	40'-10"				
E	18	¾"ϕ	9'-3"	J2	1	1¼"ª	41'-6"	U	3	1"ª	39'-6"
				J3	1	1"ª	16'-11"	U1	3	1"ª	17'-0"
F	1	1¼"ª	40'-1"	J4	1	1"ª	15'-8"				
F1	1	"	41'-4"								
F2	2	"	29'-0"	K1	2	½"ϕ	7'-0"				
F3	2	"	18'-0"	L1	6	½"ϕ	5'-7"				
F4	3	1¼"ª	15'-0"								



SECTION Y-Y

ESTIMATED QUANTITIES

CONCRETE CLASS A	134.6	CU. YDS.
REINFORCING STEEL	6843	LBS.

DESIGNED BY		DATE	
DRAWN BY	WJS	DATE	8-1-56
TRACED BY	JWM	DATE	8-28-56
CHECKED BY		DATE	

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
NASHVILLE

WIDENING DETAILS
BENT NO. 2
N.C. & St. L. RY. OVERHEAD CROSSING
COFFEE COUNTY
1956

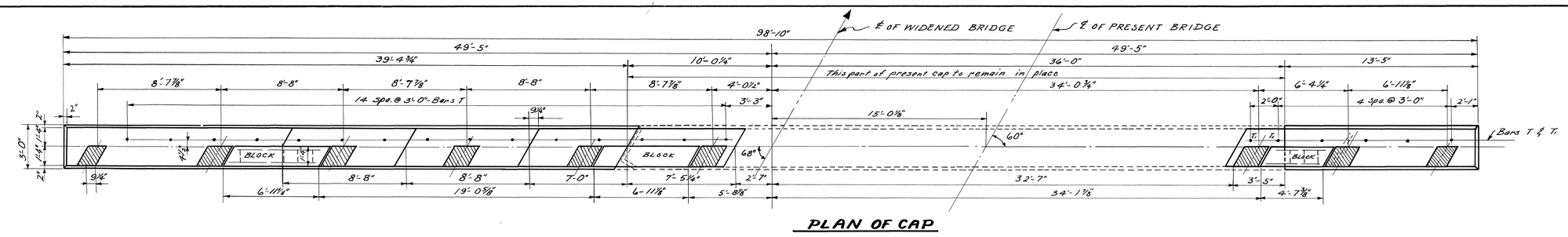
CORRECT: Fred Greve, BRIDGE ENGINEER

APPROVED: Charles J. Mahan, STATE HIGHWAY ENGINEER

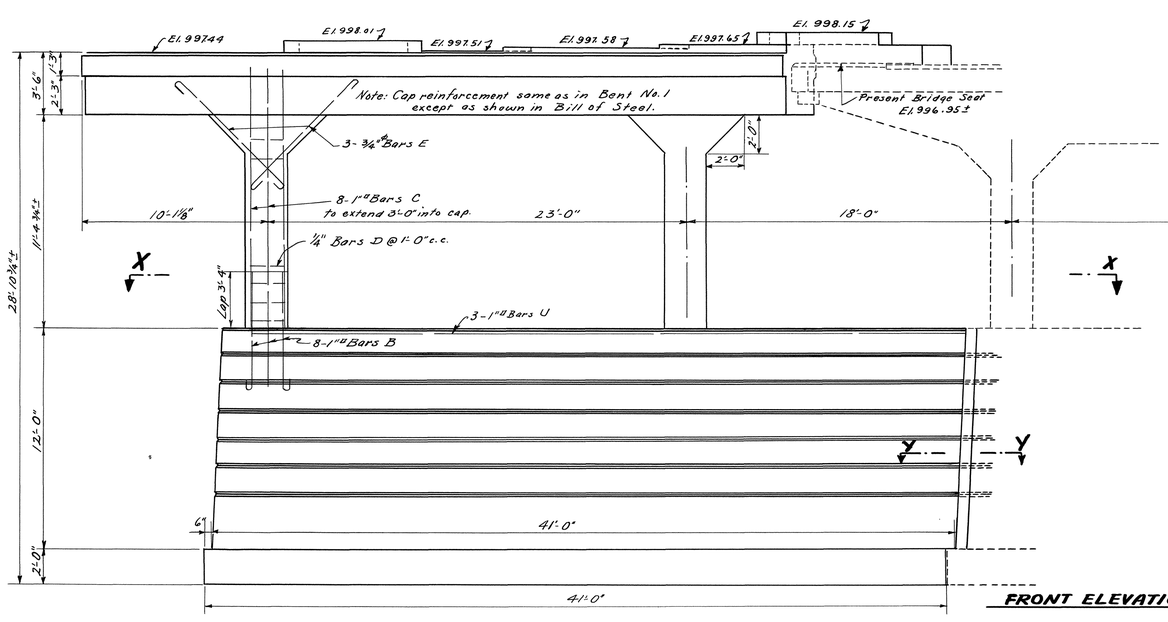
F-9-145

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
8	TENN.		19	57	92

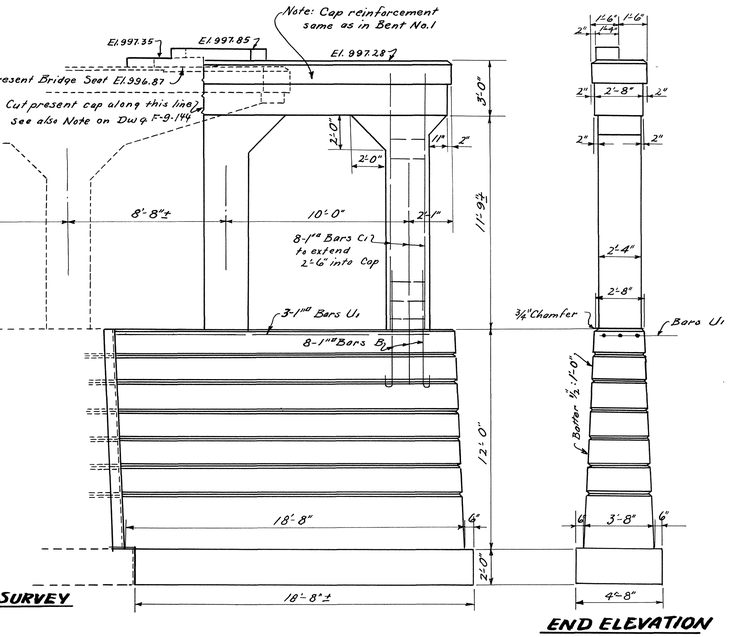
F-002-1(6)



PLAN OF CAP

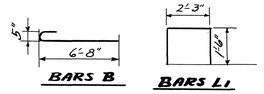


FRONT ELEVATION - LOOKING FORWARD on SURVEY



END ELEVATION

Note: For Section X-X & Y-Y See Bent No. 2.



Note: For bending details not shown see Dwg. F-9-144

BILL OF STEEL

BAR	NO.	SIZE	LENGTH	BAR	NO.	SIZE	LENGTH	BAR	NO.	SIZE	LENGTH
B	32	1" □	7'-6"	G	2	1 1/4" □	26'-6"	K2	2	1/2" ℄	4'-0"
C	16	"	14'-5"	H	2	1 1/4" □	18'-10"				
C1	16	1" □	14'-3"	H1	1	1" □	15'-3"	L	9	1 1/2" ℄	3'-7"
				H2	1	1" □	16'-6"	L1	6	1 1/2" ℄	5'-3"
D	44	3/8" ℄	8'-6"								
E	18	3/8" ℄	9'-3"	J	1	1 1/4" □	40'-3"	S	38	5/8" ℄	12'-0"
				J1	1	"	40'-10"	S1	8	1/2" ℄	10'-10"
F	1	1/4" □	40'-1"	J2	1	1 1/2" □	41'-6"				
F1	1	"	41'-4"	J3	1	1" □	16'-11"	T	19	3/4" ℄	2'-0"
F2	2	"	29'-0"	J4	1	1" □	15'-8"	T1	2	3/4" ℄	2'-6"
F3	2	"	18'-0"								
F4	3	1 1/4" ℄	15'-0"	K	2	1/2" ℄	6'-6"	U	3	1" □	39'-6"
				K1	2	1/2" ℄	7'-0"	U1	3	1" □	17'-0"

ESTIMATED QUANTITIES

CONCRETE CLASS "A" 134.9 CU. YDS.
REINFORCING STEEL 6214 LBS.

DESIGNED BY _____ DATE _____
DRAWN BY W. Suter DATE 8-20-56
TRACED BY A. Kelley DATE 8-27-56
CHECKED BY _____ DATE _____

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
NASHVILLE

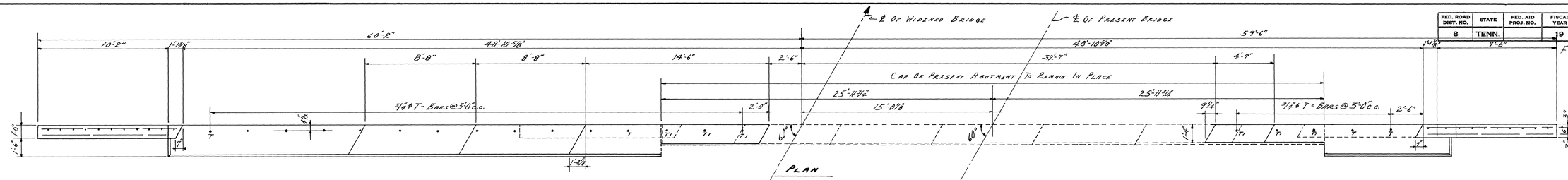
WIDENING DETAILS
BENT NO. 3
N.C.& ST.L. RY OVERHEAD CROSSING
COFFEE CO
1956

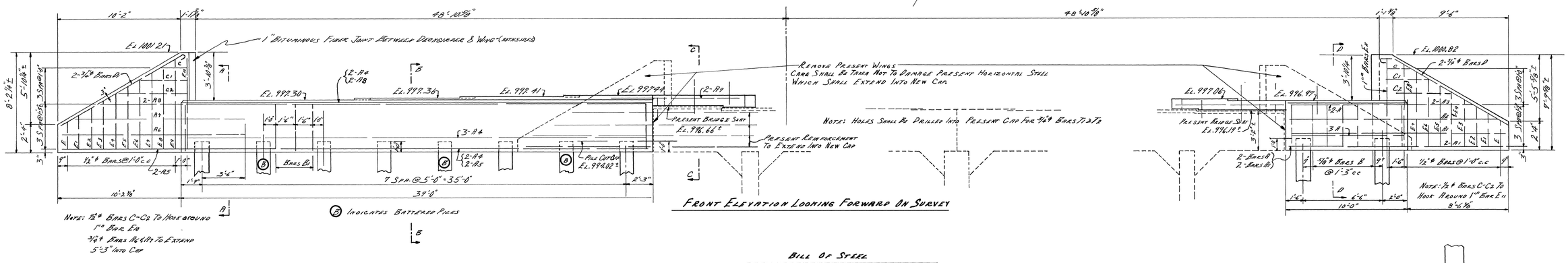
CORRECT Fred Grieve BRIDGE ENGINEER
APPROVED H. Burbank M. Bates STATE HIGHWAY ENGINEER

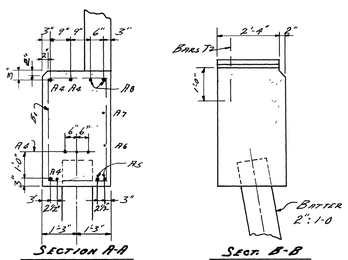
F-9-146

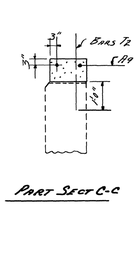
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
8	TENN.		19	52	92

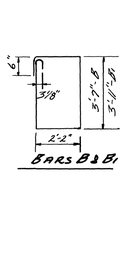
F-002-1-16)

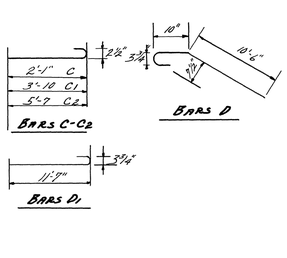












Bill Of Steel

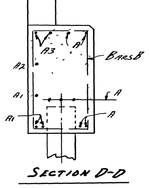
Bar	No	Size	Length	Bar	No	Size	Length
A	9	3/4"ø	9'-9"	D1	2	3/4"ø	12'-3"
A1	3	"	18'-3"	E	2	1 1/2"ø	2'-3"
A2	1	"	17'-6"	E1	2	"	2'-9"
A3	2	"	23'-6"	E2	2	"	3'-6"
A4	9	"	38'-9"	E3	2	"	4'-0"
A5	2	"	49'-0"	E4	2	"	4'-9"
A6	1	"	15'-3"	E5	2	"	5'-3"
A7	1	"	14'-0"	E6	2	"	6'-0"
A8	2	"	45'-9"	E7	2	"	6'-6"
A9	2	3/8"ø	11'-0"	E8	1	"	7'-0"
B	7	5/8"ø	12'-6"	E9	1	1 1/2"ø	7'-6"
B1	23	3/8"ø	13'-2"	E10	1	1" ø	7'-9"
C	2	1 1/2"ø	2'-6"	E11	1	1" ø	7'-3"
C1	2	"	4'-3"	T	14	3/4"ø	2'-0"
C2	2	1 1/2"ø	6'-0"	T1	6	3/4"ø	2'-10"
D	2	3/4"ø	12'-0"				

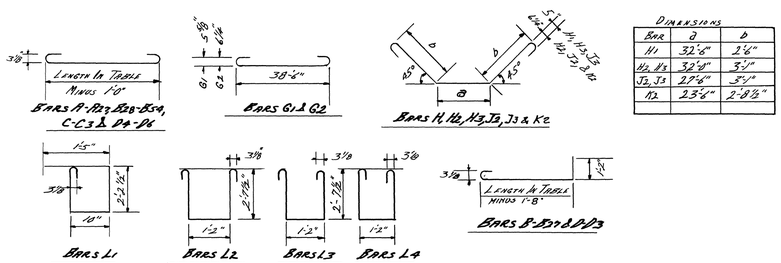
Abutment No. 2

Estimated Quantities

Concrete Class "A" 23.4 Cu. Yds.

Reinforcing Steel 1721 Lbs.





BENDING DETAILS - DECKGIRDERS

Bill of Steel - End Span

Bar	No	Size	Length	Bar	No	Size	Length	Bar	No	Size	Length	Bar	No	Size	Length	Bar	No	Size	Length
A	31	3/4"ø	33'-6"	B	31	3/4"ø	34'-2"	B28	1	3/4"ø	33'-2"	C	55	3/4"ø	9'-6"	J2	10	1 1/4"ø	35'-9"
A1	2	"	53'-2"	B1	1	"	33'-10"	B29	1	"	32'-1"	C1	2	"	7'-2"	J3	4	1" ø	35'-4"
A2	2	"	32'-1"	B2	1	"	32'-9"	B30	1	"	31'-0"	C2	2	"	6'-1"				
A3	2	"	31'-0"	B3	1	"	31'-8"	B31	1	"	29'-11"	C3	2	3/4"ø	5'-0"	K2	8	1 1/4"ø	30'-11"
A4	2	"	29'-11"	B4	1	"	30'-3"	B32	1	"	28'-10"								
A5	2	"	28'-10"	B5	1	"	29'-6"	B33	1	"	27'-9"	D	55	3/8"ø	8'-2"	L1	50	3/8"ø	7'-2"
A6	2	"	27'-9"	B6	1	"	28'-5"	B34	1	"	26'-8"	D1	1	"	7'-10"	L2	12	"	7'-5"
A7	2	"	26'-8"	B7	1	"	27'-4"	B35	1	"	25'-7"	D2	1	"	6'-9"	L3	30	"	7'-5"
A8	2	"	25'-7"	B8	1	"	26'-3"	B36	1	"	24'-6"	D3	1	"	5'-8"	L4	60	3/8"ø	7'-3"
A9	2	"	24'-6"	B9	1	"	25'-2"	B37	1	"	23'-5"	D4	1	"	7'-2"				
A10	2	"	23'-5"	B10	1	"	24'-1"	B38	1	"	22'-4"	D5	1	"	6'-1"	M	3	5/8"ø	44'-3"
A11	2	"	22'-4"	B11	1	"	23'-0"	B39	1	"	21'-5"	D6	1	3/4"ø	5'-0"	N1	3	"	14'-3"
A12	2	"	21'-3"	B12	1	"	21'-11"	B40	1	"	20'-2"					N2	3	"	45'-0"
A13	2	"	20'-2"	B13	1	"	20'-10"	B41	1	"	19'-1"	E	140	3/8"ø	6'-9"	N3	3	5/8"ø	15'-0"
A14	2	"	19'-1"	B14	1	"	19'-9"	B42	1	"	18'-0"	E1	4	"	6'-1"				
A15	2	"	18'-0"	B15	1	"	18'-8"	B43	1	"	16'-11"	E2	4	"	5'-2"				
A16	2	"	16'-9"	B16	1	"	17'-7"	B44	1	"	15'-10"	E3	4	"	4'-3"				
A17	2	"	15'-10"	B17	1	"	16'-6"	B45	1	"	14'-9"	E4	4	3/8"ø	3'-5"				
A18	2	"	14'-9"	B18	1	"	15'-5"	B46	1	"	13'-8"								
A19	2	"	13'-8"	B19	1	"	14'-4"	B47	1	"	12'-7"	F	57	1"ø	38'-6"				
A20	2	"	12'-7"	B20	1	"	13'-3"	B48	1	"	11'-6"								
A21	2	"	11'-6"	B21	1	"	12'-2"	B49	1	"	10'-5"	G1	6	1 1/8"ø	40'-6"				
A22	2	"	10'-5"	B22	1	"	11'-1"	B50	1	"	9'-4"	G2	28	1 1/4"	40'6"				
A23	2	"	9'-4"	B23	1	"	10'-0"	B51	1	"	8'-3"								
A24	2	"	8'-3"	B24	1	"	8'-11"	B52	1	"	7'-2"	H1	4	1" ø	39'-2"				
A25	2	"	7'-2"	B25	1	"	7'-10"	B53	1	"	6'-1"	H2	10	1 1/8"	40'-2"				
A26	2	"	6'-1"	B26	1	"	6'-9"	B54	1	5/8"ø	5'-0"	H3	4	1" ø	39'-6"				
A27	2	3/8"ø	5'-0"	B27	1	3/8"ø	5'-8"												

Note: Bill Of Steel For Intermediate Span Same Except Omit Bars M2 & M3 And Add 3 Bars M & 3 Bars N1

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
NASHVILLE

Widening Details
Abutment No. 2
N.C. & St. L. Ry Overhead Crossing
Coffee Co
1958

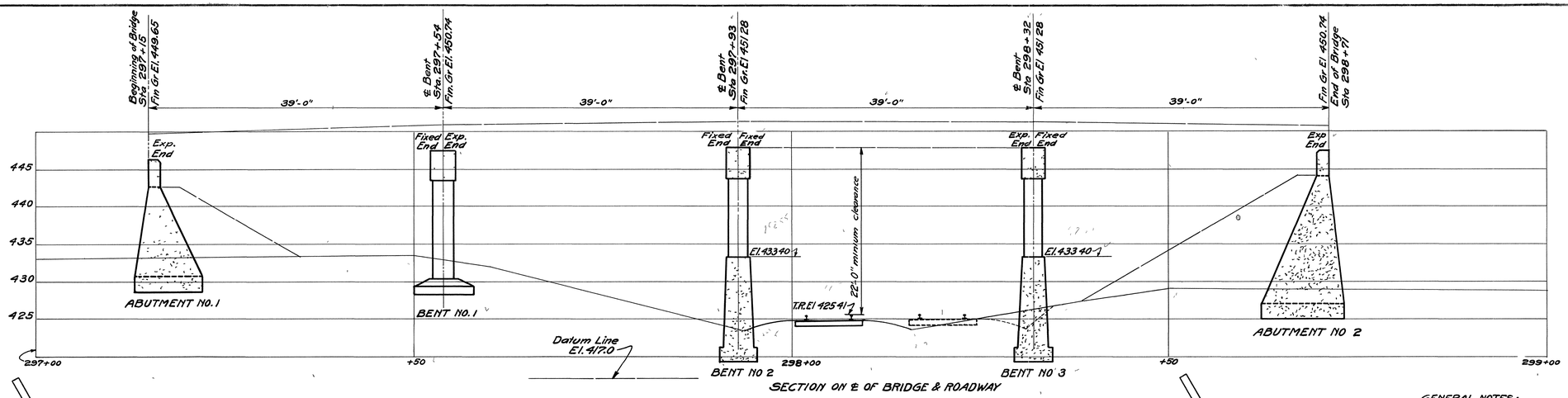
DESIGNED BY _____ DATE _____
DRAWN BY W. S. DATE 8/16/58
TRACED BY E. P. Ford DATE 8/27/58
CHECKED BY _____ DATE _____

CORRECT Fred Gore BRIDGE ENGINEER
APPROVED Chester G. McCarley STATE HIGHWAY ENGINEER

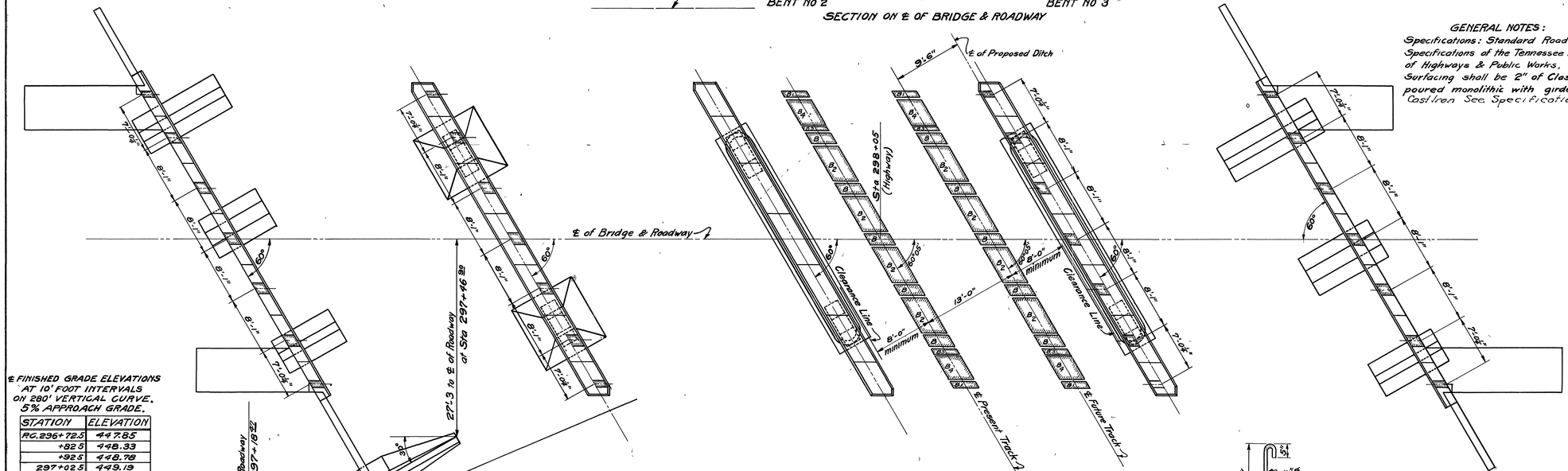
F-9-147

Tr'd 10-3 9/11/58

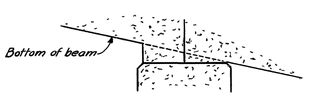
FED ROAD DIST NO	STATE	FED AID PROJ NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
8	TENN		19		16



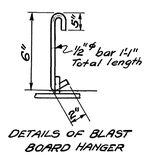
SECTION ON ℄ OF BRIDGE & ROADWAY



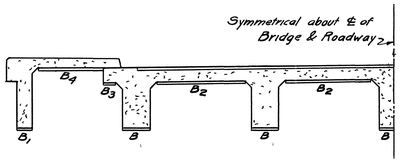
Note: To locate ends of wall, turn 90° from ℄ of Roadway at Sta given and measure out distance shown.

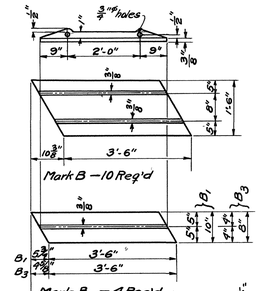


DETAIL AT BENTS
Showing blocks poured with beam stems to obtain level bearing.

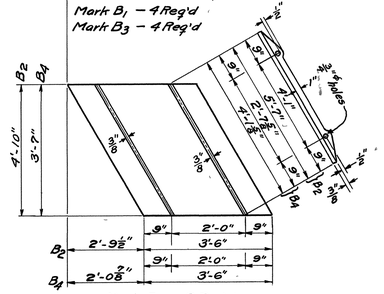


DETAILS OF BLAST BOARD HANGER





Mark B – 10 Req'd
Mark B_1 – 4 Req'd
Mark B_3 – 4 Req'd



Mark B_2 – 8 Req'd
Mark B_4 – 4 Req'd

DETAILS OF CAST IRON BLAST BOARDS
Note These boards to be placed as indicated and centered over ℄ of Present Main Track & Future Track. All castings to be hung with ½" ℄ hooked bars.

GENERAL NOTES:
Specifications: Standard Road & Bridge Specifications of the Tennessee Department of Highways & Public Works.
Surfacing shall be 2" of Class "A" Concrete poured monolithic with girder slab
Cast Iron See Specifications

LIST OF DRAWINGS.
For detail of Handrail see Drawing D-8-117
For detail of Girders see Drawing A-0-2
For detail of Abutment No 1 see Drawing D-8-118
For detail of Abutment No. 2 see Drawing D-8-119
For detail of Bent No 1 see Drawing D-8-106
For detail of Bents Nos 2 & 3 see Drawing D-8-177
For detail of Retaining Wall see Drawing D-8-117

℄ FINISHED GRADE ELEVATIONS AT 10' FOOT INTERVALS ON 280' VERTICAL CURVE. 5% APPROACH GRADE.

STATION	ELEVATION
PC. 296+72.5	447.85
+82.5	448.33
+92.5	448.78
297+02.5	449.19
+12.5	449.56
+22.5	449.90
+32.5	450.21
+42.5	450.47
+52.5	450.71
+62.5	450.90
+72.5	451.06
+82.5	451.19
+92.5	451.28
298+02.5	451.33
PI. 298+18.5	451.35
+22.5	451.33
+32.5	451.28
+42.5	451.19
+52.5	451.06
+62.5	450.90
+72.5	450.71
+82.5	450.47
+92.5	450.21
299+02.5	449.90
+12.5	449.56
+22.5	449.19
+32.5	448.78
+42.5	448.33
PT. 299+52.5	447.85

Note: Curb is 9" above elevation at right angles to it on ℄ of Bridge & Roadway. Build Girder to Fit Vertical Curve.

ESTIMATED QUANTITIES

ITEM	EXCAVATION CU. YDS. DRY	EXCAVATION CU. YDS. WET	CONCRETE CU. YDS. CLASS S	CONCRETE CU. YDS. CLASS A	CONCRETE CU. YDS. CLASS B	STEEL LBS. REINF.	STEEL LBS. STRUCT.	CAST IRON LBS.
SUPERSTRUCTURE	—		—	-	-	-	-	-
4-36'-0" CONC. GIR. SPANS	—		23.8	352.1	-	69028	2588	3872
SUBSTRUCTURE	—		-	-	-	-	-	-
ABUTMENT NO 1	81		-	90.6	-	3031	-	-
ABUTMENT NO 2	71		-	42.3	-	3022	-	-
BENT NO 1	85		-	90.2	-	6198	-	-
BENT NO 2	75		-	29.6	56.6	5456	-	-
BENT NO 3	119		-	29.6	56.6	5414	-	-
RETAINING WALL	18		-	10.0		581	-	-
TOTALS	449		23.8	539.4	113.2	94290	2588	3872

DESIGNED BY J. Gee DATE April 1928
DRAWN BY J. Gee DATE April 1928
TRACED BY E. Quillen DATE 7-17-28
CHECKED BY T. Wilding DATE April 1928

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
NASHVILLE

DETAILS

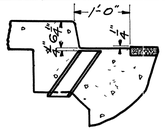
OVERHEAD CROSSING

OVER
N.C. & ST.L.RY
STA. 297+15
COFFEE CO.
1928

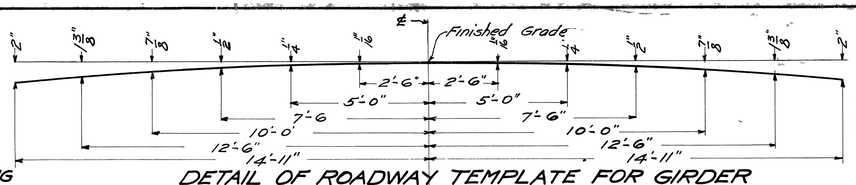
CORRECT L. N. Hickerson BRIDGE ENGINEER
APPROVED E. F. Gay ASSISTANT STATE HIGHWAY ENGINEER

D-8-116

FED ROAD DIST NO	STATE	FED AID PROJ NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
8	TENN		19		

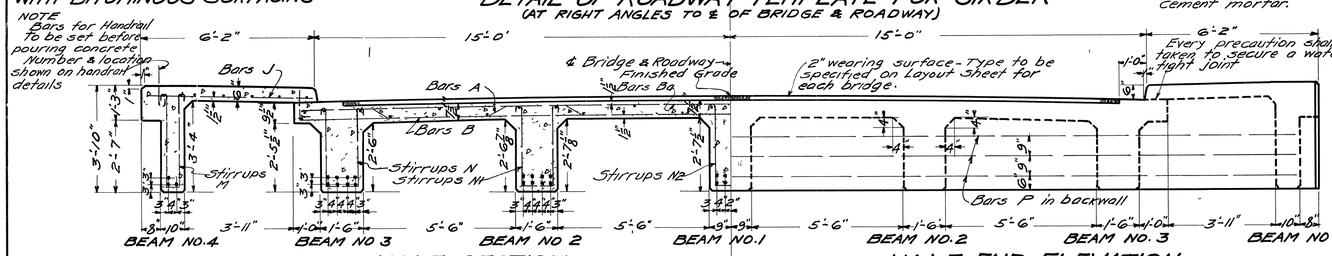


DETAIL OF GUTTER WITH BITUMINOUS SURFACING

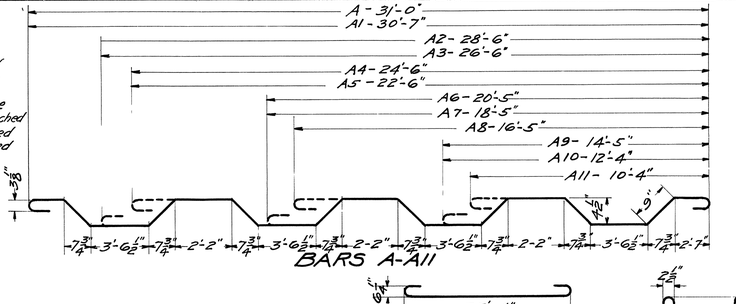


DETAIL OF ROADWAY TEMPLATE FOR GIRDER
(AT RIGHT ANGLES TO ℄ OF BRIDGE & ROADWAY)

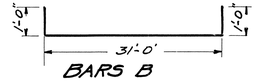
NOTE
Before the concrete of the driveway slab acquires a hard set, it shall be scraped free of all laitance, etc and just preceding the pouring of the sidewalk slab, it shall be drenched with water, thoroughly scrubbed with wire brushes and covered with a thick layer of neat cement mortar.



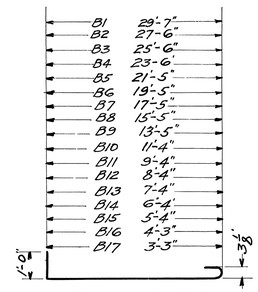
HALF SECTION — HALF END ELEVATION
(AT RIGHT ANGLES TO ℄ OF ROADWAY)



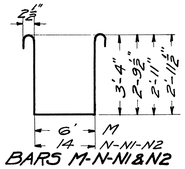
BARS A-A11



BARS B

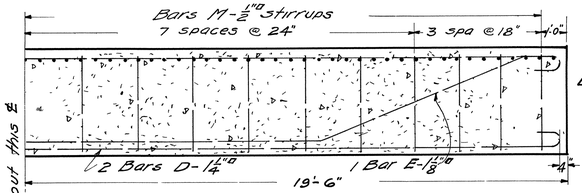


BARS B1-B17

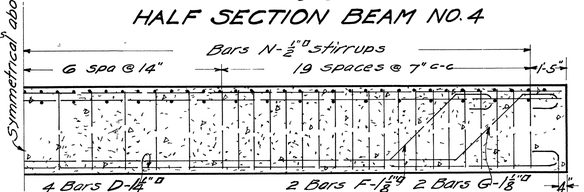


BARS D

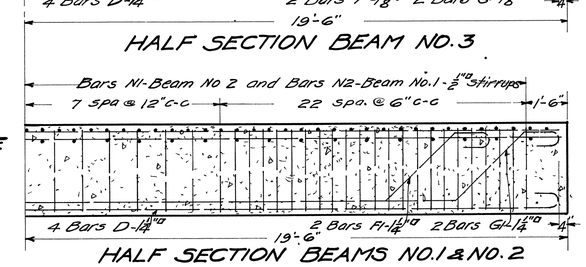
BARS M-N-N1 & N2



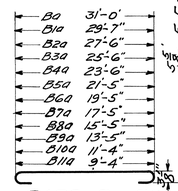
HALF SECTION BEAM NO.4



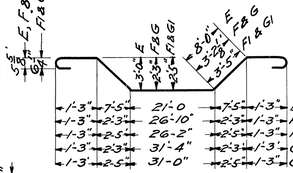
HALF SECTION BEAM NO.3



HALF SECTION BEAMS NO.1 & NO.2



BARS Ba-B11a

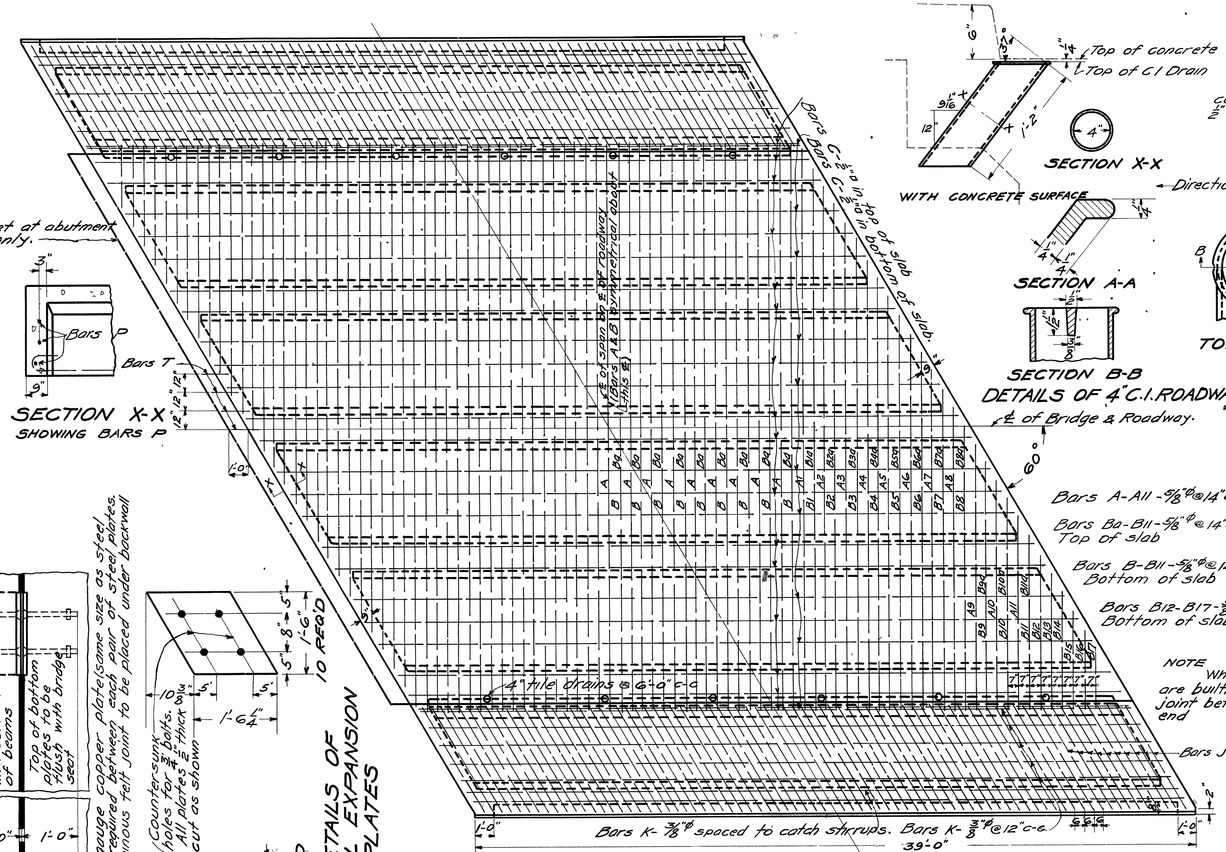


BARS E, F, FI, G & G1

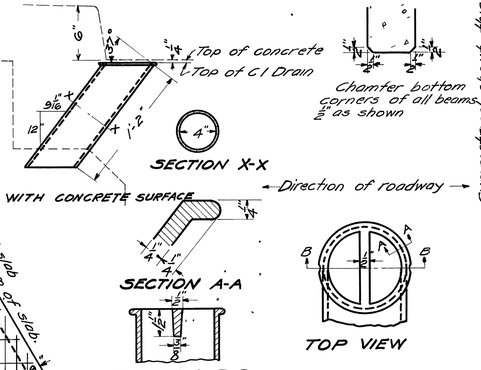
BILL OF STEEL

BAR	SIZE	NO	LENGTH	BAR	SIZE	NO	LENGTH
A	7/8" ℄	17	32'-10"	B16	5/8" ℄	2	5'-9"
A1	"	2	32'-5"	B17	5/8" ℄	2	4'-9"
A2	"	2	30'-3"	Ba	5/8" ℄	18	32'-0"
A3	"	2	28'-3"	B1a	"	2	30'-7"
A4	"	2	26'-2"	B2a	"	2	28'-6"
A5	"	2	24'-2"	B3a	"	2	26'-6"
A6	"	2	21'-11"	B4a	"	2	24'-6"
A7	"	2	19'-11"	B5a	"	2	22'-5"
A8	"	2	17'-10"	B6a	"	2	20'-5"
A9	"	2	15'-9"	B7a	"	2	18'-5"
A10	"	2	13'-8"	B8a	"	2	16'-5"
A11	"	2	11'-7"	B9a	"	2	14'-5"
B	5/8" ℄	18	33'-0"	B10a	"	2	12'-4"
B1	"	2	31'-1"	B11a	5/8" ℄	2	10'-4"
B2	"	2	29'-0"	C	1/2" □	26	38'-6"
B3	"	2	27'-0"	D	1/2" □	24	40'-4"
B4	"	2	25'-0"	E	1/2" □	2	41'-4"
B5	"	2	22'-11"	F	1/2" □	4	37'-6"
B6	"	2	20'-11"	F1	1/2" □	6	37'-6"
B7	"	2	18'-11"	G	1/2" □	4	42'-0"
B8	"	2	16'-11"	G1	1/2" □	6	42'-4"
B9	"	2	14'-11"	J	5/8" ℄	154	6'-5"
B10	"	2	12'-10"	K	5/8" ℄	14	38'-6"
B11	"	2	10'-10"	M	1/2" □	42	8'-0"
B12	"	2	9'-10"	N	1/2" □	102	7'-7"
B13	"	2	8'-10"	N1	1/2" □	118	7'-10"
B14	"	2	7'-10"	N2	1/2" □	59	7'-11"
B15	5/8" ℄	2	6'-10"	P	1/2" □	6	47'-3"

Add to BILL OF STEEL for each bracket required, 30 bars T-2 1/2" □ x 2'-3" & 1 bar U-1/2" □ x 34'-0"

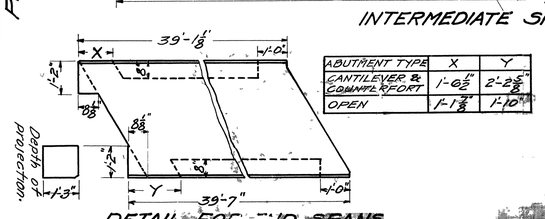


INTERMEDIATE SPAN

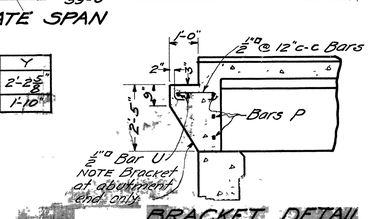


DETAILS OF 4" C.I. ROADWAY DRAIN PIPE

DETAILS OF STEEL EXPANSION PLATES



DETAIL FOR 40' SPANS



BRACKET DETAIL

ESTIMATED QUANTITIES

Concrete Class "A"	82.08 Cu Yds.
Reinforcing steel	16571 Lbs.
Structural steel	647 Lbs

NOTE
Above quantities are for one Intermediate Span.
For each span at end of bridge add 1.87 Cu Yds of Class "A" concrete and 86 Lbs of reinforcing steel (Bracket & additional in blocks) to above quantities, except when Open Type Abutments are used, in which case add 1.78 Cu Yds of Class "A" concrete and 86 Lbs. of reinforcing steel.
Cost of C.I Drains and all bituminous felt joints shall be included in price per cu yd of Class "A" concrete
Cost of copper plates shall be included in the price per pound of structural steel

NOTE
Above sections taken on ℄ of beams Stirrups shall be spaced along this ℄ as shown and placed at right angles to it

General Notes
Specifications Standard Road & Bridge Specifications of the Tennessee Department of Highways and Public Works.
Concrete shall be Class "A".
Reinforcing steel: See Specifications.
All dimensions relating to reinforcement are to centers of bars.
Forms & Finish: See Specifications.

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
NASHVILLE
STANDARD

CONCRETE BRIDGE DECK GIRDER TYPE

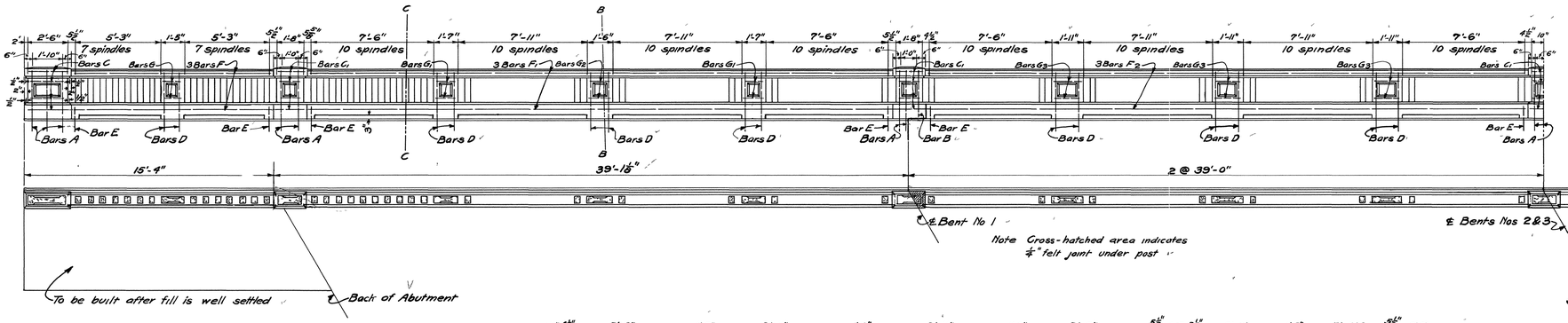
WITH 5'-0" SIDEWALKS
SPAN 36'-0" ROADWAY 30'-0"
SKEW 60° RT.
1928

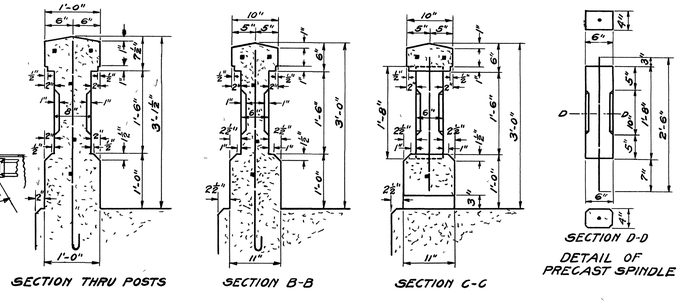
DESIGNED BY J. Gray DATE March 1928
DRAWN BY J. Gray DATE March 1928
TRACED BY Brannen DATE 3-21-28
CHECKED BY H. Bostan DATE 3-16-28

CORRECT L. H. Hamilton BRIDGE ENGINEER
APPROVED [illegible] STATE HIGHWAY ENGINEER

A-G 2

FED ROAD DIST No	STATE	FED AID PROJ No	FISCAL YEAR	SHEET No	TOTAL SHEETS
8	TENN		19		





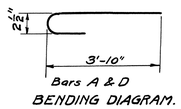
Note

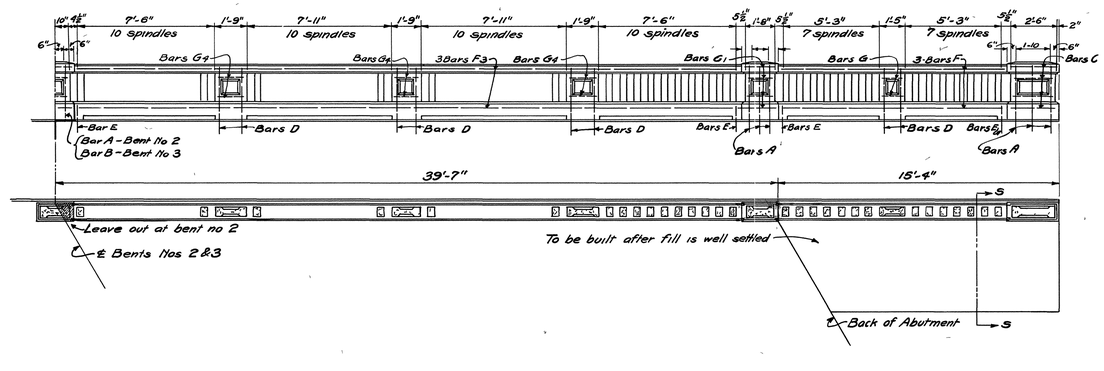
The Rail as detailed is for the left hand side of the Bridge

The Right hand side is the same, except, the rail for the left side of the first span becomes the rail for the right side of the last span and the rail for the left side of the last span becomes the rail for the right side of the first span.

BILL OF HANDRAIL STEEL – ALL BARS ⅝"ø

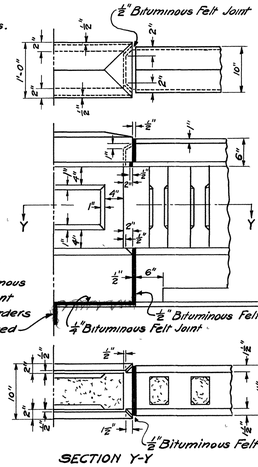
BAR	NO	LENGTH	BAR	NO	LENGTH
A	38	4'-3"	F3	6	36'-3"
B	4	2'-9"	G	8	1'-2"
C	20	2'-3"	G1	8	1'-4"
C1	60	1'-5"	G2	4	1'-3"
D	66	4'-3"	G3	24	1'-8"
E	24	1'-11"	G4	12	1'-6"
F	12	12'-3"	H	376	2'-6"
F1	6	35'-9"	J	60	4'-0"
F2	12	36'-9"	K	12	14'-3"

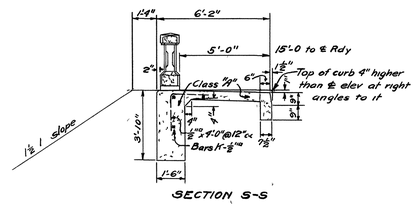




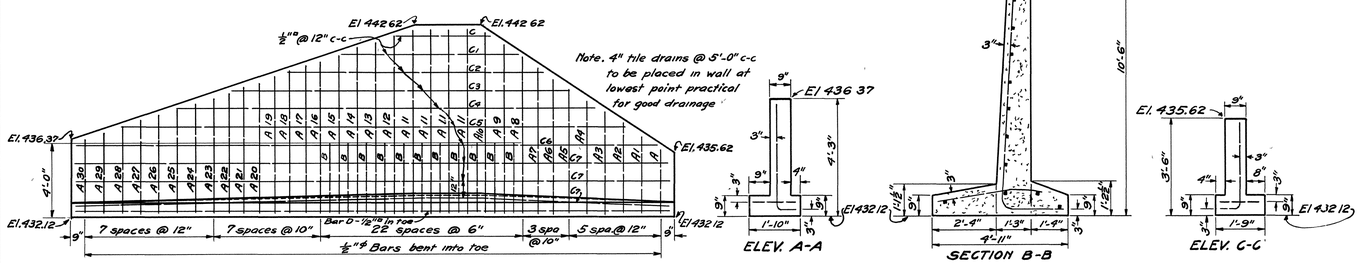
GENERAL NOTES.

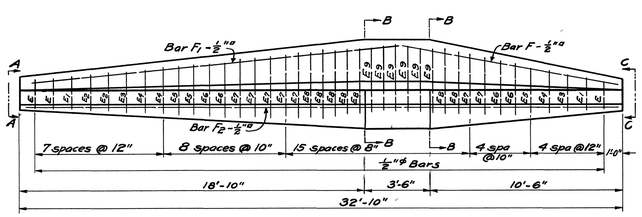
Specifications: Standard Road and Bridge Specifications of the Tennessee Department of Highways and Public Works.
Concrete in Handrail to be Class "S"
Concrete in balance of structure to be Class "A"
Reinforcing steel: See Specifications.
Spindles shall be precast in steel forms and shall not be handled for seven days after they have been poured.
Top surfaces of spindles as they lie in their molds, when cast in a horizontal position, shall be carefully floated to a true plane before the concrete obtains its permanent set.





DETAIL OF POSTS
Showing Expansion Joints





DETAIL OF RETAINING WALL AT RIGHT END OF ABUTMENT NO. 1

ESTIMATED QUANTITIES
CONCRETE – CLASS "A" 10.0 CU.YDS.
REINFORCING STEEL 581 LBS.

BILL OF STEEL

BAR	SIZE	NO	LENGTH	BAR	SIZE	NO	LENGTH	BAR	SIZE	NO	LENGTH
A	½"ø	1	4'-0"	A18	½"ø	1	9'-0"	C4	½"ø	1	23'-0"
A1	"	1	4'-9"	A19	"	1	8'-9"	C5	"	1	27'-6"
A2	"	1	5'-6"	A20	"	1	8'-3"	C6	"	1	31'-6"
A3	"	1	6'-3"	A21	"	1	8'-0"	C7	½"ø	3	32'-3"
A4	"	1	7'-3"	A22	"	1	7'-9"	D	½"ø	1	32'-3"
A5	"	1	8'-0"	A23	"	1	7'-3"	E	½"ø	3	1'-6"
A6	"	1	8'-6"	A24	"	1	7'-0"	E1	"	2	1'-9"
A7	"	1	9'-3"	A25	"	1	6'-6"	E2	"	2	2'-0"
A8	"	1	10'-0"	A26	"	1	6'-0"	E3	"	2	2'-3"
A9	"	1	10'-9"	A27	"	1	5'-9"	E4	"	3	2'-6"
A10	"	1	11'-6"	A28	"	1	5'-3"	E5	"	3	2'-9"
A11	"	4	11'-9"	A29	"	1	4'-9"	E6	"	4	3'-0"
A12	"	1	11'-3"	A30	½"ø	1	4'-6"	E7	"	7	3'-3"
A13	"	1	11'-0"	B	½"ø	11	5'-6"	E8	"	7	3'-6"
A14	"	1	10'-6"	C	½"ø	1	5'-0"	E9	½"ø	6	3'-9"
A15	"	1	10'-0"	C1	"	1	9'-6"	F	½"ø	1	12'-0"
A16	"	1	9'-9"	C2	"	1	14'-0"	F1	"	1	20'-9"
A17	½"ø	1	9'-6"	C3	½"ø	1	18'-6"	F2	½"ø	1	32'-3"

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
NASHVILLE

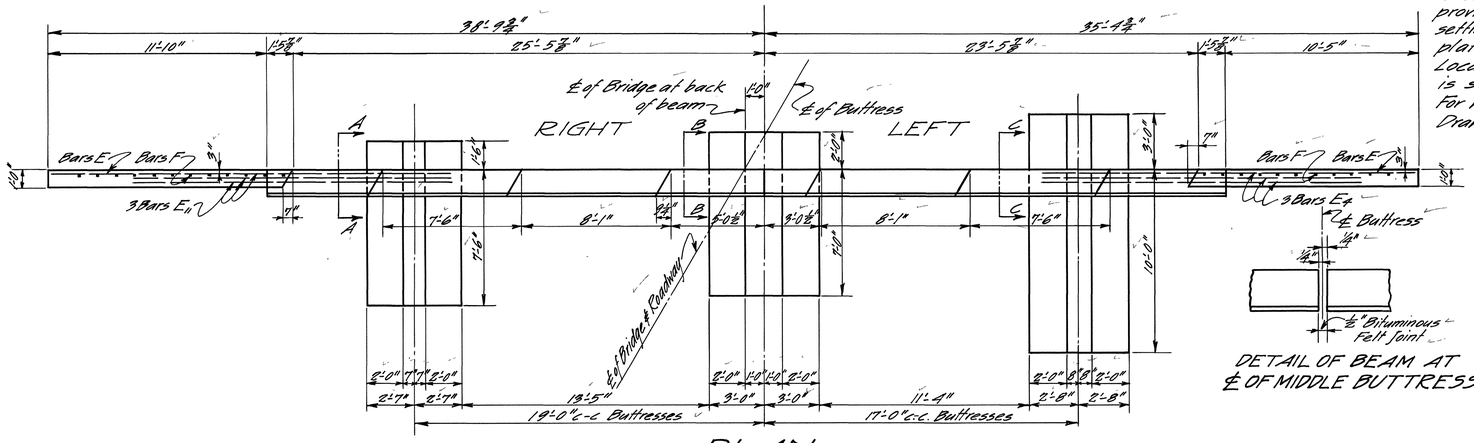
DETAIL OF
HANDRAIL & RETAINING WALL
STA. 297+15
COFFEE CO.
1928

DESIGNED BY T. Grove DATE April 1928
DRAWN BY T. Grove DATE April 1928
TRACED BY E. Carter DATE 4-18-28
CHECKED BY T. Vidstrup DATE April 1928

CORRECT L. H. Erickson BRIDGE ENGINEER
APPROVED O. J. Gertz ASSISTANT STATE HIGHWAY ENGINEER

D-8-117

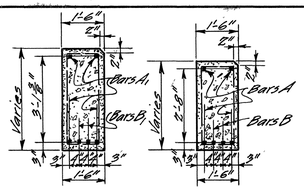
FED ROAD DIST. NO	STATE	FED. AID PROJ. NO	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
8	TENN.		19		



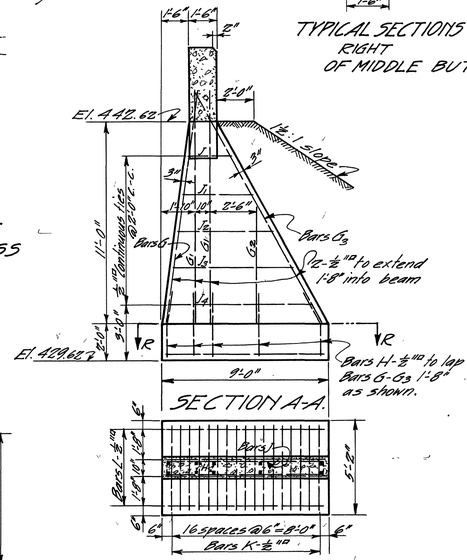
PLAN

NOTE: When pouring beam provision shall be made for setting bolts for expansion plates. Location of these plates is shown on Layout Sheet For method of placing see Drawing A-0-2

DETAIL OF BEAM AT ℄ OF MIDDLE BUTTRESS

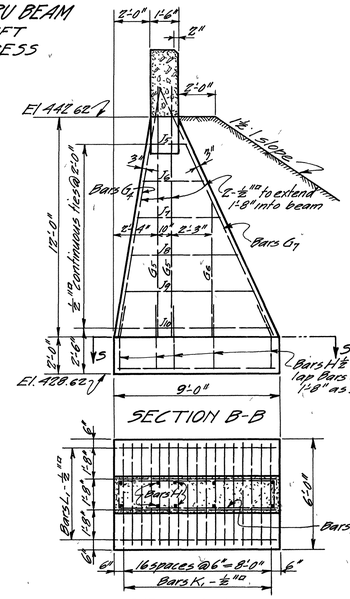


TYPICAL SECTIONS THRU BEAM
RIGHT LEFT
OF MIDDLE BUTTRESS



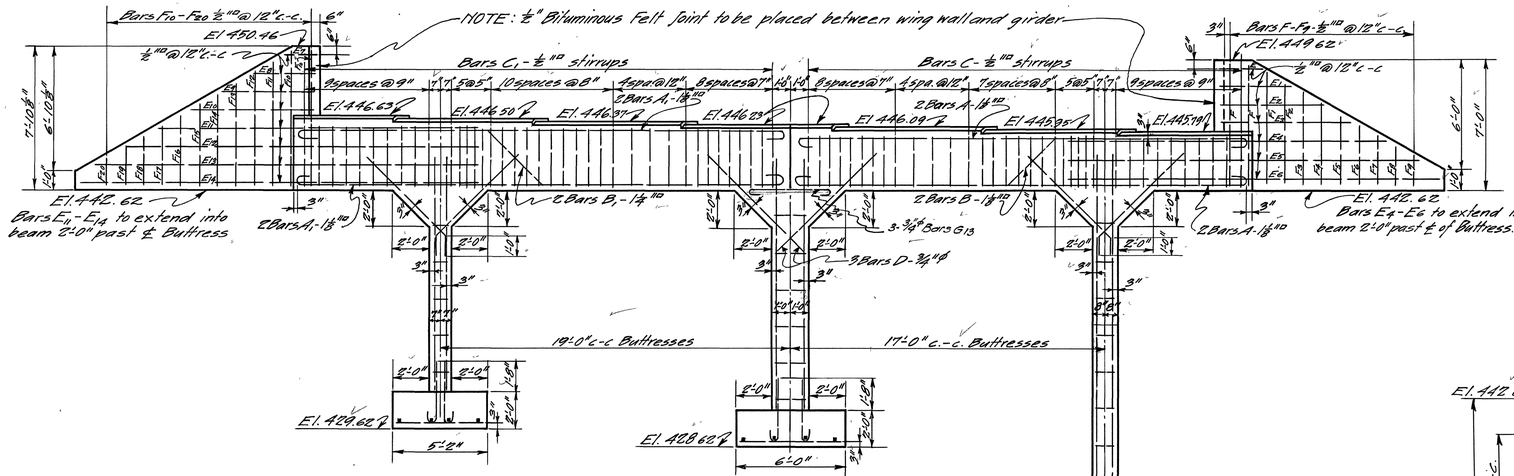
SECTION A-A.

SECTION R-R

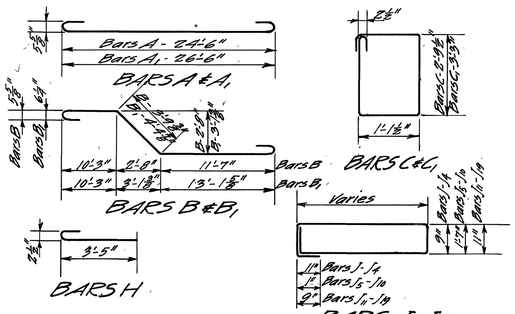


SECTION B-B

SECTION S-S.



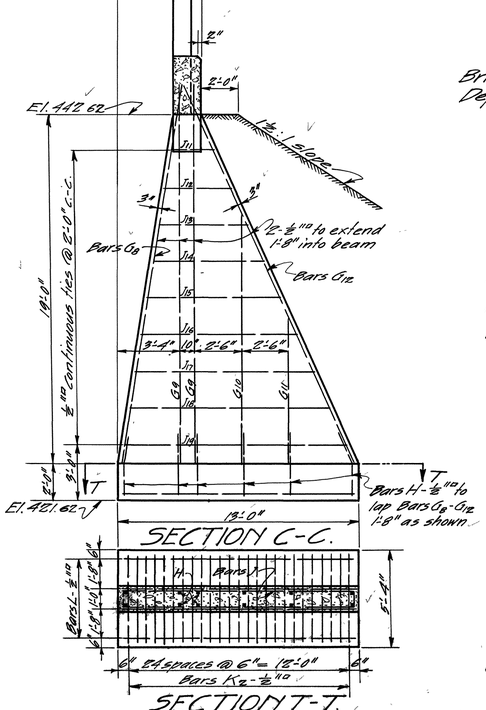
SIDE ELEVATION
(LOOKING BACK ON SURVEY)



BENDING DIAGRAMS

BILL OF STEEL

BAR	SIZE	NO.	LENGTH	BAR	SIZE	NO.	LENGTH	BAR	SIZE	NO.	LENGTH
A	1⅛"	4	26'-4"	F6	½"	1	3'-3"	H	½"	32	3'-10"
A1	"	4	28'-4"	F7	"	1	2'-6"	J	"	1	7'-9"
B	1¼"	2	27'-5"	F8	"	1	2'-0"	J1	"	1	10'-6"
B1	1¼"	2	29'-9"	F9	"	1	1'-6"	J2	"	1	13'-3"
C	½"	35	8'-8"	F10	"	2	7'-3"	J3	"	1	16'-0"
C1	½"	38	9'-7"	F11	"	1	6'-9"	J4	"	1	18'-9"
D	¾"	18	7'-6"	F12	"	1	6'-3"	J5	"	1	8'-9"
E	½"	1	1'-9"	F13	"	1	5'-6"	J6	"	1	11'-3"
E1	"	1	3'-6"	F14	"	1	5'-0"	J7	"	1	13'-9"
E2	"	1	5'-3"	F15	"	1	4'-6"	J8	"	1	16'-3"
E3	"	1	7'-0"	F16	"	1	3'-9"	J9	"	1	18'-6"
E4	"	3	17'-3"	F17	"	1	3'-3"	J10	"	1	21'-3"
E5	"	1	19'-0"	F18	"	1	2'-9"	J11	"	1	8'-0"
E6	"	1	20'-3"	F19	"	1	2'-3"	J12	"	1	10'-6"
E7	"	1	1'-6"	F20	½"	1	1'-6"	J13	"	1	13'-0"
E8	"	1	3'-3"	G	½"	2	12'-9"	J14	"	1	15'-3"
E9	"	1	5'-0"	G1	"	4	12'-9"	J15	"	1	17'-9"
E10	"	1	6'-9"	G2	"	2	6'-6"	J16	"	1	20'-0"
E11	"	3	17'-3"	G3	"	2	14'-6"	J17	"	1	22'-6"
E12	"	1	19'-0"	G4	"	2	19'-9"	J18	"	1	25'-0"
E13	"	1	20'-9"	G5	"	4	19'-9"	J19	½"	1	27'-6"
E14	½"	1	21'-6"	G6	"	2	7'-3"	K	½"	17	4'-8"
F	½"	2	6'-6"	G7	"	2	15'-0"	K1	"	17	5'-6"
F1	"	1	6'-0"	G8	"	2	21'-0"	K2	½"	25	4'-10"
F2	"	1	5'-6"	G9	"	4	20'-9"	L	½"	4	8'-6"
F3	"	1	4'-9"	G10	"	2	13'-6"	L1	"	4	8'-6"
F4	"	1	4'-3"	G11	"	2	7'-9"	L2	½"	4	12'-6"
F5	½"	1	3'-9"	G12	½"	2	22'-9"	G13	¾"	3	5'-9"



SECTION C-C.

SECTION T-T.

GENERAL NOTES:

Specifications: Standard Road and Bridge Specifications of the Tennessee Department of Highways and Public Works.
Concrete shall be Class "A".
Reinforcing Steel: See Specifications.
Forms and Finish: See Specifications.

ESTIMATED QUANTITIES:

CONCRETE, CLASS "A": 40.6 CU. YDS.
REINFORCING STEEL: 3691 LBS.

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
NASHVILLE

DETAIL

ABUTMENT NO.1

COFFEE CO. STA. 297+15

1928

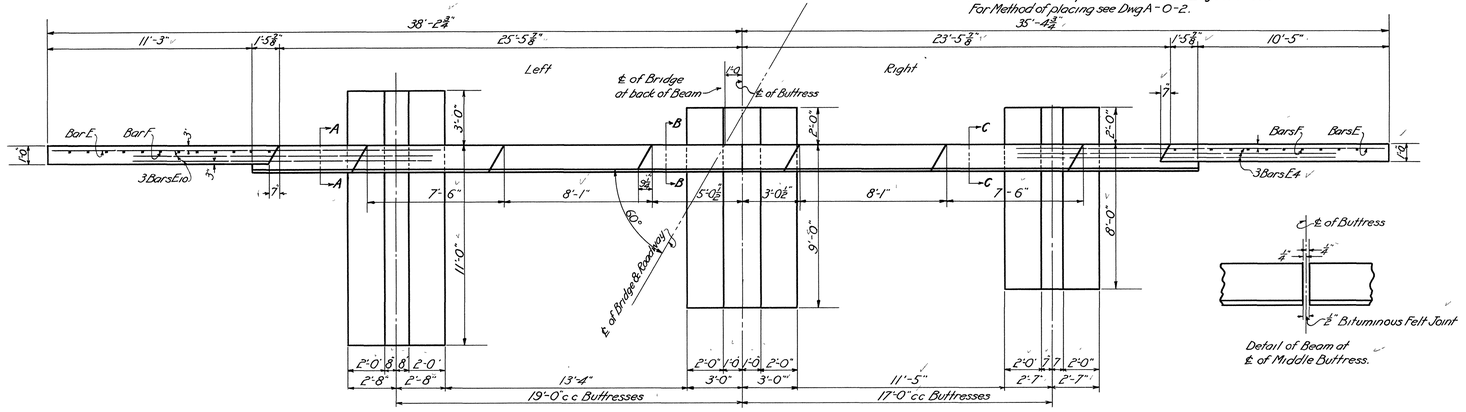
DESIGNED BY J. Grace
DRAWN BY J. Grace
TRACED BY E. Dal
CHECKED BY J. Vitstrup
DATE April 1928
DATE April 1928
DATE 4-16-28.
DATE April 1928

CORRECT L. N. Erickson
BRIDGE ENGINEER
APPROVED O. J. Gatt
ASSISTANT STATE HIGHWAY ENGINEER

D-8-118

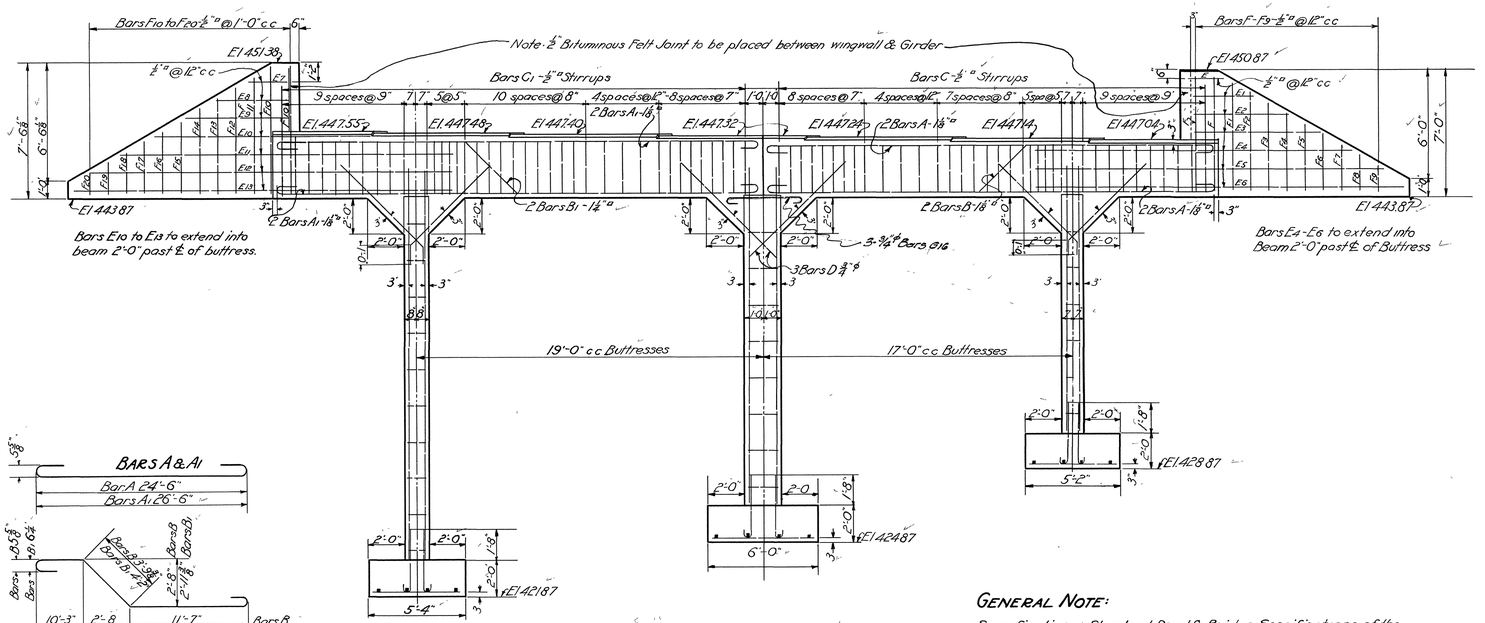
FED ROAD DIST NO	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO	TOTAL SHEETS
8	TENN.		19		

NOTE:
When pouring Beam provision shall be made for setting bolts for expansion plates
Location of these plates is shown on Layout Sheet.
For Method of placing see Dwg A-0-2.



PLAN

Detail of Beam at ℄ of Middle Buttress.



SIDE ELEVATION
(Looking ahead on Survey)

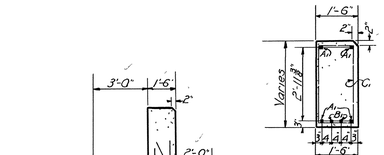
BENDING DIAGRAMS

GENERAL NOTE:

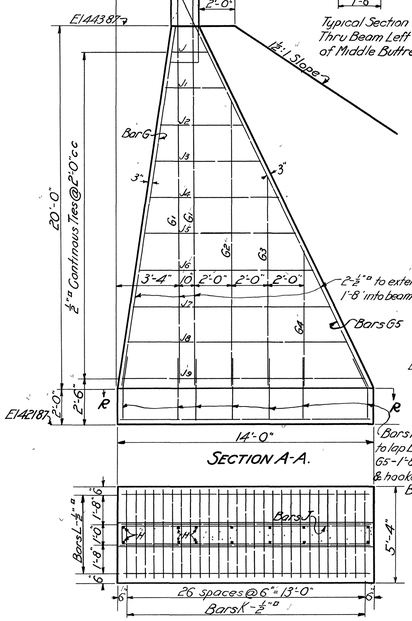
Specifications: Standard Road & Bridge Specifications of the Tennessee Department of Highways & Public Works.
Concrete shall be Class "A".
Reinforcing Steel: See Specifications.
Forms & Finish See Specifications

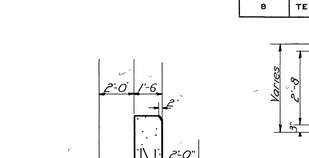
ESTIMATED QUANTITIES

Concrete, Class "A"	473 Cu.Yds.
Reinforcing Steel.	3922 Lbs.

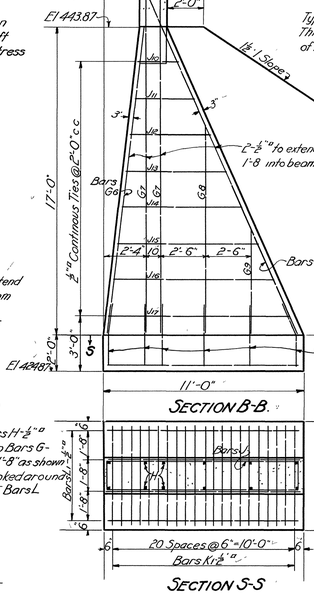


Typical Section Thru Beam Left of Middle Buttress



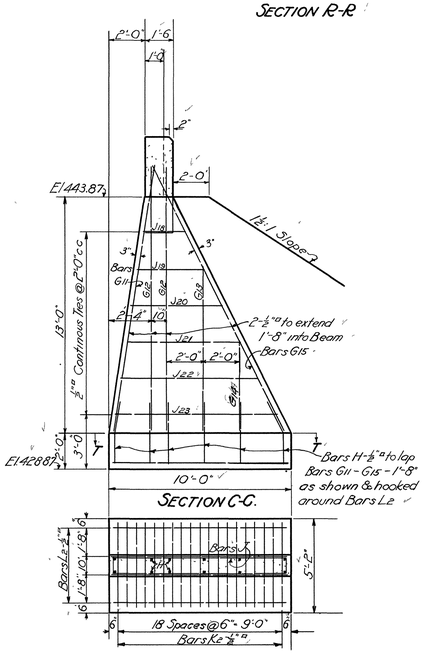


Typical Section Thru Beam Right of Middle Buttress



BILL OF STEEL

Bar	Size	No	Length	Bar	Size	No	Length	Bar	Size	No	Length
A	1⅝"ø	4	26'-4"	F9	½"ø	1	1'-6"	J1	½"ø	1	10'-0"
A1	1⅝"ø	4	28'-4"	F10	"	2	7'-0"	J2	"	1	12'-6"
B	1⅛"ø	2	27'-5"	F11	"	1	6'-3"	J3	"	1	15'-0"
B1	1¼"ø	2	29'-9"	F12	"	1	5'-9"	J4	"	1	17'-6"
C	½"ø	35	8'-8"	F13	"	1	5'-3"	J5	"	1	20'-0"
G	½"ø	38	9'-3"	F14	"	1	4'-9"	J6	"	1	22'-6"
D	⅞"ø	18	7'-6"	F15	"	1	4'-0"	J7	"	1	25'-0"
E	½"ø	1	1'-9"	F16	"	1	3'-6"	J8	"	1	27'-6"
E1	"	1	3'-6"	F17	"	1	3'-0"	J9	"	1	30'-0"
E2	"	1	5'-3"	F18	"	1	2'-3"	J10	"	1	8'-9"
E3	"	1	7'-0"	F19	⅝"ø	1	1'-9"	J11	"	1	11'-3"
E4	"	3	17'-3"	F20	½"ø	1	1'-3"	J12	"	1	13'-6"
E5	"	1	19'-0"	G	½"ø	2	22'-0"	J13	"	1	15'-9"
E6	"	1	20'-3"	G1	"	4	21'-9"	J14	"	1	18'-0"
E7	"	1	2'-6"	G2	"	2	15'-9"	J15	"	1	20'-3"
E8	"	1	4'-3"	G3	"	2	11'-6"	J16	"	1	22'-6"
E9	"	1	6'-0"	G4	"	2	7'-6"	J17	"	1	24'-9"
E10	"	3	16'-6"	G5	"	2	24'-0"	J18	"	1	7'-9"
E11	"	1	18'-3"	G6	"	2	18'-9"	J19	"	1	10'-6"
E12	"	1	19'-9"	G7	"	4	18'-6"	J20	"	1	13'-0"
E13	⅛"ø	1	20'-9"	G8	"	2	11'-9"	J21	"	1	15'-6"
F	½"ø	2	6'-6"	G9	"	2	5'-9"	J22	"	1	18'-3"
F1	"	1	6'-0"	G10	"	2	20'-3"	J23	"	1	20'-9"
F2	"	1	5'-6"	G11	"	2	14'-9"	K	½"ø	27	4'-10"
F3	"	1	4'-9"	G12	"	4	14'-6"	K1	"	21	5'-6"
F4	"	1	4'-3"	G13	"	2	9'-0"	K2	½"ø	19	4'-8"
F5	"	1	3'-9"	G14	"	2	5'-0"	L	½"ø	4	13'-6"
F6	"	1	3'-3"	G15	⅝"ø	2	16'-3"	L1	½"ø	4	10'-6"
F7	"	1	2'-6"	H	½"ø	38	3'-10"	L2	½"ø	4	9'-6"
F8	½"ø	1	2'-0"	J	½"ø	1	7'-6"	G16	¾"ø	3	5'-3"



STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
NASHVILLE

DETAIL
ABUTMENT No. 2
STA. 297+15
COFFEE CO.
1928

CORRECT L. N. Erickson BRIDGE ENGINEER
APPROVED O. D. Goff ASSISTANT STATE HIGHWAY ENGINEER

D-8-119

DESIGNED BY T. Grace DATE April 1928
DRAWN BY T. Grace DATE April 1928
TRACED BY Givens DATE 4-17-28
CHECKED BY T. Watkins DATE April 1928